Sukunka Coal Assessment Report

30 August 2014 – 3 December 2015

Sukunka

British Columbia, Canada

Prepared for:

Mineral Titles, Victoria, British Columbia

Prepared by:

McElroy Bryan Geological Services Pty Ltd.

on behalf of Glencore plc

December 2015

Level 2 ● 5 – 7 Havilah Street ● CHATSWOOD ● NSW ● 2067 ● (+61 2) 8440 7800
PO Box 34 ● WILLOUGHBY ● NSW ● 2068 ● e:sydney@mbgs.com.au ● www.mbgs.com.au

Report author/s:	Rebecca Getty P. Geo./Senior Project Geologist
Peer reviewed by:	Kerry Whitby/Managing Director
Document number:	220/80/03
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ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TITLE OF REPORT: Sukunka Coal Assessment Report 2014 - 2015

TOTAL COST: $2,609,056

AUTHOR(S): Rebecca Getty P. Geo.
SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): 1641111-201402, Activities and Reclamation Permit CX-9-054 and Waste Discharge Approval 107394.
STATEMENT OF WORK EVENT NUMBER(S)/DATE(S):

YEAR OF WORK: 2014 - 2015

PROPERTY NAME: Sukunka Bullmoose

CLAIM NAME(S) (on which work was done): Coal licences, 327208, 327211, 327242 and 327243.

COMMODITIES SOUGHT: Coal

MINERAL INVENTORY MINFILE NUMBER(S),IF KNOWN: 093P 014

MINING DIVISION: 09 Liard
NTS / BCGS: 093PO4
LATITUDE: 55° 13' 37.64" N
LONGITUDE: 121° 36' 35.17" W (at centre of work)
UTM Zone: 10 U EASTING: 588425 NORTHING: 6120947

OWNER(S): Boreas Coal

MAILING ADDRESS:
Suite 710 – 650 West Georgia Street, Vancouver, BC. V6B 4N9

OPERATOR(S) [who paid for the work]: Glencore, Coal Assets Canada

MAILING ADDRESS:
Suite 710 – 650 West Georgia Street, Vancouver, BC. V6B 4N9

REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude. **Do not use abbreviations or codes**)
Cretaceous, Bullhead Group, Fort St Joh Group, Gething Formation, sedimentary coal geology, gentle anticlines, northwest trending thrust faults

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:
Brameda Resources 1969 – 1970. Report numbers 641, 642, 644.
Teck Corporation Ltd. 1970 – 1977. Report numbers 474 to 478, 481 to 483,
Coalition Mining Ltd. 1971 – 1975. Report numbers 641,645,649, 650, 652, 654, 657, 658.
Brascan Resources 1974. Report numbers 653, 655, 656.
BP Exploration Canada Ltd. 1977 – 1979. Report numbers 663, 664, 665, 666, 669.
Talisman Energy 2011. Technical Report Sukunka-Bullmoose Coal Property
Glencore 2014. Report number 964.

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (in metric units)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other	Downhole geophysics. 5 holes	327208, 327211	
Airborne			
GEOCHEMICAL (number of samples analysed for …)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres, number of holes, size, storage location)			
Core	5 HQ core holes totalling 223.9 m. Stored at Glencore core shed, Chetwynd, BC	327208, 327211	$134,950
Non-core			
RELATED TECHNICAL			
Sampling / Assaying	5 core holes and bulk samples. Geotechnical tests 10 samples	327242, 327243	$912,027
Petrographic			
Hydrogeology ~~Mineralographic~~	Hydrogeology and water management	327208, 327211, 327242, 327243	$275,874
Geological Support ~~Metallurgic~~	Support for drilling and bulk sample excavation	327208, 327211, 327242, 327243	$492,939
PROSPECTING (scale/area)			
PREPATORY / PHYSICAL			
Line/grid (km)			
Topo/Photogrammetric (scale, area)			
~~Legal~~ Surveys (scale, area)	Survey 0.05km^2	327208, 327211, 327242, 327243	$31,811
Road, local access (km)/trail	Road construction	327242, 327243	$137,110
Trench (number/metres)	Test pit design, excavation and supervision	327242, 327243	$566,108
Underground development (metres)			
Other	Fuel, accommodation	327208, 327211, 327242, 327243	$58,237
		TOTAL COST	$2,609,056

Part of Section 2.1.1, Appendix A, Appendix C, Appendix G, and parts of Appendix D 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

EXECUTIVE SUMMARY

The Sukunka property is located approximately 60 km south of Chetwynd in the Peace River Coalfield of northeastern British Columbia and lies within the western foothills of the Canadian Rocky Mountains. Sukunka comprises 36 British Columbia coal licenses held by Boreas Coal Ltd., a wholly owned subsidiary of Glencore plc. The Sukunka exploration project is at the preparation stage for application of a British Columbia environmental assessment certificate.

The Peace River Coalfield lies within the Inner Foothills Belt, a Mesozoic sequence of folded and thrust faulted strata. Coal seams occur within the Gates and Gething Formations of Lower Cretaceous age. At Sukunka the main coal seams of interest lie within Gething Formation and include the Chamberlain, Skeeter and Bird Seams of the Upper Gething Member, and the B and E Seams of the Lower Gething Member. Coal seams generally dip gently (less than 10^{o}) to the southwest. Major thrust faults bound blocks of relatively undisturbed strata and generally trend sinuously to the northwest with throws up to 150 m and dips 10^{o} - 20^{o} to the southwest.

Exploration has been undertaken at Sukunka by Glencore since 2012. During the current reporting period this included bulk sample investigation of coal quality and coking coal characteristics and a geotechnical investigation of subsurface features for design criteria for proposed mine infrastructure development.

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TABLES

APPENDICES

1 INTRODUCTION

This report describes exploration activities conducted across the Sukunka property coal licenses between the August 2014 and the December 2015. McElroy Bryan Geological Services (MBGS) supervised all geological data acquisition during this time and has prepared this report on behalf of the license holder Boreas Coal Ltd. (a subsidiary of Glencore plc).

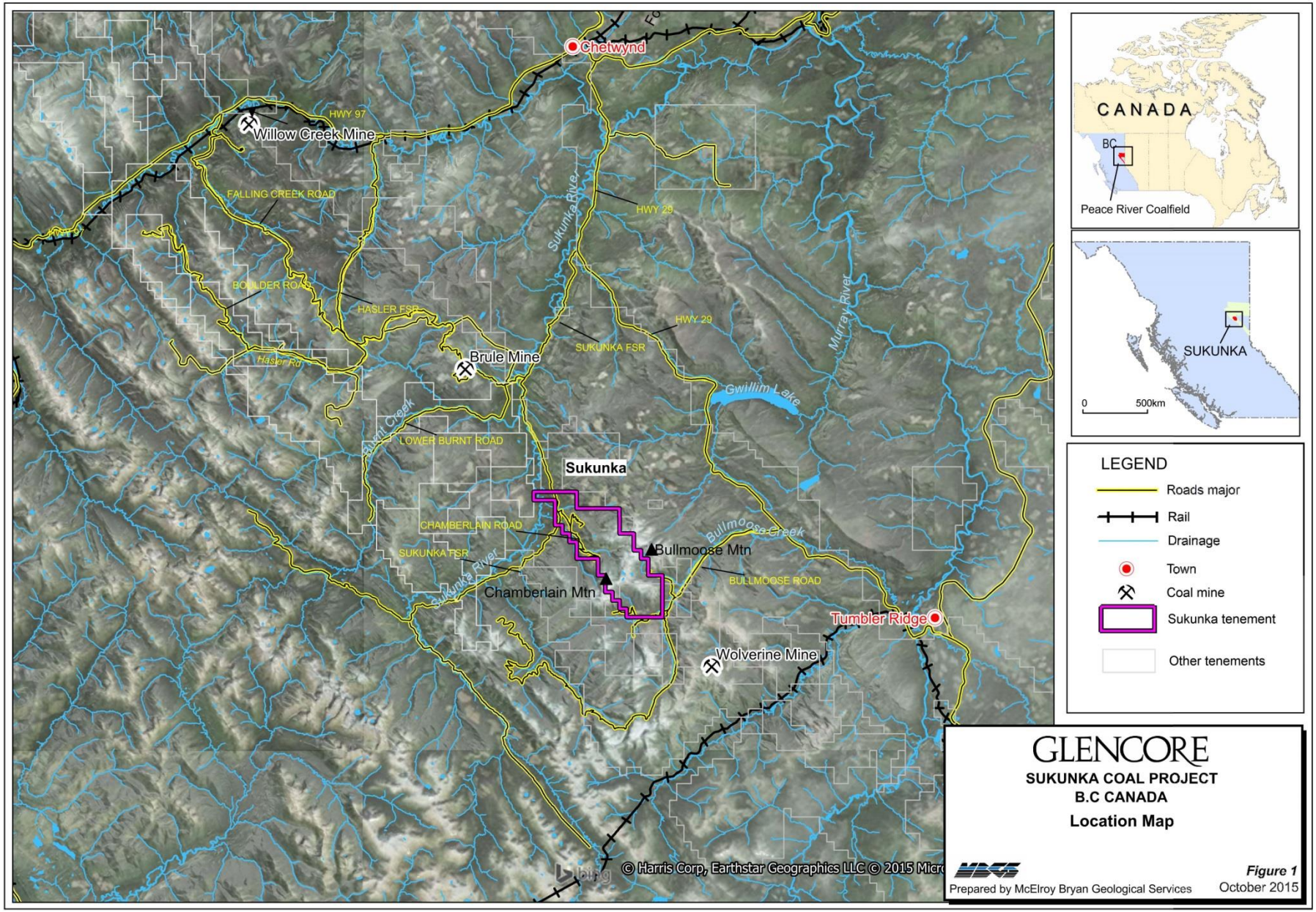
Two periods of exploration were conducted as part of the Sukunka Mine open pit feasibility assessment. A bulk sample of 11 tonnes of coal was excavated for pilot scale washability and carbonization coal quality analysis during August and September 2014. During November 2014 a geotechnical drilling and trenching program investigated subsurface conditions for the proposed mining infrastructure area (MIA) and coal handling preparation plant (CHPP). Information outstanding from the previous Assessment Report is also included with this report.

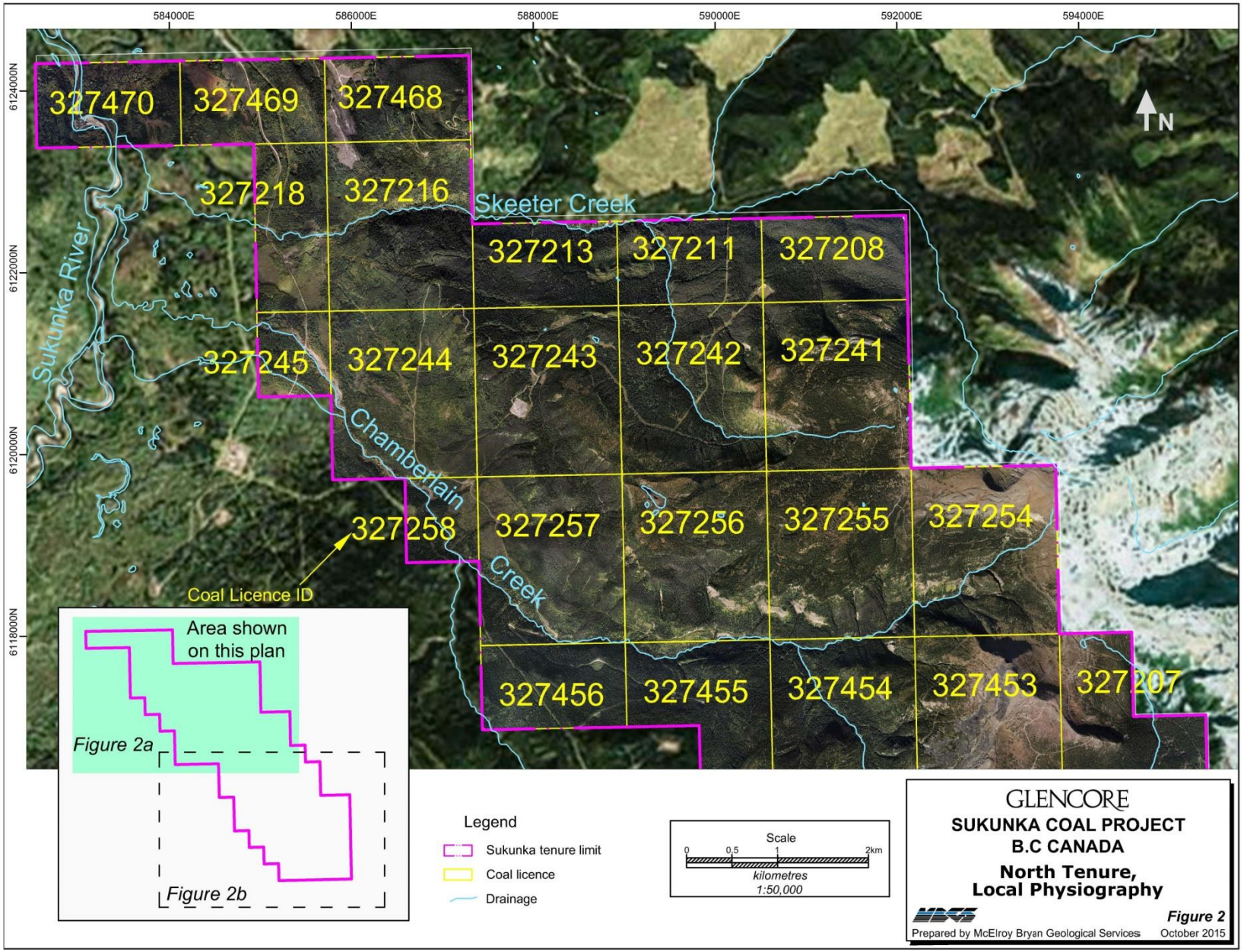
The exploration results summarised in this report are the product of data acquisition and interpretation by specialist consultants.

- **Geological** data acquisition and interpretation was managed on site by MBGS throughout the previous exploration program and during excavation of the bulk sample. Geological data from the geotechnical assessment program was acquired by Topaz under supervision by MBGS.
- **Geotechnical** investigation of the MIA and CHPP was administered by Westrek Geotechnical Services Ltd. (Westrek). Previous geotechnical investigation for pit slope design criteria was managed by Pitaeu Associates (Piteau).
- Ongoing **geochemical** assessment waste rock material for metal leaching and acid rock drainage potential (ML/ARD potential) at Sukunka is administered by Stantec Consulting Ltd. (Stantec) and supervised by Klohn Crippen Berger Ltd. (KCB). Geochemical testing of samples from the bulk sample excavation site for ML/ARD potential was managed by pHase Geochemistry (pHase).
- **Hydrogeological** evaluation for baseline environmental characterization and for water quality compliance monitoring during the bulk sample excavation period was supervised by Knight Piésold (KP).

1.1 Property Location

The Sukunka coal project is located approximately 60 km south of Chetwynd in the Peace River Coalfield of northeastern British Columbia and lies within the western foothills of the Canadian Rocky Mountains (Figure 1). The property is accessed at 32.5 km on the Sukunka Forest Service Road which runs parallel to the Sukunka River from Highway 29. The Sukunka coal project incorporates 36 British Columbia coal licenses summarised in Table 1 and shown in Figure 2 and Figure 3. The exploration area lies east of the Chamberlain Creek and south of Skeeter Creek between 703 m and 1779 m (Mount Chamberlain) above mean sea level. Exploration described in this report was conducted in four coal licenses (see Table 1).


Chetwynd
HWY 97
Willow Creek Mine
FALLING CREEK ROAD
BOULDER ROAD
HASLER FSR
Hasler Rd
Brule Mine
HWY 29
SUKUNKA FSR
Sukunka River
Murray River
Gwillim Lake
Burnt Creek
LOWER BURNT ROAD
Sukunka
CHAMBERLAIN ROAD
SUKUNKA FSR
Sukunka River
Chamberlain Mtn
Bullmoose Mtn
Bullmoose Creek
BULLMOOSE ROAD
Tumbler Ridge
Wolverine Mine
© Harris Corp, Earthstar Geographics LLC © 2015 Micr
CANADA
BC
Peace River Coalfield
SUKUNKA
0
500km
LEGEND
Roads major
Rail
Drainage
Town
Coal mine
Sukunka tenement
Other tenements
GLENCORE
SUKUNKA COAL PROJECT
B.C CANADA
Location Map
Prepared by McElroy Bryan Geological Services
Figure 1
October 2015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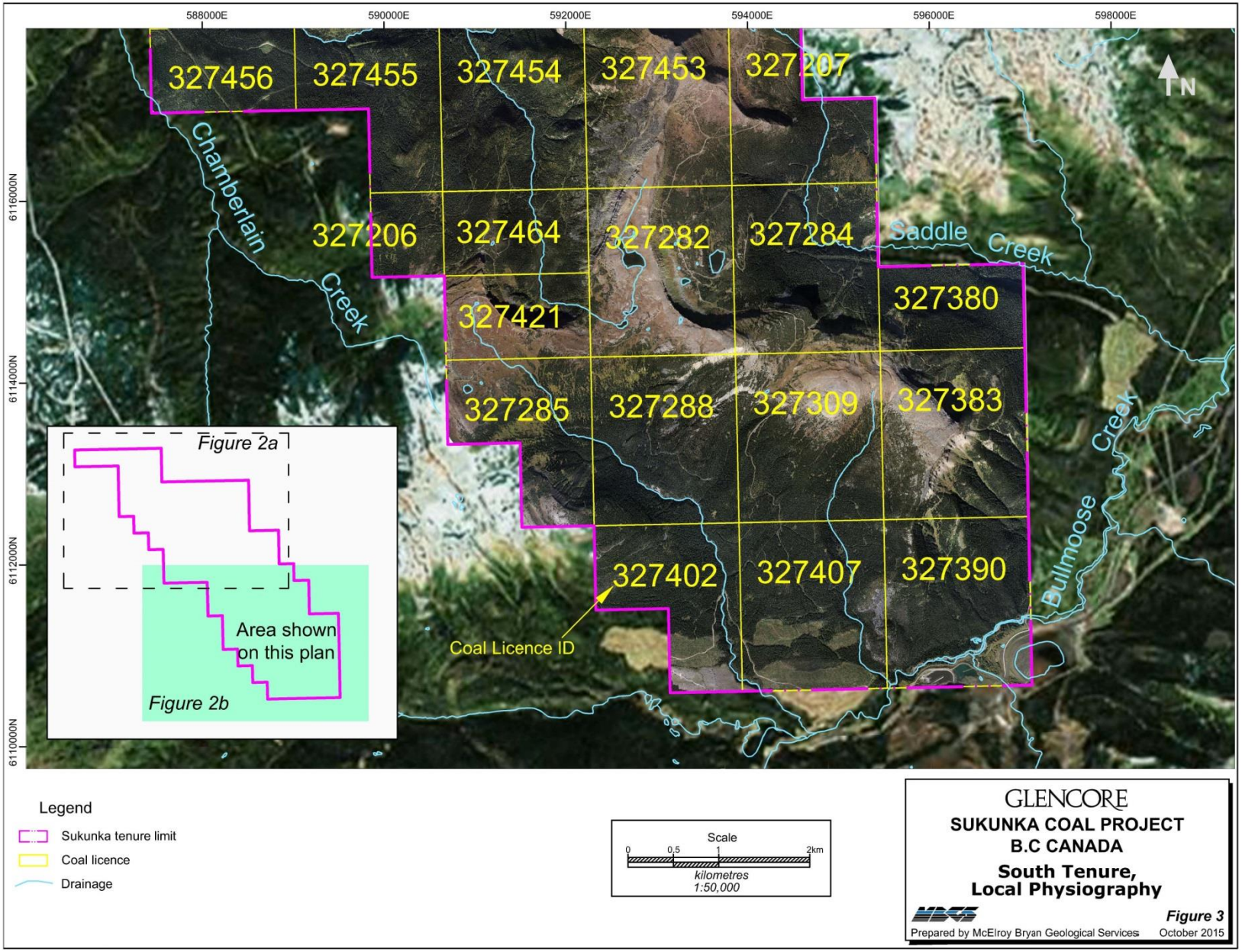
327469
327468
327218
327216
Skeeter Creek
327213
327211
327208
Sukunka River
327245
327244
327243
327242
327241
Chamberlain
Creek
327258
327257
327256
327255
327254
Coal Licence ID
327456
327455
327454
327453
327207
Area shown on this plan
Figure 2a
Figure 2b
Legend
Sukunka tenure limit
Coal licence
Drainage
Scale
0
0.5
1
2km
kilometres
1:50,000
GLENCORE
SUKUNKA COAL PROJECT
B.C CANADA
North Tenure,
Local Physiography
Figure 2
Prepared by McElroy Bryan Geological Services
October 2015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327454
327453
327207
327206
327464
327282
327284
327380
327421
327285
327288
327309
327383
327402
327407
327390
Chamberlain Creek
Saddle Creek
Bullmoose Creek
TN
Figure 2a
Area shown on this plan
Figure 2b
Coal Licence ID
Legend
Sukunka tenure limit
Coal licence
Drainage
Scale
0 0.5 1 2km
kilometres
1:50,000
GLENCORE
SUKUNKA COAL PROJECT
B.C CANADA
South Tenure,
Local Physiography
Figure 3
Prepared by McElroy Bryan Geological Services
October 2015

Table 1. Sukunka Coal Licenses

Tenure Number	Tenure Type	Owner	Good Standing Until Date	Size (ha)	Exploration Conducted (Yes/No)
327206	License	Boreas Coal Ltd.	31/12/2015	148	No
327207	License	Boreas Coal Ltd.	31/12/2015	296	No
327208	**License**	**Boreas Coal Ltd.**	**31/12/2015**	**148**	**Yes**
327211	**License**	**Boreas Coal Ltd.**	**31/12/2015**	**296**	**Yes**
327213	License	Boreas Coal Ltd.	31/12/2015	296	No
327216	License	Boreas Coal Ltd.	31/12/2015	296	No
327218	License	Boreas Coal Ltd.	31/12/2015	296	No
327241	License	Boreas Coal Ltd.	31/12/2015	296	No
327242	**License**	**Boreas Coal Ltd.**	**31/12/2015**	**296**	**Yes**
327243	**License**	**Boreas Coal Ltd.**	**31/12/2015**	**296**	**Yes**
327244	License	Boreas Coal Ltd.	31/12/2015	296	No
327245	License	Boreas Coal Ltd.	31/12/2015	296	No
327254	License	Boreas Coal Ltd.	31/12/2015	296	No
327255	License	Boreas Coal Ltd.	31/12/2015	296	No
327256	License	Boreas Coal Ltd.	31/12/2015	296	No
327257	License	Boreas Coal Ltd.	31/12/2015	296	No
327258	License	Boreas Coal Ltd.	31/12/2015	296	No
327282	License	Boreas Coal Ltd.	31/12/2015	296	No
327284	License	Boreas Coal Ltd.	31/12/2015	296	No
327285	License	Boreas Coal Ltd.	31/12/2015	296	No
327288	License	Boreas Coal Ltd.	31/12/2015	296	No
327309	License	Boreas Coal Ltd.	31/12/2015	296	No
327380	License	Boreas Coal Ltd.	31/12/2015	296	No
327383	License	Boreas Coal Ltd.	31/12/2015	296	No
327390	License	Boreas Coal Ltd.	31/12/2015	296	No
327402	License	Boreas Coal Ltd.	31/12/2015	296	No
327407	License	Boreas Coal Ltd.	31/12/2015	296	No
327421	License	Boreas Coal Ltd.	31/12/2015	148	No
327453	License	Boreas Coal Ltd.	31/12/2015	296	No
327454	License	Boreas Coal Ltd.	31/12/2015	296	No
327455	License	Boreas Coal Ltd.	31/12/2015	296	No
327456	License	Boreas Coal Ltd.	31/12/2015	296	No
327464	License	Boreas Coal Ltd.	31/12/2015	148	No
327468	License	Boreas Coal Ltd.	31/12/2015	148	No
327469	License	Boreas Coal Ltd.	31/12/2015	148	No
327470	License	Boreas Coal Ltd.	31/12/2015	148	No

1.2 Exploration History

Exploration on the Sukunka property commenced in 1969 following acquisition of the Sukunka and Bullmoose coal licenses by Brameda Resources Ltd. (Brameda).

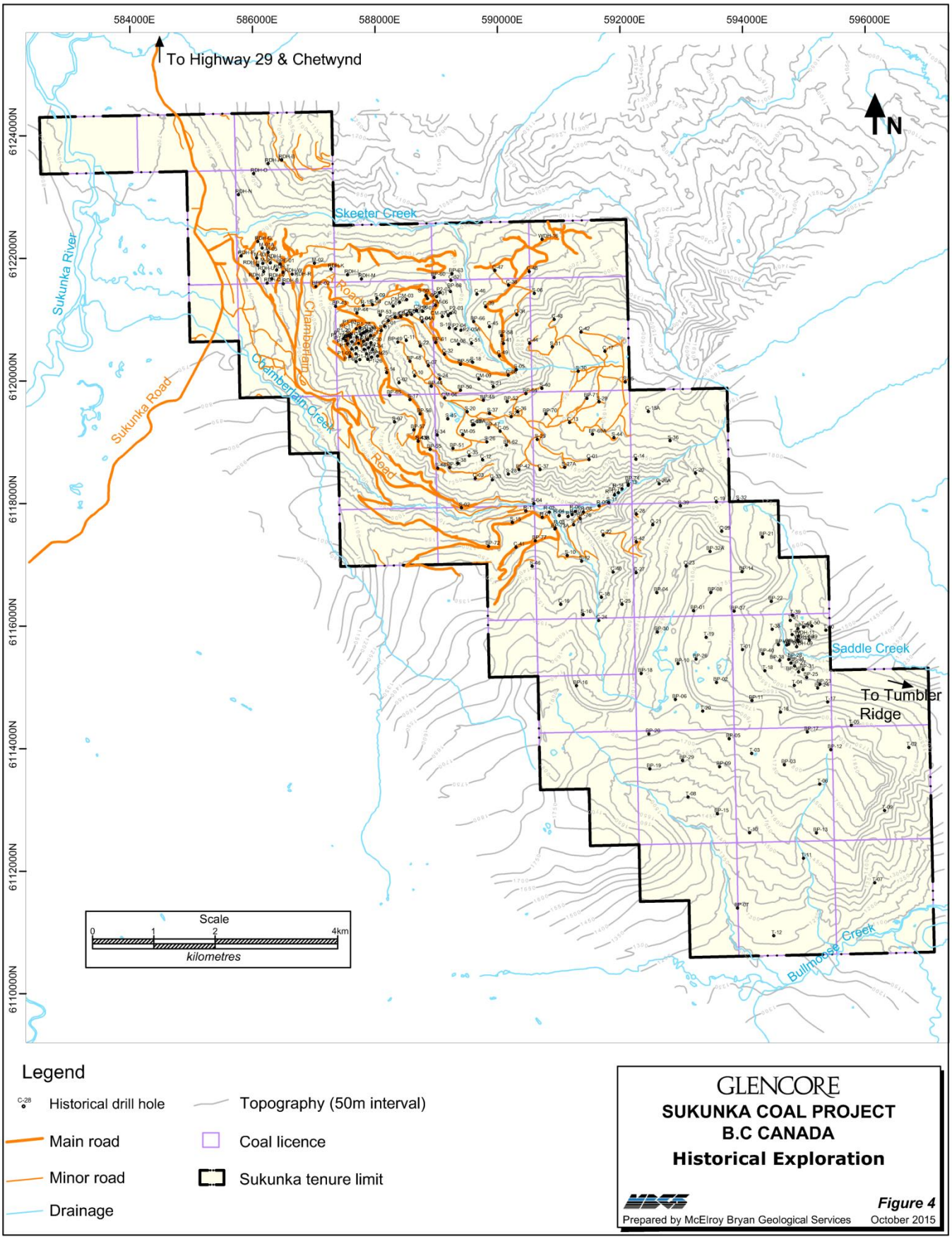
Historical exploration comprised four campaigns between 1969 and 1979 as ownership of the property changed. A total of 253 core holes and 66 open holes were drilled to assess the Gates, Upper and Lower Gething Formations (Figure 4).

- Brameda (1969 – 1970)
- Teck Corporation Ltd. (1970 – 1977)
- Coalition Mining Ltd. (1971 – 1975)
- BP Exploration Canada Ltd. (1977 – 1979)

The majority of holes were geophysically logged and the data from the drilling is considered reliable. A large scale underground trial mine was excavated from 1972-1979 at two locations, the No 1 Mine and Main Mine in the Skeeter Seam. Six adits accessed the seams from which channel and bulk samples were extracted for coal washability testing. Extensive field mapping was also carried out across the northern part of the deposit with intermittent mapping across the rest of the deposit 59 trenches were excavated. Additional assessments with experimental seismic and of gas content were attempted but the results of both were considered inconclusive.

In 1973 pilot scale coking and blast furnace tests were undertaken on clean Sukunka coal by the British Steel Corporation at Port Talbot, Wales. The tests identified the Sukunka coal as an outstanding coking coal. In 1981, the British Columbia government granted provisional mine approval for detailed mine planning to BP Exploration Canada Ltd. but this was never realised.

Glencore plc (Glencore) conducted two phases of exploration between 2012 and 2014 to complement and expand on historical data for feasibility assessment of potential open cut areas. This included 54 HQ size (63 mm diameter core) holes, 18 non-core holes and two large diameter (6” diameter core) holes for seam correlation, coal quality analysis and geotechnical evaluation and 29 paired non-core holes were drilled for baseline hydrogeological evaluation (Figure 5).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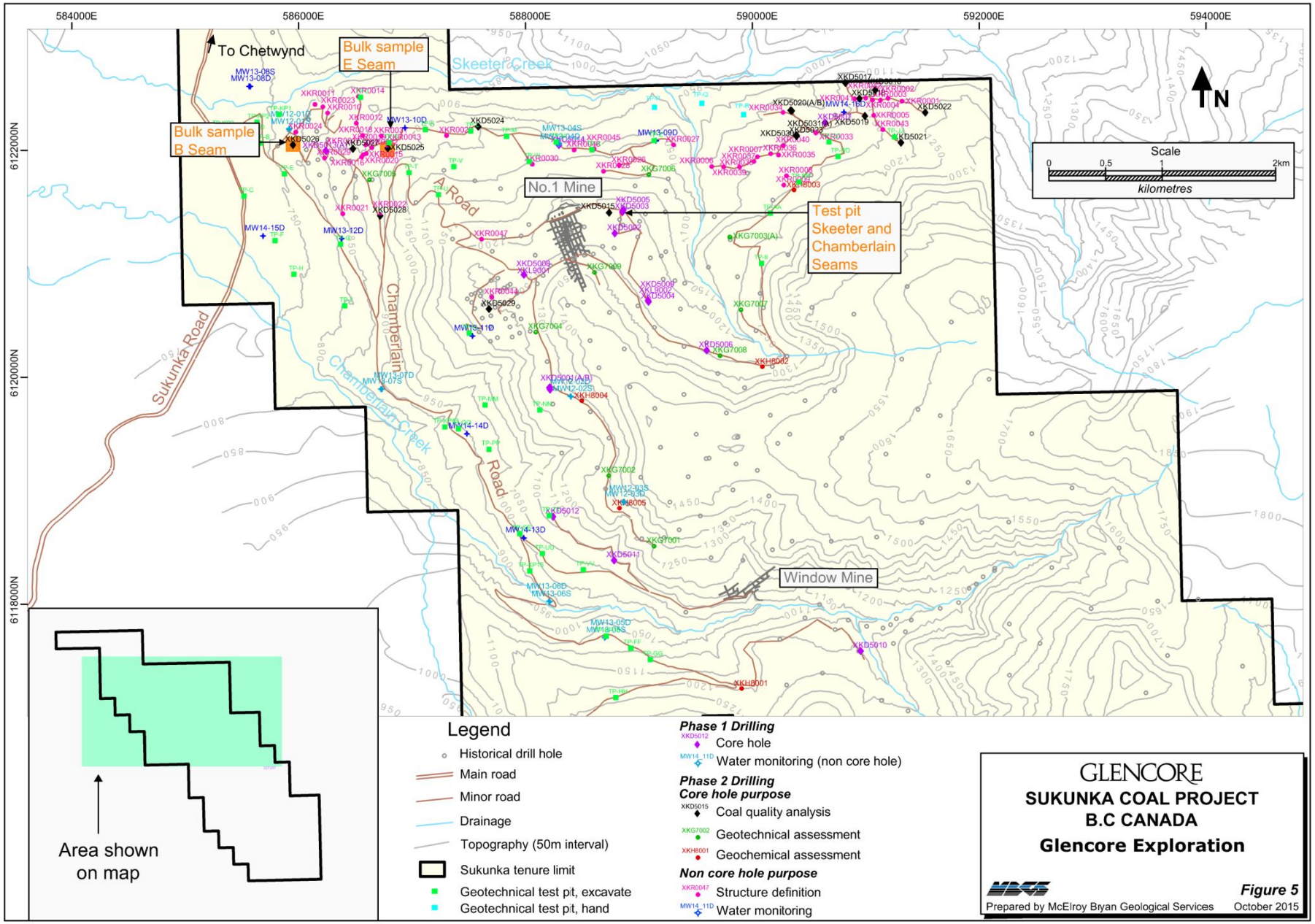
6116000N
6114000N
6112000N
6110000N
To Highway 29 & Chetwynd
N
Skeeter Creek
Sukunka River
Sukunka Road
Chamberlain Creek
Saddle Creek
To Tumbler Ridge
Bullmoose Creek
Scale
0
1
2
4km
kilometres
Legend
Historical drill hole
Main road
Minor road
Drainage
Topography (50m interval)
Coal licence
Sukunka tenure limit
GLENCORE
SUKUNKA COAL PROJECT
B.C CANADA
Historical Exploration
Figure 4
Prepared by McElroy Bryan Geological Services
October 2015


584000E
586000E
588000E
590000E
592000E
594000E
6122000N
6120000N
6118000N
To Chetwynd
Bulk sample E Seam
Bulk sample B Seam
Skeeter Creek
No.1 Mine
Test pit Skeeter and Chamberlain Seams
Window Mine
A Road
Chamberlain Road
Sukunka Road
Chamberlain Creek
N
Scale
0
0.5
1
2km
kilometres
Area shown on map
Legend
Historical drill hole
Main road
Minor road
Drainage
Topography (50m interval)
Sukunka tenure limit
Geotechnical test pit, excavate
Geotechnical test pit, hand
Phase 1 Drilling
Core hole
Water monitoring (non core hole)
Phase 2 Drilling
Core hole purpose
Coal quality analysis
Geotechnical assessment
Geochemical assessment
Non core hole purpose
Structure definition
Water monitoring
GLENCORE
SUKUNKA COAL PROJECT
B.C CANADA
Glencore Exploration
Figure 5
Prepared by McElroy Bryan Geological Services
October 2015

1.3 Economic and General Assessment

The Sukunka deposit is currently under feasibility stage evaluation for potential open cut mining by Glencore. The deposit is considered to be well placed to provide high quality hard coking coal for steel production to the overseas market. Exploration indicates the Chamberlain Seam of the Upper Gething Member has an average raw ash of 5 % - 6.5 %, low sulphur (less than 0.6 %) and petrographic, swelling and caking analysis indicate this coal has the potential to be an excellent coking coal. Additional coal seams of both the Upper and Lower Gething Members are also considered potential mining targets and show suitability for blending to produce a high quality coking coal.

The last resource estimate of the Sukunka deposit was reported in December 2014 (Appendix A).

2 RECENT EXPLORATION PROGRAM

Exploration by Glencore between August 2014 and December 2015 occurred in two periods to expand feasibility assessment of potential open cut mine operations in two areas of the Sukunka deposit (Figure 6).

A bulk sample of Upper Gething Member coal was excavated from two connected test pits between August and September 2014 for pilot scale washability and carbonization testing. This supplemented Lower Gething Member bulk samples obtained from B and E Seams using 6" large diameter (LD) core during June 2014. Samples were analysed to assess possible coal product blends and coking characteristics.

During November 2014 five HQ core holes (XKG7010 – XKG7014) and five test pits (CHPP TP01 – TP04 and MIA TP-01) were trenched as part of preliminary geotechnical assessment of subsurface foundation criteria for proposed MIA and CHPP development. Available drill hole data is shown in Table 2 and recent drill hole details are presented in Appendix B.

Ongoing geochemical analysis for environmental assessment of potential waste material, overburden and coal material utilised grab samples and tailings samples from the bulk sample test pit. Test work was undertaken in accordance with the Notice of Work (1641111-201402), the Activities and Reclamation Permit (CX-9-054) and Waste Discharge Approval (107394) to discharge surface water.

Table 2 Drill Hole Summary

Hole ID	Hole Type	Purpose	Depth (m)	Available Data				Geophysics		Coal Quality			Recent Exploration Period
				Field Logs	Core/ Chip Photos	Geotechnical UCS	Geochemical Leach Test	LAS	Suite of Logs	Raw	Clean	Petrology	
MW12-01D	Open	Hydrogeology	48.16	Yes	No	No	No	No	No	No	No	No	No
MW12-01S	Open	Hydrogeology	31.24	Yes	No	No	No	No	No	No	No	No	No
MW12-02D	Open	Hydrogeology	49.17	Yes	No	No	No	No	No	No	No	No	No
MW12-02S	Open	Hydrogeology	20.27	Yes	No	No	No	No	No	No	No	No	No
MW12-03D	Open	Hydrogeology	60.04	Yes	No	No	No	No	No	No	No	No	No
MW12-03S	Open	Hydrogeology	11.58	Yes	No	No	No	No	No	No	No	No	No
MW12-01D	Open	Hydrogeology	50.61	Yes	No	No	No	No	No	No	No	No	No
MW12-01D	Open	Hydrogeology	23.02	Yes	No	No	No	No	No	No	No	No	No
MW12-01D	Open	Hydrogeology	49.24	Yes	No	No	No	No	No	No	No	No	No
MW12-01D	Open	Hydrogeology	32.31	Yes	No	No	No	No	No	No	No	No	No
MW12-01D	Open	Hydrogeology	36.89	Yes	No	No	No	No	No	No	No	No	No
MW12-01D	Open	Hydrogeology	15.09	Yes	No	No	No	No	No	No	No	No	No
MW12-01D	Open	Hydrogeology	51.07	Yes	No	No	No	No	No	No	No	No	No
MW13-08D	Open	Hydrogeology	61.57	Yes	No	No	No	Yes	Full	No	No	No	No
MW13-08S	Open	Hydrogeology	15.24	Yes	No	No	No	No	No	No	No	No	No
MW13-09D	Open	Hydrogeology	79.57	Yes	No	No	No	Yes	Partial	No	No	No	No
MW13-10D	Open	Hydrogeology	61.26	Yes	No	No	No	Yes	Full	No	No	No	No
MW13-11D	Open	Hydrogeology	89.63	Yes	No	No	No	Yes	Full	No	No	No	No
MW13-12D	Open	Hydrogeology	52.13	Yes	No	No	No	Yes	Full	No	No	No	No
MW13-12S	Open	Hydrogeology	31.17	Yes	No	No	No	No	No	No	No	No	No
MW14-13D	Open	Hydrogeology	99.71	Yes	No	No	No	Yes	Full	No	No	No	No
MW14-13S	Open	Hydrogeology	32.62	Yes	No	No	No	No	No	No	No	No	No
MW14-14D	Open	Hydrogeology	63.10	Yes	No	No	No	Yes	Full	No	No	No	No
MW14-14S	Open	Hydrogeology	33.84	Yes	No	No	No	No	No	No	No	No	No
MW14-15D	Open	Hydrogeology	47.10	Yes	No	No	No	No	No	No	No	No	No
MW14-15S	Open	Hydrogeology	32.01	Yes	No	No	No	No	No	No	No	No	No
MW14-16D	Open	Hydrogeology	50.60	Yes	No	No	No	Yes	Full	No	No	No	No
MW14-16S	Open	Hydrogeology	30.79	Yes	No	No	No	No	No	No	No	No	No
XKD5001	HQ Core	Coal Quality	68.28	Yes	Yes	Yes	Yes	Yes	Full	Yes	Yes	Yes	No
XKD5001A	HQ Core	Coal Quality	42.58	Yes	Yes	No	No	Yes	Full			Yes	No

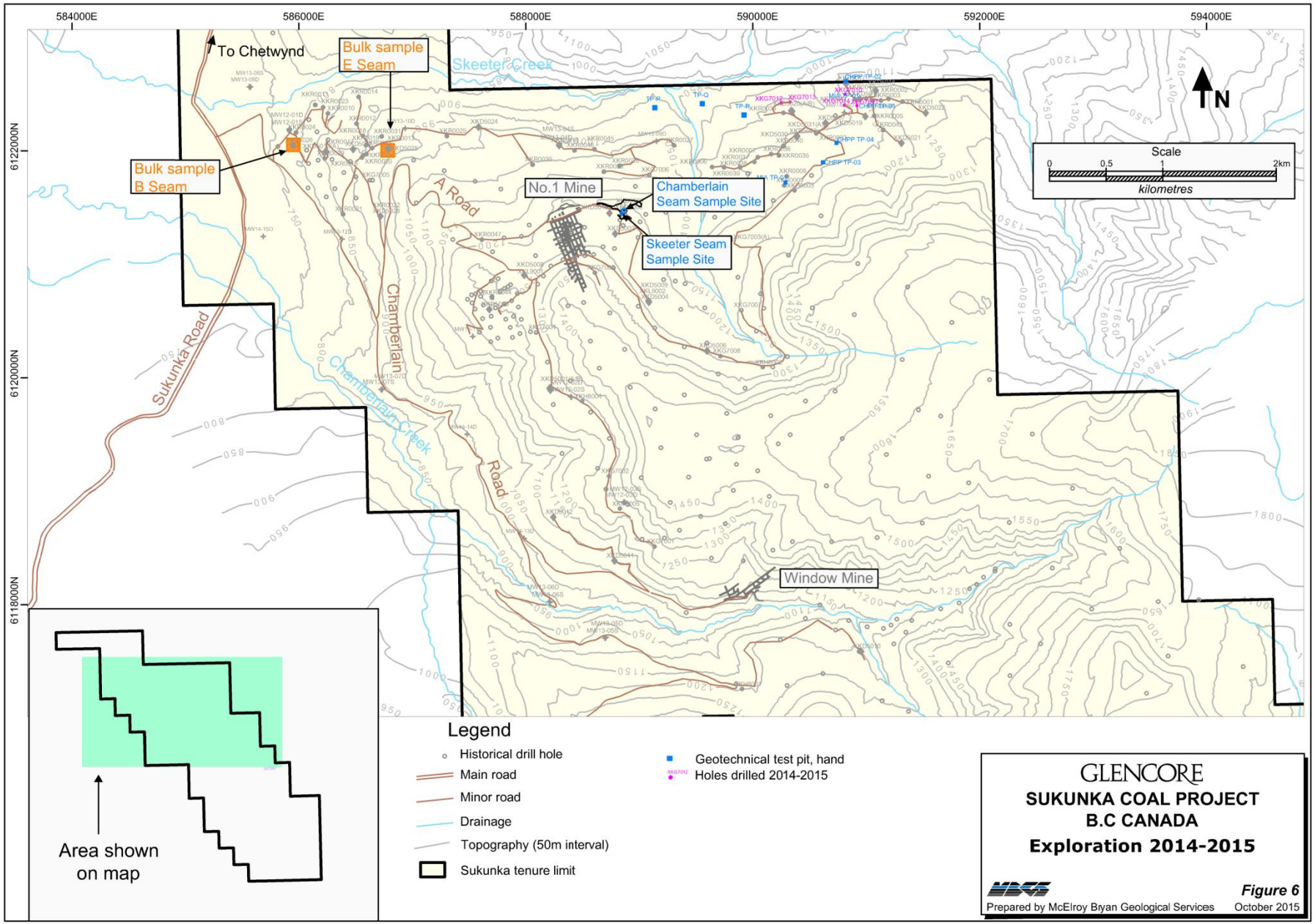
Hole ID	Hole Type	Purpose	Depth (m)	Available Data				Geophysics		Coal Quality			Recent Exploration Period
				Field Logs	Core/ Chip Photos	Geotechnical UCS	Geochemical Leach Test	LAS	Suite of Logs	Raw	Clean	Petrology	
XKD5001B	HQ Core	Coal Quality	43.31	Yes	Yes	No	No	Yes	Partial			Yes	No
XKD5002	HQ Core	Coal Quality	74.86	Yes	Yes	Yes	Pending	Yes	Full	Yes	Yes	Yes	No
XKD5003	HQ Core	Coal Quality	41.50	Yes	Yes	Yes	Pending	Yes	Full	Yes	Yes	Yes	No
XKD5004	HQ Core	Coal Quality	122.64	Yes	Yes	Yes	Pending	Yes	Full	Yes	Yes	Yes	No
XKD5005	HQ Core	Coal Quality	23.10	Yes	Yes	Yes	Pending	Yes	Full	Yes	Yes	Yes	No
XKD5006	HQ Core	Coal Quality	125.67	Yes	Yes	Yes	Pending	Yes	Full	Yes	Yes	Yes	No
XKD5007	HQ Core	Coal Quality	98.48	Yes	Yes	Yes	Pending	Yes	Full	Yes	Yes	Yes	No
XKD5008	HQ Core	Coal Quality	128.14	Yes	Yes	Yes	Pending	Yes	Full	Yes	Yes	Yes	No
XKD5009	HQ Core	Coal Quality	98.02	Yes	Yes	Yes	Pending	Yes	Full	Yes	No	No	No
XKD5010	HQ Core	Coal Quality	125.08	Yes	Yes	Yes	Pending	Yes	Full	Yes	Yes	Yes	No
XKD5011	HQ Core	Coal Quality	133.50	Yes	Yes	Yes	Yes	Yes	Full	Yes	Yes	Yes	No
XKD5012	HQ Core	Coal Quality	104.01	Yes	Yes	Yes	Yes	Yes	Full	Yes	Yes	Yes	No
XKD5013	HQ Core	Coal Quality	74.00	Yes	Yes	Yes	Yes	Yes	Full	Yes	Yes	Yes	No
XKD5013A	HQ Core	Coal Quality	62.00	Yes	Yes	No	No	Yes	Partial	Yes	Yes	Yes	No
XKD5014	HQ Core	Coal Quality	119.85	Yes	Yes	Yes	Yes	Yes	Full	Yes	Yes	Yes	No
XKD5015	HQ Core	Coal Quality	30.10	Yes	Yes	No	No	Yes	Full	Yes	Yes[1]	Yes	No
XKD5016	HQ Core	Geotechnical	53.03	Yes	Yes	No	No	Yes	Full	Yes	Yes[1]	Yes	No
XKD5017	HQ Core	Geotechnical	50.00	Yes	Yes	No	No	Yes	Full	Yes	No	No	No
XKD5018	HQ Core	Geotechnical	50.05	Yes	Yes	No	No	Yes	Full	Yes	No	No	No
XKD5019	HQ Core	Coal Quality	68.13	Yes	Yes	Yes	No	Yes	Full	Yes	Yes[1]	Yes	No
XKD5020	HQ Core	Coal Quality	80.05	Yes	Yes	No	No	Yes	Full	Yes	Yes[1]	Yes	No
XKD5020A	HQ Core	Coal Quality	68.01	Yes	Yes	No	No	Yes	No	Yes	Yes[1]	Yes	No
XKD5020B	HQ Core	Coal Quality	61.94	Yes	Yes	No	No	Yes	Full	Yes	No	No	No
XKD5021	HQ Core	Coal Quality	85.92	Yes	Yes	No	No	Yes	Full	Yes	Yes[1]	Yes	No
XKD5021A	HQ Core	Coal Quality	71.04	Yes	Yes	No	No	Yes	Partial	Yes	No	No	No
XKD5022	HQ Core	Coal Quality	137.46	Yes	Yes	Yes	No	Yes	Full	Yes	No	No	No
XKD5023	HQ Core	Coal Quality	104.00	Yes	Yes	Yes	No	Yes	Full	Yes	Yes[1]	Yes	No
XKD5024	HQ Core	Coal Quality	176.25	Yes	Yes	Yes	No	Yes	Full	Yes	No	Yes	No
XKD5025	HQ Core	Coal Quality	33.25	Yes	Yes	No	No	Yes	Full	Yes	Yes[1]	Yes	No
XKD5026	HQ Core	Coal Quality	31.65	Yes	Yes	No	No	Yes	Full	Yes	Yes[1]	Yes[1]	No

[1] Data provided subsequent to the 2014 Assessment Report

Hole ID	Hole Type	Purpose	Depth (m)	Available Data				Geophysics		Coal Quality			Recent Exploration Period
				Field Logs	Core/ Chip Photos	Geotechnical UCS	Geochemical Leach Test	LAS	Suite of Logs	Raw	Clean	Petrology	
XKD5027	HQ Core	Coal Quality	87.22	Yes	Yes	No	No	Yes	Full	Yes	Yes[1]	Yes[1]	No
XKD5028	HQ Core	Coal Quality	65.81	Yes	Yes	No	No	Yes	Full	Yes	Yes[1]	Yes[1]	No
XKD5029	HQ Core	Coal Quality	24.50	Yes	Yes	No	No	Yes	Full	Yes	Yes[1]	Yes[1]	No
XKD5030	HQ Core	Geotechnical	13.69	Yes	Yes	No	No	No	No	N/A	N/A	N/A	No
XKD5031	HQ Core	Geotechnical	5.48	Yes	Yes	No	No	No	No	N/A	N/A	N/A	No
XKD5031A	HQ Core	Geotechnical	13.14	Yes	Yes	No	No	No	No	N/A	N/A	N/A	No
XKG7001	HQ Core	Geotechnical	104.12	Yes	Yes	Yes	No	Yes	Full	Yes	Yes[1]	Yes	No
XKG7002	HQ Core	Geotechnical	200.67	Yes	Yes	Yes	No	Yes	Partial	Yes	Yes[1]	Yes	No
XKG7003	HQ Core	Geotechnical	196.98	Yes	Yes	Yes	No	Yes	Partial	Yes	No	Yes	No
XKG7003A	HQ Core	Geotechnical	232.92	Yes	Yes	Yes	No	Yes	Full	Yes	No	Yes	No
XKG7004	HQ Core	Geotechnical	188.00	Yes	Yes	Yes	No	Yes	Full	Yes	Yes[1]	Yes	No
XKG7005	HQ Core	Geotechnical	68.00	Yes	Yes	Yes	No	Yes	Full	Yes	Yes[1]	Yes	No
XKG7006	HQ Core	Geotechnical	101.21	Yes	Yes	Yes	No	Yes	Full	Yes	Yes[1]	Yes	No
XKG7008	HQ Core	Geotechnical	181.79	Yes	Yes	Yes	No	Yes	Full	Yes	No	Yes	No
XKG7009	HQ Core	Geotechnical	191.03	Yes	Yes	Yes	No	Yes	Full	Yes	Yes[1]	Yes	No
XKG7010	**HQ Core**	**Geotechnical**	**33.79**	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Full**	**Yes**	**No**	**Yes**	**Yes**
XKG7011	**HQ Core**	**Geotechnical**	**47.57**	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Full**	**Yes**	**No**	**Yes**	**Yes**
XKG7012	**HQ Core**	**Geotechnical**	**52.45**	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Full**	**No**	**No**	**No**	**Yes**
XKG7013	**HQ Core**	**Geotechnical**	**51.23**	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Full**	**Yes**	**Yes**	**Yes**	**Yes**
XKG7014	**HQ Core**	**Geotechnical**	**38.83**	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Full**	**Yes**	**No**	**Yes**	**Yes**
XKH8001	HQ Core	Geochemical	156.00	Yes	Yes	Yes	Pending	Yes	Full	No	No	No	No
XKH8002	HQ Core	Geochemical	218.00	Yes	Yes	Yes	Pending	Yes	Partial	No	No	No	No
XKH8003	HQ Core	Geochemical	232.94	Yes	Yes	Yes	Pending	Yes	Full	No	No	No	No
XKH8004	HQ Core	Geochemical	133.91	Yes	Yes	Yes	Pending	Yes	Full	No	No	No	No
XKH8005	HQ Core	Geochemical	113.09	Yes	Yes	Yes	Pending	Yes	Full	No	No	No	No
XKR0001	Open	Exploration	80.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0002	Open	Exploration	80.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0003	Open	Exploration	79.55	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0004	Open	Exploration	79.55	Yes	Yes	N/A	N/A	Yes	Partial	N/A	N/A	N/A	No
XKR0005	Open	Exploration	59.50	Yes	Yes	N/A	N/A	Yes	Partial	N/A	N/A	N/A	No
XKR0006	Open	Exploration	44.50	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0007	Open	Exploration	100.00	Yes	Yes	N/A	N/A	Yes	Partial	N/A	N/A	N/A	No

Hole ID	Hole Type	Purpose	Depth (m)	Available Data				Geophysics		Coal Quality			Recent Exploration Period
				Field Logs	Core/ Chip Photos	Geotechnical UCS	Geochemical Leach Test	LAS	Suite of Logs	Raw	Clean	Petrology	
XKR0008	Open	Exploration	79.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0009	Open	Exploration	60.00	Yes	Yes	N/A	N/A	Yes	Partial	N/A	N/A	N/A	No
XKR0010	Open	Exploration	30.00	Yes	Yes	N/A	N/A	Yes	Partial	N/A	N/A	N/A	No
XKR0011	Open	Exploration	40.00	Yes	Yes	N/A	N/A	Yes	Partial	N/A	N/A	N/A	No
XKR0012	Open	Exploration	65.00	Yes	Yes	N/A	N/A	Yes	Partial	N/A	N/A	N/A	No
XKR0013	Open	Exploration	100.50	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0014	Open	Exploration	100.00	Yes	Yes	N/A	N/A	Yes	Partial	N/A	N/A	N/A	No
XKR0015	Open	Exploration	100.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0016	Open	Exploration	100.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0017	Open	Exploration	100.00	Yes	Yes	N/A	N/A	Yes	Partial	N/A	N/A	N/A	No
XKR0018	Open	Exploration	100.00	Yes	Yes	N/A	N/A	Yes	Partial	N/A	N/A	N/A	No
XKR0019	Open	Exploration	100.00	Yes	Yes	N/A	N/A	Yes	Partial	N/A	N/A	N/A	No
XKR0020	Open	Exploration	100.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0021	Open	Exploration	100.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0022	Open	Exploration	100.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0023	Open	Exploration	80.00	Yes	Yes	N/A	N/A	Yes	Partial	N/A	N/A	N/A	No
XKR0024	Open	Exploration	80.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0025	Open	Exploration	140.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0026	Open	Exploration	70.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0027	Open	Exploration	100.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0028	Open	Exploration	100.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0029	Open	Exploration	224.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0030	Open	Exploration	214.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0031	Open	Exploration	70.00	Yes	Yes	N/A	N/A	Yes	Partial	N/A	N/A	N/A	No
XKR0032	Open	Exploration	40.00	Yes	Yes	N/A	N/A	Yes	Partial	N/A	N/A	N/A	No
XKR0033	Open	Exploration	100.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0034	Open	Exploration	100.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0035	Open	Exploration	130.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0036	Open	Exploration	102.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0037	Open	Exploration	66.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0038	Open	Exploration	80.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0039	Open	Exploration	80.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No

Hole ID	Hole Type	Purpose	Depth (m)	Available Data				Geophysics		Coal Quality			Recent Exploration Period
				Field Logs	Core/ Chip Photos	Geotechnical UCS	Geochemical Leach Test	LAS	Suite of Logs	Raw	Clean	Petrology	
XKR0040	Open	Exploration	131.50	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0041	Open	Exploration	38.50	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0042	Open	Exploration	40.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0043	Open	Exploration	60.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0044	Open	Exploration	100.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0045	Open	Exploration	150.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0046	Open	Exploration	40.00	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKR0047	Open	Exploration	59.50	Yes	Yes	N/A	N/A	Yes	Full	N/A	N/A	N/A	No
XKL9001	LD	Coal Quality	110.43	Yes	Yes	No	No	Yes	Partial	No	Yes	Yes	No
XKL9002	LD	Coal Quality	93.84	Yes	Yes	No	No	No	No	Yes	Yes	Yes	No
XKL9003	LD	Exploration	26.50	Yes	Yes	N/A	N/A	No	No	Yes	No	Yes[1]	No
XKL9004	LD	Exploration	25.00	Yes	Yes	N/A	N/A	No	No	Sent for carbonization testing			No
XKL9005	LD	Exploration	24.50	Yes	Yes	N/A	N/A	No	No				No
XKL9006	LD	Exploration	23.50	Yes	Yes	N/A	N/A	No	No	Yes	Yes[1]	No	No
XKL9007	LD	Exploration	22.00	Yes	Yes	N/A	N/A	No	No	Sent for carbonization testing			No
XKL9008	LD	Exploration	20.50	Yes	Yes	N/A	N/A	No	No				No
XKL9009	LD	Exploration	26.60	Yes	Yes	N/A	N/A	No	No				No
XKL9010	LD	Exploration	26.70	Yes	Yes	N/A	N/A	No	No				No
XKL9011	LD	Exploration	26.30	Yes	Yes	N/A	N/A	No	No				No
XKL9012	LD	Exploration	25.00	Yes	Yes	N/A	N/A	No	No				No
XKL9013	LD	Exploration	23.50	Yes	Yes	N/A	N/A	No	No				No
XKL9014	LD	Exploration	22.00	Yes	Yes	N/A	N/A	No	No				No
XKL9015	LD	Exploration	29.50	Yes	Yes	N/A	N/A	No	No	Yes	Yes[1]	No	No
XKL9016	LD	Exploration	29.30	Yes	Yes	N/A	N/A	No	No	Sent for carbonization testing			No
XKL9017	LD	Exploration	30.20	Yes	Yes	N/A	N/A	No	No				No


584000E
586000E
588000E
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592000E
594000E
6122000N
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6118000N
To Chetwynd
Bulk sample
E Seam
Bulk sample
B Seam
Skeeter Creek
A Road
No.1 Mine
Chamberlain
Seam Sample Site
Skeeter Seam
Sample Site
Sukunka Road
Chamberlain Creek
Road
Window Mine
N
Scale
0
0.5
1
2km
kilometres
Area shown
on map
Legend
Historical drill hole
Main road
Minor road
Drainage
Topography (50m interval)
Sukunka tenure limit
Geotechnical test pit, hand
Holes drilled 2014-2015
GLENCORE
SUKUNKA COAL PROJECT
B.C CANADA
Exploration 2014-2015
Figure 6
Prepared by McElroy Bryan Geological Services
October 2015

2.1 Bulk Sample Analysis

Between the 21st August and 15th September 2014 bulk samples of Upper Gething coal (Skeeter and Chamberlain Seams) were extracted from two connected test pits. The site was located within the first five years of operation mine plan and supported by drill hole data from two HQ core holes (XKD5003 and XKD5005). Approximately 6.2 tonnes of Chamberlain Seam and more than 4.5 tonnes of Skeeter Seam were extracted. This complemented bulk samples of Lower Gething Member coal which had been obtained from a series of 10 LD core holes for B Seam samples and three LD core holes for E Seam during June 2014 (Figure 6).

The bulk sample was excavated in accordance with the Notice of Work (1641111-201402), the Activities and Reclamation Permit (CX-9-054), Waste Discharge Approval (107394) for surface water, Occupant License to Cut and the Mines Act (1996).

The Activities and Reclamation Permit required geochemical characterization of waste rock and coal material for ML/ARD potential which was managed by pHase Geochemistry (pHase). In addition, the products of pilot scale washability tests were assessed for ML/ARD potential as part of the geochemical environmental assessment by Stantec. Results are presented in Section 2.1.2.

Water quality compliance monitoring as required by the Activities and Reclamation Permit and the Waste Discharge Approval was supervised by KP and is discussed in Section 2.1.3

2.1.1 Coal quality/carbonization

Bulk samples were obtained from target seams of Upper and Lower Gething Member coal seams for assessment of coal washability characteristics, clean coal quality parameters and coking characteristics. Individual coal plies and ply blends were washed to compare possible coal product specifications and coal preparation plant recovery criteria. The program was designed Andy Myers of AB Mylec and Daryl Thomas of Glencore and reviewed by Ross Leader (an independent carbonization specialist) and Jeff Gerard of Glencore.

Bulk sample pit excavation and coal sampling was supervised on site by MBGS. It was important to prevent coal sample contamination by oxidised coal so initial light transmittance and free swelling index (FSI) tests were undertaken in the field by the site geologist. The results were substantiated by laboratory analysis of light transmittance, FSI, moisture content, volatile matter and calorific content at the ALS laboratory in Vancouver. After results indicated the coal was fresh, clean sections were cut from the face, sampled directly into plastic-lined barrels and weighed to ensure minimum mass requirements were met.

Core of the Lower Gething coal seams (B and E) was sampled ply by ply at the drill rig by MBGS geologists. The first hole drilled for each seam were sent to the ALS Vancouver laboratory for sizing, washability and coal product analyses to determine the plies to composite for washability and carbonization testing. A summary of results is contained in Appendix C.

Bulk samples were sent to either Hazen Research Inc (Hazen) for pilot scale sizing and beneficiation or directly to CanmetENERGY Natural Resources Canada (Canmet) for pilot scale carbonization testing in a Carbolite oven and/or sole heated oven carbonization tests. The resulting coke products were analysed for parameters including coke strength tests (CSR, CRI), fluidity, dilatation and mineral ash analysis. Petrographic analysis of raw and clean coal samples was undertaken at Pearson and Associates Pty Ltd. (Pearson). Bulk samples are shown in Table 3 and the analysis procedure is summarised in Figure 7 .

Table 3 Bulk Samples

	Weight of sample (kg)			
Sample analysis	Chamberlain Seam	Skeeter Seam	B Seam	E Seam
Laboratory coal quality (ALS, Vancouver)	100	100	150	150
Pilot scale washability (Hazen)	3265	5527	1050	-
Carbonization of raw coal (Canmet)	3600	150	150	150
Carbonization of clean coal (Hazen then Canmet)	2873	4152	619	-

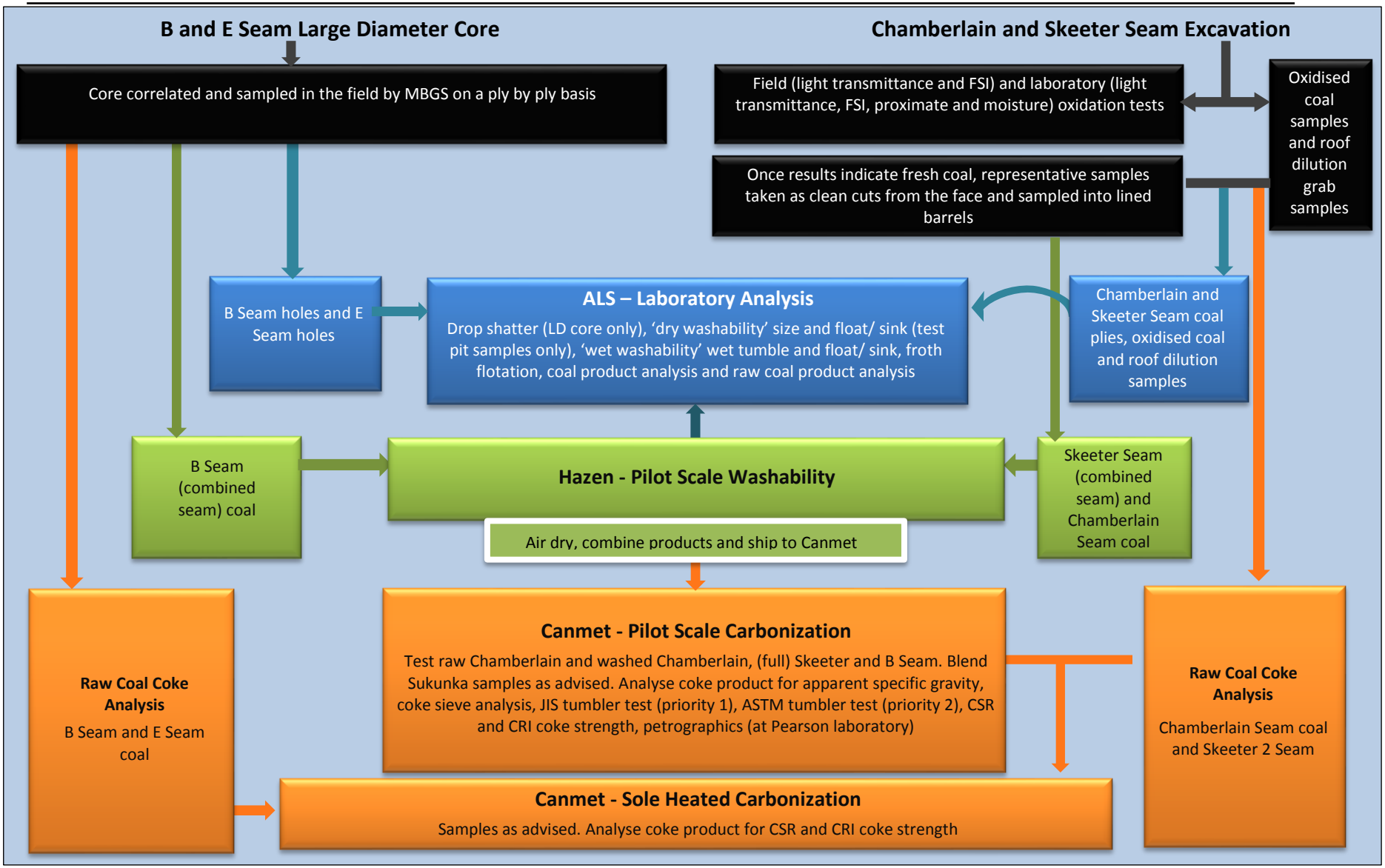


Figure 7 Bulk Sample Test Procedure

The floor of both the Chamberlain and Skeeter Seams is a hard, competent sandstone that is not considered a mining dilution problem. Grab samples were taken from the roof of each seam and oxidised coal was also sampled from both the Skeeter and Chamberlain Seam for assessment of possible dilution effects.

[redacted]

2.1.2 Geochemical

Investigation of ML/ARD potential of waste rock, coal and overburden material at the bulk sample test pits were assessed by two consultants. Geochemical characterization of samples obtained from the bulk sample test pits was managed by pHase in compliance with the Notice of Work and the Activities and Reclamation Permit and as recommended by Khlon Crippen Berger (KCB, 2014). The ML/ARD potential of coarse rejects and fine tailings rejects from pilot scale washability products was assessed by Stantec. Sampling, analytical procedures and results are discussed in the reports contained in Appendix D.

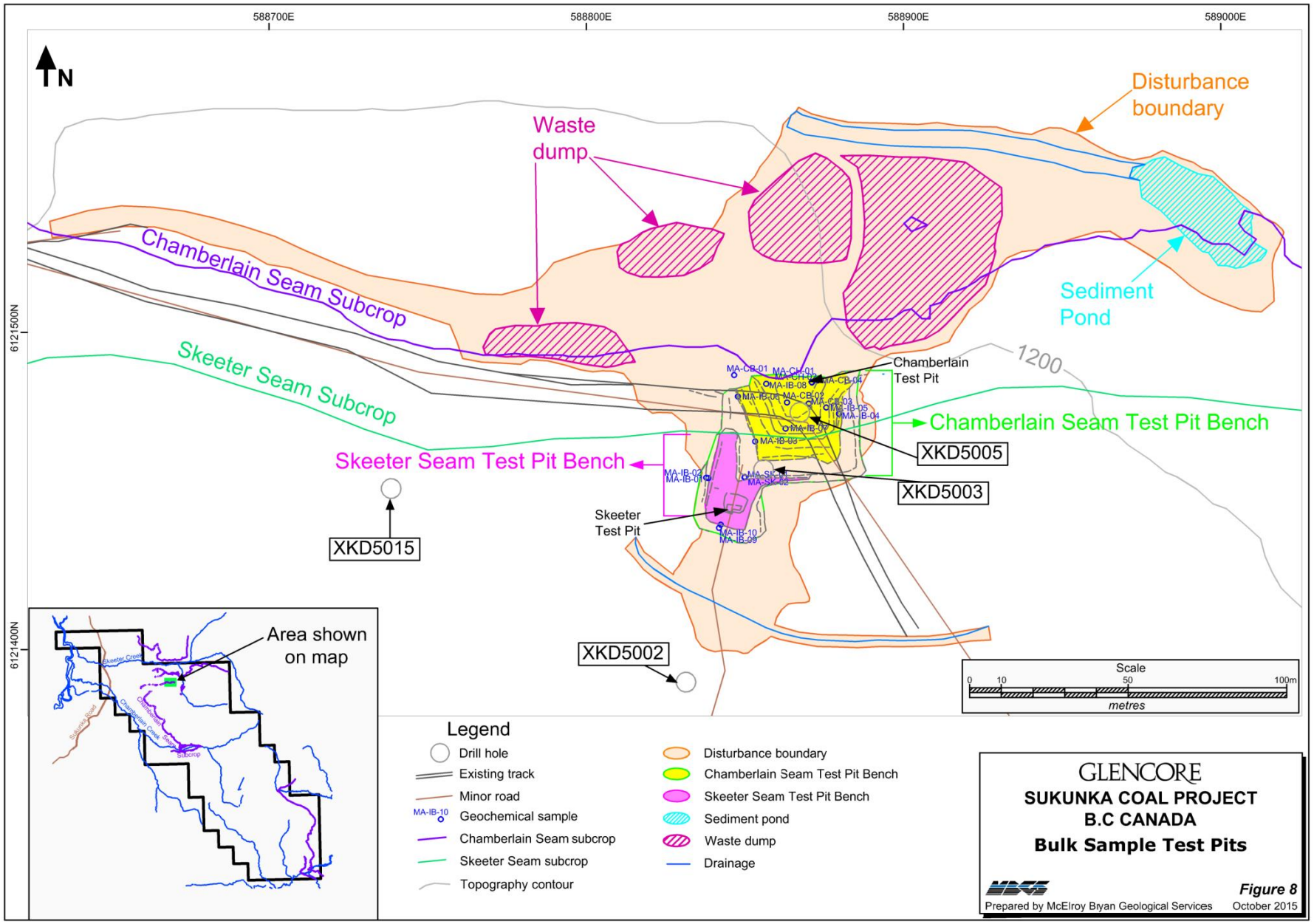
pHase conducted static tests on 18 samples from key stratigraphic units taken by the supervising MBGS geologist under guidance from KP (Figure 8). Location of samples on the plan are approximate. Tests included acid base accounting (ABA) and multi-element analysis on all samples with shake flask extraction tests (SFE) on seven samples and mineralogical analysis on four samples.

Stantec analysed four samples of Chamberlain, Skeeter and B Seams for metal leaching using static tests (as outlined above with additional net acid generation (NAG) tests) and kinetic testing in laboratory humidity cells. Coarse rejects and dewatered tailings were combined for both the Chamberlain and Skeeter Seam samples and B Seam samples comprised a heavy media coarse reject sample and a flotation tailings sample. The results of the kinetic tests substantiated current static test results.

Overburden and interburden material as well as the coarse rejects of the Chamberlain, Skeeter and B Seams were identified as not potentially acid generating (PAG). B Seam flotation tailings, coal seams and waste material from the immediate roof of coal seams are mostly considered PAG and tailings would require blending before deposition. The main acid producing mineral was pyrite and the key acid consuming mineral was dolomite-ankerite.

The Skeeter and Chamberlain Seams coarse rejects showed leaching of selenium with a marginal aluminium exceedance from the Skeeter Seam rejects compared to industry guidelines. The B Seam exhibited selenium and cadmium exceedances from the coarse rejects and a marginal cadmium exceedance in the flotation tailings. Concentrations of metals generally stabilized after five weeks in the humidity cells.

Metal analysis of test pit grab samples reported elevated bismuth, chromium, nickel and selenium concentrations with a potential for selenium leaching at neutral pH. Leach extraction tests indicated that waste materials were generally buffered (pH 6.9 to 8.3) with the exception of the Chamberlain Seam roof (pH 4.6). At acid pH potential metal leaching could include sulphate, cadmium, cobalt, copper, lead, manganese, nickel and zinc.


588700E
588800E
588900E
589000E
6121500N
6121400N
N
Disturbance boundary
Waste dump
Chamberlain Seam Subcrop
Skeeter Seam Subcrop
Sediment Pond
1200
Chamberlain Test Pit
Chamberlain Seam Test Pit Bench
XKD5005
XKD5003
Skeeter Seam Test Pit Bench
XKD5015
Skeeter Test Pit
XKD5002
Area shown on map
Scale
0 10 50 100m
metres
Legend
Drill hole
Existing track
Minor road
MA-IB-10 Geochemical sample
Chamberlain Seam subcrop
Skeeter Seam subcrop
Topography contour
Disturbance boundary
Chamberlain Seam Test Pit Bench
Skeeter Seam Test Pit Bench
Sediment pond
Waste dump
Drainage
GLENCORE
SUKUNKA COAL PROJECT
B.C CANADA
Bulk Sample Test Pits
Figure 8
Prepared by McElroy Bryan Geological Services
October 2015

2.1.3 Hydrogeology

Water quality compliance monitoring was supervised by KP for the duration of the bulk sample excavation as required by the Activities and Reclamation Permit and the Waste Discharge Approval.

Water samples were collected in accordance with British Columbia best practice and guidelines and details of sample, analytical and QA/QC procedures are contained in the Sukunka Bulk Sample Program Water Quality Monitoring Report issued by KP in Appendix D.

Samples from groundwater and surface sources were required weekly from the sediment pond during periods of discharge with before and after the bulk sample excavation from a downstream tributary and groundwater monitoring well MW13-04. Samples were collected by KP and Glencore staff after completion of the bulk sample because standing water was not observed during the excavation period. Ongoing monitoring is required.

Samples were analysed for physical tests (such as hardness, pH, alkalinity, total dissolved and suspended solids and turbidity), dissolved anions, nutrients, total and dissolved metals, organics, hydrocarbons (extractable petroleum and PAHs) and BTEX (benzene, toluene, ethylbenzene and Xylene). Although a few surface water exceedances of the guidelines were recorded at the point of discharge, none were recorded at monitoring locations and no exceedances of ground water quality guidelines were recorded. The sediment pond recorded concentrations of nitrate and nitrite and selenium exceeded guideline concentrations in surface water but concentrations were below guidelines in samples collected the same day downstream.

2.1.4 Survey

The bulk sample test pit site was surveyed by the Integrated ProAction Group (IPac). Details of IPac survey data are located in Appendix E.

The survey was completed using a Trimble GNSS R8 RTK base Station and receiver following standard survey practices in accordance with Trimble guidelines. This survey equipment configuration can provide accuracy in the order of 5 cm in the vertical and the horizontal according to the manufacturers' specifications.

Control points were established in areas with a clear sky view and in good line of sight in all directions to avoid multipath interference. These points were all subsequently processed using Natural Resource Canada Geodetic Survey Division's Precise Point Positioning System to obtain a precise vertical and horizontal location and elevation. Positions are ground coordinates and are valid in UTM Zone 10 N map projection (NAD83) with elevations above mean sea level, orthometric height CGVD28 (HTv2.0).

2.1.5 Physical work

Clearing and excavation of the bulk sample test pits was undertaken by Duz Cho Construction Ltd. (Duz Cho). This included relocation of the access road, clearing of the site, construction of erosion and sediment control structures, excavation of the bulk samples and the final site clean-up. Drill and blast procedures were managed by Extreme North.

Design and implementation erosion of the erosion and sediment control plan was overseen on site by KP who approved the final construction. Details are presented in Appendix D.

All physical work was undertaken in accordance with the Notice of Work (1641111-201402), the Activities and Reclamation Permit (CX-9-054), Approval (107394) to discharge surface water, Occupant License to Cut and the Mines Act (1996).

Disturbance has remained within prescribed limits. Figure 8 shows the test pit disturbance boundary.

2.2 Geotechnical Exploration

A geotechnical program to investigate subsurface foundation design criteria in the proposed MIA and CHPP locations commenced in November 2014 and incorporated five core holes (HQ size) and five trenches. Geotechnical data acquisition and analysis was managed on site by Westrek. Geological data was acquired by John Stokmans of Topaz.

All physical work was undertaken in accordance with the Notice of Work, the Activities and Reclamation Permit, the Occupant License to Cut and the Mines Act (1996).

2.2.1 Drilling

Five holes (XKG7010 to XKG7014) fully cored from bedrock were drilled between the 30th October and 8th November 2014 as part of a geotechnical assessment of subsurface conditions for the proposed MIA and CHPP (Figure 6). Available geological drill hole data is shown in Table 2 and drill hole details are presented in Appendix B.

A total of 224 m were drilled by Westech Drilling using a track mounted SIMCO 2800 HSC drill rig. All holes were geologically logged at the drill rig by Mr Stokmans who had assisted MBGS during the 2014 exploration program and was trained in MBGS core logging procedures. Geological data collection was supervised remotely by MBGS and data was reviewed on a daily basis. Geological drill data including lithological logs of surficial drill cuttings and core and photographs are contained in Appendix F. Geological qualifications are presented in Section 4.

After completion of the geological logs, the core was geotechnically logged by Westrek and representative samples were taken for uniaxial compressive strength testing (UCS) and slake durability tests. Core was then boxed for transportation with all drill core and cuttings stored at the Glencore core shed in Chetwynd.

Drilling information including loss of circulation and poor drilling conditions was recorded and on completion each hole was grouted from bottom to surface.

Geological logging data was entered into Prolog software to produce lithological graphics to enable depth corrections to geophysical logs. Data was validated by MBGS using excel functions and by drill core comparison to geophysical logs and core photographs. Final data was saved in Prolog, exported to csv files and stored on the server at the Vancouver office.

2.2.2 Geophysical

All holes were geophysically logged by Weatherford. A standard suite of sondes was used where possible and included:

- density, gamma and caliper
- sonic
- neutron
- resistivity
- verticality
- dipmeter

All drill holes had to be replenished with water to obtain geophysical logs due to down hole conditions and standing water levels were taken from the sandstone porosity log prior to this. Hard copies of the recent geophysical logs are stored at the Chetwynd office with duplicates stored at the Vancouver office. Digital data is saved on the Glencore server at Vancouver. Geophysical data (LAS format) is included in Appendix F.

The geophysical logs are used to correct lithological boundaries from field logging to accurately assign core loss to the appropriate lithological horizon throughout the hole and with particular reference to core loss in coal seams. Core recoveries are considered excellent with more than 89 % recovery of coal seams in holes XKG7010 to XKG7014. Geophysical signatures also assist in the interpretation of structural features and provide greater confidence for seam correlation.

2.2.3 Coal quality

Drill holes XKG7010 and XKG7012 to XKG7014 were sampled for coal quality analysis to supplement sparse data in the northeast of the deposit. Sample procedures were prepared by MBGS who sent analytical advice to ALS, Vancouver. Coal seams were sampled by Topaz and were couriered to Vancouver for analysis. The results were reviewed and validated by MBGS and Glencore employees. Quality results and laboratory standards can be found in Appendix G.

Coal quality analytical results indicate that key coal quality characteristics of the Chamberlain Seam in the northeast are consistent and within expected parameters. Figure 9 shows the average raw coal quality characteristics in this area. The Skeeter Seam is not present in this location.

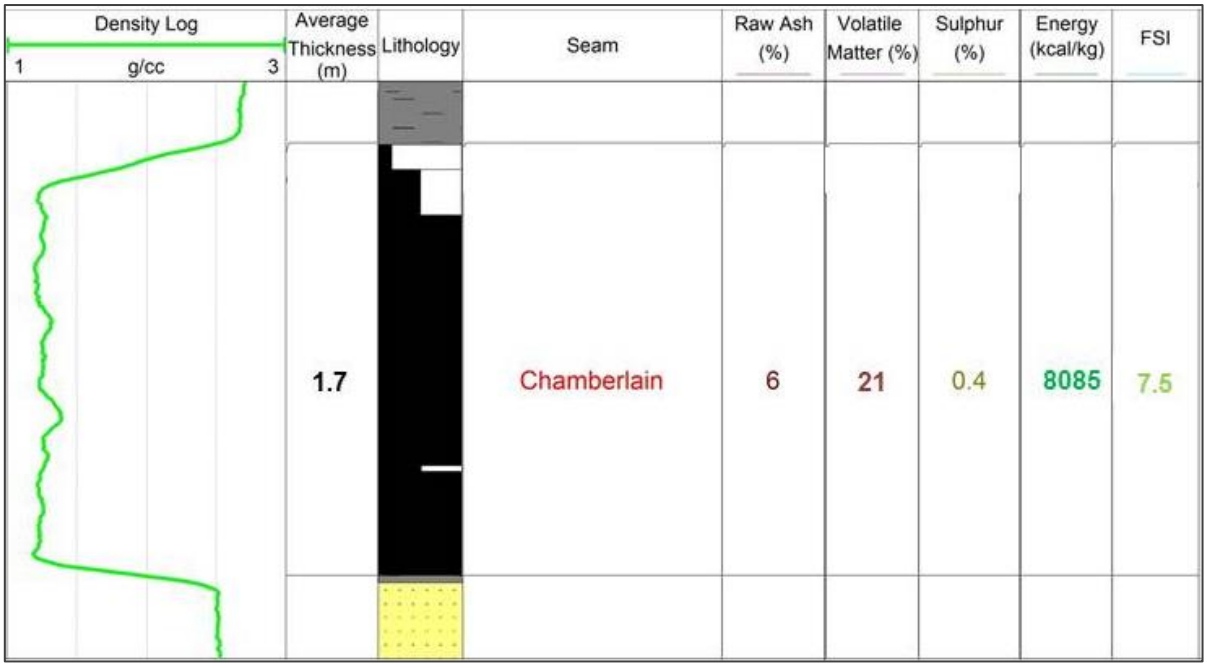


Figure 9 Average Raw Coal Quality Characteristics

2.2.4 Geotechnical

A preliminary assessment of subsurface conditions for foundation design for proposed MIA and CHPP development was managed on site by Westrek. The report issued by Westrek is included in Appendix H and discusses sample procedures and results.

General terrain conditions were assessed using aerial photos and computer modelling for slope design criteria. Five drill holes fully cored from bedrock were geotechnically logged and 10 representative samples of surficial soils and bedrock were taken at the drill rig. Samples were tested at Golder Associates Ltd in Burnaby for uniaxial compressive strength (UCS) and three samples were analysed for slake durability.

Five test pits were excavated to assess surficial soils at the proposed MIA and CHPP location and at an alternative location to the southwest. Two samples from test pit TP-04 at the alternative location were sent for moisture content and Atterberg limits.

Westrek concluded that the sandstone, siltstone and mudstone units are medium strong to very strong and would be suitable for bulk engineered fill if concerns regarding differential settlement were addressed during construction. Further analysis would be required at the detailed design stage with drilling recommended towards the eastern and western ends of the proposed CHPP area and along the northern edge of the MIA. Development is geotechnically feasible based on a cut and engineered fill preliminary design.

2.2.5 Survey

Drill holes, new tracks and cleared areas were surveyed by the Integrated ProAction Group (IPac) Survey locations were identified and field verified by Glencore. Details of IPac survey data are located in Appendix E.

The survey was completed using a Trimble GNSS R8 RTK base Station and receiver following standard survey practices in accordance with Trimble guidelines. This survey equipment configuration can provide accuracy in the order of 5 cm in the vertical and the horizontal according to the manufacturers' specifications.

Control points were established in areas with a clear sky view and in good line of sight in all directions to avoid multipath interference. These points were all subsequently processed using Natural Resource Canada Geodetic Survey Division's Precise Point Positioning System to obtain a precise vertical and horizontal location and elevation. Positions are ground coordinates and are valid in UTM Zone 10 N map projection (NAD83) with elevations above mean sea level, orthometric height CGVD28 (HTv2.0).

2.2.6 Physical work

Physical work for the geotechnical program included construction of tracks and drill pads to allow access for drilling and support equipment.

All construction work was undertaken by Bump Construction Ltd. in accordance with the Notice of Work, Occupant License to Cut, Mines Act (1996) and Section 9 of the Water Act (1996) for stream crossings.

Disturbance has remained within prescribed limits. Figure 6 shows drill pad locations and roads that were constructed for drilling.

3 PREVIOUS EXPLORATION PROGRAM

3.1 Geotechnical

Previous investigations of geomechanical parameters for waste dump and pit slope design were managed on site by Piteau Associates. This program included samples tested rock strength parameters, such as uniaxial compressive strength (UCS) of key units as outlined in the previous Assessment Report (MBGS, 2014). A summary report of their findings is contained in Appendix I.

3.2 Geochemical

As part of the Sukunka project environmental assessment, a comprehensive geochemical characterization of the ML/ARD potential of waste material, overburden and coal from the proposed open cut areas was conducted by Stantec and KCB (with assistance from SRK Consulting (Canada) Inc.) to allow the design of prevention and mitigation strategies of possible adverse effects. Sampling and analysis was undertaken in line with leading practice guidelines and regulations. Details of samples, analytical procedures and discussion of results are presented in Appendix I.

A total of 638 representative samples were taken from drill core, 388 by Lorax Environmental Services Ltd (Lorax) in May 2013 and the rest by Stantec and KCB later in 2013 and 2014. Drill core and coarse rejects were submitted to SGS Canada Inc (SGS) for laboratory humidity cell kinetic tests and thee field bin kinetic tests were composed of drill core. Fine tailings, representative of waste samples became available in April 2015 for humidity cell tests. Kinetic leach tests are run for 63 weeks for waste rock and 49 weeks for coarse rejects. Due this timeframe final results are not yet available however current results of fine tailings humidity cells are presented in Appendix I. Mineralogical analysis included XRD-Rietveld of 15 selected core samples and six coal reject samples and petrographic analysis of 15 core samples.

Coarse rejects and tailings are considered PAG with the exception of the Chamberlin Seam. All samples of coarse reject have a relatively elevated solid-phase higher selenium content and showed correlated relatively elevated selenium leaching rates based on kinetic testing compared to industry guidelines.

Analytical results show that the majority of PAG waste rock will be generated from the Moosebar Formation with the remainder from carbonaceous material surrounding major coal seams. This includes within and up to 3 m below the Bird Seam, within and up to 5.5 m above the Skeeter Seam, within and up to 8 m below the Chamberlain Seam and within and up to 2 m above and below the B Seam.

Assessment of metal leaching shows selenium to be the major potential constituent of concern with high values reported from material in the Moosebar Formation, Skeeters Seam and interburden between the Skeeter and Chamberlain Seams (predominantly non-PAG) and coarse reject material (PAG) when compared with industry guidelines. Other elements that showed elevated concentrations are cadmium, lithium, antimony, cobalt, phosphorous, aluminium and sulphate however waste water would be diluted before entering the aquatic environment.

4 STATEMENT OF COSTS

A summary of annual expenditure is shown in Table 4.

Table 4 Drill Hole Summary

Exploration Work Type	Exploration Task	Category	Total Cost
Bulk Sample	Excavation	Trench	$525,612
	Supervision	Trench	$30,221
	Geological support	Geological Support	$55,031
	Lab testing (coal)	Sampling/assaying	$581,536
	Survey	Survey	$31,811
	Water management	Hydrogeology	$132,098
	Design	Trench	$10,275
	Fuel	Fuel, accommodation	$35,651
			$1,402,235
Drilling	Diamond drilling	Drilling	$79,905
	Field drill support	Drilling	$55,045
	Geological support	Geological Support	$437,908
	Hydrogeology	Hydrogeology	$143,776
	Lab testing (coal)	Sampling/assaying	$279,322
	Fuel	Fuel, accommodation	$14,125
	Geotechnical analysis	Sampling/assaying	$51,169
	Hotel and accommodation	Fuel, accommodation	$8,461
	Road construction	Road/local access	$137,110
			$1,206,821
		TOTAL Expenditures	**$2,609,056**

5 GEOLOGICAL REFERENCES

5.1 Authors reference

Statement of Qualifications – Sukunka 2014 -2015

McElroy Bryan Geological Services (MBGS),
5-7 Havilah Street, Chatswood,
NSW, Australia, 2067.
Beccy.Getty@mbgs.com.au

I am currently employed as a Project Geologist at MBGS where I have worked since 2008. I graduated with a Bachelor of Science with Honours degree in geology from the University of Brighton, UK in 2008. I am a member of the Association of Professional Engineers and Geoscientists BC (APEGBC member number 179835), Australian Institute of Mining and Metallurgy (AusIMM member number 504526) and Australasian Institute of Geoscientists (AIG member number 5686). My work experience in Canada has included supervision of exploration at the Suska deposit for Glencore from November 2012 to February 2013 and at Sukunka from 2013 to 2014. I have also supervised coal exploration at numerous Australian projects, from greenfield projects to exploration adjacent to active mines and for both underground and open cut requirements. My role has encompassed drill supervision, geological and geotechnical logging and sampling, field mapping, training and mentoring junior and contract geologists, data management and analysis and statutory and internal reporting.

I supervised exploration on site at Sukunka during August and September 2014 and remotely supervised data collection during the November 2014 drill program. All details of the work performed are accurately described in this report and I am not aware of any relevant omissions.

Dated 13th November 2015.

Rebecca Getty. P. Geo.

5.2 Additional geological reference

John Stokmans of Topaz graduated as a mining engineering technologist from the Haileybury School of Mines in 1982. His experience includes 24 years in open pit coal mines in the Western Cordilleran regions of British Columbia and 14 years in production and engineering geology. This included seven years as Senior Geologist at Willow Creek Coal Partnership and incorporated core logging, geophysical log interpretation, planning, budgeting, implementing and supervising drill programs and 3D geological modelling.

John Stokmans was a geologist at the Sukunka project from March to May 2014 and was the site geologist responsible for data acquisition during the November 2014 drill program.

6 GEOLOGY

6.1 Regional Geology

Sukunka lies within a northwest trending belt of coal-bearing strata known as the Inner Foothills Belt which extends for approximately 300 km in British Columbia. This belt lies within a Mesozoic sequence deposited to the east of a strongly folded Palaeozoic belt which crops out throughout the Rocky Mountains. The Peace River Coalfield is the northern part of this belt and contains coal seams of Lower Cretaceous age in the Gates and the Gething Formations (Figure 10).

The stratigraphic sequence at Sukunka comprises the Bullhead Group and the Fort St John Group (Figure 11).

- The Bullhead Group is a non-marine sequence and comprises the Gething and Cadomin Formations. The basal Cadomin Formation is a distinctive marker unit of coarse sandstone and conglomerate which is conformably overlain by the mudstone, siltstone, interbedded sandstone and coal seams of the Gething Formation.
    - The Gething Formation is locally subdivided into Upper, Middle and Lower Members. The Lower Gething Member comprises interbedded sandstone and thin coal seams overlain by the Middle Gething, a dominantly sandstone unit with siltstone and mudstone interbeds. The Upper Gething is a sequence of sandstone, siltstone and claystone units and contains the main coal seams of economic interest.
- The Fort St John Group conformably overlies the Bullhead Group and marks a sedimentary change in the basin from terrestrial to marine environment. This change is well represented by a glauconitic sandstone of coastal marine origin known as the Bluesky Member which is at the base of up to 200 m of uniform, well bedded marine mudstone and siltstone of the Moosebar Formation.
    - The Sukunka Formation is a fining-upward sequence of fine grained siltstone and sandstone conformably overlying the Moosebar Formation.
    - The Gates Formation overlies the Moosebar Formation and contains up to 11 coal seams which are economically significant south of Sukunka.
    - The Hulcross Formation and overlying sandstone, conglomerate, mudstone and thin coal seams of the Boulder Creek Formation only occur in the topographically highest areas of the Sukunka lease.

The Inner Foothills Belt was strongly deformed during the Laramide Orogeny which commenced during the Late Cretaceous and resulted in the development of compressional northwest trending structures that consist of tightly folded and thrust faulted anticlines and relatively undeformed synclines. In the Peace River Coalfield the Gething Formation often outcrops in these synclines. The Sukunka deposit is located in a syncline bounded to the southwest and northeast by major thrust faults and complex geological structures with multiple superimposed folds and thrust faults. The structure in the northeast is known as the Bullmoose Fault Complex.

6.2 Deposit Geology

The main coal seams of economic interest at Sukunka occur in the Upper and Lower Gething Members (Figure 12).

6.2.1 Lower Gething Member

The Lower Gething Member crops out in the west and north of the deposit and comprises interbedded sandstone, claystone and nine coal seams (A – I). Based on limited data, the B and E Seams contain plies of potential economic interest and two additional coal plies in C and D Seams may also have some potential. Other plies are usually less than 1 m thick and tend to be carbonaceous. The upper boundary of the Lower Gething Member is a thin carbonaceous band known as the A Seam and the base of the Lower Gething Member has not been encountered in drill holes at Sukunka.

6.2.1.1. B Seam

The B Seam comprises four plies, B23, B22, B21 and B1, with an average total thickness of approximately 4 m. Raw ash is varies from ply to ply with an average of 17 %. The base of the B Seam degrades below the B1 ply to a stony coal tending to carbonaceous claystone unit known as the BBB (Basal B Bone).

Interburden between B and E Seams is about 80 m of interbedded claystone and siltstone with thin coal bands that may be tectonically thickened.

6.2.1.2. E Seam

The E Seam is approximately 3.5 m thick and separated into four plies. The E1 ply is the main coal interval with a thickness of 3.5 m and is overlain by three thin coal bands less than 1 m thick named E21, E22 and E23. Coal quality data is quite sparse for this seam.

6.2.1.3. C and D Seams

Both C and D Seams are up to 2 m thick and comprise three recognisable plies. The main ply for the C Seam is the C2 ply with C1 and C3 plies usually occurring as carbonaceous bands below and above respectively. The D Seam has a more consist basal D1 ply which may be directly overlain by the D2 ply and a section of overlying coal bands that have been named D3. Coal quality data for these seams is currently available from only two holes.

6.2.2 Upper Gething Member

The Upper Gething Member exists throughout most of the Sukunka deposit and contains the main coal seams of economic interest which are laterally continuous. Interburden lithologies are predominantly sandstone with interbedded siltstone and claystone.

6.2.2.1. Chamberlain Seam

The Chamberlain Seam is the main seam in the Sukunka area. It is a hard coal without bands and varies from 2 m to 6 m thick where it coalesces with the Skeeter Seam towards the south of the deposit. Raw ash is relatively consistent and approximately 6 % on average with sulphur less than 0.5 %. Petrographic, swelling, caking and plastometric analysis indicate the seam has the potential to produce an excellent coking product.

The Chamberlain Seam is sometimes overlain by approximately 0.2 m of stony coal known as the Chamberlain Bone. The floor of the Chamberlain Seam is a hard medium grained thickly bedded sandstone across most of the deposit. In the northeast of the deposit, a thin (up to 1 m) coal band known as the Chamberlain Upper (CHU) splits from the top of the Chamberlain Seam.

Interburden lithologies between the Skeeter and Chamberlain Seams are consistently siltstones and claystones.

6.2.2.2. Skeeter Seam

The Skeeter Seam occurs about 10 m above the Chamberlain Seam and consists of a thicker upper ply (SK2) and a thin, banded lower ply (SK1). The upper ply is more consistent with an average raw ash of 11% and approximate thickness of 1 m. The SK1 deteriorates to a carbonaceous claystone across most of the deposit and is 0.4 m thick on average.

This seam deteriorates in thickness and quality towards the south of the deposit and may be overlain by a thin (about 0.3 m thick) band of stony coal known as the Skeeter Bone.

The sequence between the Skeeter and Bird Seams is predominantly sandstone with subordinate interbedded claystone and siltstone.

6.2.2.3. Bird Seam

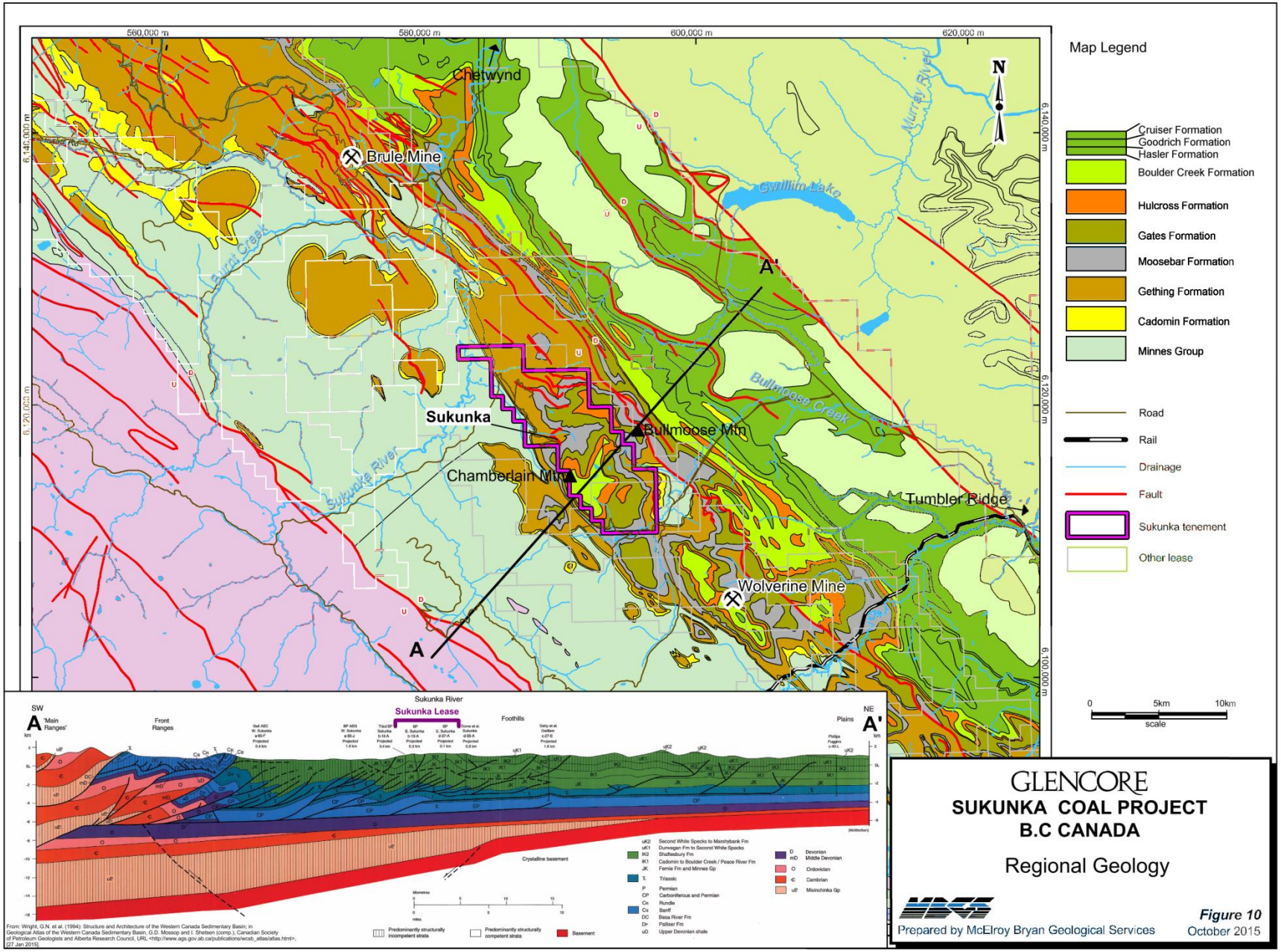
The Bird Seam is the stratigraphically highest unit of the Upper Gething Member. The seam reaches a maximum thickness of 4 m in the south and thins to less than 1 m in the north. Splitting occurs only in the centre of the deposit. The Bird Seam is characteristically high in sulphur, up to 20% in sporadic samples and has a raw ash average of 18%. The Bird Seam is overlain by the Moosebar Formation of the Fort St John Group.

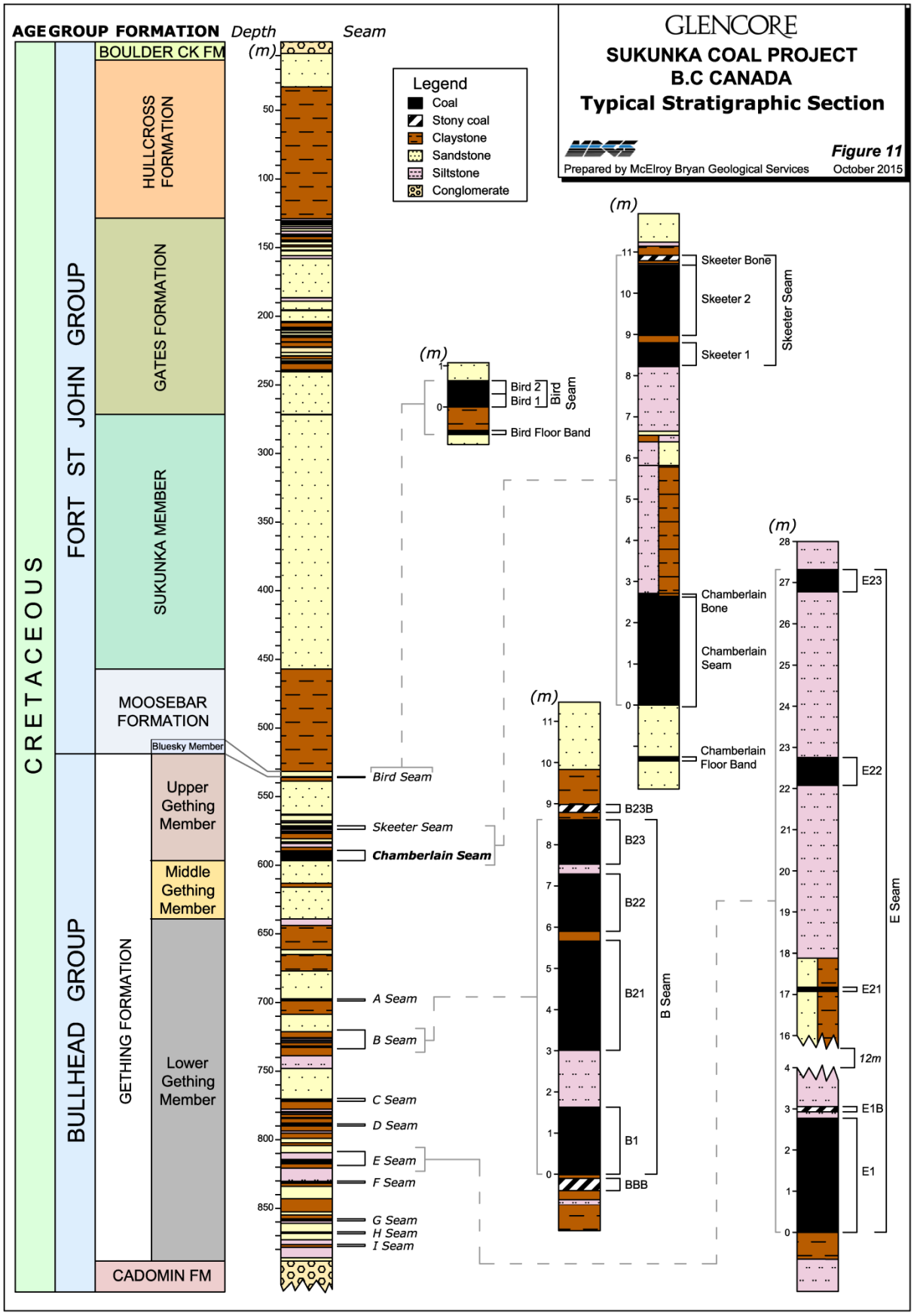
6.2.3 Structure

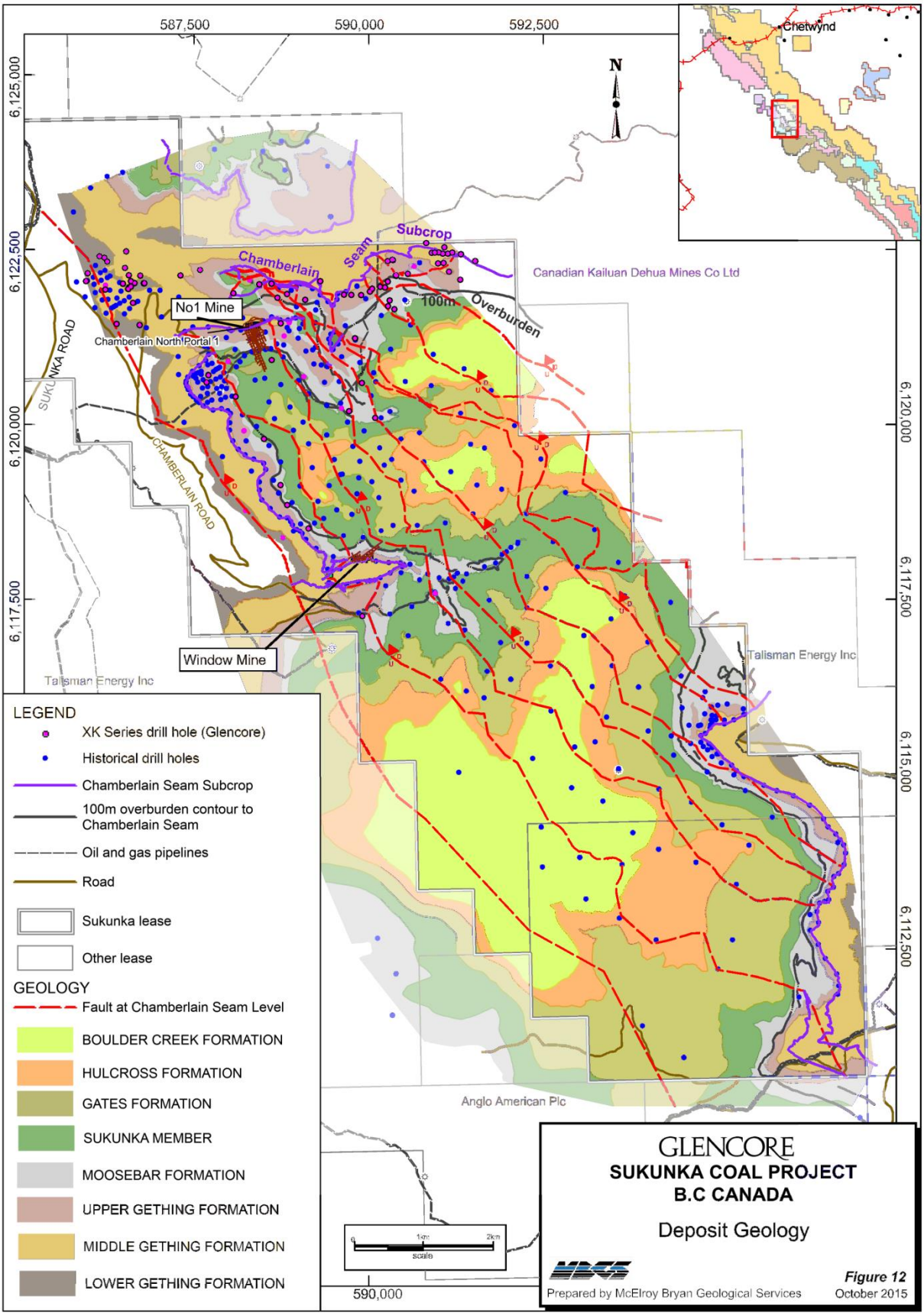
Strata at the Sukunka deposit predominantly dip gently ((less than 10 ^{o}) to the southwest and a number of gently folded anticlines have average limb dips of 2 ^{o} to 4 ^{o}. At least ten major thrust faults and numerous smaller intersect the strata and can affect rock strength characteristics. Major faults trend sinuously to the northwest with throws of 30 m to 150 m and dips of about 10 ^{o} – 20 ^{o} to the southwest, although both throw and dip are variable along the fault planes.

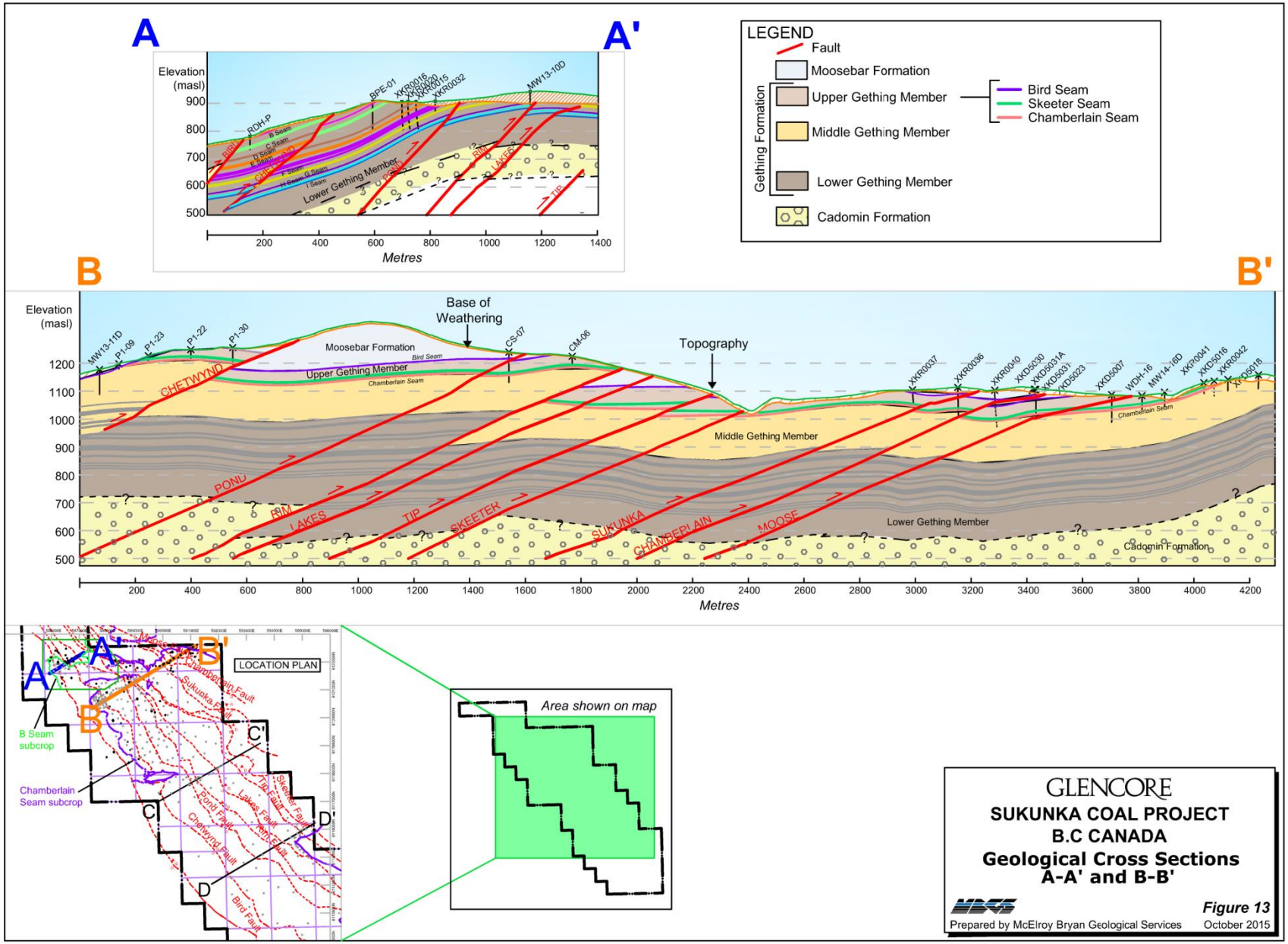
Coal seams are continuous or with minor disturbance within blocks bounded by the main thrust faults. These blocks have been interpreted as structural plates are thrust over each other. Geological cross sections are presented in Figure 13 to Figure 15.

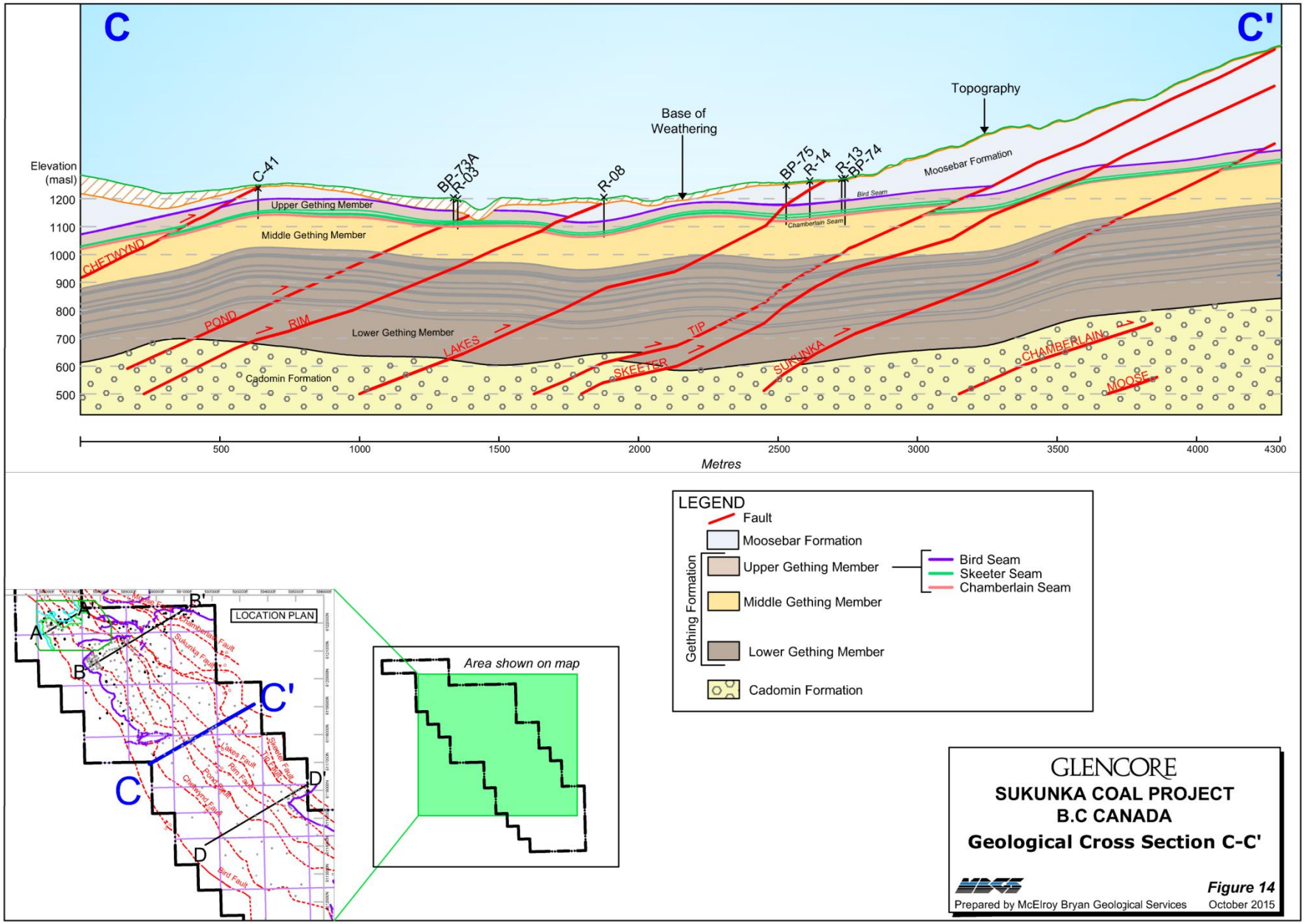
Two areas in the northwest and far northeast of the deposit indicate a change in the structural trend with stepper bedding dips of up to 35 ^{o}. The main thrust faults in the northwest of the deposit may be a continuation of the major faults in the south and east but modified with steeper dips to the south-southwest.

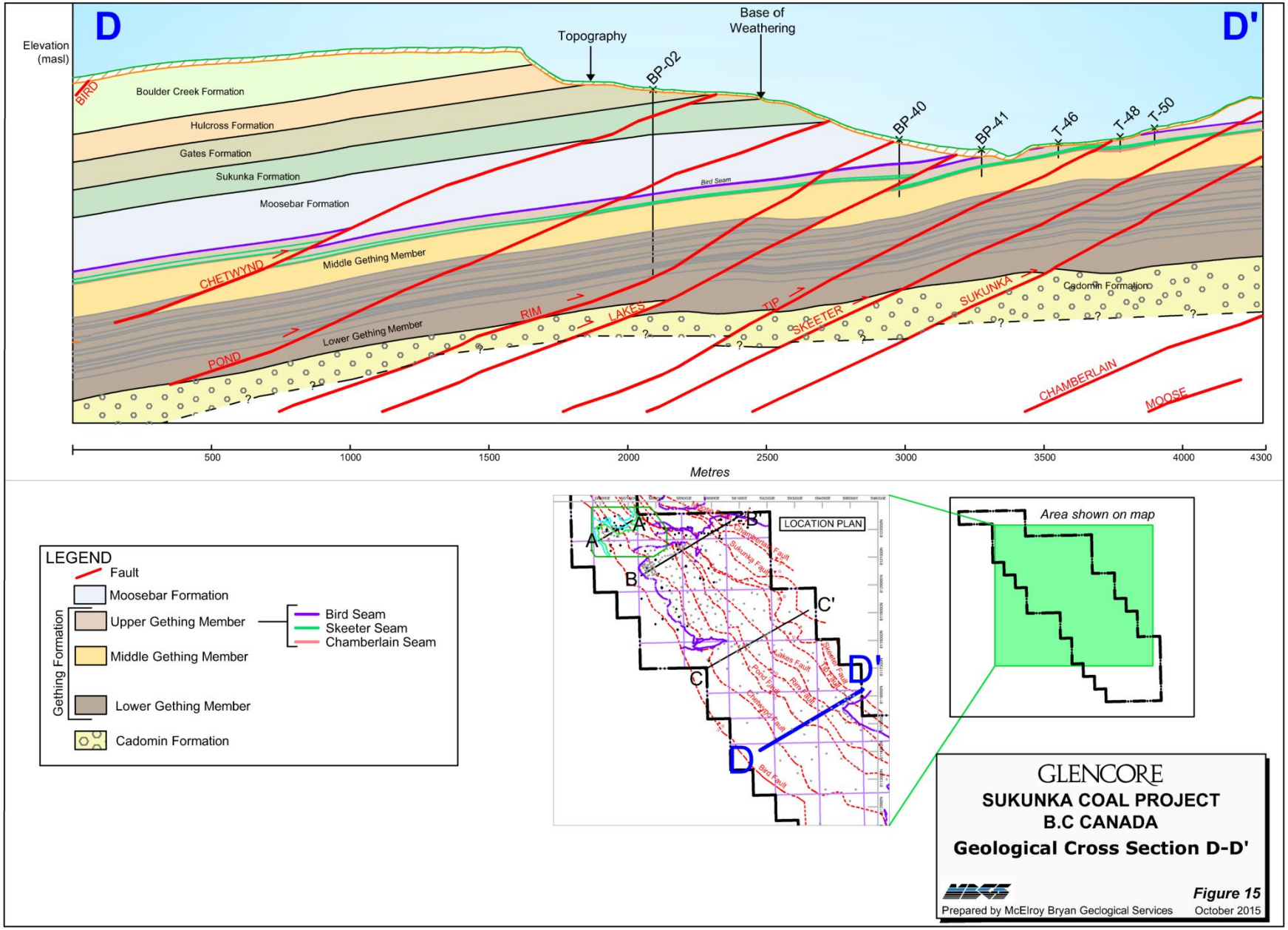

560,000 m
580,000 m
600,000 m
620,000 m
6,140,000 m
6,120,000 m
6,100,000 m
N
Chetwynd
Brule Mine
Gwillim Lake
Murray River
Burnt Creek
Bullmoose Creek
Sukunka
Bullmoose Mtn
Chamberlain Mtn
Sukunka River
Tumbler Ridge
Wolverine Mine
A
A'
Map Legend
Cruiser Formation
Goodrich Formation
Hasler Formation
Boulder Creek Formation
Hulcross Formation
Gates Formation
Moosebar Formation
Gething Formation
Cadomin Formation
Minnes Group
Road
Rail
Drainage
Fault
Sukunka tenement
Other lease
0
5km
10km
scale
SW
NE
Sukunka River
Sukunka Lease
Main Ranges
Front Ranges
Foothills
Plains
Crystalline basement
Predominantly structurally incompetent strata
Predominantly structurally competent strata
Basement
GLENCORE
SUKUNKA COAL PROJECT
B.C CANADA
Regional Geology
Prepared by McElroy Bryan Geological Services
Figure 10
October 2015


AGE GROUP FORMATION
Depth (m)
Seam
BOULDER CK FM
HULLCROSS FORMATION
GATES FORMATION
SUKUNKA MEMBER
MOOSEBAR FORMATION
Bluesky Member
Upper Gething Member
Middle Gething Member
Lower Gething Member
GETHING FORMATION
CADOMIN FM
BULLHEAD GROUP
FORT ST JOHN GROUP
CRETACEOUS
Legend
Coal
Stony coal
Claystone
Sandstone
Siltstone
Conglomerate
GLENCORE
SUKUNKA COAL PROJECT
B.C CANADA
Typical Stratigraphic Section
Figure 11
Prepared by McElroy Bryan Geological Services
October 2015
Bird Seam
Skeeter Seam
Chamberlain Seam
A Seam
B Seam
C Seam
D Seam
E Seam
F Seam
G Seam
H Seam
I Seam
Bird 2
Bird 1
Bird Floor Band
Skeeter Bone
Skeeter 2
Skeeter 1
Chamberlain Bone
Chamberlain Seam
Chamberlain Floor Band
B23B
B23
B22
B21
B1
BBB
E23
E22
E21
12m
E1B
E1


587,500
590,000
592,500
6,125,000
6,122,500
6,120,000
6,117,500
6,115,000
6,112,500
N
Chetwynd
Chamberlain Seam Subcrop
100m Overburden
Canadian Kailuan Dehua Mines Co Ltd
No1 Mine
Chamberlain North Portal 1
SUKUNKA ROAD
CHAMBERLAIN ROAD
Window Mine
Talisman Energy Inc
Talisman Energy Inc
Anglo American Plc
LEGEND
XK Series drill hole (Glencore)
Historical drill holes
Chamberlain Seam Subcrop
100m overburden contour to Chamberlain Seam
Oil and gas pipelines
Road
Sukunka lease
Other lease
GEOLOGY
Fault at Chamberlain Seam Level
BOULDER CREEK FORMATION
HULCROSS FORMATION
GATES FORMATION
SUKUNKA MEMBER
MOOSEBAR FORMATION
UPPER GETHING FORMATION
MIDDLE GETHING FORMATION
LOWER GETHING FORMATION
1km
2km
scale
590,000
GLENCORE
SUKUNKA COAL PROJECT
B.C CANADA
Deposit Geology
Prepared by McElroy Bryan Geological Services
Figure 12
October 2015


A
A'
Elevation (masl)
900
800
700
600
500
200
400
600
800
1000
1200
1400
Metres
BPE-01
XKR0016
XKR0020
XKR0015
XKR0032
MW13-10D
RDH-P
B Seam
C Seam
F Seam
G Seam
I Seam
CHETWYND
PONDEROSA
Lower Gething Member
RIM
LAKES
TIP
LEGEND
Fault
Moosebar Formation
Upper Gething Member
Middle Gething Member
Lower Gething Member
Cadomin Formation
Gething Formation
Bird Seam
Skeeter Seam
Chamberlain Seam
B
B'
Elevation (masl)
1200
1100
1000
900
800
700
600
500
Base of Weathering
Topography
Moosebar Formation
Bird Seam
Upper Gething Member
Chamberlain Seam
Middle Gething Member
Lower Gething Member
Cadomin Formation
MW13-11D
P1-09
P1-23
P1-22
P1-30
CS-07
CM-06
XKR0037
XKR0036
XKR0040
XKD5030
XKD5031A
XKD5031
XKD5023
XKD5007
WDH-16
MW14-18D
XKR0041
XKD5016
XKR0042
XKD5018
CHETWYND
PONDEROSA
RIM
LAKES
TIP
SKEETER
SUKUNKA
CHAMBERLAIN
MOOSE
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600
2800
3000
3200
3400
3600
3800
4000
4200
Metres
LOCATION PLAN
A
A'
B
B'
C
C'
D
D'
B Seam subcrop
Chamberlain Seam subcrop
Sukunka Fault
Chamberlain Fault
Skeeter Fault
Tip Fault
Lakes Fault
Rim Fault
Pond Fault
Chetwynd Fault
Bird Fault
Area shown on map
GLENCORE
SUKUNKA COAL PROJECT
B.C CANADA
Geological Cross Sections
A-A' and B-B'
Figure 13
Prepared by McElroy Bryan Geological Services
October 2015


C
C'
Topography
Base of Weathering
Elevation (masl)
1200
1100
1000
900
800
700
600
500
C-41
BP-73A
R-03
R-08
BP-75
R-14
R-13
BP-74
Moosebar Formation
Bird Seam
Chamberlain Seam
Upper Gething Member
Middle Gething Member
Lower Gething Member
Cadomin Formation
CHETWYND
POND
RIM
LAKES
SKEETER
TIP
SUKUNKA
CHAMBERLAIN
MOOSE
500
1000
1500
2000
2500
3000
3500
4000
4300
Metres
LEGEND
Fault
Moosebar Formation
Gething Formation
Upper Gething Member
Middle Gething Member
Lower Gething Member
Cadomin Formation
Bird Seam
Skeeter Seam
Chamberlain Seam
LOCATION PLAN
A
A'
B
B'
C
C'
D
D'
Area shown on map
GLENCORE
SUKUNKA COAL PROJECT
B.C CANADA
Geological Cross Section C-C'
Figure 14
Prepared by McElroy Bryan Geological Services
October 2015


D
D'
Elevation (masl)
Topography
Base of Weathering
BP-02
BP-40
BP-41
T-46
T-48
T-50
BIRD
Boulder Creek Formation
Hulcross Formation
Gates Formation
Sukunka Formation
Moosebar Formation
Bird Seam
Middle Gething Member
Lower Gething Member
Cadomin Formation
CHETWYND
POND
RIM
LAKES
TIP
SKEETER
SUKUNKA
CHAMBERLAIN
MOOSE
500
1000
1500
2000
2500
3000
3500
4000
4300
Metres
LEGEND
Fault
Moosebar Formation
Upper Gething Member
Middle Gething Member
Lower Gething Member
Cadomin Formation
Gething Formation
Bird Seam
Skeeter Seam
Chamberlain Seam
LOCATION PLAN
A
A'
B
B'
C
C'
D
D'
Area shown on map
GLENCORE
SUKUNKA COAL PROJECT
B.C CANADA
Geological Cross Section D-D'
Figure 15
Prepared by McElroy Bryan Geological Services
October 2015

7 REFERENCES

Austen & Butta Ltd. (1970). *The Sukunka River Coal Project, British Columbia. Progress Report No. 1.*

BP Exploration Canada Ltd. (1977). *Prospectus for Sukunka/Bullmoose Property.*

Coalition Mining Ltd. (1973). *Sukunka Coal Project, Geological Summary.*

Johnson, A.A. (1972). *Exploration Results: Quintette Coal Limited (Coal Assessment Report 0600). Denison Mines Limited, submitted on behalf of Quintette Coal Limited.*

Khlon Crippen Berger (2014). *Geochemical Waste Characterization in Support of Test Sampling.*

Knight Piésold (2015). *Erosion and Sediment Control Plan: Final Inspection Report.*

Knight Piésold (2015). *Sukunka Bulk Sample Program Water Quality Monitoring Report – Mineral and Coal Exploration Activities and Reclamation Permit CX-9-054.*

MBGS (2014). *Competent Person Report, Coal Resources, Sukunka, British Columbia, Canada.*

MBGS (2014). *Sukunka Assessment Report for the period 15th March 2012 to 30th August 2014.*

pHase (2015). *Sukunka Coal Bulk Sample - Geochemical Waste Characterization memorandum.*

Stantec (2015). *Kinetic Testing of Tailings memorandum – Sukunka Coal Project*.

Stantec (2015). *Update on Kinetic Testing of Tailings memorandum – Sukunka Coal Project.*

Talisman Energy (2011). *Technical Report, Sukunka-Bullmoose Coal Property.*

Teck Corporation (1979). *The 1979 Exploration Report on the Bullmoose Coal Property, Sukunka River area.*

Appendix A Competent Person Report 2014 - Coal Resources

Appendix B Drill Hole Data

2015 Sukunka Drill Hole Details

DRILL HOLE NUMBER	SURVEY DATA			TOTAL DEPTH (m)	CASING DEPTH (m)	DATE DRILLED	HOLE TYPE	HOLE SIZE (mm)	DIP (o)	AZIMUTH (o)	GEOLOGICAL LOGS	LAS	PHOTOS	RAW COAL DATA	CLEAN COAL DATA	COMMENTS
	EASTING	NORTHING	COLLAR RL (masl)													
XKG7010	590814.16	6122498.39	1115.90	33.79	0.00	31-Oct-14	Core	96	90	N/A	Yes	Yes	Yes	Yes	N/A	
XKG7011	590918.94	6122398.13	1124.06	47.57	3.30	2-Nov-14	Core	96	90	N/A	Yes	Yes	Yes	Yes	N/A	
XKG7012	590251.49	6122422.42	1060.44	52.45	3.05	4-Nov-14	Core	96	90	N/A	Yes	Yes	Yes	Yes	N/A	
XKG7013	590329.66	6122430.84	1060.71	51.23	7.88	6-Nov-14	Core	96	90	N/A	Yes	Yes	Yes	Yes	Yes	Sandstone laminae observed in seam
XKG7014	590807.12	6122400.69	1090.12	38.83	7.62	8-Nov-14	Core	96	90	N/A	Yes	Yes	Yes	Yes	N/A	

Appendix C Bulk Sample Coal Quality Data

Bulk Sample	Seam	Sample ID	Number of Samples	Location Easting	Location Northing	Elevation (m)	Sample Type	Total Weight of Sample (kg)
Laboratory coal quality (ALS, Vancouver)	Chamberlain	XKD-CHH-ALS	1	588871.53	6121484.85	1204	Pit	100
	Skeeter	XKD-S2H-ALS	1	588844.96	6121444.19	1214	Pit	100
	B	XKL9006	14	585953.03	6122049.75	781	LD Hole	150
	E	XKL9015	6	586785.86	6122010.86	918	LD Hole	150
Pilot scale washability (Hazen)	Chamberlain	XKD-CHW-HAZ	1	588871.53	6121484.85	1204	Pit	3265
	Skeeter	XKD-SKW-HAZ	1	588844.96	6121444.19	1214	Pit	5527
	B	XKL9004, XKL9005, XKL9007 - XKL9014	111	585952.33*	6122039.09*	781	LD Holes	1050
	E	-	-	-	-	-	-	-
Carbonization of raw coal (Canmet)	Chamberlain	XKD-CHR-CAN	1	588871.53	6121484.85	1204	Pit	3600
	Skeeter	XKD-S2R-CAN	1	588844.96	6121444.19	1214	Pit	150
	B	XKL9003	1	585952.75	6122046.70	781	LD Hole	150
	E	XKL9017	6	586784.11	6122016.83	1198	LD Hole	150
Carbonization of clean coal (Hazen then Canmet)	Chamberlain	XKD-CHW-HAZ	1	588871.53	6121484.85	1204	Pit	2873
	Skeeter	XKD-SKW-HAZ	1	588844.96	6121444.19	1214	Pit	4152
	B	XKL9004, XKL9005, XKL9007 - XKL9014	111	585952.33*	6122039.09*	781	LD Holes	619
	E	-	-	-	-	-	-	-

**location of XKL9007 near site centre*

Appendix D Bulk Sample Excavation Specialist Reports

Appendix E Survey Data

1425 Hugh Allan Drive
Kamloops, BC, Canada
V1S 1J3
P: (250) 828-7977
F: (250) 828-2183
W: www.intpac.ca

TECHNICAL MEMORANDUM

DATE: November 24, 2014

TO: John Anderson
Glencore Canada

FROM: Aaron Blom
Integrated ProAction Corp

RE: Summary of Surveyed Drill Hole Locations (Sukunka Property)

As requested, Integrated Pro*Action* Corporation (IPaC) surveyed exploration drill hole locations, cleared extents and a new built trail for Glencore's Sukunka property. Survey locations were identified by a Glencore representative. Surveying was completed on November 21, 2014, using a Trimble GNSS R8 RTK survey instrument. Points surveyed with this equipment configuration can be expected to be accurate within 5cm vertically and horizontally according to the manufacturer's specifications. Survey control was previously established by IPaC surveyors and utilized for the purpose of this survey. Horizontal positions are ground coordinates valid in UTM Zone 10 N map projection (NAD83). Elevations are orthometric height above mean sea level (HTv2.0).

Please find attached the Summary and Map of the Surveyed Drill Hole Locations, Cleared Areas and Built Trails.

Please contact me at any time if you have any questions or require any additional information.

Respectfully Submitted,
Integrated Pro*Action* Corp

per **Aaron Blom**
Project Manager

Glencore Canada - Sukunka Property

Summary of Surveyed Drill Hole Locations

Hole ID	Northing (m)	Easting (m)	Elevation (m)	Survey Date
MIA DH 01	6122422.4	590251.5	1060.4	November 21, 2014
MIA DH 02	6122430.8	590329.7	1060.7	November 21, 2014
XKG 7010	6122498.4	590814.2	1115.9	November 21, 2014
XKG 7011	6122398.1	590918.9	1124.1	November 21, 2014
XKG 7014	6122400.7	590807.1	1090.1	November 21, 2014

Summary of Surveyed Cleared Edge Locations

Point ID	Northing (m)	Easting (m)	Elevation (m)	Survey Date
3	6122506.9	590802.4	1114.4	November 21, 2014
4	6122480.0	590808.4	1116.0	November 21, 2014
5	6122490.7	590837.8	1118.7	November 21, 2014
6	6122505.8	590835.9	1118.3	November 21, 2014
7	6122477.6	590860.6	1122.9	November 21, 2014
8	6122461.6	590850.1	1119.9	November 21, 2014
9	6122448.1	590858.0	1119.5	November 21, 2014
10	6122459.9	590874.7	1124.5	November 21, 2014

Summary of Surveyed Trail Centerline Locations

Point ID	Northing (m)	Easting (m)	Elevation (m)	Survey Date
12	6122332.4	590875.5	1103.5	November 21, 2014
13	6122342.5	590877.5	1102.4	November 21, 2014
14	6122355.4	590880.5	1101.6	November 21, 2014
15	6122361.6	590877.2	1100.9	November 21, 2014
16	6122367.6	590868.6	1098.6	November 21, 2014
17	6122372.2	590859.2	1096.5	November 21, 2014
18	6122377.9	590845.4	1097.9	November 21, 2014
19	6122386.3	590833.0	1094.8	November 21, 2014
20	6122392.4	590819.4	1090.7	November 21, 2014

Methodology and Notes

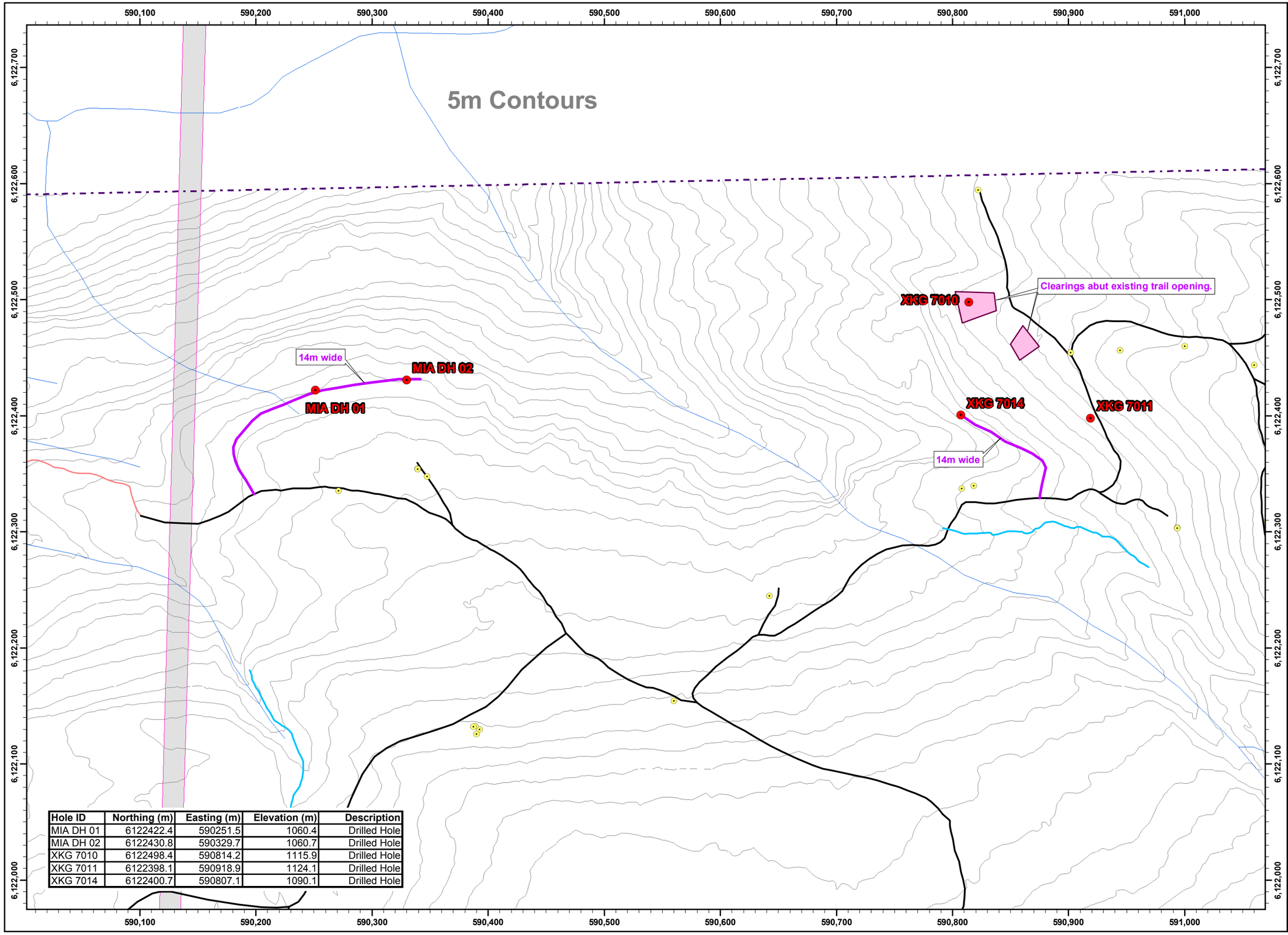
Survey was completed using a Trimble GNSS R8 RTK Base Station and Reciever. Points surveyed with this survey equipment configuration can be expected to be accurate within 5cm vertically and horizontally according to the manufacturers specifications. Since no survey control was provided, control points previously established by IPaC were used at the time of survey. Horizontal positions are ground coordinates valid in UTM Zone 10 N map projection (NAD83). Elevations are orthometric height above mean sea level (HTv2.0).

GLENCORE

Prepared for:
Glencore Canada Corp

ipac Integrated ProAction Corp.

Prepared by:
Integrated ProAction Corp



Hole ID	Northing (m)	Easting (m)	Elevation (m)	Description
MIA DH 01	6122422.4	590251.5	1060.4	Drilled Hole
MIA DH 02	6122430.8	590329.7	1060.7	Drilled Hole
XKG 7010	6122498.4	590814.2	1115.9	Drilled Hole
XKG 7011	6122398.1	590918.9	1124.1	Drilled Hole
XKG 7014	6122400.7	590807.1	1090.1	Drilled Hole

GLENCORE

Sukunka

CHPP & MIA Geotech
AS BUILT

Scale - 1:3,000

0 15 30 60 90 120
Meters

Projection: UTM Zone 10
Datum: NAD 83
Grid: Meters
Drawn by: Sandy Markin
Date: November 24, 2014

N

IPaC Survey Data
- Survey Control Point
- Surveyed Drill Hole (2014.11.21)
- Surveyed Built Trail (2014.11.21)
- Surveyed Clearing (2014.11.21)

Sukunka Project Data
- Drilled and Surveyed Hole
- Surveyed Trail (Not Built)
- Built Trail
- Existing 2 Lane Road
- Surveyed Creek
- Field Identified Ridge Break
- No1 UG Mine Chamberlain Seam
- No1 UG Mine Skeeter Seam
- Exploration Area
- 5m Lidar Contours

B.C.G.S. Data
- Road (Condition Unknown)
- Sukunka FSR
- Stream
- Designated Area
- Pit
- Wetland
- Water
- Drillsite / Wellsite / Pipeline

Prepared by:
ipac
Integrated ProAction Corp
250.828.7977

H:\Xstrata\Maps\Sukunka_CHPP_MIA_Geotech_3k_11x17.mxd

1425 Hugh Allan Drive
Kamloops, BC, Canada
V1S 1J3
P: (250) 828-7977
F: (250) 828-2183
W: www.intpac.ca

TECHNICAL MEMORANDUM

DATE: November 23, 2015

TO: John Anderson
Glencore Canada

FROM: Aaron Blom
Integrated Pro*Action* Corp.

RE: Survey Procedures and Specifications for As Built Surveys conducted for Glencore Canada on the 2014 Bulk Sample Site

Integrated Pro*Action* Corporation (IPaC) has conducted As Built Surveys for Glencore Canada since August 2012 using Trimble GNSS R8 and R10 RTK survey instruments. Control points (base stations) were established in areas with clear sky views and good line of sight in all directions to avoid multipath interference. These points were all subsequently post processed using Natural Resource Canada Geodetic Survey Division's Precise Point Positioning service to obtain a precise horizontal and vertical location and elevation. Standard survey practices were followed using all Trimble guidelines for the R8 and R10 GNSS receiver. This equipment configuration can be expected to be accurate within 5cm vertically and horizontally according to the manufacturer's (Trimble) specifications. Horizontal positions are ground coordinates valid in UTM Zone 10 N map projection (NAD83). Elevations are orthometric height above mean sea level (geoid model HTv2.0). Integrated Pro*Action* Corp. has been surveying following these standards on numerous types of small and large projects throughout BC since 2006 using this type of equipment.

Please contact me at any time if you have any questions or require any additional information.

Respectfully Submitted,
Integrated Pro*Action* Corp.

per **Aaron Blom**
Project Manager

Appendix F Geological and Geophysical Data

Appendix G Drill Hole Coal Quality Data

Appendix H Feasibility Level Geotechnical Investigation Report

Appendix I Outstanding Data