BC Geological Survey
Coal Assessment Report
1049

COAL ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TITLE OF REPORT:
Coal Assessment Report for the Brule lease, British Columbia

TOTAL COST: $596,975.18

AUTHOR(S): C.G. Cathyl-Huhn, P.Geo. Lic.Geol. RMSME, 29 April 2019
SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):
STATEMENT OF WORK EVENT NUMBER(S)/DATE(S):

YEARS OF WORK: 2018 and 2019

PROPERTY NAME: Brule Lease

COAL LEASE (on which physical work was done): 417517

MINERAL INVENTORY MINFILE NUMBER: 93P 007

MINING DIVISION: Liard
NTS 93 P/5 BCGS: 093P.031 and 093P.041
LATITUDE: 55° 24’ 09.78" North
LONGITUDE: 121° 51’ 29.76" West (at centre of work)
UTM Zone: 10 EASTING: 572300 NORTHING: 6140200 (at centre of work)

OWNER: Conuma Coal Resources Limited

MAILING ADDRESS: 200-235 Front Street (PO Box 2140) Tumbler Ridge BC V0C 2W0

OPERATOR: Conuma Coal Resources Limited

MAILING ADDRESS: 200-235 Front Street (PO Box 2140) Tumbler Ridge BC V0C 2W0

REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralisation, size and attitude): Bituminous coal, Early Cretaceous, Albian stage, Bullhead Group, Cadomin Formation, Gething Formation, Gaylard Member, synclines, anticlines, thrust faults

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: Primary reference: Coal Assessment Report 936; Secondary references: Coal Assessment Reports 486, 487, 488, 489, and 490

SUMMARY OF TYPES OF WORK IN THIS REPORT	EXTENT OF WORK (in metric units)			ON WHICH TENURES
GEOLOGICAL (scale, area)				
Ground, mapping		none	nil	not applicable
Photo interpretation (at variable scale)		none	nil	no applicable
GEOPHYSICAL (line-km)				
Ground		none	nil	not applicable
Airborne		none	nil	not applicable
Borehole geophysics				
Gamma-Density	3407.92 m	in 19 holes		417517
Resistivity	3407.92 m	in 19 holes		417517
Caliper	3407.92 m	in 19 holes		417517
Gamma-Neutron	3243.22 m	in 18 holes		417517
Deviation	3395.40 m	in 19 holes		417517
Dipmeter	3164.25 m	in 18 holes		417517
Spectral gamma	712.86 m	in 3 holes		417517
Sonic	708.02 m	in 3 holes		417517
DRILLING (total metres, no. of holes, size, storage location)				
Core	nil	nil	nil	n/a
Non-core	3588.87 m	21	14.5 cm	n/a
SAMPLING AND ANALYSES				
	Number of samples			
Proximate (with sulphur)		none	nil	not applicable
Ultimate		none	nil	not applicable
Petrographic		none	nil	not applicable
Vitrinite reflectance		none	nil	not applicable
Coking		none	nil	not applicable
Wash tests (with proximate costs)		none	nil	not applicable
PROSPECTING (scale/area)		none	nil	not applicable
PREPARATORY / PHYSICAL				
Line/grid (km)		none	nil	not applicable
Topo/Photogrammetric (scale, area):		none	nil	not applicable
Trench (number/metres)		none	nil	not applicable
Underground development (metres)		none	nil	not applicable
Bulk sample(s)		none	nil	not applicable

Sections 2.5 and 2.6 remain confidential under the terms of the Coal Act Regulation, and has been removed from the public version.

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

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2 Objectives, situation, and details of work

This report discusses exploration done on the Brule coal lease, Tenure 417517, during autumn and winter of 2018-2019. Included within this report is a detailed geological map of the exploration area, which straddles the boundary between the Brule lease and the adjoining Dillon lease, both of them owned by Conuma Coal Resources Limited (Conuma). The detailed map shows the relationship of in-pit ('development') drilling within Brule Mine, and the throughgoing fold-thrust structure of the area.

Geophysical logs are included (**Appendix A**) for boreholes drilled during this period, and lithological interpretations of these logs are presented as **Appendix B**. Work here-discussed was undertaken in support of Conuma's operations within the Rocky Mountain Foothills of British Columbia. Estimated total cost was $596,975.18, at a unit cost of $166.34 per metre drilled.

2.1 Location, tenure, access and infrastructure

General location of the Brule lease, within the Brazion coalfield of northeastern British Columbia, is depicted in **Map 2-1**, and access routes are shown in **Map 2-2**. The Brazion coalfield is here informally defined as the entire outcrop area of Jurassic and Early Cretaceous coal-measures, lying between the valleys of the Pine and Sukunka rivers. north of the Pine River through to the west bank of the Sukunka River. The coalfield name has no formal standing as a toponymic entity, and it is used within this report for purposes of convenience.

In detail, the Brule property consists of a single Crown coal lease, Tenure No.417517, comprising 20 grid units (**Table 2-1**), covering a total area of 1471 hectares. The Brule lease is bounded to the southwest, south and southeast by Conuma’s Burnt River coal licences, and to the northeast by Conuma’s Dillon mining lease.

The Brule lease is situated within the Dawson Creek TSA (Timber Supply Area). Cutting of timber for mining purposes is subject to the terms of a *Free Use Permit* issued by the Ministry of Forests, Lands and Natural Resource Operations (MFLNRO). The property lies within Canfor’s Tree Farm Licence (TFL) No.48, which mostly been harvested for the first time; the majority of the readily-accessible parts of the Brule lease are therefore covered by juvenile to immature second-growth forest, although areas close to Brule Mine’s operating area are largely cleared of trees in preparation for soil removal prior to mining. The clearing of trees and soil has greatly improved accessibility for in-pit development drilling such as was done in the current drilling programme.

2.1.1 Access details

Surface access for drilling and other exploratory works is regulated by the provincial government, subject to the *Coal Act Regulations* and the *Mines Act*.

Road access to Brule is available via two routes, of which the most convenient route is westward from the Sukunka River valley, and a somewhat more involved route is overland from the Pine River Valley, using Conuma’s Falling Creek Connector Road (FCCR), which serves as a haulage-road between Brule Mine and Conuma’s Willow Creek coal-washery and coal-loading facility.

To reach the property via road from the Sukunka River valley, access commences from the junction of highway BC-29 and the Sukunka Forest Service Road (FSR), which is maintained by the Sukunka Road Users Committee (a group of industrial users of the road). After travelling

southward along the Sukunka FSR, following the eastern bank of Sukunka River, the junction with the Blind Creek Road is reached at kilometre 16.5 of the Sukunka FSR. Conuma holds tenure to the Blind Creek Road under a *Special Use Permit* (SUP) from MFLNRO.

The Blind Creek Road crosses Sukunka River on a wood-floored deck-girder bridge suitable for highway loads, and then winds steeply uphill atop the southern canyon wall of Blind Creek. A number of spur roads and trails branch southward from the Blind Creek Road. Many of these roads and trails were constructed to support forest-harvesting cutblocks, while others were constructed to provide access to natural-gas drilling sites.

The northeastern and southeastern portions of the Brule lease are well-served by active industrial roads: the FCCR in the northeast, and the Blind Creek Road in the southeast. The southeastern area is also served by branch-roads extended from the Blind Creek Road to serve natural-gas wellsites.

The southwestern portion of the property is served by a network of mostly-overgrown logging-roads and drillsite-access trails, passable only by all-terrain vehicles or motorbikes. Some parts of the lease are only accessible on foot, via seismic lines which cross the lease. On north- and east-facing slopes, undergrowth is generally thick, hampering cross-country travel.

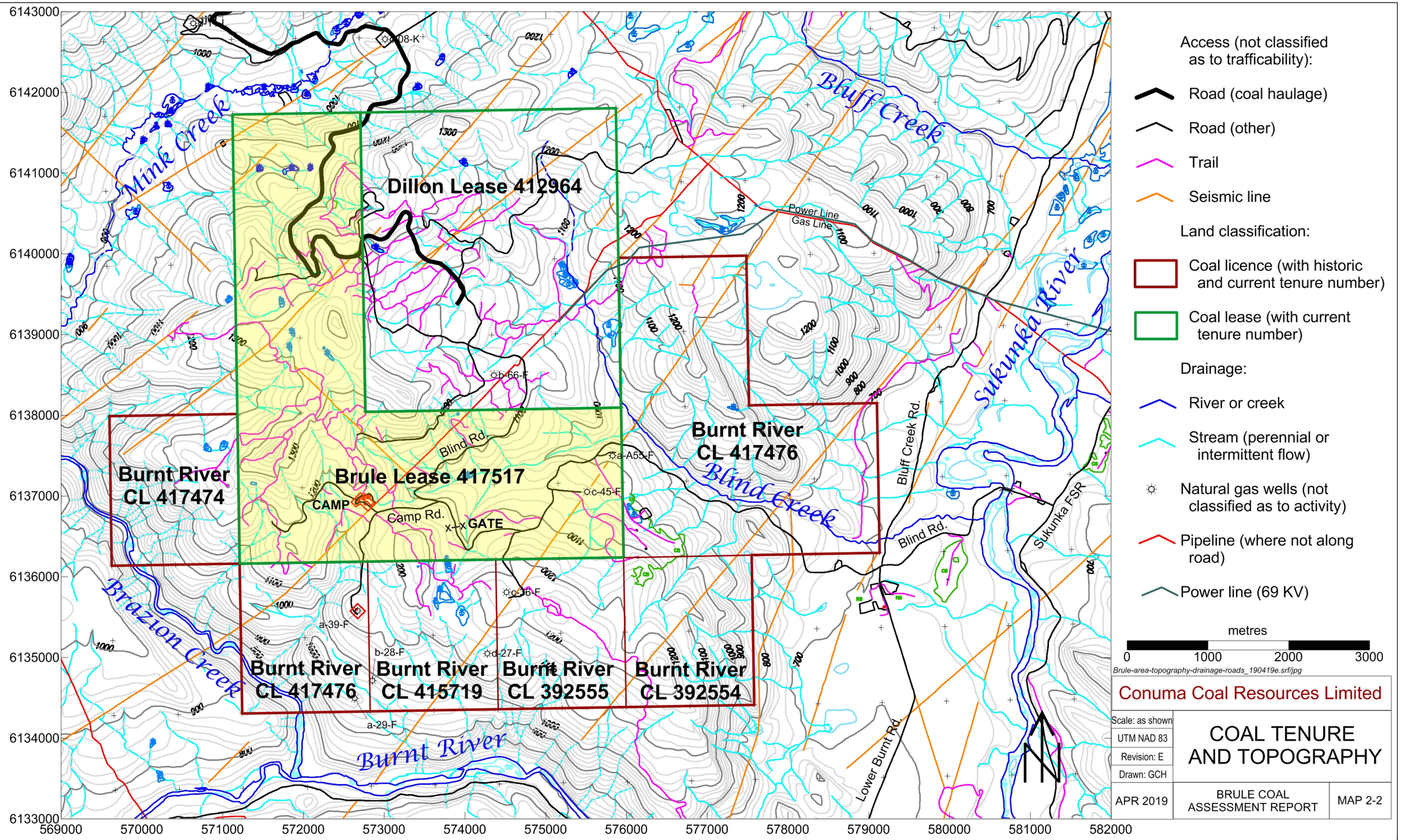
Road access to all but the southeastern corner of the property requires passage through Brule Mine's main (southern) security gate, situated on Blind Creek Road. The municipal airport at Chetwynd is the closest operating fixed-wing airfield to the Brule lease. Helicopters may be chartered from the Chetwynd airport, or alternatively they may be hired from the Tumbler Ridge airport. With prior permission from the mine's management, helicopters may be landed at Brule Mine. This provision allows for the use of rotary-wing air ambulances. The closest railway service to Brule is at Conuma's Willow Creek coal-loading facility, situated on the southern bank of Pine River, west of Chetwynd. The most direct coal-haulage route to the railway is via the Falling Creek Connector Road.

Electrical power is available from B.C. Hydro at the Sukunka substation, which feeds a cross-country sub-transmission line to a transformer-station located within the Dillon lease (situated east of the Brule/Dillon lease boundary). Power-distribution lines do not yet extend into the Brule lease *per se*, owing to the concentration of Brule Mine's facilities and buildings within the Dillon lease. Telecommunications, including Internet access, are available via satellite and cellular telephone systems. Satellite access is excellent in upland areas, but unreliable in the heavily-wooded hillsides. Cellular coverage also likely to be inconsistent, owing to distance from transmitters, and to blocked line-of-sight in mountainous country.

Base-mapping for the Brule area is freely available from the provincial government's Base Map Online Store, which affords a facility for downloading representational shaded-relief topographic maps. Map-sheet 93P/5 (1:50,000) of the National Topographic System, and provincial base map sheets 093P.031 and 093P.041 (1:20,000) cover the property.

High-quality maps, based on LIDAR coverage and high-precision global positioning system (GPS) survey lines, have also been created by Brule Mine's surveying team; these maps cover the northern end of the Brule lease.

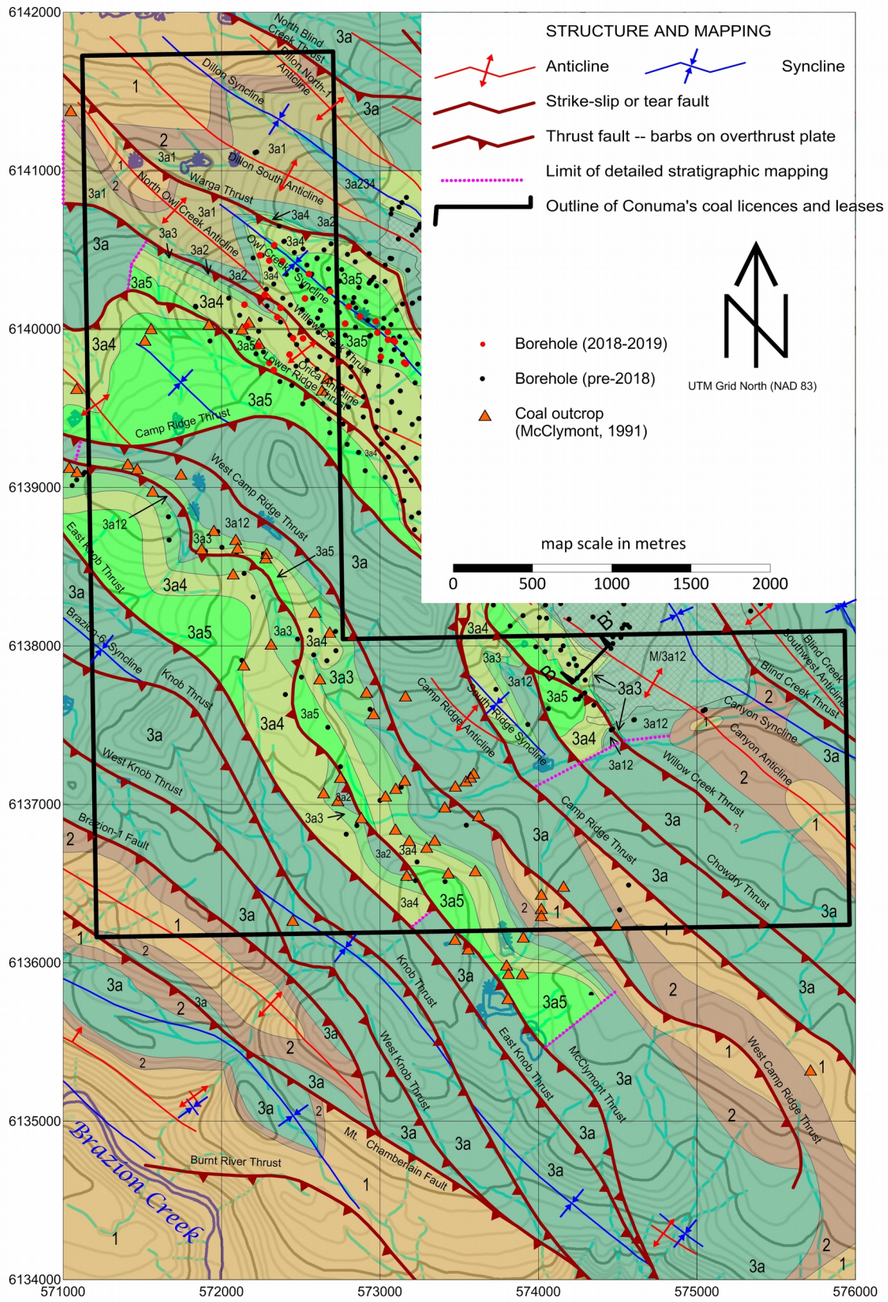

BRITISH COLUMBIA
ALBERTA
Fort Nelson
Fort St. John
Dawson Creek
Chetwynd
BRULE COAL PROPERTY
MacKenzie
Tumbler Ridge
Grande Prairie
NORTHEAST COALFIELDS
New Hazelton
Smithers
Prince Rupert
Ridley Terminals
Kitimat
CNR
Prince George
Grande Cache
Edmonton
Hinton
Quesnel
Jasper
Williams Lake
PACIFIC OCEAN
CNR
Calgary
Revelstoke
Banff
Port Hardy
Port McNeill
Lillooet
CPR
Kamloops
Vernon
Campbell River
Powell River
CNR
CPR
Sparwood
Kelowna
Squamish
Cumberland
Vancouver
Granbrook
Neptune Terminals
Nanaimo
Princeton
Penticton
Nelson
Fernie
Roberts Bank
Trail
SOUTHEAST COALFIELDS
Victoria
WASHINGTON
100 km 0 100 200 300 400 km
SCALE
LEGEND
ROADS
RAILWAY
C Aprl/19/2019 Indicia GCH
REV DATE DESCRIPTION BY CHKD APRVD
Conuma Coal Resources Limited
BRULE COAL PROPERTY
Drawn by: GCH
Checked by:
Approved by:
Revision No. C
Dwg No.
GENERAL LOCATION MAP
APR 2019
Document:
BRULE COAL ASSESSMENT REPORT
Figure No.
MAP 2-1
Brule-Location-190419c.srf.jpg


Dillon Lease 412964
Brule Lease 417517
Burnt River CL 417474
Burnt River CL 417476
Burnt River CL 417476
Burnt River CL 415719
Burnt River CL 392555
Burnt River CL 392554
Mink Creek
Bluff Creek
Blind Creek
Braxton Creek
Burnt River
Sukunka River
Power Line
Gas Line
Blind Rd.
Camp Rd.
CAMP
GATE
Bluff Creek Rd.
Lower Burnt Rd.
Sukunka FSR
a-A55-F
c-45-F
c-36-F
a-39-F
b-28-F
d-27-F
a-29-F
b-66-F
6143000
6142000
6141000
6140000
6139000
6138000
6137000
6136000
6135000
6134000
6133000
569000
570000
571000
572000
573000
574000
575000
576000
577000
578000
579000
580000
581000
582000
Access (not classified as to trafficability):
Road (coal haulage)
Road (other)
Trail
Seismic line
Land classification:
Coal licence (with historic and current tenure number)
Coal lease (with current tenure number)
Drainage:
River or creek
Stream (perennial or intermittent flow)
Natural gas wells (not classified as to activity)
Pipeline (where not along road)
Power line (69 KV)
metres
0
1000
2000
3000
Brule-area-topography-drainage-roads_190419e.srf/jpg
Conuma Coal Resources Limited
Scale: as shown
UTM NAD 83
Revision: E
Drawn: GCH
COAL TENURE AND TOPOGRAPHY
APR 2019
BRULE COAL ASSESSMENT REPORT
MAP 2-2

BRULE LEASE

UTM NAD83

NTS 93 P/05
CANADA



STRATIGRAPHY

M — Mine dumps

BULLHEAD GROUP (Barremian to Aptian)
Gething Formation -- siltstone, sandstone and conglomerate; minor bentonite and coal

- 3 — Gething Formation
- 3d — Chamberlain Member -- sandstone and siltstone; minor coal
- 3c — Bullmoose Member -- marine shale and siltstone; minor sandstone and bentonite
- 3b — Bluesky Member -- pebbly glauconitic sandstone (not mapped separately at this scale)
- 3a — Gaylard Member -- siltstone, sandstone and coal; lenses of conglomerate and pebbly sandstone; minor bentonite
  - 3a5 — Division 5 -- sandstone and siltstone; minor coal (Markers E and F)
  - 3a4 — Division 4 -- siltstone and sandstone; coal (Markers C and D; Seam 60 at top)
  - 3a3 — Division 3 -- siltstone and shale; coal (Lower Seam at base, Upper Seam at top)
  - 3a2 — Division 2 -- siltstone and sandstone; minor conglomerate and coal (Markers B, AA and A)
  - 3a12 — Division 2 -- siltstone and sandstone; minor conglomerate and coal (Markers B, AA and A)
  - 3a1 — Division 1 -- sandstone, conglomerate and siltstone; minor coal

2 — Cadomin Formation -- cliff-forming conglomerate and sandstone; minor siltstone and coal

MINNES GROUP (Tithonian to Valanginian)

1 — Bickford, Monach, Beattie Peaks and Monteith Formations -- sandstone, siltstone, shale, conglomerate, quartzite, ironstone and coal (not mapped separately at this scale)

Author: C.G. Cathyl-Huhn P.Geo. Lic.Geol. RMSME Date: 2019 April 19
Grid system: UTM NAD83 Zone 10N in metres 100 km grid square: ES
Scale: as shown on bar-scale Topography: TRIM-derived rasters
Sources: compiled from work by B.McClymont (Teck Corporation, 1979 and 1981), J.Hughes (Gulf Canada, 1980), and D.J.Hunter and J.M.Cunningham (BCGSB, 1991).

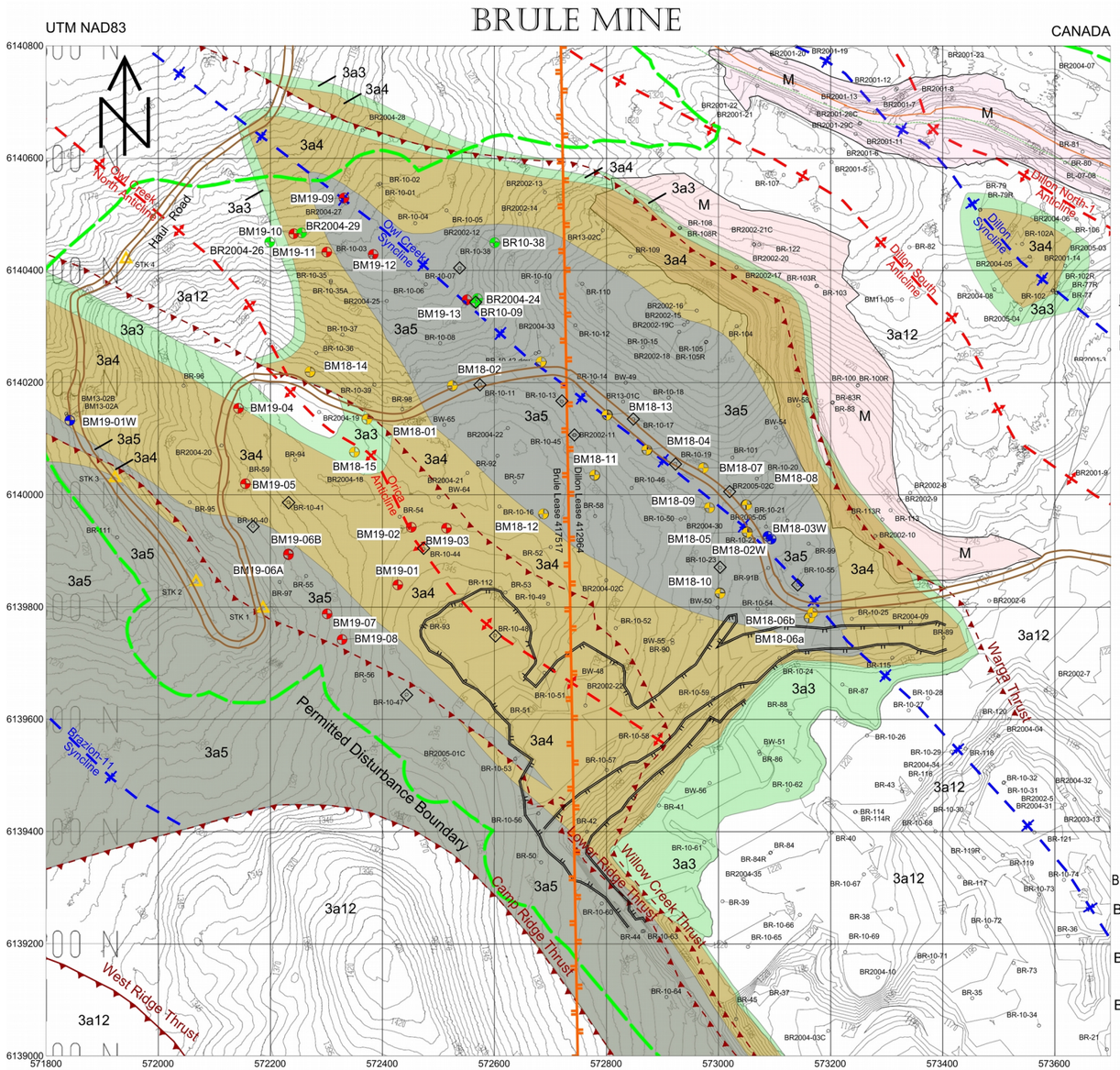
REV	DATE	DESCRIPTION
E	Apr 19 2019	Indicia

Drawn by:	GCH
Scale:	as shown
Reference:	Brule-lease-geology-190419e.srf
Revision No.	E

Conuma Coal Resources Limited

REGIONAL GEOLOGY OF BRULE LEASE 417517

APR 2019 | BRULE COAL ASSESSMENT REPORT | MAP 2-3



Mine references:

Brule Mine 0900215
Permit C-221

Stratigraphic Legend

Made Ground

M — Former mine pits: partially backfilled workings of North Brule Pit and Blind Pit

Gething Formation
Gaylard Member

3a5 — Division 5: sandstone and siltstone; minor coal (Markers E, F, G, and K)

3a4 — Division 4: siltstone and sandstone; coal (Conuma 'A' coal zone at top, and Markers C, D, and DL); siltstone, mudstone and tuff (Marker CD)

3a3 — Division 3: siltstone and mudstone; minor sandstone; coal (Conuma 'B' coal zone at top; Marker M; Conuma 'C' coal zone at base)

3a12 — Divisions 1 and 2 (undivided) sandstone, siltstone, conglomerate and coal (Markers B, AA, and A)

Structural Legend

Interpreted crest of anticline at bedrock surface

Interpreted trough of syncline at bedrock surface

Interpreted trace of thrust fault at bedrock surface

BM18-02W — Groundwater test wells (drilled summer 2018 and winter 2019)

BR10-09 — Old boreholes re-logged 2018-2019

BR-36 — Borehole locations (prior to 2018)

BM19-02 — Year-2019 structural boreholes

BR10-40 — Old boreholes reinterpreted to date

BM18-04 — Year-2018 structural boreholes

Permitted disturbance boundary

Brule pit-wall (Dec. 2018) approx.

Dwg.: Brule-development-base_190421m.srf/jpg Drawn: 21 April 2019
Topographic base (as of October 2018): D. Meisburger, P.Eng.
Geological compilation: 2018/A Dig-face approximate as of December, 2018
By: C.G. Cathyl-Huhn, P.Geo.(BC) Lic.Geol.(WA) RMSME
Grid: UTM NAD83 Zone 10 in metres Scale: as shown

Brule Mine:
Map 2-4:
Geology and in-mine drilling programme

2.2 Physiography, climate and vegetation

The Brule mining lease occupies a deeply-dissected, otherwise rounded and rolling plateau, bounded to the northwest and north by the steep southern wall of the Mink Creek valley. Elevations range from 920 metres along an east-flowing tributary of Blind Creek, to 1425 metres atop Camp Ridge. Treeline is not encountered within the property, other than as a consequence of wildfire, mining-associated forest clearance, or logging. Immature second-growth coniferous forest covers most upland areas of the property, with more-abundant broadleaf trees along streams and creeks. South-facing slopes tend to be drier and less sparsely-treed. Soil cover is patchy, consisting mainly, of till, colluvium and alluvium, with pockets of peat and silt within poorly-drained upland areas.

The Brule area has a continental alpine climate, characterised by long, moderately cold, snowy winters and short, rainy summers. Snow and frost may occur in any month of the year. Winds are generally gusty and ongoing, with rare calm periods. Convective thunderstorms frequently occur during summer months, bringing intense rain-showers and occasional hail.

2.3 Property description

The Brule coal property consists of one coal lease (**Map 2-2**), originally granted to Western Canadian Coal Corp. (WCC), subsequently taken over by Walter Energy, and since acquired by Conuma. **Table 2-1** presents details of the coal tenure at Brule, whose aggregate area is 1,471 hectares.

To maintain good status, coal leases require the payment of an area-based annual rental fee as prescribed by the provincial *Coal Act Regulation*. The annual rental fee for the Brule lease is $14,710 annually, payable on or before May 1st of each year.

Table 2-1: Coal tenure at Brule

Tenure Numbers		Land description		Area in hectares (ha)	Dates		Annual rental at $10/ha
Current	Historic	Blocks	Units		Issued on	Renew by	
417517	CL 3073 CL 3074 CL 3075, CL 3081, CL 3086	93P/05 Block F	45, 46, 47, 48, 49, 50, 55, 56, 57, 58, 59, 60,69, 70, 79, 80, 89, 90, 99, 100	1471	May 1, 2007	May 1, 2015	$14,710
Totals		1 coal lease / 20 units		1471 ha			$14,710

2.4 Summary of exploratory drilling

The Brule lease has been extensively drilled, with 154 boreholes known to have been put down (with a cumulative total depth of 14,861.39 metres). The distribution of these boreholes is shown within **Map 2-3** of this report. The majority of the drilling was done by Teck and by WCC and its successor companies. The most recent 21 boreholes, totalling 3588.87 metres, have been put down by Conuma during the autumn and winter of 2018-2019 (shown as red dots on **Map 2-3**, and documented in **Table A-1** of **Appendix A**).

2.4.1 Historic drilling (1977-2013)

During the years 1977, 1978, 1980, 1981, 2002, 2003, 2005, 2009, 2010, and 2013, 133 boreholes (totalling 11,273.52 metres' depth of drilling) were put down within the current boundaries of the Brule lease. These boreholes are regarded as 'historic' because they predate Conuma's acquisition of the Brule lease from Walter Energy, and they have been reported in various of Teck's and Walter Energy's Coal Assessment Reports.

The majority of Teck's boreholes were cored, using a highly-mobile Winkie drilling rig. Teck also used a larger diamond-drill for a lesser number of their boreholes, and a rotary-drill for several others. Walter Energy and its predecessor firms drilled mainly by means of air-rotary equipment, with limited coring.

2.4.1.1 Reference for details of historic drilling

Details of historic drilling are presented in Coal Assessment Report No. 936 (Cathyl-Huhn and Avery, 2014).

2.4.2 Current drilling (2018-2019)

During the years 2018 and 2019 (up to the date of this report), 21 boreholes, totalling 3588.87 metres, were drilled within the Brule lease (as presented in **Table A-1** within **Appendix A** of the present report). All boreholes were drilled by means of air-rotary equipment; no cores were taken, although coring is still under consideration as a follow-on activity.

All but two of these boreholes were geophysically logged. Logs are presented in **Appendix A** of the digital copy of this report. Reasons for not logging were: one borehole was a shallow water-well drilled adjacent to another previously-logged water-well, and one borehole was junked owing to broken drill steel, and the logging engineer considered that attempting to run logs would be risky.

The majority (20) of the boreholes were drilled by RC Drilling Ltd. of Saskatoon, Sakatchewan, using a tracked drill-rig, service truck, towed air-compressor, and a portable light plant.

The remaining borehole (BM19-01W) was drilled as a groundwater observation well by Anderson Water Services Ltd. of Fort St. John, British Columbia, using a water-well rig mounted on a wheeled crane carrier. As with the RC Drilling operation, a supplemental air-compressor was used. This well was drilled with an air-hammer, at a diameter of 6 inches (152 mm).

2.4.3 Re-logging of selected historic boreholes

As well as the aforementioned 21 boreholes, an additional five historic boreholes were geophysically-logged, principally to obtain dipmeter data. These holes were re-entered by the logging tools, without the benefit of being washed-out by a drilling rig.

2.4.4 Off-lease drilling (with respect to the Brule lease)

The 2018-2019 drilling programme extended to drilling at several sites beyond the boundaries of the Brule lease. These sites are situated within nearby locations within the adjoining Dillon lease. The drilling within Dillon lease shall be fully-documented within this year's Coal Assessment Report for the Dillon lease, to be submitted at a later date.

Off-lease holes (13 holes, totalling at least 2476 metres' drilling) are presented separately within **Table A-1** and depicted in their locations east of the Brule/Dillon tenure boundary line (on **Map 2-3**). Neither their estimated costs, nor their total length, are further discussed within the present report, and these boreholes are therefore excluded from tabulation on on this report's cover-sheets.

2.4.5 Cross-reference to statistical tables concerning drilling

Tables A-1 and **A-2** present positions, depths, orientations (if known, and only for boreholes within the Brule lease) and other salient details of year-2018 and 2019 boreholes within the lease. Blank entries in **Table A-1**, regarding geophysical logs, indicate that the relevant log(s) were not run, generally for reasons of borehole instability.

2.4.6 Geophysical experimentation

Two seldom-run logs were run in three of the year-2018 Brule holes: Century Geophysical's sonic tool, and their spectral gamma-ray ('KUT-log') tool. These tools were run on an experimental basis, to ascertain whether they might be useful in locating anomalously-mineralised zones of fine-grained rocks (conceptually, marine bands, but more likely to be lacustrine-facies 'lake beds'). No noteworthy anomalies were observed via the running of these logs. Detailed log analysis is still underway.

2.4.7 Programme intent, outcome, and deposit-modelling

The year-2018 and year-2019 drilling within the Brule lease was intended to contribute to reduced ambiguity of structural and coal-thickness modelling results at Brule Mine. By confirming the presence of coal-zone splits, pinch-outs, and overthrust faulting (including substantial tectonic thickening) of the deemed-mineable coals, the drilling has met its technical objectives.

Deposit-modelling work is now being conducted by Conuma's geological staff, in close co-operation with mine-planning engineers. Results of the modelling are not yet available as of the time of present writing.

2.4.8 Discussion of analytical work

No cores were cut during the year-2018 and year-2019 drilling programme within the Brule lease. Therefore, no analytical work has yet been done, insofar as no samples of coal or rock were recovered from 2018-2019 boreholes within the lease, although such work may follow from possible future core-drilling later in 2019.

2.4.9 Tabulation of coal intersections

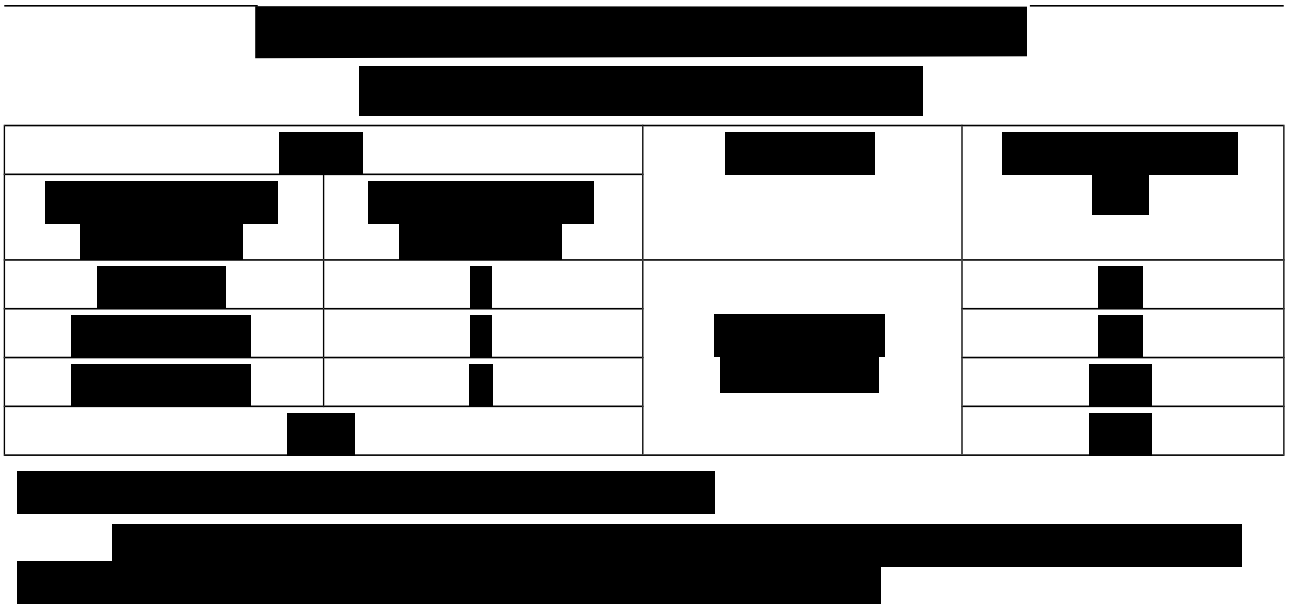
Table B-1, presented within **Appendix B** of this report, contains lithological interpretations ('lith-files') of downhole geophysical logs from the year-2018 and year-2019 drilling within the Brule lease. **Table B-2**, also presented within **Appendix B**, contains lithological interpretations for selected historic boreholes within the Brule lease.

Coals are identified with seam names in those cases where correlations are well-established, with emphasis upon coals which are well-established having mineable thickness. Other thinner or more-sporadic coals might also eventually be correlatable with their own seam names, but such detailed work has not yet been undertaken.

The the Brule coal lease contains numerous thin and thick coal beds, moreso than

previously-interpreted. The reason for this increase in recognition stems from the use of improved geophysical logging tools and interpretive algorithms, and the generally-greater length of individual boreholes, especially within structurally-complex areas.

Details of coal intersections within their boreholes are presented within the Coal Assessment Reports produced by Teck, of which the most informative reports are Nos.488 (McClymont, 1979) and 490 (McClymont, 1981). Walter Energy's subsequent Coal Assessment Report 936 (Cathyl-Huhn and Avery, 2017) presents data for coal intersections from historic boreholes drilled after Teck's sale of the property to Western Canadian Coal.



2.7 Acknowledgements and professional responsibility

Jerry Holmes P.Geo., consulting project manager from Apex Geoscience, acted under the author's direction to capably and nimbly conduct the 2018-2019 in-pit drilling and downhole geophysical programmes. Randy Clouthier of RC Drilling persevered tirelessly to get the development boreholes down to their targets, despite deep snow and extended periods of sub-minus-40 Celsius wind-chill.

Thanks are also due to Dustin Meisburger P.Eng, formerly manager of mine engineering at Conuma, for assistance with assembly of base-maps. Discussions with consulting structural geologist Dr Peter Jones have continued to be fruitful, building on a base of his five decades studying the tectonics of the Foothills region. Gwyneth Cathyl-Huhn P.Geo. accepts overall professional responsibility for the contents of this report.

3 Geology

Regional and local geology of the Brazion coalfield and of the Brule mining lease (**Map 2-3**) is known mainly from the extensive work of D.F. Stott (1960; 1963; 1968; 1972; 1973; 1974; 1981; 1998) and D. Gibson (1992), both from the Geological Survey of Canada, and (from the coal industry) B. McClymont (1979; 1981) from Teck, and Dr. M.A. Chowdry (from BP coal, largely-unpublished work, late 1970s and early 1980s).

As well, numerous other relevant coal-company reports are available as Coal Assessment Reports from the British Columbia Geological Survey Branch, as cited in **Section 7** of this report. Full copies of reports (including maps, geophysical logs, and other illustrations) are available for download via the Survey's website, although subsequent printing and plotting are at the reader's expense.

3.1 Regional Geology

The Brule coal property lies within the Brazion coalfield of northeastern British Columbia, part of the Foothills structural province of the Canadian Cordillera. All rocks exposed at the ground surface are of Early Cretaceous age, belonging to the Minnes (Tithonian to Valanginian stages) and Bullhead (Barremian to Aptian stages) groups.

Where not subsequently eroded, the total undeformed thickness of these rocks is estimated to be 1560 to 1625 metres. Depth to Precambrian continental basement, including both Mesozoic and Palaeozoic rocks, is more substantial, in the range of 10 to 12 kilometres (McMechan, 1984), although some of this thickness is attributable to thrust-induced tectonic stacking of the strata, and to associated shortening across folds (McMechan, 1985).

The majority of sedimentary rocks within the Brazion coalfield are clastic in origin, ranging in grain-size from claystones and mudstones through pebble-conglomerates. Lesser amounts of biologically- and chemically-derived sedimentary rocks are present, comprising coals, banded and nodular ironstones, glauconite-rich sandstones and gritstones, and impure dolomites.

Volcanic rocks constitute a very small component of the Jurassic and Early Cretaceous strata, comprising very fine- to fine-grained tuffs (the 'ash bands' of **Tables B-1** and **B-2**), interpreted to have originated as wind-borne distal ash-fall deposits from contemporaneous volcanoes situated within the Coast Plutonic Complex, far to the southwest of the property. The volcanic rocks characteristically occur as very thin (at most a few decimetres) yet regionally-extensive bands characterised by distinctive pale colour and anomalously-high natural gamma radioactivity, which are of use as geological and geophysical markers for structural and stratigraphic correlations. No intrusive rocks are known to occur at Brule, nor within the coalfield in general.

3.1.1 Regional sedimentology and stratigraphy

During much of the Early Cretaceous period, the Western Interior of North America was occupied by a shallow seaway, variably-designated by different authors as the Western Interior Sea, the Boreal Sea, or by analogies of formation names, such as the Clearwater Sea, Hulcross Sea or Moosebar Sea. Seaway depths, magnitude of accommodation space for sediments, and

overall shoreline trends, were largely controlled by vertical movements within a block-faulted crystalline basement terrane of Precambrian age, the Peace River Arch (Stelck, 1975).

During the latest Jurassic and earliest Cretaceous periods, sediments of the Minnes Group and the basal part of the Bullhead Group were derived from actively-eroding upland areas within the North American craton, particularly from the Peace River Arch. The receiving basin during this early time period lay to the west of the craton, within an actively-subsiding continental shelf which prograded westwards into the ancestral Pacific Ocean. Subsequently, slightly later within the Early Cretaceous period, sediments of the upper Bullhead Group were derived from actively-rising thrust-faulted tectonic forelands situated to the west and southwest of the seaway, synchronous with the docking of allochthonous tectonic terranes against the western margin of the North American craton.

3.1.2 Regional tectonics

The Brazion coalfield's structural geology is moderately complex, on a similar order of complexity as seen to the southeast at deeper structural levels near Sukunka Colliery (Wallis and Jordan, 1974). The overall structural style of the coal-measures is thin-skinned (Barss and Montandon, 1981), dominated by arcuate, northeast-verging, passively-folded, imbricate thrust-faults, with associated tight concentric folds. Thrusts characteristically overlap in *en echelon* manner, with displacement gradually transferring from one fault to another via trains of folds.

Thrusts range in scale from outcrop-scale mesoscopic features with stratigraphic displacements of a few decimetres to a few metres, to throughgoing faults and fault zones (such as the Willow Creek and Brazion-1 thrusts), whose stratigraphic offsets may locally be as great as several hundred metres, and whose fault-parallel movement may be up to a kilometre.

Age relationships amongst the thrusts are inferred to be as are generally-observed within the Cordilleran fold-thrust belts of northwestern North America, with the oldest thrusts occupying stratigraphically-higher positions (generally to the southwest) of the stratigraphically-lower and younger thrusts.

3.2 Structural geology at property scale

In detail, the Brule lease occupies a series of moderately- to tightly-compressed structural slices (informally referred to as structural 'plates', following general regional practice) bounded and stacked by northeastward-verging thrust-faults. Folds are concentric and cylindrical within the centre of their strike legth, tending to change to conical forms at either end of their strike length. Near-isoclinal *en-echelon* folds have been observed (and their contained coals successfully mined) within the adjoining Dillon lease area, but *en echelon* folds have not yet been observed at Brule. This observational deficit may be more a function of limited outcrop exposure than of local tectonics.

In some cases, structural shortening and consequent layer-parallel slip has been accommodated by intense shearing within coal beds. The most noteworthy horizon of internal shearing, as indicated by 'breakouts' of caliper-logged boreholes, is within the Marker B coal

bed, close beneath the Conuma 'C' coal bed. Shearing within Marker B may represent a local- to property-scale horizon of tectonic detachment, along which thrust faults have. As well, the Conuma 'C' coal bed is the locus of bed-over-bed bedding-parallel stacking, along portions of the crestal area of the Orica Anticline.

Despite the pervasive faulting of the coal-measures, normal stratigraphic facing of the rocks is generally preserved. Overturned beds have not been observed within the Brule lease. Within the tightly-compressed synclines of the Dillon lease, situated to the northeast of the Brule lease, multiple structural ‘horses’ of overthrust coal have been encountered by boreholes. Similar conditions are suggested by the clustering of numerous thrust-faults within the Brule portion of the Owl Creek Syncline, as disclosed by the current drilling programme.

Thrust faults, as inferred from landforms and from limited ground-surface observations, in general display sinuous map traces. Thrusts are furthermore suspected to curve vertically, in consequence of structural refraction between weak and strong beds, and also due to passive folding above later-formed structural ramps along deeper, younger thrusts.

Map 2-3 depicts the interpreted regional-scale pattern of thrusts and folds within and adjacent to the Brule property, whereas **Map 2-4** depicts the local-scale structural pattern of the area which was drilled in 2018-2019. Some of the structures’ names were first assigned by Teck Corporation’s workers, others have been inherited from more detailed work by Walter Energy staff and by consultants studying the Brule and Dillon mining areas, whilst yet others are newly-coined by the author for the purposes of the regional geological study which underpins the present report.

At the bedrock surface, positional confidence of faults, folds and associated geological-unit contacts ranges from ‘speculative’ to ‘approximate’ within the Brule coal property, with the highest confidence being associated with the closely-drilled northern part of the lease. Within boreholes, the assurance-of-position of interpreted faults ranges from 'established' (greatest confidence) through 'probable', to 'possible' (moderate confidence).

4 Stratigraphic context of coals and rock-units at Brule

A generalised stratigraphic profile of the Jurassic-Cretaceous section at Brule is presented below as **Table 4-1**. Thicknesses of rock-units are estimates from regional stratigraphic trends, with the exception of the Gaylard Member, whose thickness is established by drilling.

Table 4-1: Table of formations, members and subdivisions

Group/Formation/ Member			Map-Unit	Lithology and thickness		Coal bed details
Bullhead Group		Chamberlain Mb.	3d	sandstone and siltstone; minor conglomerate and coal		*completely removed by erosion at Brule*
		Bullmoose Mb.	3c	marine shale and siltstone; minor sandstone and tuff.		
		Bluesky Mb.	3b	glauconitic pebbly sandstone, pebbly mudstone and conglomerate.		
	Gething Fm.	Gaylard Mb.	3a	3a5	Division 5 (beds above Conuma 'A' coal): sandstone and siltstone, coal; 95 to 105 m thick.	minor coals: Markers K,G, F, and E
				3a4	Division 4 (beds above Conuma 'B' coal): siltstone and sandstone; coal; 45 to 75 m thick.	major coal: Conuma 'A' (at top); minor coals: Markers D, DK, DL, and C.
				3a3	Division 3: siltstone and shale; coal; 8 to 35 m thick.	major coals: Conuma 'B' (at top) and Conuma 'C' (at base); minor coal (Marker M) locally present between Conuma 'A' and 'B' coals.
				3a2	Division 2 (beds below Conuma 'A' coal): siltstone and sandstone; minor conglomerate and coal; 105 m thick?	minor coals: Markers B (near top), AA, and A (near base).
				3a1	Division 1: sandstone, conglomerate and siltstone; minor coal near base; 35 to 70 m thick.	sparsely-drilled within property; difficult to distinguish from Cadomin.
	Cadomin Fm.		2	gritty sandstone; conglomerate; minor siltstone; 8 to 35 m thick?		
Minnes Group	Bickford Fm. (formerly known as the Brenot Fm.)		1	1d	sandstone, siltstone, mudstone and coal; 285 to 300 m thick.	not yet drilled within property.
	Monach Fm.			1c	sandstone and quartzite; minor siltstone and conglomerate; 50 m thick.	
	Beattie Peaks Fm.			1b	sandstone, siltstone and shale; ironstone and coal; 300 m thick.	not yet drilled within property.
	Monteith Fm.			1a	sandstone, shale and conglomerate; quartzite; 600 m thick?	

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The following discussion examines the major rock-units and associated coal beds within the Brule lease. For convenience, discussion follows the headings of 'Younger rocks' (**Section 4.1**), 'Gething Formation coal-measures' (**Section 4.2**) and 'Older rocks' (**Section 4.3**).

4.1 Younger rocks

Rocks younger than the coal-bearing Gaylard Member of the Gething Formation appear to have

been completely stripped away by erosion, within the Brule lease area. These younger rocks, comprising the basal part of the Fort St. John Group are however preserved close-by, beneath a major throughgoing thrust (the Bullmoose Thrust) situated within the headwaters of Blind Creek and Bluff Creek, 2 to 4 kilometres to the northeast of the Brule property.

Several kilometres' thickness of Fort St. John Group rocks are inferred to have originally overlain the Gething coal-measures throughout the Brule property, and to have therefore caused the deep burial of the Gething coals which resulted in their having reached a low-volatile bituminous rank at Brule.

4.2 Gething Formation coal-measures (map-unit 3)

The Gething Formation, of early Aptian to early Albian age within the Early Cretaceous (Gibson, 1992), comprises thin to thick interbeds of siltstone, sandstone, mudstone and coal, with lesser amounts of gritstone, pebble-conglomerate, ironstone and tuff. The Gething Formation includes beds formerly designated as the Dresser Formation by Hughes (1964); its current stratigraphic extent was established by Stott (1968).

The Gething Formation originated as a complex of non-marine to shallow-marine sedimentary deposits, laid down by meandering and braided streams and rivers within a widely-extensive belt of coastal deltas, of which two (the Gaylard and Chamberlain paleodeltas) extended into the southern part of the Brule/Burnt River area.

Coals of the Gething Formation at Brule, and their enclosing sedimentary rocks, were deposited between 111 and 123 million years ago (Gibson, *ibid.*), on the basis of regional plant-fossil and foraminiferal zonations.

Following upon suggestions made by coal-company geologists (Wallis and Jordan, 1974) and subsequent correlation by the British Columbia Geological Survey (Duff and Gilchrist, 1981), Gibson formally divided the Gething Formation into three members: the upper, non-marine to transitional Chamberlain Member, the middle marine Bullmoose Member, and the basal, non-marine to transitional Gaylard Member. A fourth member of the Gething Formation, the Bluesky Member, is also inferred to be present between the base of the Bullmoose Member and the top of the Gaylard Member.

The Chamberlain coals and their enclosing rocks, together with the underlying marine rocks of the Bullmoose and Bluesky members, have been completely removed by erosion at Brule, although they may be present nearby to the northeast.

4.2.1 Gaylard Member (map-unit 3a)

The Gaylard Member of the Gething Formation is inferred to be represented at Brule by approximately 330 metres of siltstone, sandstone, mudstone and minor ironstone, tuff, gritstone and conglomerate, accompanied by three thick coal beds (from top down, the Conuma 'A', Conuma 'B', and Conuma 'C' coal beds, often several metres thick, and at least nine thinner coal beds (collectively termed the ‘Marker’ coals) which in comparison seldom exceed 1.5 metres' thickness.

Depth to roof of coal and rock-unit borehole intersections within Brule lease -- **Table 4-2**

Borehole	*Collar*	*Drift*	*Mkr K*	*Mkr G*	*Mkr F*	*Mkr E*	*Conuma A coal zone*	*Mkr D*	*Mkr DK*	*Mkr DL*	*Mkr CD*	*Mkr C*	*Conum a B (ply CBA)*	*Conum a B (ply CBB)*	*Mkr M*	*Conuma C (ply CCA)*	*Conuma C (ply CCB)*	*Marker B*	*Marker AA*	*Marker A*	*Cadomin*
Interpretation of current boreholes																					
BM18-01	1324.50	2.90										3.20?	19.50 39.60	21.20 42.35	60.80	62.40		70.60	79.45	133.20	206.35
BM18-02	1315.71	5.80		12.40	18.95	38.65	50.45	56.60	NR	72.55 75.45	81.45	106.50	131.00	134.00	150.05	151.65	153.10	158.45	167.65	220.70	DNR
BM18-03	1306.29	7.85	13.20	73.80	80.00	92.45	103.50	108.35 115.10 123.50	NR	135.20 149.75 154.30	164.00	192.85	215.30	216.90	227.40	228.20	229.70	233.60	244.40	DNR	DNR
BM18-12	1332.34	4.80				5.50	16.00	20.70	NR	31.90	41.85	66.35	91.10	92.80	NR	109.80		116.40	124.80	DNR	DNR
BM18-14	1328.43	4.40										9.15	25.25	34.60	51.05	52.70		61.25	72.10	132.45	DNR
BM18-15	1331.55	1.80											5.95?	11.80?	26.20	29.20 34.70		43.00	51.95	105.50	DNR
BM19-01	1341.23	2.80										11.10	38.30	41.40	60.90	62.70	64.50	69.15	76.60	126.70	DNR
BM19-01W	1244.85	*no logs run*																			
BM19-02	1334.65	2.45											7.35	10.25	28.30	29.75 35.40	31.85 38.55	45.40	54.90	107.00	159.25?
BM19-03	1333.60	1.50										12.30 14.50 16.70	32.95	35.05	51.95	53.45	55.65	60.25	69.40	120.75	DNR
BM19-04	1319.54	1.90											17.20	19.20	26.30	27.90	29.95	34.20	41.60	93.55	DNR
BM19-05	1309.96	3.10										4.45	48.05	48.40	69.05	70.30	73.20	77.70	85.35	135.35	DNR
BM19-06B	1310.59	2.20					11.40	13.40	26.60	29.70	NR	40.50	72.00?	77.00	NR	101.75	103.00	107.30	115.15	164.85	DNR
BM19-07	1313.15	1.20				1.95	11.90 41.35	14.00 42.20	NR 54.45	22.20? 56.90	NR	69.45	99.3?	105.40	NR	129.70	130.55	133.30	140.05	188.70	DNR
BM19-08	1321.00	4.85			11.90	22.85	33.60 69.30	36.65 70.40	NR 83.15	44.50 86.20	NR	103.80	141.45	141.75	167.30	169.20		171.50	179.15	226.90	DNR
BM19-09	1231.41	30.05					NR	NR	NR	88.90	109.00	133.70	157.40	DNR?	DNR	DNR	DNR	DNR	DNR	DNR	DNR
BM19-10	1235.83	4.70					NR	NR	NR	43.00	60.00	77.50	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR
BM19-11	1249.50	14.50					19.90	22.10	NR	70.05	87.10	97.80	124.25	DNR?	DNR	DNR	DNR	DNR	DNR	DNR	DNR

Depth to roof of coal and rock-unit borehole intersections within Brule lease -- **Table 4-2** (concluded)

Borehole	*Collar*	*Drift*	*Mkr K*	*Mkr G*	*Mkr F*	*Mkr E*	*Conuma A coal zone*	*Mkr D*	*Mkr DK*	*Mkr DL*	*Mkr CD*	*Mkr C*	*Conum a B (ply CBA)*	*Conum a B (ply CBB)*	*Mkr M*	*Conuma C (ply CCA)*	*Conuma C (ply CCB)*	*Marker B*	*Marker AA*	*Marker A*	*Cadomin*
BM19-12	1248.20	20.65					23.50	25.55	NR	58.45 66.35 90.80	83.10 106.30 110.65	120.95	140.20	145.35	NR	146.60?		151.20?	155.95?	DNR	DNR
BM19-13	1269.81	11.75		42.70	47.65	63.85	75.05 84.40 91.95	80.40 86.55 92.90	NR	103.35 121.60 130.45	136.80	167.20	189.10	192.30	201.80	204.35	205.70	209.85	220.30	DNR	DNR
Interpretation of selected historic boreholes																					
BR10-07		2.75		9.30	15.20	38.10	51.10	58.35 66.90	NR	86.80	109.40	130.15	152.95	158.20	167.65	170.30		176.90	DNR	DNR	DNR
BR10-09		5.80		39.00	45.50	62.05	72.70 77.50	82.80	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR
BR10-11		1.20		22.80	28.40	45.15	57.75	62.65	NP?	75.00 77.65	84.40	108.40	131.80	134.40	149.60	151.00	152.65	157.35	166.00	DNR	DNR
BR10-13		5.00	8.50	57.00	63.00	75.50	86.30	90.60	NR	99.85	116.50	143.10	164.80	166.60	189.20	190.30	191.90	197.75	DNR	DNR	DNR
BR10-40		2.50					8.80	9.85	NR	29.50	NR	NR	56.70	62.85	83.15	84.90	86.95	90.00	96.60	DNR	DNR
BR10-41		2.60											21.00	26.40	47.90	49.85	52.70	55.80	63.45	DNR	DNR
BR10-44		2.15											18.55	20.80	37.50	39.15 45.8?	41.65 47.25	52.90	61.40	113.90	DNR
BR10-47		2.10		11.90	19.15	26.75	34.30	40.60	NP	56.40 57.50	66.30	85.15	114.50	116.70	137.15	139.10	141.90	145.60	151.80	DNR	DNR
BR10-48		1.20							NR	23.45	28.20	NR	53.20	54.90	71.15	72.70 79.00	75.40 81.60	86.20	DNR?	DNR	DNR

At Brule and Dillon, the Gaylard coal-measures may be usefully subdivided into five informal ‘divisions’, based mainly upon gross lithology and the presence of major coal beds. Stratigraphic details of these informal divisions are presented in **Tables 4-1** and **4-3**.

The Gaylard coal-measures are punctuated by bands of lacustrine (less-likely: shallow-marine) rocks. The thickest and most readily-recognised of these bands at Brule comprises 2 to 9 metres of interbedded mudstone and siltstone with minor very thin bands of sandstone and tuff, designated as ‘Marker CD,’ within Division 4 of the Gaylard Member. Marker CD is of practical concern as being the most-extensive zone of potentially acid-generating (PAG) rocks recognised thus far at Brule. Marker CD can be readily recognised by its elevated natural gamma-radiation response on geophysical logs.

4.2.1.1 Gaylard lithologies

Siltstone is by far the predominant lithology within the Gaylard Member, characterised by variable levels of bioturbation from patchy to intense, occasionally with bands of nodular or massive (rarely mosaic-textured) ironstone, and ranging in texture from muddy to very sandy. Where they closely underlie coal beds, Gaylard Member siltstones are often rooty and somewhat carbonaceous, although immediate floors of coals generally grade upward to variably-carbonaceous mudstones.

Sandstones within the Gaylard Member range in texture from fine- to coarse-grained, rarely very coarse-grained to gritty or pebbly, and they are frequently cross-bedded. Channel-scours are characteristically found at the base of thicker sandstone units. The immediate basal portions of some channel-filling sandstones are sparsely- to moderately-bioturbated. Closely-spaced drilling demonstrates that the Gaylard sandstones vary rapidly in thickness between boreholes. Some of this variation may be due to channel-filling morphologies, whilst in other cases the tops of the sandstones may be bar-forms, draped in a variable thickness of fine-grained sedimentary rocks.

Mudstones within the Gaylard Member are generally silty, at times very much so, and variably-carbonaceous. Nodular ironstone (and perhaps also banded ironstone) is occasionally present within mudstone units. Glauconite is rarely, but notably, present within the finer mudstones within Division 5 of the Gaylard, suggesting that such mudstones may host higher-order maximum flooding surfaces. Coaly mudstones are characteristically present as thin (centimetre- to decimetre-scale) partings within coal beds, or as lenses immediately overlying the tops of coal beds.

Coaly mudstones are occasionally associated with elevated fusain contents in the immediately-underlying coals. Such mudstone beds also characteristically display elevated gamma-ray geophysical log responses, allowing the lateral tracing of coalbed splits into laterally-adjacent areas of minimal parting thickness.

Tuff bands (colloquially termed as ‘ash bands’) are occasionally observed within the well-exposed sections of the Gaylard Member within the working-faces of Brule. These bands of pyroclastic volcanic rock appear as distinctively white to very light grey, clay-rich, soft layers, ranging from a few millimetres to a decimetre thick, within their otherwise-unremarkable bounding strata.

Table 4-3: Stratigraphic setting of Gaylard Member coals at Brule

Gaylard divisions	Coal beds	Lithology	**Typical thickness of coal bed /** Typical thickness of intervening strata
Division 5		sandstone and siltstone	at least 10 metres
	Marker K	coaly mudstone and dirty coal, typically a doublet, **MKA** and **MKB**	0.5 to 1.5 metres
		fine- to coarse-grained sandstone and siltstone; minor gritstone and coal	50 to 60 metres
	Marker G	**coal** – dull and bright, clean to dirty; numerous thin partings of carbonaceous to coaly mudstone; denoted as **MG**.	**0.5 to 1.5 metres**
		variably-carbonaceous mudstone, siltstone and sandstone.	4 to 10 metres
	Marker F	**coal** – bright banded, high gamma-ray response in roof.; denoted **MF**.	**0.5 to 0.8 metres**
		fsandstone, variably-carbonaceous siltstone and mudstone.	20 to 25 metres
	Marker E	**coal** – dull and bright to bright banded; occasional carbonaceous mud-stone and mudstone/sandstone laminite; denoted as **MEA** and **MEB**.	**0.5 to 1.5 metres**
		fine- to medium-grained sandstone, mudstone and carbonaceous mudstone; occasional ironstone bands near base.	10 to 15 metres
Division 4	**Conuma A coal zone**	**coal** – dull to bright banded, with numerous thin bands of carbonaceous to coaly mudstone and siltstone; denoted as **CA.**	**2.7 to 7.0 metres;** locally amalgamates with underlying Marker D coal
		mudstone; minor siltstone; locally thickens due to presence of sandstone.	0.1 to 20 metres; thins northwestward
	Marker D	**coal** – dull to dull and bright, generally sheared; locally intensely-sheared and therefore inferred to host a bedding-parallel tectonic detachment zone; *has variable caking characteristics*.; denoted as **MD**	**0.5 to 2.0 metres;** thickens to north
		siltstone and sandstone, with locally-abundant coals up to several decimetres thick (including locally-correlatable coal **DK**)	5 to 15 metres
	Marker DL	**coal** – dull lustrous to dull and bright, locally sheared.; denoted as **DL**	0.5 to 1.2 metres
		siltstone; fine- to medium-grained sandstone, mudstone, minor carbon-aceous mudstone and tuff.; includes **Marker CD** (possible lacustrine beds)	15 to 25 metres
	Marker C	**coal** – dull lustrous to bright, locally sheared; denoted as **MC**.	**0.5 to 1.0 metres;** thins northward
		fine- to medium-grained sandstone; mudstone, minor siltstone; occasional bioturbated zones; with high gamma-log response in floor – *marine band*?	10 to 11 metres
	(unnamed)	**coal** – bright, with thin bands of carbonaceous mudstone and siltstone.	**0.4 metres**
		fine- to medium-grained sandstone, mudstone; minor carbonaceous mudstone and siltstone, mainly as thin interbeds (point-bar structure?).	10 to 21 metres
Division 3	**Conuma B coal zone**	**coal** – dull and bright to bright banded, hard, locally containing 0.3 to 1.2 m parting of variably-carbonaceous mudstone. Where split, the upper ply is denoted as **CBA**, and the lower ply is denoted as **CBB.**	**0.5 to 4.0 metres;** thins and splits northward
		fine-grained sandstone and siltstone; carbonaceous mudstone.	nil to 25 metres; thickens northward
	Marker M	**coal** – dull and bright to bright banded.	**0.5 metres;** Z-split geometry: rising southward
		fine-grained sandstone and siltstone; carbonaceous mudstone.	nil to 3 metres; thickens southward
	Conuma C coal zone	**coal** – bright banded, moderately hard to hard, with well-developed cleat; locally containing parting of siltstone or variably-carbonaceous mudstone. Where split, the upper ply is denoted **CCA**, and the lower ply is **CCB**.	**2.0 to 11.0 metres;** thins and splits southward
Division 2		soft, variably-carbonaceous mudstone; minor siltstone.	0.2 to 1.8 metres
	Marker B	**dirty coal** -- dull and bright, very soft; with many very thin partings of carbonaceous mudstone; typically sheared; therefore inferred to host a bedding-parallel tectonic detachment zone; denoted as **MB**.	**0.45 to 1.0 metres**
		fine-grained sandstone, mudstone, minor siltstone.	10 to 15 metres
	Marker AA	**coal** – dull and bright to bright banded, dirty, hard.; denoted as **MAA**	**0.5 to 1.5 metres**
		mudstone, siltstone and channel-filling sandstone with lenses of gritstone and pebble-conglomerate; minor carbonaceous to coaly mudstone.	45 to 75 metres
	Marker A	**coal** – dull and bright to bright banded, hard; locally a doublet of coals, with a central parting of carbonaceous to coaly mudstone; denoted as **MA.**	**0.9 to 1.5 metres**; possibly splits to southeast
Division 1		sandstone, mudstone and siltstone; minor carbonaceous mudstone..	35 to ?70 metres

4.2.1.2 Gaylard coals

As observed in borehole intersections, coals and associated coaly mudstones comprise 5% to 10% of the Gaylard section at Brule, with the greatest proportion of coal within the middle third of the Gaylard coal-measures. Where observed in active working-faces at Brule Mine, the Gaylard Member coals range in texture from blocky and well-cleated to intensely-sheared and pulverised, locally forming finely-imbricate masses of ‘cornflakes’.

Three major coals are recognised at Brule: the Conuma 'A' coal zone (formerly designated

as Seam C60 by Teck and Walter) at the top of Division 4, the Conuma 'B' coal zone (formerly designated as the Upper Seam by Teck and Walter) at the top of Division 3, and the Conuma 'C' coal zone (formerly designated as the Lower Seam by Teck and Walter), at the base of Division 3.

Table 4-2 (above) summarises the drilled intersections of Gaylard coals within current (2018-2019) boreholes drilled within the Brule lease. Depths given are for the roofs of the coals, derived from interpretation of borehole geophysical logs, in metres along the boreholes' trajectories. Stacked depths within table cells indicate the presence of thrust-faulted repeats of the coals.

The Gaylard coals at Brule range in visual brightness from ‘dull’ and ‘dull banded’ to ‘dull and bright’, rarely to ‘bright banded’ within the Diessel/CSIRO visual coal classification generally employed within the Rocky Mountain and Insular coalfields of western Canada. Some of the dull coal has very low mineral-matter content, and an anomalous sub-metallic lustre, verging on ‘grey durain’ as is more characteristic of Carboniferous coals rather than Cretaceous coals.

Banding is generally coarse, although it is often obscured by shearing. Within the Stopes macroscopic classification system, the Gaylard coals range from ‘durains’ to ‘clarains’. The Gaylard coals occasionally grade into black coaly mudstone at their upper contacts. Where shearing is pervasive within such contact horizons, it is difficult to visually distinguish sheared coal from sheared coaly rock.

Coal beds locally split and pinch-out laterally; the pattern of splitting is rendered more difficult to decipher in those areas where faults travel along bedding within or adjacent to coal zones. Individual leaves of split coals sometimes retain a distinctive gamma-density geophysical log response, increasing confidence in their lateral correlation away from areas of conjoint coal.

4.2.1.3 Gaylard-Cadomin contact relationship

The basal contact of the Gaylard Member with the underlying Cadomin Formation is abrupt to possibly-erosional at the local scale (Cant, 1996), and interfingering at regional scale (Stott, 1968; Gibson, 1992a), being drawn at the top of a coarse-grained, locally-pebbly, often-gritty bed of sandstone which may grade laterally into typical conglomerates of the Cadomin Formation. As noted below, the Gaylard-Cadomin contact has been interested by very few boreholes at Brule, although three boreholes are considered to have started within the Cadomin.

4.3 Older rocks

Along anticlinal crests, and also within the more deeply-eroded area of the Mink Creek and Brazion Creek valleys (at the northwestern and southwestern corners of the Brule property), rocks older than the Gething Formation are locally exposed. These rocks remain virtually-unexplored at the local scale, other than by the few natural-gas wells which have penetrated these formations at depth.

In order from top down, these older formations comprise the Cadomin Formation (the basal unit within the Bullhead Group), and the Bickford, Monach, Beattie Peaks and

Monteith Formations (within the Minnes Group), ranging in age from Late Jurassic to Early Cretaceous.

At regional and property scale (as depicted on **Map 2-3**), all four of the constituent formations within the Minnes Group are mapped together as a single unit (map-unit 1); within **Table 4-1**, however, these formations are treated individually (as map-units 1d, 1c, 1b and 1a). In the following discussion, only the Cadomin and Bickford formations are examined in detail, as they have the closest stratigraphic and spatial association to the Gaylard coal-measures.

4.3.1 Cadomin Formation (map-unit 2)

The Cadomin Formation immediately underlies the Gething Formation, forming the basal part of the Bullhead Group (Stott, 1968). As such, the Cadomin Formation includes strata previously assigned to the Dresser Formation of the Crassier Group by Hughes (1964).

The Cadomin Formation comprises one or more thick beds of coarse-grained, gritty to pebbly sandstone and pebble-conglomerate (McLean, 1981) with occasional lenses of siltstone and pebbly gritstone, and rare thin lenses of dirty coal. The Cadomin Formation thus strongly resembles the basal sandstone unit (Division 1) of the Gaylard Member, and its distinction from the overlying Gaylard sandstones rests mainly upon the Cadomin Formation's greater lateral continuity. The top of Cadomin Formation has only definitely been reached by one historic coal-exploration borehole (Teck's BR-68, drilled in 1981) at Brule, where only the top 14 metres of the formation were drilled. Two current boreholes (BM18-01 and BM19-02) are interpreted to have intersected the Cadomin Formation, as well.

At Brule, the Cadomin Formation is estimated to be 5 to 35 metres thick. Its basal contact with the underlying Bickford Formation – where not concealed by the characteristic talus formed along the Cadomin's outcrop – is erosional, with considerable local scour into the older sediments. Regionally, the base of the Cadomin marks a northeastward-deepening angular contact, cutting down into successively-older rocks of the Minnes Group (Stott, 1973).

4.3.2 Bickford Formation (map-unit 1d)

The Bickford Formation is the stratigraphically-highest and therefore youngest of the four formations which comprise the Minnes Group (Stott, 1981; 1998). The Bickford was previously designated by Hughes (1964) as the Brenot Formation, being the basal part of his now-superseded Crassier Group. The stratigraphic term 'Brenot' remained in local use by coal-industry workers until the earliest 1980s (Hughes, 1980; Stott, 1981).

The Bickford Formation consists of non-marine sandstone, siltstone, mudstone and coal. Within the Burnt River property, channel-filling conglomerates, up to 11 metres thick, occur near the top of the formation (Stott, 1998).The uppermost few metres of the formation, immediately beneath the base of the Cadomin Formation, is typically bleached and altered to a distinctively-soft, very light grey to white layer of clay-rich sediment.

Coals of potentially-mineable thickness are known to exist within the Bickford Formation elsewhere within the Brazion coalfield. However, the formation has yet to be drilled at Brule (other than in the aforementioned natural-gas wells), and its local coal

potential is therefore unknown.

The basal contact of the Bickford Formation with the underlying Monach Formation is generally abrupt at local scale, but interfingering on a regional scale, being drawn at the top of the distinctive quartzitic sandstone beds of the Monach.

4.3.3 Monach Formation (map-unit 1c)

The Monach Formation comprises cliff-forming sandstone and quartzite, with lesser amounts of interbedded siltstone and conglomerate, and occasional thin coals, part of the Minnes Group (Stott, 1998). The coal content of the Monach Formation appears to be minimal, on a regional basis, and the formation's principal economic significance is as a marker bed in drilling and geological mapping.

4.3.4 Beattie Peaks Formation (map-unit 1b)

The Beattie Peaks Formation comprises sandstone, siltstone and shale, locally accompanied by minor ironstone and coal, originating as a regionally-extensive shallow-marine to deep-marine turbidite system (Stott, 1998). Coals of potentially-mineable thickness have been found within the Beattie Peaks Formation elsewhere within the Brazion coalfield, but these coals have not yet been traced into the Brule area.

4.3.5 Monteith Formation (map-unit 1a)

The Monteith Formation forms the basal unit of the Minnes Group (Stott, 1968). The Monteith comprises interbedded sandstone, shale and conglomerate, with lesser amounts of quartzite and occasional thin coals. No mineable coal is known from the Monteith Formation, within the Brazion coalfield, and owing to its great depth at Brule it is unlikely to be of local exploratory interest.

5 Reclamation

Technical records acquired by WCC from Teck, as part of the property acquisition, do not provide sufficient detail to assess past reclamation practice, although it may be presumed, from the senior author's contemporary experience in the 1970s and 1980s, that some form of roadway decommissioning (including installation of water bars?) was followed by seeding of a then-customary 'reclamation mix'.

A few attempts to relocate old boreholes in the field have been complicated by dense growth of grasses, shrubs and trees along the suspected alignment of former drillsite-access trails.

All of the year-2002 through year-2010 (historic) exploratory boreholes, drilled on behalf of WCC and its successor companies, lie within the buffered facility footprint as shown within Brule Mine's five-year mine plan. Reclamation details of year-2002 through 2010 boreholes were not found in the technical files acquired by WCCP from WCC.

Year-2018 and year-2019 in-pit boreholes and hydrological test wells were drilled along existing access trails or roads, entailing ploughing of snow as required and, in some cases, blading of an approximately-flat drill pad. Minimal reclamation has been done at these sites, as access must be maintained to the hydrological testholes, and the remainder of the boreholes lie within areas scheduled for near-future mining. All of the year-2018 and year-2019 boreholes lie within Brule Mine's permitted disturbance boundary. Much of Brule Mine's footprint has already been cleared of vegetation and topsoil, in preparation for mining.

6 Statement of estimated costs

Estimated costs by activity and year are presented below as **Table 6-1**. Costs are based upon invoices covering work done on both Brule and Dillon leases, deriving Brule-specific costs by adjusting for respective number of boreholes (geophysics) or respective metreage of drilling (all other costs). For comparison, provincial average all-in per-metre costs for coal-exploration activities (as reported by Cathyl-Huhn and Avery, 2014) are presented at the base of the table.

Overall estimated costs of the Brule in-pit development drilling programme, including geophysical re-logging of selected older holes, are $596,975.18, or $166.34 (Canadian) per metre. The unit cost compares favourably with the provincial average, perhaps due to the boreholes being relatively shallow, swiftly-drilled, and on existing access roads and trails.

Estimated exploratory cost breakdown by activity, for Tenure 417517: **Table 6-1**

Year	Boreholes	Number of holes	Metreages (m)		Estimated drilling costs ($)		Estimated other costs ($)					Totals
			Rotary	Core	Rotary	Core	Geophysical logging	Proximate analyses and washability tests	Catwork (snow clearing, water truck, and mo-bility support)	Personnel (geological supervision)	Photogeo-logical mapping	
2018-2019	BM-18 and BM-19 series	21 holes	3588.87 m	nil	$316,846	n/a	$124187.45	nil	$110,837.69	$45,104.04	nil	$596,975.18
costs per metre of drilling												
2018-2019	BM-18 and BM-19 series	21 holes	3588.87 m	n/a	$88.29/m	n/a	$34.60/m	n/a	$30.88/m	$12.57/m	n/a	$166.34/m
British Columbia average (per metre)			n/a	n/a	*$201.53/ m*	*n/a*	*$17.56/m*	*n/a*	*$23.30/m*	*$20.49/m*	*n/a*	*n/a*

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8 Conclusions

In 2018 and 2019, Conuma Coal Resources Limited (Conuma) undertook an in-pit development drilling programme within Brule Mine. Drilling within the Brule lease portion of Brule Mine (the subject of this report) has improved Conuma's practical understanding of the property's geological structure, and disclosed the existence of overthrust stacks of tectonically-repeated coal beds.

The present work within the Brule lease, here reported for the 2018-2019 coal lease term, comprises drilling and the compilation of an updated geological map. This work was conducted by Conuma, as part of a broader examination of its operating and potential future mining properties within the Brazion and Sukunka-Quintette coalfields of northeastern British Columbia, Canada.

Geological modelling is underway, using both in-house expertise, to more-precisely define the coal resources at Brule Mine, and to support ongoing optimisation of the mine-plan.

During the 2018-2019 drilling programme, 21 air-rotary holes were drilled within the Brule lease, at a total length of 3588.87 metres, at an estimated programme cost of $596,975.18, thus a unit cost of $166.34 per metre. The programme was cost-effective, and met its technical objectives.

The Brule property merits further work, as recommended within **Section 9** of this report.

9 Recommendations

1. The Brule coal property should continue to be maintained in good standing under the *Coal Act*.

2. A programme of field geological mapping, initially recommended to then-owner WCCP in 2014 (but not undertaken) should be conducted within the well-exposed section of coal-measures along the Falling Creek Connector Road, within the northern part of the property.

- Structure of the rocks should be mapped, and an effort made to identify sections of thrust-repeated strata suspected to be present in this area.
- Exposed coals should be excavated to fresh material, and sampled for reflectance, petrography and proximate analysis, with the goal of better determining the local variability in coal-quality parameters, and establishing whether coking coal is likely to be present within or near this area.

3. A similar programme of mapping and sampling is recommended for the southwestern part of the property, where coals are known to outcrop, but minimal coal-quality data are available.

4. If results of work items 2) and 3) above are favourable, follow-in drill targets may then be identified and tested, with the aim of establishing whether commercially-significant quantities of saleable coal are present within practicable mining geometries.

- Drilling should include a mix of rapidly-drilled air-rotary holes for structural assessment, and diamond-core holes for coal quality assessment.

10 Statement of qualifications

I, C.G. Cathyl-Huhn P.Geo.(BC) Lic.Geol.(WA) RMSME, do hereby certify that:

a) I am currently employed on a full-time basis as Chief Geologist, by Conuma Coal Resources Limited, in their Northeast British Columbia office in Tumbler Ridge, British Columbia.

b) This certificate applies to the current report, titled *Coal Assessment Report for the Brule lease, British Columbia, Canada*, dated April 29th, 2019.

c) I am a member (Professional Geoscientist, Licence No.20550) of the Association of Professional Engineers and Geoscientists of British Columbia, licensed as a geologist (Licence No.2089) in Washington State, and a founding Registered Member of the Society for Mining, Metallurgy and Exploration (SME, Member No.518350). I have worked as a colliery geologist in several countries for over 40 years since my graduation from university.

d) I certify that by reason of my education, affiliation with professional associations, and past relevant work experience, having written numerous published and private geological reports and technical papers concerning coalfield geology, coal-mining geology and coal-resource estimation, that I am qualified as a Qualified Person as defined by Canadian *National Instrument 43-101* and as a Competent Person as defined by the Australian *JORC Code*.

e) My most recent visit to the Brule coal property was in the late winter of 2019.

f) I am the author of this report, titled *Coal Assessment Report for the Brule coal property, British Columbia, Canada*, dated April 29, 2019, concerning the Brule coal property.

g) As of the date of the writing of this report, I am not independent of Conuma Coal Resources, pursuant to *National Instrument 43-101*.

“original signed and sealed by”
Dated this 29th day of April, 2019. C.G. Cathyl-Huhn P.Geo. Lic.Geol. RMSME

Drilling records and geophysical logs: **Appendix A**

Table A-1 presents an inventory of boreholes and geophysical logs for the 2018-2019 in-pit drilling programme within the Brule lease.

Table A-2 presents statistical and geometric details of the boreholes.

Following **Table A-2**, the digital version of this report presents geophysical logs for the boreholes. Files in LAS, PDF, and TIF format are presented.

Inventory of boreholes and geophysical logs **Table A-1** - sheet 1 of 1

Borehole details (suffix 'C' denotes cored borehole)						Geophysical logs run and depths reached (metres)													
Borehole	Surveyed borehole position (metres: UTM NAD83 Zone 10)			Drilled depth (metres)		Gamma-density through drill rods		Comp. gamma-dens.-resistivity-caliper		Deviation	Gamma-neutron through drill roads		Gamma-neutron		Dipmeter		Spectral gamma (KUT-log)		Sonic	
										Century 9058A										
	Easting	Northing	Elevation	Spot-cored (8-inch)	Non-cored (114.3 mm)	Century 9239C tool		Century 9239C tool			Century 9058A tool		Century 9058A tool		Century 9411A tool		Century 7201 tool		Century 9325A tool	
						TD logger	First rdg	TD logger	First rdg	First rdg	TD logger	First rdg	TD logger	First rdg	TD logger	First rdg	TD logger	First rdg	TD logger	First rdg
Brule Lease -- Infill drilling																				
BM18-01	572372.78	6140134.77	1324.5		240.00			219.25	219.00	218.00			219.25	218.88	219.25	218.00	208.78	208.48	208.78	207.02
BM18-02	572525.51	6140193.83	1315.71		262.00			256.30	256.02	253.00			256.30	256.04	256.30	253.00	256.30	251.22	256.30	247.30
BM18-03	572684.14	6140236.81	1306.29		255.00			254.10	253.84	253.00			254.10	253.68	254.10	253.00	253.95	253.16	253.95	253.70
BM18-12	572688.28	6139965.71	1332.34		179.00			177.37	177.10	177.00			177.37	176.96	177.37	176.50				
BM18-14	572271.37	6140218.47	1328.43		179.00			178.95	178.68	178.00			178.95	178.66	178.95	177.50				
BM18-15	572350.74	6140075.94	1331.55		151.72			151.72	151.46	149.00			151.72	151.46	150.00	149.91				
BM19-01	572427.96	6139839.4	1341.23		167.50			162.80	163.00	161.40					162.80	162.92				
BM19-01W	571838.6	6140136	1244.85		57.91	*hole not logged*														
BM19-02	572451.79	6139942.15	1334.65		182.90			181.00	181.68	180.00			181.00	181.50	181.00	180.90				
BM19-03	572514.85	6139940.45	1333.60		152.40			151.20	152.12	150.00			151.20	151.22	151.20	150.92				
BM19-04	572143.35	6140153.98	1319.54		100.58			99.00	99.00	99.00			99.00	99.00	99.00	99.10				
BM19-05	572155.96	6140019.54	1309.96		137.16			136.04	135.80	135.00			136.04	135.20	136.00	135.10				
BM19-06A	572232.59	6139894.33	1310.64		54.70	*hole not logged*														
BM19-06B	572232.73	6139893.07	1310.59		173.70			171.70	171.08	171.00			171.70	171.22	171.90	171.90				
BM19-07	572301.47	6139787.68	1313.15		207.26			198.90	197.80	198.00			198.90	198.20	198.90	198.10				
BM19-08	572328.53	6139742.12	1321.00		237.70			235.00	231.00	234.00			235.00	232.20						
BM19-09	572331.78	6140528.83	1231.41		176.78			175.90	175.80	176.00			175.90	175.20	175.90	175.20				
BM19-10	572242.02	6140465.11	1235.83		88.40			86.90	86.78	86.00			86.90	87.20	86.90	86.20				
BM19-11	572301.07	6140432.31	1249.50		137.16			135.90	135.78	135.00			135.90	135.20	137.00	135.10				
BM19-12	572383.85	6140428.25	1248.20		192.00			191.40	191.20	191.00			191.40	191.20	191.00	190.60				
BM19-13	572551.29	6140347.24	1269.81		256.00			254.90	250.78	251.00			254.90	250.20	254.90	250.30				
21 holes 3588.87 m				0 holes 0 m	21 holes 3588.87 m	0 holes 0 m		19 holes 3407.92 m		19 holes 3395.40 m	0 holes 0 m		18 holes 3243.22 m		18 holes 3164.25		3 holes 712.86 m		3 holes 708.02 m	
Relogged only	Easting	Northing	Elevation	Spot-cored	Non-cored	TD logger	First rdg	TD logger	First rdg	First rdg	TD logger	First rdg	TD logger	First rdg	TD logger	First rdg	TD logger	First rdg	TD logger	First rdg
BR2004-24	572569.87	6140348.28	1275.19		91.60			91.60	91.50	91.00			91.60	91.50	91.60	91.00				
BR2004-26	572199.18	6140448.24	1242.42		80.14			80.13	79.88	79.00			80.13	79.80	80.13	79.00				
BR2004-29	572255.53	6140466.03	1238.83		64.00			64.40	64.30	64.00			64.40	64.20	64.40	63.70				
BR2010-09	572567.22	6140343.02	1271.84		214.60			91.67	91.40	91.00			91.67	91.40	91.67	91.00				
BR2010-38	572604.13	6140448.39	1280.11		202.69			201.56	201.28	201.24			201.56	201.20	201.56	200.50				
5 holes				0 holes	5 holes	0 holes		5 holes		5 holes	0 holes		5 holes		5 holes		0 holes		0 holes	
Dillon Lease -- Infill drilling (included for convenience: not incorporated in cost table nor work statistics, insofar as being 'off-lease' with respect to Brule Lease)																				
BM18-01W	*no data*					*hole not logged*														
BM18-02W	573093.49	6139920.95	1277.86		200.00			200.00	199.78	199.00			200.00	199.20						
BM18-03W	573088.65	6139926.78	1278.19	213.66				212.71	211.58				212.10	211.70						
BM18-04	572873.13	6140079.56	1298.12		274.00			273.08	272.82	272.00			273.08	272.82	273.08	272.00	271.97	271.68	271.97	268.16
BM18-05	573051.69	6139933.63	1279.78		257.00			253.29	253.02	253.00			253.29	252.86	253.29	252.50				
BM18-06A	573162.03	6139780.65	1265.63		164.60			157.55	157.28	157.00			157.55	157.26	157.55	156.50				
BM18-06B	573151.69	6139789.47	1265.11		241.00			239.97	239.72	239.00			239.97	239.52	239.97	239.00				
BM18-07	572973.34	6140047.96	1293.07		155.50			154.49	154.22	154.00			154.49	154.20	154.49	153.50				
BM18-08	573049.45	6139982.26	1283.89		155.00			154.56	154.30	154.00			154.56	154.24	154.56	153.50				
BM18-09	572984.25	6139976.80	1292.74		150.00			147.87	147.62	147.00			147.87	147.56	147.87	146.50				
BM18-10	573003.18	6139824.88	1281.33		158.50			157.36	157.08	157.00			157.36	157.08	157.36	156.50				
BM18-11	572779.82	6140034.42	1317.90		232.00			230.63	230.39	230.00			230.63	230.28	230.63	229.50				
BM18-13	572802.16	6140142.33	1301.87		272.00			269.14	268.88	268.00			269.14	268.92	269.14	268.00				
13 holes >2473.26 m				1 hole 213.66 m	12 holes >2259.6 m	0 holes 0 m		12 holes 2446.69 m		11 holes 2230 m	0 holes 0 m		12 holes 2445.64 m		10 holes 2027.50 m		1 hole 271.68 m		1 hole 268.16 m	

Abbreviations: TD -- total depth (in metres); rdg - reading (on log, in metres); all log depths as reported on log

Table A-2: Borehole construction statistics

Borehole	Positional statistics (metres)				Drilling dates		Geometry	
	UTM 10 NAD 83 E	UTM 10 NAD 83 N	Elevation	Driller's depth	Commenced	Completed	Azimuth	Dip
BM18-01	572372.78	6140134.77	1324.5	240.0	Nov 25/18	Nov 26/18	217.74	89.8
BM18-02	572525.51	6140193.83	1315.71	262.0	Nov 26/18	Dec 16/18	217.11	87.6
BM18-03	572684.14	6140236.81	1306.29	255.0	Nov 28/18	Nov 29/18	34.03	88.3
BM18-12	572688.28	6139965.71	1332.34	179.0	Dec 13/18	Dec 14/18	229.02	88.3
BM18-14	572271.37	6140218.47	1328.43	179.0	Dec 15/18	Dec 16/18	242.96	87.7
BM18-15	572350.74	6140075.94	1331.55	151.72	Dec 16/18	Dec 17/18	232.51	89.1
BM19-01	572427.96	6139839.40	1341.23	167.5	Jan 29/19	Jan 30/19	39.62	88.6
BM19-01W	571838.60	6140136.00	1244.85	57.91	Mar 11/19	Mar 13/19	0	90
BM19-02	572451.79	6139942.15	1334.65	182.9	Jan 30/19	Jan 31/19	334.59	89.2
BM19-03	572514.85	6139940.45	1333.6	152.4	Jan 31/19	Feb 1/19	240.73	88.4
BM19-04	572143.35	6140153.98	1319.54	100.58	Feb 1/19	Feb 1/19	53.33	89.5
BM19-05	572155.96	6140019.54	1309.96	137.16	Feb 1/19	Feb 2/19	37.33	89.7
BM19-06A	572232.59	6139894.33	1310.64	54.7	Feb 2/19	Feb 2/19	0	90
BM19-06B	572232.73	6139893.07	1310.59	173.7	Feb 5/19	Feb 6/19	35.83	89.2
BM19-07	572301.47	6139787.68	1313.15	207.26	Feb 6/19	Feb 7/19	42	89.5
BM19-08	572328.53	6139742.12	1321	237.7	Feb 7/19	Feb 8/19	39.13	88.8
BM19-09	572331.78	6140528.83	1231.41	176.78	Feb 8/19	Feb 11/19	345.26	88.2
BM19-10	572242.02	6140465.11	1235.83	88.4	Feb 11/19	Feb 11/19	0	90
BM19-11	572301.07	6140432.31	1249.5	137.16	Feb 11/19	Feb 12/19	256.89	88.7
BM19-12	572383.85	6140428.25	1248.2	192	Feb 12/19	Feb 13/19	283.19	88.5
BM19-13	572551.29	6140347.24	1269.81	256	Feb 13/19	Feb 15/19	38.35	88.9

Appendix B: Lithological interpretation of geophysical logs

Table B-1 presents interpretations of geophysical logs from 2018-2019 boreholes drilled within the Brule lease. **Table B-2** presents corresponding interpretations for selected historic (year-2010) boreholes, also within the Brule lease.

Lithology codes are:

ASH -- high-gamma response horizon, interpreted as volcanic ash (tuff) band
C -- coal (density <1.5)
CBSH -- carbonaceous rock (density >1.9)
CR -- coaly rock (density 1.7 to 1.9)
DC -- dirty coal (density 1.5 to 1.7)
DRIFT -- unconsolidated surficial materials above rockhead
FAULT -- fault
IRST -- ironstone (anomalously-high density material)
R -- rock (undifferentiated)

Coal bed codes are:

MKA, MKB -- plies of Marker K
MF -- Marker F
CA -- Conuma A coal zone
DK -- Marker DK
MCD -- Marker CD ('lake beds'?)
CB -- Conuma B coal zone
MM -- Mid-Marker
CCA, CCB -- plies of Conuma C
MAA -- Marker AA
MG -- Marker G
MEA, MEB -- plies of Marker E
MD -- Marker D
DL -- Marker DL
MC -- Marker C
CBA, CBB -- plies of Conuma B
CC -- Conuma C coal zone
MB -- Marker B
MA -- Marker A

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-01					
0	2.9	2.9		DRIFT	DRIFT
2.9	3.2	0.3		R	
3.2	3.4	0.2		DC	MC?
3.4	3.6	0.2		CBSH	
3.6	15.6	12		R	
15.6	16	0.4		CBSH	
16	16.25	0.25		DC	
16.25	19.5	3.25		R	
19.5	19.8	0.3		DC	CBA
19.8	20.25	0.45		CBSH	
20.25	21.2	0.95		R	
21.2	21.3	0.1		CR	CBB
21.3	21.45	0.15		CBSH	CBB
21.45	21.6	0.15		DC	CBB
21.6	21.7	0.1		R	
21.7	21.8	0.1		FAULT	POSSIBLE
21.8	23.1	1.3		R	
23.1	23.95	0.85		CBSH	
23.95	24.1	0.15		R	
24.1	24.25	0.15		CBSH	
24.25	24.8	0.55		R	
24.8	25	0.2		CBSH	
25	25.2	0.2		R	
25.2	25.55	0.35		IRST	IRONSTONE
25.55	30.6	5.05		R	
30.6	30.7	0.1		CBSH	
30.7	34.4	3.7		R	
34.4	34.65	0.25		CBSH	
34.65	35	0.35		DC	
35	38.6	3.6		R	
38.6	38.75	0.15		CBSH	
38.75	39.35	0.6		R	
39.35	39.6	0.25		CBSH	
39.6	40.25	0.65		C	CBA
40.25	40.45	0.2		CBSH	
40.45	42.35	1.9		R	
42.35	42.75	0.4		CBSH	CBB
42.75	60.8	18.05		R	
60.8	61.2	0.4		CR	MM
61.2	62.2	1		R	
62.2	62.4	0.2		CBSH	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-01	**continued**				
62.4	67.8	5.4		C	CC
67.8	67.95	0.15		DC	CC
67.95	68.2	0.25		C	CC
68.2	68.25	0.05		FAULT	POSSIBLE
68.25	68.45	0.2		CR	
68.45	68.7	0.25		CBSH	
68.7	70	1.3		R	
70	70.6	0.6		CBSH	
70.6	70.8	0.2		C	MB
70.8	71.05	0.25		CR	
71.05	71.65	0.6		R	
71.65	71.85	0.2		CBSH	
71.85	77	5.15		R	
77	77.35	0.35		CR	
77.35	78.2	0.85		R	
78.2	78.8	0.6		CBSH	
78.8	79.05	0.25		CR	
79.05	79.45	0.4		R	
79.45	79.7	0.25		C	MAA
79.7	79.85	0.15		DC	MAA
79.85	80	0.15		CR	MAA
80	80.2	0.2		DC	MAA
80.2	80.4	0.2		CR	MAA
80.4	80.95	0.55		CBSH	
80.95	81.5	0.55		R	
81.5	81.65	0.15		CBSH	
81.65	89.05	7.4		R	
89.05	89.45	0.4		CBSH	
89.45	96.8	7.35		R	
96.8	97.1	0.3		CBSH	
97.1	97.2	0.1		CR	
97.2	97.3	0.1		CBSH	
97.3	97.4	0.1		CR	
97.4	97.65	0.25		CBSH	
97.65	102.9	5.25		R	
102.9	103.1	0.2		CBSH	
103.1	103.3	0.2		CR	
103.3	103.5	0.2		CBSH	
103.5	105.2	1.7		R	
105.2	105.6	0.4		DC	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-01	**continued**				
105.6	105.9	0.3		CR	
105.9	106.1	0.2		CBSH	
106.1	131.2	25.1		R	
131.2	131.95	0.75		CBSH	
131.95	132.9	0.95		R	
132.9	133.2	0.3		CBSH	
133.2	133.45	0.25		DC	MA
133.45	133.6	0.15		C	MA
133.6	133.7	0.1		DC	MA
133.7	135.3	1.6		C	MA
135.3	135.5	0.2		CBSH	
135.5	140.8	5.3		R	
140.8	141	0.2		CBSH	
141	141.3	0.3		C	
141.3	141.5	0.2		CBSH	
141.5	151.55	10.05		R	
151.55	152.45	0.9		CBSH	
152.45	153.75	1.3		R	
153.75	153.95	0.2		CBSH	
153.95	156.9	2.95		R	
156.9	157.1	0.2		CBSH	
157.1	157.3	0.2		CR	
157.3	157.5	0.2		CBSH	
157.5	171.55	14.05		R	
171.55	171.9	0.35		CBSH	
171.9	178.95	7.05		R	
178.95	179.35	0.4		CBSH	
179.35	187.5	8.15		R	
187.5	187.7	0.2		CBSH	
187.7	201.45	13.75		R	
201.45	201.8	0.35		CBSH	
201.8	206.35	4.55		R	
206.35	219.25	12.9		R	CADOMIN
219.25	240	20.75		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM18-02					
0	5.8	5.8		DRIFT	DRIFT
5.8	6.15	0.35		CBSH	
6.15	6.5	0.35		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-02	**continued**				
6.5	6.75	0.25		CBSH	
6.75	7.9	1.15		R	
7.9	8.1	0.2		CBSH	
8.1	8.2	0.1		CR	
8.2	8.4	0.2		DC	
8.4	8.85	0.45		CBSH	
8.85	9	0.15		DC	
9	9.4	0.4		R	
9.4	9.5	0.1		CR	
9.5	9.65	0.15		CBSH	
9.65	10.15	0.5		CR	
10.15	11.75	1.6		R	
11.75	11.9	0.15		CBSH	
11.9	12.1	0.2		R	
12.1	12.25	0.15		ASH	ASH BAND?
12.25	12.4	0.15		R	
12.4	12.7	0.3		CBSH	MG
12.7	13.4	0.7		DC	MG
13.4	13.6	0.2		CR	MG
13.6	13.7	0.1		DC	MG
13.7	13.95	0.25		CR	MG
13.95	14.1	0.15		CBSH	MG
14.1	14.5	0.4		R	
14.5	14.65	0.15		CBSH	
14.65	18.95	4.3		R	
18.95	19.2	0.25		CBSH	MF
19.2	36	16.8		R	
36	36.3	0.3		CBSH	
36.3	38.65	2.35		R	
38.65	38.95	0.3		DC	MEA
38.95	39.15	0.2		CBSH	MEA
39.15	39.3	0.15		R	
39.3	39.6	0.3		CBSH	MEB
39.6	39.75	0.15		C	MEB
39.75	40	0.25		CBSH	MEB
40	40.4	0.4		R	
40.4	40.5	0.1		CBSH	
40.5	40.6	0.1		R	
40.6	40.75	0.15		CBSH	
40.75	41.45	0.7		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-02	**continued**				
41.45	41.8	0.35		CBSH	
41.8	42.1	0.3		R	
42.1	42.25	0.15		CBSH	
42.25	43.45	1.2		R	
43.45	43.75	0.3		CBSH	
43.75	50.1	6.35		R	
50.1	50.45	0.35		CR	
50.45	53.5	3.05		C	CA
53.5	54.85	1.35		R	
54.85	56.25	1.4		CBSH	
56.25	56.6	0.35		R	
56.6	56.9	0.3		C	MD
56.9	57.05	0.15		DC	MD
57.05	56.15	-0.9		C	MD
56.15	57.45	1.3		DC	MD
57.45	57.7	0.25		CBSH	
57.7	72.55	14.85		R	
72.55	72.7	0.15		CR	DL
72.7	73	0.3		DC	DL
73	73.6	0.6		R	
73.6	73.7	0.1		CBSH	
73.7	73.8	0.1		FAULT	POSSIBLE
73.8	74	0.2		CBSH	
74	75.45	1.45		R	
75.45	75.6	0.15		CBSH	DL
75.6	75.9	0.3		DC	DL
75.9	81.45	5.55		R	
81.45	83.6	2.15		R	MCD
83.6	83.9	0.3		CBSH	MCD
83.9	84.2	0.3		R	MCD
84.2	84.35	0.15		CBSH	MCD
84.35	85.3	0.95		R	MCD
85.3	85.65	0.35		CBSH	MCD
85.65	86.15	0.5		R	MCD
86.15	86.45	0.3		C	MCD
86.45	86.6	0.15		DC	MCD
86.6	87.1	0.5		R	MCD
87.1	87.6	0.5		CBSH	MCD
87.6	87.85	0.25		CR	MCD
87.85	88.65	0.8		R	MCD

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-02	**continued**				
88.65	89.2	0.55		CBSH	MCD
89.2	90.4	1.2		R	MCD
90.4	90.7	0.3		CBSH	MCD
90.7	92.4	1.7		R	MCD
92.4	101.2	8.8		R	
101.2	101.55	0.35		CBSH	
101.55	105.3	3.75		R	
105.3	105.7	0.4		CBSH	
105.7	106.5	0.8		R	
106.5	107.15	0.65		C	MC
107.15	107.3	0.15		CR	MC
107.3	107.4	0.1		CBSH	
107.4	108.95	1.55		R	
108.95	109.3	0.35		CBSH	
109.3	109.6	0.3		R	
109.6	110	0.4		CBSH	
110	112.15	2.15		R	
112.15	112.45	0.3		CBSH	
112.45	112.6	0.15		R	
112.6	113	0.4		CBSH	
113	123.1	10.1		R	
123.1	123.3	0.2		CBSH	
123.3	123.45	0.15		CR	
123.45	123.6	0.15		CBSH	
123.6	131	7.4		R	
131	131.6	0.6		C	CBA
131.6	133.85	2.25		R	
133.85	134	0.15		CBSH	
134	134.6	0.6		C	CBB
134.6	134.7	0.1		DC	CBB
134.7	134.9	0.2		CBSH	
134.9	150.05	15.15		R	
150.05	150.4	0.35		CBSH	MM
150.4	151.5	1.1		R	
151.5	151.65	0.15		CBSH	
151.65	153.1	1.45		C	CCA
153.1	156.2	3.1		C	CCB
156.2	156.45	0.25		DC	CCB
156.45	156.6	0.15		C	CCB
156.6	156.85	0.25		DC	CCB

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-02	**continued**				
156.85	157.1	0.25		CBSH	
157.1	158.45	1.35		R	
158.45	158.85	0.4		CBSH	MB
158.85	159.05	0.2		CR	MB
159.05	159.35	0.3		DC	MB
159.35	166.15	6.8		R	
166.15	166.45	0.3		CR	
166.45	166.7	0.25		CBSH	
166.7	167.65	0.95		R	
167.65	167.9	0.25		CBSH	MAA
167.9	168.05	0.15		CR	MAA
168.05	168.2	0.15		CBSH	MAA
168.2	168.4	0.2		CR	MAA
168.4	169	0.6		DC	MAA
169	169.25	0.25		CR	MAA
169.25	169.85	0.6		R	
169.85	170.2	0.35		CBSH	
170.2	172.5	2.3		R	
172.5	172.75	0.25		CBSH	
172.75	175.4	2.65		R	
175.4	175.75	0.35		CBSH	
175.75	182.45	6.7		R	
182.45	182.7	0.25		CBSH	
182.7	182.95	0.25		CR	
182.95	183.55	0.6		CBSH	
183.55	185	1.45		R	
185	185.4	0.4		ASH	ASH BAND
185.4	188.1	2.7		R	
188.1	188.3	0.2		CBSH	
188.3	188.45	0.15		CR	
188.45	188.6	0.15		CBSH	
188.6	191.7	3.1		R	
191.7	191.9	0.2		CR	
191.9	192.1	0.2		DC	
192.1	192.4	0.3		CR	
192.4	192.6	0.2		CBSH	
192.6	193.4	0.8		R	
193.4	193.7	0.3		IRST	IRONSTONE
193.7	198.45	4.75		R	
198.45	198.8	0.35		IRST	IRONSTONE

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-02	**continued**				
198.8	199.95	1.15		R	
199.95	200.35	0.4		IRST	IRONSTONE
200.35	212.6	12.25		R	
212.6	213	0.4		CBSH	
213	218.95	5.95		R	
218.95	219.4	0.45		CBSH	
219.4	220.2	0.8		R	
220.2	220.5	0.3		CBSH	
220.5	220.7	0.2		CR	
220.7	220.95	0.25		C	MA
220.95	221.2	0.25		DC	MA
221.2	221.25	0.05		CR	MA
221.25	223	1.75		C	MA
223	224.85	1.85		R	
224.85	225.3	0.45		IRST	IRONSTONE
225.3	227.55	2.25		R	
227.55	227.7	0.15		CBSH	
227.7	227.9	0.2		CR	
227.9	235	7.1		R	
235	235.35	0.35		CBSH	
235.35	240.5	5.15		R	
240.5	241.3	0.8		CBSH	
241.3	241.65	0.35		DC	
241.65	241.8	0.15		CBSH	
241.8	242.4	0.6		R	
242.4	242.6	0.2		CR	
242.6	242.8	0.2		DC	
242.8	243.25	0.45		IRST	IRONSTONE
243.25	248	4.75		R	
248	248.2	0.2		IRST	IRONSTONE
248.2	256.02	7.82		R	
256.02	262	5.98		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM18-03					
0	7.85	7.85		DRIFT	DRIFT
7.85	13.2	5.35		R	
13.2	13.35	0.15		CBSH	MKA
13.35	13.65	0.3		C	MKA
13.65	13.8	0.15		DC	MKA

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-03	**continued**				
13.8	14.15	0.35		CBSH	MKA
14.15	14.3	0.15		CR	MKA
14.3	14.6	0.3		CBSH	MKA
14.6	16.8	2.2		R	
16.8	17	0.2		CBSH	MKB
17	17.2	0.2		CR	MKB
17.2	17.3	0.1		DC	MKB
17.3	17.4	0.1		CR	MKB
17.4	17.5	0.1		DC	MKB
17.5	17.75	0.25		CR	MKB
17.75	18.05	0.3		CBSH	MKB
18.05	18.3	0.25		DC	MKB
18.3	18.5	0.2		CBSH	MKB
18.5	24.1	5.6		R	
24.1	24.25	0.15		CBSH	
24.25	25.9	1.65		R	
25.9	26.25	0.35		CBSH	
26.25	26.7	0.45		R	
26.7	27.15	0.45		IRST	IRONSTONE
27.15	42.7	15.55		R	
42.7	43	0.3		CBSH	
43	73.8	30.8		R	
73.8	74.1	0.3		CR	MG
74.1	74.3	0.2		DC	MG
74.3	74.5	0.2		CR	MG
74.5	74.6	0.1		CBSH	MG
74.6	74.85	0.25		CR	MG
74.85	75.4	0.55		CBSH	MG
75.4	78.95	3.55		R	
78.95	79.35	0.4		IRST	IRONSTONE
79.35	80	0.65		R	
80	80.35	0.35		CBSH	MF
80.35	92.45	12.1		R	
92.45	92.75	0.3		DC	MEA
92.75	93	0.25		CBSH	MEA
93	93.15	0.15		R	
93.15	93.35	0.2		CBSH	MEB
93.35	93.5	0.15		DC	MEB
93.5	93.7	0.2		CBSH	MEB
93.7	103.2	9.5		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-03	**continued**				
103.2	103.5	0.3		CR	
103.5	103.6	0.1		DC	CA
103.6	106.1	2.5		C	CA
106.1	106.25	0.15		CBSH	
106.25	106.9	0.65		R	
106.9	107.4	0.5		CBSH	
107.4	107.8	0.4		R	
107.8	108.35	0.55		CBSH	
108.35	109.35	1		C	MD
109.35	109.55	0.2		CR	
109.55	109.85	0.3		CBSH	
109.85	113.2	3.35		R	
113.2	113.4	0.2		CBSH	
113.4	114.2	0.8		CR	
114.2	114.4	0.2		CBSH	
114.4	114.85	0.45		R	
114.85	115.1	0.25		FAULT	ESTABLISHED
115.1	116.7	1.6		C	MD
116.7	116.9	0.2		CBSH	
116.9	119.8	2.9		R	
119.8	120	0.2		CBSH	
120	120.4	0.4		CR	
120.4	120.6	0.2		CBSH	
120.6	123.2	2.6		R	
123.2	123.5	0.3		FAULT	ESTABLISHED
123.5	124.7	1.2		C	MD
124.7	124.9	0.2		CR	
124.9	125.15	0.25		CBSH	
125.15	128.7	3.55		R	
128.7	128.9	0.2		CBSH	
128.9	129.15	0.25		CR	
129.15	129.45	0.3		R	
129.45	129.75	0.3		CBSH	
129.75	130.3	0.55		R	
130.3	130.5	0.2		CBSH	
130.5	130.65	0.15		CR	
130.65	130.8	0.15		CBSH	
130.8	132.15	1.35		R	
132.15	132.6	0.45		CBSH	
132.6	135.2	2.6		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-03	**continued**				
135.2	135.6	0.4		CBSH	DL
135.6	145.1	9.5		R	
145.1	145.2	0.1		FAULT	PROBABLE
145.2	146.5	1.3		R	
146.5	146.9	0.4		CBSH	
146.9	148	1.1		R	
148	148.35	0.35		CBSH	
148.35	149.75	1.4		R	
149.75	150.2	0.45		C	DL
150.2	154	3.8		R	
154	154.1	0.1		FAULT	POSSIBLE
154.1	154.3	0.2		R	
154.3	154.6	0.3		CR	DL
154.6	154.8	0.2		CBSH	DL
154.8	155.3	0.5		R	
155.3	155.65	0.35		CBSH	
155.65	164	8.35		R	
164	164.3	0.3		R	MCD
164.3	164.6	0.3		CBSH	MCD
164.6	164.8	0.2		R	MCD
164.8	165	0.2		IRST	MCD
165	165.6	0.6		R	MCD
165.6	165.9	0.3		CBSH	MCD
165.9	167.55	1.65		R	MCD
167.55	167.9	0.35		CR	MCD
167.9	168.1	0.2		R	MCD
168.1	168.55	0.45		CBSH	MCD
168.55	169.1	0.55		R	MCD
169.1	169.6	0.5		CBSH	MCD
169.6	170.3	0.7		R	MCD
170.3	175.7	5.4		R	
175.7	176.1	0.4		CR	
176.1	189.4	13.3		R	
189.4	189.7	0.3		IRST	IRONSTONE
189.7	190.25	0.55		R	
190.25	190.6	0.35		IRST	IRONSTONE
190.6	190.95	0.35		R	
190.95	191.3	0.35		CR	
191.3	192.85	1.55		R	
192.85	193.3	0.45		C	MC

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-03	**continued**				
193.3	193.6	0.3		DC	MC
193.6	194	0.4		R	
194	194.3	0.3		CBSH	
194.3	194.65	0.35		R	
194.65	195.2	0.55		CBSH	
195.2	196.1	0.9		R	
196.1	196.4	0.3		CBSH	
196.4	196.85	0.45		R	
196.85	197.3	0.45		CBSH	
197.3	197.4	0.1		R	
197.4	197.7	0.3		IRST	IRONSTONE
197.7	205.15	7.45		R	
205.15	205.5	0.35		CBSH	
205.5	206.35	0.85		R	
206.35	206.7	0.35		CBSH	
206.7	215.05	8.35		R	
215.05	215.3	0.25		CBSH	
215.3	216	0.7		C	CBA
216	216.6	0.6		R	
216.6	216.9	0.3		CR	
216.9	217.6	0.7		C	CBB
217.6	218.2	0.6		CBSH	
218.2	227.4	9.2		R	
227.4	227.7	0.3		DC	MM
227.7	228	0.3		R	
228	228.2	0.2		CBSH	
228.2	229.7	1.5		C	CCA
229.7	232.15	2.45		C	CCB
232.15	232.5	0.35		DC	CCB
232.5	232.9	0.4		C	CCB
232.9	233.1	0.2		CBSH	
233.1	233.6	0.5		R	
233.6	233.75	0.15		CBSH	MB
233.75	234.3	0.55		DC	MB
234.3	244.4	10.1		R	
244.4	244.6	0.2		CBSH	MAA
244.6	244.8	0.2		CR	MAA
244.8	245.1	0.3		DC	MAA
245.1	245.3	0.2		CR	MAA
245.3	245.4	0.1		DC	MAA

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-03	**continued**				
245.4	245.6	0.2		CR	MAA
245.6	246	0.4		CBSH	MAA
246	247.5	1.5		R	
247.5	248.2	0.7		CBSH	
248.2	250.25	2.05		R	
250.25	251.25	1		CBSH	
251.25	251.5	0.25		CR	
251.5	252	0.5		CBSH	
252	253.4	1.4		R	
253.4	253.6	0.2		CBSH	
253.6	253.84	0.24		R	
253.84	255	1.16		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM18-12					
0	4.8	4.8		DRIFT	DRIFT
4.8	5.5	0.7		R	
5.5	5.85	0.35		CBSH	MEA
5.85	6.2	0.35		DC	MEA
6.2	6.4	0.2		CBSH	MEA
6.4	6.7	0.3		R	
6.7	6.9	0.2		CBSH	MEB
6.9	7	0.1		DC	MEB
7	7.25	0.25		CBSH	MEB
7.25	10.8	3.55		R	
10.8	11	0.2		CBSH	
11	11.15	0.15		CR	
11.15	11.4	0.25		CBSH	
11.4	15.8	4.4		R	
15.8	16	0.2		CBSH	
16	16.2	0.2		DC	CA
16.2	18.85	2.65		C	CA
18.85	19.1	0.25		DC	CA
19.1	19.5	0.4		CBSH	
19.5	19.6	0.1		CR	
19.6	20.35	0.75		CBSH	
20.35	20.7	0.35		CR	
20.7	20.9	0.2		DC	MD
20.9	21.7	0.8		C	MD
21.7	21.85	0.15		DC	MD

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-12	**continued**				
21.85	21.95	0.1		CR	
21.95	22.2	0.25		CBSH	
22.2	28.6	6.4		R	
28.6	28.9	0.3		CBSH	
28.9	29.3	0.4		R	
29.3	29.45	0.15		CR	
29.45	29.75	0.3		DC	
29.75	30.1	0.35		R	
30.1	30.45	0.35		CR	
30.45	31.9	1.45		R	
31.9	32.1	0.2		CBSH	DL
32.1	32.3	0.2		DC	DL
32.3	32.5	0.2		CBSH	DL
32.5	41.85	9.35		R	
41.85	42	0.15		R	MCD
42	42.65	0.65		ASH	MCD
42.65	45.4	2.75		R	MCD
45.4	45.5	0.1		IRST	MCD
45.5	46	0.5		R	MCD
46	46.7	0.7		R	
46.7	46.8	0.1		CBSH	
46.8	46.9	0.1		CR	
46.9	47.1	0.2		DC	
47.1	47.3	0.2		CBSH	
47.3	48	0.7		R	
48	48.25	0.25		CBSH	
48.25	48.45	0.2		CR	
48.45	48.7	0.25		CBSH	
48.7	52.15	3.45		R	
52.15	52.5	0.35		CBSH	
52.5	65.5	13		R	
65.5	65.7	0.2		IRST	IRONSTONE
65.7	66.35	0.65		R	
66.35	66.5	0.15		CR	MC
66.5	66.6	0.1		R	MC
66.6	66.85	0.25		CR	MC
66.85	67.05	0.2		CBSH	MC
67.05	67.6	0.55		C	MC
67.6	67.9	0.3		CR	MC
67.9	68.85	0.95		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-12	**continued**				
68.85	69.2	0.35		CBSH	
69.2	69.5	0.3		R	
69.5	70.05	0.55		CBSH	
70.05	72	1.95		R	
72	72.75	0.75		CBSH	
72.75	82	9.25		R	
82	82.3	0.3		CBSH	
82.3	83	0.7		R	
83	83.5	0.5		CBSH	
83.5	90.9	7.4		R	
90.9	91.1	0.2		CR	
91.1	91.75	0.65		C	CBA
91.75	92	0.25		CBSH	
92	92.65	0.65		R	
92.65	92.8	0.15		CR	
92.8	93.6	0.8		C	CBB
93.6	93.75	0.15		CBSH	
93.75	109.15	15.4		R	
109.15	109.7	0.55		CBSH	
109.7	109.8	0.1		CR	
109.8	114.8	5		C	CC
114.8	114.9	0.1		DC	CC
114.9	115.5	0.6		C	CC
115.5	115.7	0.2		CBSH	
115.7	116.4	0.7		R	
116.4	116.6	0.2		CBSH	MB
116.6	116.7	0.1		CR	MB
116.7	116.9	0.2		DC	MB
116.9	117.05	0.15		C	MB
117.05	117.3	0.25		CBSH	MB
117.3	123.1	5.8		R	
123.1	123.45	0.35		CBSH	
123.45	124.8	1.35		R	
124.8	125.5	0.7		CBSH	MAA
125.5	125.75	0.25		DC	MAA
125.75	125.9	0.15		CR	MAA
125.9	126	0.1		DC	MAA
126	126.4	0.4		CBSH	MAA
126.4	133.95	7.55		R	
133.95	134.45	0.5		IRST	IRONSTONE

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-12	**continued**				
134.45	134.8	0.35		CBSH	
134.8	141.6	6.8		R	
141.6	141.8	0.2		CBSH	
141.8	142	0.2		CR	
142	142.45	0.45		CBSH	
142.45	147.3	4.85		R	
147.3	147.8	0.5		CBSH	
147.8	148.45	0.65		R	
148.45	148.8	0.35		IRST	IRONSTONE
148.8	149.05	0.25		R	
149.05	149.35	0.3		CR	
149.35	149.5	0.15		DC	
149.5	149.6	0.1		CR	
149.6	150.05	0.45		CBSH	
150.05	152.1	2.05		R	
152.1	152.3	0.2		CBSH	
152.3	163.4	11.1		R	
163.4	163.95	0.55		IRST	IRONSTONE
163.95	174.95	11		R	
174.95	175.3	0.35		CBSH	
175.3	176	0.7		R	
176	176.85	0.85		C	
176.85	177.37	0.52		R	
177.37	179	1.63		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM18-14					
0	4.4	4.4		DRIFT	DRIFT
4.4	5.2	0.8		R	
5.2	5.3	0.1		CR	
5.3	5.4	0.1		CBSH	
5.4	5.65	0.25		DC	
5.65	9.15	3.5		R	
9.15	9.4	0.25		C	MC
9.4	9.7	0.3		DC	MC
9.7	10	0.3		CR	MC
10	10.25	0.25		CBSH	
10.25	13.5	3.25		R	
13.5	13.6	0.1		FAULT	POSSIBLE
13.6	20.8	7.2		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-14	**continued**				
20.8	21	0.2		CR	
21	21.2	0.2		CBSH	
21.2	22.2	1		R	
22.2	22.6	0.4		CBSH	
22.6	22.75	0.15		DC	
22.75	22.9	0.15		CBSH	
22.9	25.25	2.35		R	
25.25	25.5	0.25		CR	CBA
25.5	25.9	0.4		C	CBA
25.9	26.15	0.25		DC	CBA
26.15	26.4	0.25		CBSH	
26.4	34.6	8.2		R	
34.6	34.8	0.2		CBSH	CBB
34.8	50.85	16.05		R	
50.85	51.05	0.2		CBSH	
51.05	51.45	0.4		DC	MM
51.45	52.4	0.95		R	
52.4	52.7	0.3		CR	
52.7	58.3	5.6		C	CC
58.3	58.45	0.15		DC	CC
58.45	59.1	0.65		C	CC
59.1	59.25	0.15		FAULT	POSSIBLE
59.25	61.25	2		R	
61.25	61.55	0.3		CBSH	MB
61.55	61.7	0.15		CR	MB
61.7	61.8	0.1		DC	MB
61.8	62.05	0.25		C	MB
62.05	62.25	0.2		CR	MB
62.25	69.3	7.05		R	
69.3	69.7	0.4		DC	
69.7	70.3	0.6		R	
70.3	70.6	0.3		CBSH	
70.6	70.75	0.15		CR	
70.75	71.2	0.45		R	
71.2	71.45	0.25		DC	
71.45	72.1	0.65		R	
72.1	72.3	0.2		C	MAA
72.3	73.1	0.8		DC	MAA
73.1	80.95	7.85		R	
80.95	81.3	0.35		CBSH	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-14	**continued**				
81.3	89.9	8.6		R	
89.9	90.3	0.4		CBSH	
90.3	90.55	0.25		CR	
90.55	90.7	0.15		CBSH	
90.7	90.8	0.1		CR	
90.8	91.2	0.4		CBSH	
91.2	99.1	7.9		R	
99.1	99.5	0.4		CR	
99.5	99.65	0.15		CBSH	
99.65	101.45	1.8		R	
101.45	101.65	0.2		CBSH	
101.65	102.1	0.45		DC	
102.1	102.3	0.2		CR	
102.3	102.55	0.25		CBSH	
102.55	131.85	29.3		R	
131.85	132.45	0.6		CBSH	
132.45	132.7	0.25		CR	MA
132.7	132.8	0.1		DC	MA
132.8	132.95	0.15		CR	MA
132.95	134.2	1.25		C	MA
134.2	134.4	0.2		CR	MA
134.4	136.45	2.05		R	
136.45	136.7	0.25		IRST	IRONSTONE
136.7	140.05	3.35		R	
140.05	140.4	0.35		CR	
140.4	153.9	13.5		R	
153.9	154.65	0.75		CBSH	
154.65	157.65	3		R	
157.65	157.9	0.25		CBSH	
157.9	158.15	0.25		DC	
158.15	161.6	3.45		R	
161.6	161.9	0.3		CBSH	
161.9	178.68	16.78		R	
178.68	179	0.32		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM18-15					
0	1.8	1.8		DRIFT	DRIFT
1.8	5.95	4.15		R	
5.95	6.4	0.45		CBSH	CBA?

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-15	**continued**				
6.4	11.8	5.4		R	
11.8	12	0.2		CBSH	CBB?
12	13.3	1.3		R	
13.3	13.4	0.1		CBSH	
13.4	26.2	12.8		R	
26.2	26.35	0.15		CR	MM
26.35	26.5	0.15		CBSH	MM
26.5	29.2	2.7		R	
29.2	33.5	4.3		C	CC
33.5	34.5	1		R	
34.5	34.6	0.1		CR	
34.6	34.7	0.1		FAULT	ESTABLISHED
34.7	40.6	5.9		C	CC
40.6	40.8	0.2		DC	CC
40.8	41.2	0.4		C	CC
41.2	41.5	0.3		CBSH	
41.5	42.85	1.35		R	
42.85	43	0.15		FAULT	POSSIBLE
43	43.15	0.15		CR	MB
43.15	43.3	0.15		CBSH	MB
43.3	43.55	0.25		CR	MB
43.55	43.8	0.25		C	MB
43.8	49.75	5.95		R	
49.75	50.05	0.3		CR	
50.05	50.6	0.55		R	
50.6	51.1	0.5		CBSH	
51.1	51.25	0.15		R	
51.25	51.4	0.15		CR	
51.4	51.7	0.3		R	
51.7	51.95	0.25		CBSH	
51.95	52.1	0.15		CR	MAA
52.1	52.6	0.5		DC	MAA
52.6	52.8	0.2		C	MAA
52.8	53	0.2		CR	MAA
53	53.3	0.3		CBSH	
53.3	54.1	0.8		R	
54.1	54.4	0.3		CBSH	
54.4	61.8	7.4		R	
61.8	62.45	0.65		CBSH	
62.45	68.9	6.45		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-15	**continued**				
68.9	69.4	0.5		CBSH	
69.4	69.75	0.35		DC	
69.75	70.15	0.4		CBSH	
70.15	75.4	5.25		R	
75.4	75.55	0.15		CBSH	
75.55	75.7	0.15		CR	
75.7	75.85	0.15		CBSH	
75.85	77.1	1.25		R	
77.1	77.3	0.2		CBSH	
77.3	77.9	0.6		DC	
77.9	78.15	0.25		CBSH	
78.15	79.2	1.05		R	
79.2	79.3	0.1		IRST	IRONSTONE
79.3	88.5	9.2		R	
88.5	88.8	0.3		IRST	IRONSTONE
88.8	89.85	1.05		R	
89.85	90.3	0.45		CBSH	
90.3	103.15	12.85		R	
103.15	103.7	0.55		CBSH	
103.7	103.85	0.15		CR	
103.85	104.55	0.7		R	
104.55	104.9	0.35		CBSH	
104.9	105.2	0.3		R	
105.2	105.5	0.3		CBSH	
105.5	105.8	0.3		DC	MA
105.8	105.95	0.15		C	MA
105.95	106.05	0.1		DC	MA
106.05	106.4	0.35		C	MA
106.4	106.6	0.2		CR	
106.6	110.25	3.65		R	
110.25	110.4	0.15		CBSH	
110.4	113.4	3		R	
113.4	113.7	0.3		CR	
113.7	117.85	4.15		R	
117.85	118.25	0.4		FAULT	POSSIBLE
118.25	124.8	6.55		R	
124.8	125	0.2		CBSH	
125	125.4	0.4		R	
125.4	125.8	0.4		CBSH	
125.8	126.05	0.25		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM18-15	**continued**				
126.05	126.5	0.45		CBSH	
126.5	127.2	0.7		R	
127.2	127.35	0.15		CBSH	
127.35	127.5	0.15		C	
127.5	127.7	0.2		CBSH	
127.7	130.95	3.25		R	
130.95	131.35	0.4		CBSH	
131.35	133.7	2.35		R	
133.7	134.05	0.35		CBSH	
134.05	138.2	4.15		R	
138.2	138.45	0.25		CBSH	
138.45	139.45	1		R	
139.45	139.6	0.15		CBSH	
139.6	140.55	0.95		R	
140.55	140.75	0.2		CBSH	
140.75	144.9	4.15		R	
144.9	145.4	0.5		CBSH	
145.4	150.7	5.3		R	
150.7	150.85	0.15		C	
150.85	151.46	0.61		R	
151.46	152.04	0.58		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM19-01					
0	2.8	2.8		DRIFT	DRIFT
2.8	8.3	5.5		R	
8.3	9.3	1		CBSH	
9.3	10.55	1.25		R	
10.55	11.1	0.55		CBSH	
11.1	11.7	0.6		C	MC
11.7	11.8	0.1		DC	MC
11.8	11.9	0.1		ASH	ASH BAND
11.9	12	0.1		CBSH	
12	19.6	7.6		R	
19.6	19.95	0.35		CBSH	
19.95	20.3	0.35		R	
20.3	20.5	0.2		CBSH	
20.5	20.7	0.2		DC	
20.7	20.9	0.2		CR	
20.9	28.2	7.3		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-01	**continued**				
28.2	28.8	0.6		CBSH	
28.8	29.7	0.9		R	
29.7	30.05	0.35		CBSH	
30.05	38.1	8.05		R	
38.1	38.3	0.2		CBSH	
38.3	38.45	0.15		DC	CBA
38.45	38.7	0.25		CR	CBA
38.7	38.9	0.2		C	CBA
38.9	39.1	0.2		CR	CBA
39.1	41.4	2.3		R	
41.4	41.6	0.2		CR	CBB
41.6	42.1	0.5		C	CBB
42.1	60.9	18.8		R	
60.9	61.3	0.4		CBSH	MM
61.3	62.45	1.15		R	
62.45	62.7	0.25		CBSH	
62.7	64.5	1.8		C	CCA
64.5	67.05	2.55		C	CCB
67.05	67.15	0.1		DC	CCB
67.15	67.3	0.15		C	CCB
67.3	67.65	0.35		DC	CCB
67.65	67.95	0.3		C	CCB
67.95	68.15	0.2		CBSH	
68.15	69.15	1		R	
69.15	69.4	0.25		CBSH	MB
69.4	69.65	0.25		CR	MB
69.65	69.8	0.15		DC	MB
69.8	70	0.2		CBSH	MB
70	74.4	4.4		R	
74.4	74.75	0.35		CBSH	
74.75	75.6	0.85		R	
75.6	76.4	0.8		CBSH	
76.4	76.6	0.2		R	
76.6	76.85	0.25		CR	MAA
76.85	77.5	0.65		DC	MAA
77.5	77.7	0.2		CBSH	MAA
77.7	87.35	9.65		R	
87.35	87.7	0.35		CBSH	
87.7	93.1	5.4		R	
93.1	93.45	0.35		CBSH	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-01	**continued**				
93.45	93.7	0.25		CR	
93.7	93.85	0.15		CBSH	
93.85	94	0.15		CR	
94	100.55	6.55		R	
100.55	100.75	0.2		CBSH	
100.75	100.95	0.2		CR	
100.95	101.1	0.15		CBSH	
101.1	101.6	0.5		R	
101.6	101.75	0.15		CBSH	
101.75	102.05	0.3		DC	
102.05	102.2	0.15		CR	
102.2	102.35	0.15		DC	
102.35	102.65	0.3		CBSH	
102.65	118.85	16.2		R	
118.85	119.35	0.5		CBSH	
119.35	125.1	5.75		R	
125.1	125.8	0.7		CBSH	
125.8	126.45	0.65		R	
126.45	126.7	0.25		CBSH	
126.7	126.95	0.25		DC	MA
126.95	128.35	1.4		C	MA
128.35	128.55	0.2		CBSH	
128.55	131.5	2.95		R	
131.5	131.85	0.35		IRST	IRONSTONE
131.85	134.65	2.8		R	
134.65	134.9	0.25		CBSH	
134.9	135.05	0.15		DC	
135.05	135.2	0.15		CBSH	
135.2	143.95	8.75		R	
143.95	144.1	0.15		CR	
144.1	144.3	0.2		CBSH	
144.3	148.65	4.35		R	
148.65	148.95	0.3		CBSH	
148.95	149.3	0.35		CR	
149.3	149.5	0.2		CBSH	
149.5	149.75	0.25		R	
149.75	149.95	0.2		CBSH	
149.95	150.1	0.15		DC	
150.1	150.3	0.2		CR	
150.3	152	1.7		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-01	**continued**				
152	152.15	0.15		CBSH	
152.15	152.3	0.15		CR	
152.3	153.55	1.25		CBSH	
153.55	155.75	2.2		R	
155.75	156.05	0.3		CBSH	
156.05	158.9	2.85		R	
158.9	159.1	0.2		CBSH	
159.1	159.3	0.2		CR	
159.3	159.45	0.15		C	
159.45	159.8	0.35		CBSH	
159.8	160.05	0.25		DC	
160.05	161.5	1.45		CBSH	
161.5	161.85	0.35		R	
161.85	162.1	0.25		CBSH	
162.1	163	0.9		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM19-02					
0	2.45	2.45		DRIFT	DRIFT
2.45	2.8	0.35		R	
2.8	2.9	0.1		IRST	IRONSTONE
2.9	3.75	0.85		R	
3.75	4.15	0.4		CBSH	
4.15	7.35	3.2		R	
7.35	7.6	0.25		CBSH	CBA
7.6	7.8	0.2		DC	CBA
7.8	7.95	0.15		CR	CBA
7.95	10.25	2.3		R	
10.25	10.45	0.2		DC	CBB
10.45	10.9	0.45		C	CBB
10.9	11.1	0.2		DC	CBB
11.1	15.25	4.15		R	
15.25	15.4	0.15		CBSH	
15.4	19.8	4.4		R	
19.8	20	0.2		CBSH	
20	28.3	8.3		R	
28.3	28.7	0.4		CBSH	MM
28.7	29.55	0.85		R	
29.55	29.75	0.2		CBSH	
29.75	31.85	2.1		C	CCA

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-02	**continued**				
31.85	35.2	3.35		C	CCB
35.2	35.4	0.2		FAULT	PROBABLE
35.4	38.55	3.15		C	CCA
38.55	41.3	2.75		C	CCB
41.3	41.45	0.15		DC	CCB
41.45	42.05	0.6		C	CCB
42.05	42.4	0.35		DC	CCB
42.4	42.6	0.2		C	CCB
42.6	42.8	0.2		FAULT	PROBABLE
42.8	43.3	0.5		C	CCB
43.3	43.6	0.3		DC	CCB
43.6	43.8	0.2		CBSH	
43.8	45.4	1.6		R	
45.4	45.9	0.5		CBSH	MB
45.9	46.15	0.25		CR	MB
46.15	46.4	0.25		C	MB
46.4	46.6	0.2		CR	MB
46.6	46.8	0.2		CBSH	MB
46.8	52.8	6		R	
52.8	53	0.2		CBSH	
53	53.1	0.1		CR	
53.1	53.3	0.2		CBSH	
53.3	53.95	0.65		R	
53.95	54.65	0.7		CBSH	
54.65	54.9	0.25		R	
54.9	55.1	0.2		CR	MAA
55.1	55.25	0.15		DC	MAA
55.25	55.55	0.3		CR	MAA
55.55	55.7	0.15		DC	MAA
55.7	55.95	0.25		CR	MAA
55.95	58.1	2.15		R	
58.1	58.25	0.15		CBSH	
58.25	59.8	1.55		R	
59.8	59.95	0.15		CBSH	
59.95	63.75	3.8		R	
63.75	64.1	0.35		CBSH	
64.1	68.15	4.05		R	
68.15	68.4	0.25		IRST	IRONSTONE
68.4	70.3	1.9		R	
70.3	70.55	0.25		CBSH	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-02	**continued**				
70.55	70.65	0.1		CR	
70.65	70.8	0.15		CBSH	
70.8	70.85	0.05		CR	
70.85	71.2	0.35		CBSH	
71.2	77.4	6.2		R	
77.4	77.6	0.2		CBSH	
77.6	77.85	0.25		CR	
77.85	77.95	0.1		CBSH	
77.95	79.3	1.35		R	
79.3	79.8	0.5		DC	
79.8	79.95	0.15		CR	
79.95	80.05	0.1		DC	
80.05	80.3	0.25		CBSH	
80.3	97.25	16.95		R	
97.25	97.55	0.3		IRST	IRONSTONE
97.55	106.6	9.05		R	
106.6	106.9	0.3		CBSH	
106.9	107	0.1		CR	
107	107.25	0.25		DC	MA
107.25	107.4	0.15		C	MA
107.4	107.5	0.1		DC	MA
107.5	108.9	1.4		C	MA
108.9	109.1	0.2		CBSH	
109.1	115.1	6		R	
115.1	115.4	0.3		CR	
115.4	124.5	9.1		R	
124.5	124.9	0.4		CBSH	
124.9	128.4	3.5		R	
128.4	129	0.6		CBSH	
129	129.3	0.3		CR	
129.3	129.5	0.2		R	
129.5	129.75	0.25		CBSH	
129.75	130.05	0.3		C	
130.05	130.25	0.2		CBSH	
130.25	133.55	3.3		R	
133.55	134	0.45		CBSH	
134	135.3	1.3		R	
135.3	135.7	0.4		CBSH	
135.7	147	11.3		R	
147	147.4	0.4		CBSH	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-02	**continued**				
147.4	156.6	9.2		R	
156.6	157	0.4		CBSH	
157	159.25	2.25		R	
159.25	165.1	5.85		R	CADOMIN?
165.1	165.2	0.1		R	TOP_MINNES
165.2	165.65	0.45		CBSH	
165.65	178.3	12.65		R	
178.3	178.65	0.35		CBSH	
178.65	181	2.35		R	
From	*To*	*Apparent*		*Lithology*	*Name*
BM19-03					
0	1.5	1.5		DRIFT	DRIFT
1.5	12.3	10.8		R	
12.3	12.9	0.6		C	MC
12.9	13.4	0.5		CR	MC
13.4	13.6	0.2		C	MC
13.6	13.9	0.3		FAULT	ESTABLISHED
13.9	14.3	0.4		R	
14.3	14.5	0.2		CBSH	
14.5	14.7	0.2		DC	MC
14.7	15.05	0.35		C	MC
15.05	16.15	1.1		R	
16.15	16.25	0.1		FAULT	ESTABLISHED
16.25	16.4	0.15		CBSH	
16.4	16.55	0.15		R	
16.55	16.7	0.15		CBSH	
16.7	17.7	1		C	MC
17.7	17.85	0.15		CBSH	
17.85	18.1	0.25		R	
18.1	18.25	0.15		CBSH	
18.25	19.95	1.7		R	
19.95	20.1	0.15		CR	
20.1	20.3	0.2		CBSH	
20.3	22.6	2.3		R	
22.6	22.8	0.2		CR	
22.8	23.2	0.4		CBSH	
23.2	23.4	0.2		CR	
23.4	23.6	0.2		DC	
23.6	23.9	0.3		CR	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-03	**continued**				
23.9	32.95	9.05		R	
32.95	33.15	0.2		CR	CBA
33.15	33.3	0.15		CBSH	CBA
33.3	35.05	1.75		R	
35.05	35.2	0.15		CR	CBB
35.2	51.95	16.75		R	
51.95	52.45	0.5		CBSH	MM
52.45	53.25	0.8		R	
53.25	53.45	0.2		CBSH	
53.45	55.65	2.2		C	CCA
55.65	58.85	3.2		C	CCB
58.85	59	0.15		DC	CCB
59	59.2	0.2		C	CCB
59.2	59.4	0.2		DC	CCB
59.4	59.65	0.25		CBSH	
59.65	60.25	0.6		R	
60.25	60.5	0.25		CBSH	MB
60.5	60.65	0.15		CR	MB
60.65	60.8	0.15		CBSH	MB
60.8	61.05	0.25		CR	MB
61.05	61.2	0.15		DC	MB
61.2	61.4	0.2		CBSH	MB
61.4	67.1	5.7		R	
67.1	67.3	0.2		CBSH	
67.3	67.45	0.15		CR	
67.45	67.6	0.15		CBSH	
67.6	68.2	0.6		R	
68.2	68.85	0.65		CBSH	
68.85	69.05	0.2		CR	
69.05	69.25	0.2		R	
69.25	69.4	0.15		CBSH	
69.4	69.6	0.2		CR	MAA
69.6	69.85	0.25		DC	MAA
69.85	70	0.15		CR	MAA
70	70.45	0.45		DC	MAA
70.45	72.6	2.15		R	
72.6	73.3	0.7		CBSH	
73.3	74.1	0.8		R	
74.1	74.3	0.2		CBSH	
74.3	74.45	0.15		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-03	**continued**				
74.45	74.65	0.2		CBSH	
74.65	76.9	2.25		R	
76.9	77.05	0.15		CBSH	
77.05	78.2	1.15		R	
78.2	78.5	0.3		CBSH	
78.5	85.5	7		R	
85.5	85.7	0.2		CBSH	
85.7	85.85	0.15		CR	
85.85	86.35	0.5		CBSH	
86.35	89.2	2.85		R	
89.2	89.35	0.15		CBSH	
89.35	90.7	1.35		R	
90.7	90.9	0.2		CBSH	
90.9	91	0.1		CR	
91	91.15	0.15		CBSH	
91.15	93.35	2.2		R	
93.35	93.6	0.25		CBSH	
93.6	93.8	0.2		CR	
93.8	94	0.2		DC	
94	94.25	0.25		CR	
94.25	94.5	0.25		CBSH	
94.5	119.3	24.8		R	
119.3	119.65	0.35		CBSH	
119.65	120.6	0.95		R	
120.6	120.75	0.15		CR	
120.75	120.95	0.2		DC	MA
120.95	121.05	0.1		CR	MA
121.05	121.2	0.15		C	MA
121.2	121.3	0.1		DC	MA
121.3	122.7	1.4		C	MA
122.7	122.95	0.25		CR	
122.95	128.7	5.75		R	
128.7	128.9	0.2		CBSH	
128.9	129.05	0.15		CR	
129.05	129.25	0.2		CBSH	
129.25	135.9	6.65		R	
135.9	136.25	0.35		CBSH	
136.25	137.3	1.05		R	
137.3	137.5	0.2		IRST	IRONSTONE
137.5	139.7	2.2		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-03	**continued**				
139.7	140.2	0.5		CBSH	
140.2	140.6	0.4		DC	
140.6	140.95	0.35		R	
140.95	141.15	0.2		CBSH	
141.15	141.4	0.25		DC	
141.4	141.55	0.15		CBSH	
141.55	142.8	1.25		R	
142.8	143.2	0.4		IRST	IRONSTONE
143.2	143.8	0.6		R	
143.8	144	0.2		CBSH	
144	144.15	0.15		CR	
144.15	144.35	0.2		CBSH	
144.35	148.3	3.95		R	
148.3	148.6	0.3		IRST	IRONSTONE
148.6	152.12	3.52		R	
152.12	153.98	1.86		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM19-04					
0	1.9	1.9		DRIFT	DRIFT
1.9	17.2	16.3		R	
17.2	17.4	0.2		C	CBA
17.4	19.2	1.8		R	
19.2	19.4	0.2		C	CBB
19.4	26.3	6.9		R	
26.3	26.6	0.3		CR	MM
26.6	27.7	1.1		R	
27.7	27.9	0.2		CBSH	
27.9	29.95	2.05		C	CCA
29.95	30.2	0.25		DC	CCB
30.2	32.4	2.2		C	CCB
32.4	32.9	0.5		DC	CCB
32.9	33.05	0.15		C	CCB
33.05	34.2	1.15		R	
34.2	34.35	0.15		CBSH	MB
34.35	34.55	0.2		CR	MB
34.55	34.75	0.2		DC	MB
34.75	34.85	0.1		C	MB
34.85	34.95	0.1		CR	MB
34.95	35.2	0.25		CBSH	MB

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-04	**continued**				
35.2	39.35	4.15		R	
39.35	39.8	0.45		CBSH	
39.8	40.15	0.35		R	
40.15	40.5	0.35		CBSH	
40.5	40.7	0.2		R	
40.7	40.8	0.1		CBSH	
40.8	41	0.2		CR	
41	41.15	0.15		CBSH	
41.15	41.35	0.2		IRST	IRONSTONE
41.35	41.6	0.25		CBSH	
41.6	42.25	0.65		DC	MAA
42.25	42.45	0.2		CBSH	
42.45	48.25	5.8		R	
48.25	48.4	0.15		CBSH	
48.4	50.35	1.95		R	
50.35	51	0.65		IRST	IRONSTONE
51	54	3		R	
54	54.4	0.4		CBSH	
54.4	56.4	2		R	
56.4	56.7	0.3		IRST	IRONSTONE
56.7	59.15	2.45		R	
59.15	59.35	0.2		CBSH	
59.35	59.4	0.05		CR	
59.4	60.2	0.8		CBSH	
60.2	60.5	0.3		R	
60.5	60.7	0.2		IRST	IRONSTONE
60.7	67.4	6.7		R	
67.4	67.6	0.2		CBSH	
67.6	67.8	0.2		CR	
67.8	68	0.2		CBSH	
68	69.2	1.2		R	
69.2	69.4	0.2		CBSH	
69.4	69.8	0.4		CR	
69.8	70	0.2		CBSH	
70	78.15	8.15		R	
78.15	78.3	0.15		IRST	IRONSTONE
78.3	80.7	2.4		R	
80.7	81.2	0.5		CBSH	
81.2	81.3	0.1		R	
81.3	81.45	0.15		IRST	IRONSTONE

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-04	**continued**				
81.45	86	4.55		R	
86	86.15	0.15		CBSH	
86.15	86.8	0.65		R	
86.8	87.3	0.5		CBSH	
87.3	91.15	3.85		R	
91.15	91.85	0.7		CBSH	
91.85	92.95	1.1		R	
92.95	93.35	0.4		CBSH	
93.35	93.55	0.2		CR	
93.55	94.9	1.35		C	MA
94.9	97.9	3		R	
97.9	98.55	0.65		CBSH	
98.55	99	0.45		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM19-05					
0	3.1	3.1		DRIFT	DRIFT
3.1	3.4	0.3		CBSH	
3.4	4.45	1.05		R	
4.45	4.65	0.2		CR	MC
4.65	5.2	0.55		DC	MC
5.2	17.05	11.85		R	
17.05	17.3	0.25		CBSH	
17.3	29.7	12.4		R	
29.7	30.15	0.45		CBSH	
30.15	30.3	0.15		R	
30.3	30.6	0.3		CBSH	
30.6	31.4	0.8		R	
31.4	31.95	0.55		CBSH	
31.95	32.25	0.3		R	
32.25	32.6	0.35		CBSH	
32.6	42	9.4		R	
42	42.5	0.5		CBSH	
42.5	47.65	5.15		R	
47.65	48.05	0.4		CBSH	
48.05	48.4	0.35		C	CBA
48.4	48.5	0.1		DC	CBB
48.5	48.65	0.15		C	CBB
48.65	48.8	0.15		DC	CBB
48.8	49	0.2		CR	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-05	**continued**				
49	49.2	0.2		CBSH	
49.2	67.9	18.7		R	
67.9	68.2	0.3		CBSH	
68.2	69.05	0.85		R	
69.05	69.4	0.35		CR	MM
69.4	70.05	0.65		R	
70.05	70.3	0.25		CBSH	
70.3	73.2	2.9		C	CCA
73.2	76.2	3		C	CCB
76.2	76.4	0.2		DC	CCB
76.4	76.7	0.3		C	CCB
76.7	77	0.3		CBSH	
77	77.7	0.7		R	
77.7	78.05	0.35		CBSH	MB
78.05	78.3	0.25		CR	MB
78.3	78.45	0.15		C	MB
78.45	78.7	0.25		CBSH	MB
78.7	83.05	4.35		R	
83.05	83.4	0.35		CBSH	
83.4	83.75	0.35		R	
83.75	84.1	0.35		CBSH	
84.1	84.3	0.2		R	
84.3	84.5	0.2		CBSH	
84.5	84.65	0.15		CR	
84.65	84.85	0.2		CBSH	
84.85	85.15	0.3		R	
85.15	85.35	0.2		CBSH	
85.35	85.95	0.6		DC	MAA
85.95	86.15	0.2		CBSH	
86.15	91.5	5.35		R	
91.5	92	0.5		CBSH	
92	97.1	5.1		R	
97.1	97.4	0.3		CBSH	
97.4	102.85	5.45		R	
102.85	103.55	0.7		CBSH	
103.55	109.8	6.25		R	
109.8	110.1	0.3		CR	
110.1	110.3	0.2		CBSH	
110.3	111.3	1		R	
111.3	111.5	0.2		CBSH	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-05	**continued**				
111.5	111.95	0.45		DC	
111.95	112.05	0.1		CR	
112.05	112.2	0.15		ASH	ASH BAND
112.2	112.4	0.2		CBSH	
112.4	123.05	10.65		R	
123.05	123.35	0.3		CBSH	
123.35	129.2	5.85		R	
129.2	129.6	0.4		CBSH	
129.6	133.25	3.65		R	
133.25	133.8	0.55		CBSH	
133.8	134.7	0.9		R	
134.7	135.15	0.45		CBSH	
135.15	135.35	0.2		CR	
135.35	135.6	0.25		C	MA
135.6	136.04	0.44		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM19-06B					
0	2.2	2.2		DRIFT	DRIFT
2.2	11.4	9.2		R	
11.4	13.4	2		C	CA
13.4	13.7	0.3		DC	MD
13.7	25.5	11.8		R	
25.5	25.6	0.1		CBSH	
25.6	25.85	0.25		R	
25.85	26.25	0.4		CBSH	
26.25	26.4	0.15		R	
26.4	26.6	0.2		CBSH	
26.6	27	0.4		C	DK
27	27.3	0.3		DC	DK
27.3	27.6	0.3		CBSH	
27.6	29.7	3.1			
29.7	29.9	0.2			
29.9	30.2	0.3			
30.2	30.4	0.2			
30.4	32.2	1.8			
32.2	32.65	0.45		CBSH	
32.65	32.8	0.15		C	
32.8	33	0.2		DC	
33	34	1		R	
34	34.5	0.5		CBSH	
34.5	36.6	2.1		DC	
36.6	37.05	0.45		CBSH	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-06B	**continued**				
37.05	37.7	0.65		R	
37.7	37.95	0.25		CBSH	
37.95	38.25	0.3		CR	
38.25	38.7	0.45		R	
38.7	38.95	0.25		CBSH	
38.95	39.05	0.1		CR	
39.05	39.15	0.1		CBSH	
39.15	39.25	0.1		CR	
39.25	40.25	1		R	
40.25	40.5	0.25		CBSH	
40.5	40.75	0.25		C	MC
40.75	41	0.25		CR	
41	62.1	21.1		R	
62.1	62.9	0.8		CBSH	
62.9	63.2	0.3		R	
63.2	63.45	0.25		CBSH	
63.45	63.65	0.2		CR	
63.65	63.95	0.3		CBSH	
63.95	72	8.05		R	
72	72.4	0.4		CBSH	CBA?
72.4	76.8	4.4		R	
76.8	77	0.2		CBSH	
77	77.3	0.3		DC	CBB
77.3	99.55	22.25		R	
99.55	99.95	0.4		CBSH	
99.95	101.55	1.6		R	
101.55	101.75	0.2		CBSH	
101.75	103	1.25		C	CCA
103	105.5	2.5		C	CCB
105.5	106	0.5		DC	CCB
106	106.1	0.1		CR	
106.1	106.25	0.15		CBSH	
106.25	107.3	1.05		R	
107.3	107.6	0.3		CBSH	MB
107.6	107.8	0.2		CR	MB
107.8	107.95	0.15		DC	MB
107.95	108.15	0.2		CR	MB
108.15	108.4	0.25		CBSH	MB
108.4	113.1	4.7		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-06B	**continued**				
113.1	113.4	0.3		CBSH	
113.4	113.8	0.4		R	
113.8	114.1	0.3		CBSH	
114.1	114.3	0.2		R	
114.3	114.5	0.2		CBSH	
114.5	114.7	0.2		CR	
114.7	114.8	0.1		CBSH	
114.8	115.15	0.35		R	
115.15	115.8	0.65		DC	MAA
115.8	116	0.2		CR	
116	117.3	1.3		R	
117.3	117.4	0.1		IRST	IRONSTONE
117.4	117.5	0.1		R	
117.5	117.6	0.1		IRST	IRONSTONE
117.6	121.3	3.7		R	
121.3	121.9	0.6		CBSH	
121.9	126.35	4.45		R	
126.35	126.7	0.35		CBSH	
126.7	132.3	5.6		R	
132.3	133.05	0.75		CBSH	
133.05	140.2	7.15		R	
140.2	140.8	0.6		CBSH	
140.8	141.4	0.6		R	
141.4	141.7	0.3		DC	
141.7	141.95	0.25		CR	
141.95	142.15	0.2		CBSH	
142.15	152.85	10.7		R	
152.85	153.2	0.35		CBSH	
153.2	159.2	6		R	
159.2	159.7	0.5		CBSH	
159.7	163.15	3.45		R	
163.15	163.7	0.55		CBSH	
163.7	164.5	0.8		R	
164.5	164.75	0.25		CBSH	
164.75	164.85	0.1		CR	
164.85	165	0.15		DC	MA
165	166.2	1.2		C	MA
166.2	166.4	0.2		CBSH	
166.4	170.3	3.9		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-06B	**continued**				
170.3	170.8	0.5		CBSH	
170.8	171.7	0.9		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM19-07					
0	1.2	1.2		DRIFT	DRIFT
1.2	1.95	0.75		R	
1.95	2.3	0.35		CBSH	MEA
2.3	2.8	0.5		R	
2.8	3.2	0.4		CR	MEB
3.2	9.65	6.45		R	
9.65	9.8	0.15		CBSH	
9.8	11.7	1.9		R	
11.7	11.9	0.2		CBSH	
11.9	12.15	0.25		DC	CA
12.15	13.25	1.1		C	CA
13.25	13.4	0.15		DC	CA
13.4	14	0.6		C	CA
14	14.25	0.25		DC	MD
14.25	15	0.75		C	MD
15	15.3	0.3		CR	
15.3	17.55	2.25		R	
17.55	17.8	0.25		CR	
17.8	22.2	4.4		R	
22.2	22.55	0.35		CBSH	DL?
22.55	23.05	0.5		R	
23.05	23.45	0.4		CBSH	
23.45	30.5	7.05		R	
30.5	30.55	0.05		FAULT	PROBABLE
30.55	40.5	9.95		R	
40.5	40.85	0.35		CBSH	
40.85	41.2	0.35		R	
41.2	41.35	0.15		CBSH	
41.35	42.2	0.85		C	CA
42.2	42.5	0.3		DC	MD
42.5	43.1	0.6		C	MD
43.1	43.35	0.25		CBSH	
43.35	47.55	4.2		R	
47.55	47.7	0.15		CR	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-07	**continued**				
47.7	47.95	0.25		CBSH	
47.95	50.3	2.35		R	
50.3	50.75	0.45		ASH	ASH BAND
50.75	53.5	2.75		R	
53.5	53.9	0.4		CBSH	
53.9	54.3	0.4		R	
54.3	54.45	0.15		CBSH	
54.45	54.8	0.35		C	DK
54.8	55.05	0.25		CR	DK
55.05	55.3	0.25		CBSH	
55.3	56.7	1.4		R	
56.7	56.9	0.2		CBSH	
56.9	57.25	0.35		C	DL
57.25	57.45	0.2		DC	DL
57.45	66.7	9.25		R	
66.7	67.05	0.35		CBSH	
67.05	68.7	1.65		R	
68.7	69.45	0.75		CBSH	
69.45	70.1	0.65		C	MC
70.1	70.35	0.25		CBSH	
70.35	71.3	0.95		R	
71.3	71.75	0.45		CBSH	
71.75	90.3	18.55		R	
90.3	90.85	0.55		CBSH	
90.85	91.5	0.65		R	
91.5	92	0.5		CBSH	
92	92.3	0.3		R	
92.3	92.5	0.2		IRST	IRONSTONE
92.5	99.3	6.8		R	
99.3	99.4	0.1		CBSH	CBA?
99.4	105.4	6		R	
105.4	105.95	0.55		C	CBB
105.95	127.9	21.95		R	
127.9	128.3	0.4		CBSH	
128.3	129.5	1.2		R	
129.5	129.7	0.2		CBSH	
129.7	130.55	0.85		C	CCA
130.55	131.55	1		C	CCB
131.55	131.7	0.15		DC	CCB

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-07	**continued**				
131.7	132	0.3		C	CCB
132	132.2	0.2		CR	
132.2	133.3	1.1		R	
133.3	133.5	0.2		CBSH	MB
133.5	133.8	0.3		CR	MB
133.8	133.9	0.1		DC	MB
133.9	134.4	0.5		CBSH	MB
134.4	138.15	3.75		R	
138.15	138.5	0.35		CBSH	
138.5	139	0.5		R	
139	139.7	0.7		CBSH	
139.7	140.05	0.35		R	
140.05	140.25	0.2		CBSH	MAA
140.25	140.4	0.15		DC	MAA
140.4	140.55	0.15		CR	MAA
140.55	140.85	0.3		DC	MAA
140.85	146.6	5.75		R	
146.6	147.2	0.6		CBSH	
147.2	150.65	3.45		R	
150.65	151	0.35		CBSH	
151	157.15	6.15		R	
157.15	157.7	0.55		CBSH	
157.7	164.55	6.85		R	
164.55	164.8	0.25		CBSH	
164.8	164.95	0.15		CR	
164.95	165.1	0.15		CBSH	
165.1	165.3	0.2		R	
165.3	165.5	0.2		CBSH	
165.5	165.75	0.25		CR	
165.75	165.9	0.15		DC	
165.9	166.2	0.3		CR	
166.2	166.4	0.2		CBSH	
166.4	179.35	12.95		R	
179.35	179.7	0.35		IRST	IRONSTONE
179.7	182.2	2.5		R	
182.2	182.7	0.5		CBSH	
182.7	186.9	4.2		R	
186.9	187.1	0.2		IRST	IRONSTONE
187.1	187.4	0.3		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-07	**continued**				
187.4	187.8	0.4		CBSH	
187.8	188.4	0.6		R	
188.4	188.7	0.3		CBSH	
188.7	188.8	0.1		DC	MA
188.8	190.35	1.55		C	MA
190.35	197.8	7.45		R	
197.8	198.8	1		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM19-08					
0	4.85	4.85		DRIFT	DRIFT
4.85	5.6	0.75		R	
5.6	5.8	0.2		CR	
5.8	6.05	0.25		CBSH	
6.05	11.9	5.85		R	
11.9	12.3	0.4		CR	MF
12.3	12.8	0.5		CBSH	MF
12.8	22.85	10.05		R	
22.85	23.25	0.4		CBSH	MEA
23.25	23.45	0.2		R	
23.45	23.6	0.15		CR	MEB
23.6	23.8	0.2		C	MEB
23.8	23.9	0.1		DC	MEB
23.9	33.4	9.5		R	
33.4	33.6	0.2		CBSH	
33.6	33.8	0.2		DC	CA
33.8	36.65	2.85		C	CA
36.65	37.65	1		C	MD
37.65	37.85	0.2		DC	MD
37.85	44.5	6.65		R	
44.5	44.85	0.35		CR	DL
44.85	45.85	1		R	
45.85	46.5	0.65		CBSH	
46.5	50.95	4.45		R	
50.95	51.65	0.7		IRST	IRONSTONE
51.65	57.1	5.45		R	
57.1	57.3	0.2		FAULT	PROBABLE
57.3	69.05	11.75		R	
69.05	69.3	0.25		CBSH	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-08	**continued**				
69.3	70.4	1.1		C	CA
70.4	70.6	0.2		DC	MD
70.6	71.15	0.55		C	MD
71.15	71.4	0.25		CR	
71.4	78.5	7.1		R	
78.5	79.2	0.7		ASH	ASH BAND
79.2	80.6	1.4		R	
80.6	80.75	0.15		IRST	IRONSTONE
80.75	82.25	1.5		R	
82.25	82.6	0.35		CBSH	
82.6	82.9	0.3		R	
82.9	83.15	0.25		CBSH	
83.15	83.75	0.6		C	DK
83.75	84	0.25		CR	
84	84.3	0.3		CBSH	
84.3	85.8	1.5		R	
85.8	85.95	0.15		IRST	IRONSTONE
85.95	86.2	0.25		CBSH	
86.2	86.9	0.7		C	DL
86.9	92.2	5.3		R	
92.2	92.7	0.5		CBSH	
92.7	101.2	8.5		R	
101.2	101.6	0.4		CBSH	
101.6	103.4	1.8		R	
103.4	103.8	0.4		CBSH	
103.8	104.15	0.35		DC	MC
104.15	104.6	0.45		C	MC
104.6	104.9	0.3		DC	MC
104.9	105.2	0.3		CR	
105.2	114.65	9.45		R	
114.65	115.05	0.4		CBSH	
115.05	125.8	10.75		R	
125.8	126.55	0.75		CBSH	
126.55	127.4	0.85		R	
127.4	127.75	0.35		CBSH	
127.75	129.8	2.05		R	
129.8	130.2	0.4		CBSH	
130.2	141.2	11		R	
141.2	141.45	0.25		CBSH	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-08	**continued**				
141.45	141.6	0.15		DC	CBA
141.6	141.75	0.15		C	CBA
141.75	141.9	0.15		DC	CBB
141.9	142.1	0.2		C	CBB
142.1	142.3	0.2		CBSH	
142.3	167.3	25		R	
167.3	167.7	0.4		CBSH	MM
167.7	169.2	1.5		R	
169.2	170.7	1.5		C	CC
170.7	170.8	0.1		CR	
170.8	171.05	0.25		CBSH	
171.05	171.5	0.45		R	
171.5	172.05	0.55		CBSH	MB
172.05	172.35	0.3		C	MB
172.35	172.5	0.15		CR	MB
172.5	176.7	4.2		R	
176.7	177.05	0.35		CBSH	
177.05	177.5	0.45		R	
177.5	177.9	0.4		CBSH	
177.9	178.1	0.2		R	
178.1	178.5	0.4		CBSH	
178.5	179	0.5		R	
179	179.15	0.15		CBSH	
179.15	179.4	0.25		DC	MAA
179.4	179.6	0.2		CR	MAA
179.6	179.7	0.1		DC	MAA
179.7	179.9	0.2		CBSH	
179.9	183.2	3.3		R	
183.2	183.4	0.2		CBSH	
183.4	186.4	3		R	
186.4	186.85	0.45		IRST	IRONSTONE
186.85	188.3	1.45		R	
188.3	188.65	0.35		CBSH	
188.65	194.3	5.65		R	
194.3	194.95	0.65		CBSH	
194.95	195.1	0.15		ASH	ASH BAND
195.1	203	7.9		R	
203	203.3	0.3		CBSH	
203.3	203.45	0.15		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-08	**continued**				
203.45	203.65	0.2		CBSH	
203.65	203.7	0.05		DC	
203.7	203.8	0.1		CR	
203.8	204.1	0.3		DC	
204.1	204.4	0.3		CR	
204.4	204.6	0.2		CBSH	
204.6	212.7	8.1		R	
212.7	213	0.3		IRST	IRONSTONE
213	214.25	1.25		R	
214.25	214.4	0.15		CBSH	
214.4	220.2	5.8		R	
220.2	220.6	0.4		CBSH	
220.6	225.7	5.1		R	
225.7	226.2	0.5		CBSH	
226.2	226.9	0.7		R	
226.9	228.65	1.75		C	MA
228.65	231	2.35		R	
231	235	4		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM19-09					
0	30.05	30.05		DRIFT	DRIFT
30.05	30.6	0.55		R	
30.6	30.8	0.2		CBSH	
30.8	30.9	0.1		R	
30.9	31	0.1		CBSH	
31	33	2		R	
33	33.25	0.25		CBSH	
33.25	33.55	0.3		R	
33.55	33.7	0.15		CBSH	
33.7	33.85	0.15		R	
33.85	34	0.15		CBSH	
34	43.05	9.05		R	
43.05	43.15	0.1		FAULT	PROBABLE
43.15	59.65	16.5		R	
59.65	60.1	0.45		CBSH	
60.1	78.85	18.75		R	
78.85	79	0.15		CBSH	
79	79.3	0.3		CR	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-08	**continued**				
79.3	79.55	0.25		CBSH	
79.55	84	4.45		R	
84	84.25	0.25		CBSH	
84.25	85.3	1.05		R	
85.3	85.75	0.45		CBSH	
85.75	87.5	1.75		R	
87.5	87.8	0.3		CBSH	
87.8	88.6	0.8		R	
88.6	88.9	0.3		CR	
88.9	89.15	0.25		DC	DL
89.15	89.5	0.35		C	DL
89.5	89.6	0.1		DC	DL
89.6	89.75	0.15		C	DL
89.75	90	0.25		CR	
90	90.2	0.2		CBSH	
90.2	91.5	1.3		R	
91.5	91.65	0.15		CBSH	
91.65	91.8	0.15		CR	
91.8	92.15	0.35		CBSH	
92.15	92.3	0.15		CR	
92.3	92.85	0.55		CBSH	
92.85	94.05	1.2		R	
94.05	94.2	0.15		CBSH	
94.2	94.5	0.3		CR	
94.5	94.6	0.1		CBSH	
94.6	98.4	3.8		R	
98.4	98.5	0.1		CBSH	
98.5	98.75	0.25		R	
98.75	98.9	0.15		FAULT	POSSIBLE
98.9	106	7.1		R	
106	106.25	0.25		CBSH	
106.25	107.5	1.25		R	
107.5	107.8	0.3		CBSH	
107.8	109	1.2		R	
109	110.5	1.5		R	MCD
110.5	111.2	0.7		CBSH	MCD
111.2	111.6	0.4		R	MCD
111.6	111.8	0.2		CBSH	MCD
111.8	112	0.2		CR	MCD

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-09	**continued**				
112	112.2	0.2		CBSH	MCD
112.2	113.9	1.7		R	MCD
113.9	116.05	2.15		R	
116.05	116.25	0.2		CBSH	
116.25	116.4	0.15		CR	
116.4	116.55	0.15		CBSH	
116.55	123.9	7.35		R	
123.9	124	0.1		FAULT	PROBABLE
124	131.5	7.5		R	
131.5	131.6	0.1		FAULT	POSSIBLE
131.6	133.7	2.1		R	
133.7	134.4	0.7		C	MC
134.4	134.5	0.1		DC	MC
134.5	134.7	0.2		CR	
134.7	135.25	0.55		R	
135.25	135.8	0.55		CBSH	
135.8	135.9	0.1		R	
135.9	136.85	0.95		CBSH	
136.85	137.8	0.95		R	
137.8	138	0.2		CBSH	
138	143.05	5.05		R	
143.05	143.6	0.55		CBSH	
143.6	144.3	0.7		R	
144.3	144.7	0.4		CBSH	
144.7	144.9	0.2		CR	
144.9	145.05	0.15		CBSH	
145.05	145.3	0.25		R	
145.3	146.15	0.85		CBSH	
146.15	146.5	0.35		R	
146.5	146.65	0.15		CBSH	
146.65	146.85	0.2		CR	
146.85	147	0.15		CBSH	
147	147.5	0.5		R	
147.5	147.95	0.45		CBSH	
147.95	148.2	0.25		R	
148.2	148.5	0.3		CBSH	
148.5	148.7	0.2		R	
148.7	148.95	0.25		CBSH	
148.95	153.4	4.45		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-09	**continued**				
153.4	153.9	0.5		CBSH	
153.9	157.1	3.2		R	
157.1	157.4	0.3		CBSH	
157.4	157.6	0.2		CR	CBA
157.6	157.85	0.25		DC	CBA
157.85	158	0.15		CBSH	
158	158.4	0.4		R	
158.4	158.7	0.3		CBSH	
158.7	160.1	1.4		R	
160.1	160.25	0.15		CBSH	
160.25	167.8	7.55		R	
167.8	168.2	0.4		CBSH	
168.2	168.9	0.7		R	
168.9	170	1.1		CBSH	
170	170.3	0.3		R	
170.3	170.7	0.4		CBSH	
170.7	175.4	4.7		R	
175.4	175.5	0.1		CBSH	
175.5	175.9	0.4		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM19-10					
0	4.7	4.7		DRIFT	DRIFT
4.7	6.7	2		R	
6.7	6.85	0.15		CBSH	
6.85	7.75	0.9		R	
7.75	8.05	0.3		CBSH	
8.05	10.1	2.05		R	
10.1	10.2	0.1		CBSH	
10.2	31.05	20.85		R	
31.05	31.5	0.45		CBSH	
31.5	32.35	0.85		R	
32.35	32.5	0.15		CBSH	
32.5	37.45	4.95		R	
37.45	37.75	0.3		CBSH	
37.75	37.95	0.2		DC	
37.95	38.2	0.25		C	
38.2	38.5	0.3		DC	
38.5	39.15	0.65		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-10	**continued**				
39.15	39.4	0.25		C	
39.4	39.6	0.2		CBSH	
39.6	40.65	1.05		R	
40.65	41.05	0.4		IRST	IRONSTONE
41.05	41.15	0.1		R	
41.15	41.55	0.4		CBSH	
41.55	41.85	0.3		DC	
41.85	42.4	0.55		CBSH	
42.4	42.7	0.3		R	
42.7	43	0.3		CBSH	
43	44.15	1.15		C	DL
44.15	44.65	0.5		CBSH	
44.65	46.1	1.45		R	
46.1	46.5	0.4		CBSH	
46.5	48.4	1.9		R	
48.4	48.6	0.2		CBSH	
48.6	48.85	0.25		DC	
48.85	50.95	2.1		R	
50.95	51.35	0.4		CBSH	
51.35	55.85	4.5		R	
55.85	56.4	0.55		CBSH	
56.4	56.65	0.25		R	
56.65	56.8	0.15		IRST	IRONSTONE
56.8	57.15	0.35		R	
57.15	57.6	0.45		CBSH	
57.6	58	0.4		R	
58	58.2	0.2		CBSH	
58.2	58.35	0.15		CR	
58.35	58.6	0.25		CBSH	
58.6	58.9	0.3		R	
58.9	59.5	0.6		CBSH	
59.5	59.7	0.2		R	
59.7	60	0.3		CBSH	
60	60.7	0.7		R	MCD
60.7	62.2	1.5		R	
62.2	62.65	0.45		CBSH	
62.65	77.3	14.65		R	
77.3	77.5	0.2		CR	
77.5	77.55	0.05		DC	MC

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-10	**continued**				
77.55	78	0.45		C	MC
78	78.2	0.2		DC	MC
78.2	78.3	0.1		CBSH	
78.3	80.3	2		R	
80.3	80.6	0.3		CBSH	
80.6	81.9	1.3		R	
81.9	82.3	0.4		CBSH	
82.3	83.2	0.9		R	
83.2	84	0.8		CBSH	
84	84.85	0.85		R	
84.85	85.1	0.25		CBSH	
85.1	86.78	1.68		R	
86.78	86.9	0.12		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM19-11					
0	14.5	14.5		DRIFT	DRIFT
14.5	19.05	4.55		R	
19.05	19.45	0.4		CBSH	
19.45	19.9	0.45		FAULT	PROBABLE
19.9	22.1	2.2		C	CA
22.1	22.55	0.45		C	MD
22.55	24.8	2.25		FAULT	PROBABLE
24.8	25.2	0.4		R	
25.2	25.5	0.3		CBSH	
25.5	27.45	1.95		R	
27.45	27.8	0.35		CBSH	
27.8	33.9	6.1		R	
33.9	34.25	0.35		IRST	IRONSTONE
34.25	48.4	14.15		R	
48.4	48.65	0.25		CBSH	
48.65	48.9	0.25		CR	
48.9	50.5	1.6		R	
50.5	51.15	0.65		CBSH	
51.15	52.4	1.25		R	
52.4	52.5	0.1		FAULT	POSSIBLE
52.5	61.75	9.25		R	
61.75	62	0.25		CBSH	
62	62.2	0.2		CR	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-11	**continued**				
62.2	62.5	0.3		CBSH	
62.5	62.9	0.4		R	
62.9	63.4	0.5		C	
63.4	63.7	0.3		CBSH	
63.7	63.9	0.2		R	
63.9	64	0.1		FAULT	POSSIBLE
64	64.8	0.8		R	
64.8	65.1	0.3		CBSH	
65.1	65.55	0.45		DC	
65.55	67.2	1.65		C	
67.2	67.65	0.45		CBSH	
67.65	68.1	0.45		DC	
68.1	68.2	0.1		CBSH	
68.2	68.65	0.45		ASH	ASH BAND
68.65	68.8	0.15		CBSH	
68.8	69.85	1.05		R	
69.85	70.05	0.2		CBSH	
70.05	70.9	0.85		C	DL
70.9	71.15	0.25		DC	DL
71.15	71.3	0.15		CBSH	
71.3	72.2	0.9		R	
72.2	72.55	0.35		CBSH	
72.55	74.35	1.8		R	
74.35	74.75	0.4		DC	
74.75	80.1	5.35		R	
80.1	80.2	0.1		IRST	IRONSTONE
80.2	86.5	6.3		R	
86.5	86.65	0.15		CBSH	
86.65	87.1	0.45		R	
87.1	87.9	0.8		R	MCD
87.9	88.15	0.25		CR	MCD
88.15	88.75	0.6		CBSH	MCD
88.75	89.7	0.95		R	MCD
89.7	90.95	1.25		R	
90.95	91.35	0.4		CBSH	
91.35	97.8	6.45		R	
97.8	98.1	0.3		C	MC
98.1	98.55	0.45		DC	MC
98.55	98.8	0.25		CBSH	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-11	**continued**				
98.8	101.4	2.6		R	
101.4	101.7	0.3		CBSH	
101.7	105.45	3.75		R	
105.45	105.8	0.35		CBSH	
105.8	110.2	4.4		R	
110.2	110.6	0.4		CBSH	
110.6	114.65	4.05		R	
114.65	115	0.35		CBSH	
115	124.25	9.25		R	
124.25	124.4	0.15		CR	CBA
124.4	124.6	0.2		C	CBA
124.6	124.9	0.3		DC	CBA
124.9	135.78	10.88		R	
135.78	135.9	0.12		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM19-12					
0	20.65	20.65		DRIFT	DRIFT
20.65	23.05	2.4		R	
23.05	23.5	0.45		CBSH	
23.5	25.55	2.05		C	CA
25.55	26.3	0.75		C	MD
26.3	26.5	0.2		CBSH	
26.5	26.9	0.4		R	
26.9	28	1.1		CBSH	
28	30.4	2.4		R	
30.4	30.75	0.35		CBSH	
30.75	32.3	1.55		R	
32.3	32.55	0.25		IRST	IRONSTONE
32.55	34.4	1.85		R	
34.4	34.75	0.35		CBSH	
34.75	52.7	17.95		R	
52.7	53.35	0.65		CBSH	
53.35	53.6	0.25		CR	
53.6	53.8	0.2		C	
53.8	54	0.2		CR	
54	55.4	1.4		R	
55.4	56.05	0.65		CBSH	
56.05	56.3	0.25		C	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-12	**continued**				
56.3	56.55	0.25		CR	
56.55	58.2	1.65		R	
58.2	58.45	0.25		CBSH	
58.45	59.05	0.6		C	DL
59.05	59.3	0.25		DC	DL
59.3	59.4	0.1		CBSH	
59.4	60.6	1.2		R	
60.6	60.75	0.15		FAULT	PROBABLE
60.75	60.9	0.15		CBSH	
60.9	61.9	1		R	
61.9	62.15	0.25		CBSH	
62.15	62.9	0.75		R	
62.9	63.15	0.25		CBSH	
63.15	63.5	0.35		DC	
63.5	64.1	0.6		CBSH	
64.1	66.15	2.05		R	
66.15	66.35	0.2		CR	
66.35	66.6	0.25		DC	DL
66.6	67.65	1.05		C	DL
67.65	67.9	0.25		DC	DL
67.9	68.2	0.3		CR	
68.2	69.25	1.05		R	
69.25	69.7	0.45		CBSH	
69.7	72.1	2.4		R	
72.1	72.3	0.2		CBSH	
72.3	72.5	0.2		DC	
72.5	72.7	0.2		CBSH	
72.7	74.85	2.15		R	
74.85	75.25	0.4		CBSH	
75.25	82.75	7.5		R	
82.75	83.1	0.35		CR	
83.1	85	1.9		R	MCD
85	85.1	0.1		FAULT	PROBABLE
85.1	87.8	2.7		R	
87.8	88.15	0.35		CBSH	
88.15	88.3	0.15		CR	
88.3	88.6	0.3		CBSH	
88.6	90.8	2.2		R	
90.8	91.05	0.25		CR	DL

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-12	**continued**				
91.05	91.45	0.4		CBSH	DL
91.45	91.85	0.4		CR	DL
91.85	92	0.15		CBSH	
92	94.15	2.15		R	
94.15	94.5	0.35		CBSH	
94.5	104.6	10.1		R	
104.6	105.2	0.6		CBSH	
105.2	106	0.8		R	
106	106.3	0.3		CBSH	
106.3	108	1.7		R	MCD
108	108.3	0.3		CBSH	MCD
108.3	108.8	0.5		R	MCD
108.8	109.25	0.45		CBSH	MCD
109.25	110.55	1.3		R	MCD
110.55	110.65	0.1		FAULT	POSSIBLE
110.65	110.7	0.05		R	MCD
110.7	111	0.3		CBSH	MCD
111	111.4	0.4		R	MCD
111.4	111.8	0.4		CBSH	MCD
111.8	113.6	1.8		R	MCD
113.6	114.05	0.45		CBSH	
114.05	120.95	6.9		R	
120.95	121.15	0.2		DC	MC
121.15	121.45	0.3		C	MC
121.45	122.15	0.7		DC	MC
122.15	123.7	1.55		R	
123.7	124.2	0.5		CBSH	
124.2	124.4	0.2		R	
124.4	124.5	0.1		ASH	ASH BAND
124.5	124.9	0.4		R	
124.9	125.35	0.45		CBSH	
125.35	125.6	0.25		R	
125.6	127	1.4		CBSH	
127	129.5	2.5		R	
129.5	129.85	0.35		CBSH	
129.85	130.4	0.55		R	
130.4	130.5	0.1		CBSH	
130.5	130.65	0.15		CR	
130.65	130.8	0.15		CBSH	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-12	**continued**				
130.8	132	1.2		R	
132	132.4	0.4		CBSH	
132.4	140.2	7.8		R	
140.2	140.35	0.15		CBSH	CBA
140.35	145.35	5		R	
145.35	145.5	0.15		CBSH	CBB
145.5	146.6	1.1		R	
146.6	147.85	1.25		CBSH	CC?
147.85	151.2	3.35		R	
151.2	151.25	0.05		CBSH	MB?
151.25	155.95	4.7		R	
155.95	156.1	0.15		CBSH	MAA?
156.1	191.2	35.1		R	
191.2	191.4	0.2		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BM19-13					
0	11.75	11.75		DRIFT	DRIFT
11.75	24	12.25		R	
24	24.5	0.5		CBSH	
24.5	25	0.5		R	
25	25.25	0.25		CBSH	
25.25	26.25	1		R	
26.25	26.6	0.35		CBSH	
26.6	42.6	16		R	
42.6	42.7	0.1		CBSH	
42.7	43.15	0.45		CR	MG
43.15	43.3	0.15		DC	MG
43.3	43.6	0.3		CR	MG
43.6	43.7	0.1		CBSH	MG
43.7	43.8	0.1		CR	MG
43.8	44.6	0.8		CBSH	
44.6	47.65	3.05		R	
47.65	48	0.35		CBSH	MF
48	63.6	15.6		R	
63.6	63.85	0.25		CBSH	
63.85	64.5	0.65		DC	MEA
64.5	64.75	0.25		R	
64.75	65.1	0.35		CR	MEB

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-13	**continued**				
65.1	68.8	3.7		R	
68.8	69.15	0.35		CBSH	
69.15	74.85	5.7		R	
74.85	75.05	0.2		CR	
75.05	77.35	2.3		C	CA
77.35	77.7	0.35		DC	CA
77.7	77.85	0.15		C	CA
77.85	78.05	0.2		CBSH	
78.05	78.95	0.9		R	
78.95	79.55	0.6		CBSH	
79.55	79.7	0.15		R	
79.7	80.05	0.35		CBSH	
80.05	80.4	0.35		R	
80.4	80.85	0.45		C	MD
80.85	82.2	1.35		R	
82.2	82.55	0.35		CBSH	
82.55	82.9	0.35		R	
82.9	83.05	0.15		CBSH	
83.05	84.2	1.15		R	
84.2	84.3	0.1		CBSH	
84.3	84.4	0.1		FAULT	PROBABLE
84.4	85.05	0.65		C	CA
85.05	85.4	0.35		DC	CA
85.4	85.7	0.3		CBSH	
85.7	85.95	0.25		R	
85.95	86.25	0.3		CBSH	
86.25	86.55	0.3		CR	
86.55	87.15	0.6		C	MD
87.15	87.4	0.25		CBSH	
87.4	91.75	4.35		R	
91.75	91.85	0.1		FAULT	PROBABLE
91.85	91.95	0.1		CBSH	
91.95	92.3	0.35		C	CA
92.3	92.5	0.2		CR	
92.5	92.7	0.2		R	
92.7	92.9	0.2		CBSH	
92.9	93.3	0.4		C	MD
93.3	93.5	0.2		CBSH	
93.5	102.9	9.4		R	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-13	**continued**				
102.9	103.35	0.45		CBSH	
103.35	103.9	0.55		CR	DL
103.9	104.1	0.2		CBSH	
104.1	106.7	2.6		R	
106.7	107	0.3		CBSH	
107	111.7	4.7		R	
111.7	111.8	0.1		FAULT	PROBABLE
111.8	113.7	1.9		R	
113.7	114	0.3		CBSH	
114	120.05	6.05		R	
120.05	120.5	0.45		IRST	IRONSTONE
120.5	121.6	1.1		R	
121.6	121.8	0.2		DC	DL
121.8	122.15	0.35		C	DL
122.15	122.45	0.3		DC	DL
122.45	123.9	1.45		R	
123.9	124.25	0.35		CBSH	
124.25	126.4	2.15		R	
126.4	127	0.6		CBSH	
127	129.35	2.35		R	
129.35	129.5	0.15		FAULT	PROBABLE
129.5	129.9	0.4		CBSH	
129.9	130.3	0.4		R	
130.3	130.45	0.15		CR	
130.45	130.9	0.45		DC	DL
130.9	131.3	0.4		R	
131.3	131.5	0.2		CBSH	
131.5	136.8	5.3		R	
136.8	137.1	0.3		R	MCD
137.1	137.4	0.3		CBSH	MCD
137.4	139.1	1.7		R	MCD
139.1	139.8	0.7		CBSH	MCD
139.8	140.3	0.5		R	MCD
140.3	141.2	0.9		CBSH	MCD
141.2	142.7	1.5		R	MCD
142.7	143.4	0.7		CBSH	
143.4	143.8	0.4		C	
143.8	143.9	0.1		DC	
143.9	144.7	0.8		CBSH	

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-13	**continued**				
144.7	150.5	5.8		R	
150.5	150.8	0.3		CBSH	
150.8	165.7	14.9		R	
165.7	166.1	0.4		CBSH	
166.1	167.2	1.1		R	
167.2	167.5	0.3		C	MC
167.5	167.65	0.15		DC	MC
167.65	167.8	0.15		C	MC
167.8	168.05	0.25		DC	MC
168.05	168.3	0.25		CBSH	
168.3	169.1	0.8		R	
169.1	169.25	0.15		CBSH	
169.25	169.6	0.35		R	
169.6	170.15	0.55		CBSH	
170.15	173.9	3.75		R	
173.9	174.3	0.4		CR	
174.3	174.6	0.3		R	
174.6	174.8	0.2		CBSH	
174.8	181.2	6.4		R	
181.2	181.45	0.25		CBSH	
181.45	182.6	1.15		R	
182.6	182.8	0.2		CBSH	
182.8	182.95	0.15		CR	
182.95	183.2	0.25		CBSH	
183.2	189.1	5.9		R	
189.1	189.7	0.6		C	CBA
189.7	192.1	2.4		R	
192.1	192.3	0.2		CBSH	
192.3	192.85	0.55		C	CBB
192.85	193.05	0.2		CR	
193.05	193.3	0.25		CBSH	
193.3	201.8	8.5		R	
201.8	202.05	0.25		CBSH	MM
202.05	202.3	0.25		CR	MM
202.3	204.1	1.8		R	
204.1	204.35	0.25		CBSH	
204.35	205.7	1.35		C	CCA
205.7	208.1	2.4		C	CCB
208.1	208.3	0.2		DC	CCB

Table B-1: Interpretation (metres) of geophysics from Brule 2018-2019 boreholes (concluded)

From	*To*	*Apparent*		*Lithology*	*Name*
BM19-13	**continued**				
208.3	208.45	0.15		C	CCB
208.45	208.8	0.35		DC	CCB
208.8	209.05	0.25		CBSH	
209.05	209.85	0.8		R	
209.85	210.25	0.4		CBSH	MB
210.25	210.45	0.2		CR	MB
210.45	210.7	0.25		DC	MB
210.7	219.65	8.95		R	
219.65	219.9	0.25		CBSH	
219.9	220.3	0.4		CR	
220.3	220.5	0.2		C	MAA
220.5	220.85	0.35		DC	MAA
220.85	221.05	0.2		CR	
221.05	221.7	0.65		CBSH	
221.7	223.9	2.2		R	
223.9	224.25	0.35		CBSH	
224.25	228.6	4.35		R	
228.6	229	0.4		CBSH	
229	233.05	4.05		R	
233.05	233.55	0.5		CBSH	
233.55	238.9	5.35		R	
238.9	239.3	0.4		CBSH	
239.3	241.05	1.75		R	
241.05	241.25	0.2		CBSH	
241.25	241.55	0.3		DC	
241.55	241.8	0.25		CR	
241.8	242.1	0.3		R	
242.1	242.45	0.35		CBSH	
242.45	248.3	5.85		R	
248.3	248.7	0.4		CBSH	
248.7	250.78	2.08		R	
250.78	254.9	4.12		ND	NO DATA

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-07					
0	2.75	2.75		DRIFT	DRIFT
2.75	9.3	6.55		R	
9.3	9.65	0.35		CBSH	MG
9.65	15.2	5.55		R	
15.2	15.6	0.4		CBSH	MF
15.6	22.6	7		R	
22.6	22.9	0.3		IRST	IRONSTONE
22.9	38.1	15.2		R	
38.1	38.5	0.4		DC	MEA
38.5	39.1	0.6		R	
39.1	39.65	0.55		C	MEB
39.65	43.45	3.8		R	
43.45	43.8	0.35		CBSH	
43.8	50.8	7		R	
50.8	51.1	0.3		CBSH	
51.1	53.9	2.8		C	CA
53.9	54.1	0.2		CR	
54.1	54.45	0.35		CBSH	
54.45	55.15	0.7		CR	
55.15	55.4	0.25		CBSH	
55.4	55.75	0.35		CR	
55.75	56.15	0.4		R	
56.15	56.3	0.15		FAULT	PROBABLE
56.3	56.6	0.3		CBSH	
56.6	56.95	0.35		CR	
56.95	57.15	0.2		CBSH	
57.15	57.35	0.2		CR	
57.35	57.7	0.35		CBSH	
57.7	58	0.3		CR	
58	58.35	0.35		CBSH	
58.35	58.95	0.6		C	MD
58.95	59.15	0.2		CBSH	
59.15	65.7	6.55		R	
65.7	65.95	0.25		FAULT	PROBABLE
65.95	66.3	0.35		CBSH	
66.3	66.9	0.6		R	
66.9	67.5	0.6		C	MD
67.5	67.65	0.15		CBSH	

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-07	**continued**				
67.65	68	0.35		R	
68	68.3	0.3		CBSH	
68.3	69.6	1.3		R	
69.6	69.8	0.2		CBSH	
69.8	73.75	3.95		R	
73.75	74.05	0.3		CBSH	
74.05	74.45	0.4		DC	
74.45	74.65	0.2		CR	
74.65	75.1	0.45		R	
75.1	75.35	0.25		CBSH	
75.35	75.7	0.35		DC	
75.7	79.5	3.8		R	
79.5	80	0.5		DC	
80	82	2		R	
82	82.25	0.25		CBSH	
82.25	86.8	4.55		R	
86.8	87.2	0.4		C	DL
87.2	87.55	0.35		CBSH	
87.55	90.2	2.65		R	
90.2	90.3	0.1		FAULT	POSSIBLE
90.3	93.9	3.6		R	
93.9	94.5	0.6		CR	
94.5	97.8	3.3		R	
97.8	98.2	0.4		DC	
98.2	101.15	2.95		R	
101.15	101.25	0.1		CBSH	
101.25	101.5	0.25		CR	
101.5	101.65	0.15		CBSH	
101.65	103.8	2.15		R	
103.8	104.15	0.35		C	DL
104.15	104.45	0.3		DC	DL
104.45	104.7	0.25		CBSH	
104.7	104.9	0.2		R	
104.9	105.3	0.4		CBSH	
105.3	109.4	4.1		R	
109.4	112.55	3.15		R	MCD
112.55	112.9	0.35		CBSH	MCD
112.9	114.5	1.6		R	MCD

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-07	**continued**				
114.5	116.7	2.2		R	
116.7	116.9	0.2		CBSH	
116.9	119.8	2.9		R	
119.8	120.3	0.5		IRST	IRONSTONE
120.3	129.4	9.1		R	
129.4	129.7	0.3		IRST	IRONSTONE
129.7	130.15	0.45		R	
130.15	130.6	0.45		C	MC
130.6	131.1	0.5		DC	MC
131.1	131.3	0.2		CBSH	
131.3	131.95	0.65		R	
131.95	132.3	0.35		CBSH	
132.3	132.45	0.15		R	
132.45	132.7	0.25		CBSH	
132.7	133.15	0.45		CR	
133.15	133.45	0.3		CBSH	
133.45	137.45	4		R	
137.45	137.85	0.4		CR	
137.85	138.15	0.3		R	
138.15	138.4	0.25		CBSH	
138.4	146.8	8.4		R	
146.8	147.2	0.4		CBSH	
147.2	152.95	5.75		R	
152.95	153.45	0.5		C	CBA
153.45	158.2	4.75		R	
158.2	158.8	0.6		C	CBB
158.8	159	0.2		CR	
159	167.65	8.65		R	
167.65	168.1	0.45		C	
168.1	170.3	2.2		R	
170.3	174.3	4		C	CC
174.3	174.7	0.4		DC	CC
174.7	175	0.3		C	CC
175	176.4	1.4		R	
176.4	176.9	0.5		CBSH	
176.9	177.3	0.4		C	MB
177.3	183.14	5.84		R	
183.14	183.4	0.26		ND	NO DATA

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-09					
0	5.8	5.8		DRIFT	DRIFT
5.8	6.55	0.75		R	
6.55	6.7	0.15		C	
6.7	10.4	3.7		R	
10.4	10.7	0.3		IRST	IRONSTONE
10.7	20.65	9.95		R	
20.65	20.95	0.3		FAULT	POSSIBLE
20.95	31.4	10.45		R	
31.4	31.8	0.4		IRST	IRONSTONE
31.8	39	7.2		R	
39	39.2	0.2		CBSH	MG
39.2	39.5	0.3		CR	MG
39.5	39.7	0.2		DC	MG
39.7	40.6	0.9		CBSH	MG
40.6	40.75	0.15		R	MG
40.75	40.9	0.15		CBSH	MG
40.9	41.1	0.2		R	MG
41.1	41.4	0.3		CBSH	MG
41.4	44.3	2.9		R	
44.3	44.7	0.4		IRST	IRONSTONE
44.7	45.5	0.8		R	
45.5	45.75	0.25		CR	MF
45.75	62.05	16.3		R	
62.05	62.4	0.35		DC	MEA
62.4	62.5	0.1		CBSH	MEA
62.5	63	0.5		R	
63	63.25	0.25		DC	MEB
63.25	63.4	0.15		CR	MEB
63.4	66.8	3.4		R	
66.8	67.2	0.4		CBSH	
67.2	72.25	5.05		R	
72.25	72.45	0.2		CBSH	
72.45	72.7	0.25		CR	
72.7	72.85	0.15		DC	CA
72.85	76.55	3.7		C	CA
76.55	76.85	0.3		CR	
76.85	77.2	0.35		FAULT	ESTABLISHED
77.2	77.5	0.3		CR	

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-09	**continued**				
77.5	79.85	2.35		C	CA
79.85	80.05	0.2		CR	
80.05	81.4	1.35		R	
81.4	82.1	0.7		CBSH	
82.1	82.8	0.7		CR	
82.8	84	1.2		C	MD
84	84.2	0.2		DC	MD
84.2	84.45	0.25		CBSH	
84.45	91.4	6.95		R	
91.4	214	122.6		ND	NO DATA
BR10-11					
From	*To*	*Apparent*		*Lithology*	*Name*
0	1.2	1.2		DRIFT	DRIFT
1.2	20	18.8		R	
20	20.6	0.6		CBSH	
20.6	22.5	1.9		R	
22.5	22.8	0.3		ASH	ASH BAND
22.8	22.95	0.15		CBSH	MG
22.95	23.65	0.7		CR	MG
23.65	24.5	0.85		CBSH	MG
24.5	24.9	0.4		R	
24.9	25.05	0.15		CBSH	
25.05	28.4	3.35		R	
28.4	28.45	0.05		CBSH	MF
28.45	45.15	16.7		R	
45.15	45.45	0.3		CR	MEA
45.45	45.6	0.15		CBSH	MEA
45.6	45.95	0.35		IRST	IRONSTONE
45.95	46.3	0.35		CR	MEB
46.3	50	3.7		R	
50	50.4	0.4		CBSH	
50.4	57.75	7.35		R	
57.75	58.1	0.35		DC	CA
58.1	60.35	2.25		C	CA
60.35	61.35	1		R	
61.35	62.65	1.3		CBSH	
62.65	62.95	0.3		C	MD

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-11	**continued**				
62.95	63.05	0.1		DC	MD
63.05	63.15	0.1		C	MD
63.15	63.4	0.25		DC	MD
63.4	63.5	0.1		CBSH	
63.5	71.45	7.95		R	
71.45	74.7	3.25		CBSH	
74.7	75	0.3		R	
75	75.45	0.45		CR	DL
75.45	75.85	0.4		R	
75.85	76.05	0.2		CBSH	
76.05	76.1	0.05		FAULT	POSSIBLE
76.1	76.2	0.1		CBSH	
76.2	77.65	1.45		R	
77.65	78.05	0.4		CR	DL
78.05	84.4	6.35		R	
84.4	86.85	2.45		R	MCD
86.85	87.2	0.35		CBSH	MCD
87.2	87.75	0.55		ASH	MCD
87.75	88	0.25		CBSH	MCD
88	88.4	0.4		R	MCD
88.4	88.6	0.2		CBSH	MCD
88.6	88.8	0.2		CR	MCD
88.8	89.2	0.4		C	MCD
89.2	89.4	0.2		CR	MCD
89.4	89.7	0.3		R	MCD
89.7	90.05	0.35		CBSH	MCD
90.05	91	0.95		R	MCD
91	92.55	1.55		R	
92.55	92.85	0.3		CBSH	
92.85	93.4	0.55		R	
93.4	93.75	0.35		CBSH	
93.75	101.9	8.15		R	
101.9	102.2	0.3		CBSH	
102.2	102.8	0.6		R	
102.8	103.3	0.5		CBSH	
103.3	105.05	1.75		R	
105.05	105.45	0.4		IRST	IRONSTONE
105.45	107.3	1.85		R	

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-11	**continued**				
107.3	107.7	0.4		CBSH	
107.7	108.2	0.5		R	
108.2	108.4	0.2		CBSH	
108.4	108.6	0.2		DC	MC
108.6	108.8	0.2		C	MC
108.8	109.1	0.3		DC	MC
109.1	109.3	0.2		CBSH	
109.3	111.1	1.8		R	
111.1	111.4	0.3		CBSH	
111.4	111.9	0.5		R	
111.9	112.3	0.4		CBSH	
112.3	113.95	1.65		R	
113.95	114.65	0.7		CBSH	
114.65	122.7	8.05		R	
122.7	123.15	0.45		CBSH	
123.15	123.8	0.65		R	
123.8	124.2	0.4		CBSH	
124.2	131.8	7.6		R	
131.8	132.3	0.5		C	CBA
132.3	132.45	0.15		CBSH	
132.45	134.4	1.95		R	
134.4	135.1	0.7		C	CBB
135.1	135.35	0.25		CBSH	
135.35	149.6	14.25		R	
149.6	149.9	0.3		CBSH	MM
149.9	151	1.1		R	
151	152.65	1.65		C	CAA
152.65	155.35	2.7		C	CAB
155.35	155.7	0.35		DC	CAB
155.7	156	0.3		C	CAB
156	156.1	0.1		FAULT	POSSIBLE
156.1	156.2	0.1		CBSH	
156.2	157.35	1.15		R	
157.35	157.7	0.35		CBSH	MB
157.7	157.9	0.2		CR	MB
157.9	158.2	0.3		DC	MB
158.2	160.5	2.3		R	
160.5	160.85	0.35		IRST	IRONSTONE

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-11	**continued**				
160.85	164.7	3.85		R	
164.7	165.1	0.4		CBSH	
165.1	166	0.9		R	
166	166.85	0.85		CBSH	MAA
166.85	167.15	0.3		CR	MAA
167.15	167.6	0.45		DC	MAA
167.6	167.7	0.1		CBSH	MAA
167.7	173.1	5.4		R	
173.1	173.35	0.25		IRST	IRONSTONE
173.35	173.97	0.62		R	
173.97	175.26	1.29		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BR10-13					
0	5	5		DRIFT	DRIFT
5	8.5	3.5		R	
8.5	8.7	0.2		C	MKA
8.7	8.9	0.2		DC	MKA
8.9	9.4	0.5		CBSH	MKA
9.4	10.5	1.1		R	
10.5	10.9	0.4		CR	MKB
10.9	26.25	15.35		R	
26.25	26.4	0.15		CBSH	
26.4	36.85	10.45		R	
36.85	37.1	0.25		CBSH	
37.1	38.6	1.5		R	
38.6	39.1	0.5		CBSH	
39.1	57	17.9		R	
57	57.35	0.35		CBSH	MG
57.35	57.95	0.6		CR	MG
57.95	58.4	0.45		CBSH	MG
58.4	62.9	4.5		R	
62.9	63	0.1		ASH	ASH BAND
63	63.35	0.35		CBSH	MF
63.35	75.5	12.15		R	
75.5	75.8	0.3		DC	MEA
75.8	75.9	0.1		CR	MEA
75.9	76.3	0.4		CBSH	

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-13	**continued**				
76.3	76.65	0.35		DC	MEB
76.65	80.9	4.25		R	
80.9	81.1	0.2		CBSH	
81.1	86.15	5.05		R	
86.15	86.3	0.15		CBSH	
86.3	89	2.7		C	CA
89	89.9	0.9		R	
89.9	90.6	0.7		CBSH	
90.6	91.65	1.05		C	MD
91.65	91.8	0.15		CBSH	
91.8	96.15	4.35		R	
96.15	96.5	0.35		CBSH	
96.5	97	0.5		R	
97	97.35	0.35		CR	
97.35	97.9	0.55		R	
97.9	98.3	0.4		CBSH	
98.3	99.85	1.55		R	
99.85	100.2	0.35		CR	DL
100.2	116.5	16.3		R	
116.5	116.65	0.15		R	MCD
116.65	116.9	0.25		CBSH	MCD
116.9	117.3	0.4		R	MCD
117.3	117.55	0.25		IRST	MCD
117.55	117.95	0.4		R	MCD
117.95	118.25	0.3		CBSH	MCD
118.25	119.05	0.8		R	MCD
119.05	119.3	0.25		C	MCD
119.3	119.5	0.2		DC	MCD
119.5	120.3	0.8		R	MCD
120.3	120.7	0.4		CBSH	MCD
120.7	120.9	0.2		R	MCD
120.9	126.6	5.7		R	
126.6	126.95	0.35		CBSH	
126.95	129.2	2.25		R	
129.2	129.4	0.2		FAULT	POSSIBLE
129.4	130.45	1.05		R	
130.45	130.7	0.25		CBSH	
130.7	132.8	2.1		R	

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-13	**continued**				
132.8	133.1	0.3		CBSH	
133.1	142.3	9.2		R	
142.3	142.6	0.3		CBSH	
142.6	143.1	0.5		R	
143.1	143.8	0.7		C	MC
143.8	145.75	1.95		R	
145.75	146.15	0.4		CBSH	
146.15	147.6	1.45		R	
147.6	147.95	0.35		CBSH	
147.95	148.2	0.25		R	
148.2	148.5	0.3		CBSH	
148.5	157.5	9		R	
157.5	158.05	0.55		CBSH	
158.05	159.65	1.6		R	
159.65	159.8	0.15		IRST	IRONSTONE
159.8	164.8	5		R	
164.8	165.6	0.8		C	CBA
165.6	166.15	0.55		R	
166.15	166.6	0.45		CBSH	
166.6	167.35	0.75		R	CBB
167.35	167.6	0.25		CBSH	
167.6	189.2	21.6		R	
189.2	189.55	0.35		CBSH	MM
189.55	190.3	0.75		R	
190.3	191.9	1.6		C	CCA
191.9	195.25	3.35		C	CCB
195.25	195.4	0.15		FAULT	POSSIBLE
195.4	195.55	0.15		C	CCB
195.55	195.8	0.25		DC	CCB
195.8	197	1.2		R	
197	197.35	0.35		CBSH	
197.35	197.75	0.4		R	
197.75	198.1	0.35		CBSH	MB
198.1	198.6	0.5		DC	MB
198.6	204.07	5.47		R	
204.07	205.74	1.67		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BR10-40					
0	2.5	2.5		DRIFT	DRIFT
2.5	8.2	5.7		R	
8.2	8.8	0.6		CBSH	
8.8	9.85	1.05		C	CA
9.85	10.4	0.55		C	MD

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-40	**continued**				
10.4	14.2	3.8		R	
14.2	14.6	0.4		CBSH	
14.6	15	0.4		R	
15	15.3	0.3		ASH	ASH BAND
15.3	18.4	3.1		R	
18.4	19	0.6		CBSH	
19	19.35	0.35		C	
19.35	19.6	0.25		CR	
19.6	21.3	1.7		R	
21.3	21.85	0.55		C	
21.85	24.15	2.3		R	
24.15	24.5	0.35		CBSH	
24.5	24.9	0.4		R	
24.9	25.2	0.3		CBSH	
25.2	27.2	2		R	
27.2	27.75	0.55		CBSH	
27.75	28.7	0.95		R	
28.7	29.1	0.4		CBSH	
29.1	29.5	0.4		R	
29.5	30	0.5		C	DL
30	30.1	0.1		ASH	ASH BAND
30.1	38.9	8.8		R	
38.9	39.1	0.2		CBSH	
39.1	47.9	8.8		R	
47.9	48.15	0.25		CBSH	
48.15	48.75	0.6		R	
48.75	49.2	0.45		CBSH	
49.2	56.7	7.5		R	
56.7	57	0.3		CBSH	CBA
57	62.85	5.85		R	
62.85	63	0.15		DC	CBB
63	83.15	20.15		R	
83.15	83.5	0.35		CBSH	MM
83.5	84.9	1.4		R	

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-40	**continued**				
84.9	86.95	2.05		C	CCA
86.95	88.55	1.6		C	CCB
88.55	89.6	1.05		R	
89.6	90	0.4		CBSH	
90	90.3	0.3		DC	MB
90.3	90.45	0.15		CR	
90.45	94.7	4.25		R	
94.7	95	0.3		CBSH	
95	95.8	0.8		R	
95.8	96.2	0.4		CBSH	
96.2	96.6	0.4		R	
96.6	97.2	0.6		DC	MAA
97.2	101.17	3.97		R	
From	*To*	*Apparent*		*Lithology*	*Name*
BR10-41					
0	2.6	2.6		DRIFT	DRIFT
2.6	10.9	8.3		R	
10.9	11.6	0.7		CBSH	
11.6	12	0.4		R	
12	12.25	0.25		CBSH	
12.25	21	8.75		R	
21	21.3	0.3		CBSH	CBA
21.3	26.4	5.1		R	
26.4	26.9	0.5		C	CBB
26.9	30.05	3.15		R	
30.05	30.35	0.3		CBSH	
30.35	47.9	17.55		R	
47.9	48.25	0.35		CR	MM
48.25	49.85	1.6		R	
49.85	52.7	2.85		C	CCA
52.7	54.3	1.6		C	CCB
54.3	54.4	0.1		DC	CCB
54.4	54.9	0.5		C	CCB
54.9	55	0.1		DC	CCB
55	55.8	0.8		R	
55.8	56.15	0.35		CBSH	MB
56.15	56.6	0.45		CR	MB

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-41	**continued**				
56.6	61.45	4.85		DC	MB
61.45	61.8	0.35		CBSH	
61.8	62.25	0.45		R	
62.25	62.8	0.55		CBSH	
62.8	63.05	0.25		CR	
63.05	63.45	0.4		R	
63.45	64.25	0.8		DC	MAA
64.25	66.05	1.8		R	
66.05	66.4	0.35		CBSH	
66.4	67	0.6		CR	
67	67.24	0.24		ND	NO DATA
From	*To*	*Apparent*		*Lithology*	*Name*
BR10-44					
0	2.15	2.15		DRIFT	DRIFT
2.15	8.85	6.7		R	
8.85	9.65	0.8		CBSH	
9.65	10.3	0.65		R	
10.3	11	0.7		CBSH	
11	18.55	7.55		R	
18.55	18.9	0.35		DC	CBA
18.9	20.8	1.9		R	
20.8	21.65	0.85		C	CBB
21.65	37.5	15.85		R	
37.5	37.85	0.35		CBSH	MM
37.85	39.15	1.3		R	
39.15	41.65	2.5		C	CCA
41.65	45.7	4.05		C	CCB
45.7	45.8	0.1		FAULT	ESTABLISHED
45.8	47.25	1.45		C	CCA
47.25	50.25	3		C	CCB
50.25	50.7	0.45		DC	CCB
50.7	51.6	0.9		C	CCB
51.6	51.8	0.2		CR	
51.8	52.05	0.25		CBSH	
52.05	52.9	0.85		R	
52.9	53.15	0.25		CR	MB
53.15	53.3	0.15		CBSH	MB

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-44	**continued**				
53.3	53.55	0.25		CR	MB
53.55	53.8	0.25		C	MB
53.8	53.9	0.1		FAULT	POSSIBLE
53.9	59.8	5.9		R	
59.8	60.2	0.4		CBSH	
60.2	61.1	0.9		R	
61.1	61.4	0.3		CBSH	
61.4	61.8	0.4		CR	MAA
61.8	62.2	0.4		CBSH	MAA
62.2	62.75	0.55		DC	MAA
62.75	62.8	0.05		CR	MAA
62.8	63.05	0.25		DC	MAA
63.05	67.7	4.65		R	
67.7	68.5	0.8		CBSH	
68.5	71.5	3		R	
71.5	71.8	0.3		CBSH	
71.8	75.95	4.15		R	
75.95	76.1	0.15		CBSH	
76.1	78.5	2.4		R	
78.5	78.85	0.35		CR	
78.85	79.35	0.5		CBSH	
79.35	81.1	1.75		R	
81.1	81.5	0.4		ASH	ASH BAND
81.5	81.6	0.1		R	
81.6	81.75	0.15		ASH	ASH BAND
81.75	84.85	3.1		R	
84.85	85.25	0.4		CR	
85.25	86.55	1.3		R	
86.55	87.35	0.8		DC	
87.35	87.55	0.2		CBSH	
87.55	99.6	12.05		R	
99.6	99.85	0.25		CBSH	
99.85	112.35	12.5		R	
112.35	112.8	0.45		CBSH	
112.8	113.9	1.1		R	
113.9	116.1	2.2		C	MA
116.1	119.6	3.5		R	

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-47					
0	2.1	2.1		DRIFT	DRIFT
2.1	3.8	1.7		R	
3.8	4.1	0.3		CBSH	
4.1	7.95	3.85		R	
7.95	8.35	0.4		CBSH	
8.35	11.6	3.25		R	
11.6	11.7	0.1		ASH	ASH BAND
11.7	11.9	0.2		R	
11.9	12.8	0.9		CBSH	MG
12.8	13.25	0.45		CR	MG
13.25	13.5	0.25		CBSH	MG
13.5	19.15	5.65		R	
19.15	19.5	0.35		CR	MF
19.5	24.05	4.55		R	
24.05	24.2	0.15		CBSH	
24.2	25.4	1.2		R	
25.4	25.6	0.2		CBSH	
25.6	26.75	1.15		R	
26.75	27.05	0.3		CBSH	MEA
27.05	27.3	0.25		R	
27.3	27.6	0.3		CR	MEB
27.6	28.15	0.55		CBSH	MEB
28.15	34.3	6.15		R	
34.3	36.5	2.2		C	CA
36.5	36.65	0.15		FAULT	PROBABLE
36.65	37.05	0.4		C	CA
37.05	37.8	0.75		R	
37.8	38.25	0.45		CBSH	
38.25	40.6	2.35		R	
40.6	41.15	0.55		DC	MD
41.15	44.6	3.45		R	
44.6	44.95	0.35		IRST	IRONSTONE
44.95	56.4	11.45		R	
56.4	56.95	0.55		C	DL
56.95	57	0.05		FAULT	PROBABLE
57	57.5	0.5		CR	
57.5	57.95	0.45		C	DL
57.95	64.6	6.65		R	

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-47	**continued**				
64.6	64.9	0.3		ASH	ASH BAND
64.9	66.3	1.4		R	
66.3	67.35	1.05		R	MCD
67.35	67.7	0.35		CBSH	MCD
67.7	68.45	0.75		R	MCD
68.45	69	0.55		DC	MCD
69	69.4	0.4		R	MCD
69.4	70.3	0.9		R	
70.3	70.8	0.5		R	
70.8	71.1	0.3		CR	
71.1	71.65	0.55		CBSH	
71.65	72.05	0.4		R	
72.05	82.1	10.05		CBSH	
82.1	82.3	0.2		IRST	IRONSTONE
82.3	84.6	2.3		R	
84.6	85.15	0.55		CBSH	
85.15	85.5	0.35		C	MC
85.5	105.5	20		R	
105.5	105.8	0.3		CBSH	
105.8	107.3	1.5		R	
107.3	107.7	0.4		CBSH	
107.7	114.5	6.8		R	
114.5	114.9	0.4		CR	CBA
114.9	116.7	1.8		R	
116.7	117.2	0.5		C	CBB
117.2	137.15	19.95		R	
137.15	137.5	0.35		CBSH	MM
137.5	139.1	1.6		R	
139.1	141.9	2.8		C	CCA
141.9	143.7	1.8		C	CCB
143.7	143.8	0.1		DC	CCB
143.8	144.2	0.4		C	CCB
144.2	144.6	0.4		DC	CCB
144.6	145.6	1		R	
145.6	146	0.4		CBSH	MB
146	146.35	0.35		DC	MB
146.35	150.3	3.95		R	
150.3	150.65	0.35		CBSH	

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-47	**continued**				
150.65	151.3	0.65		R	
151.3	151.8	0.5		CBSH	
151.8	152.1	0.3		CR	MAA
152.1	152.6	0.5		R	MAA
152.6	153.3	0.7		DC	MAA
153.3	154.05	0.75		R	
154.05	156.05	2		CR	
156.05	156.63	0.58		R	
From	*To*	*Apparent*		*Lithology*	*Name*
BR10-48					
0	1.2	1.2		DRIFT	DRIFT
1.2	5.7	4.5		R	
5.7	6	0.3		CBSH	
6	6.5	0.5		R	
6.5	6.8	0.3		C	
6.8	7.35	0.55		CBSH	
7.35	7.8	0.45		R	
7.8	8.2	0.4		CBSH	
8.2	8.6	0.4		CR	
8.6	18.85	10.25		R	
18.85	19.2	0.35		CBSH	
19.2	22.95	3.75		R	
22.95	23.3	0.35		CR	
23.3	23.45	0.15		CBSH	
23.45	24.65	1.2		C	DL
24.65	24.9	0.25		DC	DL
24.9	28.2	3.3		R	
28.2	28.55	0.35		R	MCD
28.55	28.95	0.4		IRST	MCD
28.95	30.85	1.9		R	MCD
30.85	31.05	0.2		CBSH	MCD
31.05	31.3	0.25		R	MCD
31.3	31.7	0.4		CBSH	MCD
31.7	32.55	0.85		R	MCD
32.55	44.25	11.7		R	
44.25	44.7	0.45		CBSH	
44.7	46.25	1.55		R	

Table B-2: Interpretation (metres) of geophysics from selected historic boreholes (continued)

From	*To*	*Apparent*		*Lithology*	*Name*
BR10-48	**continued**				
46.25	46.65	0.4		CBSH	
46.65	53.2	6.55		R	
53.2	53.7	0.5		C	CBA
53.7	54.9	1.2		R	
54.9	55.35	0.45		C	CBB
55.35	71.15	15.8		R	
71.15	71.5	0.35		CBSH	MM
71.5	72.7	1.2		R	
72.7	75.4	2.7		C	CCA
75.4	78.9	3.5		C	CCB
78.9	79	0.1		FAULT	PROBABLE
79	81.6	2.6		C	CCA
81.6	85.05	3.45		C	CCB
85.05	85.1	0.05		CR	
85.1	86.2	1.1		R	
86.2	86.7	0.5		CBSH	MB
86.7	87.05	0.35		C	MB
87.05	89.35	2.3		R	
89.35	89.7	0.35		IRST	IRONSTONE
89.7	91.65	1.95		R	
91.65	92.05	0.4		CBSH	
92.05	92.5	0.45		R	
92.5	93.3	0.8		CBSH	
93.3	93.57	0.27		ND	NO DATA

100 km 0 100 200 300 400 km

SCALE

LEGEND

ROADS

RAILWAY

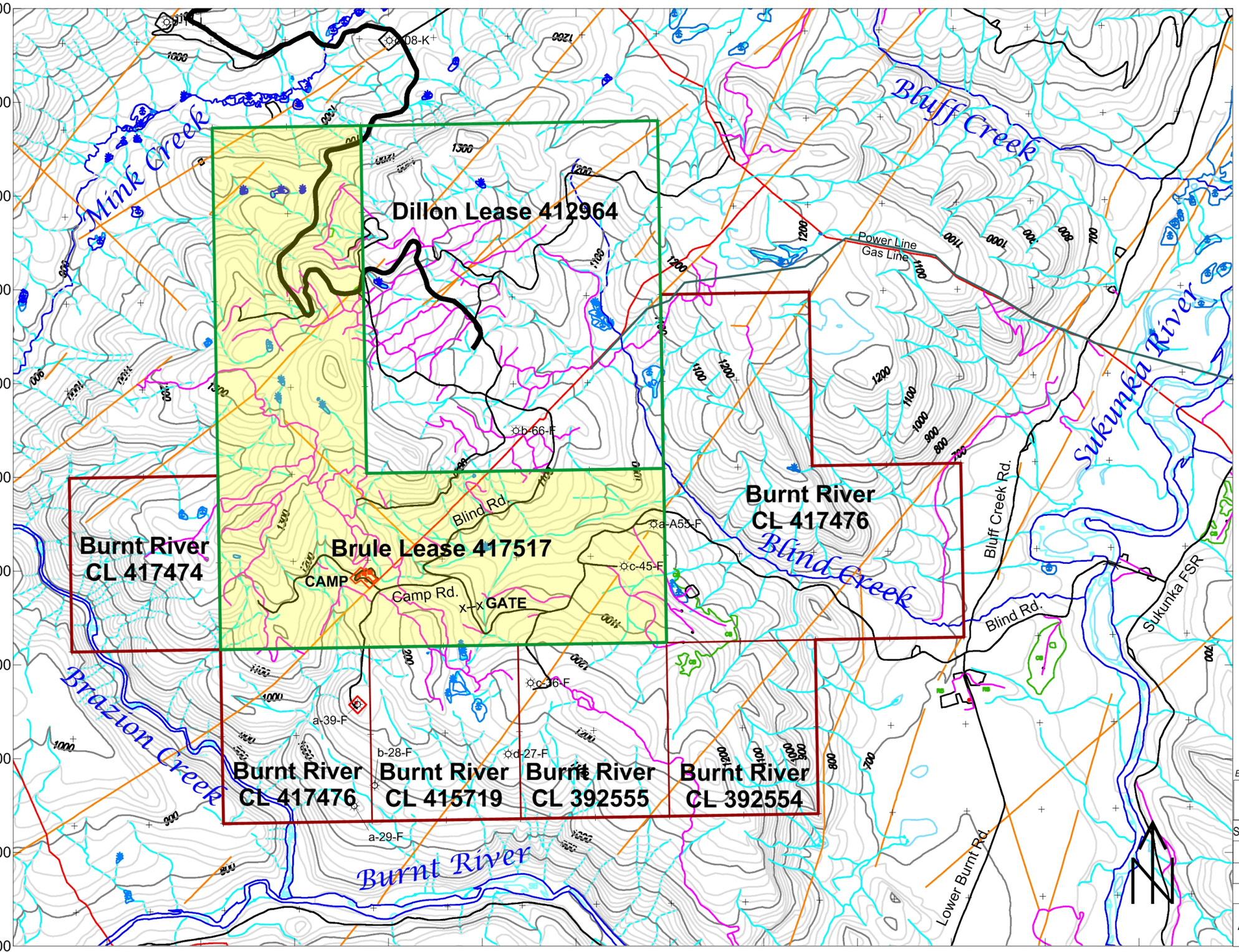
REV	DATE	DESCRIPTION	BY	CHKD	APRVD
C	Aprl/19/2019	Indicia	GCH		

Conuma Coal Resources Limited

BRULE COAL PROPERTY

Drawn by: GCH	GENERAL LOCATION MAP
Checked by:	
Approved by:	
Revision No. C	
Dwg No.	
APR 2019	Document: BRULE COAL ASSESSMENT REPORT
	Figure No. MAP 2-1

Brule-Location-190419c.srf/jpg



Access (not classified as to trafficability):

- Road (coal haulage)
- Road (other)
- Trail
- Seismic line

Land classification:

- Coal licence (with historic and current tenure number)
- Coal lease (with current tenure number)

Drainage:

- River or creek
- Stream (perennial or intermittent flow)

- Natural gas wells (not classified as to activity)
- Pipeline (where not along road)
- Power line (69 KV)

metres

0 1000 2000 3000

Brule-area-topography-drainage-roads_190419e.srf/jpg

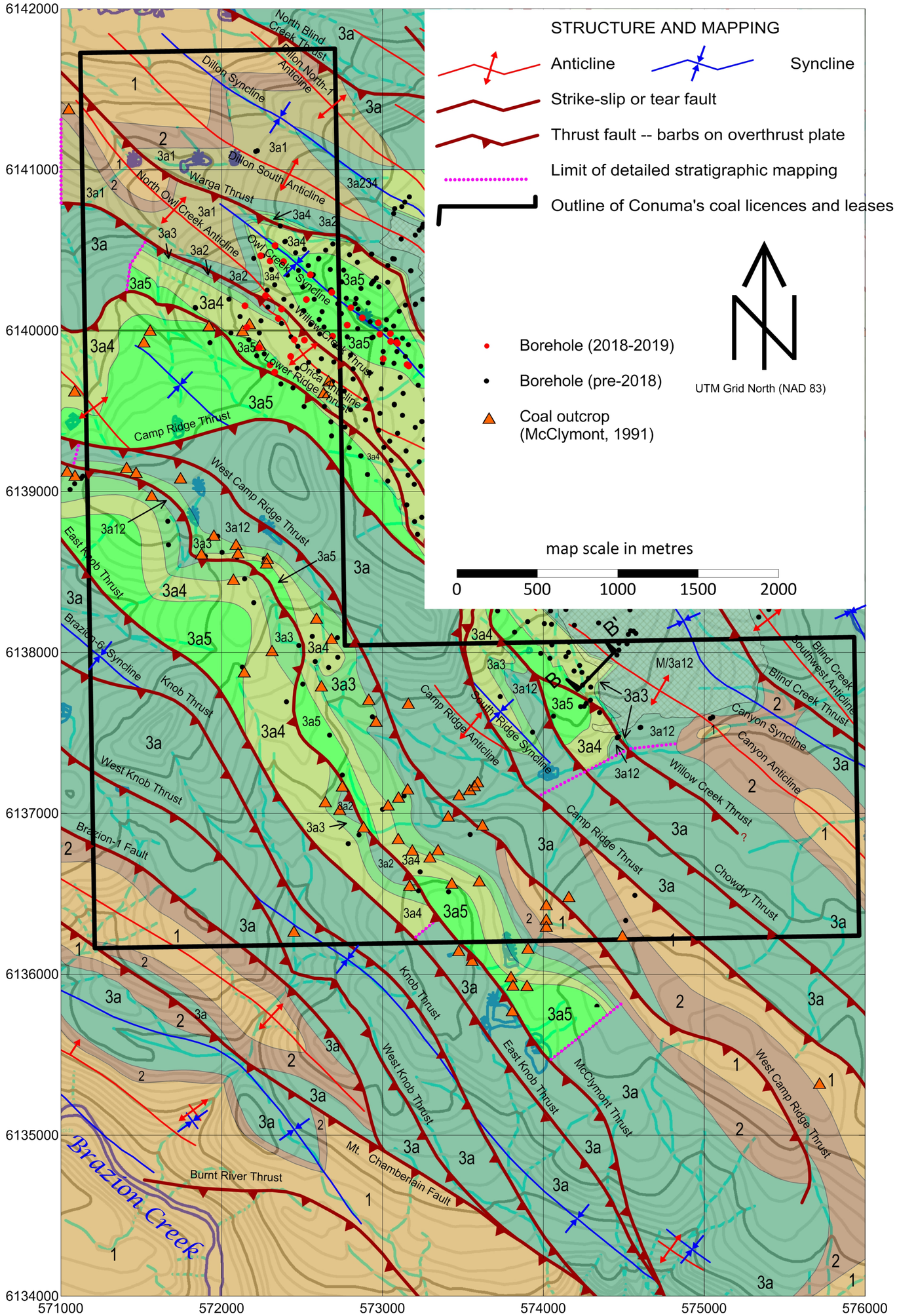
Conuma Coal Resources Limited

Scale: as shown	COAL TENURE AND TOPOGRAPHY	
UTM NAD 83		
Revision: E		
Drawn: GCH		
APR 2019	BRULE COAL ASSESSMENT REPORT	MAP 2-2

UTM NAD83

BRULE LEASE

NTS 93 P/05
CANADA



STRATIGRAPHY

M — Mine dumps

BULLHEAD GROUP (Barremian to Aptian)
Gething Formation -- siltstone, sandstone and conglomerate; minor bentonite and coal

3 — Gething Formation

3d — Chamberlain Member -- sandstone and siltstone; minor coal

3c — Bullmoose Member -- marine shale and siltstone; minor sandstone and bentonite

3b — Bluesky Member -- pebbly glauconitic sandstone (not mapped separately at this scale)

3a — Gaylard Member -- siltstone, sandstone and coal; lenses of conglomerate and pebbly sandstone; minor bentonite

3a5 — Division 5 -- sandstone and siltstone; minor coal (Markers E and F)

3a4 — Division 4 -- siltstone and sandstone; coal (Markers C and D; Seam 60 at top)

3a3 — Division 3 -- siltstone and shale; coal (Lower Seam at base, Upper Seam at top)

3a12
- 3a2 — Division 2 -- siltstone and sandstone; minor conglomerate and coal (Markers B, AA and A)
- 3a1 — Division 1 -- sandstone, conglomerate and siltstone; minor coal

2 — Cadomin Formation -- cliff-forming conglomerate and sandstone; minor siltstone and coal

MINNES GROUP (Tithonian to Valanginian)
1 — Bickford, Monach, Beattie Peaks and Monteith Formations -- sandstone, siltstone, shale, conglomerate, quartzite, ironstone and coal (not mapped separately at this scale)

Author: C.G. Cathyl-Huhn P.Geo. Lic.Geol. RMSME Date: 2019 April 19
Grid system: UTM NAD83 Zone 10N in metres 100 km grid square: ES
Scale: as shown on bar-scale Topography: TRIM-derived rasters
Sources: compiled from work by B.McClymont (Teck Corporation, 1979 and 1981), J.Hughes (Gulf Canada, 1980), and D.J.Hunter and J.M.Cunningham (BCGSB, 1991).

REV	DATE	DESCRIPTION
E	Apr 19 2019	Indicia

Drawn by:	GCH
Scale:	as shown
Reference: Brule-lease-geology-190419e.srf	
Revision No.	E

Conuma Coal Resources Limited

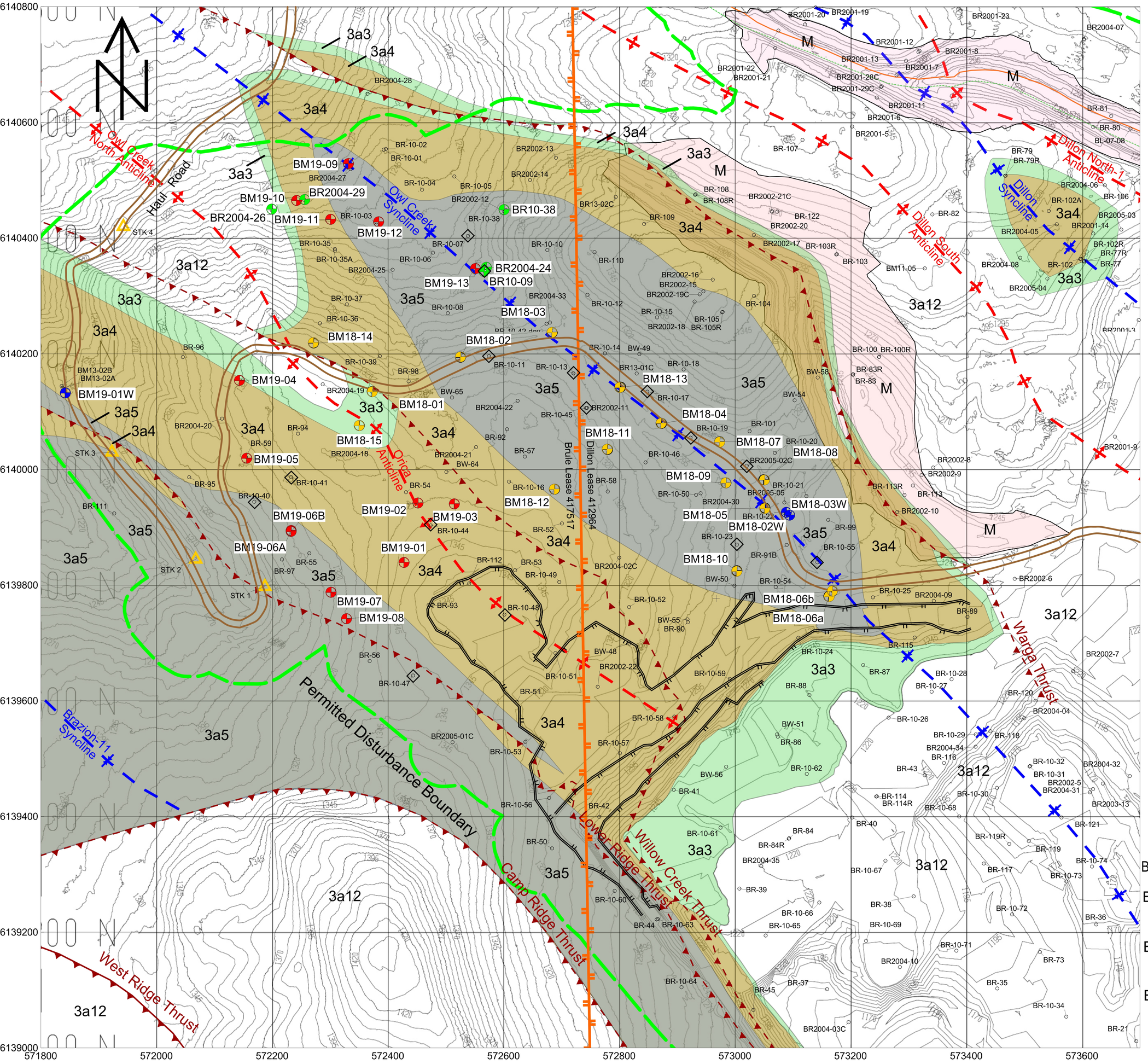
REGIONAL GEOLOGY OF BRULE LEASE 417517

APR 2019 | BRULE COAL ASSESSMENT REPORT | MAP 2-3

BRULE MINE

UTM NAD83

CANADA



Map scale in metres

0 100 200 300 400

Dwg.: Brule-development-base_190421m.srf/jpg Drawn: 21 April 2019
Topographic base (as of October 2018): D. Meisburger, P.Eng.
Geological compilation: 2018/A Dig-face approximate as of December, 2018
By: C.G. Cathyl-Huhn, P.Geo.(BC) Lic.Geol.(WA) RMSME
Grid: UTM NAD83 Zone 10 in metres Scale: as shown

Mine references:

Brule Mine 0900215
Permit C-221

Stratigraphic Legend

Made Ground

M — Former mine pits: partially backfilled workings of North Brule Pit and Blind Pit

Gething Formation
Gaylard Member

3a5 — Division 5: sandstone and siltstone; minor coal (Markers E, F, G, and K)

3a4 — Division 4: siltstone and sandstone; coal (Conuma 'A' coal zone at top, and Markers C, D, and DL); siltstone, mudstone and tuff (Marker CD)

3a3 — Division 3: siltstone and mudstone; minor sandstone; coal (Conuma 'B' coal zone at top; Marker M; Conuma 'C' coal zone at base)

3a12 — Divisions 1 and 2 (undivided) sandstone, siltstone, conglomerate and coal (Markers B, AA, and A)

Structural Legend

Interpreted crest of anticline at bedrock surface

Interpreted trough of syncline at bedrock surface

Interpreted trace of thrust fault at bedrock surface

BM18-02W — Groundwater test wells (drilled summer 2018 and winter 2019)

BR10-09 — Old boreholes re-logged 2018-2019

BR-36 — Borehole locations (prior to 2018)

BM19-02 — Year-2019 structural boreholes

BR10-40 — Old boreholes reinterpreted to date

BM18-04 — Year-2018 structural boreholes

Permitted disturbance boundary

Brule pit-wall (Dec. 2018) approx.

Brule Mine:
Map 2-4:
Geology and in-mine drilling programme