BC Geological Survey
Coal Assessment Report
1024

COAL ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TITLE OF REPORT: Bingay Main Coal Technical Assessment Report 2016

TOTAL COST: $1,114,374.64

AUTHOR(S): Edward J. Nunn, P. Eng.
SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): CX-12-4/31 December 2016

YEAR OF WORK: 2016
PROPERTY NAME: Bingay Main Metallurgical Coal Project
COAL LICENSE(S) AND/OR LEASES ON WHICH PHYSICAL WORK WAS DONE:
374190, 414014, 415139, 417302

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 082JSE011

MINING DIVISION: Fort Steele Mining Division
NTS / BCGS: 82J/01W, 82J/02W, 82J/07W, 82J/016W
LATITUDE: 50 ° 11 ' 53 "
LONGITUDE: 114 ° 58 ' 37 " (at centre of work)
UTM Zone: 11 EASTING: 644385 NORTHING: 5562611

OWNER(S): Centermount Coal Ltd.

MAILING ADDRESS: 1055-1140 West Pender Street, Vancouver, BC V6E4G1

OPERATOR(S) [who paid for the work]: Centermount Coal Ltd.

MAILING ADDRESS: 1055-1140 West Pender Street, Vancouver, BC V6E4G1

REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude. **Do not use abbreviations or codes**)
Bingay Creek, ElkValley Coalfield, Metallurgical Coal, Mist Mountain Formation, Elkford, Syncline Structure, Jura-Cretaceous, Moose Mountain Sandstone

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:
Bingay Creek Coal Property Assessment Report 5 June 2006, File No. 895
Bingay Creek Coal; Property Assessment Report 2010, File No. 970
Bingay Creek Coal Property Assessment Report 2011/2012, File No. 1011

SUMMARY OF TYPES OF WORK IN THIS REPORT		EXTENT OF WORK (in metric units)	ON WHICH TENURES
GEOLOGICAL (scale, area)			
	Ground, mapping		
	Photo interpretation		
GEOPHYSICAL (line-kilometres)			
	Ground		
	(Specify types)	N/A	
	Airborne		
	(Specify types)	N/A	
	Borehole		
	Gamma, Resistivity,	N/A	
	Resistivity	N/A	
	Caliper	N/A	
	Deviation	N/A	
	Dip	N/A	
	Others (specify) Core orientation	5 drillholes	374190, 414014
DRILLING			
	Core HQ	2095.50	374190, 414014, 415139
	Non-Core	N/A	
SAMPLING AND ANALYSES			
	Proximate 50		374190
	Ultimate		
	Petrographic		
	Vitrinite reflectance 16		374190
	Coking 50		374190
	Wash tests		
PROSPECTING (scale/area)			
PREPARATORY/PHYSICAL			
Line/grid (km)			
Trench (number, metres)			
Bulk sample(s)			

Information on reported resources and coal quality results remain confidential under the terms of the Coal Act Regulation, and have been removed from the public version.

http://www.bclaws.ca/civix/document/id/complete/statreg/251_2004

Bingay Main Coal Project

2016 Technical Assessment Report

Kootenay Land District, Fort Steele Mining Division

British Columbia

NTS: 82J/01W and 82J/02W and 82J/07W and 82J/016W

Latitude: 50° 11' 53" N

Longitude: 114° 58' 37" W

Tenure Numbers:

374190, 414014, 415139, 417302

Centermount Coal Ltd.

1055- 1140 West Pender St.
Vancouver, B.C., Canada
V6E 4G1

Prepared by:

Edward J. Nunn, P. Eng.
Principal
Centermount Coal Ltd.

31 December 2016

Table of Contents

Lists of Figures

List of Tables

List of Maps

1.0 INTRODUCTION

This report presents a technical assessment of the known geological structure and coal resource base of the Bingay Main area of southeast British Columbia, based on the exploration and technical work conducted by Centermount Coal Ltd. from the start of 2010 to the end of 2016. The company has filed a comprehensive report covering the exploration activity on the same property in 2010 with reference to the earlier work performed since 1903; and that the most recent report should be used in conjunction with the data generated in the 2011, 2012 and 2016 periods as much of it comes as follow up work from the 2010 program.

This 2016 Bingay Main Assessment Report is based on the gathering of field work data and does present the engineering work that is presently "work in progress." This work includes: 1) final pit walls, 2) waste dump locations, and 3) hydrogeology 4) geochemistry, and 5) a computer mine model.

The Bingay Main exploration study area is bounded to the west by longitude 115°00' W and to the south by latitude 50°10' N. The exploration study area is further bounded to the east by the west bank of the Elk River and to the north by latitude 50°15' N. The Bingay Main coal property was formerly known as the Bingay Creek Coal property until 2009. Applications were then underway by Centerpoint Resources Inc. (owns 38% of Centermount Coal Ltd. during 2016) for coal licences from adjoining Bingay area properties. Three additional property areas are noted in this report (Bingay A, B and C which are 100% owned by Centerpoint Resources Ltd.). They are shown in Figure 3-2 below.

The combination of the historical and current work (up to the end of 2016) has allowed for a more substantial determination of coal resources of immediate interest for surface and later underground coal mining within the Bingay Main coal property.

The Bingay Main property lies within the Southern Rocky Mountains of south-eastern British Columbia, Canada. Bingay A coal licence adjoins Bingay Main directly to the north. Bingay B and C coal licences border Bingay Main directly to the south. Several other coal exploration properties and active coal mines (including the Greenhills and Fording Coal mine operations) are situated near to Bingay Main.

These properties and mines constitute the well-known Elk Valley coalfield. The Bingay Main property consists of four contiguous parcels of Crown coal exploration licences totalling 1157 hectares, originally issued by the British Columbia Ministry of Energy, Mines and Petroleum Resources to other parties, and subsequently transferred to Centermount Coal Ltd. In comparison with most coal properties in British Columbia, exploration access to Bingay Main is convenient, by virtue of its location adjacent to the all-weather Elk River Forest Service Road. The branch

roads and trails within the property allow for east and west movement across the license areas off the main forest road.

The closest railway is the Fording River branch of the Canadian Pacific Railway, accessed about 28 kilometres south-east from Bingay Main. The railway provides access to Canadian coal-shipping ports in or near Vancouver, British Columbia. Access to this rail system is possible with easy trucking or the construction of a rail branch line.

No fee simple mineral lands exist at Bingay Main. However, privately held mineral lands do exist to the east and south-east of the property. These are identified as the Greenhills Block of fee simple coal lands covers coal beds which come to the ground surface along the western slopes of chain of high hills known as the Greenhills Range. These fee simple lands are not part of the Bingay Main coal property and are neither owned nor optioned by Centermount Coal Ltd.

Prior to 2011, a total of 74 boreholes are known to have been drilled within the Bingay Main coal licences, commencing in 1983 and continuing until 2012. Additional work was carried out subsequent to the 2016 program and those holes and data sets are the subject of this reporting.

Of those known 74 boreholes, 57 encountered potentially-mineable coal. The other 17 boreholes include those which failed to reach the bedrock surface or which were abandoned at a shallow depth owing to drilling difficulties. It was later indicated that some of the holes had been drilled in previously unknown shear zones crossing the property suite. Some encountered older, non-coal-bearing rocks, lying outside the bounds of the Elk Valley coalfield.

The exploration programs have identified that the property contains at least 32 coal beds, whose true thickness ranges from 0.3 to 16.2 metres. Of these coals, 24 typically are at least 1-metre-thick, inclusive of contained bands of rock. Cumulative thickness of these coals is 62.6 metres, within an overall coal-bearing rock thickness of 460 metres; coal thus forms about 13.6% of the coal-bearing rocks at Bingay Main.

The Bingay Main coals are normal banded coals, consisting of alternating bright and dull bands, generally associated with thin and thick partings of rock. Most of the rock partings within the coal beds consist of variably-carbonaceous mudstone, with less-frequent partings of siltstone, ironstone and sandstone. Most of the rocks which lie between the coalbeds at Bingay Main are siltstone, interspersed with hard sandstone and mudstone, with minor bands of limestone and ironstone. The coal-measures are folded into a tight synclinal down fold, along whose sides the coal beds approach the ground surface. New petrographic work commissioned in 2010 to Vancouver Petrographics Ltd. was an attempt to define marker beds and identify new horizons. That work was reported in 2011/2012.

Coals lying within 12 metres of the ground surface are inferred to be oxidised, and are thus principally conceived to be of value as feedstock such as for the production of activated carbon, perhaps the bottom six meters being suitable for use in pulverised coal injection (PCI) into blast-furnaces, or as thermal coals. Coals at least 1-metre-thick and lying between 10 and 600 metres below the ground surface are recognised to be of interest as coking coals (ASTM ranked medium to high volatile A bituminous). Extensive analytical work was conducted on these coals, which show variable but generally acceptable propensity to provide a clean coal product containing less than 10 percent ash and a low average sulphur content.

The following information was reported upon in the 2010 report but it is important to re-state the reasons for the COMPLEX rating of the Bingay deposit:

.

GSC Paper 88-21 is the "Standardized Coal Resource/Reserve Reporting System for Canada". In this document, coal deposit geology is classed into four categories — low, moderate, complex and severe. The author of the Bingay Main Coal Property Geological Report has classified the Bingay Main coal deposit as "Complex" which is defined by Paper 88-21 "Deposits that have been subject to relatively high levels of tectonic deformation. Tight folds, some with steeply inclined or overturned limbs, may be present, and offsets by faults are common." Based on all that is known on the property it must be described in the COMPLEX category of coal deposits. The Geological Survey of Canada Paper 88-21 is entitled, "A Standardized Coal Resource/ Reserve Reporting System for Canada". In that report the classification guide for complex deposits is found on page 5. The adjacent operating coal mine "Fording Coal" also classed as "Complex".

This type of scenario was clearly evident in 2010 and continues to be the case today at the Bingay location. Distinct boundaries are present and even with the deformation; small bedding details remain in many sequences. There were even distinct dinosaur foot prints located on some vertical pit exposures. A severe category deposit has been subjected to extreme levels of tectonic deformation. The Bingay deposit has not reached that level of distress and remains in the complex category.

Further analytical work and further drilling, along with other supporting studies, were recommended in the Geological Report by C.G. (Gwyneth) Cathyl-Bickford P.Geo. Lic. Geo, in her report released in early 2011 for the Bingay Main coal property, in which she regarded it as being a "property of merit." Much of that work was followed up on and continued into 2016. With respect to the tonnage estimates suggested by Bickford in 2011, this was not a signed off value in 2010. It was a work in progress as the senior author (Bickford) only made a bank cubic metre (BCM) calculation and it was then expressed as a tonnage value by initial calculation. A regression analysis was done on the ash content and using specific gravity relationships of the ash, the BCM was converted to tonnage. In the later years, (2011-2012) more follow up work was done on that aspect. Appendix 1 of this report contains a host of reports pertaining to the additional work in the 2011 to 2016 periods by the company and its consultants.

The reader is invited to examine the Appendix to better understand the scope of new reporting materials available. Each pertinent exploration related report was placed into time filed folders for ease of locating them. Many reports that were either too preliminary in nature to report on at this time, or not related to exploration activity have been left out of the folder. The missing non-exploration reports tend to explain some of the large time gaps in the date files. Gaps are also present as some of the reportable tests and analysis has taken many months to complete.

The model was also cut off in 2010 as winter set in. Additional drilling planned in 2010 was done to the north in 2011 under direction of Richard Munroe, P. Geo. This allowed for new information on the model but no relevant geological data was produced in that drilling series. This was due to the fact that the diamond drill holes, attempted along the ridge line north west of the main Bingay Hill zone (west of and high above the main Forest Service Road (FSR) were drilled into major north/south trending fault zones along the escarpment. These faults (or fracture lines) appeared to be generated as the frontal fracture zone of the Borgeau Thrust Fault. The entire Bingay project continues to be a work in progress and will be reported upon each time new data or modeling becomes available. New exploration work is slated to begin in mid- March 2016 under new permitting.

The gas tests that were concluded in 2010 are similar to other Elk River area coal fields. This data set was presented in the appendix IV sections of the 2010 report. Additional gas tests were conducted and are reported in that document.

Objective of the 2016 Work Plan:

The format of the 2016 Technical Assessment Report is to act as a continuation of the 2010 geological program, after the lead author then declared Bingay Main as a coal "project of merit",

then, to a confirmed resource, then field data the point to supply input for the application for an Environmental Assessment Permit and Mining Permit.

Targets for the 2016 Work Plan:

- Complete the structural geology for Bingay Main with emphasis for a north pit high wall.
- Update the resource computer model with emphasis for the northern area.
- Final Pit wall slope stability design for the north and east side of the Bingay Main coal deposit so that a reserve may be calculated and a subsequent mine plan developed.
- Determine if a coal resource exists under Bingay B.
- Structural geology under Bingay B.
- In-pit slope stability.
- Potential wastes dump locations.
- Geochemistry analyzes (Se & Cd) results to assist in the development of a Water Management Plan.
- Completion of the hydrogeology of Bingay Main (Packer Tests and Piezometers).
- Gas generation from drillholes.
- Coal Sample analyzes (+100 kg) for the Chinese market.

2.0 Terms of Reference

At the request of Edward J Nunn, P. Eng., Mine Manager and Principal (Technical), this report was prepared to present the new body of 2016 geological information to the BC government's Geological Services branches. The geology and coal resource base of the Bingay Main area was reported on in the Geological Report during February 2011 by C.G. (Gwyneth) Cathyl-Bickford P.Geo. Lic. Geo, which was later modified to a 2010 Assessment Report submitted by Richard Munroe, P. Geo. and Edward J. Nunn, P.Eng. during 2015. A copy of that report was filed with the government and continues to act as a mainstay reference.

The exploration work conducted during the summer and autumn of 2010 was extensive and led to discoveries on and around the property. The Bingay Main coal property was formerly known as the Bingay Creek Coal property prior to 2010. The name was changed in the Company reporting to better distinguish the property from adjoining properties.

There was an extensive body of work that was developed by the company and its consultants from 2011 to 2012. Many reports came in at various times based on laboratory wait times and some were follow up reports from work started in 2010. It was difficult to disperse the data in the normal reporting manner without losing context and some important aspects of the progress on the project were getting "lost in the data". As a result, the writer has taken all of the data sets and

filed them into a time sequenced appendix (Appendix). This allows the reader to find the report being referenced by referring to the information date tag. This is especially important when some consultants issued multiple reports over several years.

A great deal of work was done by the company in preliminary studies involving geological modeling, ground chemistry and potential waste analysis. However, this work does not qualify as exploration activity under the reporting rules so it cannot be expanded upon in this report. This type of data will be presented in a future Feasibility Study within Bingay Main's mine development process. A lot of the work is also of a preliminary nature so it cannot be accurately reported.

Much of the follow up work was done to clarify exploration derived questions or to address new discoveries noted in the 2010 and 2011/12 Assessment Reports. Large volumes of assay and test results are important to have available in the report but are better added as reference to the main report. Since the main stay information on the deposit's structural and depositional nature were well laid out in the 2010 and 2011/12 reports the writer has decided to maintain some of that original reporting in this 2016 document.

2.1 Project Personnel and Contactors/Consultants

The 2016 the Technical Program for Centermount Coal Ltd.'s Bingay Main project was led by the Mine Manager (as per the Health, Safety and Reclamation Code for Mines in BC) Edward (Ted) Nunn P.Eng. He also worked as the Project Engineer.

Charlie Zhao of Centermount Coal Ltd, acted as Project Coordinator and the Qualified First-aid Attendant. Victor Zhou of Centermount Coal Ltd. was responsible as the Field Geologist and the Designated Mine Manager. The Structural Geological Consultant was Richard Munroe, P. Geo. from Munroe Geological Services.

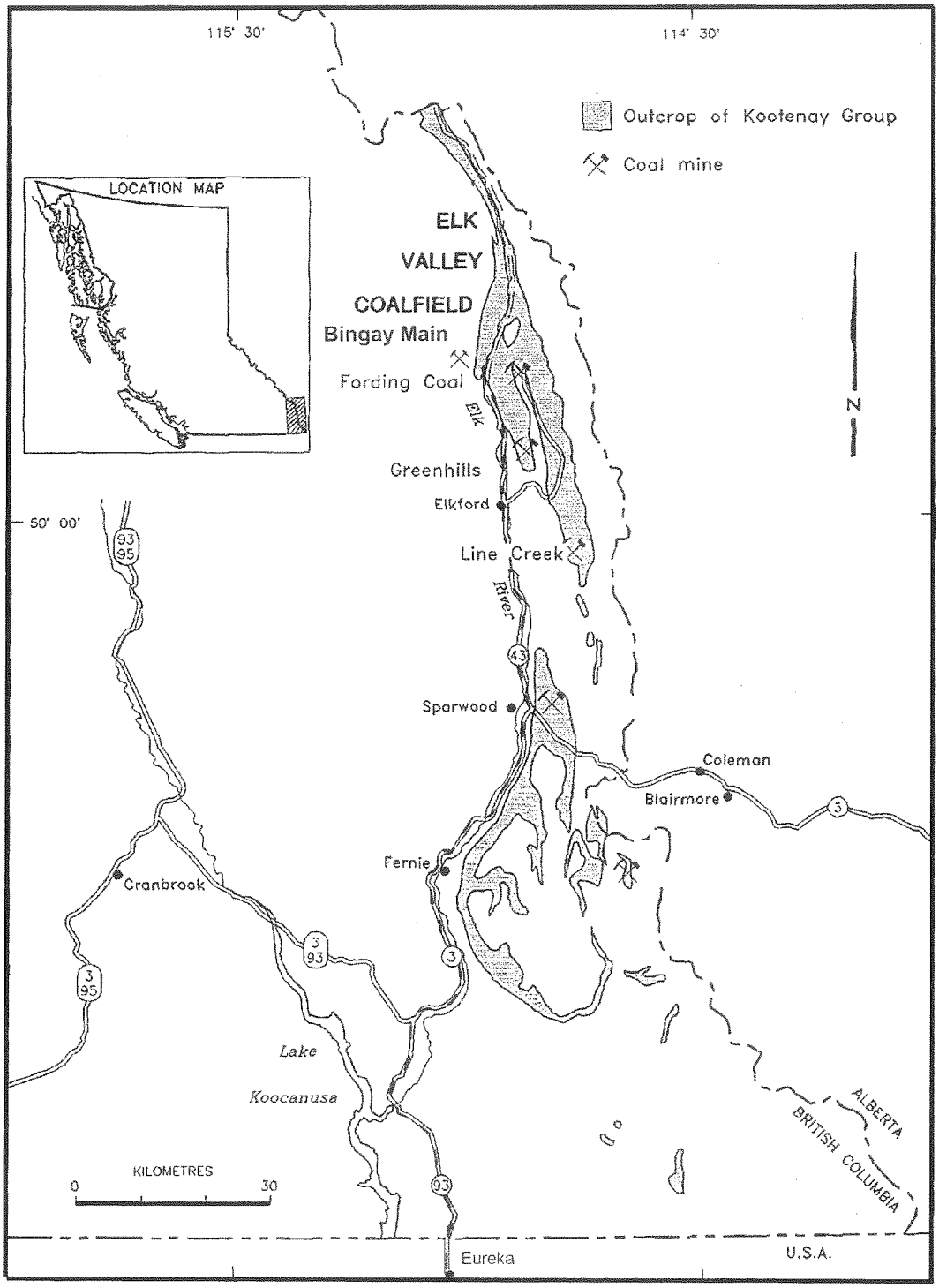
The drilling contractor was Dorado Drilling Ltd. from Vernon BC. The Drilling Supervisor was Matt Falkins. The surveyor for the drillholes was Align Surveys Ltd. of Fernie, BC.

Geotechnical Engineering, hydrogeology "packer tests" and groundwater monitoring was overseen from SNC Lavalin's Calgary office. Sarah Shi, an independent consultant for Centermount Coal Ltd., supplied Minesite (software) geological model support.

3.0 Property Description and Location

The Bingay Main property lies within the Southern Rocky Mountains of south-eastern British Columbia, Canada (as shown on **Figure 3-1: Project Location map).** The map shows the outline of the Bingay Main coal property, and depicts the areas of licensed lands. The Bingay Main property consists of four north-trending parcels of Crown coal exploration licences totalling 1157 hectares, originally issued by the British Columbia Ministry of Energy, Mines and Petroleum Resources, and which subsequently was transferred to Centermount Coal Ltd. The property is bounded to the east by coal mining leases held by Elk Valley Coal Corporation (Teck Coal), to the north and south by coal licences (designated as 'Bingay A', 'Bingay B' and 'Bingay C') held by Centerpoint Resources Inc., and to the west by vacant Crown mineral lands.

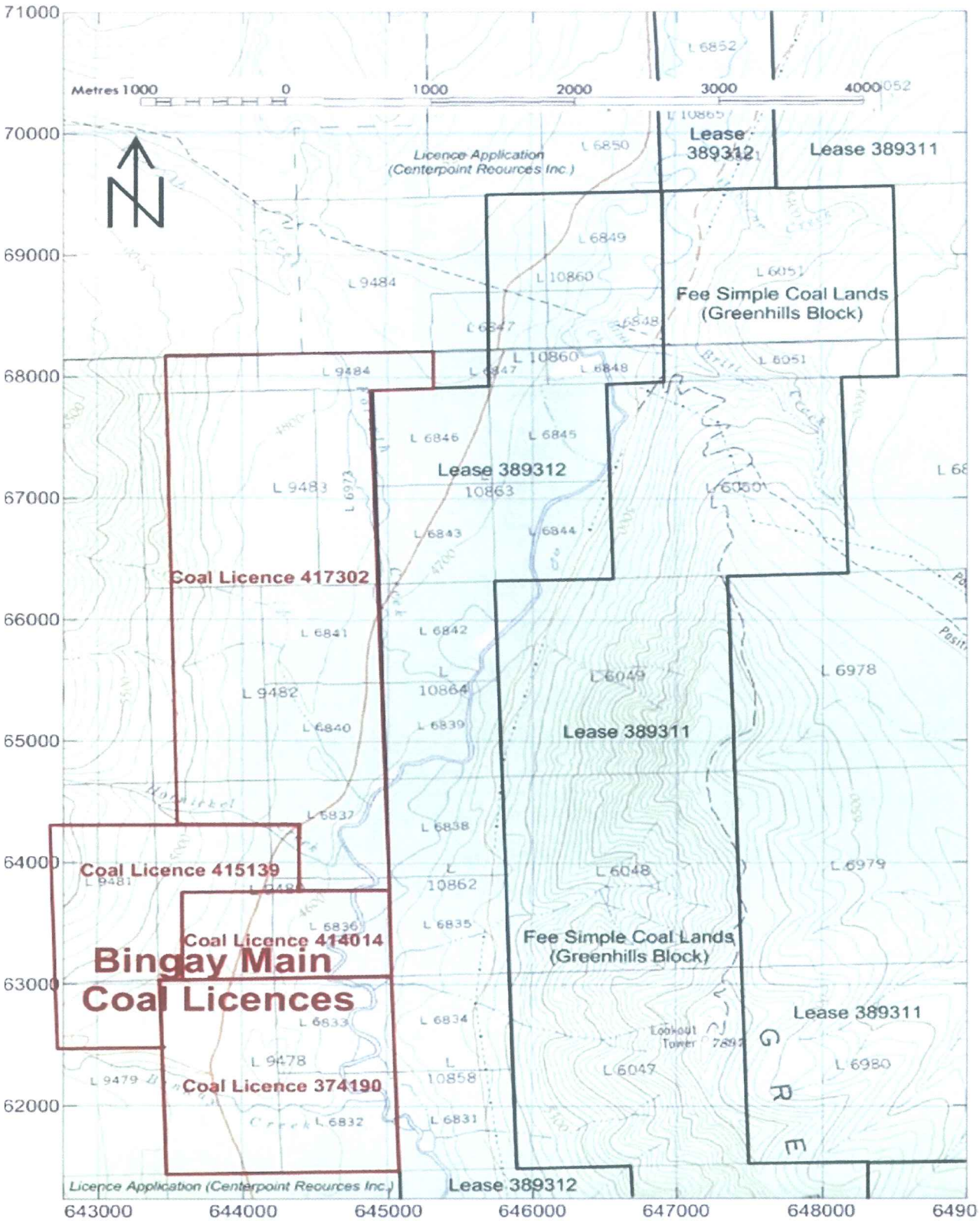
The Bingay Main technical/ exploration area, as presently considered, is bounded to the west by longitude 115°00' W, to the south by latitude 50°10' N, to the east by Elk River, and to the north by latitude 50°15' N. The area of present interest for coal exploration lies within a rectangle bounded by 43 to 45 easting, and 61 to 69 northing (grid references are to UTM NAD 83). NTS map sheet 82J/2 covers the Bingay Main area at 1:50,000 scale with topographic contours at 100-foot (ca. 30-metre) intervals. TRIM map sheets 082J.015, 082J.016, 082J.025 and 082J.026 cover the area at 1: 20,000 scale. The nearest incorporated settlement to Bingay Main is the Town of Elkford, whose urban core lies 21 kilometres south by forest service road from the Bingay Main property.



File: bingayroadmap-3.srf
Date: 2004 Dec. 16 Revised: 2010 Dec.23
Drawn: C.G. Cathyl-Bickford, P.Geo.(BC) Lic.Geol.(WA)
Modified after Grieve, 1992, Scale: as shown

Centermount Coal Ltd.
Bingay Main Coal Project

Figure 3-1: Project Location Map



File: bingaylandmap-3.srf Scale: as shown
Date: 2004 Dec. 16 Revised: 2010 Dec. 23
Drawn: C.G. Cathyl-Bickford, P.Geo.(BC) Lic. Geol. (WA)
Base maps: NTS 82/J2 (edition 2) and 82 J/7 (edition 3).
Contour interval: 100 foot Grid: UTM NAD 27

Centermount Coal Ltd.
Bingay Main Coal Project

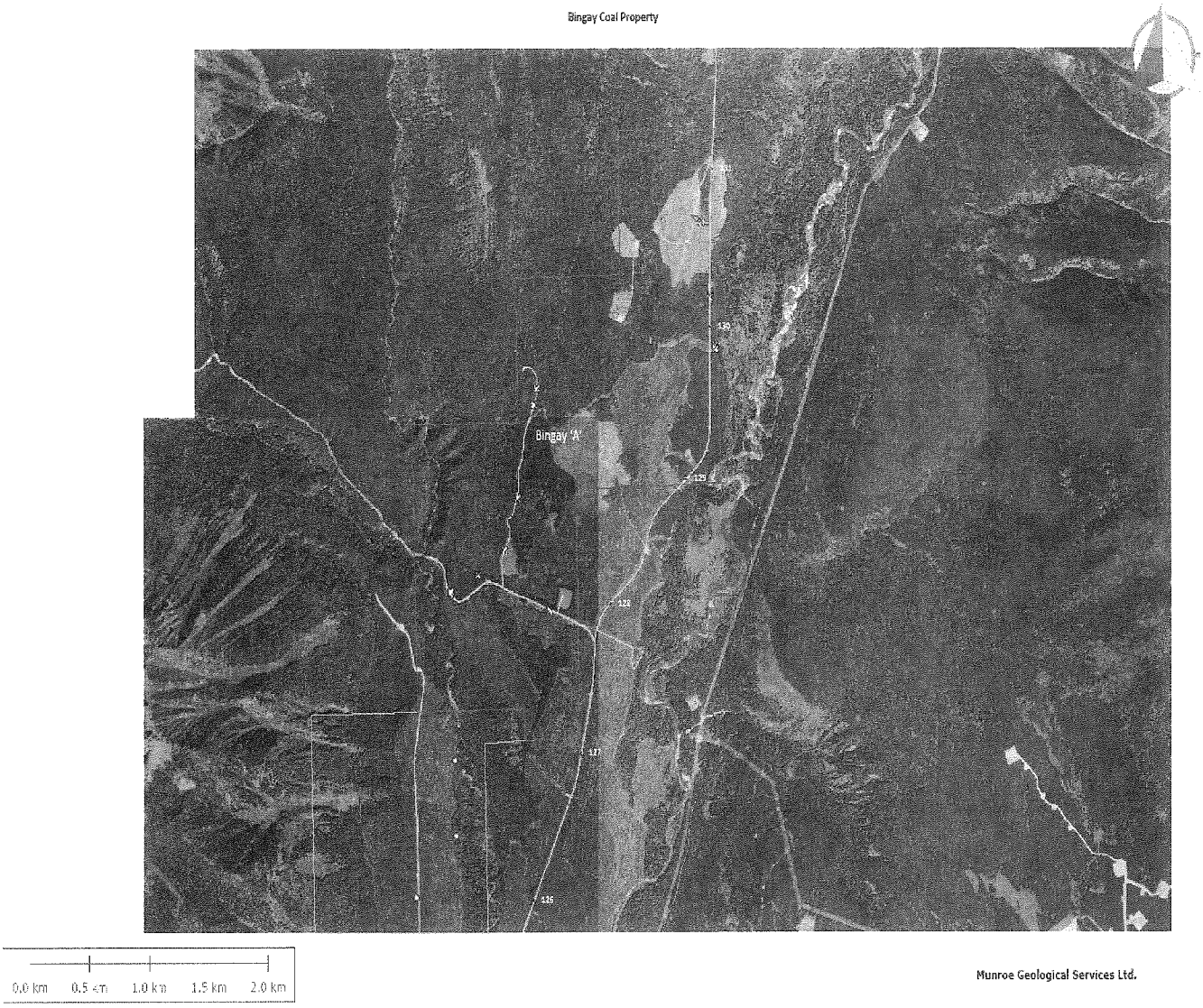


Figure 3-3: Bingay A area shown in red outline

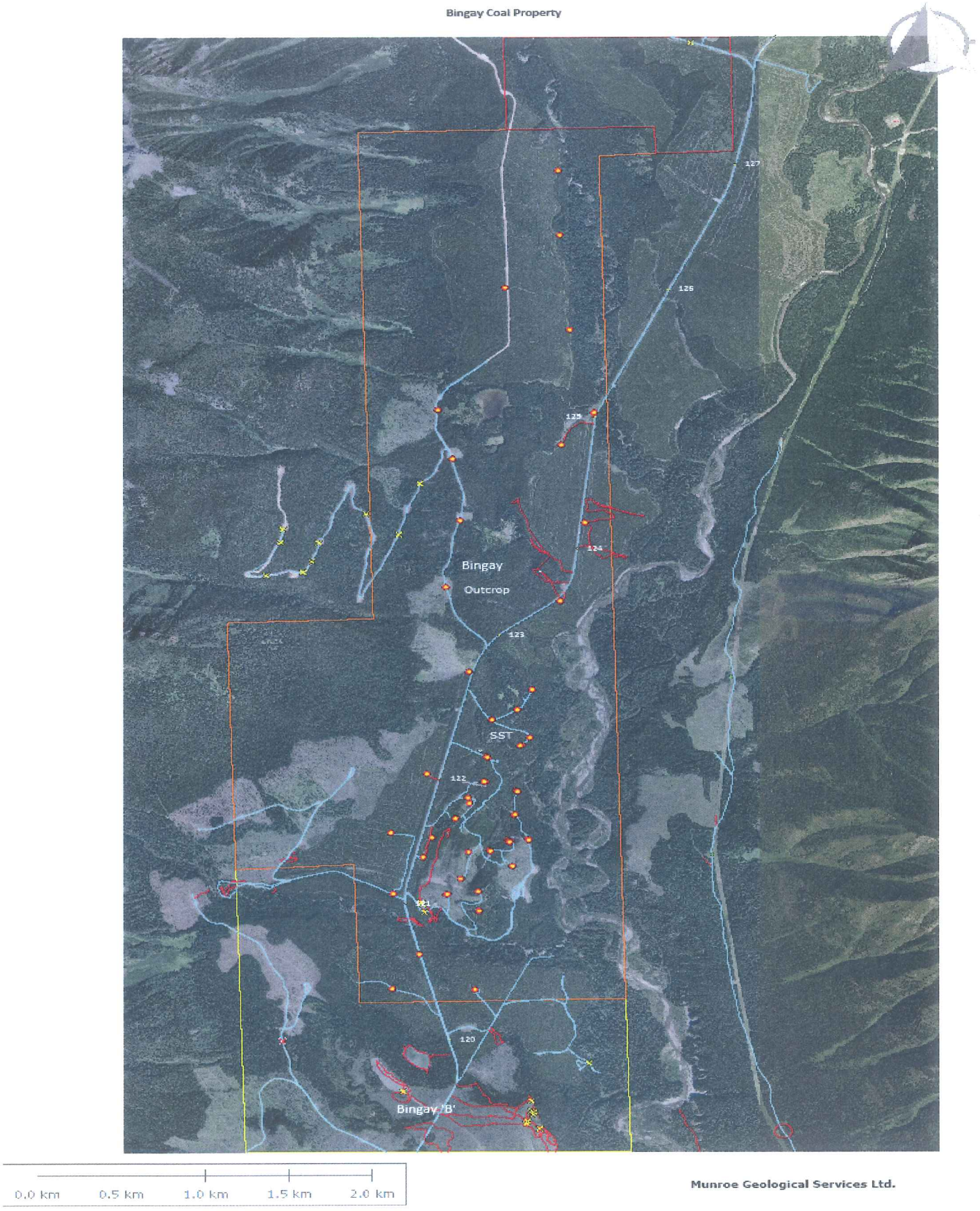


Figure 3-4: Bingay Main area – shown in orange outline

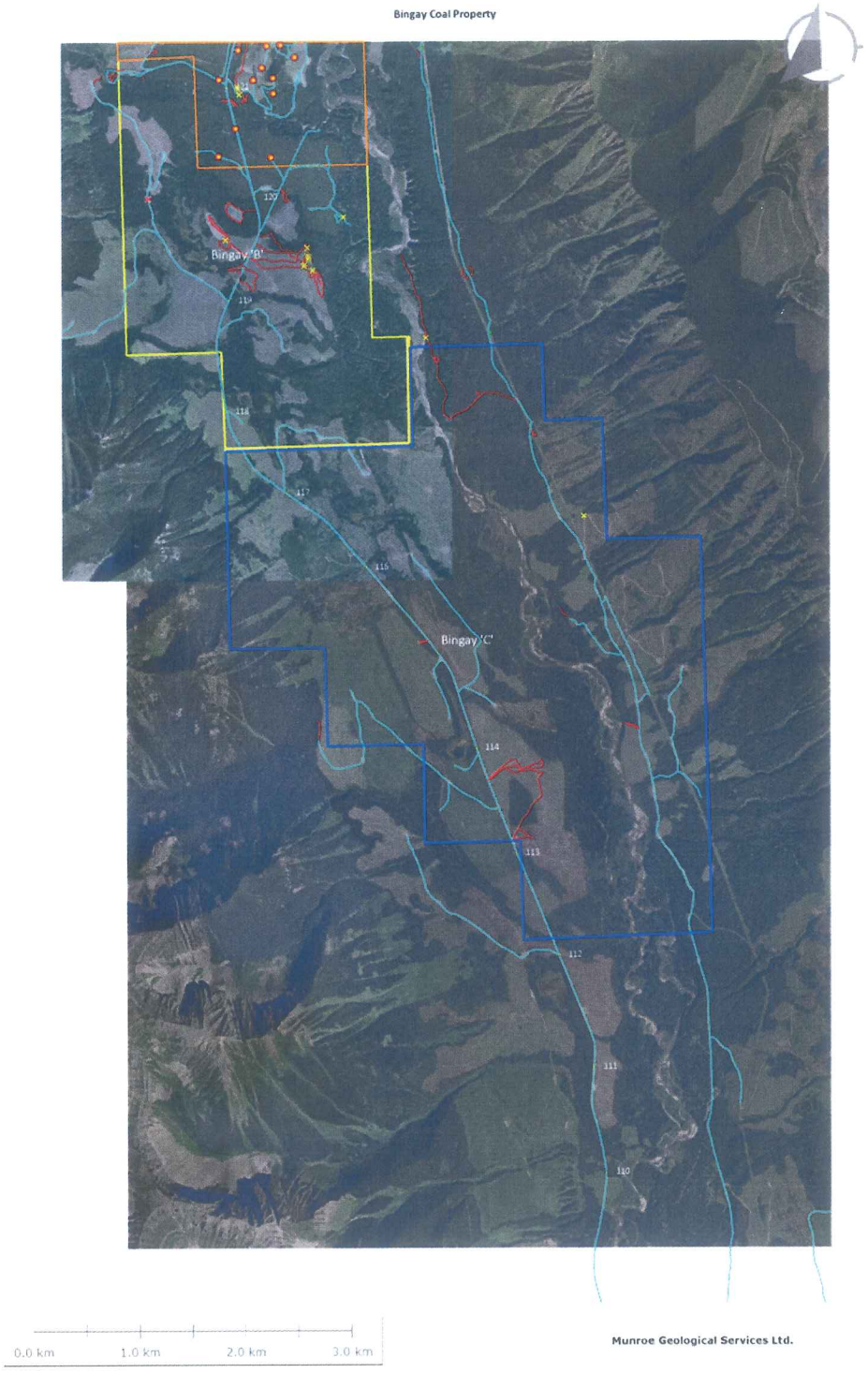


Figure 3-5: Bingay B (shown in yellow outline) & C area – shown in dark blue outline

The Bingay Main property comprises the coal licences listed in Table 5-1 and shown in red on Figure 3-2. All of the coal licences are held in good standing as noted in the database maintained by the Province of British Columbia, at *http://www.empr.gov.bc.ca/Titles/MineralTitles/Coal/Pages/Search.aspx*) by Centermount Coal Ltd. The coal licences are contiguous, with no known in holdings of alienated coal rights.

The four coal licences listed in Table 5-1 were originally staked by Hillsborough Resources Limited and subsequently transferred to Centermount Coal Ltd. No further coal licence applications have been made by Centermount Coal within the Bingay Main area. The Company's existing coal licences are, however, bounded to the north and south by coal licence approved applications made by Centerpoint Resources Inc. (Bingay A, B and C). Coal licence boundaries at Bingay Main are defined according to the outlines of the various district lots, or according to unit boundaries of the provincial petroleum and natural gas grid, and as depicted on the official outline maps of the licences.

4.0 Accessibility and Infrastructure

Exploration access to Bingay Main is convenient, by virtue of its location adjacent to the all-weather Elk River Forest Service Road (FSR), and the presence of branch roads and trails within the property. Bingay Main is served by the Elk River forest service road, as shown on Figures 3-1 to 3-5. This road is administered by the provincial Ministry of Forests as a multiple-use public road, upon which industrial and recreational traffic may travel. Local hunters, hikers and fishermen occasionally use the road to access recreational areas farther up the Elk River Valley.

The Elk River road is maintained by Canfor Ltd, who only maintains the parts of the road which they wish to use for log-haulage of which none was planned during the drilling program. During the 2016 exploration program, this has meant that the entirety of the road between the Bingay Main coal property and Elkford was occasionally snowplowed. Significant cost was expended by Centermount Coal for a road use permit, maintaining the FSR and creating temporary drill pad access in this area.

The Bingay Main coal property lies at kilometre post 121 on the Elk River road, roughly 22 kilometres north of the business core of Elkford. Two side roads branch off eastward from the main road: the southern road follows the south face of Bingay Hill and gives access to the recently-logged flatlands east of the hill which includes the campsite and core sheds. The northern road climbs over the west limb of the syncline and gives access to a former test pit on the Bingay No.10 vertical coal bed.

Elkford is served by paved provincial highways. Highway 43 runs northward from Sparwood, and Highway 3 connects westward to Fernie and Cranbrook, and eastward to Alberta. Driving

time to Bingay from Vancouver is 14 hours from Vancouver (via the southern Trans-Provincial route along Highways 1, 3 and 43), 5 hours from Calgary (via the Black Diamond route along Highways 2, 22X, 22, 3 and 43), and 2.5 hours to Eureka, Montana.

The closest railhead to Bingay Main is about 30 kilometres by road east of Elkford, on the Fording River branch of the Canadian Pacific Railway. Coal shipments from Bingay Main could also access the Burlington Northern railhead at Eureka, Montana (as shown on Figure 3-1. This railhead is situated about 168 kilometres from Bingay Main, via Highways 43, 3 and 93. The closest regional airport is located in Cranbrook, with scheduled service available to Vancouver and Calgary. A local airport with no scheduled service is located 10 minutes north of Sparwood.

The Bingay Main property lies within the dry cool subzone of the Montane Spruce continental bio-geoclimatic zone (Medinger and Pojar, 1991; Braumandl and Curran, 1992). Characteristic of this subzone is a temperate climate of continental type, with long, cold, relatively dry winters with light snowfall, and short, warm, dry summers. Minimum temperatures are –25 to –35 Celsius with reports from nearby Lower Kananaskis Lake being -52C during the winter of 1992. Cold temperatures are generally confined to brief 'polar outbreak' periods in January and February. Maximum normal temperatures are 33 to 38 Celsius, typically found during extended periods of clear weather in mid- to late-summer.

Snowfalls or freezing rain may occur at any time between mid-September and mid-May, with the bulk of snow falling in mid-March and early April. Snowfalls up to 40 cm are possible in a single intense midwinter storm when cold polar air is over-ridden by moist maritime air, but these snowfalls rapidly compact and ablate, and snow cover seldom accumulates to depths greater than 60 cm.

Continuous snow cover is usually gone by the end of April, with isolated drifts remaining in sheltered and shaded areas. In the extraordinarily warm winter of 2004-2005, snow cover was mostly gone in mid-March, and the Elk Valley had been barren of snow for much of the winter. Summers are warm and showery, with occasional afternoon thunderstorms.

Surface water supply is available from Bingay Creek and the Elk River, and ample supplies of groundwater are available from the gravelled flats west of Elk River and north of Bingay Creek. Owing to fisheries concerns, industrial water supply may have to be abstracted from groundwater sources. Near-surface groundwater quality is anticipated to be acceptable for industrial use.

Substantial quantities of gravel, suitable for road-building and concrete aggregate, are present within the property. During the autumn 2004 and year-2010 drilling programmes, road gravel was taken from cuts along one of the access roads within the property. The gravel is free from boulders is approximately 50% gravel size.

Timber suitable for incidental use (such as stakes, fence posts, short utility poles and cribbing) is present within the Bingay Main property. The Elk River Valley contains an energy-transport corridor along its eastern side. This corridor is occupied by a BC Hydro high-voltage above-ground power line. Three-phase electrical power is available on the eastern side of Elk River, via the 138-KV KAN-ELK tie line connecting the British Columbia power grid to Trans-Alta Utilities' Kananaskis power plants. This line supplies power to Fording Coal. No power lines are presently in place on the west side of the river, and it is unlikely that any sub-transmission lines will be extended into the Bingay Main property within the near future. A portable generator set was used to service Centermount's exploration camp for the 2016 program.

Reverse-circulation drilling rigs and PQ diamond-drills capable of drilling to depths of 600 to 800 metres are readily available locally. Heavy industrial and construction equipment, including excavation and road-building equipment, is available from the Crowsnest Pass area as well as from towns in southern Alberta. Drilling supplies are available from distributors in Alberta and British Columbia.

Machine shops, industrial suppliers, and freight terminals are available in Elkford, Sparwood and Cranbrook. Owing to the well-established open-pit coal-mining industry in the Elk Valley, necessary equipment and supplies for mining, earth-moving and blasting are obtained locally.

Bingay Main has no landline telephone or direct internet service. Cellular-telephone and wireless Internet services are provided by Telus and by Bell Canada, from terminal sites situated atop the Greenhills Range, east of Elk River. Cellular coverage is good throughout the Bingay Main property, with the exception of topographically-isolated areas such as creek bottoms. During the summer and autumn of 2010, Centermount used satellite dishes to obtain television and Internet signals.

The Bingay Main property lies within the Elk River valley, which traverses along the southern Canadian Rocky Mountains. The Elk River valley is one of a series of contiguous valleys extending from Michel, British Columbia to Banff, Alberta. Both sides of the valley are bounded by mountain ranges. To the west are the rugged carbonate-rock peaks of the Western Front Ranges, and to the east are the more subdued sedimentary-rock ridges of the Greenhills Range.

The Elk River itself is a broad, braided, gravel-bedded river which is choked by numerous gravel bars and bounded by beaver-dammed side-channels. Some of these side-channels are partially filled with mossy wetlands. Bingay Creek is an incised, partially rock-bound meandering to braided stream which flows into Elk River from the west. Both rivers follow large structural fault zones which are muted by the glacial overburden.

No vehicle bridges cross the Elk River between Elkford and Aldridge Creek (well north of Bingay Creek), but the river is shallow enough to be forded by people and animals with some difficulty due to its swift and very cold current. Elk River is crossed by one bridge 20 kilometres north of Bingay Hill which carries the Elk River forest service road traffic to the east side of the Elk River. Steep cliff faces formed by near vertical shears are a great hindrance to travel in some locations.

Elevations within the Bingay Main property range from about 1380 to 1490 metres above mean sea level. The lowest elevations are found along the course of Elk River, and the highest elevations are found on Bingay Hill.

Soils of the Elk River valley were mapped at a regional scale by the British Columbia Soil Survey (Lacelle, 1990) and at a more detailed scale within the Bingay Hill area by Schori Consultants Inc. (Schori, 2005). Soil cover is generally quite thin at Bingay Hill and along the ridges which flank the northern slopes of the hill. Soil materials mostly consist of coarse-grained colluvium and regolith, mixed with large talus blocks below prominent sandstone ledges. Isolated swales near the hill are floored by wet, organic-rich silty muck; other than these areas, organic-rich top soils appear to be patchy and generally very thin.

The lowland flats flanking Bingay Hill to the east and west are floored by extensive gravel deposits. To the west of the hill, the gravels appear to form part of an alluvial fan, into which is incised the channel of Bingay Creek. To the east of the hill, the gravels appear to form a succession of terraces, possibly of glaciofluvial and fluvial origin.

The Bingay Main property is covered by Crown forest lands, which have been logged at various times during the past 35 years. Most of the southern half of the property was logged in the past 12 years, and it now presents easy going for cross-country traversing. Some of the logging roads have been reclaimed by means of scarification followed by scattering of wood debris; this process effectively destroys the roadbed, and makes it more practical to build new roads rather than attempt to reconstruct roads which have been reclaimed. Mountain pine beetle has caused locally-severe damage to forests in the Elk River valley, including some of the mature trees at Bingay Main. Salvage logging to recover beetle-infested trees has been in progress since 1982. Most of the remaining forest at Bingay Main consists of closely-spaced juvenile lodge pole pine with minor white spruce, subalpine fir and occasional western larch. Small patches of sub-mature to mature pine, fir and spruce are present in wetter lowland sites within the northern half of the property. Kinnikinnick and twinberry are present beneath older forest cover, and trailing strawberry plants, roses and daisies are present along the roadside.

The Bingay Main property contains an abundance of wildlife, including moose, elk, black bear, grizzly bear, wolverine, porcupine, lynx, beaver, snowshoe hare, mule deer, marten, red squirrel and deer mouse. Birds include spruce grouse, woodpecker, common raven, Canada geese, American robin, and Steller's and gray jays. Other bird and animal species may also be present.

Mosquitos and blackflies are present in the spring and summer months, although not to unbearable excess.

5.0 Mineral Tenure Information

Table 5-1: Coal Licence Details

Coal Licence Number	Anniversary Date	Area (ha)
374190	31st January	260
414014	31st January	64
415139	31st January	241
417302	31st January	592
Total		**1157**

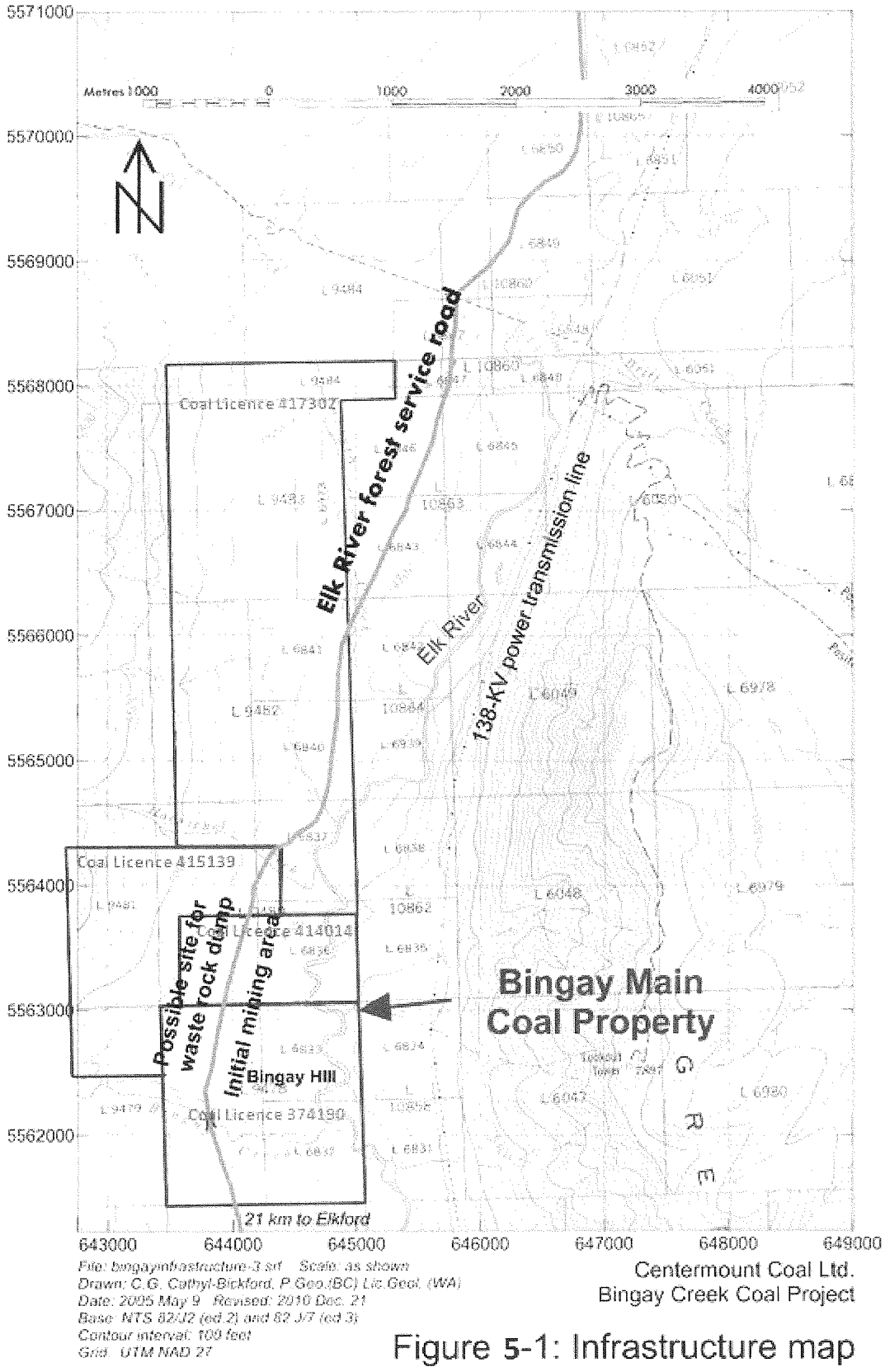


Figure 5-1: Infrastructure map

6.0 History

Coal licences were first filed at Bingay Main by the Elk Valley Coal and Coke Company in 1902-03, covering the lowlands of the Elk River valley along the western margin of the more extensive landholdings of the Canadian Pacific Railway Syndicate. Employees of the railway company (who banded together as the Canadian Pacific Railway Syndicate) subsequently applied for grants of surface rights.

Those grants covered these coal lands, under the terms of the South African War Veterans' settlement programme, and the CPR filed for coal licences overtopping the Elk Valley lands in 1905. The CPR Papers (held at the Glenbow-Alberta Institute Archives in Calgary, Alberta) contain details of the legal wrangling between the two companies to secure and maintain control of the coal rights at Bingay Main.

The Elk Valley Coal and Coke Company appears to have been successful in retaining the coal rights until at least 1908, as an engineering report by Fraser (1908) details some of the company's work on its coal licences in the Elk River valley.

Coal licences at Bingay Main were held in the mid-1970s by Cominco Ltd., but subsequently dropped by that firm, as the land was again licensed to Specific Natural Resources in 1979, following the lifting of the provincial coal moratorium. Specific Natural Resources allowed their coal licences to lapse in the early 1980s, and the land was again re-staked in 1982, this time by Mr. William Shenfield of Fernie, British Columbia, in partnership with Mr. S.L. Gardner.

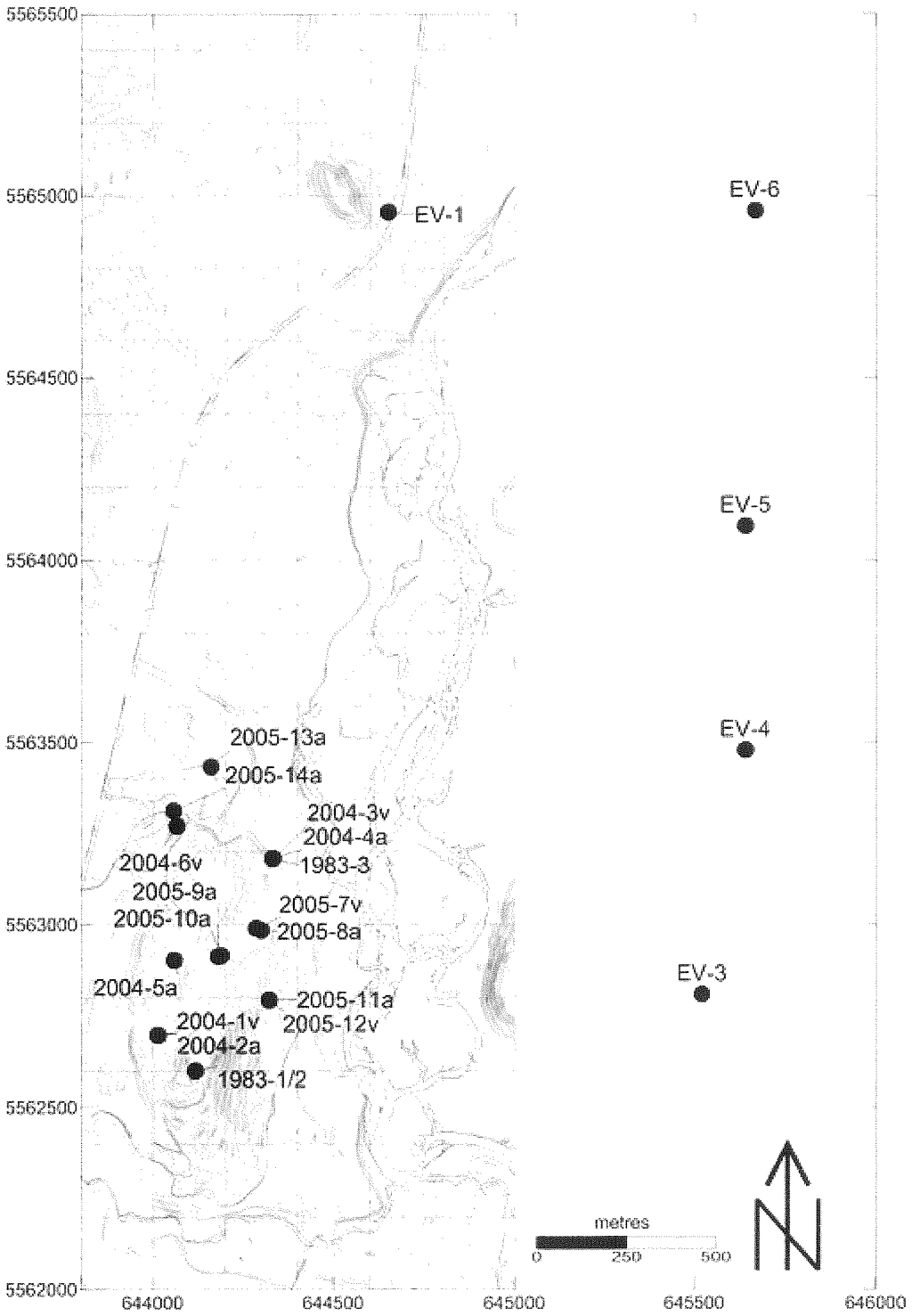
They sold the property to Utah Mines Ltd., who drilled the property in the late autumn of 1983. In 1986, Utah Mines abandoned their Canadian coal interests, and the Bingay Main coal licences reverted to Messrs. Shenfield and Gardner's control in May of 1987.

Specific Natural Resources allowed their coal licences to lapse in the early 1980s, and the land was again re-staked in 1982, this time by Mr. William Shenfield of Fernie, British Columbia, in partnership with Mr. S.L. Gardner. They sold the property to Utah Mines Ltd., who drilled the property in the late autumn of 1983. In 1986, Utah Mines abandoned their Canadian coal interests, and the Bingay Main coal licences reverted to Messrs. Shenfield and Gardner's control in May of 1987.

Considerable historic exploration work has been done at and nearby to Bingay Main, since the first discovery of coal along the upper Elk River valley in about 1902. Most of the work has involved diamond-drilling and rotary-drilling (by the end of 2010, totalling at least 74 boreholes within the property, and an additional 5 holes near but outside the property). A further 17 boreholes were done in 2011, followed by 13 in 2012 and. In addition, trenching, test-pitting and

			2010-21a	5563185	644336	1387	
Pad 12	5563120	644005	2010-18a	5563159	643984	1429	
			2010-56a	5563617	644164	1407	2010-38a between P12-P14
			2010-57a	5563151	643971	1429	
Pad 13	5563000	643600	2010-43v	5563048	643595	1424	
Pad 14	5562870	643785	2010-52a	5562853	643786	1421	
			2010-62v	5562853	643785	1421	
			2010-64a	5562851	643794	1421	
			2010-20a	5562915	644185	1416	
			2010-39a	5562915	644185	1416	
Pad 15	5562920	644180	2010-42v	5562914	644182	1416	
			2010-47a	5562909	644188	1417	
			2010-66a	5562576	643941	1442	
			2005-11a	5562796	644321	1418	
Pad 16	5562800	644320	2005-12v	5562793	644321	1418	
			2010-19a	5562793	644321	1417	
			2010-67a	5562795	644316	1417	
Pad 17	5563010	644420	2010-15a	5563000	644413	1389	
			2010-16a	5562993	644418	1389	
Pad 18	5562600	644110	2010-65a	5562602	644121	1489	
			2010-60a	5562577	643932	1442	
Pad 19	5562580	643930	2010-63v	5562571	643937	1442	
			2010-69a	5562576	643937	1442	
			2010-61a	5562455	644099	1463	
Pad 20	5562455	644120	2010-68a	5562449	644103	1462	
			2010-70a	5562448	644108	1462	
Pad 21	5562140	643760	2010-23v	5562127	643763	1409	
Pad 22	5561830	644310					2010-34v near P22
			2010-44a	5562979	644303	1402	
Pad 23	5562966	644286	2010-49a	5562982	644309	1402	
			2010-50a	5562977	644307	1402	
			2010-51a	5562977	644303	1402	
Pad 24	5564320	644080	2010-27v	5564274	644063	1412	

adit work has been done within the property. The area has been geologically mapped in detail by the California Standard Company in 1955 and 1956, Utah Mines Ltd. in 1983 and by the Bingay Main 2010 Geological Report senior author in the summer of 2004 and the spring of 2005. Regional geological mapping has also been done by the Provincial and Federal geological surveys.



File: bingayvalleyholes-2.srf
Date: 2005 May 8 Revised: 2010 Dec 25
Drawn: C.G. Cathyl-Bickford, P.Geo.Lic.Geol
Base map: Year-2005 McElhanney topography
Scale: as shown Grid: UTM NAD 83

Centermount Coal Ltd.
Bingay Main Coal Project
Figure 6-1: Historic boreholes at and near Bingay Main

Table 6-1: Summary of boreholes drilled at or near Bingay Main property before 2016:

Company:	*Dates:*	*Diamond-drill holes:*	*Rotary-drill holes:*
Elk Valley Coal and Coke Company	1910	unknown (neither logs nor locations are available)	
Cominco Limited	1974		6 holes (5 of which are outside the property)
Utah Mines Ltd.	1983	3 holes	
Hillsborough Resources Limited	2004		6 holes)
	2005		8 holes)
Subtotals		3 holes, totalling 886.7 m	20 holes totalling 3074.8 m
		at least 23 holes totalling 3961.5 metres: see Figure 6-1	
Centermount Coal Ltd.	2010	13 holes, totalling 5109.06 m	43 holes totalling 9645.94 m [and 6 re-entries of older holes, totalling 1567.67 m
Subtotal		56 holes totalling 14755 m: see Figure 6-3	
	2011	11 holes, totalling 915.93m	6 holes, totalling 589.18m
Subtotal		17 holes, totalling 1505.18m: see Figure 7-2	
	2012	8 holes, totalling 1861.49m	5 holes, totalling 896.11m
Subtotal		13 holes, totalling 2757.60m: see Figure 7-3	
Total		At least 109 holes totalling 22979.28m	

Subtotal Bingay Main	2016	11 holes, totalling 2095.50 metres; see Figure 7-3a
Revised Total		**120 holes excluding Bingay A & C**

Nine firms have explored within and nearby the Bingay Main property, prior to Centermount's year-2010 exploration. In order of historic precedence, they are the Elk Valley Coal and Coke Company Limited, Canadian Pacific Railway Syndicate, California Standard Company, Imperial Oil Limited, Cominco Limited, Specific Natural Resources Ltd., Utah Mines Ltd., Iron Creek Exploration Ltd. and Hillsborough Resources Limited.

The Elk Valley Coal and Coke Company Limited dug prospect pits and trenches, and drove at least one, perhaps two or more, adits within the Bingay coal beds. Few details of this work have come to light, other than a brief report by Fraser (1908) and passing mention by Grieve (1992).

The Elk Valley Coal and Coke Company Limited may also have drilled at Bingay Main, since drill rods and pipes were found in the forest near the "400 ton adit" by William and Bob Shenfield in the 1970s (as reported by Jenks, 1979). Anderson (1984, page 6) quoted an article in the *Fernie Free Press*:

> *"In 1910, another company, the Elk Valley Coal and Coke Company, emerged and, on June 10 of that year, the Free Press reported that 20 men were on the scene and 'a diamond drill is being used for boring ... the first ... that has been taken up the Elk River." Evidence, in the form of hand trenches and coal spoil piles from this period were readily located".*

The Canadian Pacific Railway Syndicate conducted geological mapping, dug trenches and pits, and drove several adits along the western slopes of the Greenhills Range, east of the Bingay Main coal property (Wilson, 1904; Wolfhard, 1967). According to Wolfhard, this work commenced during 1901-1903 and continued until 1910. An undated blueprint map of the 'Elk River Coal Land' (held by the Glenbow-Alberta Institute Archives in the CPR Papers, M2269, Box 199, File 1962) shows results of this work, including an observation of bedding dipping 51 degrees to the north-west near Bingay Hill.

According to the 1974 map, none of the trenches, pits or adits were driven within the present outlines of the Bingay Main coal property.

During the summers of 1955 and 1956, structural geologist Dr. G.G.L. Henderson of the California Standard Company led a programme of geological mapping within the firm's provincial petroleum and natural gas exploration permits, covering an area from the Alberta border southward along both sides of the Elk River valley to latitude 49°30'. Two progress reports accompanied by geological maps at scales of 1:31,680 and 1: 63,360 were submitted to the British Columbia government (Henderson, 1956; Bannister, 1957).

California Standard's geologists recognised the existence of Kootenay strata at Bingay Hill, and they also found Kootenay outcrops on the western bank of Elk River in Lot 6833.

During the summer and autumn of 1959, Imperial Oil Limited conducted a programme of geological mapping and seismic surveys within the Elk River Valley (Labrecque, 1959). One of Imperial's seismic lines was shot along Britt and Forsyth creeks, north of Bingay Creek. Data quality on this line was poor, and the only reflector that could be mapped was considered to be the top of the Cambrian. Imperial's geological map shows the Bingay Main area to be underlain by Triassic strata, with no recognition of the Kootenay coal-measures.

In 1967, Cominco Limited mapped the geology of their Elk River coal lands, including the lower canyon of Bingay Creek and Bingay Hill itself (Wolfhard, 1967). On a 1974 geological map which accompanies the open-filed copy of Wolfhard's report, Bingay Hill and the nearby canyon of Bingay Creek are shown as being underlain by the Rocky Mountain Group (which is considerably older than the Kootenay coal-- measures).

In 1974, Cominco Limited drilled six rotary-drill holes (numbered EV-1 through EV-6) along the Elk Valley, in an effort to ascertain the extent of Kootenay coal-measures beneath the valley floor within lands which at the time were held as coal licences by Cominco (Taplin, 1974). All six holes were drilled with a reverse-circulation drilling rig, using both air and mud as a drilling medium. These six holes are distinct from the similarly-named EV-series of exploratory drill holes located further north near Elk Pass (the Elk Valley Drill Project mentioned by Graham *et al*, 1977 and Gibson, 1985).

All but one of Cominco's boreholes lie outside the present Bingay Main coal licences, but one of the holes (EV-1) was drilled within the property, along the Elk River forest service road. Of the six holes, two were drilled on the west side of the river, and the remaining four were drilled on the east side of the river. Both of the western holes failed to reach bedrock, owing to caving and sloughing of wet surficial sand and gravel. One of the eastern holes (EV-4) struck coal in the basal Mist Mountain Member; the other three holes encountered shale and siltstone (probably Fernie Formation) at the bedrock surface.

On the strength of these borehole results, Cominco dropped their coal licences covering Bingay Main.

In the summer of 1979 Mr. John Jenks, accompanied by Messrs. William and Bob Shenfield, made a geological reconnaissance of the Bingay Main coal property (Jenks, 1979). Geological mapping and photo-geological interpretation were the only work done by Specific Natural Resources.

In 1983, Utah Mines purchased the Bingay Main coal property from Mr. William Shenfield. Subsequently, Utah mapped, trenched and drilled the Bingay Main coal property, producing a substantial assessment report on the coal resources (Anderson, 1984). Utah drilled three boreholes into the Mist Mountain coal measures. One of the holes (1983-1) probably reached the Moose Mountain sandstone, but the other two holes stopped short of this marker zone. All three boreholes were drilled with a diamond-drill rig, recovering HQ core. All three boreholes were geo-physically logged, with fair to good log quality. Cores from the boreholes are presently stored at Mr. Shenfield's residence in Fernie, where they were partially re-logged by the 2010 Bingay Main senior author during the summer of 2004.

Utah's coal assessment report is available as an open file report (Anderson, 1984) from the provincial Ministry of Energy, Mines and Petroleum Resources.

In 1988 and 1990, Iron Creek Exploration Ltd. (under the direction of Mr. William Shenfield) conducted an extensive programme of hand and mechanised trenching of the Bingay coal beds, with particular attention being given to the No.10 coal bed and the 11-12 coal zone.

In 1994, Iron Creek applied for a bulk sample permit from the provincial Ministry of Energy, Mines and Petroleum Resources (Shenfield and Gardner, 1996). A 2500-tonne sample was approved, and 200 tonnes were taken from the No.10 coal bed in Trench No.1 during 1996 (Gardner, 2004b). In 1997 and 2002, Iron Creek conducted additional trenching in the No.10 coal bed, as well as in the 11-12 coal zone at Trench No.2, and along a roadside exposure of the No.13 coal bed to the east of Trench No.2.

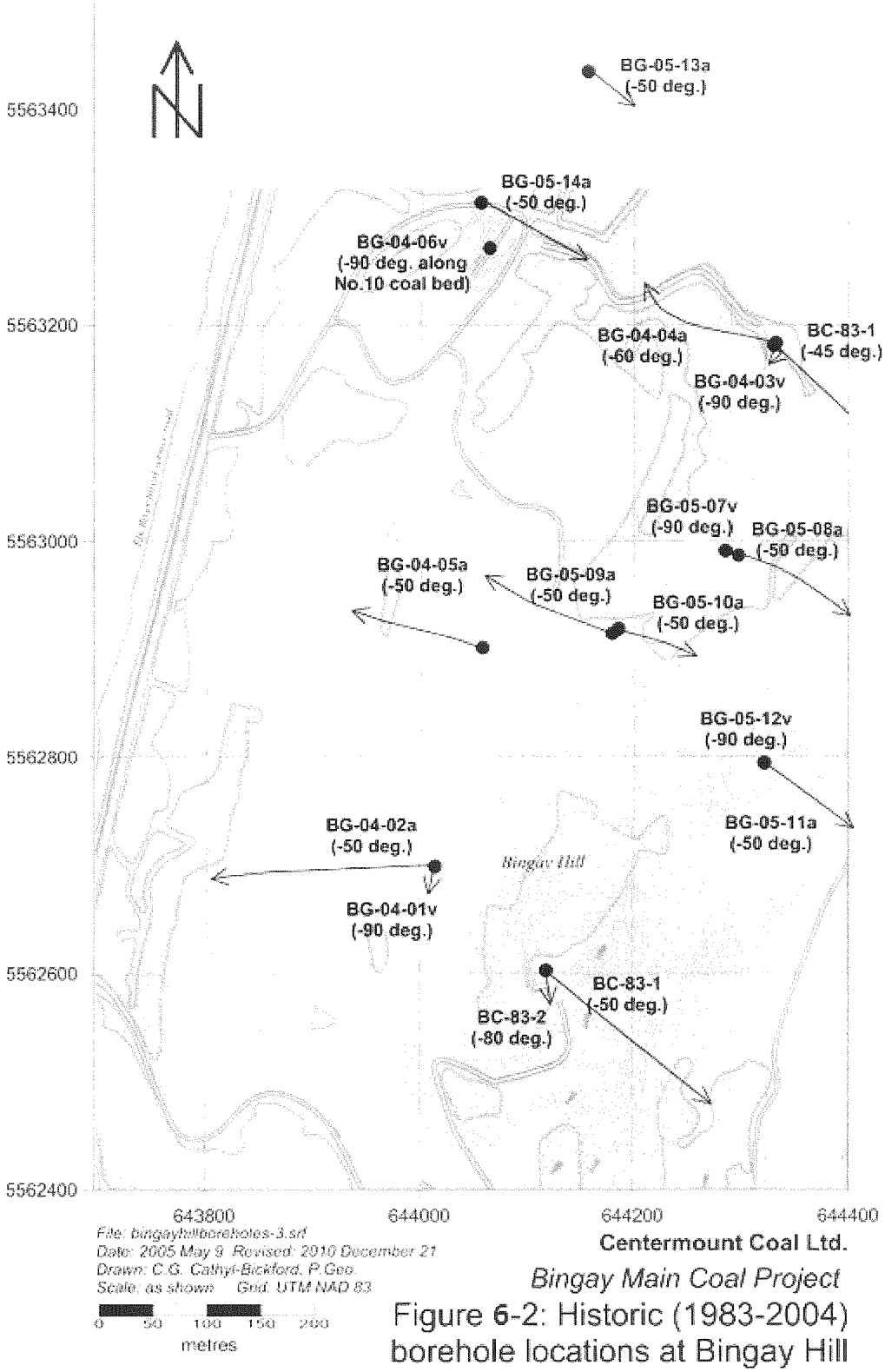
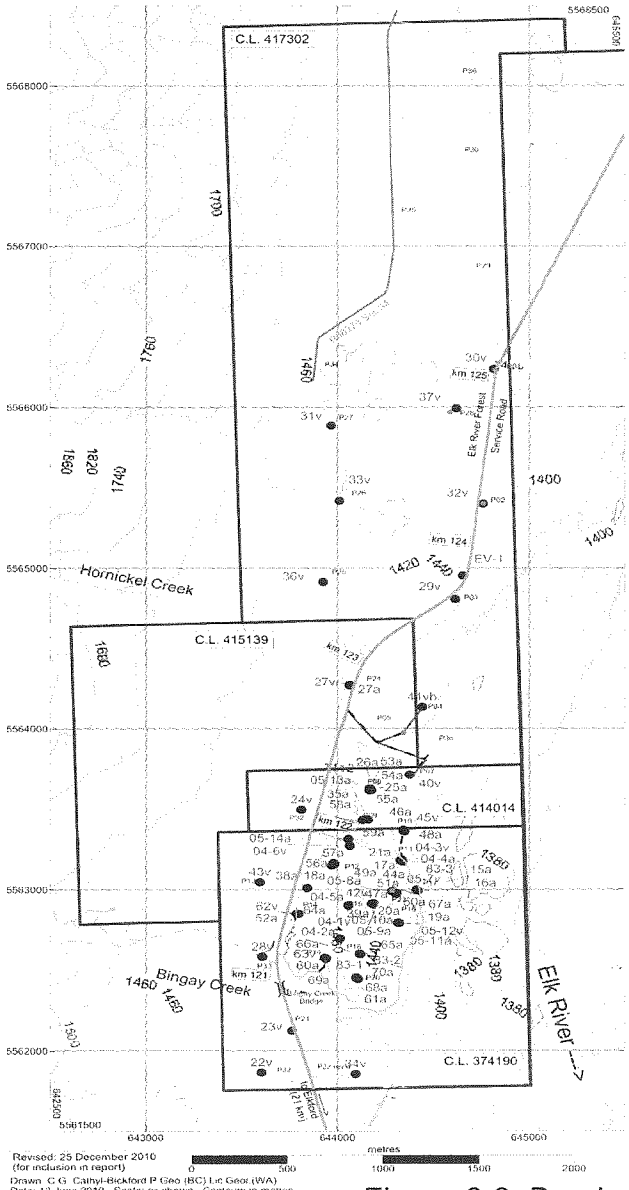


Figure 6-2: Historic (1983-2004) borehole locations at Bingay Hill

Hillsborough Resources Limited, a Vancouver-based coal mining and development company, explored the Bingay Main coal deposit in 2004 and 2005. In 2004, the company drilled six reverse-circulation boreholes at Bingay Main (Gardner, 2004b). All of these boreholes were collared within the Mist Mountain coal-measures, but drilling difficulties or planned shallow depth prevented reaching the Moose Mountain sandstones in any of the holes. Geophysical logs were run in five of the six holes. One of the holes was intentionally not logged, as it was drilled along the bedding of the No.10 coal bed in an effort to assess depth-of-oxidation of the coal.

The senior author's geological mapping of the Bingay Main coal property was commissioned by Hillsborough as part of their 2004 exploration programme. As well, Hillsborough commissioned baseline and scoping studies for their planned submission of a surface-mining development programme to the provincial Ministry of Energy, Mines and Petroleum Resources. These studies included a preliminary survey of acid rock drainage potential based on sampling of diamond-drill cores from Utah Mines' 1983 drilling programme (Morin and Hutt, 2004).

In 2005, Hillsborough drilled eight more reverse-circulation boreholes at Bingay Main. As with the previous year's work, all of the boreholes were collared within, and finished within, the Mist Mountain coal-measures. Geophysical logs were run in all of the boreholes, but in one of the holes only the near-surface strata could be logged, owing to caving of the borehole.



Drill Pads

Pad	Easting	Northing
P01	644835	5566225
P02	644745	5565405
P03	644560	5564775
P04	644430	5564120
P05	644240	5563995
P06	644501	5563907
P07	644385	5563690
P08	644190	5563605
P08	644190	5563605
P09	644145	5563370
P10	644340	5563330
P11	644330	5563170
P12	644005	5563120
P13	643600	5563000
P14	643785	5562870
P15	644180	5562920
P16	644320	5562800
P17	644420	5563010
P18	644110	5562600
P19	643930	5562580
P20	644120	5562455
P21	643760	5562140
P22	644310	5561830
P23	644286	5562986
P24	644080	5564320
P25	643920	5564960
P26	644020	5565460
P27	643960	5565930
P28	644580	5565950
P29	644670	5566870
P30	644610	5567590
P31	643660	5561840
P32	643820	5563500
P33	643600	5562580
P34	643880	5566260
P35	644280	5567190
P36	644600	5568080

UTM Grid North
(NAD83 Zone 11)

Note: year-2010 boreholes are shown without year prefix

Centermount Coal Ltd.
Bingay Main Property

Revised: 25 December 2010
(for inclusion in report)

Drawn: C.G. Cathyl-Bickford P.Geo (BC) Le Geor (WA)
Date: 13 June 2010 Scale: as shown Contours in metres
Base map from http://webmaps.gov.bc.ca/imfx/
UTM NAD 83 Zone 11 Drawing: bingay-property-boreholes.srf

Figure 6-3: Borehole location map

From 1980 until 1991, the British Columbia Geological Survey Branch conducted an extensive programme of geological, petrographic and photo-geological mapping in the Elk River coalfield, including the Bingay Main area. Two sets of preliminary geological maps (Grieve and Pearson, 1983, Grieve and Price, 1987), an open-file report with maps and cross-sections (Johnson and Smith, 1991) and a geological bulletin containing two maps (Grieve, 1992) document the results of this programme. Grieve and Pearson's 1983 mapping contains the most useful information concerning the geology of the Bingay Main area, insofar as it extends within parts of the property.

From 1915 until 1920, the Geological Survey of Canada conducted a regional mapping programme in the southern Rocky Mountains, covering the headwaters of the Elk and Highwood Rivers (Marshall, 1920; 1921). Mapping was done by J.S. Stewart, B. Rose and J.R. Marshall, and the overall geological compilation was done by J.R. Marshall. Marshall's map depicts "Kootenay Formation" at the confluence of Bingay Creek and Elk River, but his nearby cross-section shows all beds dipping to the east: it is likely that Marshall did not find the Kootenay outcrops at Bingay Creek.

In 1981 and 1982, R.A. Price, D.A. Grieve and C. Patenaude remapped the regional geology of this area, including the Bingay Main area (Price and others, 1992). On their map, they show Kootenay coal-measures and three bedding attitudes at Bingay Hill, and they show a north-plunging syncline running across the hill.

Four historical coal resource estimates have been reported for the Bingay Main coal property; two of these estimates were made by Utah Mines Ltd. (Davis, 1984), both before and after completion of their 1983 diamond-drill programme. The third and fourth estimates were made by the senior author (Cathyl-Bickford, 2004 and 2005), following completion of Hillsborough's year-2004 and year-2005 exploration programmes.

Davis' 1983 and 1984 estimates do not meet the present-day standards as mandated by Hughes et al (1989) in Geological Survey of Canada Paper 88-21, since he based his estimates on section lines with fewer control points than specified by Paper 88-21. Furthermore, the spacing between the section lines and the distance of projection beyond section lines are greater than those currently mandated.

As well, the use of the word 'reserves' in past practice does not meet the present-day standard as required under *National Instrument 43-101*, which calls for engineering input into such determinations. Therefore, the senior author considers Davis' historic estimates to have been of coal resources rather than coal reserves.

Prior to the 1983 drilling, J.D. Davis (1984, page 1) concluded:

> *"Recent information (J.Davis Oct 7/83) indicated a potential of 8 seams over approximately a square kilometer contained 'in situ' reserves of 17.445 x 10^6 tonnes of coal (@1.30 Sp.Gr.) with contained waste resulting in a strip ratio of 7.40:1 (m^3/tonne)."*

Following the 1983 drilling, J.D. Davis (1984, page 1) concluded:

> *"1. Diamond drill information indicates the presence of 22 coal seams of which 18 are of considerable extent and thickness (i.e.≥/1m. true - range 1.07 m - 11.08 m) to be used in a reserve calculation.*
>
> *2. An updated 'in situ' deposit tonnage from 18 seams based on diamond drill results is 44.13 x 10^6 tonnes of coal (@1.30 Sp.Gr.) with contained waste (over burden and interburden) resulting in a strip ratio of 5.55:1 (m^3/tonne) Table 1.*
>
> *3. Extension of the lowermost 8 seams to the northern extent could add a potential 8.2 x 10^6 tonnes and an associated amount of waste of 68.83 x $10^6 m^3$."*

Following the 2004 drilling, (Cathyl-Bickford, 2004, page 9) concluded,

- *7.56 million tonnes of coal are measured and indicated resources of immediate interest for surface mining; and*
- *2.68 million tonnes of coal are inferred resources of immediate interest for surface mining.*

These resources occur within the Bingay 9-10, 11-12 and 20-21 coal zones, all of which lie within the Mist Mountain Formation of the Kootenay Group

Results from Hillsborough's year-2005 drilling programme demonstrated that more coal was available for incorporation in the resource base, owing to the recognition of thicker than expected coal zones in the middle part of the Mist Mountain Formation. In the subsequent report (Cathyl-Bickford, 2005), the following coal-resource estimate was made:

- *15.512 million tonnes of coal are measured and indicated resources of immediate interest for surface mining; and*

- *2.410 million tonnes of coal are inferred resources of immediate interest for surface mining.*

These quantities of coal represent a substantial increase over the 2004 resource estimate, which was based upon the drilling done to the end of 2004 (Cathyl-Bickford, 2004); this increase is mainly due to the many more coal intersections measured by the 2005 drilling, which allowed more coal zones to be brought into the resource base. A modest increase is also attributable to the northward extension of drilling along the west limb of the Bingay Syncline.

The year-2004 and year-2005 resource estimates were prepared in keeping with *National Instrument 43-101*, following guidelines laid down by Geological Society of Canada Paper 88-21. However, these estimates are now superseded by the estimate presented in this present report.

No coal is known to have been produced from the Bingay Main property, other than about 400 tonnes of coal dumped on the ground at the portal of the old "400-ton adit", and 200 tonnes of coal taken from the No.10 coal bed by Iron Creek Exploration Ltd. for analytical purposes within the terms of a bulk sample permit granted by the provincial government.

The existence of significant areas of undocumented mine-workings at Bingay Main is regarded as unlikely. However, additional test pits and adits, not yet found by fieldwork, may be disclosed if additional areas of the property are cleared of trees.

7.0 Geology

The Bingay Main property covers the western margin of the Elk Valley coalfield. The coalfield is an infaulted remnant of a substantially larger body of coal-measures, correlative with the Crowsnest Basin to the south and the Highwood Pass/Mount Allen/Canmore coalfields to the north. Coal-measures at Bingay Main are hosted by the Mist Mountain Formation, part of the Jura-Cretaceous Kootenay Group (Table 7-1). The Mist Mountain Formation is underlain by Jurassic rocks of the Morrissey and Fernie formations. At the crest of the Greenhills Range, east of the Bingay Main property, the Mist Mountain Formation is overlain by the younger coal-measures of the Elk Formation, also of Cretaceous age.

Geology of the Bingay Main area is known mainly from field mapping of bedrock outcrops at Bingay Hill, tied together by boreholes, road cuts and trenches along its flanks. The hill is bounded to the north-west and south-west by an extensive east-sloping apron of gravel, and to the north-east and south-east by terraced gravel deposits adjacent to the broad plain of the Elk River.

Table 7-1: Table of formations for the Bingay Main area

Quaternary	
Pleistocene to Holocene	
Qd	*DRIFT: Gravel, alluvium, talus and till; minor localised mucky peats.*
Jurassic and Cretaceous	
KOOTENAY GROUP (Jura-Cretaceous rocks only):	
Tithonian to Hauterivian?	
Ke	*ELK FORMATION: Sandstone, siltstone, mudstone,* ***coal*** *(including cannel coal and alginite-rich 'needle' coal); minor conglomerate*
JKmm	*MIST MOUNTAIN FORMATION: Siltstone, variably-carbonaceous mudstone; channel-filling, well-sorted quartzose sandstone;* ***coal****; minor marlstone, ironstone and tonstein.*
Jmo	*MORRISSEY FORMATION: Sandstone and minor siltstone.*
Jmo2	*MOOSE MOUNTAIN MEMBER: Quartzose sandstone containing minor amounts of rock fragments; minor siltstone and gritstone; very resistant to erosion.*
Jmo1	*WEARY RIDGE MEMBER: Silty sandstone composed of quartz and rock fragments, with*

	interbeds of siltstone; softer than overlying beds.

Oxfordian to Tithonian?

JF	*FERNIE FORMATION: Interbedded siltstone and feldspar-rich silty sandstone; minor silty mudstone.*

Triassic and older

ROCKY MOUNTAIN SUPERGROUP AND SPRAY RIVER GROUP (UNDIVIDED)

Stephanian to Rhaetian?

Pre-JF	*Quartzitic and dolomitic sandstone, limestone and dolomite, mudstone and siltstone*

Within the Elk Valley coalfield, total preserved basin fill over the Precambrian cratonic rocks of North America is on the order of 10 kilometres, including sedimentary and volcanic rocks of Cambrian through Jurassic ages which together form economic basement beneath the Kootenay coal-measures. Detailed study of these older rocks is mostly irrelevant to coal exploration, except insofar as they are overthrust over the western margin of the coalfield.

The coal-measures of the Elk Valley coalfield were deposited in a rapidly-subsiding foreland basin, which lay along the north-eastern margin of the Columbian orogenic highlands. Rapid subsidence of the basin is evidenced by the abundance of detrital organic matter within the coal-measures, and the general scarcity of oxidised sediments.

The Columbian highlands must have included active volcanic vents, since tonsteins (altered volcanic-ash bands) are present within the coal-measures. The Bingay Main area was either quite remote from these volcanoes, or at an unfavourable position *vis-à-vis* prevailing winds during late Jurassic and early Cretaceous time, because the tonsteins are relatively thin (generally less than 5 cm thick).

7.1 Local Geology

Interpreted bedrock geology of the Bingay Hill area is presented as **Figure 7-1** based on Bickford's fieldwork during the summer of 2004 and spring of 2005, supplemented by structural observations depicted on the California Standard Company's geological map (Henderson, 1956), and results of year-2010 drilling. **Table 7-2** documents the formation and member tops, interpreted by Bickford through her logs and records of boreholes drilled at and near the Bingay Main area.

Table 7-2: 2010 Bingay Coal Drilling Pad & Borehole

Pad No.	Coordinate Pad		Borehole Name	Coordinate Borehole			Note
	Norhting	Easting		Norhting	Easting	Elevation (m)	
Pad 1	5566225	644835	2010-30v	5566237	644815	1414	P1-P3 in Bingay A, No coal.
Pad 2	5565406	644745	2010-32v	5565402	644758	1408	
Pad 3	5564775	644560	2010-29v	5564809	644612	1405	
Pad 4	5564120	644430					
Pad 5	5563995	644240	2010-41v	5563983	644349	1399	
Pad 6	5563907	644501					
Pad 7	5563690	644385	2010-40v	5563714	644377	1392	
Pad 8	5563605	644190	2010-25a	5563626	644166	1407	
			2010-26a	5563617	644178	1407	
			2010-53a	5563624	644169	1407	
			2010-54a	5563624	644174	1407	
			2010-55a	5563617	644164	1407	
Pad 9	5563370	644145	2005-13a	5563434	644158	1417	
			2010-35a	5563436	644148	1417	
			2010-58a	5563437	644145	1416	
			2010-59a	5563432	644133	1417	
Pad 10	5563330	644340	2010-45v	5563371	644343	1385	
			2010-46a	5563365	644344	1388	
			2010-48a	5563361	644350	1392	
Pad 11	5563170	644330	2010-17a	5563173	644340	1387	

Pad 25	5564960	643920	2010-36v	5564915	643924	1429	P25-P30 in Bingay A, No coal.
Pad 26	5565460	644020	2010-33v	5565420	644011	1425	
Pad 27	5565930	643960	2010-31v	5565887	643966	1440	
Pad 28	5565950	644580	2010-37v	5565993	644618	1417	
Pad 29	5566870	644670					
Pad 30	5567590	644610					
Pad 31	5561840	643660	2010-22v	5561866	643602	1408	
Pad 32	5563500	643820	2010-24v	5563497	643810	1414	
Pad 33	5562580	643600	2010-28v	5562585	643607	1420	
Pad 34	5566260	643880					
Pad 35	5567190	644280					
Pad 36	5568080	644600					

Table 7-3 **2011 Bingay Coal Exploration Drilling Pad & Borehole**

Hole Number	Coordinates (UTM, NAD83)			-	Drill Hole		All Hole Location map	Pad Hole map
	Easting	Northing	Elevation	Depth (m)	Azimuth	Dip		
2011-1a(ka)	644365	5562645	1395.8	185.01	31.6	64	X	P16
2011-2a(ja)	644407	5562712	1395	364.85	80.4	64	X	P16
2011-3a(38a)	644301	5563567	1404	95.57	160	60	X	P8
2011-CQ01	644071.80	5563282.48	1422.05	41.0		90	X	P9
2011-CQ02	644315.17	5563016.46	1400.98	52.5		90	X	P17
2011-CQ03	644389.05	5563044.11	1386.71	27.0		90	X	P17
2011-CQ04	643854.17	5563001.79	1420.98	4.0		90	X	2010-38A
2011-CQ05	643987.47	5562702.89	1452.03	42.0		90	X	2004-2A
2011-CQ06	643992.50	5562702.90	1452.35	32.0		90	X	2004-2A
2011-CQ07	644086.09	5563305.95	1422.37	61.0		90	X	P9
2011-CQ08	643925.36	5563203.52	1423.95	11.0		90	X	P12
MW-11-1D	644050.0	5562270.0	1419.50	102.11		90	X	P20
MW-11-2D	644325.0	5562318.0	1399.50	109.73		90	X	On the road
MW-11-3D	644429.3	5562524.1	1390.50	117.35		90	X	CAMP

MW-11-4D	644344.6	5563366.4	1388.50	151.18		90	X	P10
MW-11-5D	644348.0	5562562.2	1397.50	102.41		90	X	P16
MW-11-5S	644460.0	5562760.0	1392.00	6.40		90	X	

Table 7-4 **2012 Bingay Coal Exploration Drilling Pad & Borehole**

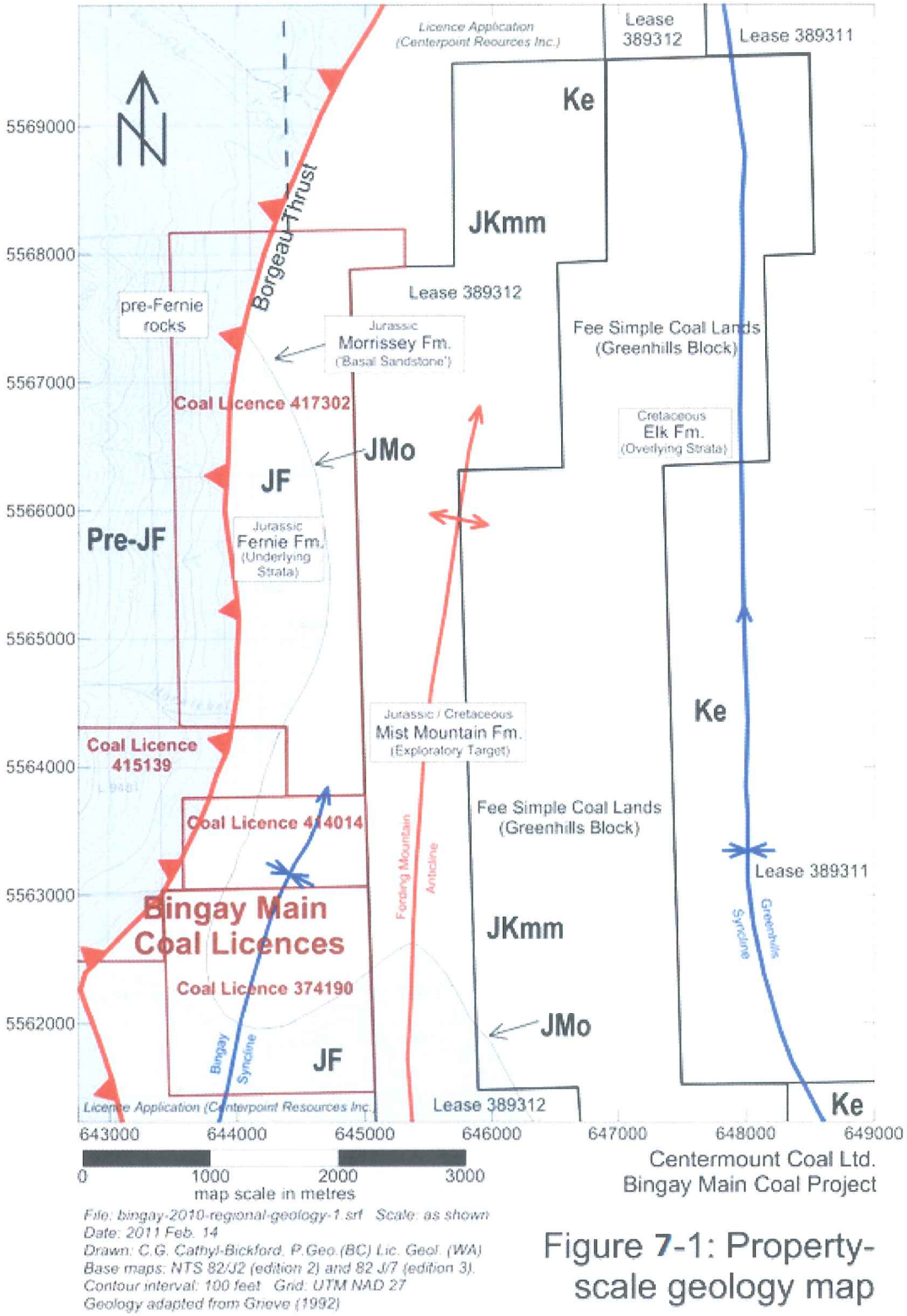
Hole Number	Coordinates (UTM, NAD83)			-	Drill Hole		All Hole Location map	Pad Hole map
	Easting	Northing	Elevation	Depth (m)	Azimuth	Dip		
2012-01Ra	643849.0	5563464.0	1415.0	350.52	129	45	X	P12
2012-02Ra	644164.0	5563943.0	1399.0	426.72	135	50	X	P5
2012-03Ra	644336.0	5563812.0	1394.0	159.88	125	51	X	P7
2012-04Da	643430.0	5562575.0	1443.0	118.17	200	51	X	P19
2012-05Da	644110.0	5562595.0	1486.0	218.85	200	51	X	P18
2012-06Da	644120.0	5562460.0	1462.0	280.75	135	51	X	P20
2012-07Da	644005.0	5563115.0	1430.0	218.82	135	51	X	P12
2012-08Da	644312.0	5562570.0	1405.0	87.78	290	47	X	CAMP
BH12-1a	644050.0	5562270.0	1419.5	279.08	180	70	X	ROAD/P20-P21
BH12-2a	644456.0	5562789.0	1390.0	102.18		69	X	P16
BH12-3a	644470.0	5562776.0	1395.0	305.00		60	X	P16
MW12-1D	644405.0	5562369.0	1403.0	107.67			X	P9
MW12-2D	644456.0	5562790.0	1395.0	102.18			X	P16

Bingay Drill Hole Detail 2016

Bingay Area	Hole Number	Coordinates (UTM, NAD83)			Drill Hole							Geological Description	
		Easting	Northing	Elevation	Azimuth	Dip	Depth (m)	Depth to bedrock			Diamond Drill	Written	Typed
Main	16-BMD01	643769.9	5563118.2	1420.7	175	70.0	121.50	26.40			X		X
	16-BMD01A	643770.7	5563105.3	1420.4		90.0	29.00				X		X
	16-BMD03	644346.6	5562387.0	1394.2	158.5	70.1	152.00	2.00			X		X
	16-BMD04	644346.1	5562543.4	1396.6	100	70.0	148.00	17.48			X		X
	16-BMD05	644071.1	5562682.8	1452.3	159.1	70.3	135.50	1.70			X	SNC	X
	16-BMD05A	644070.3	5562675.2	1452.5	42.7	70.1	438.00	2.50			X	SNC	X
	16-BMD06	644326.8	5562793.0	1416.1	125.6	61.3	207.00	2.00			X	SNC	X
	16-BMD07	644333.2	5562981.9	1403.4	100	70.0	251.50	1.80			X	SNC	X
	16-BMD08	644338.7	5563134.7	1386.9	80.3	59.5	340.00	1.60			X	SNC	X
	16-BMD09	644337.8	5563369.7	1388.2	100	70.0	152.50	21.20			X		X
	16-BMD10	644236.7	5563579.1	1395.6	100	80.0	120.50	10.75			X		X
subtotal							**2095.50**						
B	16-BMD02	644640.4	5561741.9	1384.8	300	80.0	150.40	46.00			X		X
	16-BBDH1	644175.1	5561546.3	1396.1		90.0	92.50	40.00			X		X
	16-BBDH2	644024.2	5560884.9	1394.5		90.0	50.00	27.00			X		X
	16-BBDH2A	644016.8	5560888.9	1395.0	270	50.0	25.00				X		X
	16-BBDH3	644082.3	5560316.4	1403.2		90.0	26.00				X		X
	2016-T1	644795	5561273	1388									
	2016-T2	644783	5561283	1383									
	2016-T3	644768	5561306	1388									
subtotal							**343.90**						
A	16-BA02	646722.1542	5570235.6631	1442.916	340	80.0	469.50	46.00	X	X	X		X
subtotal							**469.50**						
A+B							**813.40**						
total							**2908.90**						

CENTERMOUNT COAL	2095.5	72.0%
A+B	813.4	28.0%
05A+05	573.50	19.7%

Figure 7-3a: 2016 Bingay Coal Exploration Boreholes



File: bingay-2010-regional-geology-1.srf Scale: as shown
Date: 2011 Feb. 14
Drawn: C.G. Cathyl-Bickford, P.Geo.(BC) Lic. Geol. (WA)
Base maps: NTS 82/J2 (edition 2) and 82 J/7 (edition 3).
Contour interval: 100 feet Grid: UTM NAD 27
Geology adapted from Grieve (1992)

Figure 7-1: Property-scale geology map

Figure 7-1 (ABOVE) shows bedrock geology of the Bingay Main property as understood by Bickford in 2010. This map incorporates findings from geological mapping by various workers in the area: Grieve and Pearson (1983), Grieve and Price (1987), Cathyl-Bickford (2005) and Munroe (2010b; 2010c).

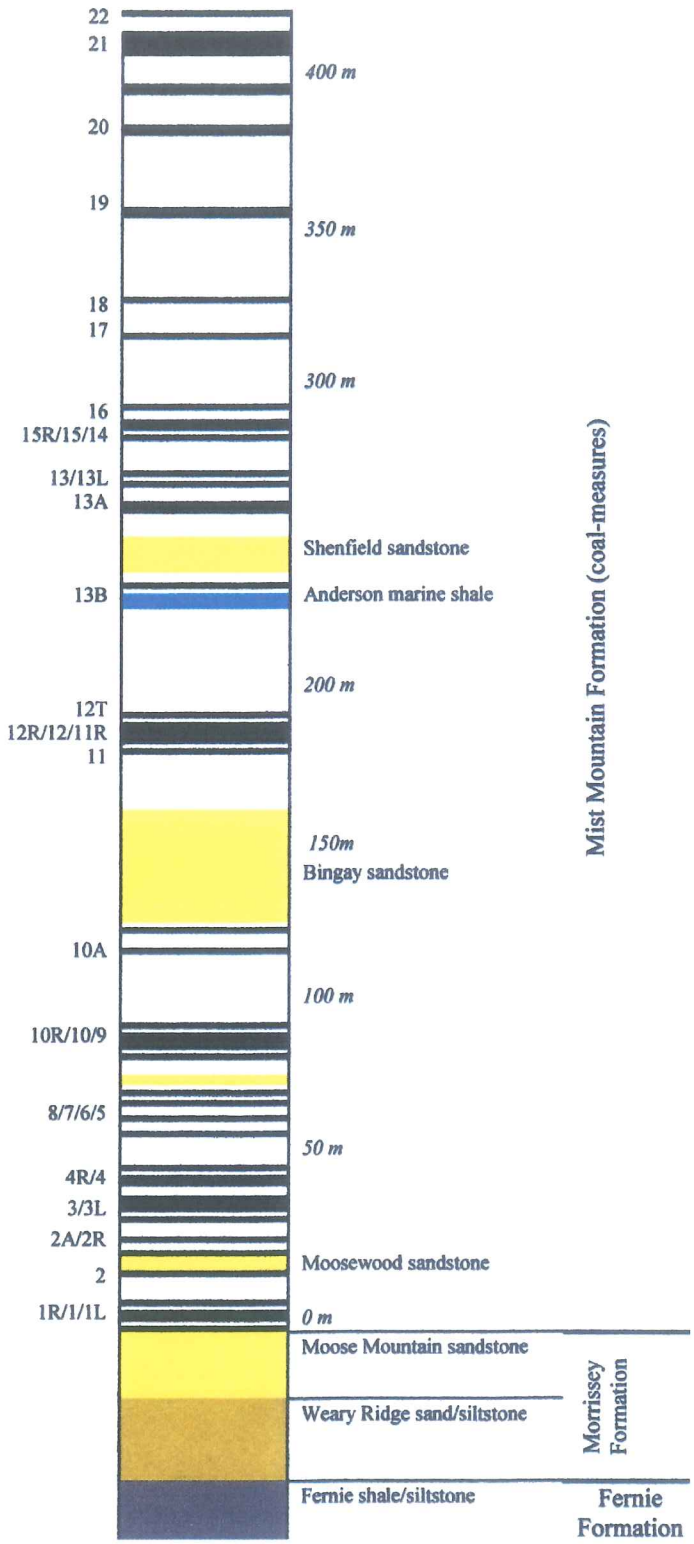
Within the Bingay Main property *per se*, the Fernie, Morrissey and Mist Mountain formations form bedrock; bounding the property to the east and west are younger and older rocks respectively.

Geological structure of the Bingay Main property is known mainly from mapping of bedrock outcrops (most extensively done by Munroe during the 2010 exploration program, and reported by him in three stand-alone reports (*ibid.*, 2010a, 2010b and 2010c) as cited in the 2010 report's references; with earlier work documented in Cathyl-Bickford's 2005 report), supplemented by dipmeter records from most of the 2004, 2005 and 2010 boreholes. Figure 7-2 shows cross-section locations and the horizontal projection of all boreholes drilled at Bingay Hill, where the presently-recognised coal resources (see APPENDIX VIII: Geological Report by .G. (Gwyneth) Cathyl-Bickford P.Geo. Lic. Geo, in 2011 ITEM 19 of this report) are located.

Table 7-3 (below) presents, in graphic form, the nomenclature and stratigraphic position of major correlatable coal beds within the Mist Mountain coal-measures, along with the positions of major sandstones and an inferred marine band.

Three major stratigraphic assemblages are present at Bingay Main, and within the Elk Valley coalfield generally. From base upwards they are 'Basement', 'Coal-measures' and 'Drift cover,' of Jurassic and older, Jura-Cretaceous and Quaternary ages successively.

Economic basement beneath the Mist Mountain Formation (essentially, the older rocks beneath which no mineable coal could be expected to be found) is formed by sandstone of the Moose Mountain and Weary Ridge members of the Jurassic Morrissey Formation, and interbedded siltstone, sandstone and mudstone of the Jurassic Fernie Formation.



Drawn: C.G. Cathyl-Bickford P.Geo. Lic.Geol., 2010 December 20. Scale: approximate, as shown

Table 7-5: **Stratigraphic Column for Bingay Main**

The Moose Mountain Member forms prominent sandstone cliffs along the north bank of Bingay Creek, downstream from the Bingay Creek Forest Service Road bridge. The Moose Mountain sandstones are also well-exposed along the access road which skirts the southern face of Bingay Hill, along the northern side of Bingay Creek. The two older rock-units are exposed beneath the Moose Mountain beds, within the canyon of Bingay Creek.

In the subsurface at Bingay Hill, the Moose Mountain Member has been reached in 21 boreholes, 20 of which were drilled during the year-2010 exploration programme. The contact of the Moose Mountain sandstone to the overlying Mist Mountain coal-measured has now been adequately established to be abrupt, marked by a variably-thick coal zone (the No.1 zone) directly overlying a rooted, quartzose, carbonaceous to coaly and sandy paleosol.

Outside the property, old Cominco boreholes EV-3, EV-5, EV6 and exploratory gas well AECOG Mosquito d-16-D/82-J-7 all appear to have been collared in older shales or siltstones of the Fernie Formation. Cominco borehole EV-4 and exploratory gas well AECOG Mosquito d-96-L/82-J-2 both appear to have bottomed in Moose Mountain or Weary Ridge sandstone.

Coal-measures in the Bingay Main area are hosted by the Mist Mountain Formation of the Kootenay Group, of latest Jurassic to earliest Cretaceous age. Although younger coals are known from the overlying Elk Formation in the Greenhills Range (Grieve and Pearson, 1983), the Elk coals appear to have been stripped away by erosion within the Bingay Main property. During deposition of the Mist Mountain coal-measures, the Fernie Sea (the local name for the Interior Seaway) lay to the east and Northeast, and orogenically-elevated highlands lay to the Southwest.

The Mist Mountain Formation outcrops extensively on Bingay Hill, and along both limbs of the Bingay Syncline. Comparison of the drilled stratigraphic section at Bingay Main with the surface sections reported by Gibson (1985) from the Greenhills Range suggests that the upper third or quarter of the Mist Mountain has been lost to erosion at Bingay Main. The preserved true stratigraphic thickness of the Mist Mountain Formation at Bingay is about 460 metres.

Gibson (1985) proposed that the Moose Mountain sandstones might represent a coastal barrier or strandplain system, above and behind which extensive peat lands could form within the deltaic complex that comprises the Mist Mountain coal-measures. Although Gibson did not recognise any definitely marine interbeds within the Mist Mountain Formation, he did note the presence of extensively-burrowed rocks within the basal Mist Mountain. Such intensely-bioturbated strata were also noted by the senior author in the course of relogging some of Utah Mines' 1983 diamond-drill cores. The most continuous of these zones, with characteristic high gamma-log response, has been designated as the Anderson 'marine band', lying between the No.13 Lower and No.12 Rider coal beds.

The year-2004 and year-2005 geological mapping by Bickford, and the more detailed year-2010 structural mapping by Munroe (2010a, 2010b), was focussed on elucidating the overall structure and coalbed disposition within the Bingay Syncline, only passing attention was paid to palaeocurrent indicators. Some of the coal-measures rocks (most notably the thick sandstone beds) are rippled or cross-bedded, and such features afford the possibility that more detailed fieldwork might allow for the determination of palaeocurrent directions, and hence the outlining of small-scale palaeotopographic features within the coal-measures at Bingay Main. The complex nature of the deposit continues to make that a very difficult task.

In July 2010 Richard Munroe was commissioned by Centermount Coal Ltd. to conduct a series of trench surveys to examine the stratigraphic sequences and determine if any additional structural data could be developed for the property. After series of trips to the property during the summer the scope of work expanded to include a more regional structural examination of the rest of the Bingay property as well as three additional adjoining properties. These additional properties were identified, as previously mentioned, as Bingay A, B and C which are under the control of Centerpoint Resources Inc. During the 2016 program, Centermount Coal Ltd received permission from Centerpoint Resources to drill three diamond drill holes and dig three trenches. The results of the program eas there is no coal bearing formation under Bingay B west of the Elk River. Also, an area near the east side of the Elk River FSR thought to be subsidence from an old underground mine, was actually a cluster sinkholes. A separate Assessment Report for the Centerpoint Bingay A and B exploration will be submitted during April 2017.

Additional research is needed in archive data bases and government records to locate old air photographs, permit information and mining/exploration activity in the region. It was determined by a limited search by Richard Munroe in Victoria, in 2010 that at least 9 old coal exploration licenses were issued on portions of the current property suite in the early 1900's. This would indicate that a much larger body of forgotten knowledge may be hidden somewhere.

The 2010 field season work provided the opportunity to present a possible regional structural picture that will have to be correlated with the data set obtained from the current exploration drilling at Bingay Hill. The 17 drill holes done in 2011 and the 13 done in 2012 have helped in developing an updated structural model. This work is in continual progress. To augment the drilling a series of trenches were dug and mapped by in October 2012. This work is included in the 2016 update of the geological computer model in preparation of the 2016 Field program.

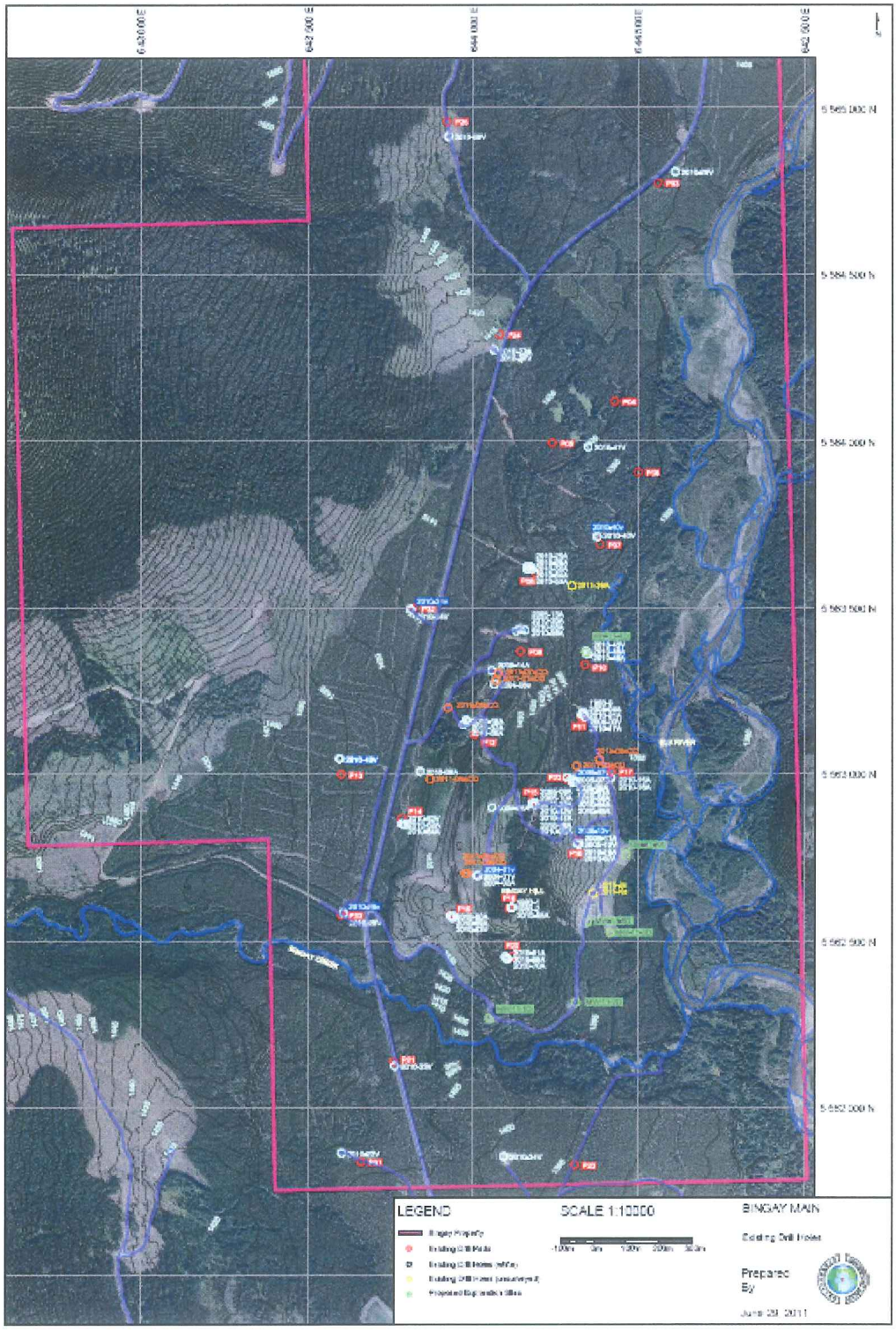


Figure 7-2: 2011 Bingay Coal Exploration Boreholes

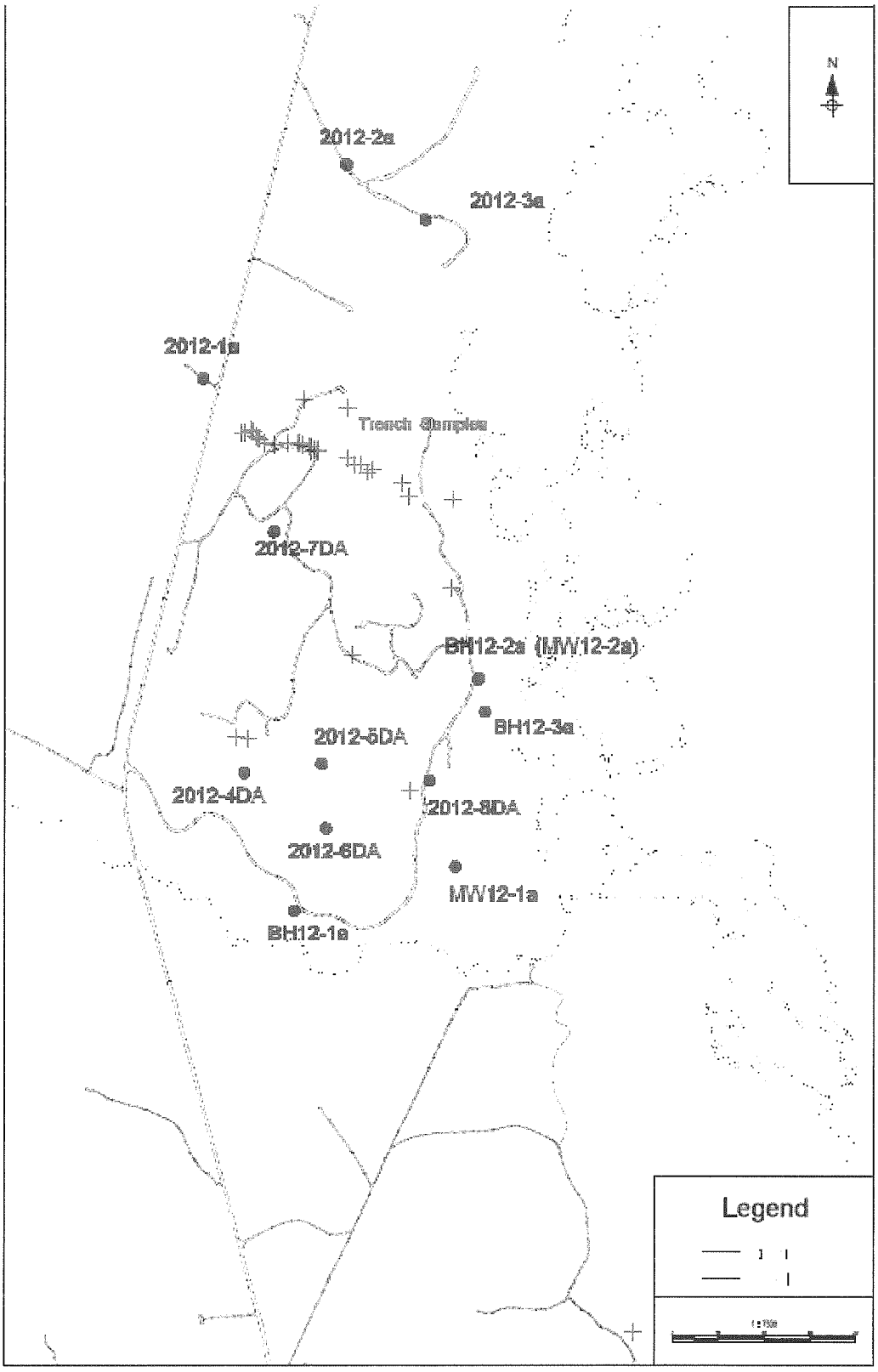
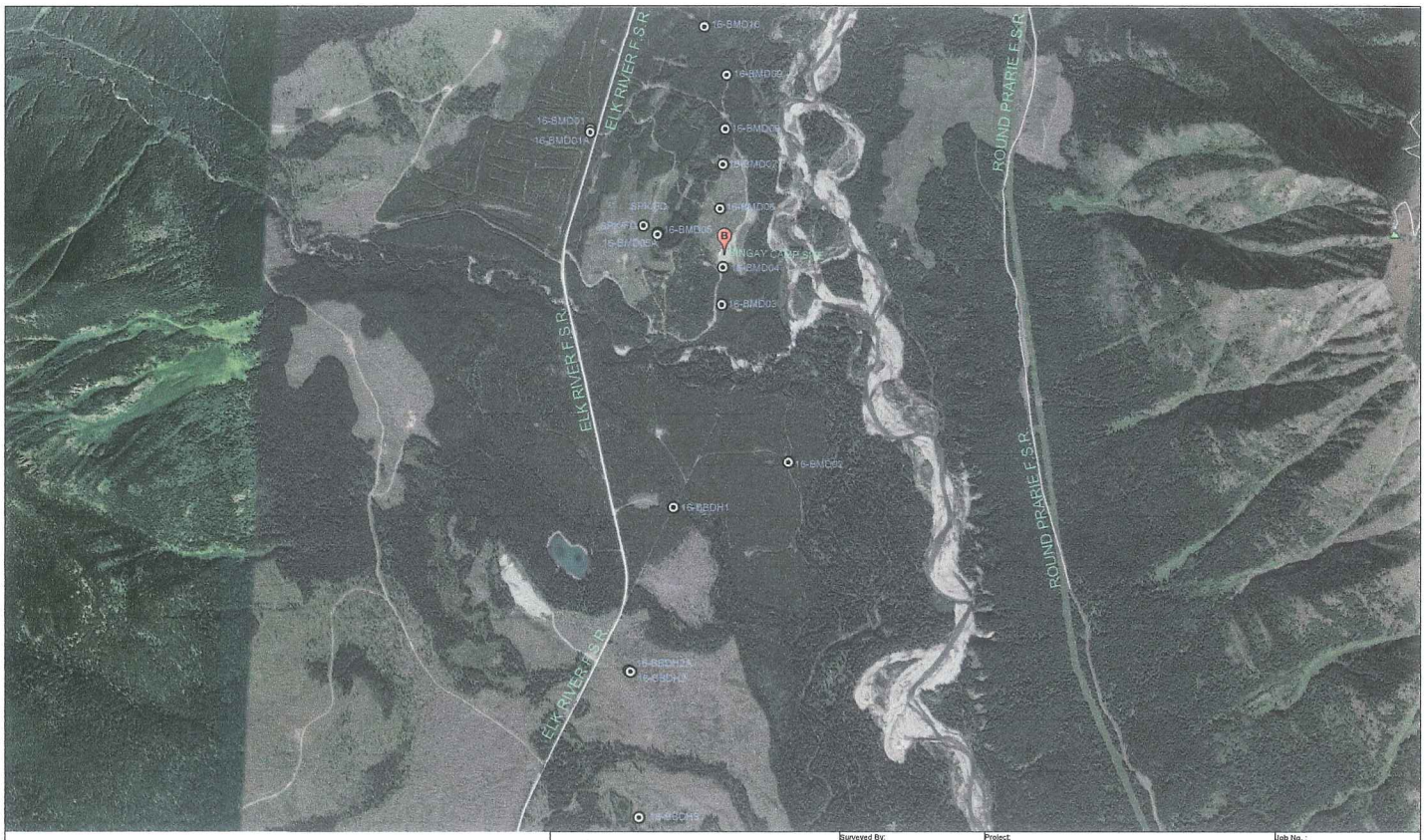


Figure 7-3: 2012 Bingay Coal Exploration Borehole & Trench



NOTES:

ALL COORDINATES PROVIDED ARE BASED ON CONTROL POINT COORDINATES PROVIDED BY CENTERPOINT RESOURCES INC,

0 100 200 300 400 500 1000 1500m

ALIGN Surveys Ltd.

Client: **CENTERPOINT RESOURCES INC.**

Surveyed By:	M.B.
Drawn By:	M.B.
Checked By:	A.W.
Approved By:	A.W.
Scale:	1 :15,000 @ A3

Project: **BINGAY MINE**

Title: PLOT PLAN WITH AERIAL PHOTOGRAPHY OF 2016 DRILL HOLES SURVEY CONDUCTED BY ALIGN SURVEYS LTD. ON 2016-07-21

Job No. :	
CAD File:	2016-07-21 BINGAY MINE
Date:	2016-07-28
Drawing No. :	001
Sheet No. :	1 OF 1

NOTES:

ALL COORDINATES PROVIDED ARE BASED ON CONTROL POINT COORDINATES PROVIDED BY CENTERPOINT RESOURCES INC,

0 100 200 300 400 500 1000 1500m

ALIGN Surveys Ltd.

Client:

CENTERPOINT RESOURCES INC.

Surveyed By:	M.B.
Drawn By:	M.B.
Checked By:	A.W.
Approved By:	A.W.
Scale:	1 :15,000 @ A3

Project: **BINGAY MINE**

Title: PLOT PLAN WITH AERIAL PHOTOGRAPHY OF 2016 DRILL HOLES SURVEY CONDUCTED BY ALIGN SURVEYS LTD. ON 2016-07-21

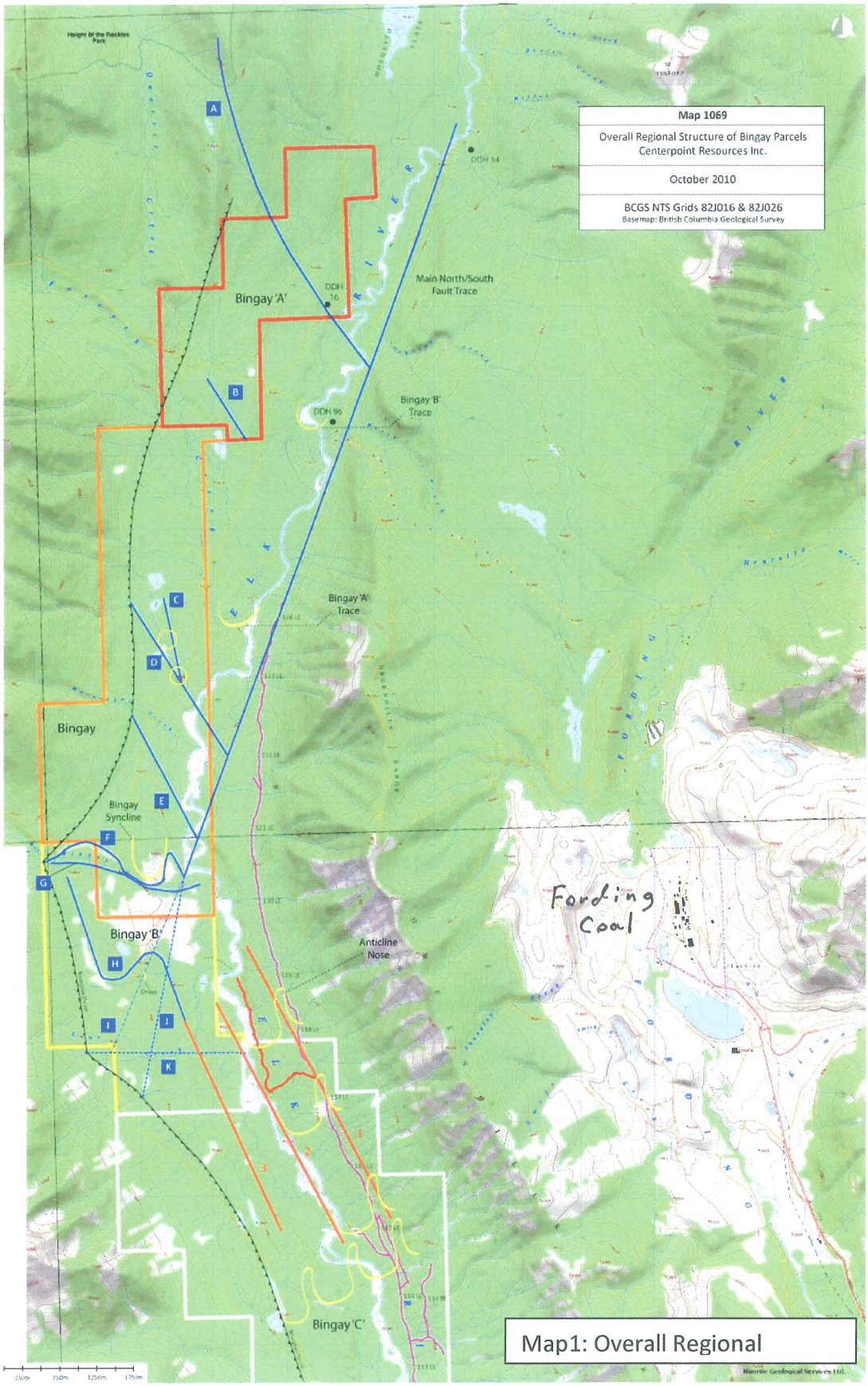
Job No. :	
CAD File:	2016-07-21 BINGAY MINE
Date:	2016-07-28
Drawing No. :	001
Sheet No. :	1 OF 1

The regional picture is centered on a possible but un-reported main north/ south fault system determined by Richard Munroe.

Munroe in 2010, that traces a line from the NNE to the SSW along the frontal base of the Greenhill Range to the east of Elk River. Corresponding "drag" features from the movement along this line appear to run the width of the Elk River Valley but are lost under the over thrusting Bourgeau Thrust fault on the west flank. The N/S fault and the Bourgeau conspire to result in a constriction zone with its apex at the core of the steep, north dipping Bingay Hill syncline.

The following map depicts the overall collage of theoretical structural elements at play in the valley study area. Each fault trace represents a separate set of vectors that work in concert with the larger system. However, each also results in the potential for subduction, flat over thrusting and block rotation as the entire valley system is examined. In general terms the main forces in the valley appear to be the eastward compression from the Bourgeau Thrust along the entire western side of the valley. Indeed, the literature indicates that the entire range to the west is the direct result on this ramp thrust moving over the valley as it moves up the arm of the large anticline. The other main element referred to earlier as the proposed vertical Main North-South fault running parallel with the base of the Greenhills Range.

However, there are distinct ``pinch points`` along the thrust that appear to be evidence of shear elements perpendicular to the Bourgeau. The three main points of interest are the Hornickel, Bingay and Lowe Creek valleys. Either perpendicular or EW/SE movement is indicated at these junctures. This is however, in keeping with the expected change in direction of the force vectors as there is deflection point right at Bingay Creek where the North South fault appears to deviate to the SSW in the order of 10 to 15 degrees. (noted as I and J on the map) This deflection meets the intersection of the Bourgeau and perpendicular Lowe Creek fault. (noted as K on the map)


Map 1069
Overall Regional Structure of Bingay Parcels
Centerpoint Resources Inc.
October 2010
BCGS NTS Grids 82J016 & 82J026
Basemap: British Columbia Geological Survey
Bingay 'A'
Main North/South
Fault Trace
DDH 16
DDH 96
DDH 84
Bingay 'B'
Trace
Bingay 'A'
Trace
Bingay
Bingay
Syncline
Bingay 'B'
Anticline
Nose
Fording
Coal
Bingay 'C'
A
B
C
D
E
F
G
H
I
J
K
Map1: Overall Regional

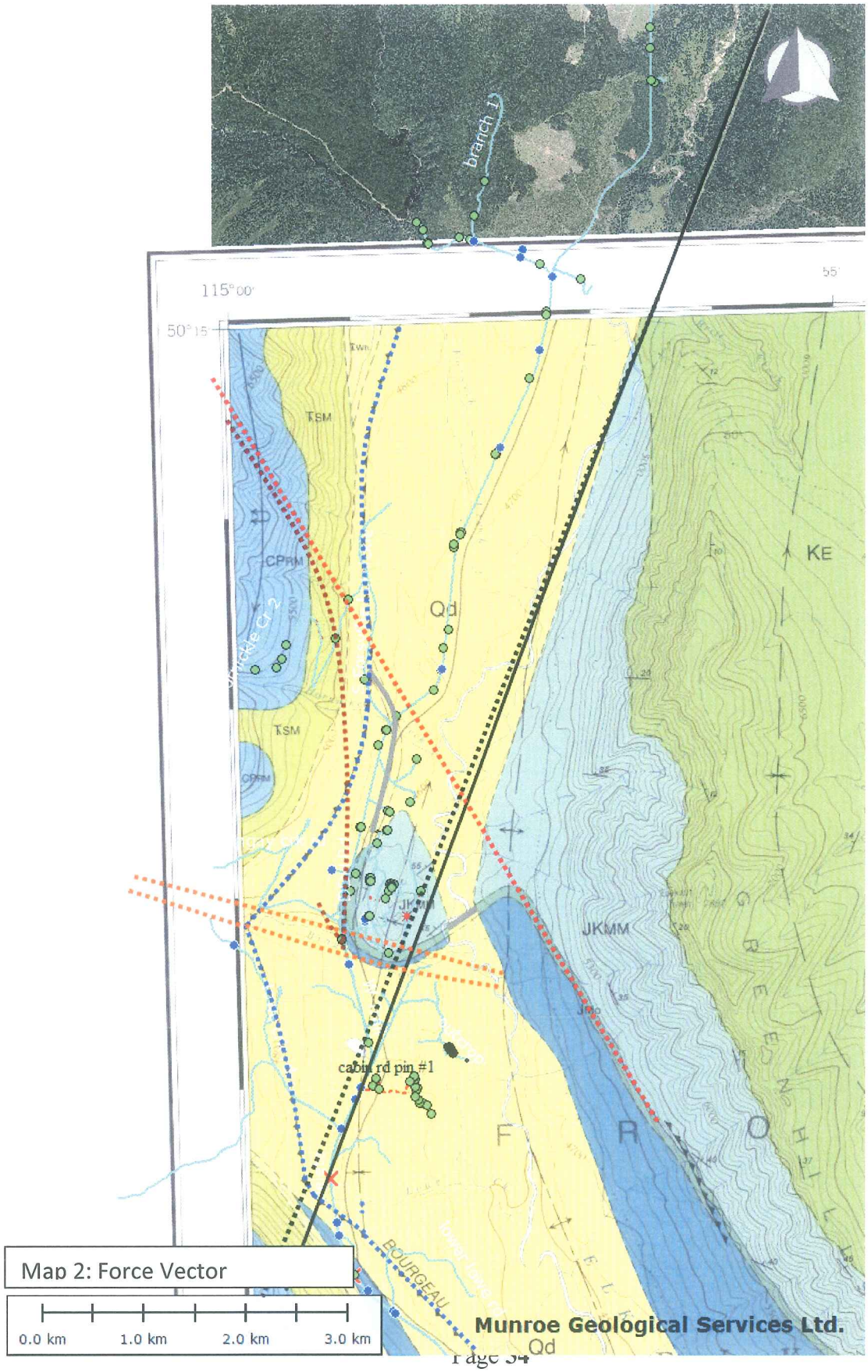
South of Bingay Hill is the proposed surface trace of the E/W trending Bingay Creek Fault that controls the orientation of its thalweg and may be responsible for a thrust fault that elevated the northern section of the Bingay syncline. There may actually be at least 2 sub parallel fault traces north of the creek, with resistant layers of the folded strata that form the major elevated syncline core that is known as Bingay Hill. Sharp shear line traces, apparent drag folding and clockwise bed rotation is noted in the outcrops and trenches on the east flank of this hill. The rough orientations of the effects are sub parallel with the main N/S Trench some 250 m to the east.

North of the Hill the syncline appears to plunge deeply to the north. However at two locations along the Elk River muted course changes indicate that possibly obscured synform elements are trying to come to surface. These elements could be continuations of the Bingay syncline that have been cross faulted and block dropped. In addition to these muted features there are four NNW to SSE possible fault traces that have their western edges covered by the Bourgeau over thrust and the eastern ends truncate at the main N/S fault. One of these fault trace lines bifurcates right at the location of possibly 2 thrust up blocks that follow the trace of the bifurcation wedge. These blocks rise roughly 15 metres above the flat valley floor and can be seen as mounts from kilometers away.

An important element to this model is found in the 1992 Geological Survey of Canada map # 1824A (Fording River) by D.A. Grieve. The writer interviewed Mr. Grieve in 2010 and determined that this general/ regional work was the most current understanding of that part of the valley. However, the sharp fold of the Morrissey Formation on the east side of the valley base, the stratigraphic folding of the bed shown wrapping around the base of Bingay Hill and continuing north to under the Bourgeau Thrust at Hornickel Creek is all accurately plotted. The configuration of this strata outline is almost a replica of the orientation of the twinned synoidal loop structural elements noted in the satellite and elevation imagery of Bingay B used by the writer to assist in the development of the current model. New computer modeling efforts were undertaken closer to Bingay Hill between 2011- 2012. Yet another model is being examined for this southern zone. Those results will be known in the near future.

This currently understood regional geological map series provides a guide to assist developing the model of how the synclinal structures were formed. The following map series attempts to provide a conceptual plan for that development.

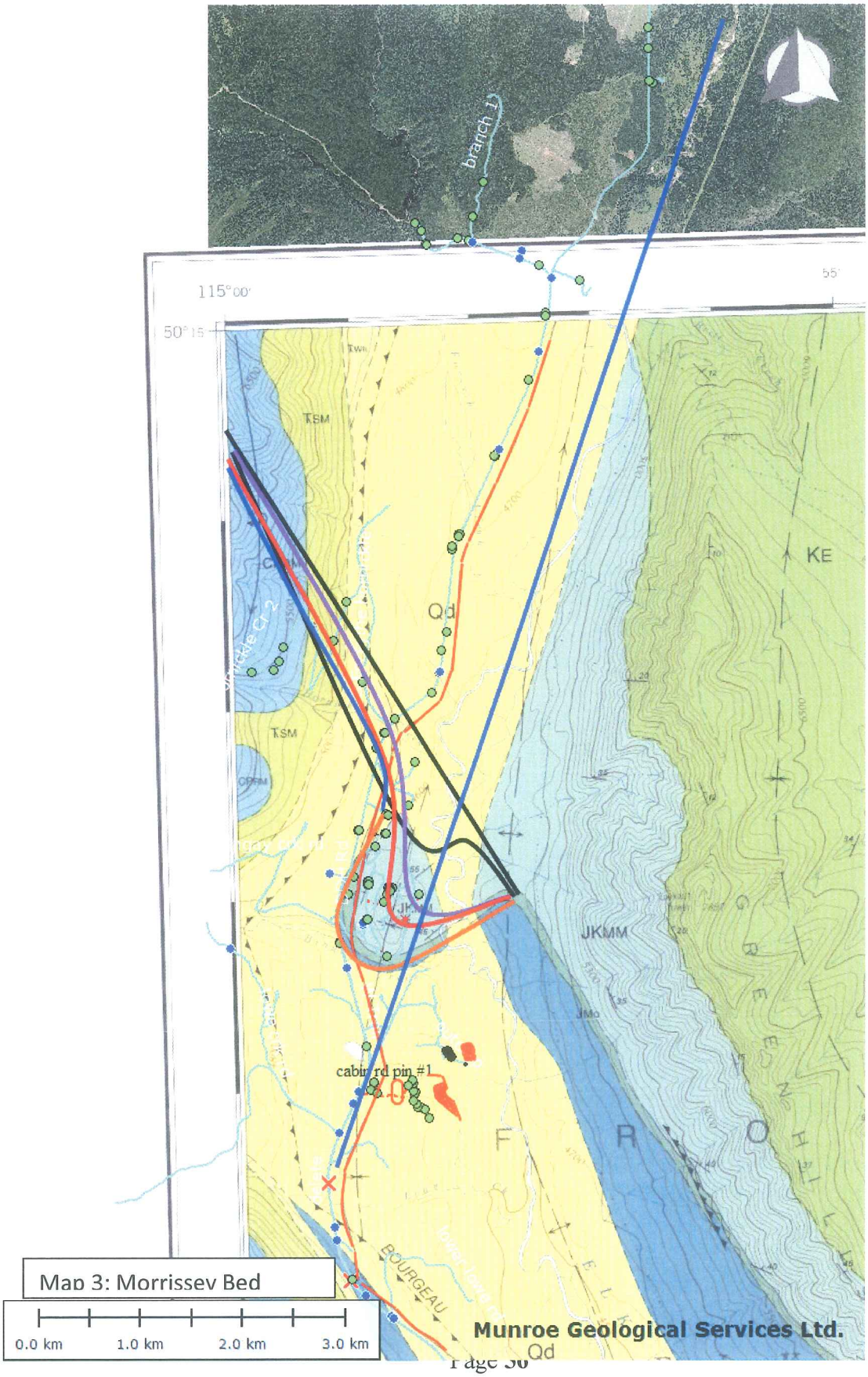
The three following images are the same base with changes in the structural framework as an overlay. The first shows the main intersections of the force vectors surrounding the Bingay Hill area. The NW to SE red dotted line follows what should have been the trace of the Morrissey Bed that runs along the base of Greenhills Range to the SE of Bingay Hill. The grey line on the map indicates the placement of the identified Morrissey beds in the field by Grieves etal. The black dotted and solid line shows the approximate trace of the proposed North-South fault. The twin orange lines show the EW orientation of the two Bingay Creek fault traces south of Bingay Hill. The Bourgeau Thrust is shown as the dotted blue line. The brown dotted line attempts to follow the track of movement that resulted in the meeting of these fault systems.



Map 2: Force Vector

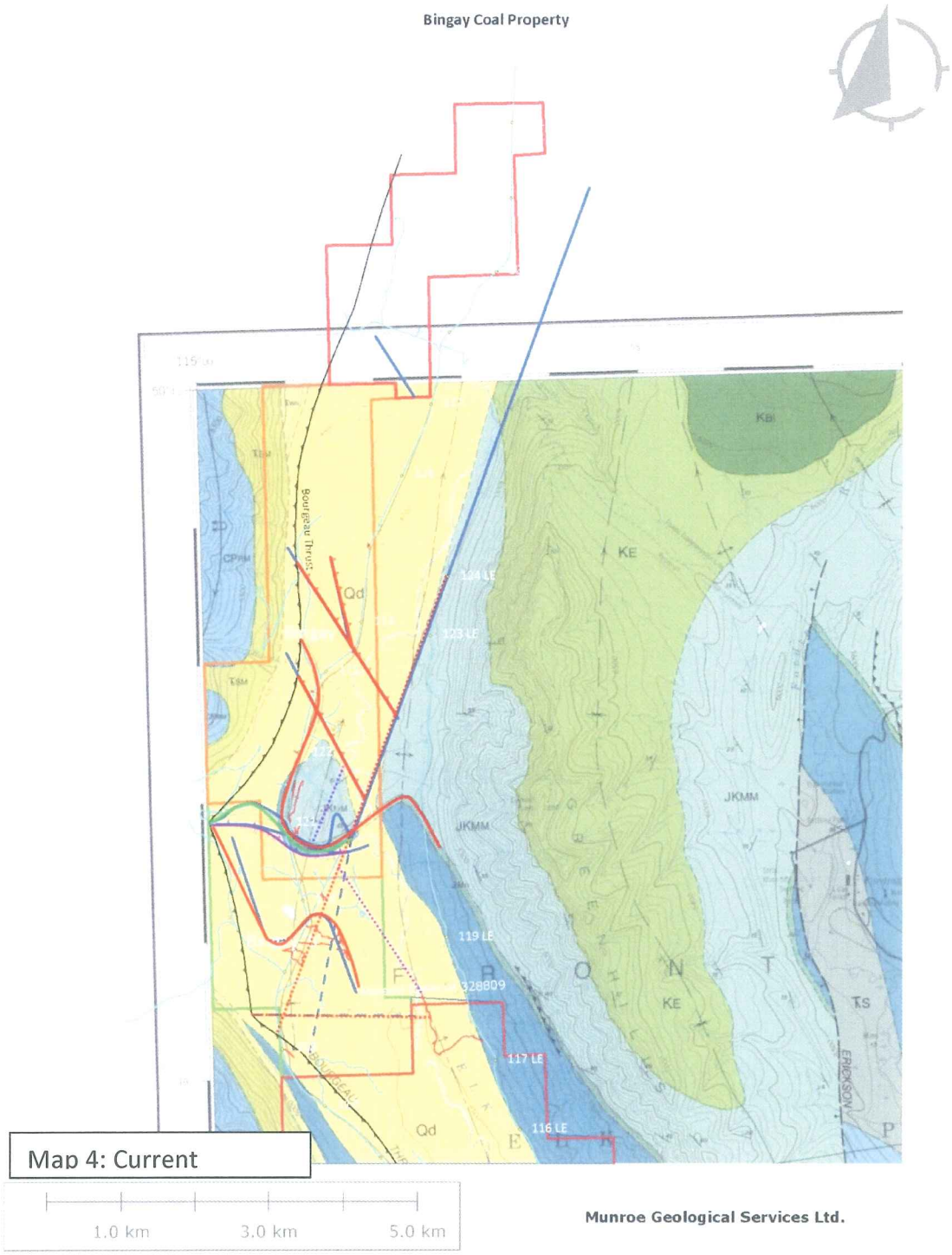
The following map shows the theoretical movement of the Morrissey bed marker as the strata became folded into the syncline and the ground west of the main North-South fault was forced south. The Bourgeau would have continued to exert eastward forces into the strata north of the Hill but then vectors would have changed between Bingay and Lowe Creek. The Bourgeau would have then changed its push slightly to the NE past the southern end of the North-South fault.

The black lines indicate the first and second positions of the fold. As the compression continued the movement would have been to the purple line, then to the red and finally to the orange line position where it is seen today.



Map 3: Morrissey Bed

The following map shows the proposed current state of the structural elements around the Bingay Hill area with the geological map base as a reference. It is followed by a second map showing the refined structures on the topographic map base. Again it must be stressed that a considerable amount of drilling and trenching will be required to verify any of these elements.



Map 4: Current

The ground surface within the Elk River valley is mostly covered by a variably-thick drift mantle (generally a few metres to a few tens of metres thick, but locally well over 200 metres thick) of glacial, glaciofluvial, alluvial and fluvial sediments, which together occupy the 'known covered areas' mapped by Henderson (1956). Bedrock exposures are therefore confined to isolated areas where sandstone-rich portions of the Kootenay coal-measures have resisted erosion, and to the incised canyon of Bingay Creek.

The best exposures of drift are in road-cuts along the Elk River forest service road, and in the cutbanks of the Elk River. Rounded boulders of Palaeozoic quartzite form isolated large glacial erratics at the ground surface within the Bingay Main property, most notably on the southern slopes of Bingay Hill.

West and north of Bingay Hill, stratigraphy of the drift cover appears to be consistent, with a near-surface gravelly alluvial-fan or fluvial-terrace deposit underlain by a sticky silty clay, which in turn is underlain by yet another extensive sheet of water-bearing gravel with sandy interbeds. The basal gravel forms a confined aquifer, which locally yields substantial flows of artesian groundwater when entered by a drill.

Computer-based structural modelling, based on subsurface data from most of the boreholes, and working in context of known and inferred bedrock geology, was undertaken during November and December by Gemcom Software International Inc. (Brandão, Barnett and Bui, 2010).

Gemcom's structural maps and several of their cross-sections were incorporated in the 2010 reporting, with annotations by Bickford. In August 2011 a GEMCOM report on the Geological Block Modeling of the Bingay Deposit was released. It was followed by a geological modeling report by Norwest Corp in February 2012. Only the GEMCOM report is included in the Appendix 1 files (August 2011) as it was an exploration effort. A newer exploration driven, structural (includes coal seams and rock types)computer software based analysis is currently underway to model the drill hole information derived from all drilling and trenching programs.

Figures 7-3 through 7-5 present selected structural cross-sections derived from Gemcom's modelling of the intensely-drilled Bingay Hill area. Cross-sections Nos.3, 7 and 11 correspond approximately to cross-sections B-B', D-D' and F-F' from previous work (Cathyl-Bickford, 2005). Figure 7-6 also based on a Gemcom map, shows the locations of coal intersections along boreholes which were used to generate the model. Shown in blue on this map are the mapped and inferred traces of the No.10 through No.21 coal beds, based on year-2004 and year-2005 fieldwork.

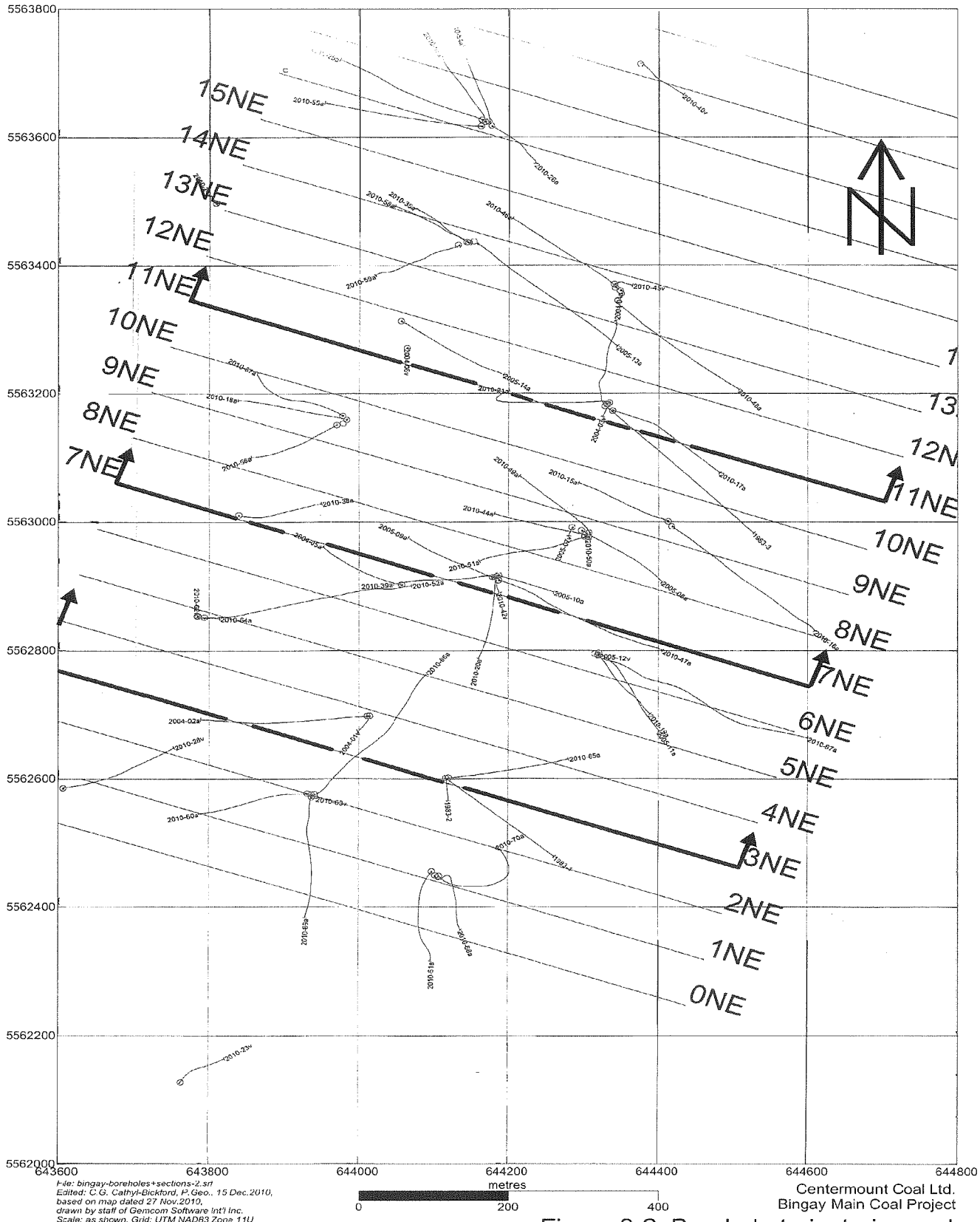
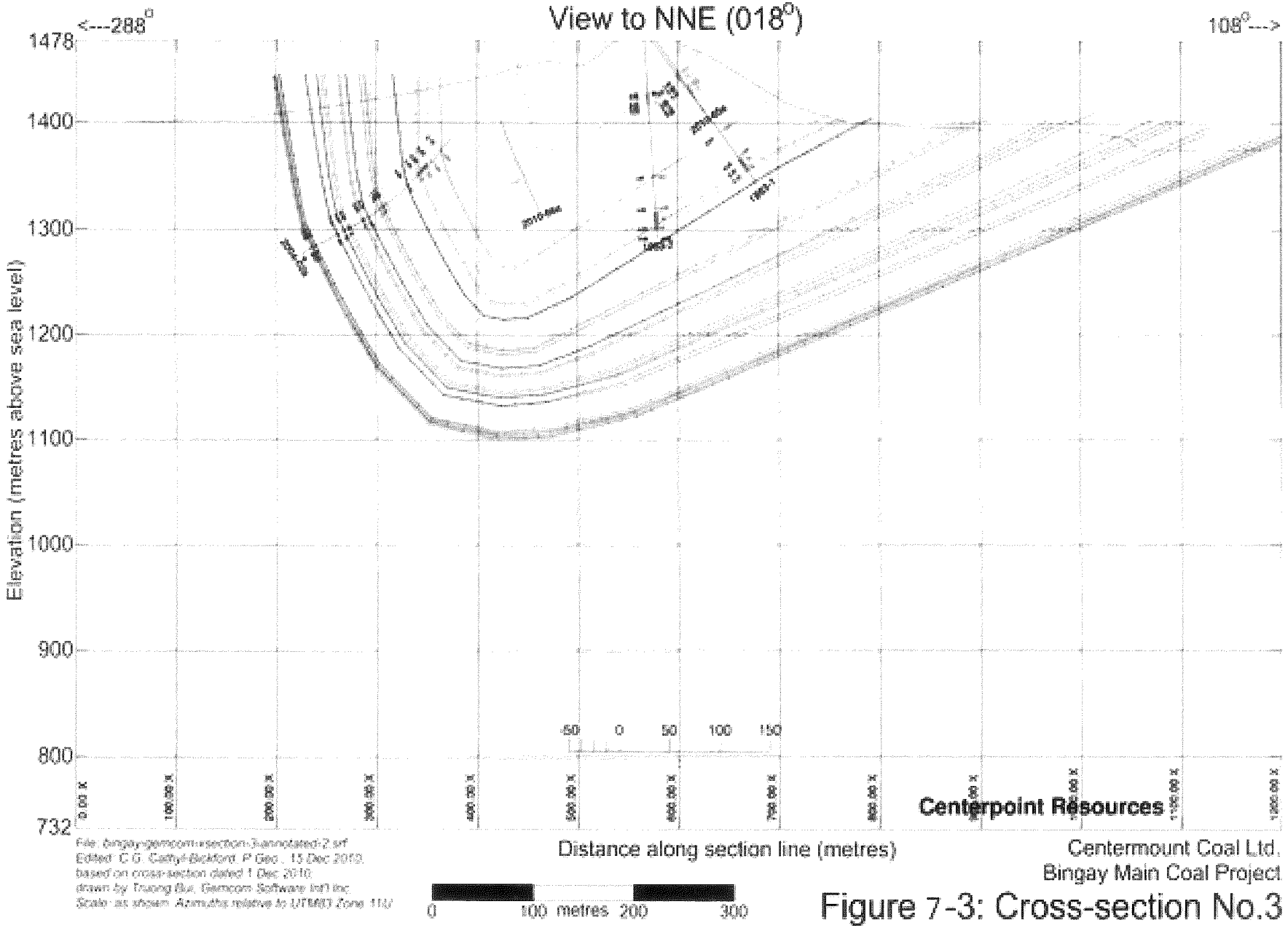


Figure 9-2: Borehole trajectories and cross-section locations at Bingay Hill



File: bingay-gemcom-section-3-annotated-2.srf
Edited: C.G. Cathy+Bickford, P.Geo., 15 Dec 2012.
based on cross-section dated 1 Dec 2010
drawn by Truong Bui, Gemcom Software Int'l Inc
Scale: as shown. Azimuths relative to UTM83 Zone 11U

Centermount Coal Ltd.
Bingay Main Coal Project

Figure 7-3: Cross-section No.3

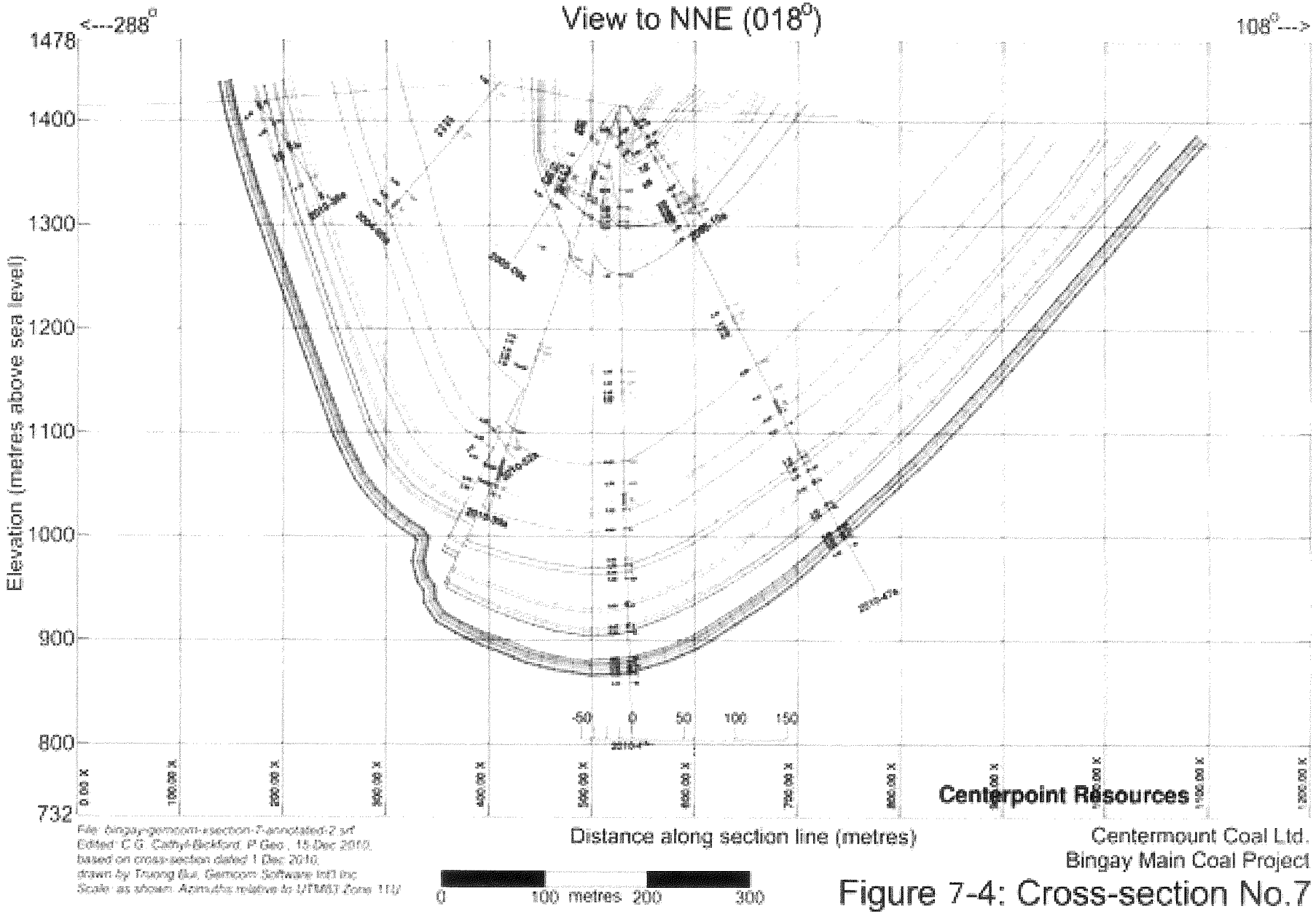
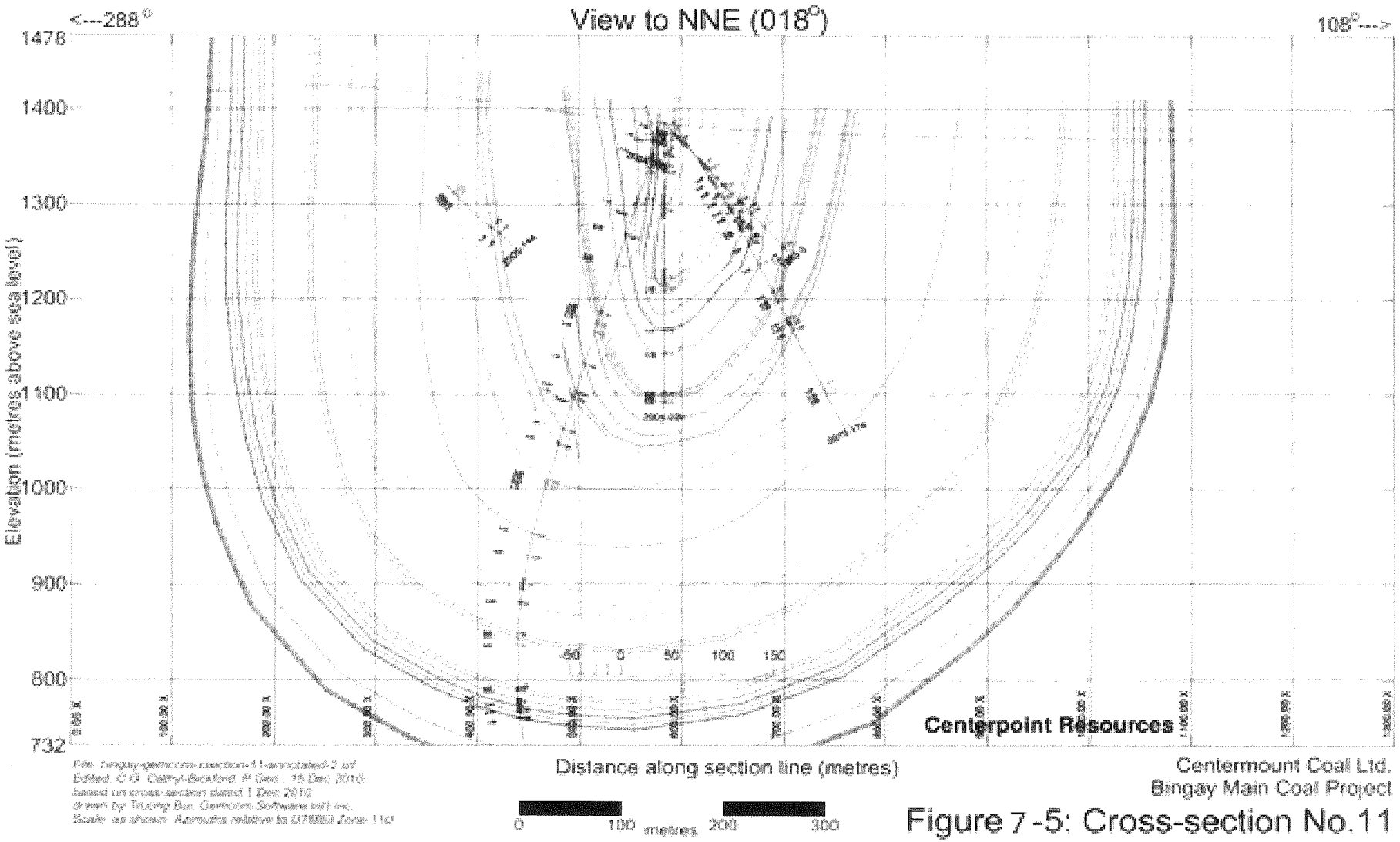
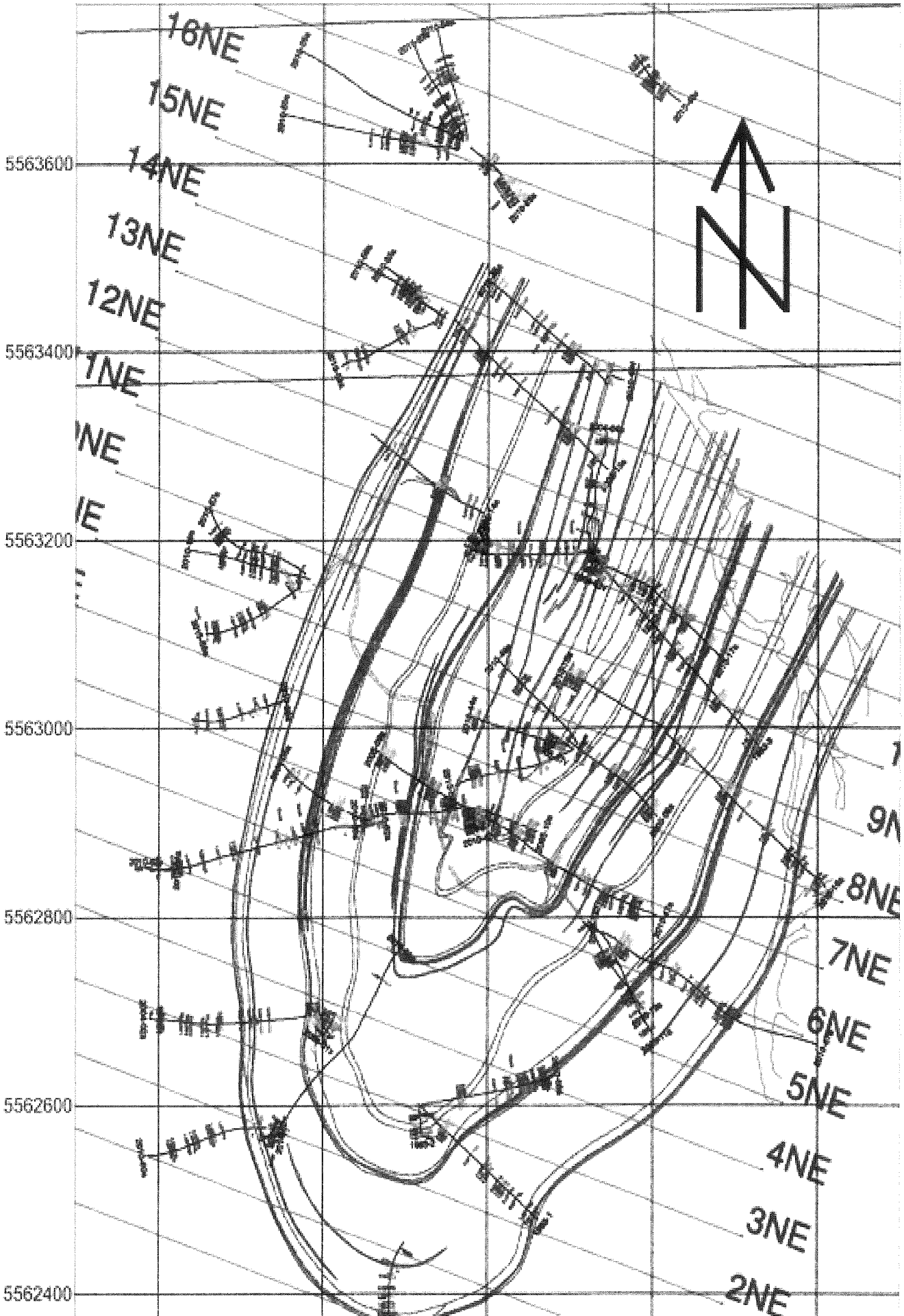


Figure 7-4: Cross-section No.7



Centermount Coal Ltd.
Bingay Main Coal Project

Figure 7-5: Cross-section No.11


16NE
15NE
14NE
13NE
12NE
1NE
NE
E
9N
8NE
7NE
6NE
5NE
4NE
3NE
2NE
5563600
5563400
5563200
5563000
5562800
5562600
5562400

Cross-section No.3 (Figure 7-3) shows the interpreted structure through the top of Bingay Hill. Coal zones from No.1 (depicted in dark blue) through the No.9/10 (depicted in pink) and the No.11/12 (depicted in light green) are shown dipping steeply to the east along the western limb of the Bingay Syncline, and dipping moderately to the west along the syncline's eastern limb. The major coal zones show consistent multiple-bed stratigraphy, with no interpreted internal structural repeats.

Cross-section No.7 (Figure 7-4) shows the interpreted structure through the north-eastern flank of Bingay Hill, along a section line 300 metres to the Northeast of cross-section No.3. Structure in this area is interpreted to be more complex, with such complexity being mainly supported by the interpreted intersection of the No.19 coal bed in overturned western limb of the Bingay Syncline by boreholes 2005-10a and 2010-47a. The eastern limb of the syncline is here interpreted to dip more steeply to the west, than was seen in cross-section No.3. Borehole 2010-38a is interpreted to gradually work its way up-section as it progresses downward, although it still appears unlikely to reach the No.9/10 coal zone if it were continued on its present course.

Cross-section No.11 (Figure 7-5) shows the interpreted structure another 300 metres further to the Northeast. The Bingay Syncline is now seen to be almost isoclinal in its core, with the No.21 coal bed (shown in green) and the No.20 coal bed (shown in light blue) being intersected across the axial zone by boreholes 1983-3, 2004-3v and 2010-17a. The No.13A and No.13B coal beds (shown in dark blue) are interpreted to be displaced by a westward-verging out-of-the-syncline thrust fault situated near the base of the western limb of the Bingay Syncline.

Nine informally-named stratigraphic markers (included in Table 7-3), above are present in outcrop or sub-outcrop within the explored part of the Bingay Main coal property. These markers are best recognised at the southern end of the property, in the area of frequent rock outcrops at Bingay Hill, and may be traced northwards, albeit with increasing difficulty, to near the northern boundary of Coal Licence 374190.

From top down, the markers are:

- **Shenfield Rock** - a prominent ledge-forming multi-storey unit of quartz-arenite (mapped by Utah's geologists as 'Channel Deposit 2'), which forms bold cliffs on the western side of Bingay Hill, and which caps the hill itself. The Shenfield Rock also forms a prominent northeast-trending ledge along the south-eastern limb of the Bingay Syncline. The sandstone ranges from 15 to 35 metres thick; part of the thickness variation may be due to lateral pinch-out of some of its constituent channel-fills.

- **Anderson 'marine band'** - a recessive-weathering unit of interbedded mudstone, siltstone, limestone, and ironstone with occasional thin lenses of coal, which has a distinctively elevated geophysical response on gamma-ray logs (typically over 130 API units of log response). This unit is characteristically bioturbated, and on the strength of its gamma-log response, the Anderson 'marine band' is interpreted as a discrete band of marine strata, perhaps deposited during a period of elevated sea level.

- **No.11-12 coal zone** - a recessive-weathering unit of thickly-interbedded coal (Bingay Nos.11, 11R, 12, 12 R and 12T coal beds) and variably-carbonaceous mudstone, with

minor thin interbeds of siltstone and tonstein. The 11-12 coal zone subcrops within a deep north-west-trending gully on the southern face of Bingay Hill.

- **Bingay Rock** - a prominent ledge-forming multi-story unit of quartz-arenite (mapped by Utah's geologists as 'Channel Deposit 1'), which forms a persistent ridge of vertically-dipping rocks along the western limb of the Bingay Syncline. The Bingay Rock ranges from 25 to 50 metres thick, locally scouring up to 15 metres into the underlying beds.

  No.10 coal bed - a recessive-weathering unit of coal (Bingay Nos.10 and locally the closely-overlying 10R coal beds), with minor thin interbeds of ironstone and tonstein. The No.10 coal bed is exposed in road cuts and trenches along the western limb of the Bingay Syncline, and it is also exposed in numerous old test pits along the western and southern flanks of Bingay Hill.

- **No.4 coal bed** – a recessive-weathering unit of coal (Bingay Nos.4 and locally the closely-overlying 4R coal beds) with minor thin interbeds of mudstone and siltstone. The No.4 coal is not known to outcrop within the Bingay Hill area, being generally covered by a layer of gravel or silty till. However, it may closely approach the ground surface to the east of borehole 2010-38a and to the west of borehole 2010-18a.

- **Moosewood sandstone** – a lenticular unit of very hard, erosive-based, locally cross-bedded quartz-arenite, comprising the basal thick sand of the Mist Mountain Formation. The Moosewood sandstone forms a resistant, slow-drilling zone beneath the No.2A coal bed and above the No.2 coal bed.

  No.1 coal zone – a recessive-weathering unit of coal (Bingay Nos.1L, 1 and 1R coal beds) with minor thin interbeds of siltstone and mudstone, and locally thicker interbeds of interlaminated sandstone and siltstone. The No.1 coal zone possibly corresponds to the Balmer coal zone as seen further south in the Crowsnest coalfield.

- **Moose Mountain sandstone** - a prominent ledge-forming unit of very hard and resistant quartz-litharenite, comprising the upper part of the Morrissey Formation. The Moose Mountain sandstone is well-exposed along the south-western face of Bingay Hill, on the eastern side of Elk River Road, just above the fringing gravel flats. The Moose Mountain sandstone also forms a prominent vertically-dipping wall along the northern bank of Bingay Creek, downstream from the road bridge. The sandstone ranges from 12 to 25 metres thick.

The Bingay Rock and the Shenfield Rock are useful in walking-out the structure of the Bingay Hill area, and can be readily recognised on the gamma-ray logs of the various boreholes drilled within the property. Both of these sandstone units are outlined in yellow on **Figure 9-7**. These two sandstones may together correspond with the sandstone-rich Cliff Marker, which has been mapped by Cominco's geologists within the middle of the Kootenay coal-measures along the western slopes of the Greenhills Range (Wolfhard, 1967). The Moose Mountain sandstone, although only sparsely exposed at outcrop, forms a distinctively slow-drilling zone and is therefore useful in subsurface exploration.

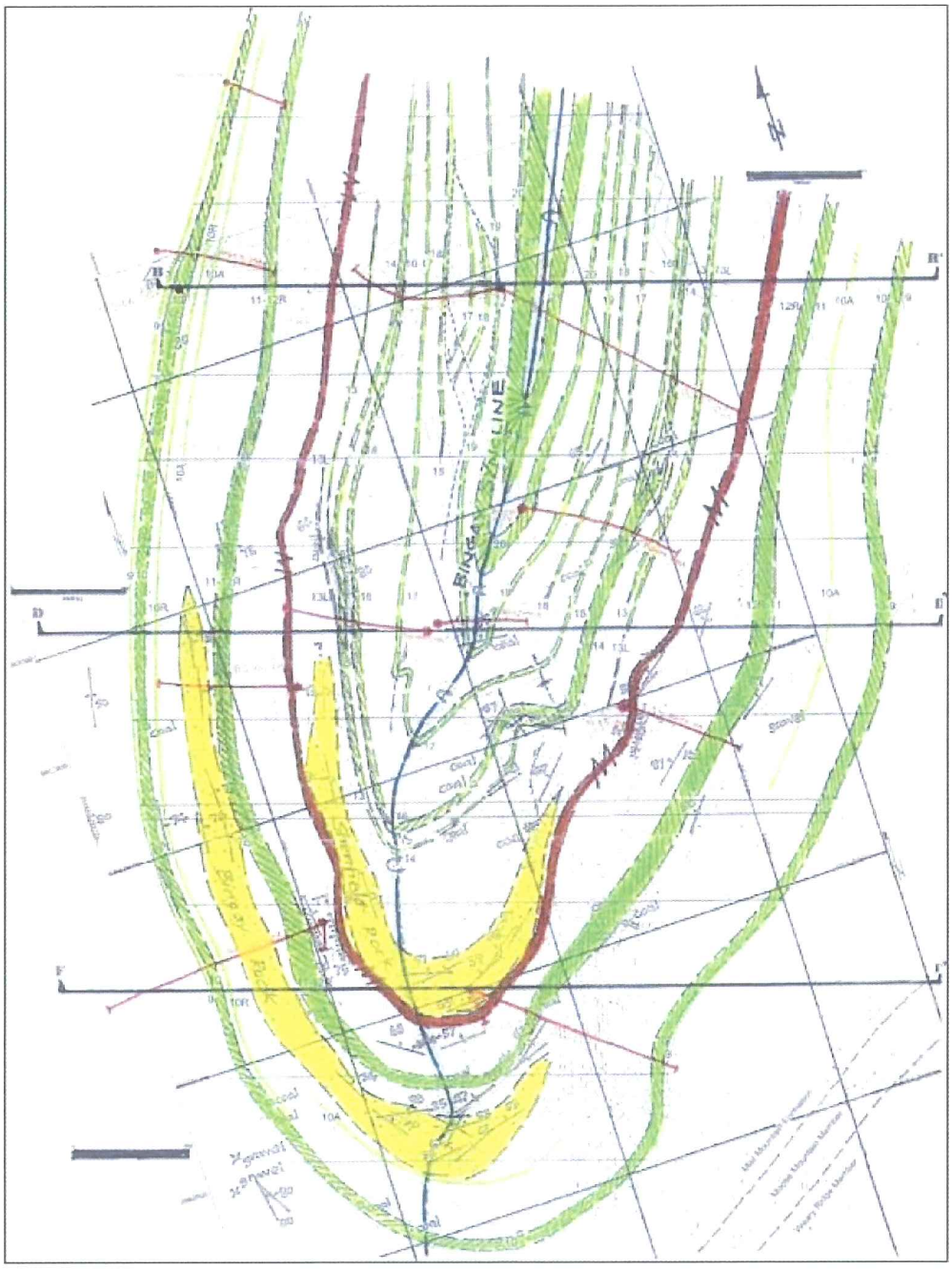


Figure 7-7: Geological map of the Bingay Hill area

The Bingay Main coal property contains at least thirty-two (Tables 7-4 through **7-7**) coal beds, that can be correlated and range in true stratigraphic thickness from 0.3 to 16.2 metres.

Cumulative thickness of these coals in a composite section of the coal-measures is 62.6 metres, over a stratigraphic interval of 460 metres (Cathyl-Bickford, 2005). Coal thus forms about 13.6%

of the stratigraphic section at Bingay Main. Of these coals, 24 typically have gross thickness of at least one metre inclusive of contained bands of rock.

- Eight coal beds (the Nos. 9 and 10 coal beds within the No.9-10 coal zone, the Nos. 11, 1R, 12 and 12R coal beds within the No.11-12 coal zone, and the Nos. 20 and 21 coal beds within the No.21 coal zone) were recognised as being closely-associated, and amenable to resource estimation on the strength of Hillsborough's year-2004 drilling program (Cathyl-Bickford, 2004).

- A further eight coal beds (the Nos. 13, 17, 18 and 19 coal beds, and the Nos. 14, 15, 15R and 16 coal beds within the No.14-16 coal zone) were sufficiently explored during Hillsborough's year-2005 drilling programme to allow for coal-resource calculations. Thus, a total of 16 major coal beds were incorporated in the year-2005 resource base (Cathyl-Bickford, 2005).

- During the year-2010 drilling programme, emphasis was placed on establishing the thickness and stratigraphic relationships of coals lying beneath the No.9 coal zone. On the basis of this drilling, a further twelve coal beds (the Nos.1L, 1 and 1R coal beds within the No.1 coal zone, and the Nos. 2, 2A, 3L, 3, 4 (including 4R), 5, 6, 7 and 8 coal beds) have now been recognised as sufficiently explored to permit volumetric calculations (Brandão, Barnett and Bui, 2010). As well, the Nos. 12T, 13B, 13A and 13L coals were recognised as being at least locally present.

The Bingay Main coals are normal banded humic coals (as are most coals within the world's coalfields, consisting of alternating bright and dull bands, generally associated with thin and thick partings of rock. Most of the rock partings consist of variably-carbonaceous mudstone, with less-frequent partings of siltstone, ironstone, tonstein and sandstone.

Most of the internal partings within the coals contain plant debris and rootlet traces, indicative of the formation of palaeosols. The floors of the coal beds are often, but not always, rooted as well, suggesting that the coals formed from peats which were derived from in-situ vegetation. However, some of the coal beds' floors, most notably some delicately-laminated, soft, non-silty and very carbonaceous mudstones, lack rootlets altogether. This lack of rootlets suggests that, in such cases, the overlying coals may have originated as floating 'peat islands' above the waters of lakes, ponds or lagoons.

Where seen by the senior author in cores or in trenched sections, the Bingay Main coals have often been observed to be sheared. Shearing ranges from slight to intense. Nevertheless, most of the coals have retained coherent bedding and banding, and the true stratigraphic relationships within and amongst the coals are not difficult to discern. Coals are sometimes intensely weathered at outcrop, reducing them to essentially a smutty, coaly soil; for effective description

of such coals, they must be trenched downward until less-weathered material is reached. The requisite depth of trenching at Bingay Main ranges from a few decimetres to a few metres.

Drilled depths to the tops of the Bingay coal beds, their net and gross drilled thicknesses, and their interpreted true stratigraphic thicknesses, were summarised in the 2010 report on Table 7-4 (for year-1983 boreholes), Table 7-5 (for year-2004 boreholes), Table 7-6 (for year-2005 boreholes) and Table 7-7 (for year-2010 boreholes, presented in five parts owing to the number of holes drilled in 2010).

Those tables also show the depth to the top of the structure and the gross thickness of the Anderson marine band, plus the depths to tops of the Moose Mountain and Weary Ridge sandstones and the Fernie siltstone. Boreholes not listed in these tables were either drilled wholly within older, non-coal-bearing strata, were so shallow as to not reach any coal even though they entered coal-measures, or failed to reach bedrock.

8.0 Exploration

8.1 Drilling

In 2016, Centermount Coal Ltd. conducted a hydrogeological and geotechnical diamond drilling program on the Bingay Main metallurgical coal property. The program included a five hole geotechnical drilling program and a six hole hydrogeology program for packer testing and piezometer purposes. All drillholes were HQ_3 size. None of the holes were geophysically logged.

The three drillholes that drilled through coal were cemented shut and capped. Casing was only removed from the hydrogeology drillhole collars. Total drilling depth was 2095.50 metres with all holes being inclined.

Drilling equipment included the following:

Camp for 9 drillers

2- Hydro 2000 drill

1 – Hitachi 150 Excavator

1 - Cat skidder

All drilling occurred during winter conditions with temperatures (March to April) reaching -20°. Work schedule was two continuous shifts with two workers per drill.

The geotechnical holes core were oriented core marked as directed by the SNC Geotechnical Engineer. All drillholes were surveyed down-the-hole with rented equipment. Methane and hydrogen sulphide gas sniffers were mounted of the drills; only trace values were detected.

All drill collars were surveyed by Align Survey Ltd. from Fernie. Equipment used was a TOPCON Hyper RTK GPS which has a10 cm accuracy. All core was transported from the drill to the core shed (three seacontainers at the campsite) by the drillers. Geotechnical hole core was logged independently by SNC Lavalin's Qualified Professional Engineer then returned to Centermount for further logging. Hydrogeology drill holes were logged, sampled and photographed by Centermount Coal's geologist.

From past experience, Centermount Coal Ltd. has had unsatisfactory results using bentonite drill mud for core recovery, coal quality (particularly % ash), and geotechnical and geochemical bias. Instead, Sand Fill polymer drill mud has become standard to overcome the problems mentioned.

Diesel fuel was not stored in tanks on site but instead a system of swapping fuel tanker trucks was implemented and proved to be very efficient. Because of winter conditions, it was more efficient to bring water from Elkford to the site rather than pump water. The camp site has two approved septic systems for sewerage. Cellphone and internet services were available at the camp.

8.2 Grid Layout

Bingay Main's grid layout is not cut out on the forested surface but is based on a Geometrics flyover referencing ground known point survey markers which was used to create a digital terrain model at 0.5 metre contour intervals. Those markers were placed by Kodiak Surveyors in mid-2015.

8.3 Core

With respect to the drill core analysis, RQD and Q Index values were obtained and all drill core were digitally photographed to allow for direct visual "calibration" to the assorted core/down hole reporting methods. This method of analysis and reporting was followed through with the 2011/2012 and 2016 drilling. Full reports on the drill core analysis can be found in Appendix 1.

8.4 Hydrogeology

The 2016 hydrogeology program is a continuation of the 2011 initial program by Waterson Geoscience Ltd. Recommended drill holes from that program were followed to that recommended in that report. The final Hydrogeological Report which is planned to be completed in 2017 will be based on the amalgamation of the two 2011 and 2016 Studies. Results are planned to be incorporated with the Bingay computer geological model for simulation purposes. During the 2016 program, the packer tests were done by the Centermount Coal Geologist and its Project Coordinator with Dorado Drilling assisting.

Two piezometers were installed for water table location purposes. As experience at the Bingay Main coal deposit shows to date plus results from other mines in the Elk Valley and Crowsnest Coalfields, ground water within the pit probably will be minor. A problem exists near the haul road pit west wall at the contact with the surface glacial gravels and the underlain bedrock. This area may have substantial ground water during snowmelt and will require ongoing study.

What is a Packer Test?

The Lugeon test, sometimes call also Packer test, is an in-situ testing method widely used to estimate the avarage hydraulic conductivity of rock mass. It is indeed In situ test of formation permeability performed by measuring the volume of water taken in a section of test hole when the interval is pressurized at given pressure (10 bars -150 psi). It is used primarily in variably permeable formations under evaluation of fracturating .

The test is named after Maurice Lugeon (1933), a Swiss geologist who first formulated the test. Basically, the Lugeon test is a costant head permeability type test carried out in a isolated part of a borehole. The results provide information about hzdraulic condictivuty of the rock mass including the rock matrix and the discontinuities.

DESCRIPTION AND PROCEDURE

The test is conducted in a portion of a borehole isolated by pneumatic packers. The water is injected into the isolated portion of the borehole using a slotted pipe which it self is bounded by the inflated packers. The packers can be inflated using a gas compressor on the surafce, and so they can isolate and seal that portion of the borehole. A pressure transducer is also located in that portion to measure the pressure with a help of reading station on the surface.

First of all, a maximum test pressure (Pmax) is defined so that it does not exceed the in-situ minimum stress, thus avoiding hzdraulic fracturing. The test is carried out at five stages including increasing and decreasing pressure between zero and maximum pressure. At each stage, a constant pressure is applied for an interval of 10 miniutes while pumping water. Water pressure and flow rate are measured everz minute. The five loading and unloading stages form a pressure loop often with the following pressure intervals:

Stage	Pressure
1st	0.50 Pmax
2nd	0.75 Pmax
3rd	Pmax
4th	0.75 Pmax
5th	0.50 Pmax

Using the average values of water presure and flow rate measured at each stage, the average hydraulic conductivity of the rock mass can be determined. Following the empiricl original definition of the test, the hzdraulic conductiviy is experessed in terms of Lugeon Unit, being the conductivity required for a flow aret of 1 liter per minute per meter of the borehole interval under a constant pressure of 1 MPa. The Lugeon value for each test is therefore calculated as follows and then an average representative value is selected for the tested rock mass.

Packer Testing Results at Bingay Main Site

Unit: meter

Borehole	Test	Test Unit	Packer Method	Top	Bottom	Test Interval Length	Hydraulic Conductivity (m/s)	Lugeon Units
16-BMD01	1	Silty mudstone	Double	101.3	121.0	19.7	2.2×10^{-9}	0.022
16-BMD02	1	Mudstone	Triple	54.5	56.4	1.9	1.5×10^{-8}	0.145
16-BMD02	2	Silty mudstone	Triple	134.3	136.2	1.9	$<1 \times 10^{-10}$	-
16-BMD03	1	Fine-grained sandstone & siltstone	Triple	140.7	142.5	1.8	1.1×10^{-8}	0.109
16-BMD03	2	Fine-grained sandstone	Triple	50.6	52.5	1.9	2.2×10^{-8}	0.218
16-BMD04	1	mudstone	Triple	92.1	94.0	1.9	1.5×10^{-8}	0.145
16-BMD04	2	fine to medium-grained sandstone	Triple	137.5	139.4	1.9	2.2×10^{-8}	0.218
16-BMD08	1	siltstone	Triple	137.3	139.3	2.0	1.5×10^{-8}	0.145
16-BMD09	1	fine-grained sandstone	Triple	131.8	133.7	1.9	1.0×10^{-7}	1.02
16-BMD10	1	siltstone	Triple	51.5	53.5	2.0	3.6×10^{-8}	0.363
16-BMD10	2	silty mudstone	Triple	72.2	74.2	2.0	3.6×10^{-9}	0.036

8.4 Laboratory Data and Verification

There were three types of laboratory analyzes required: 1) Coal Analyzes, 2) Rock Mechanics parameters 'and, 3) Geochemistry.

Coal Analyzes:

a) All coal seams encountered were sent to the Elk Valley Environmental Laboratory in Sparwood for Proximate Analyzes including sulphur and FSI. The laboratory results are in the Appendix of this Assessment.
b) A 100 kg large coal multi seam test sample was requested for marketing purposes in China. This sample was prepared on site by a qualified independent person (SNC Lavalin's Geotechnical Engineer). The sample was sent to SGS Laboratories in Tianjin in China. Approximately 80% of the raw coal came from various seams in "in-pit" geotechnical drill holes 16BMD05 and 16BMD05A were in this nitrogen protected sample. Results are given in the Appendix of this report.

Rock Mechanics:

All 11 Centermount Coal drill holes were geotechnically logged for RQD and Q Indices by both the Centermount Geologist and the SNC Geotechnical Engineer. These results are reported on the drill hole logs attached to this report. Rock Mechanic parameters such as Uniaxial Strength, triaxial testing, Poisson's Ratio, etc. were gathered and shipped for testing at SNC Lavalin's Laboratory in Saskatoon. The purpose of this data is to determine the "final Bingay Main pit wall slope and location" and the "in-pit maximum wall slope(s)." At the end of 2016, the Pit Wall Study is still pending although the rock parameters have been determined but not officially released.

Geochemistry:

With guidance from the "2015 - Elk Valley Water Quality Plan", Centermount Coal has been collecting selenium and cadmium results from all the of the 2016 drill holes to "build-up" its database from the 2010 Bingay drilling program. Drill hole geochemical data was also acquired from the 2011/12 program drill holes to also add data to the database. This data is required for the Environmental Assessment process and will be supplied to a consultant for analyzes once the Bingay Main mine model is completed during 2017. Results from Maxxam Laboratories are given in the Appendix of this Assessment Report.

Data used in the preparation of this report were confirmed and sealed with Engineer's Stamps by Edward J. Nunn, P.Eng. All Lab analysis was done by certified firms and each assay result was certified by them. Each lab used (SGS, EVEL, and Maxxim) are controlled by strict reporting guidelines.

The new drilling and analysis efforts were not used to increase the amount of coal values on the property, but for refining the work already reported upon in the 2010/11/12 submissions.

Future drilling is planned to assist in the understanding of the deposit and any possible upgrades in tonnage values. This current report makes no efforts to discuss the past or current resource valuation numbers although revised values are planned to be released in 2017. Report data verification is thought to be sufficient as checks and balances have been put in place to ensure quality reporting.

In addition, relevant core and chips is still locked in the Nelson BC 12 Mile Storage should anyone want to refer the results at any time.

In her 2011 report, Bickford advised that; "exploratory data were cross-checked between years: for example, the year-2010 geophysical records were compared with those obtained in 1983, 2004 and 2005, to ensure that coals were consistently correlated within each year's collection of geophysical data as well as between year-sets. The year-to-year comparison was important inasmuch as several geophysical contractors have worked at Bingay Main over the years."

9.0 Conclusions and Recommendations

9.1 Interpretation & Conclusions

Verification of regional geology, local presence of potentially-mineable coal, and lateral continuity of the major coal beds at Bingay Main, has been accomplished to the author's satisfaction, by means of geological mapping, review of historic drilling, execution of current drilling and downhole geophysical programmes, and interpretation of borehole geophysical logs. In addition, coal-quality studies were completed by reputable Canadian laboratories and Qualified Persons. Coal-quality data presented and as reported have become available to Centermount Coal Ltd as three products at a ratio of 70/30/10 products. The Bingay Main coals show variable, but generally-acceptable, propensity to provide a clean coal product containing less than 10 percent ash and a low average sulphur content of 0.3%. Any further study should be avoided until the Mining Permit is in place.

The Bingay Main coal deposit comprises at least 23 coal beds, whose individual true stratigraphic thickness ranges from 0.3 to 16.2 metres. Of these coals, 24 typically are at least one metre thick, inclusive of contained bands of rock. Cumulative stratigraphic thickness of these coals is interpreted to be 62.6 metres, within an overall coal-bearing rock thickness of 460 metres. Coal thus forms about 13.6% of the coal-bearing rocks at Bingay Main.

A volumetric/tonnage model of the Bingay Main coal deposit was constructed, and from that geological model an estimate of the coal resources at measured level-of-assurance has been derived. This model is unconstrained as to minimum coal thickness, and in subsequent modelling work, a minimum workable coal thickness cut-off will be required to be applied, so that coal resources may be properly supported by reasonable prospects of economic extraction. A minimum thickness of 30 centimetres is here suggested for use in subsequent modelling work. No further computer modelling should be done unless rock types, geochemical and hydrogeology is included (underway during 2017).

Average ash contents based on coal samples of various thicknesses and levels of core recovery, and an ash/specific gravity correlation formula derived from analytical results, have been used to determine the resource tonnages of coal interpreted to be present at Bingay Hill. [redacted]

9.2 Recommendations

- A substantial sample of oxidised coal (on the order of a few tonnes) should be taken from the existing trench in the No.10 coal bed, in support of activated-carbon test work.
- Detailed geotechnical mapping within the southern Bingay Hill area should also be done, with the objective of collecting information concerning the orientation, irregularities and frequencies of joints and fractures within potential highwall and endwall strata.
- All future geological computer models should include rock types and geochemical values.
- Any future drilling should only commence once the Bingay Main Project has its Environmental and Mining Permits.
- Since soft ground conditions made it quite difficult to move drilling rigs and supporting equipment along exploration trails during the rainy summers, serious consideration was given to winter drilling within the project areas. This was done in 2011, 2012 and 2016 programs. Snow roads generally afforded better traction during the cold winter months, than the earthen trails did (particularly within muskeg areas) during the wet summer months. However, many problems were encountered with frozen water lines.

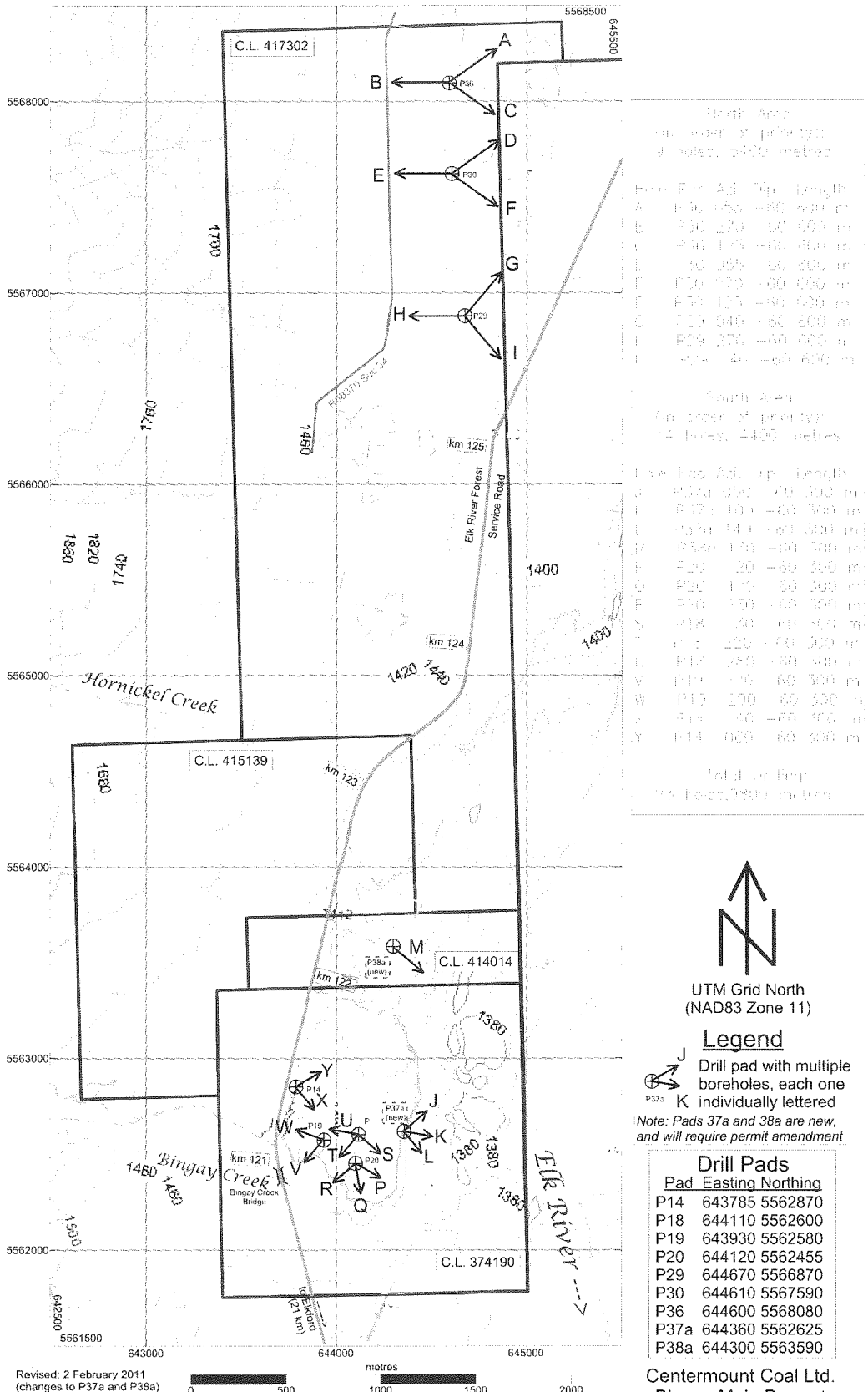


Figure 22-1: Recommended drilling

10.0 Statement of Costs

Total expenditures for the 2016 Bingay Main Technical exploration program were $1,114,374.64. Details are given in the Statement of Costs below:

Exploration Work type	Comment	Days		Totals	
Ted Nunn/Professional		$0.00	$10,025.48		3117/3121
Munroe Geological/Professional		$0.00	$4,675.00		3117
Sarah Shi/Professional		$0.00	$13,000.00		3117
SNC/Professional		$0.00	$60,000.00		3121/3117
Other (specify)					
			$87,700.48	**$87,700.48**	
Office Studies	**List Personnel (note - Office only, do not include field days**				
Literature search		$0.00	$0.00		
Database compilation		$0.00	$0.00		
Computer modelling		$0.00	$0.00		
Reprocessing of data		$0.00			
General research		$0.00	$0.00		
Report preparation		$0.00			
Offier repair					
BC hydro					
Supply					
Other (specify)					
			$0.00	**$0.00**	
Airborne Exploration Surveys	**Line Kilometres / Enter total invoiced amount**				
Aeromagnetics		$0.00	$0.00		
Radiometrics		$0.00	$0.00		
Electromagnetics		$0.00	$0.00		
Gravity		$0.00			
Digital terrain modelling		$0.00			
Other (specify)		$0.00	$0.00		
			$0.00	**$0.00**	
Remote Sensing	**Area in Hectares / Enter total invoiced amount or list personnel**				
Aerial photography		$0.00			
LANDSAT		$0.00	$0.00		
Other (specify)		$0.00	$0.00		
			$0.00	**$0.00**	
Ground Exploration Surveys	**Area in Hectares/List Personnel**				
Geological mapping		$0.00	$0.00		
Regional		$0.00	$0.00		
Reconnaissance		$0.00	$0.00		
Prospect		$0.00	$0.00		
Underground		$0.00	$0.00		
Air Project		$0.00	$0.00		
Seismic Surveys		$0.00	$0.00		
Trenches		$0.00	$5,500.00		3142
Other (specify)		$0.00	$0.00		
			$5,500.00	**$5,500.00**	
Ground geophysics	**Line Kilometres / Enter total amount invoiced list personnel**				
Radiometrics					
Magnetics					
Gravity					
Digital terrain modelling					
Electromagnetics	*note: expenditures for your crew in the field*				
SP/AP/EP	*should be captured above in Personnel*				
IP	*field expenditures above*				
AMT/CSAMT					
Resistivity					
Complex resistivity					
Seismic reflection					
Seismic refraction					
Well logging	Define by total length				
Geophysical interpretation					
Petrophysics					
Density			$0.00		
Standby			$0.00		
Log delivery			$0.00		
Logging Services			$2,415.00		Align/3721
Mic					
Other (specify)			$0.00		
			$2,415.00	**$2,415.00**	
Geochemical Surveying	**Number of Samples**	**No.**	**Rate**	**Subtotal**	
Drill (cuttings, core, etc.)			$0.00	$0.00	
Measurement				$26,500.00	
Sample Preparation					
Stream sediment			$0.00	$0.00	
Soil	*note: This is for assays or*		$0.00	$0.00	

Rock	*laboratory costs*		$0.00	$0.00		
Water			$0.00	$58,000.00		Maxxam
Biogeochemistry			$0.00	$0.00		
Whole rock			$0.00	$0.00		
Petrology			$0.00	$1,050.00		3142
Core Box						
Holes						
Other (specify)			$0.00	$0.00		
				$85,550.00	**$85,550.00**	
Drilling	**No. of Holes, Size of Core and Metres**	**No.**	**Rate**	**Subtotal**		
Diamond			$0.00	$463,750.17		Dor3142
Field Time			$0.00			
Chargeable Materials				$13,871.20		MBI3142
Hydrological drilling steel						
Dozer/Cat road maintenance						
Mis						
Reverse circulation (RC)			$0.00			
Rotary air blast (RAB)			$0.00			
Reverse circulation (RC)			$0.00			
Rotary air blast (RAB)			$0.00			
General Supplies				$57,634.18		3137
Gas Detector						
Excavator Sumps/Moving						
Dozer/Cat for site Prep						
Core Shed						
Expense				$62,737.97		3112
Rental				$23,207.53		3136
Core Logging						
Core Boxes						
Stumpage						
Dip Meter Insruance						
Other stumpace						
Dilling Security						
Water truck						
Site radio						
Auto Repair				$6,244.56		3077
Maintainence				$7,241.10		3177
Tools						
Site Prepare						
Fuel				$41,216.93		Blue3142
Labor				$122,326.83		3101
Pump Test for hydrological				$39,000.00		SNC
Mine Electrical Power Design						
Other (specify)			$0.00	$0.00		
				$837,230.47	**$837,230.47**	
Other Operations	**Clarify**	**No.**	**Rate**	**Subtotal**		
Trenching			$0.00	$19,000.00		
Trenching sample Boxes						
Bulk sampling			$0.00	$0.00		
Underground development			$0.00	$0.00		
Coal quality analysis						
Sample Tags						
excavator Rental						
Coal Sample analysis				$26,000.00		sgs
Smowplowing				$800.00		
Other (specify)			$0.00	$0.00		
				$45,800.00	**$45,800.00**	
Reclamation	**Clarify**	**No.**	**Rate**	**Subtotal**		
After drilling	Seeding/Gravel			$4,200.00		
Monitoring						
Other (specify)			$0.00	$0.00		
				$4,200.00	**$4,200.00**	
Transportation		**No.**	**Rate**	**Subtotal**		
Airfare			$0.00	$0.00		
Taxi			$0.00	$0.00		
truck repair			$0.00			
truck Rentals			$0.00			
truck transport						
kilometers			$0.00	$0.00		
Freight				$2,305.33		3135
ATV			$0.00	$0.00		

Exploration Work type Comment

Helicopter (hours)		$0.00			
Fuel (litres/hour)		$0.00			
Fuel Storage					
Tank					
Venicle intransit Storage					
Other					
			$2,305.33	**$2,305.33**	
Accommodation & Food	**Rates per day**				
Hotel		$0.00			
Camp		$0.00	$21,680.36		3012
Camp Electrical					
Camp Supplies					
Camp Security					
Camp Communication					
Camp Fuel					
Camp Cook					
Storage Rent					
labor					
Van Rental					
Meals	day rate or actual costs-specify	$0.00	$18,004.00		3012
			$39,684.36	**$39,684.36**	
Miscellaneous					
Telephone		$0.00	$3,989.00		Ren'credit card
First Aid					
Safety First Aid					
First Aid Evacuation Link					
Other (Specify)		$0.00	$0.00		
			$3,989.00	**$3,989.00**	
Equipment Rentals					
Field Gear (Specify)		$0.00	$0.00		
Sample Prep		$0.00			
Sink/Float		$0.00			
labor					
Other (Specify)					
			$0.00	**$0.00**	
Freight, rock samples					
		$0.00	$0.00		
		$0.00	$0.00		
			$0.00	**$0.00**	
TOTAL Expenditures				**$1,114,374.64**	

11.0 References

The principal reference sources for this document were the year-2005 geological report on the Bingay Main (formerly known as 'Bingay Creek') property (Cathyl-Bickford, 2005); February 2011 Geological Report Bingay Main Coal Property; and the regional geological reports by Gibson (1985) and Grieve (1992); both of the latter works are available in major university libraries across Canada. Other technical and scientific reports, as listed below, were found to contain relevant information.

AEC Oil & Gas Ltd.

2000: Geological report on AECOG Mosquito d-16-D/82-J-7; *British Columbia Ministry of Energy and Mines*, Petroleum Resources Branch, file WA 13085.

Airey, E.M.

1968: Gas emission from broken coal, an experimental and theoretical investigation; *International Journal of Rock Mechanics and Mineral Science*, volume 5, pages 475 to 494

Anderson, R.B.

1984: 1983 report of exploration activities (drilling report) on the Bingay Creek property, Coal Licence Nos. 7299, 7471, 7688 and 7689; unpublished report dated June 1984 for Utah Mines Ltd.; *British Columbia Ministry of Energy and Mines*, coal assessment report No. 256.

Bannister, W.E.

1957: Geological report describing the stratigraphy and structure of that portion of southeastern British Columbia contained within petroleum and natural gas permit areas 686, 687 and 690; unpublished geological report dated April 23, 1957 for California Standard Company; *British Columbia Ministry of Energy and Mines*, Petroleum Resources Branch, assessment report GR-617.

Brandão, G., Barnett, M. and Bui, T.

2010: Geological modeling of Bingay Creek coal deposit; *Gemcom Software International Inc.*, unpublished report dated 9 December 2010 for Centerpoint Resources Inc.

Braumandl, T.F. and Curran, M.P.

1992: A field guide for site identification and interpretation for the Nelson Forest Region; *British Columbia Ministry of Forests*, Research Branch, resource handbook.

Brezovski, R.

2000: Coring & testing program proposal; letter on behalf of AEC Oil & Gas Ltd.; *British Columbia Ministry of Energy and Mines*, Petroleum Resources Branch, file WA 13085.

Bustin, R.M., Brezovski, R. and Nassichuk, B.

2000a: Analysis of coalbed methane, MC5 a-85-L/82-J-2, Elkford, British Columbia, AEC Oil and Gas; *British Columbia Ministry of Energy and Mines*, Petroleum Resources Branch, file WA 13082.

2000b: Analysis of coalbed methane, MC3 d-96-L/82-J-2, Elkford, British Columbia, AEC Oil and Gas; *British Columbia Ministry of Energy and Mines*, Petroleum Resources Branch, file WA 13083.

Bustin, R.M., Cameron, A.R., Grieve, D.A. and Kalkreuth, W.D.

1985: Coal petrology - its principles, methods and applications; *Geological Association of Canada*, Short Course Notes, volume 3, 230 pages.

Cathyl-Bickford, C.G.

2004: Geological report on the Bingay Creek coal property (Kootenay Land District, British Columbia); *Westwater Mining Ltd.*, report 207-6 dated 18 December 2004 for Hillsborough Resources Limited.

2005: Geological report on the Bingay Creek coal property (Kootenay Land District, British Columbia), incorporating the results of drilling done in March, 2005; *Westwater Mining Ltd.*, report 207-12 dated 9 May 2005 for Hillsborough Resources Limited.

Chien, M.

2010: Conversion of coal volumes to tonnages; *Centermount Coal Ltd.*, unpublished memorandum dated 29 December 2010.

2011: Approximate resource memo addendum; *Centermount Coal Ltd.*, unpublished memorandum dated 31 January 2011.

China National Coal Quality Supervision and Testing Centre

2010: Analysis reports for coal and coke, project WT101336; unpublished analytical reports dated 18 November and 29 November 2010, for Centermount Coal Ltd.

CIM Standing Committee on Reserve Definitions

2005: CIM definition standards for mineral resources and mineral reserves; *Canadian Institute of Mining, Metallurgy and Petroleum*; document dated November 22, 2005, website at *http://www.cim.org/committees/CIMDefStds_Dec11_05.pdf,* viewed 26 January 2010.

Davis, A.

1978: The reflectance of coal; *in* Karr, J. (editor): *Analytical methods for coal and coal products*; Academic Press, New York (New York).

Davis, J.D.

1984: Bingay Creek coal project - update; unpublished report dated February 6, 1994 for Utah Mines Ltd.

Dawson, F.M. and Clow J.T.

1992: Coalbed methane research, Elk Valley Coalfield*; The Canadian Coal and Coalbed Methane Forum Proceedings*, Parksville (British Columbia), pages 57 to 71.

Department of Trade and Industry [United Kingdom]

2003: Glossary of terms; website at *http://www.dti.gov.uk/energy/coal/mine_reviews/glossary.pdf*, viewed on March 14, 2003.

de Zwart, Ico

2010: Summary of Bingay Environmental Studies – 2010*; Masse Environmental Consultants Ltd.*, unpublished letter report for Centermount Coal Ltd., dated 23 November 2010.

Diamond, W.P. and Levine, J.R.

1981: Direct method determination of the gas content of coal, procedures and results; *United States Bureau of Mines*, Report of Investigations 8515, pages 1 to 36.

Donald, R.L.

1984: Sedimentology of the Mist Mountain Formation in the Fording River area, southeastern Canadian Rocky Mountains; *University of British Columbia*, Vancouver (British Columbia), unpublished M.Sc. thesis, 180 pages.

Dunlop, R.L. and Bustin, R.M.

1987: Depositional environments of the coal-bearing Mist Mountain Formation, Eagle Mountain, southeastern Canadian Rocky Mountains; *Bulletin of Canadian Petroleum Geology*, volume 35, number 4, pages 389 to 415.

Elliott, R.E., Jones, A.R.L. and Rippon, J.H.

1984: Procedures in coal-mining geology; *National Coal Board*, Mining Department, London (England), 241 pages.

EnCana Corporation

2004: Elk Valley experimental scheme update; *British Columbia Ministry of Energy and Mines*, Petroleum Resources Branch, open file report regarding Experimental Scheme Approval #00-15-001, dated June 30, 2004.

Evolution Markets LLC

2005: Glossary of terms; website at *http://www.evomarkets.com/otc_glossary.htm*, viewed on September 25, 2005.

Ferguson, H.

2010: Bingay Creek model; *Gemcom Software International Inc.*, e-mailed letter report dated 3 December 2010 to Centerpoint Resources Inc.

Fraser, N.

1908: The Elk Valley Coal and Coke Company Limited: report of Norman Fraser, Esquire, Govt. inspector of mines for the Province of Alberta and prospector; unpublished report to Alfred Laurie, Esquire, dated September 24, 1908; *Glenbow-Alberta Institute Archives*, CPR Papers (M2269), Box 199, File 1962.

Gardner, S.L.

1982: A geologic overview of the Bingay Creek coal property, Elk River Valley; unpublished report dated June 6, 1982 for Mr. W. Shenfield; *British Columbia Ministry of Energy and Mines*, coal assessment report No. 254.

2004a: Mineral & coal notice of work and reclamation for Bingay Creek Property; *Hillsborough Resources Limited*, application submitted to British Columbia Ministry of Energy and Mines, dated 7 June 2004.

2004b: 2004 Exploration Program, Bingay Creek Coal Project, Elk Valley, East Kootenay coalfield; *Hillsborough Resources Limited*, unpublished report.

2005: Bingay Creek coal property coal assessment report for coal licences 374190, 414014, 415139 and 417302, NTS map 82J/2W, Kootenay Land District; *British Columbia Ministry of Energy and Mines*, coal assessment report No. 895.

Gibson, D.W.

1977: Sedimentary facies in the Jura-Cretaceous Kootenay Formation, Crowsnest Pass area, southwestern Alberta and southeastern British Columbia; *Bulletin of Canadian Petroleum Geology*, volume 25, pages 767 to 791.

1979: The Morrissey and Mist Mountain formations -- newly defined lithostratigraphic units of the Jura-Cretaceous Kootenay Group, Alberta and British Columbia; *Bulletin of Canadian Petroleum Geology*, volume 27, pages 183 to 208.

1985: Stratigraphy, sedimentology and depositional environments of the coal-bearing Jurassic-Cretaceous Kootenay Group, Alberta and British Columbia; *Geological Survey of Canada*, Bulletin 357.

Glass, D.

1990: Lexicon of Canadian stratigraphy, volume 4: western Canada, including eastern British Columbia,
Alberta, Saskatchewan and southern Manitoba; *Canadian Society of Petroleum Geologists*.

Graham, B.C.

1998: Determining coalbed gas content; *Gas Research Institute*, GRI 98/0365.2

Graham, P.S., Gunther, P.R. and Gibson, D.W.

1977: Geological investigations of the coal-bearing Kootenay Formation in the subsurface of the Upper Elk River Valley, British Columbia; in Report of Activities, Part B, *Geological Survey of Canada*, Paper 77-1B, pages 203 to 210.

Grieve, D.A.

1992: Geology and rank distribution of the Elk Valley coalfield, southeastern British Columbia; *British Columbia Ministry of Energy, Mines and Petroleum Resources*, Bulletin 82, 187 pages.

Grieve, D.

1993: Geology of the Elk Valley Coalfield; *British Columbia Ministry of Energy, Mines and Petroleum Resources*, Bulletin 82.

Grieve, D.A. and Pearson, D.E.

1983: Geology of the Greenhills Range, Elk Valley coalfield; *British Columbia Ministry of Energy, Mines and Petroleum Resources*, Preliminary Map No.51, three map-sheets at 1:10,000 scale.

Grieve, D.A. and Price, R.A.

1987: Geological setting of the south half of the Elk Valley coalfield; *British Columbia Ministry of Energy, Mines and Petroleum Resources*, Preliminary Map No.63, one map-sheet at 1:50,000 scale.

Hannigan, P., Lee, P.J., Osadetz, K.G. and Olsen-Heise, K.

1993: Oil and gas resource potential of the Kootenay area of British Columbia; *British Columbia Ministry of Energy and Mines*, Geofile 2001-07.

Henderson, G.G.L.

1956: Preliminary geological report describing the stratigraphy and structure of that portion of southeastern British Columbia contained within petroleum and natural gas permit areas 686, 687 and 690 and 691; unpublished geological report dated December 7, 1956 for California Standard Company; *British Columbia Ministry of Energy and Mines*, Petroleum Resources Branch, assessment report GR-588.

Hoffman, G.L., Jordan, G.R. and Wallis, G.R.

1982: Geophysical borehole logging handbook for coal exploration; *Coal Mining Research Centre*, Devon (Alberta), 270 pages.

Hughes, J.D., Klatzel-Mudry, L. and Nikols, D.J.

1989: A standardised coal resource/reserve reporting system for Canada; *Geological Survey of Canada*, Paper 88-21, 17 pages.

Jenks, J.

1979: Preliminary geological report, Coal Licence No.5176 (Lot No.9478), Fort Steele Mining Division, N.T.S. 82J/SE; unpublished report dated August 25, 1979, for Specific Natural Resources Ltd.; *British Columbia Ministry of Energy and Mines*, coal assessment report No. 253.

Johnson, D.G.S. and Smith, L.A.

1991: Coalbed methane in southeast British Columbia; *British Columbia Ministry of Energy, Mines and Petroleum Resources*, Petroleum Geology Branch Special Paper 1991-1.

Jordan, G.R. and Engler, R.F.

2007: Technical report, Jiangcang mining area, Muli coal field, Qinghai Province, China; *Norwest Corporation*, unpublished technical report 06-2930 dated 24 April 2007, for East Energy Corp.

Kearey, P., Brooks, M. and Hill, I.

2002: An introduction to geophysical exploration; *Blackwell Science*, Oxford (England), 262 pages.

Kissell, F.N. McCulloch, C.M and Elder, C.H.

1973: The direct method of determining methane content of coalbeds for ventilation design: *United States Bureau of Mines,* Report of Investigations 7767.

Labrecque, J.E.

1959: Geological & geophysical report, British Columbia P&NG permits 841, 842, 843; unpublished report dated October 7, 1959 for Imperial Oil Limited; *British Columbia Ministry of Energy and Mines*, Petroleum Resources Branch, assessment report GR-816.

Lacelle, J.E.H.

1990: Biophysical resources of the East Kootenay area; *British Columbia Ministry of Environment*, British Columbia Soil Survey Report No.20.

Lawrence, G. and Pawson, M.

2004: Location map: Bingay Creek coal property, Elk Valley, southeastern British Columbia, showing regional geology and infrastructure; unpublished geological map dated November 15, 2004, on behalf of *Lawrence Consulting and Resources Ltd.*, for Hillsborough Resources Ltd.

Leonard, J.W., Humphreys, K.K., Lawrence, W.F., McMillan, B.G., and Muter, R.B. (editors)

1979: Coal preparation; *American Institute of Mining, Metallurgical and Petroleum Engineers*, New York (New York), fourth edition.

Marshall, J.R.

1920: Upper Elk and Upper Highwood rivers, British Columbia and Alberta; *Geological Survey of Canada*, Publication No.1980; one coloured map-sheet at 1:250,000 scale.

1921: Upper Elk River Valley, British Columbia; *Geological Survey of Canada*, Summary Report 1920, Part B, pages 7 to 10.

McCulloch, C.M., Levine, J.R., Kissell, F.N. and Duel, M.

1975: Measuring the methane content of bituminous coalbeds; *United States Bureau of Mines*, Report of Investigations 8043; NTIS: PB-242139, 1975; pages 1 to 22.

McKenny, C., Mills, D., Leslie, D., Griffiths, R. and Komenac, K.

2003: Review of the Fording River Operations; *Elk Valley Coal Corporation*, unpublished technical report dated April 29, 2003.

Monahan, P.A.

2000: The geology and oil and gas potential of the Fernie-Elk Valley area, southeast British Columbia; report dated December 2000 for *British Columbia Ministry of Energy and Mines*.

Morin, K.A. and Hutt, N.M.

2004: Bingay Creek Project - first-phase ML/ARD results and recommendations; *Minesite Drainage Assessment Group*, unpublished report dated 2 November 2004 for Hillsborough Resources Limited.

Munroe, R.G.R.

2010a: Geological examination of trench works on the Bingay Creek property, Elk River Valley north of Elkford, British Columbia; *Munroe Geological Services Ltd.*, unpublished report dated 12 October 2010 for Centermount Coal Ltd.

2010b: Bingay coal property structural analysis; *Munroe Geological Services Ltd.*, unpublished report dated 10 November 2010 for Centermount Coal Ltd.

2010c: Regional structural analysis; *Munroe Geological Services Ltd.*, unpublished report [date not stated] for Centermount Coal Ltd.

Munroe, R.G.R and Nunn, E.J.

2015: 2010 Bingay Main Assessment Report

2016: 2011/12 Bingay Main Assessment Report

Norwest Corporation

2005: Bingay Creek Property: small mine permit application dated January 2005, submitted to British Columbia Ministry of Energy and Mines on behalf of Hillsborough Resources Limited.

Pearson, D.E.

1980: The quality of Western Canadian coking coal*; Canadian Mining and Metallurgical Bulletin*, January 1980.

Pearson, D.E. and Duff, P.McL.D.

1976: Studies in the East Kootenay coalfields; *British Ministry of Energy, Mines and Petroleum Resources*, Geological Fieldwork in 1975, Paper 1976-1, pages 93 to 99.

Price, R.A., Grieve, D.A. and Patenaude, C.

1992: Geology and structure cross-section, Fording River (west half), British Columbia - Alberta; *Geological Survey of Canada*, Map 1824A, scale 1:50,000.

Ruby, C.M., Horne, J.C. and Reinhart, P.J.

1981: Cretaceous rocks of western North America - a guide to terrigenous clastic rock identification; *Research Planning Institute, Inc.*, 100 pages.

Ryan, B.D.

2010: Preliminary gas desorption results, Bingay Creek coal property; unpublished letter report dated November 17, 2010 for Centermount Coal Ltd.

Ryan, B.D. and Grieve, D.A.

1996: Source and distribution of phosphorus in British Columbia coal seams; *British Columbia Geological Survey Branch*, Geological Fieldwork 1995, Paper 1996-1, pages 277 to 294.

Ryan, B.D. and Khan, M.

1998: Maceral affinity of phosphorus in coals from the Elk Valley coalfield, British Columbia; *British Columbia Geological Survey Branch*, Geological Fieldwork 1997, Paper 1998-1, pages 28-1 to 28-19.

Schori, A.

2005: Bingay Creek Coal Project: soil inventory and soil reclamation suitability assessment; *A. Schori Consultants Inc.*, unpublished report dated January 2005 for Norwest Corporation.

Sharma, P.

2005: Petrographic report on 9 drill hole composites; *Elk Valley Environmental Services*, unpublished report for Hillsborough Resources Limited.

Shenfield, W. and Gardner, S.

1996: 1996 exploration summary, Bingay Creek coal property, Elk Valley, British Columbia; unpublished report dated December 1996 for Iron Creek Exploration Ltd.; *British Columbia Ministry of Energy and Mines*, coal assessment report No. 849.

Taplin, A.C.

1974: Geological report: 1974 Elk Valley exploration program, NTS 82J 2/W and J 7/W; unpublished technical report dated December 23, 1974, for Cominco Ltd.; *British Columbia Ministry of Energy and Mines*, coal assessment report No. 261.

Teck Coal Ltd.

2015: Elk Valley Water Quality Plan

Turnbull, J.M.

1904a: Preliminary description of south coal field, being a portion of the C.P.R. Co's Elk River coal lands north of Michel B.C.; unpublished manuscript dated December 23, 1904; *Glenbow-Alberta Institute Archives*, CPR Papers (M2269), Box 199, File 1962.

1904b: South coal field compared with north field; unpublished report dated December 23, 1904; *Glenbow-Alberta Institute Archives*, CPR Papers (M2269), Box 199, File 1962.

Ward, C.R.

1984: Chemical analysis and classification of coal; Chapter 1, *in* Ward, C.R. (editor*), Coal Geology and Coal Technology*, Blackwell Scientific Publications, Carlton, Victoria (Australia).

Waterson Geoscience Ltd.

2011: Bingay Hydrological Investigations Report

Wilson. A.W.G.

1904: Report on the Elk River coal fields: section re development; unpublished report dated December 2, 1904, for Mining and Metallurgical Department of Canadian Pacific Railway Co.; *Glenbow-Alberta Institute Archives*, CPR Papers (M2269), Box 199, File 1962.

Wolfhard, N.R.

1967: Elk River coal, NTS 82 J/2W and 82 J/7W; unpublished report dated September 11, 1967, for Cominco Ltd.; *British Columbia Ministry of Energy and Mines*, coal assessment report No. 261.

WSA Engineering Ltd.

2011 Preliminary Geotechnical Study – Bingay

Statement of Qualifications

Certificate of Qualification

I, Edward J. Nunn, residing at 4226 Granger Road, Nelson, British Columbia, declare:

1. That I have been associated with the mining industry for 49 years primarily working in project engineering and management for mine operating companies. Twenty nine of these years were experienced in the coal and industrial mineral industries for: Kaiser Resources Ltd., An Tai Bao Surface Coal Mine, Greymouth Coal, Crystal Graphite Corporation and Centermount Coal Ltd. My metal mining experience included Cominco Ltd. (four operations), Lornex Mining Corporation, Echo Bay Mines, Reeves MacDonald Mines, and Granduc Operating Company.

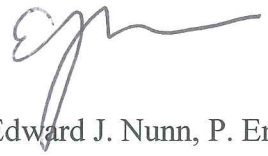
2. My experience includes exploration including assessment reports, geological engineering, civil/structural engineering, mine engineering, contract management, safety programs, financial analyzes, governmental affairs and project/operations supervision and management in both surface and underground mining environments.

3. I obtain a degree in Mining Engineering from Queens's University and Mineral Resource Geology from Northern Alberta Institute of Technology.

4. I am registered as a Professional Engineer in the Province of British Columbia.

5. I have been employed by Centermount Coal Ltd. as Mine Manager for the 2016 Bingay Creek Main Exploration and Technical Programs.

6. Since the beginning of Centermount's Bingay Coal project, I have been the Project Manager of all exploration related programs including the 2010 to 2012 programs; and, have been the Qualified Person for Geological Resource Modelling purposes during that period.



Edward J. Nunn, P. Eng.

18 December 2016

Certification of Qualification

I, Ji Hong Zhou (Victor), residing at 206-255 Ross Drive, New Westminster, British Columbia, declares:

1. That I have been 30 years of mining industry experience in planning, developing, and coordinating programs of geotechnical, geological, geophysical, and hydrological data acquisition; Analyzing and mapping to assist in the development of mining projects for regional development; Planning, developing, coordinating, and conducting theoretical and experimental studies in mine exploration, evaluation, and feasibility studies related to the mining industry. I won Chinese provincial science and technology progress prize and the youth academic excellence award and so on.
2. I have graduated from Central South University (bachelor) in 1986 and Northeastern University (master) in 1991 in China.
3. After immigrant to Canada, I used to work in Canadian Dehua International Mines Group Inc. Prospecting and exploring of underground coal mines and drillhole lithology log; Assessment for Geology、Geophysics and Geochemistry of Vancouver Island Iron Property; Coal mine and Iron Project Geological management. For example: Murray River Coal, Bullmoose Coal, Wapiti River Coal and Pacific Iron Project.
4. I have been involving in Bingay Coal Project Geo-tech exploration on site in the spring, 2016, and working on the study report and etc. after I joined to the Centermount team, I am familiar with the project technical data service.
5. I have been employed as Vice Manager--Technical Service of Centermount Coal Ltd. Since 2016.

Ji Hong Zhou (Victor)

08 December 2016

Victor Zhou

08 Dec. 2016.

Appendix

Centermount Coal

Report Order:MNE163997TJ
Boss No:1391859

2016 List of Coking Coal Samples

Sample No.	Hole number	From	To	Seam No.	煤样粒度 (mm)	Kg	Yellow Tag	Sample Tag
1#	16-BMD-08	104	110.75	No.20	13-25	7.4	42110	13
1#	16-BMD-08	155.9	159.05	No.17	25-50	11.1	42128	5
1#	16-BMD-08	191.4	195.7	No.16	25-50	8.1	42130	6
1#	16-BMD-08	201.55	206.03	No.15	25-50	11.8	42129	7
1#	16-BMD-08	232.05	240.2	No.13	13-25mm 为主，少量<13mm.	15.9	42105	8
1#	16-BMD-08	329.41	335.9	No.12	25-50	14.4	42106	9
1#	16-BMD-08	329.41	335.9	No.12	25-50	7.4	42107	10
1#	16-BMD-05	89	94	No.12T	13-25	12.7		11
1#	16-BMD-05	95.9	103	No.12	13-25	12.7		12
1#	16-BMD-05	105.5	108.3	No.12	13-25	8.9		13
2#	16-BMD-05A	129.05	135.3	No.10	25-50	17.7		14
2#	16-BMD-05A	138.15	145.4	No.10	25-50	16.6		15
2#	16-BMD-05A	151.25	154.05	No.9	<13	11.1		16
2#	16-BMD-05A	283.85	293.85	No.3	13-25	14.4	42124	1
2#	16-BMD-05A	283.85	293.85	No.3	13-25	16.1	42125	2
2#	16-BMD-05A	283.85	293.85	No.3	13-25	14.4	42126	3
2#	16-BMD-05A	295.8	301.3	No.3L	13-25	16.5	42127	4
2#	16-BMD-05A	337.54	340.67	No.2	13-25	10.1	42318	28
2#	16-BMD-05A	345.25	348.45	No.1R	13-25	10.5	42317	29
2#	16-BMD-05A	386.1	390	No.1	25-50	9.4	42302	138
2#	16-BMD-05A	412.95	416.85	No.1L	25-50	9.3	42319	139
1#	16-BMD-06	71.92	80.45	No.12	13-25	17.2	42306	664291
2#	16-BMD-06	164.41	175.6	No.10	13-25	15.1	42307	664302
2#	16-BMD-06	164.41	175.6	No.10	13-25	16.1	42308	664302
2#	16-BMD-06	176.7	179.73	No.9	25-50	11.4	42309	664303
1#	16-BMD-07	100	104.87	No.12	13-25	8.3	42313	664286
2#	16-BMD-07	208.47	218.65	No.10	13-25	15	42311	664287
2#	16-BMD-07	208.47	218.65	No.10	13-25	9.9	42312	664287
1#	16-BMD-09	89.5	94	No.21	13-25	15.3	42314	664262
1#	16-BMD-09	94	97	No.21	13-25	12.1	42315	664265
1#	16-BMD-09	97	100.2	No.21	13-25	11.7	42316	664266
3#	16-BA-02	254	254.6		>50	3.1	42321	

SGS-CSTC Standards Technical Services(TianJin) Co.,Ltd.
Minerals Laboratory

******The end******

Giant Gu
Authorized Signature
2016-08-05

The report would be invalid without authorized signature. The report shall not be reproduced except in full, without written approval of the Company.
This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.
Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of law.

2/F, Fortune Building, Kaitai Business Incubation Center, No.41, 5th Avenue, TEDA, Tianjin, China
邮编：300457 电话：(86-22)65288000 传真：(86-22)25299577
www.sgsgroup.com.cn
e sgs.china@sgs.com

Maxxam
A Bureau Veritas Group Company

Your Project #: BINGAY COAL
Site Location: ELKFORD, BC

Attention:CHARLIE ZHAO

CENTERMOUNT COAL LTD.
1055-1140 WEST PENDER STREET
VANCOUVER, BC
CANADA V6E 4G1

Report Date: 2016/05/31
Report #: R2189388
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B633166
Received: 2016/05/02, 15:53

Sample Matrix: Soil
Samples Received: 69

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICPMS (total) (1)	11	2016/05/24	2016/05/24	BBY7SOP-00017,	BC SALM,EPA 6020bR2m
Elements by ICPMS (total) (1)	18	2016/05/25	2016/05/25	BBY7SOP-00017,	BC SALM,EPA 6020bR2m
Elements by ICPMS - Soils	15	2016/05/05	2016/05/06	AB SOP-00001 / AB SOP-00043	EPA 200.8 R5.4 m
Elements by ICPMS - Soils	15	2016/05/06	2016/05/07	AB SOP-00001 / AB SOP-00043	EPA 200.8 R5.4 m
Weight of Sample Received (charge/kg) (1)	1	N/A	2016/05/25		
Weight of Sample Received (1)	39	N/A	2016/05/25		

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Maxxam Vancouver

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Shanaz Akbar, Project Manager
Email: SAkbar@maxxam.ca
Phone# (604)639-2618

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B633166
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		OO0479		OO0480	OO0486	OO0489	OO0491	OO0492	OO0493	
Sampling Date										
	UNITS	664371	QC Batch	664374	664392	664395	664397	664398	664399	QC Batch
Industrial										
Dry Weight	kg	44.68	8278990	0.9980	1.218	0.8990	0.9410	0.8280	0.9460	8278889

Maxxam ID		OO0494	OO0495	OO0499	OO0500	OO0501	OO0502	OO0503	
Sampling Date									
	UNITS	664400	664201	664205	664206	664207	664208	664209	QC Batch
Industrial									
Dry Weight	kg	1.039	0.8730	0.9970	0.8760	0.7790	0.8430	1.228	8278889

Maxxam ID		OO0505	OO0506	OO0508	OO0509	OO0510	OO0513	OO0514	OO0534	
Sampling Date										
	UNITS	664211	664212	664214	664238	664247	664239	664240	664257	QC Batch
Industrial										
Dry Weight	kg	1.603	1.948	1.243	1.311	1.306	1.179	1.825	0.8230	8278889

Maxxam ID		OO0535	OO0536	OO0537	OO0538	OO0539	OO0541	OO0542	OO0543	
Sampling Date										
	UNITS	664258	664259	664263	664264	664271	664224	664225	664226	QC Batch
Industrial										
Dry Weight	kg	0.6730	1.549	0.9460	1.274	0.8350	1.076	0.8100	1.032	8278889

Maxxam ID		OO0544	OO0546	OO0547	OO0548	OO0550	OO0551	OO0552	OO0553	
Sampling Date										
	UNITS	664227	664229	664230	664231	664233	664234	664235	664236	QC Batch
Industrial										
Dry Weight	kg	0.8550	1.057	1.077	1.142	1.015	0.7700	1.045	0.9600	8278889

Maxxam ID		OO0554	
Sampling Date			
	UNITS	664237	QC Batch
Industrial			
Dry Weight	kg	1.128	8278889

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B633166
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OO0472	OO0473		OO0474		OO0475	OO0476		
Sampling Date										
	UNITS	664352	664353	QC Batch	664356	QC Batch	664359	664362	RDL	QC Batch
Elements										
Total Cadmium (Cd)	mg/kg	0.45	1.0	8261272	1.0	8262727	0.97	0.94	0.050	8261272
Total Selenium (Se)	mg/kg	3.0	1.0	8261272	1.1	8262727	0.96	0.85	0.50	8261272
RDL = Reportable Detection Limit										

Maxxam ID		OO0477		OO0478		OO0481		OO0482		
Sampling Date										
	UNITS	664365	QC Batch	664368	QC Batch	664377	QC Batch	664380	RDL	QC Batch
Elements										
Total Cadmium (Cd)	mg/kg	1.0	8261272	1.0	8262727	0.69	8261272	0.51	0.050	8262727
Total Selenium (Se)	mg/kg	0.88	8261272	1.1	8262727	0.85	8261272	2.1	0.50	8262727
RDL = Reportable Detection Limit										

Maxxam ID		OO0483		OO0484	OO0485		OO0488		OO0490		
Sampling Date											
	UNITS	664383	QC Batch	664386	664389	QC Batch	664394	QC Batch	664396	RDL	QC Batch
Elements											
Total Cadmium (Cd)	mg/kg	0.37	8261272	0.50	0.52	8262727	0.39	8261272	0.44	0.050	8262727
Total Selenium (Se)	mg/kg	<0.50	8261272	1.0	0.64	8262727	3.3	8261272	3.3	0.50	8262727
RDL = Reportable Detection Limit											

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B633166
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OO0496		OO0497		OO0498	OO0500	OO0501		
Sampling Date										
	UNITS	664202	QC Batch	664203	QC Batch	664204	664206	664207	RDL	QC Batch
Elements										
Total Cadmium (Cd)	mg/kg	0.27	8261272	0.79	8262727	0.40	N/A	N/A	0.050	8261272
Total Selenium (Se)	mg/kg	2.3	8261272	3.6	8262727	3.5	N/A	N/A	0.50	8261272
Total Metals by ICPMS										
Total Cadmium (Cd)	mg/kg	N/A	N/A	N/A	N/A	N/A	0.453	0.555	0.050	8276850
Total Selenium (Se)	mg/kg	N/A	N/A	N/A	N/A	N/A	2.25	<0.50	0.50	8276850

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam ID		OO0502	OO0503		OO0504	OO0505	OO0506		
Sampling Date									
	UNITS	664208	664209	QC Batch	664210	664211	664212	RDL	QC Batch
Elements									
Total Cadmium (Cd)	mg/kg	N/A	N/A	8261272	0.56	N/A	N/A	0.050	8262727
Total Selenium (Se)	mg/kg	N/A	N/A	8261272	0.81	N/A	N/A	0.50	8262727
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	0.340	0.390	8276850	N/A	0.582	0.583	0.050	8276850
Total Selenium (Se)	mg/kg	<0.50	<0.50	8276850	N/A	<0.50	<0.50	0.50	8276850

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B633166
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OO0507	OO0508	OO0509	OO0510	OO0511	OO0512	OO0513		
Sampling Date										
	UNITS	664213	664214	664238	664247	664246	664248	664239	RDL	QC Batch
Elements										
Total Cadmium (Cd)	mg/kg	0.66	N/A	N/A	N/A	0.80	0.87	N/A	0.050	8261272
Total Selenium (Se)	mg/kg	0.65	N/A	N/A	N/A	1.5	2.9	N/A	0.50	8261272
Total Metals by ICPMS										
Total Cadmium (Cd)	mg/kg	N/A	0.629	0.553	0.698	N/A	N/A	0.486	0.050	8276850
Total Selenium (Se)	mg/kg	N/A	<0.50	<0.50	0.95	N/A	N/A	<0.50	0.50	8276850

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam ID		OO0514		OO0515	OO0516		OO0517		OO0518		
Sampling Date											
	UNITS	664240	QC Batch	664241	664242	QC Batch	664243	QC Batch	664244	RDL	QC Batch
Elements											
Total Cadmium (Cd)	mg/kg	N/A	8261272	0.42	0.41	8262727	0.43	8261272	0.22	0.050	8262727
Total Selenium (Se)	mg/kg	N/A	8261272	4.1	4.1	8262727	2.1	8261272	1.5	0.50	8262727
Total Metals by ICPMS											
Total Cadmium (Cd)	mg/kg	0.767	8276850	N/A	N/A	N/A	N/A	N/A	N/A	0.050	N/A
Total Selenium (Se)	mg/kg	<0.50	8276850	N/A	N/A	N/A	N/A	N/A	N/A	0.50	N/A

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B633166
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OO0519	OO0534	OO0535	OO0536	OO0537	OO0538	OO0539		
Sampling Date										
	UNITS	664245	664257	664258	664259	664263	664264	664271	RDL	QC Batch
Elements										
Total Cadmium (Cd)	mg/kg	0.25	N/A	N/A	N/A	N/A	N/A	N/A	0.050	8262727
Total Selenium (Se)	mg/kg	2.3	N/A	N/A	N/A	N/A	N/A	N/A	0.50	8262727
Total Metals by ICPMS										
Total Cadmium (Cd)	mg/kg	N/A	2.90	0.804	1.71	1.95	0.798	0.641	0.050	8278014
Total Selenium (Se)	mg/kg	N/A	2.83	0.84	2.59	4.50	1.95	1.50	0.50	8278014

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam ID		OO0540	OO0541	OO0542	OO0543	OO0544		OO0545		
Sampling Date										
	UNITS	664272	664224	664225	664226	664227	QC Batch	664228	RDL	QC Batch
Elements										
Total Cadmium (Cd)	mg/kg	0.80	N/A	N/A	N/A	N/A	8261272	3.0	0.050	8262727
Total Selenium (Se)	mg/kg	1.7	N/A	N/A	N/A	N/A	8261272	3.8	0.50	8262727
Total Metals by ICPMS										
Total Cadmium (Cd)	mg/kg	N/A	0.841	3.85	6.35	6.15	8278014	N/A	0.050	N/A
Total Selenium (Se)	mg/kg	N/A	<0.50	5.08	6.31	6.00	8278014	N/A	0.50	N/A

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam Job #: B633166
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OO0545	OO0546	OO0547	OO0548	OO0549	OO0550	OO0551		
Sampling Date										
	UNITS	664228 Lab-Dup	664229	664230	664231	664232	664233	664234	RDL	QC Batch
Elements										
Total Cadmium (Cd)	mg/kg	3.0	N/A	N/A	N/A	0.14	N/A	N/A	0.050	8262727
Total Selenium (Se)	mg/kg	3.3	N/A	N/A	N/A	<0.50	N/A	N/A	0.50	8262727
Total Metals by ICPMS										
Total Cadmium (Cd)	mg/kg	N/A	5.15	4.13	5.07	N/A	2.24	2.47	0.050	8278014
Total Selenium (Se)	mg/kg	N/A	4.34	4.17	4.28	N/A	1.43	1.77	0.50	8278014

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Maxxam ID		OO0552	OO0553	OO0554	OO2416		
Sampling Date							
	UNITS	664235	664236	664237	16-BBDH1 DRILL CUTTINGS PETROGRAPHY	RDL	QC Batch
Elements							
Total Cadmium (Cd)	mg/kg	N/A	N/A	N/A	0.48	0.050	8262727
Total Selenium (Se)	mg/kg	N/A	N/A	N/A	2.4	0.50	8262727
Total Metals by ICPMS							
Total Cadmium (Cd)	mg/kg	1.82	1.80	2.03	N/A	0.050	8278014
Total Selenium (Se)	mg/kg	1.50	2.56	1.51	N/A	0.50	8278014

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B633166
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam Job #: B633166
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8261272	PC5	Matrix Spike	Total Cadmium (Cd)	2016/05/06		98	%	75 - 125
			Total Selenium (Se)	2016/05/06		97	%	75 - 125
8261272	PC5	Spiked Blank	Total Cadmium (Cd)	2016/05/06		98	%	75 - 125
			Total Selenium (Se)	2016/05/06		97	%	75 - 125
8261272	PC5	Method Blank	Total Cadmium (Cd)	2016/05/06	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/06	<0.50		mg/kg	
8261272	PC5	RPD	Total Cadmium (Cd)	2016/05/06	3.5		%	35
			Total Selenium (Se)	2016/05/06	NC		%	35
8262727	PC5	Matrix Spike [OO0545-01]	Total Cadmium (Cd)	2016/05/07		96	%	75 - 125
			Total Selenium (Se)	2016/05/07		99	%	75 - 125
8262727	PC5	Spiked Blank	Total Cadmium (Cd)	2016/05/07		92	%	75 - 125
			Total Selenium (Se)	2016/05/07		94	%	75 - 125
8262727	PC5	Method Blank	Total Cadmium (Cd)	2016/05/07	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/07	<0.50		mg/kg	
8262727	PC5	RPD [OO0545-01]	Total Cadmium (Cd)	2016/05/07	0.072		%	35
			Total Selenium (Se)	2016/05/07	14		%	35
8276850	DJ	Matrix Spike	Total Cadmium (Cd)	2016/05/24		99	%	75 - 125
			Total Selenium (Se)	2016/05/24		97	%	75 - 125
8276850	DJ	QC Standard	Total Cadmium (Cd)	2016/05/24		113	%	70 - 130
8276850	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/24		98	%	75 - 125
			Total Selenium (Se)	2016/05/24		99	%	75 - 125
8276850	DJ	Method Blank	Total Cadmium (Cd)	2016/05/24	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/24	<0.50		mg/kg	
8276850	DJ	RPD	Total Cadmium (Cd)	2016/05/24	NC		%	30
			Total Selenium (Se)	2016/05/24	NC		%	30
8278014	DJ	Matrix Spike	Total Cadmium (Cd)	2016/05/25		97	%	75 - 125
			Total Selenium (Se)	2016/05/25		95	%	75 - 125
8278014	DJ	QC Standard	Total Cadmium (Cd)	2016/05/25		115	%	70 - 130
8278014	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/25		105	%	75 - 125
			Total Selenium (Se)	2016/05/25		108	%	75 - 125
8278014	DJ	Method Blank	Total Cadmium (Cd)	2016/05/25	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/25	<0.50		mg/kg	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam Job #: B633166
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Harry (Peng) Liang, Senior Analyst

Rob Reinert, B.Sc., Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam
A Bureau Veritas Group Company

Your Project #: BINGAY MAIN
Site Location: ELKFORD, BC

Attention:CHARLIE ZHAO

CENTERMOUNT COAL LTD.
1055-1140 WEST PENDER STREET
VANCOUVER, BC
CANADA V6E 4G1

Report Date: 2016/05/31
Report #: R2189398
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B636150
Received: 2016/05/11, 15:46

Sample Matrix: Soil
Samples Received: 62

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICPMS (total)	40	2016/05/13	2016/05/16	BBY7SOP-00017,	BC SALM,EPA 6020bR2m
Elements by ICPMS (total)	22	2016/05/16	2016/05/16	BBY7SOP-00017,	BC SALM,EPA 6020bR2m
Weight of Sample Received (charge/kg)	1	N/A	2016/05/11		
Weight of Sample Received	62	N/A	2016/05/11		

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Shanaz Akbar, Project Manager
Email: SAkbar@maxxam.ca
Phone# (604)639-2618
==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B636150
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		OP5695		OP5696	OP5697	OP5698	
Sampling Date							
	UNITS	2010-18A 664330	QC Batch	2010-18A 664329	2010-18A 664298	2010-18A 644299	QC Batch
Industrial							
Dry Weight	kg	111.9	8266877	1.570	2.756	1.880	8266869

Maxxam ID		OP5699	OP5700	OP5701	OP5702	OP5703	
Sampling Date							
	UNITS	2010-18A 664293	2010-18A 664311	2010-18A 644322	2010-18A 664333	2010-18A 664310	QC Batch
Industrial							
Dry Weight	kg	2.571	2.162	1.784	2.845	2.663	8266869

Maxxam ID		OP5704	OP5705	OP5706	OP5707	OP5708	
Sampling Date							
	UNITS	2010-18A 664325	2010-18A 664309	2010-18A 664319	2010-18A 664308	2010-18A 664331	QC Batch
Industrial							
Dry Weight	kg	1.932	2.007	1.567	1.617	1.699	8266869

Maxxam ID		OP5709	OP5710	OP5711	OP5712	OP5713	
Sampling Date							
	UNITS	2010-18A 664324	2010-18A 664323	2010-18A 664332	2010-18A 664313	2010-18A 664314	QC Batch
Industrial							
Dry Weight	kg	1.737	1.952	2.061	1.926	2.162	8266869

Maxxam ID		OP5714	OP5715	OP5716	OP5717	OP5718	
Sampling Date							
	UNITS	2010-18A 664326	2010-18A 664318	2010-18A 664295	2010-18A 664328	2010-18A 664327	QC Batch
Industrial							
Dry Weight	kg	2.028	1.677	1.583	2.112	1.679	8266869

Maxxam ID		OP5719	OP5720	OP5721	OP5722	OP5723	
Sampling Date							
	UNITS	2010-18A 664315	2010-18A 664320	2010-18A 664317	2010-18A 664321	2010-18A 664294	QC Batch
Industrial							
Dry Weight	kg	1.762	1.910	2.386	1.413	1.608	8266869

Maxxam ID		OP5724	OP5725	OP5726	OP5727	OP5728	
Sampling Date							
	UNITS	2010-18A 664300	2010-18A 664316	2010-18A 664305	2010-18A 664307	2010-18A 664296	QC Batch
Industrial							
Dry Weight	kg	1.880	2.020	1.219	2.526	1.888	8266869

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B636150
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		OP5729	OP5730	OP5731	OP5732	OP5733	
Sampling Date							
	UNITS	2010-18A 664312	2010-18A 664306	2010-18A 664297	2010-18A 664304	2010-39A 664345	QC Batch
Industrial							
Dry Weight	kg	1.746	2.367	2.150	1.779	1.217	8266869

Maxxam ID		OP5734	OP5735	OP5737	OP5738	OP5739	
Sampling Date							
	UNITS	2010-39A 664350	2010-39A 664346	2010-39A 664347	2010-39A 664348	2010-39A 664344	QC Batch
Industrial							
Dry Weight	kg	1.655	2.910	1.985	1.776	2.474	8266869

Maxxam ID		OP5740	OP5742	OP5743	OP5744	OP5745	
Sampling Date							
	UNITS	2010-39A 664349	2010-39A 664342	2010-39A 664341	2010-39A 664343	2010-39A 664340	QC Batch
Industrial							
Dry Weight	kg	1.612	2.671	2.002	1.333	1.778	8266869

Maxxam ID		OP5746	OP5748	OP5749	OP5750	OP5752	
Sampling Date							
	UNITS	16-BMD03 664334	16-BMD03 664335	16-BMD03 664336	16-BMD03 664337	16-BMD03 664338	QC Batch
Industrial							
Dry Weight	kg	1.027	1.178	1.355	1.384	1.222	8266869

Maxxam ID		OP5753	OP5755	OP5756	OP5757	OP5759	
Sampling Date							
	UNITS	16-BMD03 664339	16-BMD04 664273	16-BMD04 664275	16-BMD04 664276	16-BMD04 664277	QC Batch
Industrial							
Dry Weight	kg	1.735	1.009	1.241	0.9980	1.547	8266869

Maxxam ID		OP5760	OP5761	OP5762	
Sampling Date					
	UNITS	16-BMD04 664278	16-BMD04 664279	16-BMD04 664280	QC Batch
Industrial					
Dry Weight	kg	1.375	0.9070	1.084	8266869

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B636150
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OP5695		OP5696		OP5697		
Sampling Date								
	UNITS	2010-18A 664330	QC Batch	2010-18A 664329	QC Batch	2010-18A 664298	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	0.931	8269999	2.39	8269091	2.19	0.050	8269115
Total Selenium (Se)	mg/kg	<0.50	8269999	0.81	8269091	1.62	0.50	8269115
RDL = Reportable Detection Limit								

Maxxam ID		OP5698	OP5698		OP5699		OP5700		
Sampling Date									
	UNITS	2010-18A 644299	2010-18A 644299 Lab-Dup	QC Batch	2010-18A 664293	QC Batch	2010-18A 664311	RDL	QC Batch
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	0.240	0.203	8269091	2.03	8269115	0.981	0.050	8269999
Total Selenium (Se)	mg/kg	1.06	1.03	8269091	1.13	8269115	0.65	0.50	8269999
RDL = Reportable Detection Limit									
Lab-Dup = Laboratory Initiated Duplicate									

Maxxam ID		OP5701	OP5702	OP5702		OP5703		
Sampling Date								
	UNITS	2010-18A 644322	2010-18A 664333	2010-18A 664333 Lab-Dup	QC Batch	2010-18A 664310	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	3.42	1.61	1.63	8269115	0.951	0.050	8270089
Total Selenium (Se)	mg/kg	2.10	1.51	1.46	8269115	0.61	0.50	8270089
RDL = Reportable Detection Limit								
Lab-Dup = Laboratory Initiated Duplicate								

Maxxam ID		OP5704		OP5705		OP5706	OP5707		
Sampling Date									
	UNITS	2010-18A 664325	QC Batch	2010-18A 664309	QC Batch	2010-18A 664319	2010-18A 664308	RDL	QC Batch
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	2.60	8269115	1.83	8269091	1.78	2.25	0.050	8269115
Total Selenium (Se)	mg/kg	1.88	8269115	1.62	8269091	0.66	3.61	0.50	8269115
RDL = Reportable Detection Limit									

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B636150
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OP5708		OP5709	OP5710		OP5711		
Sampling Date									
	UNITS	2010-18A 664331	QC Batch	2010-18A 664324	2010-18A 664323	QC Batch	2010-18A 664332	RDL	QC Batch
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	2.17	8269091	1.37	5.17	8269115	1.69	0.050	8269091
Total Selenium (Se)	mg/kg	2.32	8269091	0.60	2.95	8269115	1.83	0.50	8269091
RDL = Reportable Detection Limit									

Maxxam ID		OP5712	OP5713	OP5714	OP5715	OP5716		
Sampling Date								
	UNITS	2010-18A 664313	2010-18A 664314	2010-18A 664326	2010-18A 664318	2010-18A 664295	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	3.59	1.79	0.610	0.833	1.17	0.050	8269115
Total Selenium (Se)	mg/kg	5.19	1.68	0.61	0.97	0.66	0.50	8269115
RDL = Reportable Detection Limit								

Maxxam ID		OP5717		OP5718	OP5719	OP5720		
Sampling Date								
	UNITS	2010-18A 664328	QC Batch	2010-18A 664327	2010-18A 664315	2010-18A 664320	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	1.27	8269999	1.26	1.53	0.391	0.050	8269091
Total Selenium (Se)	mg/kg	0.63	8269999	0.73	0.54	<0.50	0.50	8269091
RDL = Reportable Detection Limit								

Maxxam ID		OP5721		OP5722	OP5722		OP5723		
Sampling Date									
	UNITS	2010-18A 664317	QC Batch	2010-18A 664321	2010-18A 664321 Lab-Dup	QC Batch	2010-18A 664294	RDL	QC Batch
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	0.438	8269115	1.89	1.93	8269999	0.498	0.050	8269091
Total Selenium (Se)	mg/kg	<0.50	8269115	1.96	1.93	8269999	<0.50	0.50	8269091
RDL = Reportable Detection Limit									
Lab-Dup = Laboratory Initiated Duplicate									

Maxxam ID		OP5724	OP5725		OP5726	OP5727		
Sampling Date								
	UNITS	2010-18A 664300	2010-18A 664316	QC Batch	2010-18A 664305	2010-18A 664307	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	0.659	0.563	8269091	0.605	0.694	0.050	8270089
Total Selenium (Se)	mg/kg	0.51	<0.50	8269091	<0.50	<0.50	0.50	8270089
RDL = Reportable Detection Limit								

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B636150
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OP5728		OP5729		OP5730		
Sampling Date								
	UNITS	2010-18A 664296	QC Batch	2010-18A 664312	QC Batch	2010-18A 664306	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	1.11	8269999	0.468	8270089	0.467	0.050	8269999
Total Selenium (Se)	mg/kg	1.12	8269999	<0.50	8270089	<0.50	0.50	8269999
RDL = Reportable Detection Limit								

Maxxam ID		OP5731	OP5732		OP5733		OP5734		
Sampling Date									
	UNITS	2010-18A 664297	2010-18A 664304	QC Batch	2010-39A 664345	QC Batch	2010-39A 664350	RDL	QC Batch
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	1.33	0.458	8269115	1.10	8269091	2.79	0.050	8269999
Total Selenium (Se)	mg/kg	3.02	<0.50	8269115	1.01	8269091	1.71	0.50	8269999
RDL = Reportable Detection Limit									

Maxxam ID		OP5735	OP5737		OP5738		OP5739		
Sampling Date									
	UNITS	2010-39A 664346	2010-39A 664347	QC Batch	2010-39A 664348	QC Batch	2010-39A 664344	RDL	QC Batch
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	2.73	1.89	8269999	2.44	8270089	0.769	0.050	8269115
Total Selenium (Se)	mg/kg	0.64	1.73	8269999	1.97	8270089	0.93	0.50	8269115
RDL = Reportable Detection Limit									

Maxxam ID		OP5740		OP5742	OP5743		OP5744		
Sampling Date									
	UNITS	2010-39A 664349	QC Batch	2010-39A 664342	2010-39A 664341	QC Batch	2010-39A 664343	RDL	QC Batch
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	2.80	8269115	1.87	1.46	8269091	1.46	0.050	8270089
Total Selenium (Se)	mg/kg	1.97	8269115	1.46	0.77	8269091	1.85	0.50	8270089
RDL = Reportable Detection Limit									

Maxxam ID		OP5745		OP5746		OP5748		
Sampling Date								
	UNITS	2010-39A 664340	QC Batch	16-BMD03 664334	QC Batch	16-BMD03 664335	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	2.06	8269091	0.561	8269999	0.581	0.050	8270089
Total Selenium (Se)	mg/kg	1.53	8269091	<0.50	8269999	<0.50	0.50	8270089
RDL = Reportable Detection Limit								

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B636150
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OP5749		OP5750	OP5752	OP5753		
Sampling Date								
	UNITS	16-BMD03 664336	QC Batch	16-BMD03 664337	16-BMD03 664338	16-BMD03 664339	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	1.13	8269091	1.47	0.768	1.02	0.050	8269999
Total Selenium (Se)	mg/kg	1.43	8269091	1.67	2.32	1.84	0.50	8269999
RDL = Reportable Detection Limit								

Maxxam ID		OP5755	OP5756	OP5757		OP5759		
Sampling Date								
	UNITS	16-BMD04 664273	16-BMD04 664275	16-BMD04 664276	QC Batch	16-BMD04 664277	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	0.611	0.317	1.86	8269091	1.38	0.050	8270089
Total Selenium (Se)	mg/kg	1.12	<0.50	2.22	8269091	0.79	0.50	8270089
RDL = Reportable Detection Limit								

Maxxam ID		OP5760		OP5761		OP5762		
Sampling Date								
	UNITS	16-BMD04 664278	QC Batch	16-BMD04 664279	QC Batch	16-BMD04 664280	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	2.54	8270089	1.48	8269115	0.847	0.050	8269091
Total Selenium (Se)	mg/kg	2.08	8270089	2.68	8269115	<0.50	0.50	8269091
RDL = Reportable Detection Limit								

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B636150
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B636150
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8269091	DJ	Matrix Spike [OP5698-01]	Total Cadmium (Cd)	2016/05/16		101	%	75 - 125
			Total Selenium (Se)	2016/05/16		101	%	75 - 125
8269091	DJ	QC Standard	Total Cadmium (Cd)	2016/05/16		122	%	70 - 130
8269091	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/16		102	%	75 - 125
			Total Selenium (Se)	2016/05/16		102	%	75 - 125
8269091	DJ	Method Blank	Total Cadmium (Cd)	2016/05/16	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/16	<0.50		mg/kg	
8269091	DJ	RPD [OP5698-01]	Total Cadmium (Cd)	2016/05/16	NC		%	30
			Total Selenium (Se)	2016/05/16	NC		%	30
8269115	DJ	Matrix Spike [OP5702-01]	Total Cadmium (Cd)	2016/05/16		102	%	75 - 125
			Total Selenium (Se)	2016/05/16		96	%	75 - 125
8269115	DJ	QC Standard	Total Cadmium (Cd)	2016/05/16		115	%	70 - 130
8269115	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/16		103	%	75 - 125
			Total Selenium (Se)	2016/05/16		101	%	75 - 125
8269115	DJ	Method Blank	Total Cadmium (Cd)	2016/05/16	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/16	<0.50		mg/kg	
8269115	DJ	RPD [OP5702-01]	Total Cadmium (Cd)	2016/05/16	1.1		%	30
			Total Selenium (Se)	2016/05/16	NC		%	30
8269999	DJ	Matrix Spike [OP5722-01]	Total Cadmium (Cd)	2016/05/16		99	%	75 - 125
			Total Selenium (Se)	2016/05/16		97	%	75 - 125
8269999	DJ	QC Standard	Total Cadmium (Cd)	2016/05/16		107	%	70 - 130
8269999	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/16		96	%	75 - 125
			Total Selenium (Se)	2016/05/16		99	%	75 - 125
8269999	DJ	Method Blank	Total Cadmium (Cd)	2016/05/16	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/16	<0.50		mg/kg	
8269999	DJ	RPD [OP5722-01]	Total Cadmium (Cd)	2016/05/16	2.2		%	30
			Total Selenium (Se)	2016/05/16	NC		%	30
8270089	DJ	Matrix Spike	Total Cadmium (Cd)	2016/05/16		102	%	75 - 125
			Total Selenium (Se)	2016/05/16		99	%	75 - 125
8270089	DJ	QC Standard	Total Cadmium (Cd)	2016/05/16		107	%	70 - 130
8270089	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/16		102	%	75 - 125
			Total Selenium (Se)	2016/05/16		101	%	75 - 125
8270089	DJ	Method Blank	Total Cadmium (Cd)	2016/05/16	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/16	<0.50		mg/kg	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B636150
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Andy Lu, Ph.D., P.Chem., Scientific Specialist

Rob Reinert, B.Sc., Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Your Project #: BINGAY MAIN
Site Location: ELKFORD, BC

Attention:CHARLIE ZHAO

CENTERMOUNT COAL LTD.
1055-1140 WEST PENDER STREET
VANCOUVER, BC
CANADA V6E 4G1

Report Date: 2016/05/31
Report #: R2189005
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B636148
Received: 2016/05/11, 15:18

Sample Matrix: Soil
Samples Received: 222

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICPMS (total)	20	2016/05/17	2016/05/17	BBY7SOP-00017,	BC SALM,EPA 6020bR2m
Elements by ICPMS (total)	35	2016/05/17	2016/05/18	BBY7SOP-00017,	BC SALM,EPA 6020bR2m
Elements by ICPMS (total)	59	2016/05/18	2016/05/19	BBY7SOP-00017,	BC SALM,EPA 6020bR2m
Elements by ICPMS (total)	1	2016/05/18	2016/05/20	BBY7SOP-00017,	BC SALM,EPA 6020bR2m
Elements by ICPMS (total)	60	2016/05/19	2016/05/20	BBY7SOP-00017,	BC SALM,EPA 6020bR2m
Elements by ICPMS (total)	33	2016/05/20	2016/05/24	BBY7SOP-00017,	BC SALM,EPA 6020bR2m
Weight of Sample Received (charge/kg)	1	N/A	2016/05/25		
Weight of Sample Received	222	N/A	2016/05/25		

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Shanaz Akbar, Project Manager
Email: SAkbar@maxxam.ca
Phone# (604)639-2618
==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		OP5465		OP5466	OP5467	OP5468	OP5469	
Sampling Date								
	UNITS	2010-18A 0051	QC Batch	2010-18A 0052	2010-39A 0202	2010-39A 0203	2010-39A 0204	QC Batch
Industrial								
Dry Weight	kg	355.0	8278990	1.516	2.093	2.073	2.365	8278896

Maxxam ID		OP5470	OP5471	OP5472	OP5473	OP5474	OP5475	
Sampling Date								
	UNITS	2010-39A 0205	2010-39A 0206	2010-39A 0207	2010-39A 0208	2010-39A 0209	2010-39A 0210	QC Batch
Industrial								
Dry Weight	kg	1.887	1.599	1.479	1.677	1.558	1.424	8278896

Maxxam ID		OP5476	OP5477	OP5478	OP5479	OP5480	OP5481	
Sampling Date								
	UNITS	2010-39A 0201	2010-39A 0212	2010-39A 0213	2010-39A 0214	2010-39A 0215	2010-39A 0216	QC Batch
Industrial								
Dry Weight	kg	2.037	1.818	1.970	1.355	1.545	2.119	8278896

Maxxam ID		OP5482	OP5483	OP5484	OP5485	OP5486	OP5487	
Sampling Date								
	UNITS	2010-39A 0217	2010-39A 0218	2010-39A 0219	2010-39A 0220	2010-39A 0221	2010-39A 0222	QC Batch
Industrial								
Dry Weight	kg	1.723	2.827	2.459	2.461	1.513	1.919	8278896

Maxxam ID		OP5488	OP5489	OP5490	OP5491	OP5492	OP5493	
Sampling Date								
	UNITS	2010-39A 0223	2010-39A 0224	2010-39A 0225	2010-39A 0226	2010-39A 0227	2010-39A 0228	QC Batch
Industrial								
Dry Weight	kg	2.157	1.730	1.457	1.105	2.065	2.176	8278896

Maxxam ID		OP5494	OP5495	OP5496	OP5497	OP5498	OP5499	
Sampling Date								
	UNITS	2010-39A 0229	2010-39A 0230	2010-39A 0231	2010-39A 0082	2010-39A 0083	2010-39A 0084	QC Batch
Industrial								
Dry Weight	kg	2.189	1.695	1.251	1.911	2.762	2.285	8278896

Maxxam ID		OP5500	OP5501	OP5502	OP5503	OP5504	OP5505	
Sampling Date								
	UNITS	2010-39A 0085	2010-39A 0086	2010-39A 0087	2010-39A 0088	2010-39A 0089	2010-39A 0090	QC Batch
Industrial								
Dry Weight	kg	2.245	1.794	1.850	1.857	2.456	1.473	8278896

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		OP5506	OP5507	OP5508	OP5509	OP5510	OP5511	
Sampling Date								
	UNITS	2010-39A 0091	2010-39A 0097	2010-39A 0092	2010-39A 0093	2010-39A 0094	2010-39A 0095	QC Batch
Industrial								
Dry Weight	kg	1.428	2.380	1.513	1.903	2.363	1.559	8278896

Maxxam ID		OP5512	OP5513	OP5514	OP5515	OP5516	OP5517	
Sampling Date								
	UNITS	2010-39A 0096	2010-39A 0098	2010-39A 0099	2010-39A 0100	2010-39A 0151	2010-39A 0152	QC Batch
Industrial								
Dry Weight	kg	1.681	2.288	1.467	1.291	2.228	2.331	8278896

Maxxam ID		OP5518	OP5519	OP5520	OP5521	OP5522	OP5523	
Sampling Date								
	UNITS	2010-39A 0153	2010-39A 0154	2010-39A 0155	2010-39A 0156	2010-39A 0157	2010-39A 0158	QC Batch
Industrial								
Dry Weight	kg	2.245	1.617	1.934	1.922	2.245	1.708	8278896

Maxxam ID		OP5524	OP5525	OP5526	OP5527	OP5528	OP5529	
Sampling Date								
	UNITS	2010-39A 0159	2010-39A 0162	2010-39A 0163	2010-39A 0164	2010-39A 0165	2010-39A 0166	QC Batch
Industrial								
Dry Weight	kg	1.458	2.138	2.200	2.245	1.811	1.344	8278896

Maxxam ID		OP5530	OP5531	OP5532	OP5533	OP5534	OP5535	
Sampling Date								
	UNITS	2010-39A 0167	2010-39A 0168	2010-39A 0169	2010-39A 0170	2010-39A 0171	2010-39A 0173	QC Batch
Industrial								
Dry Weight	kg	1.661	1.872	2.287	1.751	2.305	2.230	8278896

Maxxam ID		OP5536	OP5537	OP5538	OP5539	OP5540	OP5541	
Sampling Date								
	UNITS	2010-39A 0174	2010-39A 0175	2010-39A 0176	2010-39A 0177	2010-39A 0178	2010-39A 0179	QC Batch
Industrial								
Dry Weight	kg	2.053	2.285	1.496	1.638	1.806	1.863	8278896

Maxxam ID		OP5542	OP5543	OP5544	OP5545	OP5546	OP5547	
Sampling Date								
	UNITS	2010-39A 0180	2010-39A 0181	2010-39A 0182	2010-39A 0183	2010-39A 0184	2010-39A 0191	QC Batch
Industrial								
Dry Weight	kg	1.596	2.252	1.900	1.493	1.469	1.840	8278896

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		OP5548	OP5549	OP5550	OP5551	OP5552	OP5553	
Sampling Date								
	UNITS	2010-39A 0197	2010-39A 0198	2010-39A 0199	2010-39A 0186	2010-39A 0192	2010-39A 0193	QC Batch
Industrial								
Dry Weight	kg	2.171	1.993	2.044	1.551	1.978	1.663	8278896

Maxxam ID		OP5554	OP5555	OP5556	OP5557	OP5558	OP5559	
Sampling Date								
	UNITS	2010-39A 0185	2010-39A 0187	2010-39A 0188	2010-39A 0189	2010-39A 0190	2010-39A 0161	QC Batch
Industrial								
Dry Weight	kg	1.738	2.415	2.197	1.832	1.594	1.760	8278896

Maxxam ID		OP5560	OP5561	OP5562	OP5563	OP5564	OP5565	
Sampling Date								
	UNITS	2010-39A 0238	2010-39A 0239	2010-39A 0240	2010-39A 0241	2010-39A 0242	2010-39A 0243	QC Batch
Industrial								
Dry Weight	kg	2.058	1.798	2.781	2.137	1.703	1.373	8278896

Maxxam ID		OP5566	OP5567	OP5568	OP5569	OP5570	OP5571	
Sampling Date								
	UNITS	2010-39A 0232	2010-39A 0233	2010-39A 0234	2010-39A 0160	2010-39A 0235	2010-39A 0194	QC Batch
Industrial								
Dry Weight	kg	2.103	1.692	1.692	1.838	2.329	1.392	8278896

Maxxam ID		OP5572	OP5573	OP5574	OP5575	OP5576	OP5577	
Sampling Date								
	UNITS	2010-39A 0237	2010-39A 0236	2010-39A 0200	2010-63V 0102	2010-63V 0123	2010-63V 0121	QC Batch
Industrial								
Dry Weight	kg	1.844	1.663	1.811	2.100	1.485	1.461	8278896

Maxxam ID		OP5578	OP5579	OP5580		OP5581	OP5582	
Sampling Date								
	UNITS	2010-63V 0131	2010-63V 0050	2010-63V 0124	QC Batch	2010-63V 0129	2010-63V 0132	QC Batch
Industrial								
Dry Weight	kg	1.476	1.277	1.105	8278896	1.617	1.375	8278911

Maxxam ID		OP5583	OP5584	OP5585	OP5586	OP5587	OP5588	
Sampling Date								
	UNITS	2010-63V 0019	2010-63V 0130	2010-63V 0014	2010-63V 0018	2010-63V 0127	2010-63V 0015	QC Batch
Industrial								
Dry Weight	kg	1.038	1.495	1.380	0.9290	1.546	1.165	8278911

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		OP5589	OP5590	OP5591	OP5592	OP5593	OP5594	
Sampling Date								
	UNITS	2010-63V 0122	2010-63V 0126	2010-63V 0110	2010-63V 0113	2010-63V 0038	2010-63V 0107	QC Batch
Industrial								
Dry Weight	kg	1.745	1.423	1.961	1.326	1.153	1.737	8278911

Maxxam ID		OP5595	OP5596	OP5597	OP5598	OP5599	OP5600	
Sampling Date								
	UNITS	2010-63V 0105	2010-63V 0045	2010-63V 0101	2010-63V 0049	2010-63V 0114	2010-63V 0112	QC Batch
Industrial								
Dry Weight	kg	1.792	1.810	1.319	1.217	1.103	1.002	8278911

Maxxam ID		OP5601	OP5602	OP5603	OP5604	OP5605	OP5606	
Sampling Date								
	UNITS	2010-63V 0104	2010-63V 0106	2010-63V 0039	2010-63V 0046	2010-63V 0108	2010-63V 0115	QC Batch
Industrial								
Dry Weight	kg	1.659	1.253	1.402	1.502	1.150	1.701	8278911

Maxxam ID		OP5607	OP5608	OP5609	OP5610	OP5611	OP5612	
Sampling Date								
	UNITS	2010-63V 0137	2010-63V 0134	2010-63V 0044	2010-63V 0128	2010-63V 0133	2010-63V 0136	QC Batch
Industrial								
Dry Weight	kg	1.524	1.236	1.149	1.408	1.231	1.294	8278911

Maxxam ID		OP5613	OP5614	OP5615	OP5616	OP5617	OP5618	
Sampling Date								
	UNITS	2010-63V 0043	2010-63V 0036	2010-63V 0111	2010-63V 0109	2010-63V 0047	2010-63V 0048	QC Batch
Industrial								
Dry Weight	kg	1.287	1.567	1.186	1.534	1.468	1.293	8278911

Maxxam ID		OP5619	OP5620	OP5621	OP5622	OP5623	OP5624	
Sampling Date								
	UNITS	2010-63V 0135	2010-63V 0040	2010-63V 0120	2010-63V 0118	2010-63V 0116	2010-63V 0119	QC Batch
Industrial								
Dry Weight	kg	1.353	1.262	1.721	1.402	1.763	1.885	8278911

Maxxam ID		OP5625	OP5626	OP5627	OP5628	OP5629	OP5630	
Sampling Date								
	UNITS	2010-63V 0117	2010-63V 0037	2010-63V 0042	2010-63V 0041	2010-63V 0103	2010-63V 0016	QC Batch
Industrial								
Dry Weight	kg	1.421	1.434	1.453	1.432	1.716	1.475	8278911

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		OP5631	OP5632	OP5633	OP5634	OP5635	OP5636	
Sampling Date								
	UNITS	2010-63V 0034	2010-63V 0023	2010-63V 0026	2010-63V 0021	2010-63V 0032	2010-63V 0027	QC Batch
Industrial								
Dry Weight	kg	0.9690	1.234	1.213	1.265	1.623	1.228	8278911

Maxxam ID		OP5637	OP5638	OP5639	OP5640	OP5641	OP5642	
Sampling Date								
	UNITS	2010-63V 0033	2010-63V 0025	2010-63V 0035	2010-63V 0022	2010-63V 0024	2010-63V 0020	QC Batch
Industrial								
Dry Weight	kg	1.164	1.034	1.288	1.363	1.298	0.9940	8278911

Maxxam ID		OP5643	OP5644	OP5645	OP5646	OP5647	
Sampling Date							
	UNITS	2010-63V 0017	16-BMD05 0066	16-BMD05 0067	16-BMD05 0068	16-BMD05 0069	QC Batch
Industrial							
Dry Weight	kg	1.041	1.198	1.731	1.354	1.747	8278911

Maxxam ID		OP5648	OP5649	OP5650	OP5651	OP5652	
Sampling Date							
	UNITS	16-BMD05 0070	16-BMD05 0071	16-BMD05A 0072	16-BMD05A 0073	16-BMD05A 0074	QC Batch
Industrial							
Dry Weight	kg	1.876	1.274	1.244	1.225	1.458	8278911

Maxxam ID		OP5653	OP5654	OP5655	OP5656	OP5657	
Sampling Date							
	UNITS	16-BMD05A 0075	16-BMD05A 0076	16-BMD05A 0077	16-BMD05A 0078	16-BMD05A 0079	QC Batch
Industrial							
Dry Weight	kg	1.062	1.323	1.777	0.9910	0.9910	8278911

Maxxam ID		OP5658	OP5659	OP5660	OP5661	OP5662	
Sampling Date							
	UNITS	16-BMD05A 0080	16-BMD05A 0081	16-BMD06 664281	16-BMD06 0054	16-BMD06 0055	QC Batch
Industrial							
Dry Weight	kg	1.686	1.453	0.4580	1.124	0.9710	8278911

Maxxam ID		OP5663	OP5664	OP5665	OP5666	OP5667	
Sampling Date							
	UNITS	16-BMD06 0056	16-BMD06 0057	16-BMD06 0058	16-BMD06 0059	16-BMD08 664216	QC Batch
Industrial							
Dry Weight	kg	1.451	1.016	1.036	0.8740	1.562	8278911

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		OP5668	OP5669	OP5670	OP5671	OP5672	
Sampling Date							
	UNITS	16-BMD08 664217	16-BMD08 664218	16-BMD08 664219	16-BMD08 664220	16-BMD08 664221	QC Batch
Industrial							
Dry Weight	kg	1.548	1.876	0.9550	1.536	0.6270	8278911

Maxxam ID		OP5673	OP5674	OP5675	OP5676	OP5677	
Sampling Date							
	UNITS	16-BMD08 664222	16-BMD08 664223	16-BMD08 664249	16-BMD08 664250	16-BMD08 664251	QC Batch
Industrial							
Dry Weight	kg	0.7140	0.9470	1.412	0.6130	0.8770	8278911

Maxxam ID		OP5678	OP5679	OP5680	OP5681	OP5682	
Sampling Date							
	UNITS	16-BMD08 664252	16-BMD08 664253	16-BMD08 664254	16-BMD08 0060	16-BMD08 0061	QC Batch
Industrial							
Dry Weight	kg	0.7480	0.5130	1.031	1.373	1.186	8278911

Maxxam ID		OP5683	OP5684	OP5685	OP5686	
Sampling Date						
	UNITS	16-BMD08 0062	16-BMD08 0063	16-BMD08 0064	16-BMD08 0065	QC Batch
Industrial						
Dry Weight	kg	1.024	1.025	0.7620	1.180	8278911

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OP5465	OP5465	OP5466	OP5467	OP5468		
Sampling Date								
	UNITS	2010-18A 0051	2010-18A 0051 Lab-Dup	2010-18A 0052	2010-39A 0202	2010-39A 0203	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	0.763	0.670	0.747	1.43	3.60	0.050	8271170
Total Selenium (Se)	mg/kg	<0.50	<0.50	<0.50	<0.50	3.49	0.50	8271170
RDL = Reportable Detection Limit								
Lab-Dup = Laboratory Initiated Duplicate								

Maxxam ID		OP5469	OP5470	OP5471	OP5472	OP5473		
Sampling Date								
	UNITS	2010-39A 0204	2010-39A 0205	2010-39A 0206	2010-39A 0207	2010-39A 0208	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	4.44	1.92	2.07	2.48	3.47	0.050	8271170
Total Selenium (Se)	mg/kg	2.12	4.76	1.69	1.78	2.81	0.50	8271170
RDL = Reportable Detection Limit								

Maxxam ID		OP5474	OP5475	OP5476	OP5477	OP5478		
Sampling Date								
	UNITS	2010-39A 0209	2010-39A 0210	2010-39A 0201	2010-39A 0212	2010-39A 0213	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	2.47	2.48	3.11	0.630	0.517	0.050	8271170
Total Selenium (Se)	mg/kg	2.29	2.73	4.11	0.94	1.62	0.50	8271170
RDL = Reportable Detection Limit								

Maxxam ID		OP5479	OP5480	OP5481	OP5482	OP5483		
Sampling Date								
	UNITS	2010-39A 0214	2010-39A 0215	2010-39A 0216	2010-39A 0217	2010-39A 0218	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	1.29	0.942	2.02	1.38	0.939	0.050	8271170
Total Selenium (Se)	mg/kg	1.58	<0.50	1.93	1.46	0.73	0.50	8271170
RDL = Reportable Detection Limit								

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OP5484		OP5485	OP5485	OP5486	OP5487		
Sampling Date									
	UNITS	2010-39A 0219	QC Batch	2010-39A 0220	2010-39A 0220 Lab-Dup	2010-39A 0221	2010-39A 0222	RDL	QC Batch
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	2.14	8271170	1.38	1.33	1.29	1.28	0.050	8271177
Total Selenium (Se)	mg/kg	2.13	8271170	1.68	1.61	1.73	1.95	0.50	8271177
RDL = Reportable Detection Limit									
Lab-Dup = Laboratory Initiated Duplicate									

Maxxam ID		OP5488	OP5489	OP5490	OP5491	OP5492		
Sampling Date								
	UNITS	2010-39A 0223	2010-39A 0224	2010-39A 0225	2010-39A 0226	2010-39A 0227	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	1.16	1.22	1.04	5.47	5.37	0.050	8271177
Total Selenium (Se)	mg/kg	1.56	2.54	3.29	12.9	3.46	0.50	8271177
RDL = Reportable Detection Limit								

Maxxam ID		OP5493	OP5494	OP5495	OP5496	OP5497		
Sampling Date								
	UNITS	2010-39A 0228	2010-39A 0229	2010-39A 0230	2010-39A 0231	2010-39A 0082	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	3.30	4.93	3.37	2.23	0.849	0.050	8271177
Total Selenium (Se)	mg/kg	4.35	6.09	3.93	1.93	1.57	0.50	8271177
RDL = Reportable Detection Limit								

Maxxam ID		OP5498	OP5499	OP5500	OP5501	OP5502		
Sampling Date								
	UNITS	2010-39A 0083	2010-39A 0084	2010-39A 0085	2010-39A 0086	2010-39A 0087	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	0.427	1.77	1.55	1.97	1.17	0.050	8271177
Total Selenium (Se)	mg/kg	0.53	1.93	1.98	3.96	1.74	0.50	8271177
RDL = Reportable Detection Limit								

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OP5503	OP5504		OP5505	OP5505	OP5506		
Sampling Date									
	UNITS	2010-39A 0088	2010-39A 0089	QC Batch	2010-39A 0090	2010-39A 0090 Lab-Dup	2010-39A 0091	RDL	QC Batch
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	1.21	1.28	8271177	0.061	0.058	1.17	0.050	8271199
Total Selenium (Se)	mg/kg	1.51	1.89	8271177	<0.50	<0.50	1.39	0.50	8271199
RDL = Reportable Detection Limit									
Lab-Dup = Laboratory Initiated Duplicate									

Maxxam ID		OP5507	OP5508	OP5509	OP5510	OP5511		
Sampling Date								
	UNITS	2010-39A 0097	2010-39A 0092	2010-39A 0093	2010-39A 0094	2010-39A 0095	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	1.90	2.06	2.79	2.12	1.56	0.050	8271199
Total Selenium (Se)	mg/kg	2.41	4.65	2.96	1.13	3.43	0.50	8271199
RDL = Reportable Detection Limit								

Maxxam ID		OP5512	OP5513	OP5514	OP5515	OP5516		
Sampling Date								
	UNITS	2010-39A 0096	2010-39A 0098	2010-39A 0099	2010-39A 0100	2010-39A 0151	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	1.77	0.904	0.860	2.94	1.95	0.050	8271199
Total Selenium (Se)	mg/kg	2.63	1.09	1.03	6.61	3.19	0.50	8271199
RDL = Reportable Detection Limit								

Maxxam ID		OP5517	OP5518	OP5519		OP5520	OP5520		
Sampling Date									
	UNITS	2010-39A 0152	2010-39A 0153	2010-39A 0154	QC Batch	2010-39A 0155	2010-39A 0155 Lab-Dup	RDL	QC Batch
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	3.27	2.68	2.04	8271199	1.71	1.82	0.050	8273114
Total Selenium (Se)	mg/kg	0.74	2.12	1.58	8271199	1.04 (1)	1.16	0.50	8273114
RDL = Reportable Detection Limit									
Lab-Dup = Laboratory Initiated Duplicate									
(1) Matrix Spike exceeds acceptance limit for Ti due to matrix interference. Reanalysis yields similar results.									

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OP5521	OP5522	OP5523	OP5524	OP5525		
Sampling Date								
	UNITS	2010-39A 0156	2010-39A 0157	2010-39A 0158	2010-39A 0159	2010-39A 0162	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	2.42	2.33	1.41	1.65	3.12	0.050	8273114
Total Selenium (Se)	mg/kg	1.85	1.37	1.01	1.24	2.60	0.50	8273114
RDL = Reportable Detection Limit								

Maxxam ID		OP5526	OP5527	OP5528	OP5529	OP5530		
Sampling Date								
	UNITS	2010-39A 0163	2010-39A 0164	2010-39A 0165	2010-39A 0166	2010-39A 0167	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	1.32	1.97	2.89	1.58	0.943	0.050	8273114
Total Selenium (Se)	mg/kg	0.62	2.15	5.43	2.39	0.67	0.50	8273114
RDL = Reportable Detection Limit								

Maxxam ID		OP5531	OP5532	OP5533	OP5534	OP5535		
Sampling Date								
	UNITS	2010-39A 0168	2010-39A 0169	2010-39A 0170	2010-39A 0171	2010-39A 0173	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	1.15	1.63	1.28	1.05	1.00	0.050	8273114
Total Selenium (Se)	mg/kg	0.79	1.49	0.76	0.77	1.12	0.50	8273114
RDL = Reportable Detection Limit								

Maxxam ID		OP5536	OP5537	OP5538	OP5539		OP5540		
Sampling Date									
	UNITS	2010-39A 0174	2010-39A 0175	2010-39A 0176	2010-39A 0177	QC Batch	2010-39A 0178	RDL	QC Batch
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	1.49	1.57	1.19	1.09	8273114	0.895	0.050	8273207
Total Selenium (Se)	mg/kg	1.55	2.62	1.74	1.14	8273114	0.71 (1)	0.50	8273207
RDL = Reportable Detection Limit									
(1) Matrix Spike exceeds acceptance limit for Ti due to matrix interference. Reanalysis yields similar results.									

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OP5540	OP5541	OP5542	OP5543	OP5544		
Sampling Date								
	UNITS	2010-39A 0178 Lab-Dup	2010-39A 0179	2010-39A 0180	2010-39A 0181	2010-39A 0182	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	0.945	1.19	0.836	0.986	1.22	0.050	8273207
Total Selenium (Se)	mg/kg	0.67	1.38	<0.50	0.90	0.81	0.50	8273207
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate								

Maxxam ID		OP5545	OP5546	OP5547	OP5548	OP5549		
Sampling Date								
	UNITS	2010-39A 0183	2010-39A 0184	2010-39A 0191	2010-39A 0197	2010-39A 0198	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	1.55	2.06	2.99	0.936	2.53	0.050	8273207
Total Selenium (Se)	mg/kg	2.92	4.71	1.15	<0.50	2.41	0.50	8273207
RDL = Reportable Detection Limit								

Maxxam ID		OP5550	OP5551	OP5552	OP5553	OP5554		
Sampling Date								
	UNITS	2010-39A 0199	2010-39A 0186	2010-39A 0192	2010-39A 0193	2010-39A 0185	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	0.939	1.27	1.23	2.24	2.23	0.050	8273207
Total Selenium (Se)	mg/kg	0.61	0.56	0.67	1.35	1.16	0.50	8273207
RDL = Reportable Detection Limit								

Maxxam ID		OP5555	OP5556	OP5557	OP5558	OP5559		
Sampling Date								
	UNITS	2010-39A 0187	2010-39A 0188	2010-39A 0189	2010-39A 0190	2010-39A 0161	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	3.77	2.19	2.35	2.38	2.43	0.050	8273207
Total Selenium (Se)	mg/kg	2.55	2.79	1.33	2.88	2.83	0.50	8273207
RDL = Reportable Detection Limit								

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OP5560	OP5560	OP5561	OP5562	OP5563		
Sampling Date								
	UNITS	2010-39A 0238	2010-39A 0238 Lab-Dup	2010-39A 0239	2010-39A 0240	2010-39A 0241	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	2.75	2.72	1.47	1.94	1.78	0.050	8273214
Total Selenium (Se)	mg/kg	3.14	3.08	0.84	1.59	1.44	0.50	8273214
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate								

Maxxam ID		OP5564	OP5565	OP5566	OP5567	OP5568		
Sampling Date								
	UNITS	2010-39A 0242	2010-39A 0243	2010-39A 0232	2010-39A 0233	2010-39A 0234	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	0.989	1.54	1.51	1.73	2.74	0.050	8273214
Total Selenium (Se)	mg/kg	0.72	0.78	0.60	0.96	2.95	0.50	8273214
RDL = Reportable Detection Limit								

Maxxam ID		OP5569	OP5570	OP5571	OP5572	OP5573		
Sampling Date								
	UNITS	2010-39A 0160	2010-39A 0235	2010-39A 0194	2010-39A 0237	2010-39A 0236	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	2.25	0.869	2.42	2.07	2.05	0.050	8273214
Total Selenium (Se)	mg/kg	1.84	<0.50	2.72	1.35	1.12	0.50	8273214
RDL = Reportable Detection Limit								

Maxxam ID		OP5574	OP5575	OP5576	OP5577	OP5578		
Sampling Date								
	UNITS	2010-39A 0200	2010-63V 0102	2010-63V 0123	2010-63V 0121	2010-63V 0131	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	3.23	1.39	1.82	2.57	2.81	0.050	8273214
Total Selenium (Se)	mg/kg	2.54	<0.50	1.94	2.15	2.82	0.50	8273214
RDL = Reportable Detection Limit								

Maxxam ID		OP5579		OP5580	OP5581	OP5582	OP5583		
Sampling Date									
	UNITS	2010-63V 0050	QC Batch	2010-63V 0124	2010-63V 0129	2010-63V 0132	2010-63V 0019	RDL	QC Batch
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	3.73	8273214	4.47	2.62	3.02	3.12	0.050	8274756
Total Selenium (Se)	mg/kg	3.01	8273214	3.37	1.84	2.20	2.39	0.50	8274756
RDL = Reportable Detection Limit									

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OP5584	OP5585	OP5586	OP5586	OP5587		
Sampling Date								
	UNITS	2010-63V 0130	2010-63V 0014	2010-63V 0018	2010-63V 0018 Lab-Dup	2010-63V 0127	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	2.41	2.90	2.29	2.26	2.00	0.050	8274756
Total Selenium (Se)	mg/kg	1.96	2.24	1.51	1.44	1.84	0.50	8274756
RDL = Reportable Detection Limit								
Lab-Dup = Laboratory Initiated Duplicate								

Maxxam ID		OP5588	OP5589	OP5590	OP5591	OP5592		
Sampling Date								
	UNITS	2010-63V 0015	2010-63V 0122	2010-63V 0126	2010-63V 0110	2010-63V 0113	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	2.17	2.18	1.88	2.57	2.07	0.050	8274756
Total Selenium (Se)	mg/kg	1.65	1.30	1.03	1.99	1.08	0.50	8274756
RDL = Reportable Detection Limit								

Maxxam ID		OP5593	OP5594	OP5595	OP5596	OP5597		
Sampling Date								
	UNITS	2010-63V 0038	2010-63V 0107	2010-63V 0105	2010-63V 0045	2010-63V 0101	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	0.644	2.62	0.145	1.19	1.06	0.050	8274756
Total Selenium (Se)	mg/kg	4.77	2.52	0.52	1.72	1.07	0.50	8274756
RDL = Reportable Detection Limit								

Maxxam ID		OP5598	OP5599		OP5600	OP5601	OP5601		
Sampling Date									
	UNITS	2010-63V 0049	2010-63V 0114	QC Batch	2010-63V 0112	2010-63V 0104	2010-63V 0104 Lab-Dup	RDL	QC Batch
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	1.79	2.61	8274756	3.10	3.89	3.85	0.050	8274798
Total Selenium (Se)	mg/kg	0.94	1.82	8274756	2.51	2.98	3.33	0.50	8274798
RDL = Reportable Detection Limit									
Lab-Dup = Laboratory Initiated Duplicate									

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OP5602	OP5603	OP5604	OP5605	OP5606		
Sampling Date								
	UNITS	2010-63V 0106	2010-63V 0039	2010-63V 0046	2010-63V 0108	2010-63V 0115	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	2.00	0.962	1.88	2.14	1.69	0.050	8274798
Total Selenium (Se)	mg/kg	0.68	<0.50	0.66	1.28	1.22	0.50	8274798
RDL = Reportable Detection Limit								

Maxxam ID		OP5607	OP5608	OP5609	OP5610	OP5611		
Sampling Date								
	UNITS	2010-63V 0137	2010-63V 0134	2010-63V 0044	2010-63V 0128	2010-63V 0133	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	1.93	2.27	1.43	2.78	1.38	0.050	8274798
Total Selenium (Se)	mg/kg	1.16	1.44	0.71	1.79	0.74	0.50	8274798
RDL = Reportable Detection Limit								

Maxxam ID		OP5612	OP5613	OP5614	OP5615	OP5616		
Sampling Date								
	UNITS	2010-63V 0136	2010-63V 0043	2010-63V 0036	2010-63V 0111	2010-63V 0109	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	2.72	2.19	3.27	3.14	2.09	0.050	8274798
Total Selenium (Se)	mg/kg	<0.50	2.48	1.87	4.06	2.20	0.50	8274798
RDL = Reportable Detection Limit								

Maxxam ID		OP5617	OP5618	OP5619		OP5620	OP5621		
Sampling Date									
	UNITS	2010-63V 0047	2010-63V 0048	2010-63V 0135	QC Batch	2010-63V 0040	2010-63V 0120	RDL	QC Batch
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	2.56	2.77	1.06	8274798	2.33	2.16	0.050	8274814
Total Selenium (Se)	mg/kg	0.98	2.28	0.70	8274798	1.52	2.68	0.50	8274814
RDL = Reportable Detection Limit									

Maxxam ID		OP5622	OP5623	OP5624	OP5625	OP5626		
Sampling Date								
	UNITS	2010-63V 0118	2010-63V 0116	2010-63V 0119	2010-63V 0117	2010-63V 0037	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	1.58	0.865	1.59	0.994	1.18	0.050	8274814
Total Selenium (Se)	mg/kg	1.74	1.08	1.02	<0.50	0.69	0.50	8274814
RDL = Reportable Detection Limit								

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OP5627	OP5628	OP5629	OP5630	OP5631		
Sampling Date								
	UNITS	2010-63V 0042	2010-63V 0041	2010-63V 0103	2010-63V 0016	2010-63V 0034	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	1.84	1.18	1.77	1.97	1.36	0.050	8274814
Total Selenium (Se)	mg/kg	1.29	0.54	1.42	1.09	0.88	0.50	8274814
RDL = Reportable Detection Limit								

Maxxam ID		OP5632	OP5633	OP5634	OP5635	OP5636		
Sampling Date								
	UNITS	2010-63V 0023	2010-63V 0026	2010-63V 0021	2010-63V 0032	2010-63V 0027	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	3.29	4.06	4.03	4.64	5.69	0.050	8274814
Total Selenium (Se)	mg/kg	4.35	3.09	3.35	4.41	3.60	0.50	8274814
RDL = Reportable Detection Limit								

Maxxam ID		OP5637	OP5638	OP5638	OP5639		OP5640		
Sampling Date									
	UNITS	2010-63V 0033	2010-63V 0025	2010-63V 0025 Lab-Dup	2010-63V 0035	QC Batch	2010-63V 0022	RDL	QC Batch
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	4.92	1.59	1.54	3.14	8274814	1.26	0.050	8275884
Total Selenium (Se)	mg/kg	5.62	0.93	1.06	2.07	8274814	0.72	0.50	8275884
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate									

Maxxam ID		OP5640	OP5641	OP5642	OP5643	OP5644		
Sampling Date								
	UNITS	2010-63V 0022 Lab-Dup	2010-63V 0024	2010-63V 0020	2010-63V 0017	16-BMD05 0066	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	1.22	1.80	0.482	0.453	0.936	0.050	8275884
Total Selenium (Se)	mg/kg	0.79	0.71	<0.50	<0.50	<0.50	0.50	8275884
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate								

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OP5645	OP5646	OP5647	OP5648	OP5649		
Sampling Date								
	UNITS	16-BMD05 0067	16-BMD05 0068	16-BMD05 0069	16-BMD05 0070	16-BMD05 0071	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	2.52	0.998	1.63	1.99	2.43	0.050	8275884
Total Selenium (Se)	mg/kg	1.83	1.18	3.06	1.24	2.30	0.50	8275884
RDL = Reportable Detection Limit								

Maxxam ID		OP5650	OP5651	OP5652	OP5653	OP5654		
Sampling Date								
	UNITS	16-BMD05A 0072	16-BMD05A 0073	16-BMD05A 0074	16-BMD05A 0075	16-BMD05A 0076	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	1.49	4.29	1.89	1.71	1.39	0.050	8275884
Total Selenium (Se)	mg/kg	1.06	1.06	1.34	2.41	1.46	0.50	8275884
RDL = Reportable Detection Limit								

Maxxam ID		OP5655	OP5656	OP5657	OP5658	OP5659		
Sampling Date								
	UNITS	16-BMD05A 0077	16-BMD05A 0078	16-BMD05A 0079	16-BMD05A 0080	16-BMD05A 0081	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	2.49	1.78	2.78	1.29	3.59	0.050	8275884
Total Selenium (Se)	mg/kg	5.45	0.86	2.03	1.20	3.05	0.50	8275884
RDL = Reportable Detection Limit								

Maxxam ID		OP5660	OP5661	OP5662	OP5663	OP5664		
Sampling Date								
	UNITS	16-BMD06 664281	16-BMD06 0054	16-BMD06 0055	16-BMD06 0056	16-BMD06 0057	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	1.30	3.08	1.28	3.74	2.76	0.050	8275898
Total Selenium (Se)	mg/kg	0.91	3.33	0.87	3.03	0.81	0.50	8275898
RDL = Reportable Detection Limit								

Maxxam ID		OP5665	OP5666	OP5681	OP5682	OP5683		
Sampling Date								
	UNITS	16-BMD06 0058	16-BMD06 0059	16-BMD08 0060	16-BMD08 0061	16-BMD08 0062	RDL	QC Batch
Total Metals by ICPMS								
Total Cadmium (Cd)	mg/kg	4.33	3.19	2.80	1.52	3.98	0.050	8275898
Total Selenium (Se)	mg/kg	2.09	2.48	2.93	1.98	5.49	0.50	8275898
RDL = Reportable Detection Limit								

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OP5684	OP5685	OP5686		
Sampling Date						
	UNITS	16-BMD08 0063	16-BMD08 0064	16-BMD08 0065	RDL	QC Batch
Total Metals by ICPMS						
Total Cadmium (Cd)	mg/kg	2.44	1.44	2.65	0.050	8275898
Total Selenium (Se)	mg/kg	2.23	1.43	1.51	0.50	8275898
RDL = Reportable Detection Limit						

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8271170	DJ	Matrix Spike [OP5465-01]	Total Cadmium (Cd)	2016/05/17		101	%	75 - 125
			Total Selenium (Se)	2016/05/17		102	%	75 - 125
8271170	DJ	QC Standard	Total Cadmium (Cd)	2016/05/17		119	%	70 - 130
8271170	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/17		102	%	75 - 125
			Total Selenium (Se)	2016/05/17		101	%	75 - 125
8271170	DJ	Method Blank	Total Cadmium (Cd)	2016/05/17	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/17	<0.50		mg/kg	
8271170	DJ	RPD [OP5465-01]	Total Cadmium (Cd)	2016/05/17	13		%	30
			Total Selenium (Se)	2016/05/17	NC		%	30
8271177	DJ	Matrix Spike [OP5485-01]	Total Cadmium (Cd)	2016/05/18		99	%	75 - 125
			Total Selenium (Se)	2016/05/18		99	%	75 - 125
8271177	DJ	QC Standard	Total Cadmium (Cd)	2016/05/18		118	%	70 - 130
8271177	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/18		104	%	75 - 125
			Total Selenium (Se)	2016/05/18		106	%	75 - 125
8271177	DJ	Method Blank	Total Cadmium (Cd)	2016/05/18	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/18	<0.50		mg/kg	
8271177	DJ	RPD [OP5485-01]	Total Cadmium (Cd)	2016/05/18	3.9		%	30
			Total Selenium (Se)	2016/05/18	NC		%	30
8271199	DJ	Matrix Spike [OP5505-01]	Total Cadmium (Cd)	2016/05/18		105	%	75 - 125
			Total Selenium (Se)	2016/05/18		101	%	75 - 125
8271199	DJ	QC Standard	Total Cadmium (Cd)	2016/05/18		115	%	70 - 130
8271199	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/18		105	%	75 - 125
			Total Selenium (Se)	2016/05/18		105	%	75 - 125
8271199	DJ	Method Blank	Total Cadmium (Cd)	2016/05/18	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/18	<0.50		mg/kg	
8271199	DJ	RPD [OP5505-01]	Total Cadmium (Cd)	2016/05/18	NC		%	30
			Total Selenium (Se)	2016/05/18	NC		%	30
8273114	DJ	Matrix Spike [OP5520-01]	Total Cadmium (Cd)	2016/05/20		97	%	75 - 125
			Total Selenium (Se)	2016/05/20		97	%	75 - 125
8273114	DJ	QC Standard	Total Cadmium (Cd)	2016/05/19		111	%	70 - 130
8273114	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/20		98	%	75 - 125
			Total Selenium (Se)	2016/05/20		101	%	75 - 125
8273114	DJ	Method Blank	Total Cadmium (Cd)	2016/05/20	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/20	<0.50		mg/kg	
8273114	DJ	RPD [OP5520-01]	Total Cadmium (Cd)	2016/05/20	6.5		%	30
			Total Selenium (Se)	2016/05/20	NC		%	30
8273207	DJ	Matrix Spike [OP5540-01]	Total Cadmium (Cd)	2016/05/19		93	%	75 - 125
			Total Selenium (Se)	2016/05/19		91	%	75 - 125
8273207	DJ	QC Standard	Total Cadmium (Cd)	2016/05/19		113	%	70 - 130
8273207	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/19		93	%	75 - 125
			Total Selenium (Se)	2016/05/19		92	%	75 - 125
8273207	DJ	Method Blank	Total Cadmium (Cd)	2016/05/19	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/19	<0.50		mg/kg	
8273207	DJ	RPD [OP5540-01]	Total Cadmium (Cd)	2016/05/19	5.4		%	30
			Total Selenium (Se)	2016/05/19	NC		%	30
8273214	DJ	Matrix Spike [OP5560-01]	Total Cadmium (Cd)	2016/05/19		97	%	75 - 125
			Total Selenium (Se)	2016/05/19		94	%	75 - 125
8273214	DJ	QC Standard	Total Cadmium (Cd)	2016/05/19		103	%	70 - 130
8273214	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/19		98	%	75 - 125
			Total Selenium (Se)	2016/05/19		97	%	75 - 125
8273214	DJ	Method Blank	Total Cadmium (Cd)	2016/05/19	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/19	<0.50		mg/kg	
8273214	DJ	RPD [OP5560-01]	Total Cadmium (Cd)	2016/05/19	1.0		%	30

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Selenium (Se)	2016/05/19	2.0		%	30
8274756	DJ	Matrix Spike [OP5586-01]	Total Cadmium (Cd)	2016/05/20		99	%	75 - 125
			Total Selenium (Se)	2016/05/20		98	%	75 - 125
8274756	DJ	QC Standard	Total Cadmium (Cd)	2016/05/20		103	%	70 - 130
8274756	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/20		100	%	75 - 125
			Total Selenium (Se)	2016/05/20		101	%	75 - 125
8274756	DJ	Method Blank	Total Cadmium (Cd)	2016/05/20	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/20	<0.50		mg/kg	
8274756	DJ	RPD [OP5586-01]	Total Cadmium (Cd)	2016/05/20	1.4		%	30
			Total Selenium (Se)	2016/05/20	NC		%	30
8274798	DJ	Matrix Spike [OP5601-01]	Total Cadmium (Cd)	2016/05/20		100	%	75 - 125
			Total Selenium (Se)	2016/05/20		103	%	75 - 125
8274798	DJ	QC Standard	Total Cadmium (Cd)	2016/05/20		107	%	70 - 130
8274798	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/20		99	%	75 - 125
			Total Selenium (Se)	2016/05/20		101	%	75 - 125
8274798	DJ	Method Blank	Total Cadmium (Cd)	2016/05/20	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/20	<0.50		mg/kg	
8274798	DJ	RPD [OP5601-01]	Total Cadmium (Cd)	2016/05/20	0.99		%	30
			Total Selenium (Se)	2016/05/20	11		%	30
8274814	DJ	Matrix Spike [OP5638-01]	Total Cadmium (Cd)	2016/05/20		99	%	75 - 125
			Total Selenium (Se)	2016/05/20		103	%	75 - 125
8274814	DJ	QC Standard	Total Cadmium (Cd)	2016/05/20		116	%	70 - 130
8274814	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/20		100	%	75 - 125
			Total Selenium (Se)	2016/05/20		102	%	75 - 125
8274814	DJ	Method Blank	Total Cadmium (Cd)	2016/05/20	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/20	<0.50		mg/kg	
8274814	DJ	RPD [OP5638-01]	Total Cadmium (Cd)	2016/05/20	3.4		%	30
			Total Selenium (Se)	2016/05/20	NC		%	30
8275884	DJ	Matrix Spike [OP5640-01]	Total Cadmium (Cd)	2016/05/24		95	%	75 - 125
			Total Selenium (Se)	2016/05/24		95	%	75 - 125
8275884	DJ	QC Standard	Total Cadmium (Cd)	2016/05/24		109	%	70 - 130
8275884	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/24		96	%	75 - 125
			Total Selenium (Se)	2016/05/24		97	%	75 - 125
8275884	DJ	Method Blank	Total Cadmium (Cd)	2016/05/24	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/24	<0.50		mg/kg	
8275884	DJ	RPD [OP5640-01]	Total Cadmium (Cd)	2016/05/24	2.9		%	30
			Total Selenium (Se)	2016/05/24	NC		%	30
8275898	DJ	Matrix Spike	Total Cadmium (Cd)	2016/05/24		89	%	75 - 125
			Total Selenium (Se)	2016/05/24		93	%	75 - 125
8275898	DJ	QC Standard	Total Cadmium (Cd)	2016/05/24		118	%	70 - 130
8275898	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/24		94	%	75 - 125
			Total Selenium (Se)	2016/05/24		96	%	75 - 125
8275898	DJ	Method Blank	Total Cadmium (Cd)	2016/05/24	<0.050		mg/kg	

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Selenium (Se)	2016/05/24	<0.50		mg/kg	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

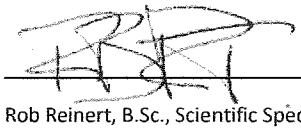
Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam Job #: B636148
Report Date: 2016/05/31

CENTERMOUNT COAL LTD.
Client Project #: BINGAY MAIN
Site Location: ELKFORD, BC

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Rob Reinert, B.Sc., Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Burnaby: 4606 Canada Way V5G 1K5 Telephone(604) 734-7276 Fax(604) 731-2386

Maxxam
A Bureau Veritas Group Company

Your Project #: BINGAY COAL
Site Location: ELKFORD, BC

Attention:CHARLIE ZHAO

CENTERMOUNT COAL LTD.
1055-1140 WEST PENDER STREET
VANCOUVER, BC
CANADA V6E 4G1

Report Date: 2016/06/10
Report #: R2195029
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B633166
Received: 2016/05/02, 15:53

Sample Matrix: Soil
Samples Received: 70

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Elements by ICPMS (total) (1)	7	2016/05/20	2016/05/24	BBY7SOP-00017,	BC SALM,EPA 6020bR2m
Elements by ICPMS (total) (1)	15	2016/05/24	2016/05/24	BBY7SOP-00017,	BC SALM,EPA 6020bR2m
Elements by ICPMS (total) (1)	18	2016/05/25	2016/05/25	BBY7SOP-00017,	BC SALM,EPA 6020bR2m
Elements by ICPMS - Soils	15	2016/05/05	2016/05/06	AB SOP-00001 / AB SOP-00043	EPA 200.8 R5.4 m
Elements by ICPMS - Soils	15	2016/05/06	2016/05/07	AB SOP-00001 / AB SOP-00043	EPA 200.8 R5.4 m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Maxxam Vancouver

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Shanaz Akbar, Project Manager
Email: SAkbar@maxxam.ca
Phone# (604)639-2618
==========
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam Job #: B633166
Report Date: 2016/06/10

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OO0472	OO0473		OO0474		OO0475	OO0476		
Sampling Date										
	UNITS	664352	664353	QC Batch	664356	QC Batch	664359	664362	RDL	QC Batch
Elements										
Total Cadmium (Cd)	mg/kg	0.45	1.0	8261272	1.0	8262727	0.97	0.94	0.050	8261272
Total Selenium (Se)	mg/kg	3.0	1.0	8261272	1.1	8262727	0.96	0.85	0.50	8261272
RDL = Reportable Detection Limit										

Maxxam ID		OO0477		OO0478	OO0479	OO0479	OO0480		
Sampling Date									
	UNITS	664365	QC Batch	664368	664371	664371 Lab-Dup	664374	RDL	QC Batch
Elements									
Total Cadmium (Cd)	mg/kg	1.0	8261272	1.0	N/A	N/A	N/A	0.050	8262727
Total Selenium (Se)	mg/kg	0.88	8261272	1.1	N/A	N/A	N/A	0.50	8262727
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	N/A	N/A	N/A	1.12	1.06	0.946	0.050	8275898
Total Selenium (Se)	mg/kg	N/A	N/A	N/A	<0.50	<0.50	<0.50	0.50	8275898
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable									

Maxxam ID		OO0481		OO0482		OO0483		OO0484	OO0485		
Sampling Date											
	UNITS	664377	QC Batch	664380	QC Batch	664383	QC Batch	664386	664389	RDL	QC Batch
Elements											
Total Cadmium (Cd)	mg/kg	0.69	8261272	0.51	8262727	0.37	8261272	0.50	0.52	0.050	8262727
Total Selenium (Se)	mg/kg	0.85	8261272	2.1	8262727	<0.50	8261272	1.0	0.64	0.50	8262727
RDL = Reportable Detection Limit											

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B633166
Report Date: 2016/06/10

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OO0486	OO0487		OO0488	OO0489		OO0490		
Sampling Date										
	UNITS	664392	664393	QC Batch	664394	664395	QC Batch	664396	RDL	QC Batch
Elements										
Total Cadmium (Cd)	mg/kg	N/A	N/A	8262727	0.39	N/A	8261272	0.44	0.050	8262727
Total Selenium (Se)	mg/kg	N/A	N/A	8262727	3.3	N/A	8261272	3.3	0.50	8262727
Total Metals by ICPMS										
Total Cadmium (Cd)	mg/kg	0.398	0.498	8275898	N/A	0.484	8275898	N/A	0.050	8275898
Total Selenium (Se)	mg/kg	2.40	2.88	8275898	N/A	7.88	8275898	N/A	0.50	8275898
RDL = Reportable Detection Limit										
N/A = Not Applicable										

Maxxam ID		OO0491	OO0492		OO0493	OO0494	OO0495		
Sampling Date									
	UNITS	664397	664398	QC Batch	664399	664400	664201	RDL	QC Batch
Total Metals by ICPMS									
Total Cadmium (Cd)	mg/kg	0.567	0.511	8275898	0.586	0.345	0.662	0.050	8276850
Total Selenium (Se)	mg/kg	1.15	<0.50	8275898	<0.50	<0.50	0.88	0.50	8276850
RDL = Reportable Detection Limit									

Maxxam ID		OO0496		OO0497		OO0498	OO0499	OO0500		
Sampling Date										
	UNITS	664202	QC Batch	664203	QC Batch	664204	664205	664206	RDL	QC Batch
Elements										
Total Cadmium (Cd)	mg/kg	0.27	8261272	0.79	8262727	0.40	N/A	N/A	0.050	8261272
Total Selenium (Se)	mg/kg	2.3	8261272	3.6	8262727	3.5	N/A	N/A	0.50	8261272
Total Metals by ICPMS										
Total Cadmium (Cd)	mg/kg	N/A	N/A	N/A	N/A	N/A	0.542	0.453	0.050	8276850
Total Selenium (Se)	mg/kg	N/A	N/A	N/A	N/A	N/A	2.88	2.25	0.50	8276850
RDL = Reportable Detection Limit										
N/A = Not Applicable										

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B633166
Report Date: 2016/06/10

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OO0501	OO0502	OO0503		OO0504	OO0505	OO0506		
Sampling Date										
	UNITS	664207	664208	664209	QC Batch	664210	664211	664212	RDL	QC Batch
Elements										
Total Cadmium (Cd)	mg/kg	N/A	N/A	N/A	8261272	0.56	N/A	N/A	0.050	8262727
Total Selenium (Se)	mg/kg	N/A	N/A	N/A	8261272	0.81	N/A	N/A	0.50	8262727
Total Metals by ICPMS										
Total Cadmium (Cd)	mg/kg	0.555	0.340	0.390	8276850	N/A	0.582	0.583	0.050	8276850
Total Selenium (Se)	mg/kg	<0.50	<0.50	<0.50	8276850	N/A	<0.50	<0.50	0.50	8276850

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam ID		OO0507	OO0508	OO0509	OO0510	OO0511	OO0512	OO0513		
Sampling Date										
	UNITS	664213	664214	664238	664247	664246	664248	664239	RDL	QC Batch
Elements										
Total Cadmium (Cd)	mg/kg	0.66	N/A	N/A	N/A	0.80	0.87	N/A	0.050	8261272
Total Selenium (Se)	mg/kg	0.65	N/A	N/A	N/A	1.5	2.9	N/A	0.50	8261272
Total Metals by ICPMS										
Total Cadmium (Cd)	mg/kg	N/A	0.629	0.553	0.698	N/A	N/A	0.486	0.050	8276850
Total Selenium (Se)	mg/kg	N/A	<0.50	<0.50	0.95	N/A	N/A	<0.50	0.50	8276850

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam Job #: B633166
Report Date: 2016/06/10

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OO0514		OO0515	OO0516		OO0517		OO0518		
Sampling Date											
	UNITS	664240	QC Batch	664241	664242	QC Batch	664243	QC Batch	664244	RDL	QC Batch
Elements											
Total Cadmium (Cd)	mg/kg	N/A	8261272	0.42	0.41	8262727	0.43	8261272	0.22	0.050	8262727
Total Selenium (Se)	mg/kg	N/A	8261272	4.1	4.1	8262727	2.1	8261272	1.5	0.50	8262727
Total Metals by ICPMS											
Total Cadmium (Cd)	mg/kg	0.767	8276850	N/A	N/A	N/A	N/A	N/A	N/A	0.050	N/A
Total Selenium (Se)	mg/kg	<0.50	8276850	N/A	N/A	N/A	N/A	N/A	N/A	0.50	N/A

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam ID		OO0519	OO0534	OO0535	OO0536	OO0537	OO0538	OO0539		
Sampling Date										
	UNITS	664245	664257	664258	664259	664263	664264	664271	RDL	QC Batch
Elements										
Total Cadmium (Cd)	mg/kg	0.25	N/A	N/A	N/A	N/A	N/A	N/A	0.050	8262727
Total Selenium (Se)	mg/kg	2.3	N/A	N/A	N/A	N/A	N/A	N/A	0.50	8262727
Total Metals by ICPMS										
Total Cadmium (Cd)	mg/kg	N/A	2.90	0.804	1.71	1.95	0.798	0.641	0.050	8278014
Total Selenium (Se)	mg/kg	N/A	2.83	0.84	2.59	4.50	1.95	1.50	0.50	8278014

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B633166
Report Date: 2016/06/10

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OO0540	OO0541	OO0542	OO0543	OO0544		OO0545		
Sampling Date										
	UNITS	664272	664224	664225	664226	664227	QC Batch	664228	RDL	QC Batch
Elements										
Total Cadmium (Cd)	mg/kg	0.80	N/A	N/A	N/A	N/A	8261272	3.0	0.050	8262727
Total Selenium (Se)	mg/kg	1.7	N/A	N/A	N/A	N/A	8261272	3.8	0.50	8262727
Total Metals by ICPMS										
Total Cadmium (Cd)	mg/kg	N/A	0.841	3.85	6.35	6.15	8278014	N/A	0.050	N/A
Total Selenium (Se)	mg/kg	N/A	<0.50	5.08	6.31	6.00	8278014	N/A	0.50	N/A

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam ID		OO0545	OO0546	OO0547	OO0548	OO0549	OO0550	OO0551		
Sampling Date										
	UNITS	664228 Lab-Dup	664229	664230	664231	664232	664233	664234	RDL	QC Batch
Elements										
Total Cadmium (Cd)	mg/kg	3.0	N/A	N/A	N/A	0.14	N/A	N/A	0.050	8262727
Total Selenium (Se)	mg/kg	3.3	N/A	N/A	N/A	<0.50	N/A	N/A	0.50	8262727
Total Metals by ICPMS										
Total Cadmium (Cd)	mg/kg	N/A	5.15	4.13	5.07	N/A	2.24	2.47	0.050	8278014
Total Selenium (Se)	mg/kg	N/A	4.34	4.17	4.28	N/A	1.43	1.77	0.50	8278014

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B633166
Report Date: 2016/06/10

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		OO0552	OO0553	OO0554	OO2416		
Sampling Date							
	UNITS	664235	664236	664237	16-BBDH1 DRILL CUTTINGS PETROGRAPHY	RDL	QC Batch
Elements							
Total Cadmium (Cd)	mg/kg	N/A	N/A	N/A	0.48	0.050	8262727
Total Selenium (Se)	mg/kg	N/A	N/A	N/A	2.4	0.50	8262727
Total Metals by ICPMS							
Total Cadmium (Cd)	mg/kg	1.82	1.80	2.03	N/A	0.050	8278014
Total Selenium (Se)	mg/kg	1.50	2.56	1.51	N/A	0.50	8278014

RDL = Reportable Detection Limit
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B633166
Report Date: 2016/06/10

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B633166
Report Date: 2016/06/10

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8261272	PC5	Matrix Spike	Total Cadmium (Cd)	2016/05/06		98	%	75 - 125
			Total Selenium (Se)	2016/05/06		97	%	75 - 125
8261272	PC5	Spiked Blank	Total Cadmium (Cd)	2016/05/06		98	%	75 - 125
			Total Selenium (Se)	2016/05/06		97	%	75 - 125
8261272	PC5	Method Blank	Total Cadmium (Cd)	2016/05/06	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/06	<0.50		mg/kg	
8261272	PC5	RPD	Total Cadmium (Cd)	2016/05/06	3.5		%	35
			Total Selenium (Se)	2016/05/06	NC		%	35
8262727	PC5	Matrix Spike [OO0545-01]	Total Cadmium (Cd)	2016/05/07		96	%	75 - 125
			Total Selenium (Se)	2016/05/07		99	%	75 - 125
8262727	PC5	Spiked Blank	Total Cadmium (Cd)	2016/05/07		92	%	75 - 125
			Total Selenium (Se)	2016/05/07		94	%	75 - 125
8262727	PC5	Method Blank	Total Cadmium (Cd)	2016/05/07	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/07	<0.50		mg/kg	
8262727	PC5	RPD [OO0545-01]	Total Cadmium (Cd)	2016/05/07	0.072		%	35
			Total Selenium (Se)	2016/05/07	14		%	35
8275898	DJ	Matrix Spike [OO0479-01]	Total Cadmium (Cd)	2016/05/24		89	%	75 - 125
			Total Selenium (Se)	2016/05/24		93	%	75 - 125
8275898	DJ	QC Standard	Total Cadmium (Cd)	2016/05/24		118	%	70 - 130
8275898	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/24		94	%	75 - 125
			Total Selenium (Se)	2016/05/24		96	%	75 - 125
8275898	DJ	Method Blank	Total Cadmium (Cd)	2016/05/24	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/24	<0.50		mg/kg	
8275898	DJ	RPD [OO0479-01]	Total Cadmium (Cd)	2016/05/24	5.1		%	30
			Total Selenium (Se)	2016/05/24	NC		%	30
8276850	DJ	Matrix Spike	Total Cadmium (Cd)	2016/05/24		99	%	75 - 125
			Total Selenium (Se)	2016/05/24		97	%	75 - 125
8276850	DJ	QC Standard	Total Cadmium (Cd)	2016/05/24		113	%	70 - 130
8276850	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/24		98	%	75 - 125
			Total Selenium (Se)	2016/05/24		99	%	75 - 125
8276850	DJ	Method Blank	Total Cadmium (Cd)	2016/05/24	<0.050		mg/kg	
			Total Selenium (Se)	2016/05/24	<0.50		mg/kg	
8276850	DJ	RPD	Total Cadmium (Cd)	2016/05/24	NC		%	30
			Total Selenium (Se)	2016/05/24	NC		%	30
8278014	DJ	Matrix Spike	Total Cadmium (Cd)	2016/05/25		97	%	75 - 125
			Total Selenium (Se)	2016/05/25		95	%	75 - 125
8278014	DJ	QC Standard	Total Cadmium (Cd)	2016/05/25		115	%	70 - 130
8278014	DJ	Spiked Blank	Total Cadmium (Cd)	2016/05/25		105	%	75 - 125
			Total Selenium (Se)	2016/05/25		108	%	75 - 125
8278014	DJ	Method Blank	Total Cadmium (Cd)	2016/05/25	<0.050		mg/kg	

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam
A Bureau Veritas Group Company

Maxxam Job #: B633166
Report Date: 2016/06/10

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Selenium (Se)	2016/05/25	<0.50		mg/kg	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Maxxam Job #: B633166
Report Date: 2016/06/10

CENTERMOUNT COAL LTD.
Client Project #: BINGAY COAL
Site Location: ELKFORD, BC

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Harry (Peng) Liang, Senior Analyst

Rob Reinert, B.Sc., Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics Calgary: 2021 - 41st Avenue N.E. T2E 6P2 Telephone (403) 291-3077 Fax (403) 291-9468

Bingay Drill Hole Detail 2016

Bingay Area	Hole Number	Coordinates (UTM, NAD83)			Drill Hole							Geological Description	
		Easting	Northing	Elevation	Azimuth	Dip	Depth (m)	Depth to bedrock	Geophysical Records (Paper)		Diamond Drill	Written	Typed
Main	16-BMD01	643769.9	5563118.2	1420.7	175	70.0	121.50	26.40			X		X
	16-BMD01A	643770.7	5563105.3	1420.4		90.0	29.00				X		X
	16-BMD03	644346.6	5562387.0	1394.2	158.5	70.1	152.00	2.00			X		X
	16-BMD04	644346.1	5562543.4	1396.6	100	70.0	148.00	17.48			X		X
	16-BMD05	644071.1	5562682.8	1452.3	159.1	70.3	135.50	1.70			X	SNC	X
	16-BMD05A	644070.3	5562675.2	1452.5	42.7	70.1	438.00	2.50			X	SNC	X
	16-BMD06	644326.8	5562793.0	1416.1	125.6	61.3	207.00	2.00			X	SNC	X
	16-BMD07	644333.2	5562981.9	1403.4	100	70.0	251.50	1.80			X	SNC	X
	16-BMD08	644338.7	5563134.7	1386.9	80.3	59.5	340.00	1.60			X	SNC	X
	16-BMD09	644337.8	5563369.7	1388.2	100	70.0	152.50	21.20			X		X
	16-BMD10	644236.7	5563579.1	1395.6	100	80.0	120.50	10.75			X		X
subtotal							**2095.50**						
B	16-BMD02	644640.4	5561741.9	1384.8	300	80.0	150.40	46.00			X		X
	16-BBDH1	644175.1	5561546.3	1396.1		90.0	92.50	40.00			X		X
	16-BBDH2	644024.2	5560884.9	1394.5		90.0	50.00	27.00			X		X
	16-BBDH2A	644016.8	5560888.9	1395.0	270	50.0	25.00				X		X
	16-BBDH3	644082.3	5560316.4	1403.2		90.0	26.00				X		X
	2016-T1	644795	5561273	1388									
	2016-T2	644783	5561283	1383									
	2016-T3	644768	5561306	1388									
subtotal							**343.90**						
A	16-BA02	646722.1542	5570235.6631	1442.916	340	80.0	469.50	46.00	X	X	X		X
subtotal							**469.50**						
A+B							**813.40**						
total							**2908.90**						

CENTERMOUNT COAL	2095.5	72.0%
A+B	813.4	28.0%
05A+05	573.50	19.7%

Bingay Main Coal Property Report 2016 Technical Assessment Report

Appendix:

I. Geotechnical Boreholes Corelog

2016-BMD05A

2016-BMD05

2016-BMD06

2016-BMD07

2016-BMD08

Client:	Centermount Coal Ltd.			Driller:	Dorado Drilling	Borehole No.		16-BMD05A		Date Started:				30-Apr-16	
Project:	Bingay Coal Open Pit Design			Drilling Method:	Diamond Drilling	Coordinate:		Elevation:	1452.5m	Date Finished:				05-May-16	
Location:	Elkford, BC			Total Depth:	438.0 m	Easting:	644070	Northing:	5562675	Page					
				GWLElevation:	NA	Azimuth:	42.7°	Inclination:	70.1°	(from horizontal)				Logged by:	CM/MN

Hole ID	Top	Bottom	Thickness	Lithology	Geological Description	Core Run No.	Core Recovery %	RQD, %	Discontinuity Description					Sample No.	Note
									Jn	Jr	Ja	Q	RMR(89)		
16-BMD05A	0.00	2.50	2.50	till	till. From 0 to 2.5m, overburden, weathered, broken.	1	40	14	6.0	1.0	2.0	1.20	35	No.0072	Se/Cd
16-BMD05A	2.50	4.50	2.00	siltstone	from 2.5 to 12.8m, black, massive, slightly weathered. From 2.5 to 9.0m, 6.5m broken zone.	2	75	53	6.0	1.0	2.0	4.40	53		
16-BMD05A	4.50	7.50	3.00	siltstone		3	100	61	12.0	1.0	2.0	2.60	53		
16-BMD05A	7.50	9.00	1.50	siltstone		4	53	0	12.0	1.0	2.0	0	39		
16-BMD05A	9.00	12.00	3.00	siltstone		5	73	70	4.0	1.0	2.0	8.80	63		
16-BMD05A	12.00	12.80	0.80	siltstone		6	67	7	20.0	1.0	2.0	0	44		
16-BMD05A	12.80	15.00	2.20	coal	**4.4m coal. From 12.8 to 17.2m, black, fresh, brecciated/decomposed.**	6									
16-BMD05A	15.00	17.20	2.20	coal		7	57	0	20.0	1.0	2.0	0.0	44		
16-BMD05A	17.20	18.00	0.80	siltstone	from 17.2 to 42.3m, 25.10m. black, massive, some joints healed by quartz.	7									
16-BMD05A	18.00	21.00	3.00	siltstone		8	100	72	12.0	1.0	1.0	6.00	72		
16-BMD05A	21.00	24.00	3.00	siltstone		9	87	29	12.0	1.0	1.0	2.42	39		
16-BMD05A	24.00	27.00	3.00	siltstone		10	57	18	12.0	1.0	1.0	1.47	34		
16-BMD05A	27.00	30.00	3.00	siltstone		11	100	50	12.0	1.0	1.0	4.17	58		
16-BMD05A	30.00	33.00	3.00	siltstone		12	100	87	6.0	1.0	1.0	14.6	74	No.0073	Se/Cd
16-BMD05A	33.00	36.00	3.00	siltstone		13	100	57	6.0	1.0	1.0	9.44	70		
16-BMD05A	36.00	39.00	3.00	siltstone		14	100	83	6.0	1.0	1.0	13.9	74		
16-BMD05A	39.00	42.00	3.00	siltstone		15	100	93	9.0	2.0	1.0	20.7	77		
16-BMD05A	42.00	42.30	0.30	siltstone		16	77	65	4.0	2.0	1.0	32.5	75		
16-BMD05A	42.30	45.00	2.70	sandstone	from 42.3 to 54.7m, 12.4m. grey, fine-grained, thinly laminated, some joints healed by quartz.	16									
16-BMD05A	45.00	48.00	3.00	sandstone		17	100	61	4.0	2.0	1.0	30.7	75		
16-BMD05A	48.00	51.00	3.00	sandstone		18	95	67	4.0	2.0	1.0	33.3	75		
16-BMD05A	51.00	54.00	3.00	sandstone		19	100	80	4.0	2.0	1.0	40.0	74		
16-BMD05A	54.00	54.70	0.70	sandstone		20	97	77	4.0	2.0	1.0	38.3	79		
16-BMD05A	54.70	57.00	2.30	siltstone	from 54.7 to 62.5m, 7.8m. black, massive, some joints healed by quartz.	20									
16-BMD05A	57.00	60.00	3.00	siltstone		21	100	83	4.0	2.0	1.0	41.7	76		
16-BMD05A	60.00	62.50	2.50	siltstone		22	100	90	4.0	2.0	1.0	45.0	79	No.0074	Se/Cd
16-BMD05A	62.50	63.00	0.50	siltstone	from 62.5 to 69.9m, 7.4m. black, thinly laminated, coal along bedding planes.	22									
16-BMD05A	63.00	66.00	3.00	siltstone		23	95	71	4.0	2.0	1.0	35.5	75		
16-BMD05A	66.00	69.00	3.00	siltstone		24	96	89	4.0	2.0	1.0	44.5	79		
16-BMD05A	69.00	69.90	0.90	siltstone		25	70	30	15.0	1.0	2.0	0.40	57		
16-BMD05A	69.90	70.40	0.50	coal	**0.50m coal. Black, fresh, decomposed.**	25									
16-BMD05A	70.40	70.90	0.50	siltstone	from 70.4 to 91.6m, 21.2m. black, massive, some joints healed by quartz. Coal along bedding planes.	25									
16-BMD05A	70.90	72.00	1.10	siltstone	from 70.9 to 83.0m, broken zone.	25									
16-BMD05A	72.00	75.00	3.00	siltstone		26	77	24	12.0	2.0	1.0	4.06	52		
16-BMD05A	75.00	78.00	3.00	siltstone		27	13	3	12.0	2.0	1.0	0.56	49		
16-BMD05A	78.00	81.00	3.00	siltstone		28	53	53	12.0	1.0	1.0	2.08	49		
16-BMD05A	81.00	83.00	2.00	siltstone		29	50	27	12.0	1.0	1.0	2.28	49		
16-BMD05A	83.00	84.00	1.00	siltstone		29									

16-BMD05A	84.00	87.00	3.00	siltstone		30	88	74	4.0	1.0	1.0	18.4	67		
16-BMD05A	87.00	90.00	3.00	siltstone		31	87	42	4.0	1.0	1.0	10.4	63		
16-BMD05A	90.00	91.60	1.60	siltstone		32	100	87	2.0	2.0	1.0	86.7	83	No.0075	Se/Cd
16-BMD05A	91.60	93.00	1.40	siltstone	from 91.6 to 131.0m, 39.4m. black, thinly laminated. Some joints healed by quartz.	32									
16-BMD05A	93.00	96.00	3.00	siltstone		33	100	95	2.0	1.0	1.0	47.5	77		
16-BMD05A	96.00	99.00	3.00	siltstone		34	97	63	9.0	2.0	1.0	14.1	70		
16-BMD05A	99.00	102.00	3.00	siltstone		35	100	100	2.0	2.0	1.0	100	82		
16-BMD05A	102.00	105.00	3.00	siltstone		36	100	85	2.0	2.0	1.0	85.3	68		
16-BMD05A	105.00	108.00	3.00	siltstone		37	97	67	4.0	1.0	1.0	16.7	70		
16-BMD05A	108.00	111.00	3.00	siltstone		38	100	83	2.0	2.0	1.0	82.7	79		
16-BMD05A	111.00	114.00	3.00	siltstone		39	90	64	2.0	2.0	1.0	64.0	70		
16-BMD05A	114.00	117.00	3.00	siltstone		40	100	73	4.0	2.0	1.0	36.3	67		
16-BMD05A	117.00	120.00	3.00	siltstone		41	100	63	9.0	2.0	1.0	14.1	67		
16-BMD05A	120.00	121.45	1.45	siltstone		42	100	40	6.0	1.0	1.0	6.67	60	No.0076	Se/Cd
16-BMD05A	121.45	121.70	0.25	siltstone	from 121.45 to 121.70m, 0.25m broken zone.	42									
16-BMD05A	121.70	123.00	1.30	siltstone		42									
16-BMD05A	123.00	126.00	3.00	siltstone		43	100	68	4.0	1.0	1.0	17.1	67		
16-BMD05A	126.00	129.00	3.00	siltstone		44	100	86	4.0	1.0	1.0	21.4	68		
16-BMD05A	129.00	131.00	2.00	siltstone		45	100	87	4.0	1.0	1.0	8.73	68		
16-BMD05A	131.00	132.00	1.00	**coal**	**25.20m coal, from 131.0 to 156.2m. Black, fresh, good recovery.**	45								**No.0014**	Coal
16-BMD05A	132.00	135.00	3.00	**coal**		46	87	17	6.0	1.0	1.0	1.11	34		
16-BMD05A	135.00	138.00	3.00	**coal**		47	45	33	6.0	1.0	1.0	2.22	39		
16-BMD05A	138.00	140.00	2.00	**coal**		48	53	10	6.0	1.0	1.0	0.67	34		
16-BMD05A	140.00	141.00	1.00	**coal**		49	53	10	6.0	1.0	1.0	0.67	34		
16-BMD05A	141.00	144.00	3.00	**coal**		50	47	0	12.0	1.0	1.0	0	34	**No.0015**	Coal
16-BMD05A	144.00	147.00	3.00	**coal**		51	43	10	6.0	1.0	1.0	0.67	34		
16-BMD05A	147.00	150.00	3.00	**coal**		52	63	18	6.0	1.0	1.0	1.22	34		
16-BMD05A	150.00	153.00	3.00	**coal**		53	70	33	6.0	1.0	1.0	2.22	42	No.0077	Se/Cd
16-BMD05A	153.00	156.00	3.00	**coal**		54	72	33	9.0	1.0	1.0	1.48	42	**No.0016**	Coal
16-BMD05A	156.00	156.20	0.20	**coal**		55	82	52	6.0	1.0	1.0	8.61	70		
16-BMD05A	156.20	159.00	2.80	siltstone	from 156.2 to 163.8m, 7.6m. black,massive, some joints healed by quartz.	55									
16-BMD05A	159.00	162.00	3.00	siltstone		56	100	87	4.0	2.0	1.0	43.3	74		
16-BMD05A	162.00	163.80	1.80	siltstone		57	97	97	4.0	2.0	1.0	48.3	82		
16-BMD05A	163.80	165.00	1.20	sandstone	from 163.8 to 166.7m, 2.9m. grey, thinly laminated.	57									
16-BMD05A	165.00	166.70	1.70	sandstone		58	93	57	4.0	1.0	1.0	14.2	70		
16-BMD05A	166.70	168.00	1.30	siltstone	from 166.7 to 181.5m, 14.8m. black, massive, some joints healed by quartz.	58									
16-BMD05A	168.00	171.00	3.00	siltstone		59	100	97	2.0	2.0	1.0	97.3	82		
16-BMD05A	171.00	174.00	3.00	siltstone		60	100	93	2.0	2.0	1.0	93.3	82		
16-BMD05A	174.00	177.00	3.00	siltstone		61	100	100	2.0	2.0	1.0	100	87		
16-BMD05A	177.00	180.00	3.00	siltstone		62	100	73	4.0	2.0	1.0	36.7	80		
16-BMD05A	180.00	181.50	1.50	siltstone		63	93	63	62121.0					No.0078	Se/Cd
16-BMD05A	181.50	182.00	0.50	siltstone	from 181.5 to 183.5m, 2.0m. black, thinly laminated, some joints healed by quartz.	63									
16-BMD05A	182.00	183.00	1.00	siltstone	from 182.0 to 183.5m, 1.5m broken zone.	63									
16-BMD05A	183.00	183.50	0.50	siltstone		64	93	53	4.0	2.0	1.0	26.3	75		
16-BMD05A	183.50	186.00	2.50	sandstone	from 183.5 to 205.0m, 21.5m. greyish black, thinly bedded, coal along bedding planes.	64									
16-BMD05A	186.00	189.00	3.00	sandstone		65	100	67	4.0	2.0	1.0	33.3	70		
16-BMD05A	189.00	192.00	3.00	sandstone		66	92	87	2.0	2.0	1.0	87.3	79		
16-BMD05A	192.00	195.00	3.00	sandstone		67	100	87	2.0	2.0	1.0	86.7	79		

16-BMD05A	195.00	198.00	3.00	sandstone		68	100	75	4.0	2.0	1.0	37.5	79		
16-BMD05A	198.00	201.00	3.00	sandstone		69	100	97	4.0	2.0	1.0	48.5	87		
16-BMD05A	201.00	204.00	3.00	sandstone		70	97	89	4.0	2.0	1.0	44.3	84		
16-BMD05A	204.00	205.00	1.00	sandstone		71	100	65	6.0	1.0	1.0	10.8	75		
16-BMD05A	205.00	207.00	2.00	siltstone	from 205.0 to 216.7m, 16.7m. black, massive, joints, broken and fragmented, coal along bedding planes, some joints healed by quartz.	71									
16-BMD05A	207.00	210.00	3.00	siltstone		72	77	42	6.0	1.0	1.0	6.94	63		
16-BMD05A	210.00	213.00	3.00	siltstone		73	87	58	6.0	1.0	1.0	9.72	70		
16-BMD05A	213.00	216.00	3.00	siltstone		74	90	35	6.0	1.0	1.0	2.33	63		
16-BMD05A	216.00	216.70	0.70	siltstone		75	93	70	6.0	1.0	1.0	4.67	67		
16-BMD05A	216.70	217.00	0.30	**coal**	**0.30m coal. Black, fresh, brecciated/decomposed.**	75									
16-BMD05A	217.00	219.00	2.00	siltstone	from 217.0 to 240.2m, 23.2m. black, thinly laminated, coal along bedding planes, some joints healed by quartz.	75									
16-BMD05A	219.00	222.00	3.00	siltstone		76	100	80	2.0	1.0	1.0	40.0	71		
16-BMD05A	222.00	223.00	1.00	siltstone		77	92	58	6.0	1.0	1.0	9.72	67		
16-BMD05A	223.00	223.60	0.60	siltstone	from 223.0 to 223.6m, 0.60m broken zone.	77									
16-BMD05A	223.60	225.00	1.40	siltstone		77									
16-BMD05A	225.00	228.00	3.00	siltstone		78	97	83	4.0	1.0	1.0	20.8	74		
16-BMD05A	228.00	231.00	3.00	siltstone		79	100	85	2.0	2.0	1.0	85.0	74		
16-BMD05A	231.00	234.00	3.00	siltstone		80	95	92	2.0	2.0	1.0	91.7	82		
16-BMD05A	234.00	237.00	3.00	siltstone		81	97	77	4.0	1.0	1.0	19.2	74		
16-BMD05A	237.00	240.00	3.00	siltstone		82	100	73	4.0	1.0	1.0	18.3	71		
16-BMD05A	240.00	240.20	0.20	siltstone		83	100	97	2.0	2.0	1.0	96.7	82	No.0079	Se/Cd
16-BMD05A	240.20	243.00	2.80	siltstone	from 240.2 to 250.0m, 9.8m. black, massive, coal along bedding planes, some joints healed by quartz.	83									
16-BMD05A	243.00	246.00	3.00	siltstone		84	100	100	2.0	2.0	1.0	100	82		
16-BMD05A	246.00	249.00	3.00	siltstone		85	100	78	4.0	1.0	1.0	19.6	71		
16-BMD05A	249.00	250.00	1.00	siltstone		86	80	7	6.0	1.0	1.0	0.44	34		
16-BMD05A	250.00	251.90	1.90	**coal**	**1.9m coal. From 250.0 to 251.9m. Black, fresh, brecciated. Coal beds 20cm thick and frequent every 20-30cm. Siltstone in between the beds.**	86									
16-BMD05A	251.90	252.00	0.10	siltstone	from 251.9 to 278.5m, 26.6m. black, thinly laminated, coal along bedding planes, some joints healed by quartz.	86									
16-BMD05A	252.00	255.00	3.00	siltstone		87	100	79	3.0	2.0	1.0	52.7	74		
16-BMD05A	255.00	258.00	3.00	siltstone		88	100	94	2.0	2.0	1.0	94.0	77		
16-BMD05A	258.00	261.00	3.00	siltstone		89	100	100	3.0	2.0	1.0	66.7	82		
16-BMD05A	261.00	264.00	3.00	siltstone		90	100	96	2.0	2.0	1.0	96.0	79		
16-BMD05A	264.00	267.00	3.00	siltstone		91	100	96	2.0	2.0	1.0	95.7	79		
16-BMD05A	267.00	270.00	3.00	siltstone		92	100	93	4.0	1.0	1.0	23.2	79		
16-BMD05A	270.00	273.00	3.00	siltstone		93	100	93	2.0	1.0	1.0	46.7	79	No.0080	Se/Cd
16-BMD05A	273.00	276.00	3.00	siltstone		94	87	68	4.0	1.0	1.0	17.1	67		
16-BMD05A	276.00	278.50	2.50	siltstone		95	86	68	4.0	1.0	1.0	6.83	67		
16-BMD05A	278.50	279.00	0.50	**coal**	**0.70m coal. From 278.5 to 279.2m. Black, fresh, brecciated/decomposed.**	95									
16-BMD05A	279.00	279.20	0.20	**coal**		96	97	93	3.0	1.0	1.0	12.4	74		
16-BMD05A	279.20	282.00	2.80	siltstone	from 279.2 to 287.15m, 7.95m. black, thinly laminated.	96									
16-BMD05A	282.00	285.00	3.00	siltstone		97	100	100	2.0	2.0	1.0	100.0	76		
16-BMD05A	285.00	287.15	2.15	siltstone		98	55	50	6.0	1.0	1.0	8.28	61		
16-BMD05A	287.15	288.00	0.85	**coal**	**8.65m coal. From 287.15 to 295.80m. Black, fresh, good recovery.**	98								**No.0001**	Coal
16-BMD05A	288.00	291.00	3.00	**coal**		99	100	83	2.0	1.0	1.0	16.7	68	**No.0002**	Coal

16-BMD05A	291.00	294.00	3.00	**coal**		100	100	40	6.0	1.0	1.0	2.67	68	**No.0003**	Coal
16-BMD05A	294.00	295.80	1.80	**coal**		101	77	34	6.0	1.0	1.0	2.24	68	**No.0004**	Coal
16-BMD05A	295.80	297.00	1.20	siltstone	from 295.8 to 299.0m, 3.2m. black, thinly laminated. Some joints healed by quartz.	101									
16-BMD05A	297.00	299.00	2.00	siltstone		102	87	43	20.0	1.0	1.0	0.87	60		
16-BMD05A	299.00	300.00	1.00	**coal**	**5.25m coal. From 299.0 to 304.25m. Black, fresh, good recovery.**	102									
16-BMD05A	300.00	303.00	3.00	**coal**		103	77	7	12.0	1.0	1.0	0.22	49	No.0081	Se/Cd
16-BMD05A	303.00	304.25	1.25	**coal**		104	100	62	6.0	1.0	1.0	4.11	64		
16-BMD05A	304.25	306.00	1.75	siltstone	from 304.25 to 341.0m, 36.75m. black, thinly laminated. Some joints healed by quartz.	104									
16-BMD05A	306.00	309.00	3.00	siltstone	from 306 to 309m, coal along bedding plane.	105	100	68	4.0	1.0	1.0	17.1	64		
16-BMD05A	309.00	312.00	3.00	siltstone		106	100	93	4.0	1.0	1.0	23.3	87		
16-BMD05A	312.00	315.00	3.00	siltstone		107	85	60	4.0	1.0	1.0	15.0	70		
16-BMD05A	315.00	318.00	3.00	siltstone		108	100	93	9.0	1.0	1.0	10.4	77		
16-BMD05A	318.00	320.00	2.00	siltstone		109	100	97	2.0	1.0	1.0	48.7	77		
16-BMD05A	320.00	321.00	1.00	siltstone		110	100	97	2.0	1.0	1.0	48.5	77		
16-BMD05A	321.00	324.00	3.00	siltstone		111	95	88	4.0	2.0	1.0	44.2	77		
16-BMD05A	324.00	327.00	3.00	siltstone		112	100	83	4.0	2.0	1.0	41.7	74		
16-BMD05A	327.00	330.00	3.00	siltstone		113	100	87	4.0	2.0	1.0	43.3	71		
16-BMD05A	330.00	333.00	3.00	siltstone		114	100	93	4.0	2.0	1.0	46.7	74		
16-BMD05A	333.00	336.00	3.00	siltstone		115	100	87	4.0	2.0	1.0	43.3	71		
16-BMD05A	336.00	339.00	3.00	siltstone		116	82	80	2.0	2.0	1.0	80.0	71		
16-BMD05A	339.00	340.00	1.00	siltstone		117	100	63	6.0	1.0	1.0	4.22	67		
16-BMD05A	340.00	341.00	1.00	siltstone		118	100	63	6.0	1.0	1.0	4.2	67		
16-BMD05A	341.00	342.00	1.00	**coal**	**3.1m coal. From 341.0 to 344.1m. Black, fresh, brecciated/decomposed.**	118								**No.0028**	Coal
16-BMD05A	342.00	344.10	2.10	**coal**		119	70	27	6.0	1.0	1.0	1.82	43		
16-BMD05A	344.10	345.00	0.90	siltstone	from 344.1 to 348.0m, 3.9m. black, thinly laminated. Coal along bedding planes.	119									
16-BMD05A	345.00	348.00	3.00	siltstone		120	100	73	2.0	1.0	1.0	14.7	62	**No.0029**	Coal
16-BMD05A	348.00	351.00	3.00	**coal**	**6.9m coal. From 348.0 to 354.9m. Black, fresh, brecciated/decomposed to good recovery. Minor siltstone parting > 20cm long.**	121	83	45	6.0	1.0	1.0	3.0	57		
16-BMD05A	351.00	354.00	3.00	**coal**		122	77	26	12.0	1.0	1.0	0.86	47		
16-BMD05A	354.00	354.90	0.90	**coal**		123	87	43	12.0	1.0	1.0	1.44	47		
16-BMD05A	354.90	356.60	1.70	siltstone	from 354.9 to 356.6m, 1.7m. black, massive.	123									
16-BMD05A	356.60	357.00	0.40	**coal**	**2.2m coal. From 356.6 to 358.8m. Black, fresh, decomposed.**	123									
16-BMD05A	357.00	358.80	1.80	**coal**		124	73	25	20.0	1.0	1.0	0.51	52		
16-BMD05A	358.80	360.00	1.20	siltstone	from 358.8 to 388.35m, 29.55m. black, thinly laminated.	124									
16-BMD05A	360.00	363.00	3.00	siltstone		125	87	70	4.0	1.0	1.0	17.5	67		
16-BMD05A	363.00	366.00	3.00	siltstone		126	93	77	4.0	1.0	1.0	19.2	71		
16-BMD05A	366.00	369.00	3.00	siltstone		127	83	49	9.0	1.0	1.0	5.48	57		
16-BMD05A	369.00	372.00	3.00	siltstone		128	98	96	4.0	4.0	4.0	23.9	87		
16-BMD05A	372.00	375.00	3.00	siltstone		129	90	75	4.0	1.0	1.0	18.8	79		
16-BMD05A	375.00	378.00	3.00	siltstone		130	100	97	2.0	1.0	1.0	48.3	87		
16-BMD05A	378.00	381.00	3.00	siltstone		131	100	93	4.0	1.0	1.0	23.3	87		
16-BMD05A	381.00	384.00	3.00	siltstone		132	94	87	4.0	1.0	1.0	21.8	79		
16-BMD05A	384.00	387.00	3.00	siltstone		133	100	85	4.0	1.0	1.0	21.3	71		
16-BMD05A	387.00	388.35	1.35	siltstone		134	73	30	12.0	1.0	1.0	1.0	57		
16-BMD05A	388.35	390.00	1.65	**coal**	**4.65m coal. From 388.35 to 393.00m. Black, fresh, good recovery.**	134								**No.0138**	Coal
16-BMD05A	390.00	393.00	3.00	**coal**		135	47	7	12.0	1.0	1.0	0.22	52		

16-BMD05A	393.00	395.40	2.40	siltstone	from 393.0 to 415.65m, 22.65m. black, thinly laminated. Coal along bedding planes.	136	100	67	4.0	1.0	1.0	6.73	70		
16-BMD05A	395.40	395.65	0.25	siltstone	from 395.4 to 395.65m, 0.25m broken zone.	136									
16-BMD05A	395.65	396.00	0.35	siltstone		136									
16-BMD05A	396.00	399.00	3.00	siltstone		137	95	60	4.0	1.0	1.0	15.1	70		
16-BMD05A	399.00	402.00	3.00	siltstone		138	95	77	4.0	1.0	1.0	19.2	74		
16-BMD05A	402.00	405.00	3.00	siltstone		139	100	89	4.0	1.0	1.0	22.3	79		
16-BMD05A	405.00	406.65	1.65	siltstone		140	100	75	4.0	2.0	1.0	37.5	79		
16-BMD05A	406.65	406.95	0.30	siltstone	from 406.65 to 406.95m, 0.30m broken zone.	140									
16-BMD05A	406.95	408.00	1.05	siltstone		140									
16-BMD05A	408.00	411.00	3.00	siltstone		141	100	57	4.0	1.0	1.0	14.2	70		
16-BMD05A	411.00	414.00	3.00	siltstone		142	100	88	4.0	2.0	1.0	44.2	74		
16-BMD05A	414.00	415.65	1.65	siltstone		143	83	45	6.0	1.0	1.0	3.0	57		
16-BMD05A	415.65	417.00	1.35	**coal**	**1.35m coal. From 415.65 to 417.00m. Black, fresh, good recovery to decomposed.**	143								No.0139	Coal
16-BMD05A	417.00	420.00	3.00	siltstone	from 417.0 to 438.0m, 21.0m. black, thinly laminated. Minor coal along bedding planes.	144	40	8	20.0	1.0	1.0	0.4	34		
16-BMD05A	420.00	423.00	3.00	siltstone		145	100	92	4.0	1.0	1.0	22.9	79		
16-BMD05A	423.00	426.00	3.00	siltstone		146	88	69	6.0	1.0	1.0	11.4	67		
16-BMD05A	426.00	429.00	3.00	siltstone		147	100	93	2.0	2.0	1.0	93.3	82		
16-BMD05A	429.00	432.00	3.00	siltstone		148	98	80	2.0	2.0	1.0	80.0	74		
16-BMD05A	432.00	435.00	3.00	siltstone		149	100	94	2.0	2.0	1.0	94.0	79		
16-BMD05A	435.00	438.00	3.00	siltstone		150	100	96	4.0	2.0	1.0	48.0	79		

Client:	Centermount Coal Ltd.			Driller:	Dorado Drilling	Borehole No.		16-BMD05		Date Started:				28-Apr-16	
Project:	Bingay Coal Open Pit Design			Drilling Method:	Diamond Drilling	Coordinate:		Elevation:	1452.3m	Date Finished:				30-Apr-16	
Location:	Elkford, BC			Total Depth:	135.5 m	Easting:	644071	Northing:	5562683	Page					
				GWLElevation:	NA	Azimuth:	159.1°	Inclination:	70.3°	(from horizontal)				Logged by:	CM/MN

Hole ID	Top	Bottom	Thickness	Lithology	Geological Description	Core Run No.	Core Recovery %	RQD, %	Discontinuity Description					Sample No.	Note
									Jn	Jr	Ja	Q	RMR(89)		
16-BMD05	0.00	1.00	1.00	till	from 0 to 1.7m, black, broken zone. Overburden materials.	1	40	15	6.0	1.0	3.0	0.8	34	No.0066	Se/Cd
16-BMD05	1.00	1.70	0.70	till		2	73	30	6.0	1.0	3.0	1.7	39		
16-BMD05	1.70	2.50	0.80	siltstone	from 1.7 to 11.0m, 9.30m. black, thinly bedded, bedding parallel to the borehole axis. Some joints healed by quartz.	2									
16-BMD05	2.50	3.50	1.00	siltstone		3	100	86	4.0	1.0	2.0	10.8	54		
16-BMD05	3.50	6.50	3.00	siltstone		4	33	80	6.0	2.0	2.0	13.3	54		
16-BMD05	6.50	9.50	3.00	siltstone		5	100	61	9.0	2.0	2.0	6.8	75		
16-BMD05	9.50	11.00	1.50	siltstone		6	100	87	2.0	2.0	2.0	43.3	79		
16-BMD05	11.00	12.50	1.50	siltstone	frome 11.0 to 30.9m, 19.9m. black, massive, some joints healed by quartz.	6									
16-BMD05	12.50	14.00	1.50	siltstone		7	80	60	3.0	2.0	2.0	20.0	75		
16-BMD05	14.00	16.50	2.50	siltstone		8	93	76	4.0	2.0	2.0	18.9	79		
16-BMD05	16.50	17.00	0.50	siltstone	from 16.5 to 18.8m, 2.3m, broken zone that is healed by quartz.	8									
16-BMD05	17.00	18.80	1.80	siltstone		9	100	82	12.0	3.0	1.0	20.4	74		
16-BMD05	18.80	20.00	1.20	siltstone		9									
16-BMD05	20.00	23.00	3.00	siltstone		10	91	68	4.0	0.5	1.0	8.46	65		
16-BMD05	23.00	26.00	3.00	siltstone		11	90	65	6.0	1.0	1.0	10.8	63		
16-BMD05	26.00	29.00	3.00	siltstone		12	97	80	4.0	1.0	1.0	20.0	69		
16-BMD05	29.00	30.90	1.90	siltstone		13	100	72	6.0	1.0	1.0	11.9	65		
16-BMD05	30.90	32.00	1.10	sandstone	from 30.9 to 33.8m, 2.9m grey, thinly bedded, coal along bedding planes.	13								No.0067	Se/Cd
16-BMD05	32.00	32.50	0.50	sandstone	broken zone.	14	82	37	15.0	1.0	1.0	0.49	55		
16-BMD05	32.50	32.90	0.40	sandstone		14									
16-BMD05	32.90	33.80	0.90	sandstone		14									
16-BMD05	33.80	34.60	0.80	coal	**from 33.8 to 34.6m, 0.80m coal. Black, fresh, good recovery.**	14									
16-BMD05	34.60	35.00	0.40	sandstone	from 34.6 to 43.8m, 9.2m grey, thinly bedded, coal along the bedding planes.	14									
16-BMD05	35.00	38.00	3.00	sandstone		15	100	47	6.0	1.0	1.0	7.78	55		
16-BMD05	38.00	41.00	3.00	sandstone		16	97	47	9.0	1.0	1.0	5.83	57		
16-BMD05	41.00	43.80	2.80	sandstone		17	77	45	4.0	1.0	1.0	2.30	65		
16-BMD05	43.80	44.00	0.20	coal	**0.20m coal. Black, fresh, good recovery.**	17									
16-BMD05	44.00	47.00	3.00	siltstone	from 44.0 to 89.0m, 45.0m. black, massive, coal along bedding planes.	18	77	35	4.0	1.0	1.0	8.80	58		
16-BMD05	47.00	50.00	3.00	siltstone		19	80	47	6.0	1.0	1.0	7.80	58		
16-BMD05	50.00	53.00	3.00	siltstone		20	90	47	6.0	1.0	1.0	7.80	58		
16-BMD05	53.00	56.00	3.00	siltstone		21	83	43	12.0	1.0	1.0	3.60	52		
16-BMD05	56.00	56.20	0.20	siltstone		22	80	20	12.0	1.0	1.0	1.70	48		
16-BMD05	56.20	56.40	0.20	siltstone	broken zone	22									
16-BMD05	56.40	56.80	0.40	siltstone		22									
16-BMD05	56.80	57.50	0.70	siltstone	broken zone.	22									
16-BMD05	57.50	58.75	1.25	siltstone		22									
16-BMD05	58.75	59.00	0.25	siltstone	broken zone.	22									
16-BMD05	59.00	62.00	3.00	siltstone		23	87	78	4.0	2.0	1.0	39.2	71	No.0068	Se/Cd
16-BMD05	62.00	65.00	3.00	siltstone		24	97	93	2.0	2.0	1.0	93.3	79		
16-BMD05	65.00	68.00	3.00	siltstone		25	100	82	2.0	2.0	1.0	81.7	76		

16-BMD05	68.00	71.00	3.00	siltstone		26	100	93	2.0	2.0	1.0	93.3	79		
16-BMD05	71.00	74.00	3.00	siltstone		27	100	93	4.0	2.0	1.0	46.7	82		
16-BMD05	74.00	77.00	3.00	siltstone		28	100	83	4.0	2.0	1.0	41.7	79		
16-BMD05	77.00	80.00	3.00	siltstone		29	100	80	3.0	2.0	1.0	53.3	79		
16-BMD05	80.00	83.00	3.00	siltstone		30	85	38	9.0	2.0	1.0	8.52	55		
16-BMD05	83.00	85.40	2.40	siltstone		31	77	52	9.0	1.0	1.0	5.74	60		
16-BMD05	85.40	86.00	0.60	siltstone	broken zone.	31									
16-BMD05	86.00	86.20	0.20	siltstone		32	57	37	4.0	2.0	1.0	18.3	55		
16-BMD05	86.20	89.00	2.80	siltstone		32								No.0069	Se/Cd
16-BMD05	89.00	89.70	0.70	coal	**from 89.0 to 94.4m, 5.4m coal. Black, fresh, brecciated/decomposed.**	33	23	0	15.0	1.0	1.0	0.0	24	**No.0011**	Coal
16-BMD05	89.70	89.90	0.20	coal	**0.20m siltstone parting.**	33									
16-BMD05	89.90	92.00	2.10	coal		33									
16-BMD05	92.00	94.40	2.40	coal		34	42	17	15.0	1.0	1.0	0.44	24		
16-BMD05	94.40	95.00	0.60	siltstone	from 94.4 to 95.2m, 0.8m black, massive, coal along bedding plane.	34									
16-BMD05	95.00	95.20	0.20	siltstone		35	50	0	12.0	1.0	1.0	0.0	24		
16-BMD05	95.20	98.00	2.80	coal	**from 95.2 to 102.5m, 7.3m coal. Black, fresh, brecciated/decomposed.**	35								**No.0012**	Coal
16-BMD05	98.00	101.00	3.00	coal		36	27	0	20.0	1.0	1.0	0.0	24		
16-BMD05	101.00	102.50	1.50	coal		37	67	8	15.0	1.0	1.0	0.22	24		
16-BMD05	102.50	104.00	1.50	siltstone	from 102.5 to 105.6m, 3.1m black, massive, jointed. Coal along bedding plane.	37									
16-BMD05	104.00	104.87	0.87	siltstone		38	70	27	12.0	1.0	1.0	0.89	29		
16-BMD05	104.87	105.60	0.73	siltstone		38									
16-BMD05	105.60	107.00	1.40	coal	**from 105.6 to 107.5m, 1.9m coal. Black, fresh, brecciated/decomposed.**	38								**No.0013**	Coal
16-BMD05	107.00	107.50	0.50	coal		39	67	57	4.0	1.5	1.0	8.5	70		
16-BMD05	107.50	110.00	2.50	siltstone	from 107.5 to 113.0m, 5.5m black, massive, jointed. Coal along bedding plane.	39									
16-BMD05	110.00	113.00	3.00	siltstone		40	100	87	5.0	1.5	1.0	26.0	74		
16-BMD05	113.00	116.00	3.00	siltstone	from 113.0 to 127.5m, 14.5m black, thinly bedded. Some joints healed by quartz.	41	95	87	4.0	2.0	1.0	43.3	79		
16-BMD05	116.00	119.00	3.00	siltstone		42	100	98	4.0	2.0	1.0	49.2	87		
16-BMD05	119.00	122.00	3.00	siltstone		43	100	59	4.0	2.0	1.0	29.3	70	No.0070	Se/Cd
16-BMD05	122.00	125.00	3.00	siltstone		44	100	68	4.0	2.0	1.0	34.2	75		
16-BMD05	125.00	127.50	2.50	siltstone		45	100	68	1.0	2.0	1.0	136.0	80		
16-BMD05	127.50	128.00	0.50	sandstone	from 127.5 to 132.5m, 5.0m grey, thinly bedded, trace coal along the bedding planes.	45									
16-BMD05	128.00	131.00	3.00	sandstone		46	100	95	1.0	2.0	1.0	190.0	89		
16-BMD05	131.00	132.50	1.50	sandstone		47	100	100	1.0	2.0	1.0	200.0	89		
16-BMD05	132.50	134.00	1.50	siltstone	from 132.5 to 135.5m, 3.0m black, thinly laminated. Trace coal along bedding plane.	47									
16-BMD05	134.00	135.50	1.50	siltstone		48	100	70	2.0	2.0	1.0	70.0	75	No.0071	Se/Cd

Client:	Centermount Coal Ltd.			Driller:	Dorado Drilling	Borehole No.		16-BMD06		Date Started:				24-Apr-16	
Project:	Bingay Coal Open Pit Design			Drilling Method:	Diamond Drilling	Coordinate:		Elevation:	1416.1m	Date Finished:				27-Apr-16	
Location:	Elkford, BC			Total Depth:	207.0 m	Easting:	644327	Northing:	5562793	Page					
				GWLElevation:	NA	Azimuth:	125.6°	Inclination:	61.3°	(from horizontal)				Logged by:	CM

Hole ID	Top	Bottom	Thickness	Lithology	Geological Description	Core Run No.	Core Recovery %	RQD, %	Discontinuity Description					Sample No.	Note
									Jn	Jr	Ja	Q	RMR(89)		
16-BMD06	0.00	2.00	2.00	till	from 0 to 2.0m, overburden. Broken zone.	1	34	26	15.0	1.0	4.0	0.4	58		
16-BMD06	2.00	2.40	0.40	siltstone	from 2.0 to 6.5m, 4.5m black, thinly bedded, some joints healed by quartz.	1									
16-BMD06	2.40	2.70	0.30	siltstone	from 2.4 to 2.7m, Broken zone.	1									
16-BMD06	2.70	3.50	0.80	siltstone		1									
16-BMD06	3.50	6.50	3.00	siltstone		2	100	68	6.0	2.0	1.0	22.8	65	No.0054	Se/Cd
16-BMD06	6.50	8.00	1.50	siltstone	from 6.5 to 16.5m, 10.0m black, massive, some joints healed by quartz.	3	100	77	6.0	2.0	1.0	25.6	69		
16-BMD06	8.00	11.00	3.00	siltstone		4	70	5	12.0	2.0	1.0	0.8	47		
16-BMD06	11.00	14.00	3.00	siltstone	from 8.0 to 17.0m, broken zone.	5	67	13	12.0	2.0	1.0	2.2	54		
16-BMD06	14.00	16.50	2.50	siltstone	from 14.0 to 18.5m, coal along the bedding plane.	6	67	11	12.0	2.0	1.0	1.8	54		
16-BMD06	16.50	17.00	0.50	siltstone	from 16.5 to 61.4m, 44.9m black, thinly bedded, some joint healed by quartz.	6									
16-BMD06	17.00	18.50	1.50	siltstone		7	93	68	6.0	2.0	1.0	22.8	65		
16-BMD06	18.50	20.00	1.50	siltstone		7									
16-BMD06	20.00	21.00	1.00	siltstone		8	93	68	6.0	2.0	1.0	22.8	65		
16-BMD06	21.00	24.00	3.00	siltstone		9	100	70	6.0	2.0	1.0	23.3	70		
16-BMD06	24.00	27.00	3.00	siltstone		10	93	23	12.0	2.0	1.0	3.9	65		
16-BMD06	27.00	30.00	3.00	siltstone		11	87	33	6.0	2.0	1.0	11.1	63	No.0055	Se/Cd
16-BMD06	30.00	33.00	3.00	siltstone		12	100	67	6.0	2.0	1.0	22.2	68		
16-BMD06	33.00	36.00	3.00	siltstone		13	100	83	3.0	2.0	1.0	55.6	74		
16-BMD06	36.00	37.50	1.50	siltstone		14	100	33	6.0	2.0	1.0	11.1	63		
16-BMD06	37.50	39.00	1.50	siltstone	from 37.5 to 39.5m, 1.5m borken zone.	14									
16-BMD06	39.00	39.50	0.50	siltstone		15	92	67	4.0	2.0	1.0	33.3	68		
16-BMD06	39.50	42.00	2.50	siltstone		15									
16-BMD06	42.00	45.00	3.00	siltstone		16	95	72	4.0	1.0	1.0	17.9	73		
16-BMD06	45.00	48.00	3.00	siltstone		17	100	67	4.0	1.0	1.0	16.7	69		
16-BMD06	48.00	51.00	3.00	siltstone		18	100	78	9.0	1.0	1.0	8.7	72		
16-BMD06	51.00	54.00	3.00	siltstone		19	100	70	2.0	1.0	1.0	35.0	68		
16-BMD06	54.00	57.00	3.00	siltstone		20	93	80	4.0	2.0	1.0	40.0	72		
16-BMD06	57.00	60.00	3.00	siltstone		21	83	70	4.0	2.0	1.0	35.0	72		
16-BMD06	60.00	61.40	1.40	siltstone		22	70	40	6.0	1.0	1.0	2.67	67		
16-BMD06	61.40	61.90	0.50	coal	**0.50m coal. Black, good recovery, fresh.**	22									
16-BMD06	61.90	63.00	1.10	siltstone	from 61.9 to 66.75m, 4.85m black, massive, coal along bedding plane.	22									
16-BMD06	63.00	66.00	3.00	siltstone		23	50	58	9.0	1.0	1.0	2.59	62		
16-BMD06	66.00	66.75	0.75	siltstone		24	67	20	6.0	1.0	1.0	1.33	52		
16-BMD06	66.75	66.80	0.05	coal	**0.05m coal. Black, brecciated/disintegrated, fresh.**	24									
16-BMD06	66.80	69.00	2.20	siltstone	from 66.8 to 71.92m, 5.12m black, massive, coal along bedding plane.	24									
16-BMD06	69.00	71.92	2.92	siltstone		25	83	37	6.0	1.0	1.0	2.44	60		
16-BMD06	71.92	72.00	0.08	coal	**from 71.92 to 80.60m, 8.68m coal.**	25								664291	Coal
16-BMD06	72.00	74.45	2.45	coal	**2.53m coal. Black, good recovery, fresh.**	26	63	3	15.0	1.0	1.0	0.09	34		

16-BMD06	74.45	75.00	0.55	siltstone	0.55m parting. Black, massive, coal along bedding planes.	26									
16-BMD06	75.00	78.00	3.00	**coal**	**5.60m coal. Black, good recovery, fresh.**	27	57	3	15.0	1.0	1.0	0.09	34		
16-BMD06	78.00	80.60	2.60	**coal**	**Black, bright and luster, light. Thicky bedded. Two intervals Parting: 74.45-75.00m, 0.55m black mudstone; 77.00-77.17m, 0.17m black mudstone. Recovery: 4.85m, lost: 2.10m.**	28	80	10	6.0	1.0	1.0	0.67	34		
16-BMD06	80.60	81.00	0.40	siltstone	from 80.6 to 82.05m, 1.45m black, massive, coal along bedding planes.	28									
16-BMD06	81.00	82.05	1.05	siltstone		29	93	39	6.0	1.0	1.0	2.6	54		
16-BMD06	82.05	82.45	0.40	**coal**	**0.40m coal. Black, good recovery, fresh.**	29									
16-BMD06	82.45	84.00	1.55	siltstone	black, massive, coal along bedding planes.	29									
16-BMD06	84.00	84.55	0.55	siltstone		30	77	32	6.0	1.0	1.0	2.1	54		
16-BMD06	84.55	86.80	2.25	**coal**	**2.25m coal. Black, good recovery, fresh.**	30									
16-BMD06	86.80	87.00	0.20	siltstone	from 86.8 to 92.0m, 5.2m black, massive, fresh.	30									
16-BMD06	87.00	90.00	3.00	siltstone		31	100	50	2.0	2.0	1.0	50.0	70	No.0056	Se/Cd
16-BMD06	90.00	92.00	2.00	siltstone		32	100	90	2.0	2.0	1.0	90.0	94		
16-BMD06	92.00	93.00	1.00	siltstone	from 92.0 to 127.8m, 35.8m black, thinly laminated, fresh.	32									
16-BMD06	93.00	96.00	3.00	siltstone		33	100	91	2.0	2.0	1.0	90.7	94		
16-BMD06	96.00	99.00	3.00	siltstone		34	97	82	2.0	2.0	1.0	81.7	94		
16-BMD06	99.00	100.80	1.80	siltstone		35	100	75	9.0	2.0	1.0	16.7	75		
16-BMD06	100.80	102.00	1.20	siltstone	from 100.8 to 102.0m, 1.2m coal in bedding planes and joints, some pyrite inclusions.	35									
16-BMD06	102.00	105.00	3.00	siltstone		36	100	56	6.0	1.0	1.0	9.3	75		
16-BMD06	105.00	108.00	3.00	siltstone		37	100	77	3.0	1.0	1.0	25.6	79		
16-BMD06	108.00	111.00	3.00	siltstone		38	100	82	3.0	1.0	1.0	27.2	79		
16-BMD06	111.00	114.00	3.00	siltstone		39	97	72	4.0	1.0	1.0	17.9	70		
16-BMD06	114.00	117.00	3.00	siltstone		40	98	85	4.0	2.0	1.0	42.5	74		
16-BMD06	117.00	120.00	3.00	siltstone		41	100	93	9.0	2.0	1.0	20.7	79	No.0057	Se/Cd
16-BMD06	120.00	122.50	2.50	siltstone		42	100	72	6.0	1.0	1.0	11.9	67		
16-BMD06	122.50	123.00	0.50	siltstone	from 122.5 to 124.5m, 2.0m vertical joints, broken zone.	42									
16-BMD06	123.00	124.50	1.50	siltstone		43	100	55	9.0	2.0	1.0	12.2	67		
16-BMD06	124.50	126.00	1.50	siltstone		43									
16-BMD06	126.00	127.80	1.80	siltstone		44	100	52	9.0	1.0	1.0	5.7	64		
16-BMD06	127.80	129.00	1.20	siltstone	from 127.8 to 132.0m, 4.2m black, massive, fresh.	44									
16-BMD06	129.00	132.00	3.00	siltstone		45	88	70	6.0	2.0	1.0	23.3	64		
16-BMD06	132.00	135.00	3.00	siltstone	from 132.0 to 164.41m, 32.41m black, thinly laminated, fresh.	46	100	87	2.0	2.0	1.0	86.7	76		
16-BMD06	135.00	138.00	3.00	siltstone		47	100	90	4.0	2.0	1.0	45.0	76		
16-BMD06	138.00	140.00	2.00	siltstone		48	100	87	4.0	2.0	1.0	43.3	76		
16-BMD06	140.00	141.00	1.00	siltstone		49	100	87	4.0	2.0	1.0	43.3	76		
16-BMD06	141.00	143.40	2.40	siltstone	from 141.0 to 143.4m, 2.4m broken zone.	50	90	27	12.0	1.0	1.0	2.2	60		
16-BMD06	143.40	144.00	0.60	siltstone		50									
16-BMD06	144.00	147.00	3.00	siltstone		51	100	72	4.0	1.0	1.0	17.9	70		
16-BMD06	147.00	150.00	3.00	siltstone		52	95	78	4.0	1.0	1.0	19.6	71	No.0058	Se/Cd
16-BMD06	150.00	153.00	3.00	siltstone		53	100	80	4.0	1.0	1.0	20.0	71		
16-BMD06	153.00	156.00	3.00	siltstone		54	100	63	4.0	1.0	1.0	15.8	67		
16-BMD06	156.00	159.00	3.00	siltstone		55	100	98	4.0	2.0	1.0	49.2	77		
16-BMD06	159.00	162.00	3.00	siltstone		56	100	80	4.0	2.0	1.0	40.0	74		
16-BMD06	162.00	164.41	2.41	siltstone		57	92	58	3.0	1.0	1.0	7.8	62		
16-BMD06	164.41	165.00	0.59	**coal**	**from 164.41 to 175.6m, 11.19m coal. Black, good recovery, fresh.**	57								**664302**	Coal

16-BMD06	165.00	168.00	3.00	**coal**	**Recovery: 8.70m, lost: 2.49m. at 164.41-173.50m, good coal. Bright and luster, light, black. Gassy. at 173.50-175.60m, fine coal, Ground and dull. Badly broken along cheat.**	58	93	30	12.0	1.0	1.0	1.0	57		
16-BMD06	168.00	171.00	3.00	**coal**		59	87	33	12.0	1.0	1.0	1.1	57		
16-BMD06	171.00	174.00	3.00	**coal**		60	50	7	15.0	1.0	1.0	0.2	44		
16-BMD06	174.00	175.60	1.60	**coal**		61	77	22	15.0	1.0	1.0	0.6	44		
16-BMD06	175.60	176.70	1.10	siltstone	from 175.6 to 176.7m, 1.1m black, thinly laminated, fresh. Coal along bedding planes.	61									
16-BMD06	176.70	177.00	0.30	**coal**	**from 176.7 to 179.73m, 3.03m coal.**	61								**664303**	Coal
16-BMD06	177.00	179.73	2.73	**coal**	**3.03m coal seam. Good coal. Bright and luster, light and black. Recovery: 100%. Two intervals Parting: 178.85-179.07m, 0.22m mudstone, black; 179.29-179.40m, 0.11m and 179.47-179.55m, 0.08m black mudstone. Coal structure: 2.15(0.22)0.22(0.11)0.07(0.08)0.18m.**	62	100	23	12.0	1.0	1.0	1.9	44		
16-BMD06	179.73	180.00	0.27	siltstone	from 179.73 to 182.3m, 2.57m light grey, massive, fresh.	62									
16-BMD06	180.00	182.30	2.30	siltstone		63	100	88	9.0	2.0	1.0	19.6	71	No.0059	Se/Cd
16-BMD06	182.30	183.00	0.70	siltstone	from 182.3 to 207.0m, 24.7m black, thinly laminated, some coal along bedding planessome joints healed by quartz veins.	63									
16-BMD06	183.00	186.00	3.00	siltstone		64	100	90	4.0	3.0	1.0	67.5	71		
16-BMD06	186.00	189.00	3.00	siltstone		65	100	100	4.0	2.0	1.0	50.0	77		
16-BMD06	189.00	192.00	3.00	siltstone		66	100	95	4.0	2.0	1.0	47.5	77		
16-BMD06	192.00	195.00	3.00	siltstone		67	100	62	4.0	2.0	1.0	30.8	70		
16-BMD06	195.00	198.00	3.00	siltstone		68	100	88	2.0	2.0	1.0	88.3	79		
16-BMD06	198.00	201.00	3.00	siltstone		69	100	80	2.0	2.0	1.0	80.0	79		
16-BMD06	201.00	204.00	3.00	siltstone		70	100	97	2.0	2.0	1.0	96.7	86		
16-BMD06	204.00	207.00	3.00	siltstone		71	100	95	2.0	2.0	1.0	95.0	86		

Client:	Centermount Coal Ltd.			Driller:	Dorado Drilling	Borehole No.		16-BMD07		Date Started:				19-Apr-16	
Project:	Bingay Coal Open Pit Design			Drilling Method:	Diamond Drilling	Coordinate:		Elevation:	1403.4m	Date Finished:				20-Apr-16	
Location:	Elkford, BC			Total Depth:	251.5 m	Easting:	644333	Northing:	5562981	Page					
				GWLElevation:	NA	Azimuth:	100°	Inclination:	70°	(from horizontal)				Logged by:	MN

Hole ID	Top	Bottom	Thickness	LIthology	Geological Description	Core Run No.	Core Recovery %	RQD, %	Discontinuity Description					Sample No.	Note
									Jn	Jr	Ja	Q	RMR(89)		
16-BMD07	0.00	4.00	4.00	siltstone	from 0 to 4.4m, black, massive, thickly bedded. From 0 to 1.5m broken zone.	1	100	31	15.0	1.0	2.0	0.2	55		
16-BMD07	4.00	4.40	0.40	siltstone		2	30	7	15.0	1.0	2.0	0	47		
16-BMD07	4.40	7.00	2.60	**coal**	**4.7m coal. From 4.4 to 9.1m, weathered, brecciated/decomposed. Poor recovery.**	2		7							
16-BMD07	7.00	9.10	2.10	**coal**		3	33	0	15.0	1.0	2.0	0	0		
16-BMD07	9.10	10.00	0.90	siltstone	from 9.1 to 25.86m, 16.76m black, thinly bedded. Some joints healed by quartz. From 9.1 to 11.8m, massive; from 11.2 to 11.3m, 0.10m coal seam. From 11.5 to 14.5m, bedding dip angle=30 degree.	3									
16-BMD07	10.00	11.50	1.50	siltstone		4	96	59	6.0	2.0	2.0	2	70		
16-BMD07	11.50	13.00	1.50	siltstone		5	100	47	9.0	2.0	1.0	10.4	63		
16-BMD07	13.00	14.50	1.50	siltstone		6	100	47	6.0	3.0	1.0	23.3	63		
16-BMD07	14.50	16.00	1.50	siltstone		7	100	87	6.0	3.0	1.0	43.3	74		
16-BMD07	16.00	17.50	1.50	siltstone		8	94	50	6.0	3.0	1.0	25	55		
16-BMD07	17.50	20.50	3.00	siltstone		9	97	73	6.0	3.0	1.0	36.5	62		
16-BMD07	20.50	23.50	3.00	siltstone	black, thinly bedded. Some joints healed by quartz.	10	100	90	9.0	1.5	2.0	7.5	70		
16-BMD07	23.50	25.86	2.36	siltstone		11	83	67	6.0	2.0	2.0	2.22	67		
16-BMD07	25.86	26.50	0.64	**coal**	**from 25.86 to 27.6m, 1.74m coal. Black, fresh, good recovery.**	11									
16-BMD07	26.50	27.60	1.10	**coal**		12	100	67	3.0	2.0	2.0	4.44	67		
16-BMD07	27.60	29.50	1.90	siltstone	frome 27.6 to 49.75m, 22.15m black, thinly bedded. Some joints healed by quartz.	12									
16-BMD07	29.50	32.50	3.00	siltstone		13	100	100	3.0	1.5	1.0	50	82		
16-BMD07	32.50	35.50	3.00	siltstone		14	100	93	3.0	1.5	1.0	46.7	82		
16-BMD07	35.50	38.50	3.00	siltstone		15	100	93	3.0	1.5	1.0	46.5	82		
16-BMD07	38.50	41.50	3.00	siltstone		16	100	98	2.0	1.5	1.0	74	82		
16-BMD07	41.50	44.50	3.00	siltstone		17	100	100	1.0	3.0	1.0	300	87		
16-BMD07	44.50	47.50	3.00	siltstone		18	100	100	1.0	3.0	1.0	300	87		
16-BMD07	47.50	49.75	2.25	siltstone		19	90	55	12.0	3.0	1.0	2.75	67		
16-BMD07	49.75	50.50	0.75	**coal**	**from 49.75 to 53.0m, coal. Black, fresh, brecciated/decomposed.**	19									
16-BMD07	50.50	53.00	2.50	**coal**	**poor decovery.**	20	43	12	20.0	1.0	3.0	0.04	34		
16-BMD07	53.00	53.50	0.50	siltstone	from 53.0 to 94.48m, 41.48m black, thinly bedded. Some joints healed by quartz.	20									
16-BMD07	53.50	56.50	3.00	siltstone		21	47	19	12.0	1.5	1.0	2.38	34		
16-BMD07	56.50	59.50	3.00	siltstone		22	97	42	9.0	2.0	1.0	9.26	55		
16-BMD07	59.50	62.50	3.00	siltstone		23	83	41	9.0	2.0	1.0	9.11	55		
16-BMD07	62.50	65.50	3.00	siltstone	from 62.5 to 69.7m, 3.0m broken zone.	24	73	17	12.0	3.0	1.0	4.17	48		
16-BMD07	65.50	68.50	3.00	siltstone		25	73	13	9.0	3.0	1.0	4.22	48		
16-BMD07	68.50	71.50	3.00	siltstone	coal along bedding plane. From 68.50 to 71.50m, 3.0m.	26	97	53	9.0	1.5	1.0	8.89	55		
16-BMD07	71.50	74.50	3.00	siltstone		27	90	70	3.0	1.5	1.0	35	74		
16-BMD07	74.50	77.50	3.00	siltstone		28	87	67	4.0	1.5	1.0	25	70		
16-BMD07	77.50	80.50	3.00	siltstone		29	100	90	2.0	1.5	1.0	67.5	74		

16-BMD07	80.50	83.50	3.00	siltstone		30	93	77	9.0	2.0	1.0	17.2	74		
16-BMD07	83.50	86.50	3.00	siltstone		31	100	82	6.0	1.0	1.0	13.7	74		
16-BMD07	86.50	89.50	3.00	siltstone	from 87.9 to 88.8m, 0.9m quartz veins.	32	100	92	6.0	1.0	1.0	15.3	74		
16-BMD07	89.50	92.50	3.00	siltstone		33	100	100	2.0	2.0	1.0	100	87		
16-BMD07	92.50	94.48	1.98	siltstone		34	60	53	15.0	1.0	3.0	0.47	47		
16-BMD07	94.48	95.50	1.02	**coal**	**from 94.48 to 97.78m, black, fresh, brecciated/decomposed.**	34									
16-BMD07	95.50	97.78	2.28	**coal**		35	57	13	15.0	1.0	3.0	0.11	34		
16-BMD07	97.78	98.50	0.72	siltstone	2.22m black, massive. Jointed. From 97.78 to 100.0m.	35									
16-BMD07	98.50	100.00	1.50	siltstone		36	43	32	15.0	1.0	3.0	0.28	39		
16-BMD07	100.00	101.50	1.50	**coal**	**from 100 to 104.87m, 4.87m coal. black, fresh, brecciated/decomposed.**	36								664286	Coal
16-BMD07	101.50	103.50	2.00	**coal**		37	53	10	20.0	1.0	3.0	0.07	34		
16-BMD07	103.50	104.50	1.00	**coal**		37									
16-BMD07	104.50	104.87	0.37	**coal**		38	83	45	12.0	1.0	3.0	0.5	39		
16-BMD07	104.87	107.40	2.53	siltstone	black, massive. Jointed. Coal along bedding plane.	38									
16-BMD07	107.40	107.50	0.10	**coal**	**from 107.4 to 108.0m, 0.6m coal. black, fresh, brecciated/decomposed.**	38									
16-BMD07	107.50	108.00	0.50	**coal**		39	73	41	12.0	2.0	1.0	2.71	43		
16-BMD07	108.00	110.50	2.50	siltstone	from 108 to 126.47m, 18.47m black, thinly laminated. Some joints healed by quartz.	39									
16-BMD07	110.50	113.50	3.00	siltstone		40	97	71	9.0	2.0	1.0	15.9	60		
16-BMD07	113.50	116.50	3.00	siltstone		41	100	93	9.0	3.0	1.0	31.1	79		
16-BMD07	116.50	119.50	3.00	siltstone		42	100	98	3.0	3.0	1.0	98.3	79		
16-BMD07	119.50	122.50	3.00	siltstone		43	83	47	15.0	1.0	2.0	1.56	45		
16-BMD07	122.50	125.50	3.00	siltstone		44	57	35	4.0	2.0	1.0	17.5	47		
16-BMD07	125.50	126.47	0.97	siltstone		45	70	37	15.0	1.0	2.0	0.49	45		
16-BMD07	126.47	127.78	1.31	**coal**	**from 126.47 to 127.78m, 1.31m coal. black, fresh, brecciated/decomposed.**	45									
16-BMD07	127.78	128.50	0.72	siltstone	from 127.78 to 144.3m, 15.8m black, thinly laminated. Some joints healed by quartz.	45									
16-BMD07	128.50	131.50	3.00	siltstone		46	100	98	4.0	2.0	1.0	49.2	79		
16-BMD07	131.50	134.50	3.00	siltstone		47	100	100	2.0	2.0	1.0	100	84		
16-BMD07	134.50	137.50	3.00	siltstone		48	100	100	2.0	2.0	1.0	100	84		
16-BMD07	137.50	140.50	3.00	siltstone		49	90	80	9.0	2.0	1.0	17.8	79		
16-BMD07	140.50	143.50	3.00	siltstone		50	100	90	4.0	2.0	1.0	45	74		
16-BMD07	143.50	144.30	0.80	siltstone		51	80	37	12.0	1.0	1.0	1.22	57		
16-BMD07	144.30	145.82	1.52	**coal**	**black, good recovery, fresh. From 144.30 to 145.82m, 1.52m coal.**	51									
16-BMD07	145.82	146.50	0.68	siltstone	black, thinly bedded. Some joints healed by quartz. Coal along bedding planes. From 145.82 to 150.58m, 4.76m.	51									
16-BMD07	146.50	149.50	3.00	siltstone		52	93	65	4.0	2.0	1.0	13.1	54		
16-BMD07	149.50	150.58	1.08	siltstone		53	97	57	4.0	2.0	1.0	11.4	60		
16-BMD07	150.58	150.78	0.20	**coal**	**black, good recovery, fresh. From 150.58 to 150.78m, 0.20m coal.**	53									
16-BMD07	150.78	152.50	1.72	siltstone	black, thinly bedded. Some joints healed by quartz. Coal along bedding planes. From 150.58 to 154.15m, 3.37m.	53									
16-BMD07	152.50	154.15	1.65	siltstone		54	50	20	6.0	2.0	1.0	2.67	48		
16-BMD07	154.15	155.50	1.35	**coal**	**black, good recovery, fresh. From 154.15 to 155.50m, 1.35m coal.**	54									
16-BMD07	155.50	158.50	3.00	siltstone	black, thinly bedded. Some joints healed by quartz. Coal along bedding planes. From 155.50 to 163.0m, 7.5m.	55	97	86	4.0	2.0	1.0	43	74		
16-BMD07	158.50	160.50	2.00	siltstone		56	88	72	4.0	2.0	1.0	36.2	70		
16-BMD07	160.50	161.50	1.00	siltstone		57	82	72	4.0	2.0	1.0	36	70		
16-BMD07	161.50	163.00	1.50	siltstone		58	100	82	6.0	2.0	1.0	10.9	74		

16-BMD07	163.00	163.20	0.20	coal	**black, good recovery, fresh.**	58									
16-BMD07	163.20	163.60	0.40	siltstone		58									
16-BMD07	163.60	163.80	0.20	coal	**black, good recovery, fresh.**	58									
16-BMD07	163.80	164.50	0.70	siltstone	black, thinly bedded. Some joints healed by quartz. Coal along bedding planes. From 163.8 to 169.3m, 5.5m.	58									
16-BMD07	164.50	167.50	3.00	siltstone		59	100	79	4.0	1.0	1.0	7.93	74		
16-BMD07	167.50	169.30	1.80	siltstone		60	90	47	9.0	1.0	1.0	2.07	53		
16-BMD07	169.30	169.70	0.40	coal	**black, good recovery, fresh. 0.40m coal.**	60									
16-BMD07	169.70	170.50	0.80	siltstone	black, thinly bedded. Some joints healed by quartz. Coal along bedding planes.										
16-BMD07	170.50	171.30	0.80	siltstone		61	93	72	6.0	1.0	1.0	4.78	67		
16-BMD07	171.30	171.50	0.20	coal	**black, brecciated/decomposed, fresh. 0.20m coal.**	61									
16-BMD07	171.50	173.50	2.00	siltstone	black, thinly bedded. Some joints healed by quartz. Coal along bedding planes. From 171.5 to 178.0m, 6.5m.	61									
16-BMD07	173.50	176.50	3.00	siltstone		62	100	87	6.0	1.0	1.0	5.82	74		
16-BMD07	176.50	178.00	1.50	siltstone		63	100	85	6.0	1.0	1.0	5.67	74		
16-BMD07	178.00	179.00	1.00	coal	**black, brecciated/decomposed, fresh. 1.00m coal.**	63									
16-BMD07	179.00	179.50	0.50	siltstone	black, thinly bedded. Some joints healed by quartz. Coal along bedding planes. From 179.0 to 208.47m, 29.47m.	63									
16-BMD07	179.50	182.50	3.00	siltstone		64	100	85	3.0	2.0	1.0	56.7	71		
16-BMD07	182.50	185.50	3.00	siltstone		65	100	77	6.0	2.0	1.0	25.6	69		
16-BMD07	185.50	188.50	3.00	siltstone		66	100	77	6.0	2.0	1.0	25.8	69		
16-BMD07	188.50	191.50	3.00	siltstone		67	100	95	6.0	2.0	1.0	31.6	82		
16-BMD07	191.50	194.50	3.00	siltstone		68	100	98	3.0	2.0	1.0	65.3	82		
16-BMD07	194.50	197.50	3.00	siltstone		69	100	95	4.0	2.0	1.0	47.5	79		
16-BMD07	197.50	200.50	3.00	siltstone		70	100	97	2.0	2.0	1.0	96.7	82		
16-BMD07	200.50	203.50	3.00	siltstone		71	100	93	2.0	2.0	1.0	92.7	79		
16-BMD07	203.50	206.50	3.00	siltstone		72	100	98	6.0	2.0	1.0	32.8	77		
16-BMD07	206.50	208.47	1.97	siltstone		73	81	65	6.0	2.0	1.0	8.67	67		
16-BMD07	208.47	209.50	1.03	coal	**from 208.47 to 218.65m, 10.18m coal. black, good recovery. Fresh.**	73								664287	Coal
16-BMD07	209.50	212.50	3.00	coal		74	47	10	15.0	1.0	2.0	0.13	38		
16-BMD07	212.50	215.50	3.00	coal		75	70	16	15.0	1.0	2.0	0.22	38		
16-BMD07	215.50	218.50	3.00	coal		76	70	16	15.0	1.0	2.0	0.22	38		
16-BMD07	218.50	218.65	0.15	coal		77	47	33	12.0	1.0	2.0	0.56	53		
16-BMD07	218.65	221.50	2.85	siltstone	black, thinly bedded. Some joints healed by quartz. Coal along bedding planes. From 218.65 to 225.0m, 6.35m.	77									
16-BMD07	221.50	224.50	3.00	siltstone		78	92	47	12.0	1.0	2.0	1.94	53		
16-BMD07	224.50	225.00	0.50	siltstone		79	92	72	6.0	1.0	1.0	4.78	65		
16-BMD07	225.00	225.70	0.70	coal	**black, good recovery, fresh. From 225.0 to 225.7m, 0.70m coal.**	79									
16-BMD07	225.70	227.50	1.80	siltstone	from 225.7 to 251.5m, 25.8m black, thinly bedded. Some joints healed by quartz.	79									
16-BMD07	227.50	230.50	3.00	siltstone	black, thinly bedded. Some joints healed by quartz.	80	100	97	4.0	2.0	1.0	48.3	82		
16-BMD07	230.50	233.50	3.00	siltstone	black, thinly bedded. Some joints healed by quartz.	81	100	69	4.0	2.0	1.0	34.5	70		
16-BMD07	233.50	236.50	3.00	siltstone	from 235.5 to 236.5m, 3.0m broken zone.	82	90	63	4.0	2.0	1.0	31.7	67		
16-BMD07	236.50	239.50	3.00	siltstone	black, thinly bedded. Some joints healed by quartz.	83	100	63	4.0	2.0	1.0	31.7	67		
16-BMD07	239.50	242.50	3.00	siltstone	black, thinly bedded. Some joints healed by quartz.	84	100	100	4.0	2.0	1.0	50	87		
16-BMD07	242.50	245.50	3.00	siltstone	black, thinly bedded. Some joints healed by quartz.	85	95	67	4.0	2.0	1.0	33.5	67		
16-BMD07	245.50	248.50	3.00	siltstone	black, thinly bedded. Some joints healed by quartz.	86	100	95	9.0	2.0	1.0	21.1	79		
16-BMD07	248.50	251.50	3.00	siltstone	black, thinly bedded. Some joints healed by quartz.	87	97	62	9.0	2.0	1.0	13.8	67		

Client:	Centermount Coal Ltd.			Driller:	Dorado Drilling	Borehole No.		16-BMD08		Date Started:				21-Mar-16	
Project:	Bingay Coal Open Pit Design			Drilling Method:	Diamond Drilling	Coordinate:		Elevation:	1386.9m	Date Finished:				25-Mar-16	
Location:	Elkford, BC			Total Depth:	340.0m	Easting:	644339	Northing:	5563135	Page					
				GWLElevation:	NA	Azimuth:	80.3°	Inclination:	59.5°	(from horizontal)				Logged by:	MN/CM

Hole ID	Top	Bottom	Thickness	Lithology	Geological Description	Core Run No.	Core Recovery %	RQD, %	Discontinuity Description					Sample No.	Note
									Jn	Jr	Ja	Q	RMR(89)		
16-BMD08	0.00	4.00	4.00	till	Overburned (from 0 to 6.4m): clayey till with some gravel. Brown moist.	1	26	3	20.0	1.0	4.0	0.04	19	664216	Se/Cd
16-BMD08	4.00	6.40	2.40	till		2	26	3							
16-BMD08	6.40	7.00	0.60	coal	**coal. Weathered, brecciated, poor recovery.**	2	26	3							
16-BMD08	7.00	10.00	3.00	siltstone	from 7 to 28.7m, 21.7m black, massive, thicky bedded, trace coal along bedding plane.	3	100	77	4.0	1.0	4.0	4.8	64	664217	Se/Cd
16-BMD08	10.00	13.00	3.00	siltstone		4	96	63	4.0	2.0	4.0	7.9	64	664218	Se/Cd
16-BMD08	13.00	16.00	3.00	siltstone		5	93	77	6.0	2.0	4.0	6.4	64	664219	Se/Cd
16-BMD08	16.00	19.00	3.00	siltstone		6	94	50	6.0	2.0	4.0	4.2	60	664220	Se/Cd
16-BMD08	19.00	22.00	3.00	siltstone		7	97	73	2.0	1.0	4.0	9.1	70	664221	Se/Cd
16-BMD08	22.00	25.00	3.00	siltstone		8	100	89	4.0	1.5	1.0	33.4	68	664222	Se/Cd
16-BMD08	25.00	28.00	3.00	siltstone		9	89	96	4.0	1.5	1.0	36	71	664223 664249	Se/Cd Se/Cd
16-BMD08	28.00	28.70	0.70	siltstone		10	62	19	20.0	1.0	4.0	0.24	34	664250	Se/Cd
16-BMD08	28.70	31.00	2.30	coal	**7.7m coal: from 28.7 to 36.4m. Black, fresh, brecciated/decomposed.**	10	62	19							
16-BMD08	31.00	34.00	3.00	coal		11	63	19	20.0	1.0	4.0	0.24	34		
16-BMD08	34.00	36.40	2.40	coal		12	45	17	20.0	1.0	4.0	0.21	34		
16-BMD08	36.40	36.60	0.20	siltstone	parting: black, massive, thicky bedded, trace coal along bedding plane.	12	45	17							
16-BMD08	36.60	37.00	0.40	coal	**14.8m coal: from 36.6 to 51.4m. Black, fresh, brecciated/decomposed.**	12	45	17							
16-BMD08	37.00	39.60	2.60	coal		13	27	20	20.0	1.0	4.0	0.35	34		
16-BMD08	39.60	40.00	0.40	coal	poor recovery.	13	27	20							
16-BMD08	40.00	42.00	2.00	coal		14	13	0	20.0	1.0	4.0	0	34		
16-BMD08	42.00	43.00	1.00	coal	poor recovery.	14	13	0							
16-BMD08	43.00	46.00	3.00	coal		15	13	0	20.0	1.0	4.0	0	34		
16-BMD08	46.00	48.70	2.70	coal		16	13	0	20.0	1.0	4.0	0	34		
16-BMD08	48.70	49.00	0.30	coal	poor core recovery.	16	13	0							
16-BMD08	49.00	51.40	2.40	coal		17	80	30	20.0	1.0	4.0	0.38	39		
16-BMD08	51.40	52.00	0.60	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	17	80	30							
16-BMD08	52.00	55.00	3.00	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	18	95	51	4.0	2.0	1.0	25.5	67		
16-BMD08	55.00	55.50	0.50	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	19	67	27	15.0	1.0	4.0	0.45	39		
16-BMD08	55.50	55.60	0.10	coal	**0.1m coal. Black, fresh, brecciated/decomposed.**	19	67	27							
16-BMD08	55.60	57.30	1.70	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	19	67	27							
16-BMD08	57.30	57.40	0.10	coal	**0.1m coal. Black, fresh, brecciated/decomposed.**	19	67	27							
16-BMD08	57.40	58.00	0.60	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	19	67	27							
16-BMD08	58.00	59.00	1.00	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	20	80	41	15.0	1.0	4.0	0.68	39	664251	Se/Cd
16-BMD08	59.00	59.60	0.60	coal	**0.6m coal. Black, fresh, brecciated/decomposed.**	20	80	41							
16-BMD08	59.60	61.00	1.40	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	20	80	41							
16-BMD08	61.00	62.00	1.00	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	21	65	54	15.0	1.0	3.0	0.48	39		
16-BMD08	62.00	62.30	0.30	coal	**0.3m coal. Black, fresh, brecciated/decomposed.**	21									
16-BMD08	62.30	64.00	1.70	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	21									
16-BMD08	64.00	64.20	0.20	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	22	73	50	15.0	1.0	3.0	0.44	39		
16-BMD08	64.20	65.30	1.10	coal	**1.1m coal. Black, fresh, brecciated/decomposed.**	22									

16-BMD08	65.30	67.00	1.70	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	22										
16-BMD08	67.00	67.30	0.30	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	23	73	35	3.0	1.0	3.0	1.56	39			
16-BMD08	67.30	68.20	0.90	**coal**	**0.9m coal. Black, fresh, brecciated/decomposed.**	23										
16-BMD08	68.20	70.00	1.80	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	23										
16-BMD08	70.00	73.00	3.00	siltstone		24	100	63	3.0	2.0	1.0	42	64			
16-BMD08	73.00	76.00	3.00	siltstone		25	100	90	3.0	3.0	2.0	44.8	74	664252	Se/Cd	
16-BMD08	76.00	79.00	3.00	siltstone	lost core	26										
16-BMD08	79.00	81.70	2.70	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	27	90	51	6.0	2.0	1.0	8.5	70			
16-BMD08	81.70	82.00	0.30	**coal**	**1.3m coal. From 81.7 to 83.0m, Black, fresh, brecciated/decomposed.**	27										
16-BMD08	82.00	83.00	1.00	**coal**		28	50	50	6.0	2.0	4.0	1.67	57			
16-BMD08	83.00	85.00	2.00	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	28	50	50								
16-BMD08	85.00	88.00	3.00	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	29	100	92	4.0	2.0	1.0	46	82			
16-BMD08	88.00	91.00	3.00	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	30	100	92	4.0	2.0	1.0	46	82			
16-BMD08	91.00	94.00	3.00	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	31	73	57	4.0	2.0	2.0	14.3	70			
16-BMD08	94.00	97.00	3.00	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	32	100	76	4.0	2.0	2.0	19	70	664253	Se/Cd	
16-BMD08	97.00	100.00	3.00	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	33	100	93	4.0	2.0	2.0	23.3	82	664254	Se/Cd	
16-BMD08	100.00	103.00	3.00	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	34	99	75	2.0	2.0	1.0	75	67			
16-BMD08	103.00	104.40	1.40	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	35	50	27	6.0	3.0	3.0	1.8	42			
16-BMD08	104.40	105.00	0.60	**coal**	**from 104.4 to 110.8m, 6.40m coal. Black, fresh, brecciated/decomposed.**	36	26	0	20.0	1.0	4.0	0	37	**No. 0013**	Coal	
16-BMD08	105.00	106.00	1.00	**coal**												
16-BMD08	106.00	109.00	3.00	**coal**	**core loss (possibly coal).**	36	26									
16-BMD08	109.00	110.80	1.80	**coal**		37	57	26	6.0	2.0	3.0	1.16	42			
16-BMD08	110.80	112.00	1.20	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	37	57	26								
16-BMD08	112.00	115.00	3.00	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	38	100	83	4.0	2.0	1.0	41.5	74			
16-BMD08	115.00	118.00	3.00	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	39	100	80	4.0	2.0	1.0	40	74			
16-BMD08	118.00	121.00	3.00	siltstone	quartz veins along joints.	40	100	82	3.0	2.0	1.0	54.7	71			
16-BMD08	121.00	122.00	1.00	siltstone	black, massive, thicky bedded, trace coal along bedding plane.	41	89	62	6.0	3.0	1.0	12.4	64			
16-BMD08	122.00	122.20	0.20	**coal**	**0.2m coal. Black, fresh, brecciated/decomposed.**	41										
16-BMD08	122.20	124.00	1.80	sandstone	grey, massive bedded. Linerlayers of siltstone, fine to medium grained.	41										
16-BMD08	124.00	127.00	3.00	sandstone	some quartz veins	42	95	67	6.0	3.0	1.0	13.4	75			
16-BMD08	127.00	130.00	3.00	**coal**	**3.0m coal. Black, fresh, brecciated/decomposed.**	43	34	5	20.0	1.0	4.0	0.03	34			
16-BMD08	130.00	132.30	2.30	siltstone	black, massive, thicky bedded, trace coal along bedding plane. From 130 to 142m, 12m.	44	97	62	6.0	2.0	1.0	20.7	64			
16-BMD08	132.30	133.00	0.70	siltstone	from 132.3 to 136m, 3.7m fractured zone.	44										
16-BMD08	133.00	136.00	3.00	siltstone		45	83	54	4.0	2.0	1.0	27	64			
16-BMD08	136.00	139.00	3.00	siltstone		46	83	72	4.0	2.0	1.0	36	70			
16-BMD08	139.00	142.00	3.00	siltstone		47	86	74	4.0	2.0	1.0	37	70			
16-BMD08	142.00	144.44	2.44	siltstone	dark grey. Thicky bedded, massive.	142-145		76								
16-BMD08	144.44	147.64	3.20	siltstone	dark grey. Massive, thicky bedded.	145-148		82								
16-BMD08	147.64	151.00	3.36	siltstone	dark grey. Massive, thicky bedded. From 149.00 to end, interbedded with light grey fine-grained sandstone laminated, 20%.	148-151		80								
16-BMD08	151.00	154.17	3.17	siltstone	same as above.	151-154		94								
16-BMD08	154.17	155.90	1.73	mudstone	light black. Massive. At base, numerous coal strings.									No.0060	Se/Cd	
16-BMD08	**155.90**	**157.42**	**1.52**	**coal**	**from 155.9 to 159.05m, 3.15m coal seam. Black, bright, luster and light. No parting. Recovery: 2.85m, lost: 0.30m. No.17?**	**154-157**	**90**							**No.0005**	Coal	
16-BMD08	157.42	159.05	1.63	**coal**		157-160										
16-BMD08	159.05	159.90	0.85	siltstone	dark grey. With light grey fine-grained sandstone laminated. At 159.70-159.80m, 0.10m cave, infilled calcite veins.											

16-BMD08	159.90	160.60	0.70	mudstone	light black. Abundant coal streak.										
16-BMD08	160.60	161.34	0.74	siltstone	dark grey. Interbedded with light grey fine-grained sandstone laminated, 50%.										
16-BMD08	161.34	164.62	3.28	siltstone	medium-dark grey. Interbedded with light grey fine-grained sandstone laminated, 40%. With minor trace coal and calcite veins.	160-163		46							
16-BMD08	164.62	167.60	2.98	siltstone	interbedded with dark grey siltstone and light grey fine-grained sandstone. 50:50. occasional trace coal and calcite veins.	163-166		92							
16-BMD08	167.60	170.78	3.18	siltstone	same as above.	166-169		85							
16-BMD08	170.78	173.94	3.16	siltstone	same as above.	169-172		80							
16-BMD08	173.94	177.14	3.20	siltstone	medium-dark grey. Massive, thicky bedded. Interbedded with light grey fine-grained sandstone laminated, 30%. Occasional calcite veins.	172-175		84							
16-BMD08	177.14	180.35	3.21	siltstone	dark grey. Massive, thicky bedded. interbedded with light grey fine-grained sandstone laminated, 20%.	175-178		96							
16-BMD08	180.35	183.52	3.17	siltstone	medium-dark grey. Thicky bedded, massive. From 181.30-182.30m, light grey fine-grained sandstone mainly. Numerous irregular calcite veins. selenium sample No.	178-181		82						No.0061	Se/Cd
16-BMD08	183.52	185.65	2.13	siltstone	dark grey. Massive, thicky bedded. With minor calcite veins.	181-184		80							
16-BMD08	185.65	186.65	1.00	sandstone	light grey, fine-grained. With dark grey siltstone laminated, infilled calcite veins. To end, silty.	184-187		94							
16-BMD08	186.65	189.82	3.17	siltstone	dark grey. Massive, thicky bedded. Occasional calcite veins. To end muddy.	187-190		78							
16-BMD08	189.82	191.40	1.58	siltstone	dark grey. Massive. At top, 0.80m abundant irreuglar calcite veins. Fracture developed, broken. Three joint sets.	190-193		11							
16-BMD08	**191.40**	**193.86**	**2.46**	**coal**	**from 191.4 to 195.7m, 4.30m coal seam. Black, bright, luster, light. Parting: 192.90-193.10m, 0.10 m and 193.70-193.90m, 0.20m, both is black mudstone. Recovery: 3.05m, lost: 0.08m. Coal structure: 1.50(0.10)0.60(0.20)1.80m. No.16?**		**71**								**No.0006**	Coal
16-BMD08	193.86	195.70	1.84	**coal**		193-196		12							
16-BMD08	195.70	198.43	2.73	mudstone	dark grey. Silty. Massive, thicky bedded. Numerous coal strings and leaf fossils. Minor light grey fine-grained sandstone laminated.	196-199		68							
16-BMD08	198.43	200.45	2.02	siltstone	dark grey. Massive, thicky bedded. Trace coal.	199-202		61							
16-BMD08	200.45	201.55	1.10	mudstone	light black. Numerous carbonaceous and coal streak.										
16-BMD08	**201.55**	**206.03**	4.48	**coal**	**4.48m coal seam. Black, bright, luster, light. Recovery: 3.63m, lost: 0.85m. No parting. No.15?**	202-205	**81**	0						**No.0007**	Coal
16-BMD08	206.03	207.80	1.77	mudstone	black. Carbonaceous mudstone. Numerous coal streak.	205-208		100							
16-BMD08	**207.80**	**210.35**	**2.55**	**coal**	**2.55m coal seam. Black, bright, light. But broken into small pieces. Missing more core. Recovery: 1.00m, lost: 1.55m. No.14?**		**39**	0							
16-BMD08	210.35	210.60	0.25	mudstone	black. Carbonaceous mudstone. Numerous coal streak.	208-211		0							
16-BMD08	210.60	213.55	2.95	mudstone	light black. Massive, thicky bedded. Trace coal. Locally with dark grey siltstone laminated. selenium sample No.	211-214		69						No.0062	Se/Cd
16-BMD08	213.55	215.00	1.45	mudstone	light black. Numerous carbonaceous and coal streak.	214-217		72							
16-BMD08	215.00	216.88	1.88	siltstone	grey. Massive, thicky bedded. Occasional calcite veins.	217-220		89							
16-BMD08	216.88	220.00	3.12	siltstone	dark grey. Thicky bedded, massive. At 219.80m, see leaf fossil.										
16-BMD08	220.00	223.28	3.28	siltstone	dark grey. Massive, thicky bedded. From 222.20-223.20m, abundant irregular calcite veins.	220-223		84							
16-BMD08	223.28	226.46	3.18	siltstone	same as above. No found calcite veins.	223-226		87							
16-BMD08	226.46	229.72	3.26	siltstone	dark grey. Thicky bedded massive. To end, muddy. Minor light grey fine-grained sandstone laminated, 5%.	226-229		80							
16-BMD08	229.72	230.57	0.85	siltstone	dark grey. Thicky bedded.	229-232		71							
16-BMD08	230.57	232.05	1.48	mudstone	light black. Massive.	232-235									
16-BMD08	**232.05**	**233.38**	**1.33**	**coal**	**1.33m coal seam. Black, bright, luster, light. No parting. Recovery: 100%.**		**100**	0						**No. 0008**	Coal

16-BMD08	**233.38**	**238.00**	**4.62**	**coal**	**4.62m coal seam. From 233.38 to 237.00m, good coal. Black, bright, luster, light. From 237.00 to 238.00m, fine coal. Black, dull. Brecciated and decomposed. Ground. Two intervals parting: 233.38-233.76m, 0.38m black mudstone; 234.88-235.20m, 0.32m black mudstone. recovery: 100%.**	**235-238**	**100**	0								
16-BMD08	**238.00**	**240.20**	**2.20**	**coal**	**2.20m coal seam. Badly broken along cheat. Black, dull. Brecciated and composed. Recovery: 100%. Total coal structure: 1.33(0.38)1.12(0.32)5.00m. No.13?**	238-241	100	15								
16-BMD08	240.20	243.09	2.89	mudstone	light black. Massive, broken into small pieces. To end silty.	241-244	100	10								
16-BMD08	243.09	246.27	3.18	siltstone	dark grey. Thicky bedded, massive. Interbedded with light grey fine-grianed sandstone laminated, 30%. At top, 0.30m black mudstone, and 0.12m coal seam.	244-247	100	68								
16-BMD08	246.27	248.30	2.03	siltstone	dark grey. Massive, thicky bedded. interbedded with light grey fine-grained sandstone laminated, 40%. Coal trace.	247-250	100	45								
16-BMD08	248.30	248.50	0.20	mudstone	0.20m coaly mudstone. Black.		100									
16-BMD08	**248.50**	**248.88**	**0.38**	**coal**	**0.38m coal seam. Black, bright, light. Intact.**		100									
16-BMD08	248.88	249.30	0.42	mudstone	0.42m coaly mudstone. Black.	250-253	100	51								
16-BMD08	**249.30**	**250.57**	**1.27**	**coal**	**1.27m coal seam. Black, bright, luster, light. Intact. Recovery: 1.15m, lost: 0.12m. No.13A?**		**91**									
16-BMD08	250.57	252.22	1.65	mudstone	black. Carbonaceous mudstone. Numerous coal streak.		100									
16-BMD08	252.22	255.40	3.18	siltstone	dark grey. Massive, thicky bedded. Numerous coal streak. Slightly broken. At 252.40m, 0.10m coal seam; at 253.15m, 0.10m coal seam.	253-256	100	45							No.0063	Se/Cd
16-BMD08	255.40	258.88	3.48	mudstone	light black. Thicky bedded. Abundant trace coal. Numerous irregular calcite veins. At 256.30-256.70m, 0.40m dark grey siltstone.	256-259	100	62								
16-BMD08	258.88	262.00	3.12	mudstone	light black. Massive, thicky bedded. Numerous coal trace. Occasional calcite veins. At end, 0.17m dark grey siltstone.	259-262	100	75								
16-BMD08	262.00	265.19	3.19	siltstone	drak grey. Massive, thicky bedded. At upper part, Interbedded with light grey fine-grained sandstone laminated, 20%. Numerous coal strings throughout.	262-265	100	85								
16-BMD08	265.19	268.36	3.17	mudstone	light black. abundant coal streak. At 265.40m, 0.07m coal seam, black; at 267.44m, 0.11m coal seam, black. Throughout core broken.	265-268	100	26								
16-BMD08	268.36	269.20	0.84	mudstone	light black. Trace coal. Two intervals pyrite nodules.	268-271	100	79								
16-BMD08	269.20	271.00	1.80	siltstone	dark grey. Massive, thicky bedded. Interbedded with light grey fine-grained sandstone laminated, 20%.		100								No.0064	Se/Cd
16-BMD08	271.00	271.46	0.46	mudstone	coaly mudstone. Black. Three pieces: 0.23/0.12/0.09m. selenium sample No. selenium sample No.		100									
16-BMD08	271.46	274.15	2.69	siltstone	dark grey. Massive, thicky bedded. Locally calcite veins and muddy.	271-274	100	87								
16-BMD08	274.15	277.77	3.62	siltstone	dark grey. Thicky bedded, massive. Trace coal. At top, 0.30m black mudstone. At 275.85m, 0.04m coal seam. Locally leaf fossil.	274-277	100	55								
16-BMD08	277.77	278.09	0.32	siltstone	0.32m siltstone. Drak grey.		100									
16-BMD08	278.09	279.09	1.00	siltstone	dark grey. Fracture zone. Vertical fracture developed, infilled irregular calcite veins, highly broken with slickensided.		100									
16-BMD08	279.09	280.00	0.91	mudstone	light black. Numerous coal streak.	277-280	100	33								
16-BMD08	280.00	280.65	0.65	siltstone	dark grey. Massive. At top, 0.20m abundant irreuglar calcite veins.		100									
16-BMD08	280.65	283.54	2.89	siltstone	dark grey. Massive, thicky bedded. Occasional trace coal. To end muddy.	280-283	100	69								
16-BMD08	283.54	284.74	1.20	mudstone	light black. Massive. Occasional trace coal.		100									
16-BMD08	284.74	286.54	1.80	siltstone	medium-dark grey. Massive, thicky bedded. At 286.20m, vertical fracture, infilled calcite veins; at 285.60m, 0.14m black mudstone, with coal trace.	283-286	100	69								
16-BMD08	286.54	287.54	1.00	siltstone	same as above.		100									

16-BMD08	287.54	289.72	2.18	siltstone	interbedded with dark grey siltstone and light grey fine-grained sandstone. 50:5 at 287.78-287.98m, abundant irreuglar calcite veins. At 288.20m, a few of coal streak.	286-289	100	67							
16-BMD08	289.72	290.82	1.10	siltstone	medium-dark grey. Fracture developed, infilled calcite veins. Broken. Three joint sets.		100								
16-BMD08	290.82	293.05	2.23	siltstone	dark grey.massive, thicky bedded. At base, 0.60m light grey fine-grained sandstone laminated increased to 40%.	289-292	100	64							
16-BMD08	293.05	296.38	3.33	siltstone	dark grey. Thicky bedded, massive. From 294.00m to end, with light grey fine-grained sandstone laminated, 30%.	292-295	100	85							
16-BMD08	296.38	299.55	3.17	siltstone	dark grey. Thicky bedded, massive. At 296.90m, one joint set. From 298.00m to end, trace coal and leaf fossil.	295-298	100	100							
16-BMD08	299.55	301.80	2.25	siltstone	dark grey. Massive, thicky bedded. Numerous leaf fossil at core surface. At 300.52m, three coal seams: 0.01m. At 301.00m, one joint set.	298-301	100	84						No.0065	Se/Cd
16-BMD08	301.80	302.25	0.45	sandstone	light grey, fine-grained. Two joint sets, infilled calcite veins.	301-304	100	77							
16-BMD08	302.86	306.15	3.29	siltstone	dark grey. Massive, thicky bedded. At 303.60m, one joint set. At 305.45-305.55m, 0.10m light grey fine-grained sandstone.	304-307	100	94							
16-BMD08	306.15	309.27	3.12	siltstone	dark grey. Massive, thicky bedded. At base, 0.30m light grey fine-grained sandstone mainly. Occasional reace coal at 308.25m.	307-310	100	78							
16-BMD08	309.27	310.00	0.73	sandstone	grey, fine-grained. With Minor dark grey siltstone laminated, 5%.	310-313	100	90							
16-BMD08	310.00	315.52	5.52	sandstone	interbedded with light grey fine-grained sandstone and dark grey siltsone, 50:50. horizontal bedding.	313-316	100	89							
16-BMD08	312.52	315.68	3.16	sandstone	same as above.		100								
16-BMD08	315.68	317.20	1.52	siltstone	dark grey. Massive, thicky bedded. Numerous leaf fossil at core surface and coal trace.	316-319	100	80							
16-BMD08	317.20	320.90	3.70	siltstone	interbedded with light grey fine-grained sandstone and dark grey siltsone, 50:50. horizontal bedding. Trace coal.		100								
16-BMD08	320.90	322.53	1.63	mudstone	light black. Carbonaceous mudstone mainly and trace coal. At 322.35-322.37m, 0.02m calcite veins.	319-322	100	71							
16-BMD08	**322.53**	**324.64**	**2.11**	**coal**	**2.11m coal seam. Black, bright, luster, light. Intact. Recovery: 100%. No.12R?**	322-325	100	25							
16-BMD08	324.64	325.00	0.36	mudstone	black, silty.		100								
16-BMD08	325.00	327.50	2.50	mudstone	light black, silty. Slightly broken. Occasional calcite veins. To base, muddy, trace coal.	325-328	100	34							
16-BMD08	**327.50**	**327.70**	**0.20**	**coal**	**0.20m coal seam. Black, dull. Bony coal.**		100								
16-BMD08	327.70	328.21	0.51	mudstone	black. Carbonaceous mudstone. Numerous coal streak.		100								
16-BMD08	328.21	328.53	0.32	mudstone	0.32m carbonaceous mudstone. Black.	328-331	100	20							
16-BMD08	**328.53**	**328.78**	**0.25**	**coal**	**0.25m coal seam. Black.**		100								
16-BMD08	328.78	329.41	0.63	mudstone	carbonaceous mudstone. Black.		100								
16-BMD08	**329.41**	**331.73**	**2.32**	**coal**	**2.32m coal seam. Black, bright, luster, light. Intact. Recovery: 100%. One interval parting: 331.30-331.39m, 0.09m black coaly siltstone.**		100	0						No.0009	Coal
16-BMD08	**331.73**	**334.98**	**3.25**	**coal**	**3.25m coal seam. Black, bright, luster, light. Intact. Recovery: 100%.**	**331-334**	100	0						No.0010	Coal
16-BMD08	**334.98**	**335.90**	**0.92**	**coal**	**0.92m coal seam. Black, bright, luster, light. Recovery: 0.70m, lost: 0.22m. total coal seam: from 329.41 to 335.90m, 6.49m. No.12?**		100	0							
16-BMD08	335.90	337.12	1.22	mudstone	coaly mudstone. Black.	334-337	100								
16-BMD08	**337.12**	**338.15**	**1.03**	**coal**	**1.03m coal seam. Black, dull. Intact. Recovery: 100%. two intervals parting: 337.23-337.53m, 0.30m black mudstone; 337.81-338.00m, 0.19m black mudstone. Coal structure: 0.11(0.30)0.18(0.19)0.15m. No.11R?**		100	0							
16-BMD08	338.15	339.35	1.20	mudstone	black. Slightly broken. At top, 0.10m with trace coal. At base, 0.15m carbonaceous mudstone. At 338.55m, one joint set.	337-340	100	78							

16-BMD08	339.35	340.00	0.65	coal	0.65m coal seam. Black, broken. Recovery: 0.20m, lost: 0.45m.		31	0%							
					this is coal seam, but it hasn't been penetrated after stop drilling. No.11?										

May 06, 2016. E.O.H: 340.00m.

Notes: SNC Lavalin logging to 142.00m (box 34). And they inspected to take coal samples throughout.

Bingay Main Coal Property Report 2016 Technical Assessment Report

Appendixes:

I. Packer Testing Boreholes Corelog

2016-BMD01A

2016-BMD01

2016-BMD03

2016-BMD04

2016-BMD09

2016-BMD10

Company:	Centermount Coal Ltd.		Driller:	Dorado Drilling		Borehole No.	16-BMD01A			Date Started:	02-Apr-16		
Project:	Bingay Main Borehole Packer Test		Drilling Method:	Diamond Drilling		Coordinate:	Elevation:	1420.4m		Date Finished:	02-Apr-16		
Location:	Elkford, BC		Total Depth:	29.0 m	Easting:	643770	Northing:	5563105	Page				
			GWLElevation:	NA	Azimuth:		Inclination:	90°	(from horizontal)		Logged by:	RM	

Box No.	Depth (m)		Thickness	Lithology	Core Description	Apparent Dip of Bedding	Core Cut (m)		RQD	Sample	Note
	from	to					Recovery	Run	%		
box 1	0.00	9.75		till							
	0.00	1.00		till	cobbles and clay. Mixed with tree root. Recovery: 0.25m, lost: 0.75m.						
	1.00	4.00		till	cobbles, Ø: 0.02-0.04m. Recovery: 2.27m, lost: 0.73m.						
	4.00	7.00		till	mixed with cobbles and gravel, minor boulder, Ømax. 0.15m. Normal Ø: 0.02-0.06m. Clear, no clay. Recovery: 2.10m, lost: 0.90m.						
	7.00	9.25		till	same as above. Ø: 0.10m						
box 2	9.75	24.70		till							
	9.75	10.00		till	cobbles mainly, minor siltstone fragment.						
	10.00	13.00		till	mixed with cobbles and gravel. Ø: 0.10m. Clear, no clay. Recovery: 1.55m, lost: 1.45m.						
	13.00	16.00		till	mixed with cobbles and gravel. Subround. Ø: 0.02m. Clear, no clay. Recovery: 1.13m, lost: 1.87m.						
	16.00	24.70		till	same as above. But missing lots of core. Only left 0.55m cobbles and gravel. Ø: 0.01-0.03m.						
box 3	24.70	28.00		sandstone							
	24.70	26.00		sandstone	sandstone. Fine-grained, light grey. Bedding plane is horizontal. Slightly broken.						
	26.00	28.00		sandstone	same as above. Broken into small pieces.						
				sandstone	RQD: 0.16/0.38/0.13; 0.67/4.30=16%.			24.7-29.0	16		
box 4	28.00	29.00		sandstone	same as above. Broken.	25°					

Piezometer: at 24.50-29.00m.

E.O.H: 29.00m. April 02, 2016

Company:	Centermount Coal Ltd.		Driller:	Dorado Drilling	Borehole No.	16-BMD01			Date Started:	19-Mar-16	
Project:	Bingay Main Borehole Packer Test		Drilling Method:	Diamond Drilling	Coordinate:	Elevation:	1420.7m		Date Finished:	20-Mar-16	
Location:	Elkford, BC		Total Depth:	121.5 m	Easting:	643770	Northing:	5563118	Page		
			GWL Elevation:	NA	Azimuth:	180°	Inclination:	70°	(from horizontal)	Logged by:	VZ

Box No.	Depth (m)		Thickness	Lithology	Core Description	Apparent Dip of Bedding	Core Cut (m)		RQD		Sample	Note
	from	to					Recovery	Run	%			
box 1	0.00	4.00	4.00	till			3.50					
	0.00	0.20	0.20	till	orangy red organics tree roots/veg. mixed with coarse sand and small clasts.							
	0.20	0.30	0.10	till	grey clay (some cobbles and fine-grained sand).							
	0.30	1.00	0.70	till	scattered clasts from 4" to fine-grained sand, some minor amount of clay in matrix.							
	1.00	4.00	FALSE	till	unclear as to saction locations. Using tag 4.0m mark as a " basement". For tag box one could say that is 0.5m clay till zone (stony till with clasts, more than 3") would be around 2.9-3.4m/above that is another undefined "wet zone or clay and sand. Up to let us call it 2.7m/from 1.7-2.7m would be the next sandy clay till zone, 1.0m thick. that clasts tag 0.44m drill depth. to house the +3" fine-grained sand recovery (2.2m). this is still a wild guess as the entire.							
				till	section from surface to bedrock at 26.35m is a similar mess:							
				till	difficult drilling for entire section down to bedrock at water camp and want. At 7.0m, all return water was lost. None had to be reparked with bottom ite just to keep it open. At 16.0m, began to be sticky water and this is our "notes" water table depth, based on the results of this hole only. 3.5m of materials in 4.0m of drilling (lost 0.50m)							
box 2	4.00	8.50	4.50	till	indistinlt thickness of sand -+6" clasts with spotty 0.20m sections of clay stony till "flasting" in the section.		3.80					
				till	returned 2.3m of material with 3.0m of drilling. Therefore 0.7m of sand/gravel/till clay lost. From drill or from gap carried craver sections.							
box 3	8.50	12.90	4.40	till								
	8.50	10.00	1.50	till	similar spotty matreial as above. But appear to be full recovery in this section.		1.50					
				till	8.5-8.8m, sandy gravel with some clay till, Ø: 0.05m thick well mixed. At 8.84m, a chank of SST fills the core barrel to 8.9m, the SST piece sits on 0.2m of stony till almost like a rock armove layer of cobbles on till. From 9.0-10.0m, the bedly structured random sand-cobble (=2"), gravel are spaced in the core tube.							
	10.00	12.90	2.90	till	from 10.0m block to 12.9m mark at end of box, there is 1.95m of similar assorted gravels in box. Till matrix comes and gones in slot with no rock. Definition of structure mixed with in entire box (11.95m of core in 12.9m of drilling), lost 1.0m of sand+gravel+till.		1.90					
	12.90	17.90	5.00	till	12.9-13.0m, single cobble of sandstone. Probably was +8" in diameter before being broken up by drill. From 13.0-16.0m, there is 2.32m of assorted mixed lithology sands/ gravel/ till, seems in the box. Only one 0.10m stone of the clay. Tag rest is loose clay round gicler-fluving gap ground gravels. sand fracture not present in box. could have been washed out in drilling. water level: 16.00m?		2.32					
				till	in 16.0-17.9m, section, a full 1.0m is missing. Same as above, one +8" cobble noted and some 0.10m the pockets (very sany and loose) whthin section. (2 pockets)							
				till	selenium sample: 87265							
box 5	17.90	21.70	3.80	till			3.80					
	17.90	19.00	1.10	till	17.9-18.1m, mixed with cobble/sand/small clasts.							

				till	18.1-18.7m, single cobble of sandstone. Probably was +8" in diameter.												
				till	18.7-19.0m, grey clay in matrix.												
	19.00	21.70	2.70	till	19.0-19.2m, grey clay in matrix.												
			0.00	till	19.2-20.6m, mixed with cobble/sands/small clasts. Ø: 8".												
			0.00	till	20.6-21.7m, assorted mixed lithology, sands/clay/till in the box.												
box 6	21.70	27.50	5.80	till													
	21.70	22.00	0.30	till	0.30m mixed lithology, with cobble, sand and small clasts/clay.												
	22.00	25.00	3.00	till	22.00-24.50m, mixed with cobble of fine-grained sandstone, probably Ø: >8", and minor clay/till. Missing 1.46m. Washing out in drilling.		1.46										
				till	24.5-25.0m, wet, soft clay and till.												
	25.00	26.40	1.40	till	25.00-26.40m, wet, soft clay/till, mixed with dark grey siltstone. Missing 0.83m, washed out in drilling.		0.57										
	26.40	27.50	1.10	siltstone	siltstone. Dark grey, massive, thicky bedded. Minor calcite veins.		1.10	1.10	64%								
box 7	27.50	30.50	3.00	siltstone													
	27.50	28.00	0.50	siltstone	siltstone. Dark grey. Fairly broken.		0.50	0.50	0%								
	28.00	30.50	2.50	sandstone	sandstone. Fine-grained, grey. Minor calcite veins. At top, and at base, 0.25/0.35m broken. Meanwhile, fracture developed, infilled mud gauge, six pieces.	60°	2.50	2.50	51%								
box 8	30.50	33.50	3.00	sandstone	sandstone. Fine-grained, light grey. Very broken and crushed. Only 0.46m (at 32.24m) core is intact, other is abrupt contact.		3.00	3.00	15%								
				sandstone	**Fault Zone probably**												
box 9	33.50	37.44	3.94	sandstone												664238	Se/Cd
	33.50	34.00	0.50	sandstone	sandstone. Fine-grained, light grey. Broken.		0.50	0.50	26%								
	34.00	37.44	3.44	sandstone	mixed with fine-grained, light grey sandstone and soft, wet sand/clay. Very broken and crushed. Clasts is irregular nodular, breccia.		3.44	3.44	0%								
				sandstone	selenium sample No.664238.												
box 10	37.44	40.85	3.41	sandstone	same as above.		3.41	3.41	6%								
box 11	40.85	44.83	3.98	sandstone													
	40.85	42.55	1.70	sandstone	same as above. But core missing 0.70m.		1.00	1.70	0%								
				sandstone	**Fault Zone probably**												
	42.55	44.83	2.28	sandstone	sandstone. Fine-grained, light grey. Relatively complete. Bedding. plane is almost is horizontal. Minor irregular calcite veins and mud seam.	5 to 10	2.28	2.28	58%								
box 12	44.83	48.08	3.25	sandstone	same as above. Fracture developed, infilled slickensides and argillaceous from 47.23 to end. Very broken into small pieces, and silty increased.		3.25	3.25	38%								
box 13	48.08	51.20															
	48.08	49.00	0.92	sandstone	same as above. Two pieces clay, 0.02/0.02m. With irregular calcite veins.		0.92	0.92	48%								
	49.00	51.20	2.20	siltstone	49.00-49.55m, siltstone. Dark grey. Thicky bedded, massive.		2.20	2.20	28%								
				sandstone	49.55-51.20m, sandstone. Fine-grained, grey. Interbedded with dark grey siltstone laminated. With irregular calcite veins. At base, 0.04m clay.													
box 14	51.20	54.25	3.05	sandstone	sandstone. Fine-grained, light grey. Interbedded with dark grey siltstone laminated. At top, 0.01m coal streak. Bedding plane is horizontal. Fracture developed, infilled calcite veins and minor argillaceous laminated.		3.05	3.05	28%								
box 15	54.25	57.87	3.62	sandstone	same as above. But broken and crushed. At base, 0.35m black mudstone and argillaceous. With minor irregular calcite veins.				0%								
box 16	57.87	61.20	3.33	sandstone	interbedded with fine-grained light grey sandstone and dark grey siltstone (75:25). Thin to very thin thicky bedded. Locally slumped. Sandstone is ripple and siltstone is muddy. Fairly broken.	25°	3.33	3.33	8%								
box 17	61.20	64.00	2.80														
	61.20	62.95	1.75	sandstone	same as above.	25°	1.75	1.75	15%								
	62.95	64.00	1.05	siltstone	muddy siltstone. Dark grey. Fracture developed, broken. Locally infilled 0.02m argillaceous.	55°			0%								

box 18	64.00	67.14	3.14														
	64.00	64.15	0.15	siltstone	0.15m muddy siltstone. Dark grey. Broken.				0%								
	64.15	67.00	2.85	sandstone	sandstone. Fine-grained, light grey. Ripple. With 15% dark grey siltstone laminated. Very broken into small pieces, with slickensides. Infilled irregular calcite veins. Fragment. At 64.25m, with mudstone streak.	45°	2.85	2.85	12%								
	67.00	67.14	0.14	mudstone	mudstone. Black, broken.				0%							664247	Se/Cd
box 19	67.14	70.44	3.30	mudstone	mudstone. Dark gery, silty. At lower part, very broken with slickensides and polished, vertical fracture developed with sheared.	65°	3.30	3.30	9%								
					Fault Zone probably												
box 20	70.44	73.90	3.46	mudstone	same as above. Fault zone? Badly broken into small pieces with slickensides and polished. Strong displacement and distortion. infilled minor coal streak and calcite veins.		3.46	3.46	0%								
box 21	73.90	77.05	3.15				3.15	3.15	0%								
	73.90	76.00	2.10	mudstone	same as above. Fault zone? Partly mylonization.												
	76.00	77.05	1.05	mudstone	mudstone. Silty, dark grey. With slickensides. At base, 0.26m fine-grained, light grey sandstone, with irregular calcite veins.												
box 22	77.05	80.33	3.28														
	77.05	79.00	1.95	sandstone	sandstone. Fine-grained, light grey. Fracture developed with slickensides and polished. Broken. Infilled irregular calcite veins.		1.95	1.95	21%								
	79.00	80.33	1.33	sandstone	same as above. Between 79.23-79.40m, 0.17m mud gauge? And at 79.45-79.85m, 0.40m dark grey siltstone.		1.33	1.33	32%								
box 23	80.33	83.17	2.84	sandstone													
	80.33	82.00	1.67	sandstone	interbedded with dark grey siltstone and light grey fine-grained sandstone (50:50). Very broken and fragment, with slickensides and polished, infilled calcite veins.	45°			0%								
	82.00	83.17	1.17	sandstone	same as above. fracture developed, slickensides and polished.		1.17	1.17	19%								
box 24	83.17	86.45	3.28	sandstone	same as above. fracture developed, slickensides and polished.				0%								
box 25	86.45	89.80	3.35				3.35	3.35	0%								
	86.45	88.00	1.55	mudstone	mudstone. Dark grey. Bedding plane is almost vertical=90°, see photo box 25.	90°											
	88.00	89.80	1.80	sandstone	sandstone. Fine-grained, light grey. Very broken. Muddy, unsteady. Driller's report: at 88.65-88.75m, "break" and at 89.60m "blocked, pulled tube".												
box 26	89.80	93.67	3.87	sandstone	same as above. Very broken and ground. With Muddy laminated. At 91.00-92.50m, driller's report: "clay seam 0.60m wash".	70°	3.27	3.87	0%								
					Fault Zone probably												
					Fault Zone probably												
box 27	93.67	96.83	3.16				3.16	3.16	0%							664246	Se/Cd
	93.67	94.00	0.33	mudstone	mudstone. Black. Highly broken into small pieces with slickensides and polished. Soft, sheared.												
	94.00	96.83	2.83	mudstone	interbedded with dark grey silty mudstone and light grey fine-grained sandstone (70:30). Vertical slip and slickensides + polished. Badly broken. Within sandstone, micro-wave horizontal bedding plane. From 94.40-95.00m, 0.60m black mudstone, soft and wet, very broken + ground.	50-60°											
box 28	96.83	99.85	3.02				3.02	3.02	0%								
	96.83	97.00	0.17		0.17m fault gauge.												
	97.00	98.50	1.50	mudstone	silty mudstome. Highly broken, sheared, slickensides and polished.	70-65°											
	98.50	99.85	1.35	mudstone	same as above. But strong compressed, mylonization. With light grey fine-grained sandstone laminated.												
box 29	99.85	102.85	3.00	mudstone	same as above.	65°	3.00	3.00	0%								
box 30	102.85	106.00	3.15	mudstone	same as above. Vertical slip + slickensides.	70°	3.15	3.15	0%								
box 31	106.00	109.00	3.00	mudstone	same as above.	50-55°	3.00	3.00	0%								
					Fault Zone probably												

					Fault Zone probably												
box 32	109.00	112.00	3.00														
	109.00	111.00	2.00	mudstone	silty mudstone.												
	111.00	112.00	1.00	mudstone	silty mudstone. Dark grey. At base, 0.30m badly broken with slickensides and polished.	60°	1.00	1.00	40%								
box 33	112.00	115.00	3.00	mudstone	silty mudstone. Dark grey. badly broken with slickensides and polished. Fracture developed, infilled minor irregular calcite veins.	45°	3.00	3.00	0%								
box 34	115.00	118.00	3.00				3.00	3.00	0%								
	115.00	116.00	1.00	mudstone	same as above.	60-70°											
	116.00	118.00	2.00	mudstone	silty mudstone. Dark grey. Strong compressed and displacement, mylonization.												
box 35	118.00	121.00	3.00	mudstone	same as above.	45°	3.00	3.00	0%							664248	Se/Cd
box 36	121.00	121.50	0.50	mudstone	same as above. Minor light grey fine-grained sandstone laminated.	15°											
					Fault Zone probably												

E.O.H: 121.50m. March 20, 2016

Packer Response Test Hole.

Company:	Centermount Coal Ltd.			Driller:	Dorado Drilling		Borehole No.	16-BMD03			Date Started:	22-Apr-16			
Project:	Bingay Main Borehole Packer Test			Drilling Method:	Diamond Drilling		Coordinate:	Elevation:	1394.2m		Date Finished:	23-Apr-16			
Location:	Elkford, BC			Total Depth:	152.0 m	Easting:	644345	Northing:	5562387	Page					
				GWLElevation:	NA	Azimuth:	158.5°	Inclination:	70.1°	(from horizontal)			Logged by:	VZ	

Box No.	Depth (m)		Thickness	Lithology	Core Description	Apparent Dip of Bedding	Core Cut (m)		RQD						Sample	Note
	from	to					Recovery	Run	%							
box 1	0.00	4.74	4.74	till				4.74								
	0.00	2.00	2.00		overburden. Recovery: 0.45m.		0.45								664334	Se/Cd
	2.00	4.74	2.74	sandstone	fine-grained sandstone. Light Grey, bedding plane. At 2.0-3.5m, weathered, minor selenium.		2.74		42%							
box 2	4.74	7.68	2.94	sandstone	fine-grained sandstone. Grey, bedding plane. Pure, intact.	45°	2.94	2.94	61%							
box 3	7.68	10.90	3.22	sandstone	fine-grained sandstone. Grey, bedding plane. Pure, intact.		3.22	3.22	61%							
box 4	10.90	14.45	3.55	sandstone	fine-grained sandstone. Grey, bedding plane. Pure, intact.		3.55	3.55	63%							
box 5	14.45	17.49	3.04	sandstone	fine-grained sandstone. Grey, bedding plane. Pure, intact.		3.04	3.04	70%							
box 6	17.49	20.52	3.03	sandstone	fine-grained sandstone. Grey, bedding plane. Pure, intact.		3.03	3.03	67%							
box 7	20.52	23.67	3.15	sandstone	fine-grained sandstone. Grey, bedding plane. Pure, intact.	45°	3.15	3.15	69%							
box 8	23.57	26.82	3.25	sandstone	fine-grained sandstone. Grey, bedding plane. Pure, intact.		3.25	3.25	71%							
box 9	26.77	30.07	3.30	sandstone	fine-grained sandstone. Grey, bedding plane. Pure, intact.		3.30	3.30	76%							
box 10	30.02	33.37	3.35	sandstone	fine-grained sandstone. Grey, bedding plane. Pure, intact.		3.35	3.35	69%						664335	Se/Cd
box 11	33.57	36.72	3.15	sandstone	fine-grained sandstone. Grey, bedding plane. Pure, intact.		3.15	3.15	67%							
box 12	36.62	39.87	3.25	sandstone	fine-grained sandstone. Grey, bedding plane. Pure, intact.		3.25	3.25	69%							
box 13	39.67	43.12	3.45	sandstone	fine-grained sandstone. Grey, bedding plane. Pure, intact.		3.45	3.45	61%							
box 14	43.12	46.57	3.45	sandstone	fine-grained sandstone. Grey, bedding plane. Pure, intact.		3.45	3.45	62%							
box 15	46.87	50.02	3.15	sandstone	fine-grained sandstone. Grey, bedding plane. Pure, intact.		3.15	3.15	65%							
box 16	49.95	53.17	3.22	sandstone	**fine-grained sandstone. Grey, bedding plane. Pure, intact. Packer Response Test: second time at 52.50-55.80m.**		3.22	3.22	80%							
box 17	53.24	56.39	3.15	sandstone	fine-grained sandstone. Grey, bedding plane. Pure, intact.	35°	3.15	3.15	68%							
box 18	56.29	59.54	3.25	sandstone	fine-grained sandstone. Grey, bedding plane. Broken into small pieces.		3.25	3.25	23%							
box 19	59.64	62.79	3.15	sandstone	fine-grained sandstone. Grey, bedding plane. Slightly broken.		3.15	3.15	57%						664336	Se/Cd
box 20	62.79	65.94	3.15	sandstone	fine-grained sandstone. Grey, bedding plane.		3.15	3.15	72%							
box 21	65.91	69.09	3.18		interbedded with sandstone and siltstone. (80:20)		3.18	3.18	63%							
box 22	69.03	72.27	3.24		interbedded with sandstone and siltstone. (80:20)		3.24	3.24	72%							
box 23	72.25	75.51	3.26		interbedded with sandstone and siltstone. (80:20)		3.26	3.26	64%							
box 24	75.26	78.77	3.51	siltstone	siltstone. Dark gery, massive, thicky bedded. Broken.		3.51	3.51	33%							
box 25	79.03	82.28	3.25		interbedded with sandstone and siltstone. (40:60)		3.25	3.25	79%							
box 26	82.08	85.53	3.45		interbedded with sandstone and siltstone. (40:60)		3.45	3.45	65%							
box 27	85.68	88.98	3.30	siltstone	siltstone. Dark gery, massive, thicky bedded.		3.30	3.30	79%							
box 28	89.06	92.28	3.22	siltstone	siltstone. Dark gery, massive, thicky bedded.	45°	3.22	3.22	73%						664337	Se/Cd
box 29	92.17	95.50	3.33	siltstone	siltstone. Dark gery, massive, thicky bedded.		3.33	3.33	74%							
box 30	95.68	98.83	3.15	siltstone	siltstone. Dark gery, massive, thicky bedded.		3.15	3.15	74%							
box 31	98.76	101.98	3.22	siltstone	siltstone. Dark gery, massive, thicky bedded.		3.22	3.22	79%							
box 32	102.05	105.20	3.15	siltstone	siltstone. Dark gery, massive, thicky bedded.	40°	3.15	3.15	78%							
box 33	105.20	108.35	3.15	siltstone	siltstone. Dark gery, massive, thicky bedded.		3.15	3.15	75%							
box 34	108.35	111.60	3.25	siltstone	siltstone. Dark gery, massive, thicky bedded.		3.25	3.25	77%							
box 35	111.60	114.78	3.18	siltstone	siltstone. Dark gery, massive, thicky bedded.		3.18	3.18	82%							
box 36	114.78	118.00	3.22	siltstone	siltstone. Dark gery, massive, thicky bedded.		3.22	3.22	74%							
box 37	118.00	121.10	3.10	siltstone	siltstone. Dark gery, massive, thicky bedded.		3.10	3.10	79%						664339	Se/Cd
box 38	121.10	124.20	3.30	siltstone	siltstone. Dark gery, massive, thicky bedded.		3.10	3.10	71%							
box 39	124.20	127.50	3.40	siltstone	siltstone. Dark gery, massive, thicky bedded.		3.30	3.30	79%							

box 40	127.50	130.90	3.50	siltstone	siltstone. Dark gery, massive, thicky bedded.		3.40	3.40	67%								
box 41	130.90	134.14	3.24	siltstone	siltstone. Dark grey, thicky bedded, with minor fine-grained light grey sandstone laminated, 5%.		3.24	3.24	69%								
box 42	134.14	137.35	3.21	siltstone	siltstone. Dark gery, massive, thicky bedded.		3.21	3.21	73%								
box 43	137.35	140.69	3.34	siltstone	siltstone. Dark gery, massive, thicky bedded.		3.34	3.34	81%								
box 44	140.69	143.96	3.27	siltstone	siltstone. Dark grey, massive, thicky bedded, with irregular calcite veins. Muddy little throughout.		3.27	3.27	67%								
box 45	143.96	147.20	3.24	siltstone	siltstone. Dark gery, massive, thicky bedded.		3.24	3.24	70%								
box 46	147.20	150.32	3.12	siltstone	siltstone. Dark gery, massive, thicky bedded.		3.12	3.12	71%								
box 47	150.32	152.00	1.68	siltstone	siltstone. Dark grey, thicky bedded, massive. Packer Response Frist Test at 152.00m.	30°	1.68	1.68	71%							664338	Se/Cd

April 23, 2016. E.O.H: 152.00m.

Packer Response Test Hole.

Company:	Centermount Coal Ltd.			Driller:	Dorado Drilling		Borehole No.	16-BMD04			Date Started:	23-Apr-16			
Project:	Bingay Main Borehole Packer Test			Drilling Method:	Diamond Drilling		Coordinate:	Elevation:	1396.6m		Date Finished:	26-Apr-16			
Location:	Elkford, BC			Total Depth:	148.0 m	Easting:	644346	Northing:	5562543	Page					
				GWLElevation:	NA	Azimuth:	100°	Inclination:	70°	(from horizontal)			Logged by:	VZ	

Box No.	Depth (m)		Thickness	Lithology	Core Description	Apparent Dip of Bedding	Core Cut (m)		RQD							Sample	Note
	from	to					Recovery	Run	%								
box 1	0.00	7.95	7.95	till	overburden. Till.			7.95								664275	Se/Cd
	0.00	4.00	4.00		cobble and gravel. Ø: 0.02-0.06m, max.: 0.09m. Wet, yellow material or bentonite.		1.20										
	4.00	7.95	3.95		small cobble and gravel. Ø: 0.01-0.03m. At 7.10m, 0.13m fine-grained sandstone. From 4.0-7.0m, mixed with yellow material, wet, or bentonite.		1.95										
box 2	7.95	17.30	9.35	till				9.35									
	7.95	10.00	2.05		cobble mixed with wet, yellow material. Recovery: 0.55m.		0.55										
	10.00	13.00	3.00		cobble and gravel, mixed with two pieces siltstone (0.13/0.08m). Recovery: 0.60m.		0.60										
	13.00	16.00	3.00		at top, three pieces siltstone, dark grey, 0.09m. To end, mixed with gravel and wet, yellow material. Recovery: 0.60m.		0.60										
	16.00	17.30	1.30		yellow material, maybe mixed with mud-slurry. From 16.25-16.80m, soft, wet, clay/till, mixed with gravel. Core is relatively complete. At base, some pieces siltstone. Recovery: 1.30m.		1.30										
box 3	17.30	21.40	4.10					4.10									
	17.30	17.48	0.18	till	0.18m mixed with gravel and dry, grey clay.		0.18										
bedrock	**17.48**	**19.40**	**1.92**	**coal**	**1.92m coal seam, slack coal. Badly broken into small pieces. Missing lots of core. Recpvery: 1.00m.**		1.00										
	19.40	21.40	2.00	mudstone	mudstone. Black, with two coal seam, 0.20/0.20m. Broken into small pieces. Recovery: 1.80m.		1.80										
box 4	21.40	24.45	3.05					22-25	0%								
	21.40	23.90	2.50	mudstone	mudstone. Black, massive, thicky bedded, slightly broken, with minor carbonaceous and trace coal. Bentonite covered core.		2.50										
	23.90	**24.52**	**0.62**	**coal**	**0.62m coal seam. Recovery: 0.50m. Broken and friable, dull, light.**		0.50										
box 5	24.45	28.00	3.55					25-28	49%							664276	Se/Cd
	24.52	25.00	0.48	mudstone	carbonaceous mudstone. Abundent coal streak.		0.48										
	25.00	28.08	3.08	siltstone	siltstone. Dark grey, massive, thicky bedded. At base, fine-grained sandstone laminate increased 20%. See Two intervals ironstone, 0.05m.	40-45°	3.08										
box 6	28.00	30.92	2.92					28-31	46%								
	28.08	31.55	3.47	mudstone	mudstone. Black, massive, thicky bedded, munerous trace coal. At 28.10-28.15m, 0.05m coal seam. At 31.23-31.30m, 0.07m ironstone with pyrite nodule. Slightly broken.		3.47										
box 7	30.96	33.78	2.82					31-34	25%								
	30.96	34.80	3.84	sandstone	fine-grained sandstone. Light grey, bedding plane. Infilled irregular calcite veins. Highly broken into small pieces. At 33.85m, 0.02m coal seam.	45°	3.84										
box 8	33.78	36.80	3.02					34-37	0%								
	34.80	36.05	1.25	mudstone	mudstone. Black, thicky bedded. Munerous trace coal. Slightly broken.		1.25										
	36.05	**37.35**	1.30	**coal**	**1.30m coal seam. Broken, black, light, dull. Recovery; 1.30m.**		1.30										
box 9	**36.80**	**39.35**	2.55					37-40	46%								
	37.35	38.40	1.05	mudstone	mudstone. Black, broken into small pieces with slickensides. Trace coal.		1.05										
	38.40	42.50	4.10	siltstone	siltstone. Dark grey, massive, thicky bedded.		4.10										
box 10	39.35	42.60	3.25					40-43	47%								
	42.50	43.15	0.65	mudstone	mudstone. Black, abundent carbonaceous and coal streak.		0.65										

box 11	42.60	48.20	5.60					43-46	0%								
	43.15	**49.00**	5.85	**coal**	**5.85m coal seam. Black, light, dull, ground. Parting: at 45.42-46.15m, 0.23m black mudstone, broken. Recovery: 3.10m, lost: 2.75m.**		3.10	46-49	7%								
box 12	48.20	51.10	2.90														
	49.00	52.00	3.00	siltstone	siltstone. Dark grey, massive, thicky bedded. Slightly broken.		3.00	49-52	46%								
box 13	51.10	53.80	2.70														
	51.10	52.00	0.90	siltstone	same as above.		0.90										
	52.00	53.80	1.80	sandstone	sandstone. Light grey, fine-grained. Bedding plane, minor calcite veins. At 52.70m, coal trace.	45°	1.80										
box 14	53.80	56.43	2.63	sandstone	same as above.		2.63	52-55	62%								
box 15	56.43	59.30	2.87	sandstone	same as above. At 57.90-58.00m, 0.10m core is infilled coal streak. And at 57.00-58.00m, vertical fracture developed.		2.87	55-58	46%								
box 16	59.30	62.03	2.73					58-61	29%								
	59.30	60.90	1.60	sandstone	sandstone. Light grey, fine-grained. Vertical fracture developed. To end, silty.		1.60									664277	Se/Cd
	60.90	62.03	1.13	siltstone	siltstone. Medium-dark grey. Trace coal. Top: 0.10m black mudstone.		1.13										
box 17	62.03	64.80	2.77					61-64	48%								
	62.03	62.75	0.72	siltstone	siltstone. Dark grey. Fracture developed. At base, trace coal.		0.72										
	62.75	**63.00**	**0.25**	**coal**	**0.25m coal seam. Black, light, bright.**		0.25										
	63.00	64.80	1.80	siltstone	siltstone. Dark grey, massive, thicky bedded. Locally with black mudstone, from 63.90-64.10m.		1.80										
box 18	64.80	67.55	2.75	siltstone	siltstone. Dark grey, massive, thicky bedded. Occasional trace coal. At 66.50-66.90m, highly broken with slickensides.	60°	2.75	64-67	53%								
box 19	67.55	70.30	2.75	siltstone	siltstone. Dark grey, massive, thicky bedded. Interbedded with light grey fine-grained sandstone.		2.75	67-70	88%								
box 20	70.30	73.30	3.00					70-73	72%								
	70.30	72.90	2.60	siltstone	same as above.		2.60										
	72.90	73.00	0.10	coal	0.10m coal seam.		0.10										
	73.00	73.30	0.30	mudstone	mudstone. Black, with carbonaceous and coal strings.		0.30										
box 21	73.30	76.67	3.37					73-76	3%								
	73.30	**76.00**	**2.7**	**coal**	**2.70m coal seam. Black, bright, luster, light. Broken along cheat. At 74.10-74.45m, 0.35m black mudstone parting. Recovery: 1.60m, lost: 1.10m.**		1.60									664289	Coal
	76.00	76.67	0.67	siltstone	siltstone. Dark grey, massive, thicky bedded. At top, 0.15m black mudstone, with coal streak.		0.67										
box 22	76.67	79.25	2.58	siltstone	siltstone. Dark grey, massive, thicky bedded. with minor coal streak.		2.58	76-79	80%								
box 23	79.25	82.00	2.75					79-82	51%								
	79.25	79.43	0.18	siltstone	siltstone. Dark grey.		0.18										
	79.43	**79.90**	**0.47**	**coal**	**0.47m coal seam. Black, light. Recovery: 0.30m, lost: 0.17m.**		0.47										
	79.90	82.00	2.10	siltstone	siltstone. Dark grey, massive, thicky bedded. With leaf fossil locally. At top, 0.20m black mudstone, with trace coal.		2.10										
box 24	82.00	85.30	3.30	siltstone	siltstone. Dark grey, massive, thicky bedded. Broken. Joint plane with slickensides. Interbedded with minor light grey fine-grained sandstone laminated, 20%. To end, muddy.		3.30	82-85	22%								
box 25	85.30	87.60	2.30	mudstone	mudstone. Black, massive, thicky bedded. At base, 0.50m highly broken into small pieces with slickensides. Dip: 60-65 degree.	60-65°	2.30	85-88	25%								
box 26	87.60	90.20	2.60	mudstone	mudstone. Black. Highly broken into small pieces with slickensides and polished, vertical fracture developed. At 89.00-89.60m, 0.60m ground, mixed with coal streak. maybe fault gauge.		2.60	88-91	18%								
					Fault Zone Probably												
box 27	90.20	93.00	2.80	mudstone	same as above. At top, 90.20-91.00m, 0.80m badly broken into small pieces.		2.80	91-94	42%							664278	Se/Cd
box 28	93.00	96.00	3.00	mudstone	same as above. badly broken into small pieces.		3.00	94-97	36%								
					Fault Zone Probably												

box 29	96.00	98.85	2.85														
	96.00	96.13	0.13	mudstone	0.13m black mudstone.		0.13										
	96.13	**96.33**	**0.2**	**coal**	**0.20m coal seam.**		0.20										
	96.33	98.85	2.52	mudstone	mudstone. Black, silty, massive. Thicky bedded.		2.52										
box 30	98.85	101.63	2.78	mudstone	mudstone. Black, silty, massive. Thicky bedded. From 100.00-101.63m, numerous thin coal seams, thickness from 0.02-0.01-0.025m, and trace coal.	45°	2.78	97-100	47%								
					Packer Response Test at 96.70-100.00m.												
box 31	101.63	104.65	3.02					100-103	53%								
	101.63	102.05	0.42	mudstone	mudstone. Black, with carbonaceous and trace coal.		0.42										
	102.05	**102.75**	**0.7**	**coal**	**0.07m coal seam. Black, dull, light. Recovery: 0.35m, lost: 0.35m**		0.35										
	102.75	104.65	1.90	siltstone	siltstone. Dark grey, massive, thicky bedded. with minor thin coal seam.		1.90										
box 32	104.65	107.45	2.80	siltstone	siltstone. Dark grey, massive, thicky bedded. At 105.70-106.00m, 0.30m coal seam, black, dull. At base, 0.45m ironstone?	45°	2.80	103-106	50%								
box 33	107.45	112.90	5.45					106-109	23%								
	107.45	108.55	1.10	mudstone	mudstone. Silty, dark grey. Trace coal. At base, 0.25m badly broken into small pieces, mixed with coal and black mudstone.		1.10										
	108.55	**112.90**	**4.35**	**coal**	**4.35m coal seam. Black, powder, dull, light. More core lost. Recovery: 1.85m, lost: 2.50m.**		1.85	109-112	0%							664290	Coal
box 34	112.90	117.60	4.70					112-115	0%								
	112.90	**115.95**	**3.05**	**coal**	**3.05m coal seam. Same as above. Recovery: 1.22m, lost: 1.78m.**		1.22										
	115.95	118.50	2.55	mudstone	mudstone. Silty, dark grey. Split into thin plate, highly broken, mixed with coal seam.		2.55	115-118	5%								
box 35	117.60	119.00	1.40														
	118.50	**118.80**	**0.30**	**coal**	**0.30m coal seam. Badly broken along cheat, almost powder. Dull, black.**		0.30										
	118.80	119.58	0.78	mudstone	mudstone. Black. With Carbonaceous and coal streak. Broken.		0.78									664279	Se/Cd
box 36	119.00	121.41	2.41					118-121	15%								
	119.58	**120.54**	**0.96**	**coal**	**0.96m coal seam. Bdaly broken along cheat. Black, gright, luster, light.**		0.96										
	120.54	121.41	0.87	sandstone	sandstone. Medium-grained, light grey.		0.87										
box 37	121.41	124.25	2.84	sandstone	same as above. Bedding plane. At base, slightly broken.		2.84	121-124	69%								
box 38	124.25	127.10	2.85	sandstone	same as above. Bedding plane.		2.85	124-127	69%								
box 39	127.10	129.78	2.68	sandstone	sandstone. Light grey, Medium-grained to fine-grained. Interbedded with dark grey siltstone laminated, 10%.		2.68	127-130	56%								
box 40	129.78	132.60	2.82	sandstone	sandstone. Light grey, Medium-grained to fine-grained. Interbedded with dark grey siltstone laminated, 10%. Broken.		2.82	130-133	28%								
box 41	132.60	135.10	2.50	sandstone	sandstone. Light grey, Medium-grained to fine-grained. Interbedded with dark grey siltstone laminated, 10%. Slightly broken.		2.50	133-136	39%								
box 42	135.10	137.75	2.65	sandstone	sandstone. Light grey, Medium-grained to fine-grained. Interbedded with dark grey siltstone laminated, 10%. Slightly broken.		2.65	136-139	78%								
box 43	137.75	140.50	2.75	sandstone	sandstone. Light grey, Medium-grained to fine-grained. Interbedded with dark grey siltstone laminated, 10%.		2.75										
box 44	140.50	142.47	1.97	sandstone	sandstone. Light grey, Medium-grained to fine-grained. Interbedded with dark grey siltstone laminated, 10%.		1.97	139-142	91%								
box 45	142.47	146.33	3.86	sandstone	sandstone. Light grey, Medium-grained to fine-grained. Interbedded with dark grey siltstone laminated, 10%.		3.86	142-145	80%								
box 46	146.33	148.00	1.67	sandstone	sandstone. Light grey, Medium-grained to fine-grained. Interbedded with dark grey siltstone laminated, 10%.	35°	1.67	145-148	93%							664280	Se/Cd
					E.O.H: 148.00m. April 26, 2016												
					Packer Response Test Hole.												

Company:	Centermount Coal Ltd.		Driller:	Dorado Drilling		Borehole No.	16-BMD09		Date Started:	13-Apr-16					
Project:	Bingay Main Borehole Packer Test		Drilling Method:	Diamond Drilling		Coordinate:	Elevation:	1388.2m	Date Finished:	18-Apr-16					
Location:	Elkford, BC		Total Depth:	152.5 M	Easting:	644338	Northing:	5563370	Page						
			GWLElevation:	NA	Azimuth:	100°	Inclination:	70°	(from horizontal)		Logged by:	VZ			

Box No.	Depth (m)		Thickness	Lithology	Core Description	Apparent Dip of Bedding	Core Cut (m)		RQD						Sample	Note
	from	to					Recovery	Run	%							
box 1	0.00	7.70	7.70	till	overburden. Till.											
	0.00	4.00	4.00	till	0-0.50m, mud or clay. Soft, wet mainly gravel mainly. Core missing 2.50m.		1.50	7.70								
				till	0.50-1.10m, mixed with cobble and gravel, and clay. Maybe colluvium. 0.14m siltstone. Ø: 0.02-0.06m.											
				till	1.10-4.00m, only cobble and gravel. Subrounded, Ø: 0.04-0.06m.											
	4.00	7.00	3.00	till	cobble and gravel mainly, with wet and soft clay. Rubbles, subrounded, Ø: 0.01-0.05m. Core missing 2.20m.		0.80									
	7.00	7.70	0.70	till	same as above.		0.70									
box 2	7.70	13.38	5.68	till	slurry in the box.			5.68								
	7.70	10.00	2.30	till	mixed with cobble and gravel, minor clay. See three pieces siltstone, 0.15/0.10/0.12m. Core missing 1.05m. Ø: 0.01-0.05m.		1.25									
	10.00	13.38	3.38	till	wet and soft clay or till mainly. Mixed with cobble and gravel. Subrounded, rubbles. Ø: 0.01-0.06m. Core missing 2.00m.		1.38									
box 3	13.38	22.75	9.37	till	slurry in the box.			9.37								
	13.38	16.00	2.62	till	mixed with cobble and gravel, minor clay. Core missing 2.07m. Ø: 0.01-0.05m.		0.55									
	16.00	19.00	3.00	till	mixed with cobble and gravel, minor wet, soft clay/till. See two pieces 0.10m quartz sand.											
	19.00	21.20	2.20	till	only one rock (siltstone?) and wet. Soft clay. Missing lots of core, 2.00m.		0.20									
Bedrock	21.20	22.75	1.55	mudstone	mudstone. Black, wet and soft. Badly broken into small pieces, schistous, locally carbonaceous, and trace coal. Bedded plane too high, is 70 degree.	70°	1.55									
box 4	22.75	26.45	3.70					22-25	0%							
	22.75	23.15	0.40	mudstone	carbonaceous mudstone. Black, coal strings.	70°	0.40									
	23.15	**26.45**	3.30	coal	**3.30m coal seam. Slack coal. Badly broken along cheat. Brecciated and decomposed. Black, dull, soft. At top, 0.75m wet, ground coal. Parting at 23.90-24.20m, 0.30m black mudstone. Coal missing 0.30m.**		3.00								664256	Coal
box 5	26.45	29.80	3.35					25-28	0%							
	26.45	**27.65**	1.20	coal	**1.20m coal seam. Small-size coal. Dull, light. At base, 0.20m broken. Recovery: 0.75m.**	55°	0.75									
	27.65	28.55	0.90	mudstone	mudstone. Black, massive. At base, badly broken, carbonaceous.	65°	0.90									
	28.55	**29.00**	0.45	coal	**0.45m coal seam. Badly broken into small pieces along chest. Light, black, bright. Recovery: 0.25m.**		0.25									
	29.00	30.40	1.40	mudstone	mudstone. Drak grey, thicky bedded. With light grey fine-grained sandstone laminated (40%). At base, carbonaceous increased.	50°	1.40								664257	Se/Cd
					selenium sample No. 664257 (from 30.00-30.13m, 0.13m siltstone)											
box 6	29.80	32.80	3.00					28-31	12%							
	29.80	**31.00**	1.20	coal	**0.60m coal seam. Black light, Badly broken into small pieces.**		0.60									
	31.00	31.30	0.30	coal	0.30m dull, boney coal.		0.30									
	31.30	33.40	2.10	sandstone	fine-grained sandstone. Light grey, bedding plane. Ripple, with dark grey siltstone laminated (30%). At top, 0.25m silty mudstone, massive.	50°	2.10								664258	Se/Cd
					selenium sample No. 664258 (from 32.30-32.40m, 0.10m sandstone)											
box 7	32.80	35.55	2.75					31-34	36%							
	33.40	35.20	1.80	siltstone	siltstone. Dark grey, thicky bedded, massive. To end, muddy.		1.80									
box 8	35.55	38.55	3.00					34-37	55%							

	35.20	38.55	3.35	mudstone	mudstone. Black, massive, thicky bedded, slightly broken. To end, silty.												
box 9	38.55	41.45	2.90		same as above. At 38.55-40.00m, see a parallel axis fracture, infilled argillaceous, 0.005m wide. To end, fracture change thin from 5mm to 3mm.			37-40	20%								
box 10	41.45	44.40	2.95					40-43	27%								
	41.45	42.60	1.15	mudstone	same as above.												
	42.60	43.20	0.60	sandstone	sandstone. Fine-grained, light grey. With minor dark grey siltstone laminated, 5%.	50°											
	43.20	44.40	1.20	mudstone	silty mudstone. Thicky bedded. Broken into small pieces. Fragment.												
box 11	44.40	47.60	3.20			65-70°		43-46	0%								
	44.60	45.50	0.90	sandstone	sandstone. Fine-grained, light grey. Interbedded with black mudstone and minor coal streak. Broken.												
	45.50	47.60	2.10	siltstone	siltstone. Medium-Dark grey, massive, thicky bedded. At top, 0.05m highly broken into small pieces with slickensides. Fragment. Throughout broken to 49.00m.												
box 12	47.60	51.15	3.55	siltstone	same as above.			46-49	14%								
box 13	51.15	54.10	2.95					49-52	18%								
	51.15	54.80	3.65	siltstone	siltstone. Medium-dark grey, massive, thicky bedded. With minor irregular calcite veins along thin joint. At base, broken into small piecs from 54.00 to 54.80m.												
box 14	54.10	56.20	2.10					52-55	60%								
	54.80	56.20	1.40	mudstone	silty mudstone. Massive. From 55.60-55.85m, 0.25m soft, wet argillaceous material. At 55.00m, plane dip: 55 degree.	50-55°											
box 15	56.20	60.10	3.90					55-58	7%								
	56.20	57.20	1.00	mudstone	silty mudstone. Massive, thicky bedded. Slightly broken, fracture developed.			58-61	14%								
	57.20	58.00	0.80	mudstone	mudstone. Black. Highly broken into small pieces with slickensides.												
	58.00	**59.30**	**1.30**	**coal**	**1.30m coal seam. Black. Recovery: 0.85m, lost: 0.45m. Badly broken along cheat. Ground, dull, friable.**												
	59.30	60.40	1.10	mudstone	mudstone. Black. At top, 0.30m carbonaceous mudstone, numerous trace coal.	55-60°											
box 16	60.10	63.35	3.25					61-64	40%								
	60.40	63.05	2.65	mudstone	silty mudstone. Massive, thicky bedded. Trace coal.											664259	Se/Cd
					selenium sample No. 664259 (from 60.80-61.00m, 0.20m siltstone)												
box 17	63.35	66.18	2.83					64-67	60%								
	63.05	66.53	3.48	mudstone	mudstone. Black, massive, thicky bedded. With trace coal occasional. At 63.05-63.70m, badly broken into small pieces with slickensides. At base, 0.10m carbonaceous mudstone, numerous coal streak.												
box 18	66.18	69.76	3.58					67-70	0%								
	66.53	**69.61**	**3.08**	**coal**	**3.08m coal seam. Black, dull. Broken along cheat. Friable, brecciated and decomposed. Recovery: 2.45m, lost: 0.63m. At 66.53-67.40m, 0.87m boney coal, dull, little heavily.**		2.45									664260	Coal
					coal sample No. 664260												
	69.61	70.00	0.39	mudstone	mudstone. Carbonaceous mudstone, abundant coal strings.	65-70°											
box 19	69.76	72.45	2.69					70-73	80%								
	70.00	73.00	3.00	siltstone	siltstone. Dark grey, massive, thicky bedded. Throughout trace coal and minor black mudstone laminated, 5%.	60°											
box 20	72.45	75.37	2.92					73-76	45%								
	73.00	77.45	4.45	mudstone	mudstone. Black, massive, thicky bedded. Throughout trace coal.												
box 21	75.37	78.35	2.98					76-79	42%								
	77.45	**77.87**	**0.42**	**coal**	**0.42m coal sem. Black, bright, luster, light. Recovery: 0.25m, lost: 0.17m.**		0.25										
box 22	78.35	81.28	2.93					79-82	33%								
	77.87	82.00	4.13	mudstone	mudstone. Black, massive, thicky bedded. Throughout reace coal. To end, silty increased. At 78.55-79.70m, highly broken into small pieces.												

box 23	81.28	84.09	2.81					82-85	37%								
	82.00	83.34	1.34	siltstone	siltstone. Medium-dark grey, massive, thicky bedded. With minor light grey fine-grained sandstone laminated, 10%. At 82.00m, see leaf fossil.												
	83.34	86.05	2.71	mudstone	mudstone. Silty, dark grey. Thicky bedded, massive. Throughout coal streak. At 85.00-85.50m, interbedded with dark grey siltstone and light grey fine-grained sandstone. Abundant pyrite laminated, 0.20m. At base, coaly mudstone.	65-70°											
box 24	84.09	88.00	3.91					85-88	8%								
	86.05	**88.10**	**2.05**	**coal**	**2.05m coal seam. Black, dull, light. At top, 0.50m badly broken, brecciated and decomposed. Recovery: 1.30m, lost: 0.75m.**										**664261**	**Coal**	
box 25	88.00	91.30	3.30					88-91	15%								
	88.10	89.50	1.40	mudstone	carbonaceous mudstone. Black. Numerous coal strings. At top, 0.30m mixed with coal laminated, schistous. At 88.60-88.80m, 0.20m mudstone, abundant pyrite nodules.										664263	Se/Cd	
					selenium sample No. 664263 (from 89.35-89.50m, 0.15m mudstone)												
	89.50	**94.00**	**4.50**	**coal**	**4.50m coal seam. Black, bright, luster, light. Broken along cheat. Recovery: 4.25m, lost: 0.25m.**	65°									**664262**	**Coal**	
box 26	**91.30**	**94.00**	**2.70**	**coal**	**same as above. Coal seam.**			91-94	0%								
box 27	**94.00**	**97.00**	**3.00**	**coal**	**3.00m coal seam. Thicky bedded. Black, bright, luster, light and intact. Throughout gassy, creak after 24 hour. At 96.90, pyrite thin laminated.**	45-50°		94-97	0%								
box 28	**97.00**	**100.20**	**3.20**	**coal**	**3.20m coal seam. Black, bright, light luster. Slightly broken along cheat.**			97-100	0%								
box 29	**100.20**	**104.90**	**4.70**	**coal**	**4.70m coal seam. Black, dull. Locally thicky bedded. Brecciated and decomposed. Badly broken along cheat. Parting: 102.60-102.90m, 0.30m black mudstone. Recovery: 3.00m, lost 1.70m.**		3.00	100-103	0%								
box 30	**104.90**	**107.90**	**3.00**	**coal**	**3.00m coal seam. Black. Bdaly brokrn along cheat in the whole box slot. Brecciated and decomposed.**			103-106	0%								
box 31	**107.90**	**111.35**	**3.45**	**coal**	**3.45m coal seam. Black. Same as above. Badly broken. Recovery: 3.00m, lost: 0.45m.**			106-109	0%								
box 32	111.35	114.35	3.00			45-50°		109-112	0%								
	111.35	**114.00**	**2.65**	**coal**	**2.65m coal seam. Black. Same as above. Badly broken. Recovery: 2.50m, lost: 0.15m.**			112-115	0%								
	114.00	115.00	1.00	mudstone	mudstone. Black. Highly broken with slickensides. Split into the thin irregular plates. Fragment.												
box 33	114.35	116.96	2.61					115-118	43%								
	115.00	118.10	3.10	sandstone	sandstone. Fine-grained, grey. Numerous irregular calcite veins. At 116.36-116.66m, 0.30m highly broken with slickensides. Fault gauge and trace coal occasional.												
box 34	116.96	120.05	3.09					118-121	26%								
	118.10	125.52	7.42	mudstone	mudstone. Dark grey. Massive. Thicky bedded. Locally with irregular calcite veins. At 118.10-118.50m, highly broken, ground, mixed with coal streak.			121-124	40%						664264	Se/Cd	
					selenum sample No. 664264 (from 120.05-120.25m, 0.20m mudstone)												
box 35	120.05	122.65	2.60	mudstone	same as above. At 122.00-122.60m, slightly broken into small pieces.												
box 36	122.65	125.52	2.87	mudstone	same as above. At 123.05-123.50m, slightly broken into small pieces.			124-127	73%								
box 37	125.52	128.40	2.88	mudstone	mudstone. Dark grey, silty, massive, thicky bedded. Core relatively complete.			127-130	75%								
box 38	128.40	131.35	2.95	mudstone	same as above. At 130.00m, see leaf fossil.												
box 39	131.35	134.00	2.65	mudstone	same as above. But from 132.75-134.50m, slightly broken.			130-133	69%								
box 40	134.00	136.95	2.95	mudstone	same as above.			133-136	37%								
box 41	136.95	139.55	2.60					136-139	65%								
	136.95	137.70	0.75	mudstone	same as above. To end, gradually sandy.												
	137.70	142.00	4.30	siltstone	siltstone. Medium-drak grey. Massive, thicky bedded. Interbedded with light grey fine-grained sandstone, 20%. Bedding plane. At 139.35-139.55m, with irregular calcite veins.	45-50°											

box 42	139.55	142.40	2.85	siltstone	same as above. **Packer Response Test: at 139.00-142.30m.**			139-142	69%							
box 43	142.40	145.25	2.85					142-145	70%							
	142.00	145.25	3.25	mudstone	mudstone. Silty, massive, thicky bedded. From 142.50-143.50m, irregular calcire veins, wide and thin alternately.	45°										
box 44	145.25	148.18	2.93	mudstone	same as above.			145-148	53%							
box 45	148.18	151.00	2.82					148-151	34%							
	145.25	149.30	4.05	mudstone	same as above. But at 146.85-147.10m, 0.25m with irregular calcite veins and cavity. Throughout with minor calcite veins. Broken.											
box 46	151.00	152.50	1.50					151-152.5	0%							
	149.30	152.50	3.20	mudstone	mudstone. Black. Carbonaceous mudstone mainly. Abundant trace coal. At 152.00-152.25m, 0.25m with half coal and half mudstone. Throughout highly broken into small pieces, with slickensides and polished. Fracture developed.										664271	Se/Cd
					selenium sample No. 664271 (from 150.87-151.00m, 0.13m mudstone)											

Packer Response Test: at 139.00-142.30m;
Piezometer Intervals: 54.10-56.20m and 149.70-152.50m.
E.O.H: 152.50m. April 18, 2016

Company:	Centermount Coal Ltd.		Driller:	Dorado Drilling		Borehole No.	16-BMD10		Date Started:	22-Mar-16			
Project:	Bingay Main Borehole Packer Test		Drilling Method:	Diamond Drilling		Coordinate:	Elevation:	1395.6m	Date Finished:	27-Mar-16			
Location:	Elkford, BC		Total Depth:	120.5 m	Easting:	644237	Northing:	5563579	Page				
			GWLElevation:	NA	Azimuth:	100°	Inclination:	80°	(from horizontal)		Logged by:	VZ	

Box No.	Depth (m)		Thickness	Lithology	Core Description	Apparent Dip of Bedding	Core Cut (m)		RQD							Sample	Note
	from	to					Recovery	Run	%								
box 1	0.00	10.75	10.75	till	**till**											664224	Se/Cd
	0.00	1.00	1.00	till	only recovery 0.25m cobbles. Other washed away. Ø: 5-10cm.		0.25										
	1.00	4.00	3.00	till	only recovery 0.64m cobbles and gravel left. Other washed away. Ø: 2-20cm.		0.64										
	4.00	7.00	3.00	till	cobble and gravel, mixed with wet clay and silt. recovery 0.77m.		0.77										
	7.00	10.00	3.00	till	same as above. See three more than Ø:0.20m boulder. Recovery 1.00m.		1.00										
	10.00	10.75	0.75	till	wet gravel and clay mixed. Some water in the box slot. Ø: 1.0-5.0cm. Ar base, coal powder 0.05m.												
box 2	10.75	14.55	3.80		**bedrock**			3.80	0%							664225	Se/Cd
	10.75	13.00	2.25	mudstone	wet, black mudstone. Mixed with oxidated powder coal, very briken. Recovery: 1.70m. Coal powder: 20%. Lost: 0.55m.		1.70										
	13.00	14.55	1.55	mudstone	mudstone. Black, broken into small pieces with slickensides. Minor coal streak, 0.25m. At base, silty.		2.55										
box 3	14.55	17.70	3.15													664226	Se/Cd
	14.55	16.00	1.45	siltstone	siltstone. Dark grey, thicky bedded, fairly crushed, minor calcite veins infilled. At 15.60-15.74m, 0.14m coal powder.		1.45	1.45	10%								
	16.00	17.70	1.70	siltstone	same as above. At 16.40-16.90m, developed fractures, infilled minor coal streak. At base, 0.20m silty mudstone.		1.70	1.70	16%								
box 4	17.70	21.70	4.00													664227	Se/Cd
	17.70	19.83	2.13	siltstone	siltstone. Dark grey, thicky bedded, massive, intact.		1.30	1.30	82%								
	19.83	21.70	1.87	siltstone	same as above. From 19.83 to end, dip increased to 45/50 degree. Fracture develpoed, infilled coal streak and minor calcite veins. Recovery: 1.80m, lost: 0.90m.	45-55°	1.80	2.70	32%								
					fault zone probably												
box 5	21.70	25.75	4.05					4.05	0%							664228	Se/Cd
	21.70	23.00	1.30	mudstone	silty musdtone. Black, very broken into small pieces by slickensides and polished. Fracture zone. See fault guage-coal powder. Dip: 75 degree. Recovery: 1.05m.	75°	1.05										
	23.00	24.50	1.50	mudstone	same as above. Vertical fracture zone. Recovery: 1.25m.		1.25										
	24.50	25.75	1.25	siltstone	siltstone. Dark grey, massive.fracture developed, infilled calcite veins, and locally broken and slickensides.		1.25										
box 6	25.75	29.00	3.25					3.25	0%							664229	Se/Cd
	25.75	27.50	1.75	siltstone	same as above.		1.75										
	27.50	29.00	1.50	siltstone	same as above. At base, 0.70m very broken. See 0.25m fault gauge.		1.50										
box 7	29.00	32.27	3.27					3.27	0%							664230	Se/Cd
	29.00	30.50	1.50	mudstone	silty mudstone. Dark grey. Very broken to 30.08m, by slickensides, infilled calcite veins.		1.50										
	30.50	32.27	1.77	mudstone	same as above. From 30.20 to end, core relatively complete. Calcite veins infilled into developed fracture.		1.77										
					fault zone probably												
box 8	32.27	35.35	3.08				3.08	3.08	0%								
	32.27	34.60	2.33	mudstone	mudstone. Black, minor calcite veins infilled.	60°										664231	Se/Cd
	34.60	**35.35**	**0.75**	**coal**	**coal seam: 0.75m. Dip: 60 degree.broken, dull, light.**												
box 9	35.35	38.70	3.35					3.35	0%								

	35.35	**37.78**	**2.43**	**coal**	**coal seam: 2.43m, recovery: 2.00m, lost: 0.43m. Light, bright, broken. Dip: 60 degree. At 36.50-36.80m, 0.30m coal powder.**		2.00									
	37.78	38.70	0.92	mudstone	mudstone. Black. At base, with slickensides and coal streak.		0.92									
					total coal seam: 34.60-37.78m, 3.18m. Recovery: 2.75m, lost: 0.43m.											
box 10	38.70	42.40	3.70					3.70	0%							
	38.70	41.00	2.30	mudstone	mudstone. Black. At base, 0.70m very broken into small pieces. Mixed with coal powder. Lost: 0.10m.		2.20									
	41.00	42.40	1.40	mudstone	mudstone. Black, very broken by slickensides and polished. At base, 0.50m coal, ground and rolled.		1.40									
box 11	42.40	46.40	4.00			45°		4.00	0%							
	42.40	**43.75**	**1.35**	**coal**	**coal seam: 1.35m. Very broken, light bright. Recovery: 1.10m, lost: 0.25m.**		1.10									
	43.75	44.40	0.65	mudstone	mudstone. Black.		0.65									
	44.40	45.50	1.10	siltstone	siltstone. Dark gery. Very broken, fracture developed by infilled calcite veins. Lost: 0.20m.		0.90									
	45.50	46.40	0.90	siltstone	same as above. Recovery: 0.62m, lost: 0.28m.		0.62									
box 12	46.40	49.72	3.32	siltstone	siltstone. Drak gery, thicky bedded. At 46.40m, 47.00m and 49.10m, three pieces black mudstone, 0.10/0.10/0.30m. Throughout fracture developed, infilled coal streak.			3.32	52%							
box 13	49.72	53.00	3.28	siltstone	siltstone. Dark grey. Broken, Throughout fracture developed, infilled by calcite veins and coal streak. At base, 0.30m very broken, infilled by 0.03m coal seam. At 50.00m, dip: 60 degree. **Packer Response Test: second time at 51.00-54.30m.**	60°		3.28	16%						664233	Se/Cd
box 14	53.00	56.00	3.00	siltstone	same as above. At 53.00-53.90m, very broken into small pieces, crushed. At top, 0.25m black mudstone, minor coal streak. At 54.50m, plane dip: 65 degree. From 54.50-55.50m, fault gauge, with slickensides and polished, infilled minor coal strings. At bottom, very broken into small pieces.	65°		3.00	0%						664234	Se/Cd
box 15	56.00	59.50	3.50					3.50							664235	Se/Cd
	56.00	59.00	3.00	siltstone	same as above. Throughout core very broken with slickensides and coal streak. At base, muddy increased.											
	59.00	59.50	0.50	mudstone	mudstone. Black. At top, 0.15m mixed with broken mudstone fragment and coal powder. At base, 0.05m coal seam.											
box 16	59.50	63.17	3.67					3.67								
	59.50	**60.00**	**0.50**	**coal**	**0.50m coal seam. Black, broken, dull, light. Recovery: 0.28m, lost: 0.22m.**		0.22									
	60.00	60.50	0.50	mudstone	mudstone. Black, broken. At 60.00-60.50m, very broken with slickensides and coal strings.											
	60.50	**60.93**	**0.43**	**coal**	**0.43m coal seam. Very broken, powder. Recovery: 0.18m, lost: 0.25m.**		0.18									
	60.93	63.17	2.24	mudstone	mudstone. Black, broken. At 62.58-62.66m, 0.08m coal seam; at 63.05-63.17m, 0.12m coal seam. At 62.40m, plane dip: 55 degree.	55°										
box 17	63.17	66.40	3.23					3.23								
	63.17	**63.78**	**0.61**	**coal**	**0.61m coal seam. Black, light and bright, very broekn and fine coal. Slightly sheared. Core loss here. Recovery: 0.50m, lost: 0.11m.**	45°	0.50									
	63.78	64.70	0.92	mudstone	mudstone. Black. To base, gradually sandy.											
	64.70	66.40	1.70	sandstone	sandstone. Fine-grained, light grey. Rippled. Interbedded with 15% thin irregular laminated of dark grey siltstone. Locally calcite veins. Plane dip from 50 degree to vertical. With slickensides. From 65.00m into Fault Zone Probably.											
					Fault Zone Probably											
box 18	66.40	69.41	3.01	sandstone	sandstone. Fine-grained, light grey. Rippled. Interbedded with 15% thin irregular laminated of dark grey siltstone. Locally calcite veins. To end, gradually muddy.	75°		3.01	60%							
box 19	69.41	72.50	3.09			65°		3.09	65%							

	69.41	71.00	1.59	sandstone	sandstone. Fine-grained, light grey. Muddy increased to base. With calcite veins.												
	71.00	72.50	1.50	mudstone	mudstone. Dark grey. At top, broken, massive. At base, silty.												
box 20	72.50	75.50	3.00	mudstone	mudstone. Dark grey. silty. From 74.75m to end, broken, sheared, polished slips. Subparallel to core axis, with calcite veins at base.			3.00	64%								
box 21	75.50	78.50	3.00	sandstone	sandstone. Fine-grained, light grey. Ripped, with 30% thin irregular dark grey siltstone laminated. Slightly sheared, with slickensides, infilled calcite veins. At 77.00m, plane dip: 75 degree.	75°		3.00	61%								
box 22	78.50	81.50	3.00	sandstone	same as above. But fracture developed, infilled calcite veins. At base, dark grey mudstone, very broken, carbonaceous. Bedding angle gradually decreased from 65-55 to 45 degree.	65-55-45°		3.00	33%								
box 23	81.50	84.50	3.00					3.00	49%								
	81.50	83.61	2.11	mudstone	mudstone. Dark grey. Broken, locally brecciated and decomposed. At base, 0.45m broken and ground, carbonaceous. Slightly sheared, with slickensides and polished, irregular fracture developed, infilled calcite veins. At end, 0.08m fault gauge.	45°											
	83.61	84.50	0.89	sandstone	sandstone. Fine-grained, light grey. Interbedded with 30% dark grey siltstone laminated.												
box 24	84.50	89.00	4.50					4.50	21%							664237	Se/Cd
	84.50	86.18	1.68	sandstone	sandstone. Fine-grained, light grey. Interbedded with 30% dark grey siltstone laminated. At base, broken, fracture developed, infilled calcite veins.	45°											
	86.18	86.93	0.75	mudstone	mudstone. Black. At base, 0.25m core very broken and fragment, mixed with fine coal.												
	86.93	**89.00**	**2.07**	**coal**	**2.07m coal seam. Banded coal mainly, with black mudstone parting. Black, light and bright, luster. Slightly sheared. Brecciated and decomposed. Recovery: 0.92m, lost: 1.15m.**		0.92										
box 25	**89.00**	**92.65**	**3.65**	**coal**	**3.65m coal seam. Fine coal mainly. Black, luster. Slight sheared. Brecciated and decomposed. Core ground and broken. Recovery: 3.51m, lost: 0.14m. Dip: 80 degree.**	80°	3.51	3.51	0%								
box 26	**92.65**	**96.00**	**3.35**	**coal**	**3.35m coal seam. Black. Bright and light coal mainly. Slightly sheared. At upper part, ground; at lower part, core relatively complete. Recovery: 100%.**	63°	3.35		0%								
box 27	**96.00**	**99.00**	**3.00**	**coal**	**3.00m coal seam. Black. Core broken, fracture along cheat. Bright and light. Locally fine coal, slightly sheared. Recovery: 100%.**	70°	3.00		0								
box 28	**99.00**	**102.50**	**3.50**	**coal**	**3.50m coal seam. Black, dull, fine coal. Brecciated and decomposed. Rolled, sheared and polished.**	73°											
box 29	**102.50**	**107.00**	**4.50**	**coal**	**4.50m coal seam. Black, dull, fine coal. Brecciated and decomposed. Rolled, sheared and polished.**	68°											
box 30	**107.00**	**114.50**	**7.50**	**coal**	**7.50m coal seam. Black. Core crushed and ground. Brecciated and decomposed. Sheared and polished, rolled. Driller's report: stuck rods between 107.00 to 108.50m and between 111.50-113.00m.**	70-75°	3.51		0								
	107.00	**108.50**	**1.50**		**recovery: 0.24m, lost: 1.26m.**												
	108.50	**110.00**	**1.50**		**recovery: 100%.**												
	110.00	**111.50**	**1.50**		**recovery: 0.59m, lost: 0.91m.**												
	111.50	**113.00**	**1.50**		**recovery: 0.25m, lost: 1.25m.**												
	113.00	**114.50**	**1.50**		**recovery: 0.93m, lost: 0.57m.**												
					Total recovery: 3.51m, lost: 3.99m.												
box 31	**114.50**	**120.50**	**6.00**	**coal**	**6.00m coal seam. Black, dull. Fine coal mainly, ground and powder. Brecciated and decomposed. Sheared and polished.**		2.70		0								
	114.50	**116.00**	**1.50**		**recovery: 1.02m, lost: 0.48m.**												
	116.00	**117.50**	**1.50**		**recovery: 0.96m, lost: 0.54m.**												
	117.50	**119.00**	**1.50**		**recovery: 0.22m, lost: 1.28m. Driller's report: coal washed out, stuck rods.**												

	119.00	120.50	1.50		recovery: 0.50m, lost: 1.00m.											
					Total recovery: 2.70m, lost: 3.30m.											

E.O.H: 120.50m. March 27, 2016.

Packer Response Test Hole.