COAL ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TITLE OF REPORT: **Coal assessment report for the Hudette coal licences, 2021-2022 term**

TOTAL COST: **$2,671,500**

AUTHOR(S): **C.G. Cathyl-Huhn PGeo.**

SIGNATURE(S):

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): **CX9-051 / Mine number 1641004 'Hudette Expansion' / Approval number 20-1641004-0212**

YEAR OF WORK: **2021-2022 work term**

PROPERTY NAME: **Hudette Main, areas 'A' and 'B'**

COAL LICENSE(S) AND/OR LEASES ON WHICH PHYSICAL WORK WAS DONE:
Coal Licences 392476, 392549, 392550, and 418537

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: **093O 060**

MINING DIVISION: **Liard**

NTS / BCGS: **NTS 093O/8; BCGS 093O.050**

LATITUDE: **55° 28' 22" North**; LONGITUDE: **122° 05' 17" West** (at centre of work)

UTM Zone: 10N EASTING: **557649** NORTHING: **6147791**

OWNER(S): **Conuma Resources Limited**

MAILING ADDRESS: **200-235 Front St. (PO Box 2140), Tumbler Ridge, BC, V0C 2W0**

OPERATOR(S) [who paid for the work]: **Conuma Resources Limited**

MAILING ADDRESS: **200-235 Front St. (PO Box 2140), Tumbler Ridge, BC, V0C 2W0**

REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralisation, size and attitude)
bituminous coal, Early Cretaceous, Fort St. John Group, Moosebar Formation, Green Marker, Bullhead Group, Bluesky Formation, Gething Formation, Gaylard Member, anticlines, synclines, thrust faults

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:
Coal Assessment Report 1068 (principal reference); 522, 523, 524, 525, 526, 582, 583, 584, 585, 586, 587, 588, 888, 989, and 1063

SUMMARY OF TYPES OF WORK IN THIS REPORT			EXTENT OF WORK (in metric units)	ON WHICH TENURES
GEOLOGICAL (scale, area)				
	Ground, mapping		**nil**	**n/a**
	Photo interpretation		**nil**	**n/a**
GEOPHYSICAL (line-kilometres)				
	Ground (specify types)		**nil**	**n/a**
	Airborne (specify types)		**nil**	**n/a**
BOREHOLE GEOPHYSICAL LOGGING				
	Gamma, resistivity, density, and caliper	12 boreholes	**2525.80 m**	**392476, 392549, 392550, and 418537**
	Gamma-neutron	12 boreholes	**2525.31 m**	**392476, 392549, 392550, and 418537**
	Deviation	12 boreholes	**2508.75 m**	**392476, 392549, 392550, and 418537**
	Dipmeter	12 boreholes	**2509.54 m**	**392476, 392549, 392550, and 418537**
	Spectral gamma (KUT)	7 boreholes	**1680.46 m**	**392476, 392549, and 392550**
	Acoustic televiewer	7 boreholes	**1676.26 m**	**392476, 392549, and 392550**
	Full wave sonic	7 boreholes	**1682.44 m**	**392476, 392549, and 392550**
BOREHOLES (metres)				
	Core, partial or complete, HQ size	7 boreholes	**1686.86**	**392476**
	Core, partial or complete, 6-inch size	1 borehole	**152.10**	**392476**
	Non-core (rotary)	9 boreholes	**1029.91**	**392476, 392549, 392550, and 418537**
SAMPLING AND ANALYSES				
	Total number of samples (from core)		**288**	**392476**
	Proximate - including sulphur		**281**	**392476**
	Major-oxide ash chemistry		**281**	**392476**
	Specific gravity		**281**	**392476**
	Ultimate		**nil**	**n/a**
	Free swelling index (FSI)		**124**	**392476**
	Light transmission (oxidation test)		**124**	**392476**
	Petrographic		**nil**	**n/a**
	Vitrinite reflectance		**nil**	**n/a**
	Coking		**nil**	**n/a**
	Washability tests		**5**	**392476**
PROSPECTING (scale/area)			**nil**	**n/a**
PREPARATORY/PHYSICAL				
	Line/grid (km)		**nil**	**n/a**
	Trench (number, metres)		**nil**	**n/a**
	Bulk sample(s)		**nil**	**n/a**

Sections 5 and 6, and Annexes C, D, and E remain confidential under the terms of the Coal Act Regulation and have been removed from the public version.

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

1 Table of contents

List of tables

List of maps

2 Introduction

This Coal Assessment Report documents physical and non-physical work on Conuma Resources Limited's (Conuma's) Hudette Main (Areas 'A' and 'B') coal tenures, comprising eight coal licences with anniversary dates in April of each year. In addition, mention is made of a limited amount of drilling within a single coal licence within Conuma's New Creek (Area 'B') holdings, with anniversary date in June of each year. This report updates a previous report (Cathyl-Huhn, 2021) compiled by Conuma.

During the 2021-2022 work term (the subject of the present report), 17 boreholes were drilled, in support of coal-quality, geotechnical, and groundwater investigations. Of the 17 boreholes, eight were cored and nine were air-rotary holes. One of the diamond-drill holes was re-entered for construction of a groundwater well, hence the existence of 18 borehole/well names within this report's data tables.

Fieldwork was supervised by geological and engineering staff from Marshall Miller & Associates (MMA), capably led by geologist Steve Stansfield. MMA also provided primary interpretation of subsurface geology, and produced a technical report documenting coal resources and coal quality of the Hudette area (Douthat and Eckman, 2022; enclosed as **Annexe E**).

2.1 Scope of report

This report has been prepared and submitted by Conuma, in keeping with Conuma's annual reporting obligations under the *Coal Act*. The effective date of this report is April 8, 2022, in keeping with the later of the Hudette 'A' and Hudette 'B' coal tenures' anniversary dates (April 3 and April 8, respectively). Physical work during the 2021-2022 work term comprised a geological and hydrogeological drilling programme which commenced on July 16, 2021 and continued until November 26, 2021.

Work done prior to the previous anniversaries (April 3rd and 8th, 2021) is discussed in a previous report (CAR-1068, Cathyl-Huhn, 2021).

2.2 Objectives of current work

The objectives of the work (within the 2021-2022 work term) comprised definition of coal resources by means of drilling of hydrogeological, coal-quality, and structural boreholes.

Wherever practicable, boreholes were used for more than one purpose. Existing logging-roads and exploration trails were selected for use, in the interests of minimising exploratory disturbance.

2.3 Property description

The Hudette 'A' and 'B' coal tenures, which are the subject of this report, comprise eight Coal Licences, numbered inclusively 392474 through 392476 (anniversary date of April 3), and 392549 through 392553 (anniversary date of April 8). Tenure details are presented below as **Table 2-1**, together with a cross-reference to physical work.

A ninth tenure, numbered 418537 (part of the New Creek 'B' coal tenures, with anniversary date of June 6), adjoins the west side of the Hudette tenures, and is here-noted inasmuch as it saw the drilling of two groundwater-monitoring holes.

2.4 Location and access

Map 2-1 shows the regional location of the property within British Columbia, and **Map 2-2** presents the location of the Hudette 'A' and 'B' coal tenures, inlined in red within the context of adjoining lands held by Conuma**.**

2.4.1 Road access

Access to the Hudette Main coal tenures is via the gravelled, two-lane, all-weather Falling Creek Connector Road, which connects northward to the Willow Creek Forest Service Road (Willow Creek FSR), and southeastward to the Hasler Forest Service Road (Hasler FSR). Both FSRs in turn connect to the paved Pine Pass segment of the Hart Highway (route BC-97). To the west on BC-97 are the town of Mackenzie and the city of Prince George, whilst to the east on BC-97 are the towns of Chetwynd and Dawson Creek.

The northern Willow Creek route is preferred for access to Hudette, as the Hudette property is being managed and operated as an extension of the presently-operating Willow Creek Mining Complex. In keeping with this administrative control, non-contact contractor check-in / check-out procedures may be established at Willow Creek Mine's security office.

Map 2-3 shows the existing logging-road network at Hudette Main. These roads were built for Canadian Forest Products' (Canfor's) Chetwynd timber supply division, between 2014 and 2018. The logging roads have been constructed to an industrial standard of width, gradient, surfacing, and curvature. An older network of seismic lines (shown in orange on the map) and 2011-2013 drilling trails (shown as double black lines on the map) had previously been used for purposes of historic drill programmes, providing access to those of the older drill sites which were not accessed by helicopters. Not shown on the map (but visible on aerial imagery) are short skidder-trails or backspar trails whose geometry and gradient are solely amenable to tracked access.

Road and trail names such as 'Hudette 26', '26A2', or 'A3B' have been designated by Conuma technical staff for purposes of internal reference and field use, and thus do not correspond with any prior forestry designations. Likewise, planned drill pads have been designated by one- or two-letter alphabetic codes, reserving the application of borehole numbers to those sites which have actually been drilled within the work term.

The seventeen current boreholes (drilled within the 2021-2022 term), were accessed by means of the Canfor logging roads and Walter Energy drill trails. No new road or trail construction was needed.

2.4.2 Radio communications

The Hasler and Willow Creek Forest Service Roads, and the Falling Creek Connector Road, are radio-assisted, with signage indicating mandatory call-in points on assigned radio channels. Vehicles which are not equipped with a radio must arrange to join convoys led by a vehicle which does have the appropriate radio.

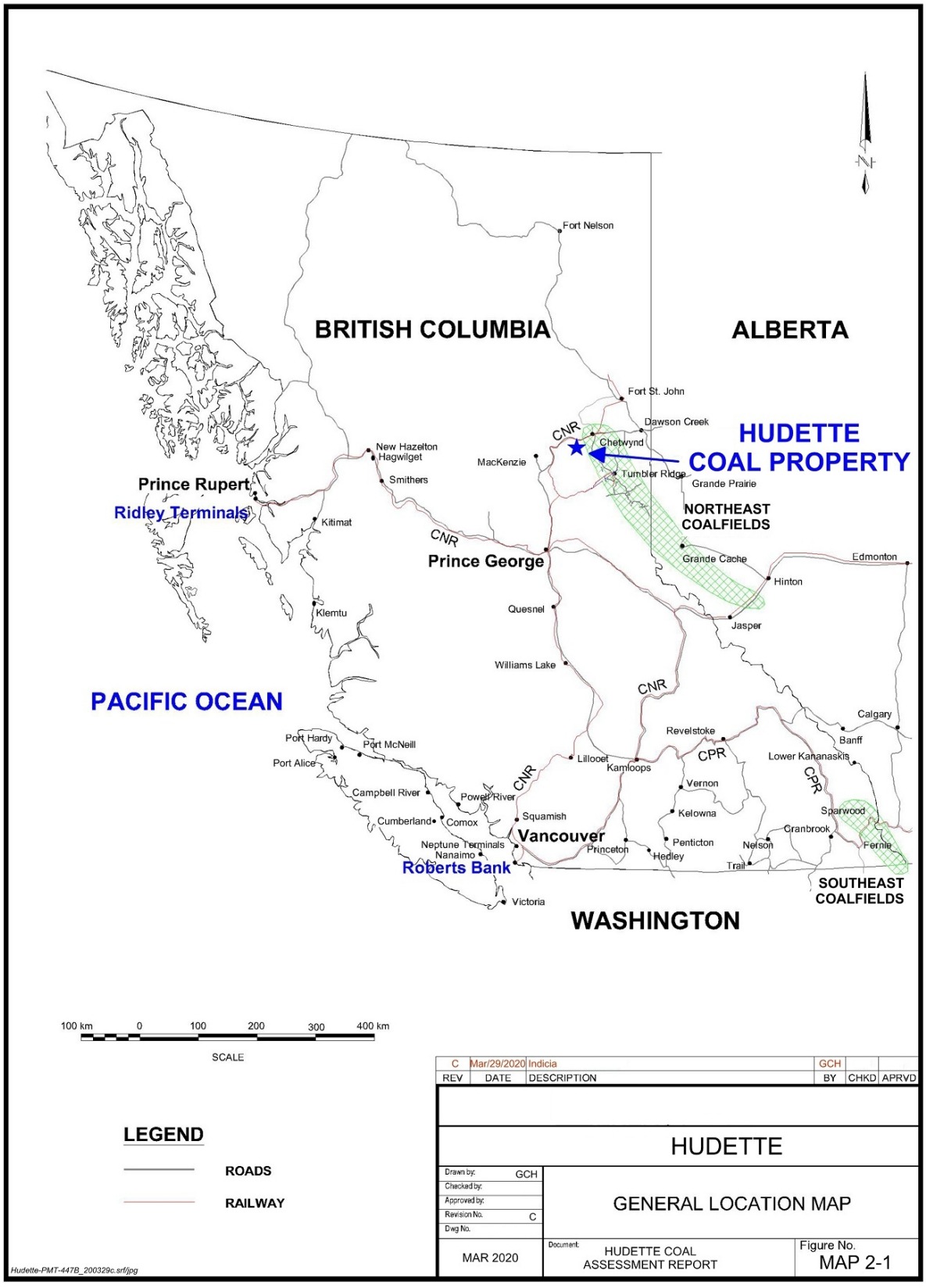
During the 2021-2022 work programme, radios were used to maintain internal communications between vehicles and heavy equipment operating within the Hudette Main logging-road network.

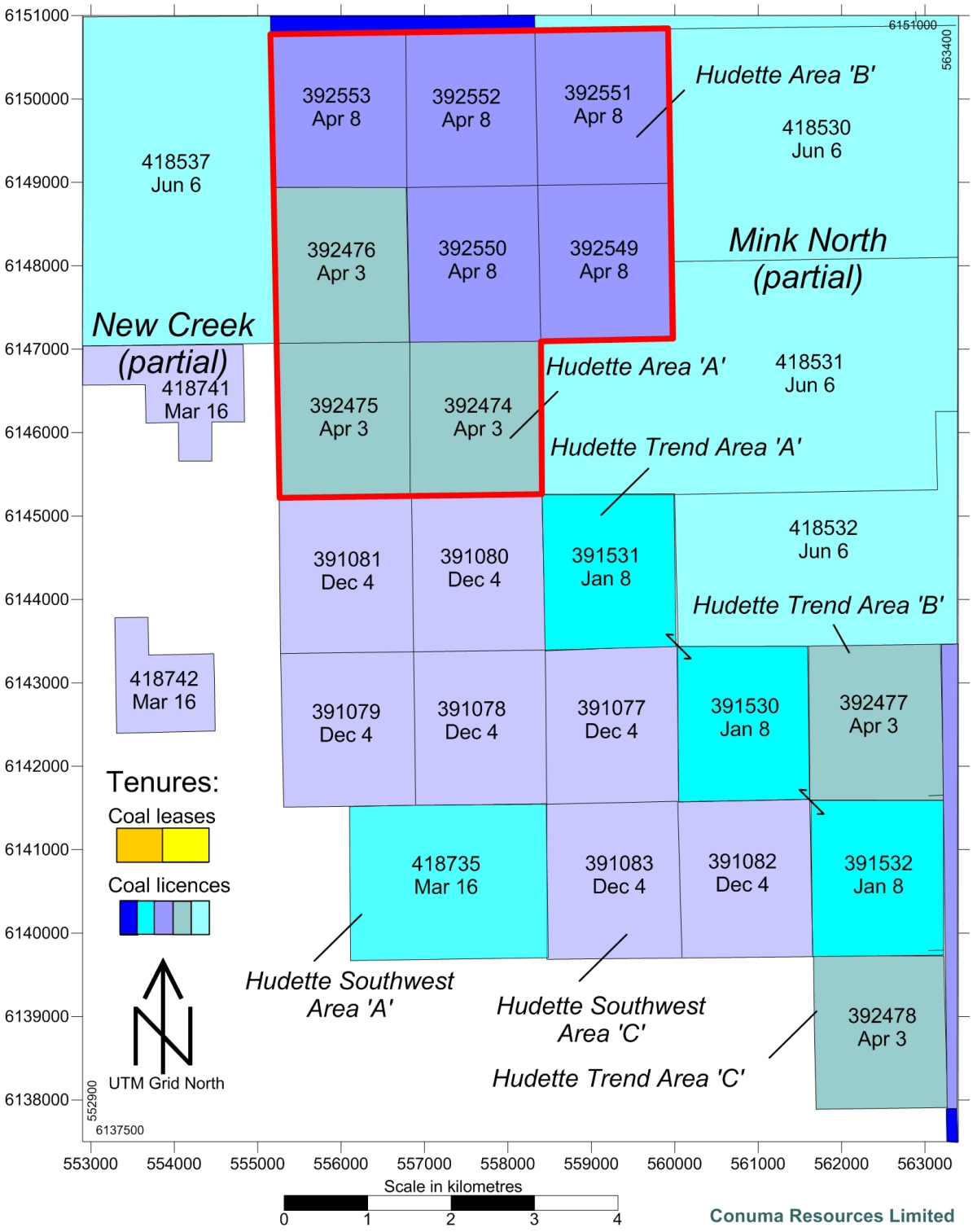
2.4.3 Cellular telephone coverage

Cellular telephone service is fair to moderately-good at Hudette Main, with most reliable access from high ground such as the Kilometre 26 road-junction of the Falling Creek Connector Road with the logging-road network. Conversely, service from valley-bottoms is unreliable to non-existent, even with the aid of a cellular booster.

Table 2-1: Tenure details for coal licences

Tenure	Anni-versary	Approx-imate area in hectares	Conuma property designation	Property description	Historic drilling?	Current drilling?	Current borehole numbers
392474	April 3	294	Hudette 'A'	93 O/8 Block I, Units 47, 48, 57, and 58	yes	no	
392475	April 3	294	Hudette 'A'	93 O/8 Block I, Units 49, 50, 59, and 60	no	no	
392476	April 3	294	Hudette 'A'	93 O/8 Block I, Units 69, 70, 79, and 80	yes	yes	HUD21HQ-01. -02, -03, -04, -05, and -06; HUD21MW-01D and -01S; HUD21RC-01. -02A, and -02B;-and HUD21LD-01
392549	April 8	294	Hudette 'B'	93 O/8 Block I, Units 65, 66, 75, and 76	no	yes	HUD21MW-02S
392550	April 8	294	Hudette 'B'	93 O/8 Block I, Units 67, 68, 77, and 78	yes	yes	HUD21MW-04S and -04D
392551	April 8	294	Hudette 'B'	93 O/8 Block I, Units 85, 86, 95, and 96	yes	no	
392552	April 8	294	Hudette 'B'	93 O/8 Block I, Units 87, 88, 97, and 98	yes	no	
392553	April 8	294	Hudette 'B'	93 O/8 Block I, Units 89, 90, 99, and 100	yes	no	
Totals	8 ten-ures	2352 hectares	Hudette Main (Areas A and B)	32 units			15 boreholes [note that MW-01D is excluded from the total since it is a re-entry of HQ-02.
418537	June 6	1467 hectares	New Creek 'B'	93 O/8 Block J, Units 61, 62, 63, 64, 71, 72, 73, 74, 81, 82, 83, 84, 91, 92, 93, and 94; 93 O/9 Block B, Units 1, 2, 3, and 4	yes	yes	HUD21MW-03S and -03D
Totals	1 ten-ure	1467 hectares	New Creek 'B'	20 units			2 boreholes
Area totals	9 ten ures	3819 hectares	Hudette Main and vicinity	52 units			17 boreholes

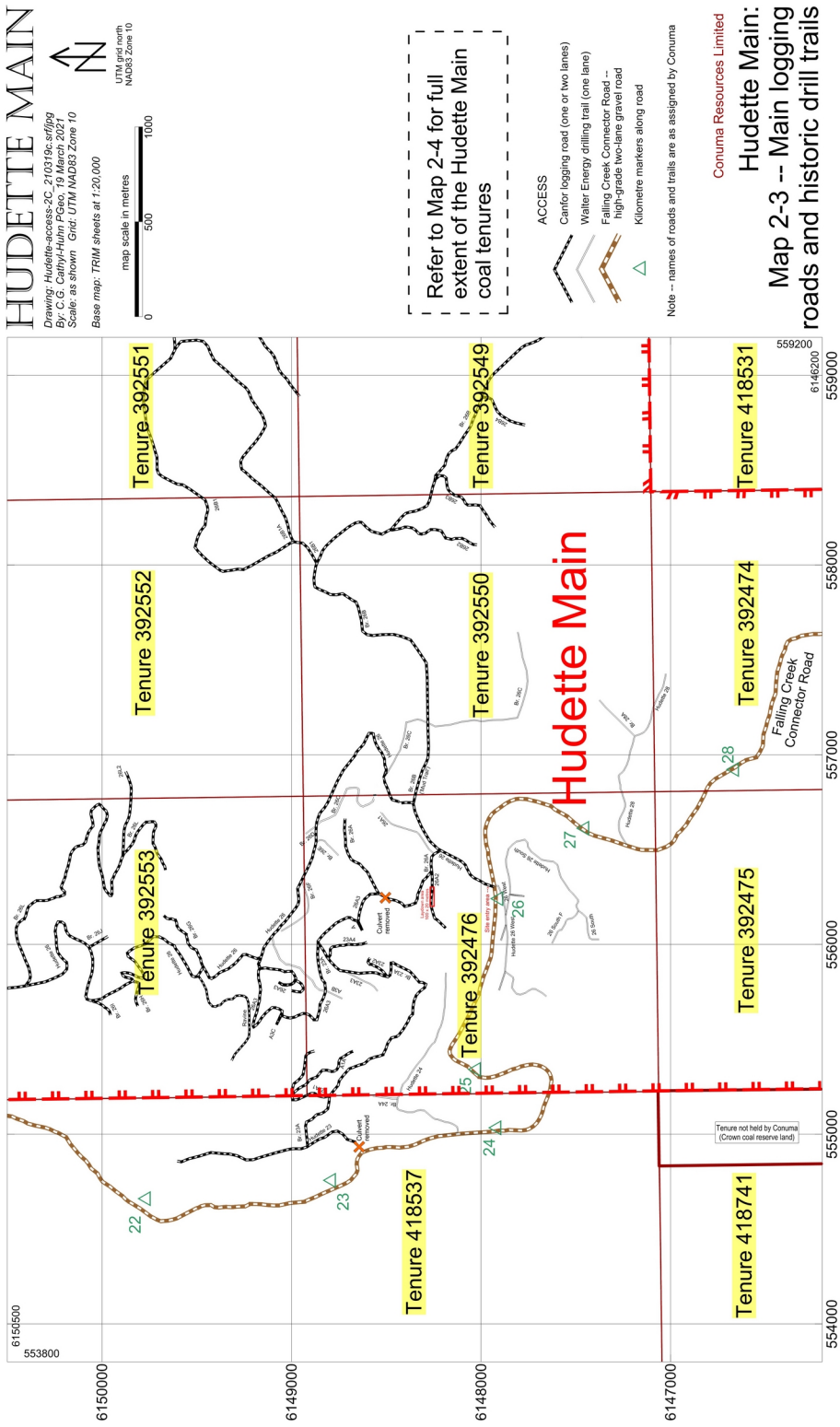

BRITISH COLUMBIA
ALBERTA
Fort Nelson
Fort St. John
Dawson Creek
Chetwynd
CNR
HUDETTE
COAL PROPERTY
New Hazelton
Hagwilget
MacKenzie
Tumbler Ridge
Grande Prairie
Smithers
Prince Rupert
Ridley Terminals
NORTHEAST
COALFIELDS
Kitimat
CNR
Prince George
Grande Cache
Edmonton
Hinton
Klemtu
Quesnel
Jasper
Williams Lake
CNR
PACIFIC OCEAN
Calgary
Revelstoke
Banff
Port Hardy
Port McNeill
Port Alice
Lillooet
Kamloops
CPR
Lower Kananaskis
CNR
Vernon
CPR
Campbell River
Powell River
Kelowna
Sparwood
Cumberland
Comox
Squamish
Cranbrook
Vancouver
Neptune Terminals
Nanaimo
Princeton
Penticton
Hedley
Nelson
Fernie
Roberts Bank
Trail
SOUTHEAST
COALFIELDS
Victoria
WASHINGTON
N
100 km 0 100 200 300 400 km
SCALE
LEGEND
ROADS
RAILWAY
C Mar/29/2020 Indicia GCH
REV DATE DESCRIPTION BY CHKD APRVD
HUDETTE
Drawn by: GCH
Checked by:
Approved by:
Revision No. C
Dwg No.
GENERAL LOCATION MAP
MAR 2020
Document: HUDETTE COAL ASSESSMENT REPORT
Figure No. MAP 2-1
Hudette-PMT-447B_200329c.srf/jpg

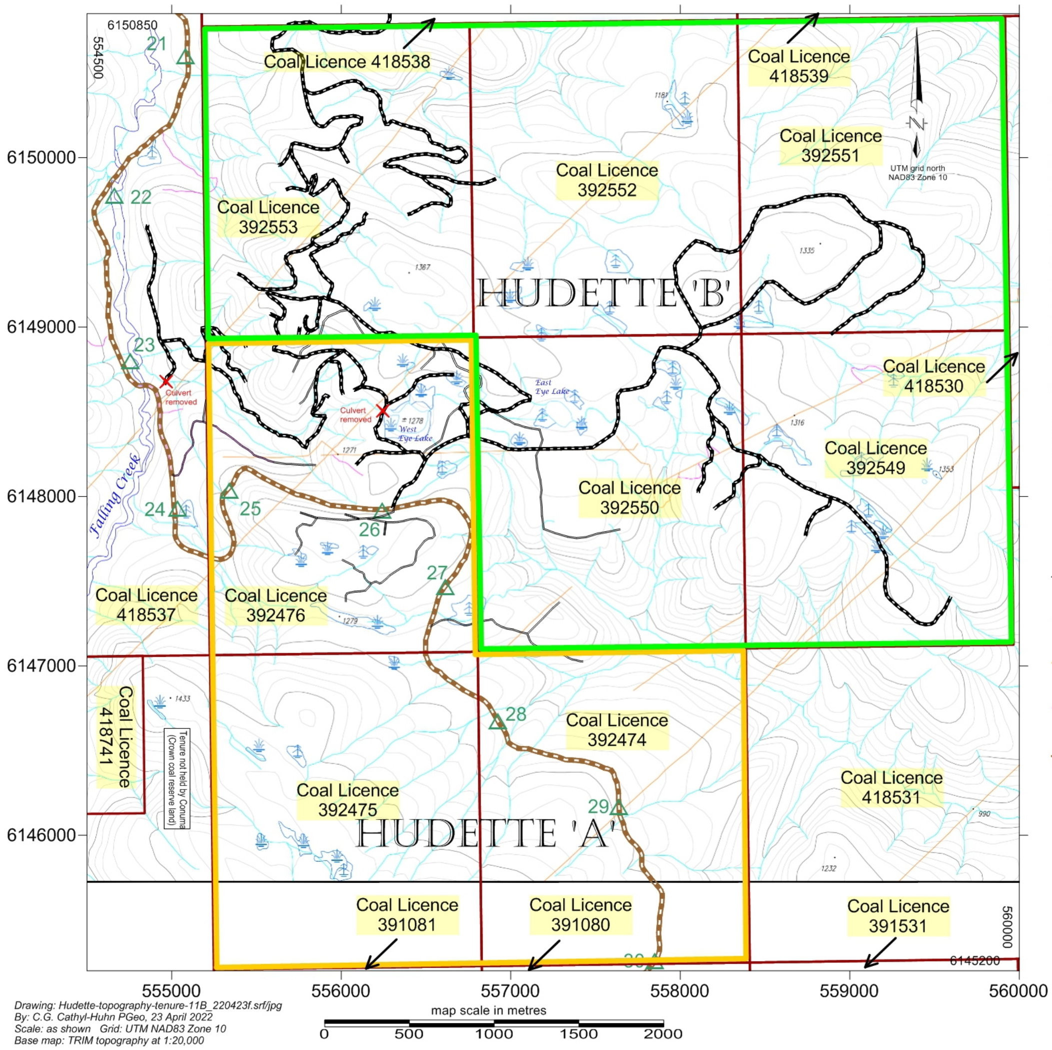


Conuma Resources Limited

Map 2-2: Hudette coal lands

Drawing: NEBC-land-Hudette_220422e.srf/jpg
Date: 22. April 2022 Scale: as shown by bar scale
Drawn: C.G. Cathyl-Huhn, P.Geo.(BC) Lic.Geol.(WA) RMSME
Grid: UTM (NAD83) Zone 10, in metres


HUDETTE MAIN
Drawing: Hudette-access-2C_210319c.srf/jpg
By: C.G. Cathyl-Huhn PGeo, 19 March 2021
Scale: as shown Grid: UTM NAD83 Zone 10
Base map: TRIM sheets at 1:20,000
UTM grid north NAD83 Zone 10
map scale in metres
0
500
1000
Refer to Map 2-4 for full extent of the Hudette Main coal tenures
ACCESS
Canfor logging road (one or two lanes)
Walter Energy drilling trail (one lane)
Falling Creek Connector Road -- high-grade two-lane gravel road
Kilometre markers along road
Note -- names of roads and trails are as assigned by Conuma
Conuma Resources Limited
Hudette Main:
Map 2-3 -- Main logging roads and historic drill trails
Tenure 392551
Tenure 392549
Tenure 418531
Tenure 392552
Tenure 392550
Tenure 392474
Tenure 392553
Tenure 392476
Tenure 392475
Tenure 418537
Tenure 418741
Hudette Main
Falling Creek Connector Road
Tenure not held by Conuma (Crown coal reserve land)
Culvert removed
559200
6146200
559000
558000
557000
556000
555000
554000
553800
6150500
6150000
6149000
6148000
6147000



HUDETTE MAIN

Tenures which are the subject of this report

Tenure	*Property name*	*Anniversary*
392474	Hudette 'A'	April 3rd
392475	Hudette 'A'	April 3rd
392476	Hudette 'A'	April 3rd
392549	Hudette 'B'	April 8th
392550	Hudette 'B'	April 8th
392551	Hudette 'B'	April 8th
392552	Hudette 'B'	April 8th
392553	Hudette 'B'	April 8th
418537	New Creek 'B'	June 6th

Coal Licence 392551 — Coal tenures shown on this map are held by Conuma Resources Limited

ACCESS

- Canfor logging road (one or two lanes)
- Drilling trail (one lane)
- Seismic line (unclassified as to driveability)
- Dirt or gravel trail (unclassified - from TRIM)
- Falling Creek Connector Road -- high-grade two-lane gravel road
- Kilometre markers along road

Conuma Resources Limited

Hudette Main tenures: Map 2-4 -- Topography and tenure

2.5 Climate, physiography, and forest cover

2.5.1 Climate

The nearest climate station to Hudette Main is the town of Chetwynd, whose climate is 'cool continental', with frigid winters and warm summers. Average annual rainfall and snowfall at Chetwynd are 306 millimetres and 169 centimetres respectively. The average frost free period ranges from 84 to 91 days, and about 30 days with some fog are expected per year. The mean daily temperature at Chetwynd is 15.4 C in July and -10.7 C in January. Winter temperatures occasionally drop below -40C, with the coldest weather occurring in January and February of most years.

2.5.2 Physiography

Physiographically, the Hudette Main coal tenures occupy the Inner Foothills of the Rocky Mountains. Topography comprises deeply-dissected, steep-sided, rounded hills and mountains, with elevations ranging from 910 to 1367 metres above sea level. Topographic contours at 20-metre intervals, based upon provincial government mapping, are shown on **Map 2-4**.

2.5.3 Forest cover and biogeoclimatic zonation

The property is patchily-forested, chiefly with spruce and fir, with lesser amounts of willow and larch. Much of the mature forest (mainly within hillside and hilltop areas) has been logged within the past seventeen years, with most of the cutblocks at Hudette Main having been logged within the past seven years.

Hudette Main lies within three biogeoclimatic zones and subzones:

- upland areas above approximately 1250 metres' elevation lie within the Cariboo variant of the wet cold subzone of the Engelmann Spruce - Subalpine Fir (ESSFwc3) zone (DeLong *et al.*, 1984);
- hillside areas between approximately 1000 and 1250 metres' elevation lie within the Misinchinka variant of the wet cool subzone of the Engelmann Spruce - Subalpine Fir (ESSFwk2) zone (DeLong *et al.*, 1984); and
- valley bottoms below approximately 1000 metres' elevation lie within the Finlay-Peace variant of the wet cool subzone of the Sub-Boreal Spruce (SBSwk2) zone (DeLong, 2004).

2.6 Acknowledgements and professional responsibility

Acknowledgements are due to Sam Payment GIT, and Julia McGillivray EIT for technical discussions and base-mapping support. Thanks are also due to Bryan Ottewell PEng for finding and forwarding essential technical and operational data.

This report was written by C.G. Cathyl-Huhn PGeo., a qualified person and a competent person with respect of coal-mining geology. The author accepts professional responsibility for technical content presented herein.

3 Exploration

Exploration to date at Hudette has consisted primarily of drilling, supported by reconnaissance-level geological mapping (the latter work having been conducted by prior owners of the tenures).

For the purposes of the present report, drilling of year-2020 or older vintage is considered as 'historic' work, and year-2021 drilling is considered as 'current' work. Lithological summaries of current boreholes are presented within **Annexe B** of this report, and detailed core descriptions are presented within the year-2022 Marshall Miller & Associates report, attached as **Annexe E**.

3.1 Reported discovery of coal

The occurrence of coal within the Peace River coalfield was known at least as far back as 1793, with coal's reported discovery within the Peace River canyon, by members of Alexander MacKenzie's exploring expedition (MacKenzie, 1801). Available geological literature does not adequately address the possibility of prior knowledge of coal's properties and use by First Nations people.

3.2 Historic exploration at Hudette Main

Historic exploration at Hudette Main commenced with geological mapping, and proceeded to exploratory drilling, commencing in 1983, with most of it done between 2011 and 2013, and continuing in 2020 and 2021 (with the latter year seeing the 'current work' here-presented).

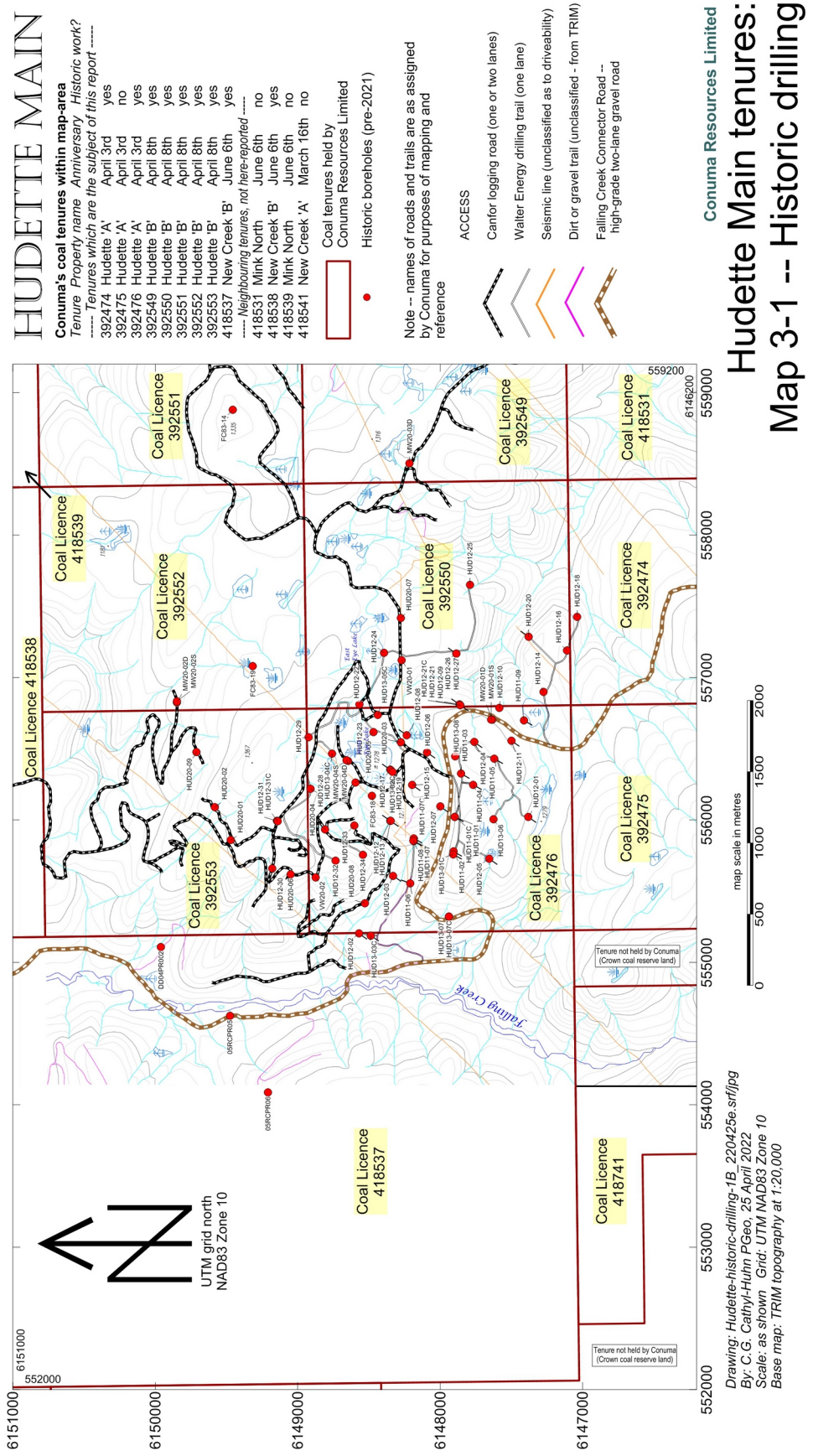
3.2.1 Geological mapping

Regional-scale geological mapping of the Hudette area commenced in or about 1973 (Dyson, 1973; 1975a; 1975b; 1977; Panchy, 1979; Newson, 1980a; 1980b) and continued until 2008. This work was followed by detailed mapping by geological staff of Western Coal Corporation and Walter Energy (Sultan, 2015) in response to road-builders' discovery of coal (colloquially known as the 'Whiskey Coal') between kilometres 25 and 27 of the 'Whiskey Road' segment of the newly-constructed Falling Creek Connector industrial road.

3.2.2 Exploratory drilling

Widely-spaced exploratory drilling was conducted in the Hudette area from the 1980s onward (Klatzel-Mudry *et al.*, 1982; 1984; Hovis *et al*., 2006), with indifferent results. Drilling appears to have focussed on establishing the near-surface stratigraphy of areas interpreted to have low bedding dips. Subsequently, Walter Energy conducted three drilling programmes at Hudette in 2011, 2012, and 2013, as reported by Sultan (*op.cit.*). In 2020, Conuma conducted further drilling, commencing in the 2019-2021 work term, and concluding in the 2020-2021 term (Cathyl-Huhn, 2020; 2021).

Map 3-1 shows the extent of historic drilling at Hudette Main. In all, 71 historic boreholes (totalling 14738.08 metres) were drilled within the area currently covered by the Hudette 'A' and Hudette 'B' coal tenures (which taken together comprise the Hudette Main property), whereas another four boreholes (totalling 1386.31 metres) have been drilled nearby, in two cases only a few metres west of the property boundary. The latter two boreholes (HUD12-02 and HUD13-03c) were perhaps erroneously-located at the time of layout, but they are covered by other adjoining coal tenures currently held by Conuma.


HUDETTE MAIN
Conuma's coal tenures within map-area
Tenure Property name Anniversary Historic work?
----- Tenures which are the subject of this report -----
392474 Hudette 'A' April 3rd yes
392475 Hudette 'A' April 3rd no
392476 Hudette 'A' April 3rd yes
392549 Hudette 'B' April 8th yes
392550 Hudette 'B' April 8th yes
392551 Hudette 'B' April 8th yes
392552 Hudette 'B' April 8th yes
392553 Hudette 'B' April 8th yes
418537 New Creek 'B' June 6th yes
----- Neighbouring tenures, not here-reported -----
418531 Mink North June 6th no
418538 New Creek 'B' June 6th yes
418539 Mink North June 6th no
418541 New Creek 'A' March 16th no
Coal tenures held by Conuma Resources Limited
Historic boreholes (pre-2021)
Note -- names of roads and trails are as assigned by Conuma for purposes of mapping and reference
ACCESS
Cantor logging road (one or two lanes)
Walter Energy drilling trail (one lane)
Seismic line (unclassified as to driveability)
Dirt or gravel trail (unclassified - from TRIM)
Falling Creek Connector Road -- high-grade two-lane gravel road
Conuma Resources Limited
Hudette Main tenures:
Map 3-1 -- Historic drilling
Coal Licence 418538
Coal Licence 418539
Coal Licence 392551
Coal Licence 392552
Coal Licence 392553
Coal Licence 392550
Coal Licence 392549
Coal Licence 418531
Coal Licence 392474
Coal Licence 392475
Coal Licence 392476
Coal Licence 418537
Coal Licence 418741
Falling Creek
Tenure not held by Conuma (Crown coal reserve land)
Tenure not held by Conuma (Crown coal reserve land)
UTM grid north
NAD83 Zone 10
map scale in metres
0 500 1000 1500 2000
6151000
6150000
6149000
6148000
6147000
552000
553000
554000
555000
556000
557000
558000
559000
559200
6146200
Drawing: Hudette-historic-drilling-1B_220425e.srf/jpg
By: C.G. Cathyl-Huhn PGeo, 25 April 2022
Scale: as shown Grid: UTM NAD83 Zone 10
Base map: TRIM topography at 1:20,000

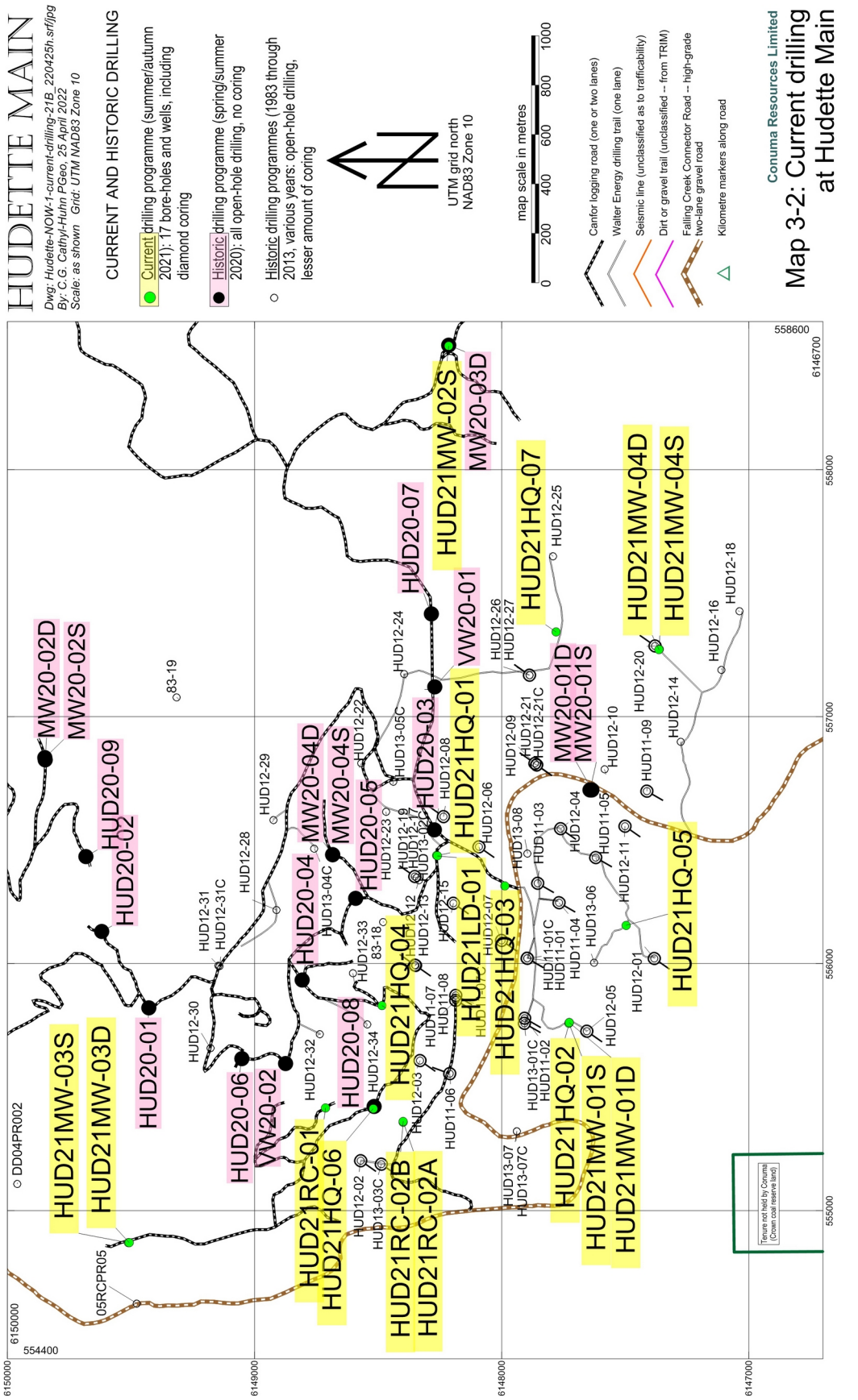

HUDETTE MAIN
Dwg: Hudette-NOW-1-current-drilling-21B_220425h.srf/jpg
By: C.G. Cathyl-Huhn PGeo, 25 April 2022
Scale: as shown Grid: UTM NAD83 Zone 10
CURRENT AND HISTORIC DRILLING
Current drilling programme (summer/autumn 2021): 17 bore-holes and wells, including diamond coring
Historic drilling programme (spring/summer 2020): all open-hole drilling, no coring
Historic drilling programmes (1983 through 2013, various years: open-hole drilling, lesser amount of coring
UTM grid north NAD83 Zone 10
map scale in metres
0 200 400 600 800 1000
Canfor logging road (one or two lanes)
Walter Energy drilling trail (one lane)
Seismic line (unclassified as to trafficability)
Dirt or gravel trail (unclassified -- from TRIM)
Falling Creek Connector Road -- high-grade two-lane gravel road
Kilometre markers along road
Conuma Resources Limited
Map 3-2: Current drilling at Hudette Main
Tenure not held by Conuma (Crown coal reserve land)
HUD21MW-03S
HUD21MW-03D
HUD20-01
HUD20-09
HUD20-02
MW20-02D
MW20-02S
HUD20-06
VW20-02
HUD21RC-01
HUD21HQ-06
HUD21RC-02B
HUD21RC-02A
HUD20-04
MW20-04D
MW20-04S
HUD20-05
HUD20-08
HUD21HQ-04
HUD21LD-01
HUD21HQ-01
HUD20-03
HUD20-07
VW20-01
HUD21MW-02S
MW20-03D
HUD21HQ-03
HUD21HQ-07
MW20-01D
MW20-01S
HUD21HQ-02
HUD21MW-01S
HUD21MW-01D
HUD21MW-04D
HUD21MW-04S
HUD21HQ-05
DD04PR002
05RCPR05
83-19
554400
558600
6150000
6149000
6148000
6147000
6146700
558000
557000
556000
555000

Table 3-1: References, tenure, and location of historic (pre-2021) boreholes

Borehole	Coal assessment report cross-reference	Coal licence in which situated	UTM coordinates (NAD83 Zone 10)		Elevation (metres)	Depth of borehole (metres)
			Easting	Northing		
05RCPR03	888	418538	556051	6151213	1200	262.13
05RCPR05	888	418537	554624	6149476	1100	204.22
05RCPR06	888	418537	554087	6149209	1161	259.08
FC 83-14	525	392551	558878.64	6149455.22	1335	336.11
FC 83-18	525	392476	556168.64	6148480.22	1282	201.77
FC 83-19	525	392552	557078.64	6149315.22	1292	251.66
DD04PR002	888	418537	555108	6149960	1067	290.93
HUD11-01	989 / 1063	392476	556021.56	6147896.61	1305.62	176.78
HUD11-01C	989 / 1063	392476	556021.56	6147896.61	1305.62	122.50
HUD11-02	989 / 1063	392476	555778.77	6147907.19	1327.85	220.06
HUD11-03	989 / 1063	392476	556325.25	6147854.24	1306.72	177.00
HUD11-04	989 / 1063	392476	556246.55	6147767.82	1314.87	170.68
HUD11-05	989 / 1063	392476	556429.40	6147619.50	1319.34	171.29
HUD11-06	989 / 1063	392476	555554.41	6148210.30	1187.06	65.53
HUD11-07	989 / 1063	392476	555851.18	6148185.77	1190.4	243.84
HUD11-07C	989 / 1063	392476	555871.18	6148185.77	1190.4	160.02
HUD11-08	989 / 1063	392476	555854.23	6148187.48	1191.95	216.46
HUD11-09	989 / 1063	392476	556698.39	6147412.51	1277.83	144.78
HUD11-10	*not drilled*		pad: 556898.30	6147283.46	*not drilled*	
HUD12-01	989 / 1063	392476	556020.76	6147382.28	1292.96	234.69
HUD12-02	989 / 1063	418537	555201.89	6148570.56	1126.99	187.45
HUD12-03	989 / 1063	392476	555607.38	6148330.32	1149.07	225.52
HUD12-04	989 / 1063	392476	556546.29	6147761.42	1321.64	248.00
HUD12-05	989 / 1063	392476	555726.24	6147655.42	1303.01	124.96
HUD12-06	989 / 1063	392476	556472.89	6148092.22	1291.30	240.79
HUD12-07	989 / 1063	392476	556093.89	6148000.29	1257.6	192.02
HUD12-08	989 / 1063	392476	556595.16	6148235.57	1279.57	213.36
HUD12-09	989 / 1063	392550	556810.65	6147865.62	1298.99	210.31
HUD12-10	989 / 1063	392476	556786.64	6147584.11	1279.68	249.93
HUD12-11	989 / 1063	392476	556556.22	6147500.80	1275.18	240.79
HUD12-12	989 / 1063	392476	555993.80	6148351.07	1240.79	184.40
HUD12-13	989 / 1063	392476	555992.61	6148348.66	1235.37	259.08
HUD12-14	989 / 1063	392550	556897.63	6147275.75	1263.06	243.84
HUD12-15	989 / 1063	392476	556244.41	6148195.49	1299.05	195.07
HUD12-16	989 / 1063	392550	557189.43	6147110.07	1210.34	252.98
HUD12-17	989 / 1063	392476	556352.74	6148351.25	1277.60	97.53
HUD12-18	989 / 1063	392474	557426.68	6147037.93	1179.42	210.31
HUD12-19	989 / 1063	392476	556347.50	6148344.64	1277.42	251.46
HUD12-20	989 / 1063	392550	557286.16	6147379.65	1257.96	249.93
HUD12-21	989 / 1063	392550	556804.52	6147858.59	1299.37	251.46
HUD12-21C	989 / 1063	392550	556804.47	6147858.81	1299.62	116.43
HUD12-22	989 / 1063	392550	556810.57	6148567.99	1289.63	243.84
HUD12-23	989 / 1063	392476	556614.91	6148468.00	1279.37	237.74

Table 3-1: References, tenure, and location of historic boreholes (concluded)

Borehole	Coal assessment report cross-reference	Coal licence in which situated	UTM coordinates (NAD83 Zone 10)		Elevation (metres)	Depth of borehole (metres)
			Easting	Northing		
HUD12-24	989 / 1063	392550	557172.41	6148394.41	1283.04	298.70
HUD12-25	989 / 1063	392550	557649.18	6147791.68	1236.42	259.08
HUD12-26	989 / 1063	392550	557167.47	6147887.06	1259.73	210.31
HUD12-27	989 / 1063	392550	557167.94	6147887.62	1259.93	84.20
HUD12-28	989 / 1063	392476	556217.07	6148910.58	1312.71	252.98
HUD12-29	989 / 1063	392476	556580.85	6148922.98	1327.38	230.72
HUD12-30	989 / 1063	392553	555657.31	6149178.54	1311.24	249.93
HUD12-31	989 / 1063	392553	555992.22	6149146.73	1329.01	249.93
HUD12-31C	989 / 1063	392553	555989.39	6149141.16	1328.29	249.93
HUD12-32	989 / 1063	392476	555714.73	6148735.36	1305.79	249.93
HUD12-33	989 / 1063	392476	555960.62	6148601.76	1246.39	249.93
HUD12-34	989 / 1063	392476	555754.25	6148542.78	1236.93	249.94
HUD13-01C	989 / 1063	392476	555758.30	6147908.00	1325.07	110.00
HUD13-02C	989 / 1063	392476	556337.40	6148335.00	1281.20	252.00
HUD13-03C	989 / 1063	418537	555187.90	6148487.00	1139.78	182.50
HUD13-04	989 / 1063	392476	556466	6148758	1308	197.45
HUD13-05	989 / 1063	392476	556737	6148438	1288	188.97
HUD13-06	989 / 1063	392476	556004.29	6147626.20	1317.12	207.70
HUD13-07	989 / 1063	392476	555321.78	6147938.35	1191.23	240.79
HUD13-07C	989 / 1063	392476	555321.78	6147938.35	1191.23	58.53
HUD13-08	989 / 1063	392476	556446.23	6147895.16	1311.11	213.36
HUD20-01	1068	392553	555858.93	6149469.6	1301.54	177
HUD20-02	1068	392553	556089.09	6149581.38	1296.21	250
HUD20-03	1068	392476	556543.96	6148275.42	1283.22	250
HUD20-04	1068	392476	555932.04	6148807.43	1248.62	244.5
HUD20-05	1068	392476	556263.14	6148593.2	1280.86	201.17
HUD20-06	1068	392553	555616.51	6149050.12	1275.03	256.64
HUD20-07	1068	392550	557418.47	6148275.42	1285.94	207.26
HUD20-08	1068	392476	555415.64	6148528.98	1133.75	22.25
HUD20-09	1068	392553	556477.04	6149710.64	1266.51	249.8
MW20-01D	1063	392476	556703.8	6147634.83	1300.34	150
MW20-01S	1063	392476	556703.76	6147642.16	1300.74	61.76
MW20-02D	1063	392552	556824.72	6149847.64	1211.53	153.16
MW20-02S	1063	392552	556833.52	6149848.27	1210.97	37.3
MW20-03D	1068	392549	558504.56	6148214.77	1290.55	250
MW20-04S	1068	392476	556414.02	6148646.65	1286.55	55.64
MW20-04D	1068	392476	556418.76	6148656.54	1287.74	248.78
VW20-01	1063	392550	557121.36	6148270.48	1285.2	250
VW20-02	1068	392476	555595.23	6148874.89	1269.81	250
					81 holes	16638.87
					within Hudette Main:	
					75 holes	15252.56

Tenure numbers listed are those which currently exist. Pre-2011 drilling (i.e. boreholes not given HUD prefix) was on previously-extant tenures which had expired prior to the granting of the current tenures. Further note that boreholes 05RCPR03, -04, and -06, HUD12-02, and HUD13-03C were drilled outside the boundaries of the Hudette Main coal tenures.

3.3 Current exploration

Current exploration comprises summer-2021 drilling, during the 2021-2022 work term, of the Hudette 'A' and 'B' coal licences, and the nearby margin of New Creek 'B'.

3.3.1 Summary of work done during 2021-2022 work term

During the 2021-2022 work term, 17 boreholes were drilled and their positions surveyed. At least three other unsurveyed boreholes were drilled to a shallow depth, upon which their bottom-hole casing or their bit assembly failed, causing their junking and abandonment without the issuance of a borehole identifier.

The 17 named and surveyed boreholes comprised seven HQ-cored diamond-drill holes (totalling 1686.86 metres), one six-inch 'large diameter' diamond-drill hole (152.10 m), and nine air-rotary open-holes (974.38 m), plus the re-purposing of one of the HQ-cored boreholes as a groundwater-monitoring well.

Boreholes were serially-numbered in order of spudding, with numbering recommencing for each hole type (as set forth in **Table A-1**). Lithological descriptions of the cored boreholes were compiled by geologists, as summarised in **Annexe B** of this report, and presented in greater detail within Appendix C of the MMA report (attached as **Annexe E** of this report).

Cores of coal beds, and their immediate roof and floor, were sampled for proximate analysis (moisture, ash, volatile matter, and fixed carbon by difference), FSI (caking propensity), LT (light transmission, a measure of coal oxidation), specific gravity, and major-oxide ash-chemistry analyses, as reported in **Annexe C** of this report. FSI and LT determinations were done solely on samples with proximate ash yields of 40% or less.

All of the above-mentioned analyses were performed on head raw (unwashed) samples. The rationale for running FSI on raw coal is that this test provides a rapid and inexpensive means of distinguishing coals with caking propensity from those without such propensity, without requiring the more laborious and costly wash/froth tests to produce simulated clean coal products.

Of the nine air-rotary open-hole boreholes, six were directly completed as groundwater-monitoring wells, and a seventh well (HUD21MW-01D) was constructed within a previously-drilled diamond-drill hole. Three of the open-hole boreholes were drilled solely for investigation of geological structure, and confirmation of the potential extension of mineable coals, at two sites. One site received one open-hole, while the other side received two (HUD21RC-02A and HUD21RC-02B), with the former hole being abandoned at a shallow depth owing to its downhole assembly being shanked, necessitating its junking, abandonment, and twinning by the successful latter borehole.

Table 3-2: Record source, tenure, and location of current boreholes

Borehole	Record location within this report	Coal licence in which situated	UTM coordinates (NAD83 Zone 10)		Elevation (metres)	Casing base (driller) (metres)	Depth of borehole (metres)
			Easting	Northing			
2021-2022 HQ core drilling							
HUD21HQ-01	Annexes B/E	392476	556437.93	6148262.69	1284.1	10.2	249.71
HUD21HQ-02	Annexes B/E	392476	555760.84	6147725.98	1314.65	2.42	249.72
HUD21HQ-03	Annexes B/E	392476	556314.91	6147986.64	1295.17	10.4	246.65
HUD21HQ-04	Annexes B/E	392476	555829.97	6148484.42	1193.76	7.17	198
HUD21HQ-05	Annexes B/E	392476	556155.16	6147496.22	1317.08	2.95	244.54
HUD21HQ-06	Annexes B/E	392476	555412.48	6148519.9	1133.34	24.00	246.74
HUD21HQ-07	Annexes B/E	392550	557342.48	6147779.49	1267.83		251.5
7 boreholes	1686.86 m						
2021-2022 6-inch core drilling							
HUD21LD-01	Annexes B/E	392476	556435.74	6148259.92	1284.35	10.5	152.1
1 borehole	152.1 m						
2021-2022 open-hole rotary drilling							
HUD21MW-01S	Annexes B/E	392476	555758.45	6147728	1314.63	3	56.54
HUD21MW-01D	Annexes B/E	392476	constructed within existing borehole HUD21HQ-02				
HUD21MW-02S	Annexes B/E	392476	558500.69	6148214.59	1289.4	16.76	55.25
HUD21MW-03S	Annexes B/E	418537	554869.38	6149509.96	1072.38	22.9	50.3
HUD21MW-03D	Annexes B/E	418537	554870.65	6149507.5	1072.72	30.48	80.81
HUD21MW-04S	Annexes B/E	392550	557272.38	6147361.88	1261.97	5.9	94.04
HUD21MW-04D	Annexes B/E	392550	557270.77	6147363.17	1261.88	7.6	199.8
HUD21RC-01	Annexes B/E	392476	555415.25	6148712.87	1154.51	13.7	205.6
HUD21RC-02A	Annexes B/E	392476	555358.16	6148398.09	1150.48	30.5	76.87
HUD21RC-02B	Annexes B/E	392476	555361.42	6148398.27	1150.31	33.5	210.7
9 boreholes + 1 reused	1029.91 m						
17 boreholes +1 reused	2868.87 m						

Note: borehole locations from high-precision GPS.

3.3.2 Summer-2021 geophysical logging

Most of the boreholes were geophysically-logged, as set forth within **Table A-2** of **Annexe A** of this report. Exceptions were the shallow water-wells (within shallow/deep pairings), and the junked shallow structure-hole (HUD21RC-2A): these holes were not logged.

An industry-standard suite (gamma / density / resistivity / neutron / deviation / dipmeter) of geophysical logs was run on most of the boreholes, with the addition of specialised logs (spectral gamma / sonic / televiewer) within seven of the eight cored boreholes.

3.3.3 Interpretations of historic and current geophysical logs

During the 2021-2022 work term, geologists from Marshall Miller & Associates (MMA) re-interpreted geophysical logs of historic boreholes, along with those of the current boreholes in

which geophysically logs were run. Marked-up density logs of year-2021 boreholes, depicting the zone codes/numbers assigned by MMA, are presented in **Annexe A** of this report.

Table B-1, within **Annexe B**, presents MMA's summarised lithological coding of year-2021 boreholes, in a form suitable for transcription into modelling software. This table has been compiled from core descriptions supported by log interpretation.

Table 4-4 (in **Chapter 4** of this report) presents the span of formations and rock-units interpreted to have been intersected by each of the current boreholes.

3.4 Comment on effective borehole spacing

Coal licence 392476 is the most intensely-explored tenure at Hudette Main. Sixty-two historic and current boreholes have been drilled within this coal licence's 294-hectare area, thus 4.74 hectares per borehole, equivalent to 218-metre spacing if the boreholes had been drilled on a square grid. At this spacing, correlation of coals (including recognition of splits, folds, and faults) is fair to good, and locally excellent.

4 Geological synthesis

Map 4-1 presents the interpreted bedrock geology of the Hudette Main property. This map is based upon structural studies conducted by Norwest Corporation (Allen and Minev, 2017, and also upon the present author's re-examination of geophysical logs from historic boreholes. The vintage of the map is ca. July, 2019.

4.1 Stratigraphy at regional- and property-scale

Regional and property-scale stratigraphy of the Hudette area has been established by means of gross lithostratigraphic correlation of laterally-extensive coarse-grained (mostly non-marine) and fine-grained (mostly marine, but locally non-marine) sedimentary rock-units. Identity and continuity of strata have been established mainly by means of pattern-recognition of geophysical-log responses in boreholes drilled within and adjacent to the Hudette Main area.

Table 4-1 presents a table of formations for the Hudette Main area. Two formations (the Moosebar Formation and the older Gething Formation) form bedrock at Hudette Main. As well, unconsolidated Drift covers much of the property, limiting the exposures of bedrock.

Table 4-1: Table of formations for Hudette Main property

Group	*Formation*	*Member*	*Map-unit*	*Lithology*	*Thickness*	*Notes*
Quaternary Drift			D	talus, colluvium, alluvium; ?glaciolacustrine silty sand; till; peat and muck	2 to 40 m	
Fort St. John Gp.	Moosebar Fm.	Spieker Mb.	4c	marine siltstone and sandstone; overall coarsening-upward sequence	40 to 70 m	
		Cowmoose Mb.	4b	marine mudstone; minor tuff and ironstone	50 to ?120 m	
		Green Marker	4a	glauconitic gritstone and silty sandstone; locally pebbly; erosional base	0.45 to 4 m	
		Bullmoose Mb.	3c	siltstone and silty mudstone; minor sandstone and tuff; gradational or abrupt base	25 to 50 m	
	Bluesky Fm.		3b	glauconitic, variably-muddy, pebbly gritstone; erosional base	0.25 to 7 m	
Bullhead Gp.	Gething Fm.	Gaylard Mb.	3a	fining-upward cycles of sandstone, mudstone, siltstone, and coal; coals are concentrated in uppermost 150 metres of the Gething Formation; basal sandy sub-unit lacks coals	460 to 485 m	
	Cadomin Fm.		2	gritty sandstone and pebble-conglomerate with distinctive 'blocky' gamma-neutron log response; minor siltstone	25 to 35 m	
Minnes Gp.	Bickford Fm.		1d	siltstone, sandstone, mudstone and coal	285 to 300 m	
	Monach Fm.		1c	sandstone and conglomerate; siltstone	*thicknesses not known*	*unreached by drilling at Hudette Main*
	Beattie Peaks Fm.		1b	siltstone, sandstone, and mudstone; minor coal		
	Monteith Fm.		1a	quartzite and sandstone; minor siltstone		

Note: updated March 17, 2021

4.1.1 Quaternary and Recent deposits

Logging-road cuts at Hudette Main expose a range of Drift lithologies: silty sand, stony till, rock rubble, bouldery gravel, and wetland-associated peaty muck. Silty sands appear to occur as flat-topped terrace deposits; these sands may be glaciolacustrine deposits.

The age of Drift at Hudette is postulated to range from Quaternary to Recent, with till being the oldest material and peaty muck, rock rubble, and streambed gravel being the youngest materials. No site-specific age-dating (*e.g.* carbon-14 dating) has yet been done. Furthermore, no published surficial (non-bedrock) geological mapping is known to have been done in the Hudette Main area.

4.1.2 Lower Cretaceous bedrock

Bedrock in the Hudette area has been mapped at local scale by geologists from several exploration companies and consultancies (Dyson, 1973; 1975a; 1975b; 1977; Klatzel-Mudry *et a*l., 1982; 1984; Hovis *et al.*, 2006; Ryan, 2010; Sultan, 2015). Conuma's most recent geological compilation (**Map 4-1**) was assembled in July 2019, with minor updates in 2020 and 2021.

Rocks of three formal stratigraphic groups are mapped as forming bedrock at or near the Hudette area: from youngest to oldest, these are:

- Fort St John Group: Early Albian rocks of the Moosebar and Bluesky formations;
- Bullhead Group: Hauterivian? to Early Albian rocks of the Gething and Cadomin formations; and
- Minnes Group: Berriasian to Valanginian rocks of the Bickford, Monach, Beattie Peaks, and Monteith formations.

Of these eight formations, only the Moosebar, Bluesky, and Gething formations are mapped as forming bedrock within the Hudette Main coal tenures. The older Cadomin, Bickford, Monach, Beattie Peaks and Monteith formations are regionally considered as forming bedrock to the southwest and east of the tenures, but likely do not extend laterally to form the immediate bedrock at Hudette Main.

4.1.2.1 Moosebar Formation

The Moosebar Formation consists chiefly of shelfal to deep marine siltstone and mudstone, with minor sandstone, ironstone, and volcanic tuff (colloquially, 'ash bands') and very minor glauconitic, variably-muddy, pebbly gritstone. The Moosebar records at least two shallowing-upward, coarsening-upward sequences passing from basal silty mudstone to topmost sandy siltstone and very fine-grained silty sandstone. The overall thickness of the Moosebar Formation is estimated to be at least 180 metres, with its upper contact having not been found within the Hudette Main area. The basal contact of the Moosebar Formation with the underlying Bluesky Formation, intersected by numerous boreholes, is gradational to abrupt. Gradational contacts are often marked by the presence of isolated aggregates of glauconite within the basal Moosebar mudstone.

Four members are recognised within the Moosebar Formation by past and current workers at Walter Energy and Conuma. From the top down, these are:

- Spieker Member: thinly-banded sandy siltstone (40 to 70 metres thick),
- Cowmoose Member: locally-pyritic, black silty mudstone (50 to ?120 metres thick),
- Green Marker: glauconitic gritstone and silty sandstone (0.45 to 4 metres thick), and
- Bullmoose Member: silty mudstone (25 to 50 metres thick).

The Green Marker and the Cowmoose Member are informal stratonyms, developed between 2014 and 2016 by Walter Energy's geological staff.

4.1.2.2 Bluesky Formation

The Bluesky Formation consists of dark green to dark greenish-grey, glauconitic, variably-muddy pebbly gritstone, with a conspicuous erosional basal contact with the underlying Gething Formation.

Where the Bluesky gritstones overlie Gething sandstones, their mutual contact is difficult to unambiguously demarcate on the basis of geophysical logs alone, except that the neutron-log response of the Bluesky is in some instances more muted, perhaps associated with increased amounts of muddy matrix within the Bluesky gritstones.

Judging by the variable thickness of preserved Gething strata above the uppermost Gething coal, the erosional relief at the Bluesky / Gething contact may be as great as five to ten metres.

4.1.2.3 Gething Formation

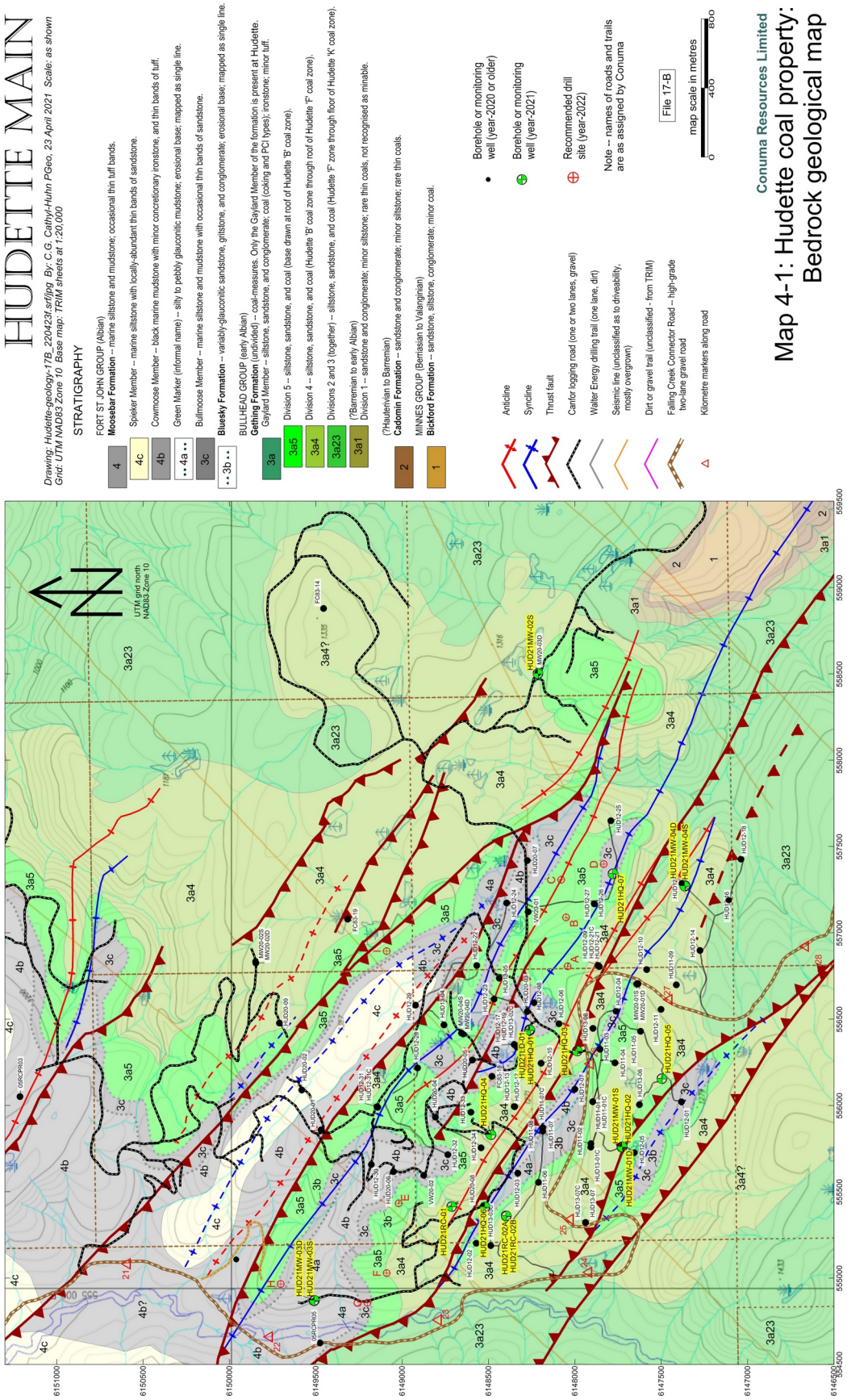
Although the Gething Formation comprises three or four well-documented members within more southwesterly portions of the Peace River coalfields (Gibson, 1992), only the basal Gaylard Member of the formation is recognised at Hudette.

The Gething Formation at Hudette consists principally of non-marine (alluvial, fluvial, and possibly lacustrine) variably-sandy siltstone, variably-carbonaceous mudstone, lenticular (channel-filling or bar-form) sandstone, and coal ranging from dirty 'barcode'-types interbanded with coaly and carbonaceous mudstone, to massive coals with few or no associated rock partings.

Gething sandstones at Hudette typically display bell-shaped gamma-neutron geophysical log responses, consistent with fining-upward passage from channelised sandstones to silty bar-form sandstones.

Ironstone and tuff form very minor proportions of the Gething Formation. Ironstones appear to have limited lateral continuity, at most two to three hundred metres. The tuff bands, where associated with major coal zones, appear to have greater lateral continuity (a few hundred to several hundred metres, and perhaps further if associated with a major coal zone?) and therefore utility as stratigraphic and structural marker beds, as has been observed at Conuma's Willow Creek Mine, and as less-frequently observed at Conuma's Brule Mine.

Marine bands have not yet been established as present within the Gaylard coal-measures at Hudette, although trace fossils ('burrows') have been reported from cores taken by Esso from the basal parts of some sandstone channel-fills, and burrowed sandy shale with brachiopod fossils was noted was noted in borehole HUD21HQ-05. Such occurrences may stem from the presence of tidal salt-water wedges near the base of channels.


HUDETTE MAIN
Drawing: Hudette-geology-17B_220423f.srf/jpg By: C.G. Cathyl-Huhn PGeo, 23 April 2021 Scale: as shown
Grid: UTM NAD83 Zone 10 Base map: TRIM sheets at 1:20,000
STRATIGRAPHY
FORT ST JOHN GROUP (Albian)
Moosebar Formation -- marine siltstone and mudstone; occasional thin tuff bands.
Spieker Member -- marine siltstone with locally-abundant thin bands of sandstone.
Cowmoose Member -- black marine mudstone with minor concretionary ironstone, and thin bands of tuff.
Green Marker (informal name) -- silty to pebbly glauconitic mudstone; erosional base; mapped as single line.
Bullmoose Member -- marine siltstone and mudstone with occasional thin bands of sandstone.
Bluesky Formation -- variably-glauconitic sandstone, gritstone, and conglomerate; erosional base; mapped as single line.
BULLHEAD GROUP (early Albian)
Gething Formation (undivided) -- coal-measures. Only the Gayland Member of the formation is present at Hudette.
Gayland Member -- siltstone, sandstone, and conglomerate; coal (coking and PCI types); ironstone; minor tuff.
Division 5 -- siltstone, sandstone, and coal (base drawn at roof of Hudette 'B' coal zone).
Division 4 -- siltstone, sandstone, and coal (Hudette 'B' coal zone through roof of Hudette 'F' coal zone).
Divisions 2 and 3 (together) -- siltstone, sandstone, and coal (Hudette 'F' zone through floor of Hudette 'K' coal zone).
(?Barremian to early Albian)
Division 1 -- sandstone and conglomerate; minor siltstone; rare thin coals, not recognised as minable.
(?Hauterivian to Barremian)
Cadomin Formation -- sandstone and conglomerate; minor siltstone; rare thin coals.
MINNES GROUP (Berriasian to Valanginian)
Bickford Formation -- sandstone, siltstone, conglomerate; minor coal.
Borehole or monitoring well (year-2020 or older)
Borehole or monitoring well (year-2021)
Recommended drill site (year-2022)
Anticline
Syncline
Thrust fault
Canfor logging road (one or two lanes, gravel)
Walter Energy drilling trail (one lane, dirt)
Seismic line (undassified as to driveability; mostly overgrown)
Dirt or gravel trail (unclassified - from TRIM)
Falling Creek Connector Road -- high-grade two-lane gravel road
Kilometre markers along road
Note -- names of roads and trails are as assigned by Conuma
File 17-B
map scale in metres
0
400
800
UTM grid north
NAD83 Zone 10
Conuma Resources Limited
Map 4-1: Hudette coal property:
Bedrock geological map

4.1.2.4 Cadomin Formation

Underlying the Gething Formation is the Cadomin Formation, comprising 25 to 35 metres of coarse-grained, locally gritty to pebbly sandstone, pebbly gritstone, and fine pebble-conglomerate. The gamma and neutron log responses of the Cadomin Formation are characteristically-blocky.

The Cadomin generally consists of one to three thick-bedded bands of sandstone to conglomerate, separated by a few decimetres to a few metres of rooty siltstone and mudstone with rare stringers and lenses of coal (possibly coalified driftwood).

The Cadomin Formation is currently-understood to form economic basement for coal exploration at Hudette.

4.2 Regional and local tectonics

The Hudette Main coal tenures lie within a regional-scale northeast-directed fold-thrust belt, which extends at least 1000 kilometres northwesterly from northern Montana through Alberta to southeastern Yukon.

Steep open folds take up most of the tectonic shortening at Hudette, with lesser (but still significant) extent of thrust-faulting (as depicted in **Map 4-1**). Most of the thrusts at Hudette are inferred to verge northeastward, consistent with the overall sense of regional tectonic transport. However, southwest-verging thrusts are inferred to occur within the southwestern corner of the Hudette Main tenures, where they juxtapose Gething coal-measures over tightly-folded non-coaliferous Moosebar rocks. Thrust vergence is indicated by triangular barbs along the fault traces, with the barbs on the leading (upper) edge of the faults.

Although numerous faults (the majority of which are interpreted to have 'possible' level-of-assurance) are interpreted to have been intersected by boreholes at Hudette Main, these faults are considered to mostly be bedding-plane shear zones, as they have minimal apparent stratigraphic displacement.

Precise location and geometric details of thrusts and folds remains opem to refinement, owing to the patchy distribution of bedrock outcrops, and the inconsistent spatial density of drilling within most of the Hudette Main property. Further structural drilling, if undertaken, would improve Conuma's understanding of the structural configuration of the Hudette coal-measures.

4.3 Stratigraphic distribution of coals at Hudette Main

Coals at Hudette Main may be readily grouped into zones (Sultan, 2015; Douthat and Eckman, 2022), most of which contain more than one coal bed. Zones are designated by letters, from A zone near the top of the Gething Formation, to K zone at a stratigraphic distance of approximately 150 metres below the top of the Gething. Owing to steep dips and thrust-faulting (the effects of which factors are further complicated by angled borehole trajectories), the Hudette Main coal zones are typically spread-out over drilled intervals up to 250 metres long.

Within coal zones, individual coal beds often appear to split and coalesce, although this anastomosing geometry may be more a function of channelisation of intervening rock partings,

rather than true stratigraphic coalition. Coal beds also vary in thickness, to such an extent that they may become too thin to allow adequate resolution by geophysical logs.

At property scale, pinch-out and lateral lithifaction ('shaling-out') appears to take place within some coal beds. A typical lateral passage is from a central thick (up to three metres) low-ash, low-density coal with characteristic blocky log response, to a surrounding thinner and higher-ash, higher-density (borderline 'dirty') coal with saw-toothed 'barcode-style' log response, to yet thinner dirty coals and ultimately black carbonaceous to coaly mudstone.

4.3.1 Conuma-2021 schema

In the immediately-preceding geological report (CAR-1068; Cathyl-Huhn, 2021), the most persistent coal bed within a given zone was named to match the zone's name. Less-persistent coal beds were given suffixes, as thus:

R: Rider / T: Top / U: Upper / M: Middle / L: Lower (refer to **Table 4-2** for examples).

The Conuma-2021 schema is summarised below as **Table 4-2**.

4.3.2 Marshall Miller & Associates schema

In their technical report (appended as **Annexe E**), MMA employ a similar vertical progression of coal zones from A zone near the top of the Gaylard coal-measures, down to K zone below.

Individual coal beds, within coal zones, are designated by alphanumeric codes which reflect the codes used by MMA during their coal-correlation and resource-modelling process. The MMA schema is summarised as **Table 4-3**.

4.3.3 Discussion

As noted above, coal zones generally contain more than one coal bed, and some of the coal beds may contain more than one recognisable coal ply, separated by laterally-persistent rock partings.

In the scanned geophysical logs presented in **Annexe A**, coal bed names are presented for both schemas. The right side of the logs (near the density trace) presents the MMA bed names in rectangles, as transcribed from the MMA model input table, and from the core logs presented in the year-2022 43-101 report. The left side of the logs (near the gamma trace) presents the author's 'quicklook' interpretation of coal bed names according to the Conuma-2020 schema, given in circles. In some boreholes, the two schemas compare well; in others, they do not -- suggestive of local stratigraphic complexity, and underscoring the benefits of MMA's recorrelation of historic boreholes.

The 'marker' bands noted in the rightmost column of **Table 4-2** appear to persistently appear as low-density 'kicks' on geophysical density logs; they may locally be very thin coals, whose minimal thickness (10 to 40 centimetres?) does not allow for the development of full density-log response.

Table 4-4 (given below) summarises the rock-units (formations, members, or marker beds) interpreted to have been intersected by current boreholes. Faults shown in this table are based on the author's 'quicklook' log interpretation, and are all assigned to the 'possible' level-of-confidence.

Table 4-2: Conuma-2021 schema of coals at Hudette Main

	Coal zone	*Coal beds*	*Plies of coal beds*		*Markers (mainly carbonaceous or coaly shale, or dirty coal)*
Gething Formation (Gaylard Member)	A zone	A			
	B zone	B	BU		
			BM		
			BL		
					CG, CK, CN, CQ: carbonaceous shales
	C zone	CT	each of these coals may locally be split into plies; not yet detailed		
		CU			
		C			
	D zone	DU	each of these coals may locally be split into plies by thin partings or fusain bands		
		DR			
		D			
					DE: carbonaceous shale; rarely coal
	E zone	E	EU: thin dirty coal; locally coaly shale		
			E	EM	possibly a medial ash band between EM and EL
				EL	
					EF: carbonaceous shale; rarely coal
	F zone	F	FU: coaly or carbonaceous shale; dirty coal when near F coal		
			F	FM	possibly a medial ash band between FM and FL
				FL	
					FG: carbonaceous shale; rarely coal
	G zone	G	GU	two or three of these plies may locally conjoin	possibly a Z-shaped split, wherein GM ply laterally approaches GU or GL
			GM		
			GL		
	H zone	H	H	possibly a split; HL might be local lens	
			HL		
	I zone	I	I: generally single coal		
					IJ: carbonaceous or coaly shale
	J zone	J	J: locally thick coal with rock partings, could be mapped as individual coal plies?		
					JK: coaly shale or dirty coal
	K zone	K	KR	K zone locally consists of three or four plies;	
			KU		
			KM		
			KL		

Data source: Coal Assessment Report 1068

Table 4-3: MMA-2022 nomenclature of coals at Hudette Main

	Coal zone	Coal beds	Plies of coal beds	*Alternate name (from core logs)*
Gething Fm.	A	A 150	not codified	
		A 170		
	B	B 240		BU 240
		B 250		
		B 270		BL 270
	C	C 340		CU 340
		C 350		
	D	D 440		DU 440
		D 450		
		D 460		
		DE 495		DE 495
	E	E 540		EU 540
		E 550		
	F	F 640		FU 640
		F 650		
		F 695		FG 695
	G	G 740		GU 740
		G 750		
	H	H 850		
		H 870		
	I	I 950		
		I 995		IJ 995
	J	J 1050		
	K	K 1150		

Data source: Marshall Miller & Associates borehole logs, model input table, and Figure 7-3 (page 33) of Douthat and Eckman (2022) technical report (attached as Annexe E).

Formation and sub-unit tops in current boreholes: **Table 4-4**

Borehole	Drift	Moosebar Fm.			Bluesky Fm.	Gething Fm.: Gaylard Mb.	Cadomin Fm.
		Cowmoose Mb	Green Marker	Bullmoose Mb.			
HUD21HQ-01	13.2	starts	23.15	24.25	40.15	40.4	
fault @ 153.9-154.0							
HUD21HQ-01						f/starts	DNR
HUD21HQ-02	2.42				starts	2.85	DNR
HUD21HQ-03	9.1					starts	DNR
HUD21HQ-04	7.14					starts	DNR
HUD21HQ-05	2.84					starts	DNR
HUD21HQ-06	14.24	starts	39.6	41.15	54.3	54.8	DNR
HUD21HQ-07	3.97			starts	5.6	7.3	
fault @ 64.4-64.6							
HUD21HQ-07		f/starts	67.3	69.2	83.4	83.7	DNR

Formation and sub-unit tops in current boreholes: **Table 4-4 (concluded)**

Borehole	Drift	Moosebar Fm.			Bluesky Fm.	Gething Fm.: Gaylard Mb.	Cadomin Fm.
		Cowmoose Mb	Green Marker	Bullmoose Mb.			
HUD21LD-01	10.5	starts	21.2	22.15	37.3	38.5	
fault @ 144.6-144.7							
HUD21LD-01						f/starts	
fault @ 150.3-150.4							
HUD21LD-01						f/starts	DNR
HUD21MW-03D	26.15	starts	27.6	28.15			
fault @ 37.2-37.35							
HUD21MW-03D		f/starts	44.4	45.7			
fault @ 50.6-50.7							
HUD21MW-03D			57.25	58.3	61.8	62.2	DNR
HUD21MW-04D	6.1					starts	
fault @ 22.15-22.3							
HUD21MW-04D					f/starts	22.85	
fault @ 37.7-38.05							
HUD21MW-04D						f/starts	DNR
HUD21RC-01	10.9			f/starts	14.8	15.3	DNR
HUD21RC-02B	19.8					starts	
fault @ 110.3-110.4							
HUD21RC-02B						f/starts	
fault @ 192.55-192.65							
HUD21RC-02B						f/starts	DNR

File: *Hudette 2021 unit tops_220418a.dat*
Note: all depths given in metres, as interpreted from geophysical logs. 'f/starts' signifies that the rock-unit underlies a fault. 'DNR' signifies that the rock-unit was not reached. 'Drift' comprises undifferentiated unconsolidated to semi-consolidated surficial materials.

7 Reclamation

Reclamation at all sites has consisted of pickup and removal of drilling machinery, materials, and trash. Reusable materials and drilling supplies were stored at the laydown area. Boreholes were sealed by means of cement in case of artesian water flows, where not completed as groundwater monitoring wells, in which case they were appropriately capped..

Roads have been left open for future use by Conuma and by other parties such as Canfor and its contractors.

Inasmuch as access to the borehole sites has been via existing logging roads, and these roads are needed for ongoing use, reclamation work on those roads themselves has consisted of restoring pre-existing water-bars and cross-ditches, as well as cross-berms ('tank traps').

8 Statement of costs

Cost data for the 2021-2022 work term were provided by Bryan Ottewell PEng. All drilling and groundwater-well testing and installation was performed by Geotech Drilling Services Ltd., under the supervision of consultant geologist Steve Stansfield from Marshall Miller & Associates, assisted by Conuma technical staff.

Total activity costs, along with unit costs on a per-metre basis are presented below as **Table 8-1**.

Table 8-1: Total activity and unit costs from April 9, 2021 to April 8, 2022

Number of holes and total metreage	Drilling and drilling/ground-water well supplies (Geotech Drilling)	Road maintenance and cat support	Geophysical logging (Century Wireline)	Assaying (Birtley Coal & Minerals Testing)	Consultants, first aid, surveys, and environ-mental	Geological, environmental, and safety supplies	Total cost
17 / 2868.87 m	$1,548,500	$320,000	$150,000	$125,000	$505,000	$23,000	$2,671,500
Unit costs per metre of drilling	$539.76	$111.54	$52.29	$43.57	$176.03	$8.02	
Overall unit cost per metre of drilling							$931.20

8.1 Discussion of unit costs

Unit costs were slightly lower ($931.20 / metre) during the Hudette Main 2021-2022 work programme, as compared with the 2020-2021 term (at $936.89 / metre), and markedly less than the 2019/2020 term ($1752.59 / metre)

Cost control was aided by generally-drier weather during the summer of 2021, which required less work to maintain good access roads. Costs were also held down by the decision to truncate the planned large-diameter drilled bulk sample at one borehole, instead of several holes in a cluster.

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10 Conclusions

The coal-measures of the Hudette Main property are deformed by folded, imbricate thrust faults and associated steep-dipping folds, consistent with an overall thin-skinned structural style. Normal stratigraphic sequences are preserved within the coal-measures, and their contained coal beds present recognisable and (in general) readily-correlatable geophysical log responses. Overturned strata have not thus far been recognised, and would be expected to be rare. Stratigraphic inversions within substantially-angled historic boreholes are occasionally found, where the borehole trajectory 'climbs' stratigraphically with increasing depth.

Closely-spaced drilling (ca. 175 m spacing) will be required to confidently assess the extent of structural disruption of the Gething coal-measures. This disruption is further complicated by the vertically-anastomosing nature of closely-associated coal beds and coal-plies within broader coal zones.

Physical work at Hudette Main during the 2021-2022 work term comprised drilling of 17 boreholes and groundwater-wells, including 8 diamond-cored boreholes, with total length of 2868.87 metres. Including historic work conducted between 1983 and 2013, as well as work done within the immediately-receding 2020-2021 work term, total drilling to date within the Hudette Main property comprises 92 boreholes with an aggregate length of 18,121.43 metres.

Cost of the 2021-2022 (summer and autumn of 2021) work programme (involving 2868.87 metres of drilling) was approximately $2,671,500, equivalent to a unit cost of $931.20 per metre drilled. The relative isolation of the Hudette area, as well as the inherent complexity of hydrogeological drilling, testing, and well installation, are among possible factors contributing to the high cost of work done.

The Hudette Main coal property contains indicated and inferred coal resources (as enumerated in Chapter 6 of this report) hosted by coal-measures of Early Cretaceous age, assigned to the Gaylard Member of the Gething Formation.

Hudette Main is a property of merit, warranting further drilling (as discussed in **Chapter 11** of this report, and detailed in the MMA technical report within **Annexe E**).

11 Recommendations

In keeping with the established presence of coal within the property, the Hudette Main area 'A' and area 'B" coal tenures should be maintained in good standing, with requisite rentals paid to the Crown.

Within their technical report (Douthat and Eckman, 2022, attached as **Annexe E**), MMA recommend the drilling of nine cored boreholes**,** with positional and depth details collated as **Table 11-1**. Boreholes are designed to have lengths ranging from 238 to 305 metres. Borehole sites are lettered, whereas the boreholes themselves should be numbered in order of commencement of drilling.

Table 11-1: Boreholes proposed by Marshall Miller & Associates

Proposed site	UTM NAD83 Zone 10		Elevation (m)	Depth (m)	Access road?	Previous site name
	Easting	Northing				
A	556806	6148042	1299	238	new-build	YK
B	557090	6148050	1250	ca. 250	new-build	YL
C	557307	6148080	1288	ca. 250	new-build	none
D	557398	6147833	1272	ca. 250	new-build	YO
E	555433	6149020	1217	200	new-build	ZI
F	555029	6149089	1111	230	new-build	ZC
G	554856	6149200	1076	215	existing	G
H	554967	6149703	1150	305	new-build	ZF
I	556895	6149089	1324	284	new-build	none
		totals	9 sites	2222 m		

Data source: MMA 43-101 report, Table 26-1, at page 73.

Geochemical sampling of current (and any further) rock cores should be undertaken for multi-element analysis (particularly for selenium, acid rock drainage potential, and potential for extraction of specialised elements such as light and heavy rare-earths.

Washability tests on cored samples from the year-2021 drilling programme should continue.

Geophysical logs, both current and historic, should be reinterpreted in detail, to identify and confirm zones of sandy channel-fills, and possible washouts of coal beds.

12 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 Resources Limited, in their Canadian head office in Tumbler Ridge, British Columbia.

b) This certificate applies to the current report, titled *Coal Assessment Report for the Hudette coal licences, 2021-2022 term*, dated April 28, 2022.

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, a member (No.152081) of the Association for Iron & Steel Technology, and a founding Registered Member of the Society for Mining, Metallurgy and Exploration (SME, Registered Member No.518350). I have worked as a colliery geologist in four countries for over 43 years since my graduation from university with a degree in geological science.

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 a Competent Person as defined by the Australian *JORC Code*.

e) I have worked as Chief Geologist for Conuma Coal Resources Limited and for Conuma Resources Limited since September of 2016. I previously worked as Senior Mine Geologist and then Chief Geologist for Walter Energy Western Coal and its associated firms, from November 2011 to August 2016.

f) My most recent visit to the Hudette Main coal property was in April of 2020.

g) I am the sole author of this report, titled *Coal Assessment Report for the Hudette coal licences, 2021-2022 term*, dated April 28, 2022, concerning the Hudette Main coal property.

h) I accept professional responsibility for this report.

i) As of the date of this report, I am not independent of Conuma Resources Limited, pursuant to the tests in Section 1.4 of *National Instrument 43-101*, for the reason that I am a full-time employee of Conuma Resources Limited (EGBC Permit to Practice 1002928).

j) The effective date of this report is April 8, 2022.

“original signed and sealed by”

Dated this 28th day of April, 2021,
in Cumberland, British Columbia

C.G. Cathyl-Huhn P.Geo. Lic.Geol. RMSME

Annexe A: Borehole statistics, geophysical logging, and annotated logs

Construction details of current boreholes, including dates of commencement of drilling and of geophysical logging, along with interpreted rockhead depth and borehole set-up geometry, are presented as **Table A-1**. Total drilling length and amount of casing installed (in both cases, as reported by the drillers) are, for the 2021-2022 work term:

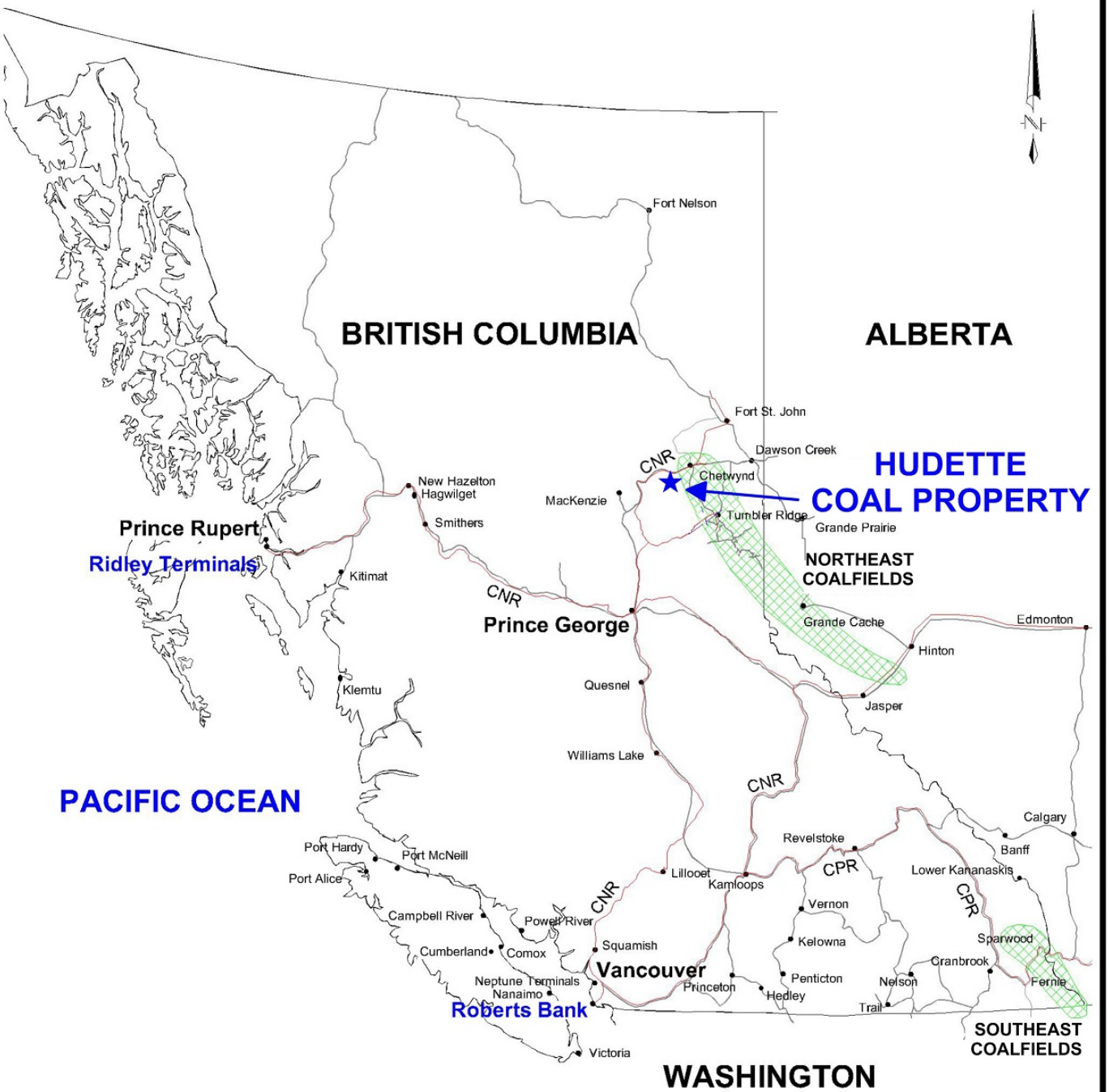
- 2868.87 metres and 214.11 metres respectively. The deepest casing set was 33.52 m.

Geophysical logging was performed by Century Wireline Services, from their Canadian base in Red Deer, Alberta.

Details of geophysical logging, including tool type, logs run, and depths reached, are presented in **Table A-2**. Besides the standard coalfield suite of borehole-compensated gamma-density-caliper-resistivity, gamma-neutron, deviation, and dipmeter, the following special logs were run:

- Full-wave sonic, to allow cross-plotting with density to generate a porosity log,
- Spectral gamma-ray (KUT-log). to compare natural gamma from potassium, uranium, and thorium, and
- Acoustic televiewer, to allow examination of tectonic and sedimentary structure within borehole walls.

These special logs were run within the seven HQ-sized diamond-cored boreholes.



100 km 0 100 200 300 400 km

SCALE

LEGEND

ROADS

RAILWAY

REV	DATE	DESCRIPTION	BY	CHKD	APRVD
C	Mar/29/2020	Indicia	GCH		

HUDETTE

GENERAL LOCATION MAP

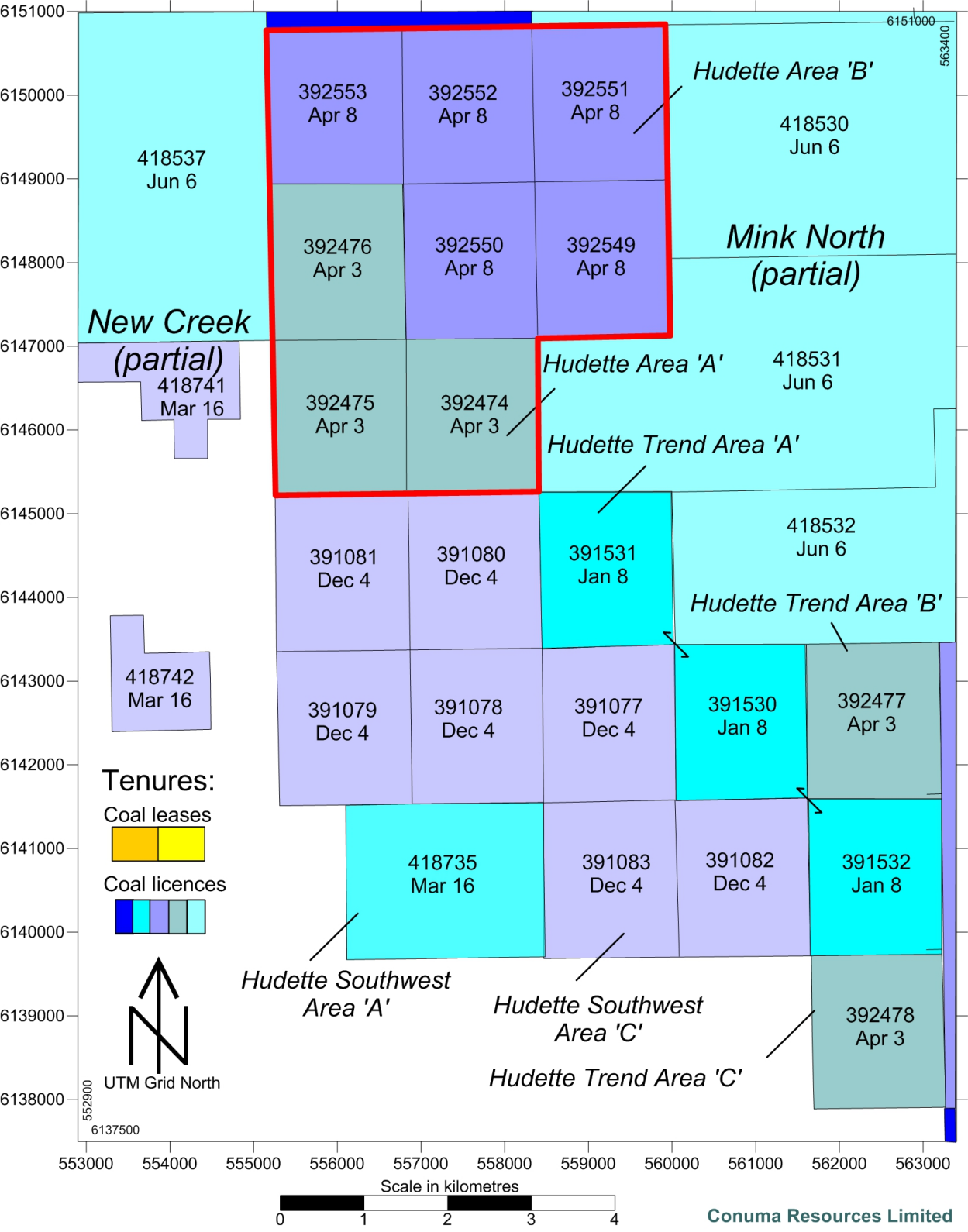
Drawn by:	GCH
Checked by:	
Approved by:	
Revision No.	C
Dwg No.	

MAR 2020

Document: HUDETTE COAL ASSESSMENT REPORT

Figure No. MAP 2-1

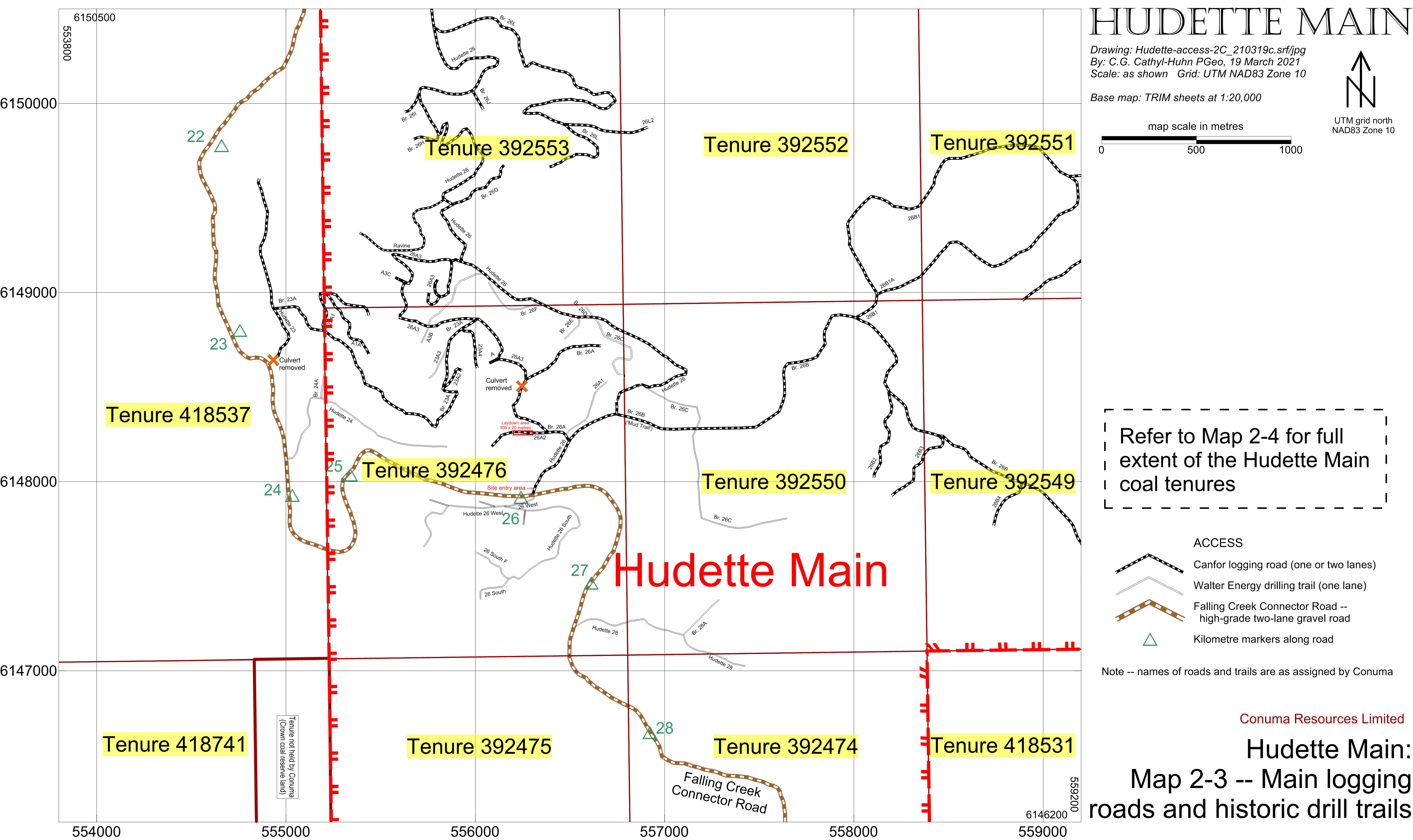
Hudette-PMT-447B_200329c.srf/jpg

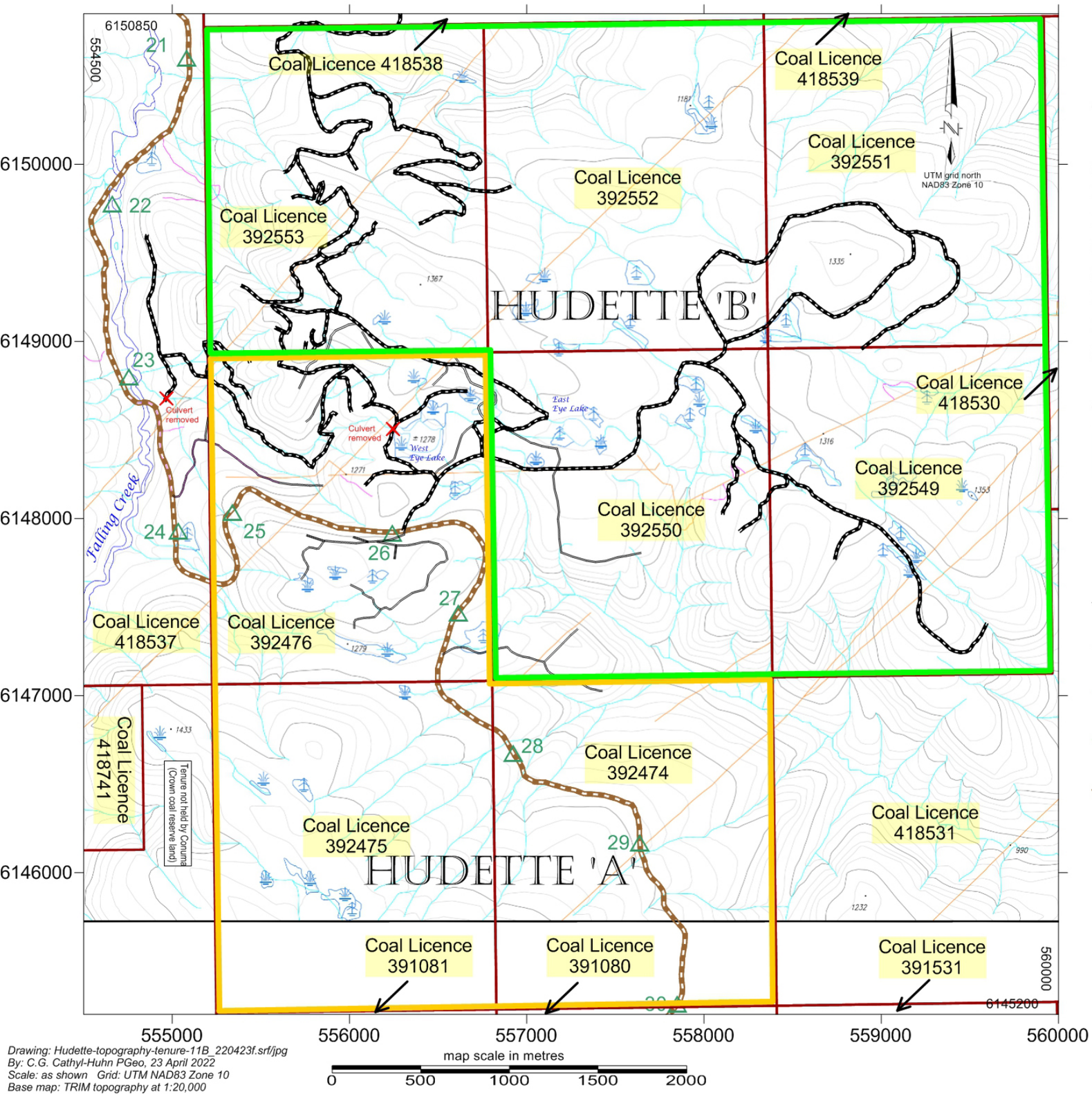


Conuma Resources Limited

Map 2-2: Hudette coal lands

Drawing: NEBC-land-Hudette_220422e.srf/jpg
Date: 22. April 2022 *Scale: as shown by bar scale*
Drawn: C.G. Cathyl-Huhn, P.Geo.(BC) Lic.Geol.(WA) RMSME
Grid: UTM (NAD83) Zone 10, in metres


HUDETTE MAIN
Drawing: Hudette-access-2C_210319c.srf/jpg
By: C.G. Cathyl-Huhn PGeo, 19 March 2021
Scale: as shown Grid: UTM NAD83 Zone 10
Base map: TRIM sheets at 1:20,000
map scale in metres
0
500
1000
UTM grid north
NAD83 Zone 10
Refer to Map 2-4 for full extent of the Hudette Main coal tenures
ACCESS
Canfor logging road (one or two lanes)
Walter Energy drilling trail (one lane)
Falling Creek Connector Road -- high-grade two-lane gravel road
Kilometre markers along road
Note -- names of roads and trails are as assigned by Conuma
Conuma Resources Limited
Hudette Main:
Map 2-3 -- Main logging roads and historic drill trails
Tenure 392553
Tenure 392552
Tenure 392551
Tenure 418537
Tenure 392476
Tenure 392550
Tenure 392549
Tenure 418741
Tenure 392475
Tenure 392474
Tenure 418531
Hudette Main
Tenure not held by Conuma (Crown coal reserve land)
Falling Creek Connector Road
Culvert removed
Culvert removed
Laydown area 100 x 20 metres
Site entry area
22
23
24
25
26
27
28
6150500
553800
6150000
6149000
6148000
6147000
6146200
559200
554000
555000
556000
557000
558000
559000
Hudette 26
Hudette 24
Hudette 23
Hudette 28
Hudette 26 West
Hudette 26 South
26 South
26 South F
26 West
Ravine
Br. 26A
Br. 26B
Br. 26C
Br. 26E
Br. 26F
Br. 26G
Br. 26H
Br. 26I
Br. 26J
Br. 26L
Br. 23A
Br. 24A
Br. 28A
26L2
26A1
26A2
26A3
23A2
23A3
23A4
26B1
26B1A
26B2
26B3
26B4
A3B
A3C
A1A
('Mud Trail')



HUDETTE MAIN

Tenures which are the subject of this report

Tenure	*Property name*	*Anniversary*
392474	Hudette 'A'	April 3rd
392475	Hudette 'A'	April 3rd
392476	Hudette 'A'	April 3rd
392549	Hudette 'B'	April 8th
392550	Hudette 'B'	April 8th
392551	Hudette 'B'	April 8th
392552	Hudette 'B'	April 8th
392553	Hudette 'B'	April 8th
418537	New Creek 'B'	June 6th

Coal Licence 392551

Coal tenures shown on this map are held by Conuma Resources Limited

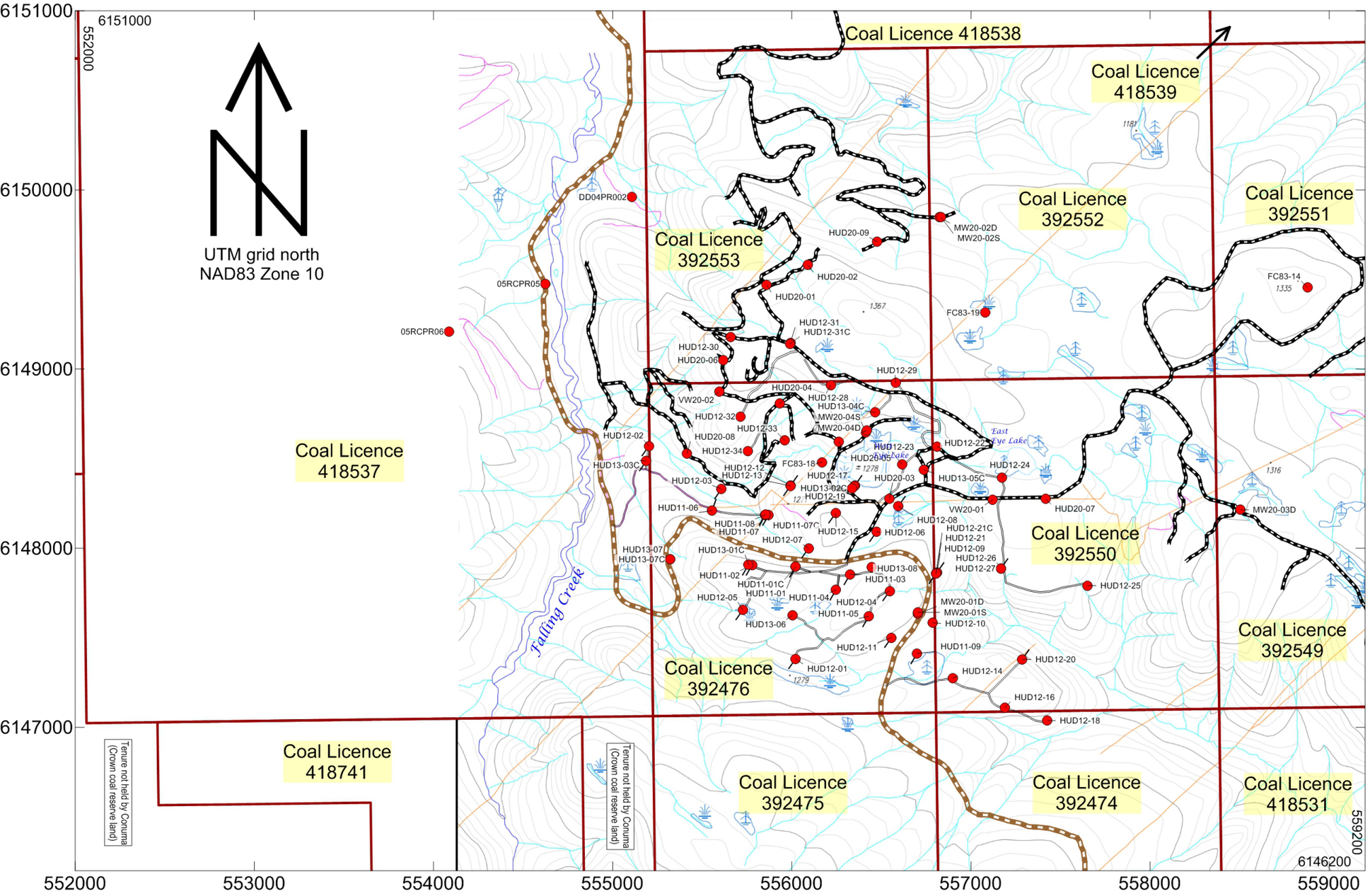
ACCESS

- Canfor logging road (one or two lanes)
- Drilling trail (one lane)
- Seismic line (unclassified as to driveability)
- Dirt or gravel trail (unclassified - from TRIM)
- Falling Creek Connector Road -- high-grade two-lane gravel road
- △ Kilometre markers along road

Conuma Resources Limited

Hudette Main tenures: Map 2-4 -- Topography and tenure

Drawing: Hudette-topography-tenure-11B_220423f.srf/jpg
By: C.G. Cathyl-Huhn PGeo, 23 April 2022
Scale: as shown Grid: UTM NAD83 Zone 10
Base map: TRIM topography at 1:20,000



HUDETTE MAIN

Conuma's coal tenures within map-area

Tenure	*Property name*	*Anniversary*	*Historic work?*
----- *Tenures which are the subject of this report* -----			
392474	Hudette 'A'	April 3rd	yes
392475	Hudette 'A'	April 3rd	no
392476	Hudette 'A'	April 3rd	yes
392549	Hudette 'B'	April 8th	yes
392550	Hudette 'B'	April 8th	yes
392551	Hudette 'B'	April 8th	yes
392552	Hudette 'B'	April 8th	yes
392553	Hudette 'B'	April 8th	yes
418537	New Creek 'B'	June 6th	yes
----- *Neighbouring tenures, not here-reported* -----			
418531	Mink North	June 6th	no
418538	New Creek 'B'	June 6th	yes
418539	Mink North	June 6th	no
418541	New Creek 'A'	March 16th	no

Coal tenures held by Conuma Resources Limited

Historic boreholes (pre-2021)

Note -- names of roads and trails are as assigned by Conuma for purposes of mapping and reference

ACCESS

Canfor logging road (one or two lanes)

Walter Energy drilling trail (one lane)

Seismic line (unclassified as to driveability)

Dirt or gravel trail (unclassified - from TRIM)

Falling Creek Connector Road -- high-grade two-lane gravel road

Drawing: Hudette-historic-drilling-1B_220425e.srf/jpg
By: C.G. Cathyl-Huhn PGeo, 25 April 2022
Scale: as shown Grid: UTM NAD83 Zone 10
Base map: TRIM topography at 1:20,000

map scale in metres

0 500 1000 1500 2000

Conuma Resources Limited

Hudette Main tenures: Map 3-1 -- Historic drilling

HUDETTE MAIN

Dwg: Hudette-NOW-1-current-drilling-21B_220425h.srf/jpg
By: C.G. Cathyl-Huhn PGeo, 25 April 2022
Scale: as shown Grid: UTM NAD83 Zone 10

CURRENT AND HISTORIC DRILLING

- Current drilling programme (summer/autumn 2021): 17 bore-holes and wells, including diamond coring
- Historic drilling programme (spring/summer 2020): all open-hole drilling, no coring
- Historic drilling programmes (1983 through 2013, various years: open-hole drilling, lesser amount of coring

UTM grid north
NAD83 Zone 10

map scale in metres
0 200 400 600 800 1000

- Canfor logging road (one or two lanes)
- Walter Energy drilling trail (one lane)
- Seismic line (unclassified as to trafficability)
- Dirt or gravel trail (unclassified -- from TRIM)
- Falling Creek Connector Road -- high-grade two-lane gravel road
- Kilometre markers along road

Tenure not held by Conuma (Crown coal reserve land)

6150000
6149000
6148000
6147000
554400
555000
556000
557000
558000
558600
6146700

DD04PR002
05RCPR05
HUD21MW-03S
HUD21MW-03D
HUD20-01
HUD20-02
HUD20-09
MW20-02D
MW20-02S
83-19
HUD12-30
HUD12-31
HUD12-31C
HUD20-06
VW20-02
HUD12-28
HUD12-29
HUD21RC-01
HUD21HQ-06
HUD12-32
HUD20-04
MW20-04D
HUD13-04C
MW20-04S
HUD20-08
HUD12-02
HUD13-03C
HUD12-34
HUD12-33
83-18
HUD20-05
HUD12-22
HUD12-23
HUD21RC-02B
HUD21RC-02A
HUD21HQ-04
HUD12-03
HUD11-07
HUD11-08
HUD11-06
HUD12-12
HUD12-13
HUD12-15
HUD12-19
HUD12-17
HUD13-02C
HUD20-03
HUD12-08
HUD13-05C
HUD12-24
HUD20-07
HUD21LD-01
HUD21HQ-01
VW20-01
HUD21MW-02S
MW20-03D
HUD11-07C
HUD12-07
HUD12-06
HUD21HQ-03
HUD12-26
HUD12-27
HUD13-07
HUD13-07C
HUD13-08
HUD12-09
HUD12-21
HUD12-21C
HUD21HQ-07
HUD13-01C
HUD11-02
HUD11-03
HUD11-01C
HUD11-01
HUD12-25
HUD21HQ-02
HUD11-04
HUD12-04
MW20-01D
MW20-01S
HUD21MW-01S
HUD13-06
HUD12-05
HUD11-05
HUD12-10
HUD21MW-01D
HUD12-11
HUD12-01
HUD11-09
HUD12-20
HUD21MW-04D
HUD21HQ-05
HUD12-14
HUD21MW-04S
HUD12-16
HUD12-18

Conuma Resources Limited

Map 3-2: Current drilling at Hudette Main

HUDETTE MAIN

Drawing: Hudette-geology-17B_220423f.srf/jpg By: C.G. Cathyl-Huhn PGeo, 23 April 2021 Scale: as shown
Grid: UTM NAD83 Zone 10 Base map: TRIM sheets at 1:20,000

UTM grid north
NAD83 Zone 10

STRATIGRAPHY

FORT ST JOHN GROUP (Albian)

Moosebar Formation -- marine siltstone and mudstone; occasional thin tuff bands.

- 4 — Spieker Member -- marine siltstone with locally-abundant thin bands of sandstone.
- 4c — Cowmoose Member -- black marine mudstone with minor concretionary ironstone, and thin bands of tuff.
- 4b — Green Marker (informal name) -- silty to pebbly glauconitic mudstone; erosional base; mapped as single line.
- •• 4a •• — Bullmoose Member -- marine siltstone and mudstone with occasional thin bands of sandstone.
- 3c

▲▲ 3b ▲▲ **Bluesky Formation** -- variably-glauconitic sandstone, gritstone, and conglomerate; erosional base; mapped as single line.

BULLHEAD GROUP (early Albian)

Gething Formation (undivided) -- coal-measures. Only the Gaylard Member of the formation is present at Hudette.

- 3a — Gaylard Member -- siltstone, sandstone, and conglomerate; coal (coking and PCI types); ironstone; minor tuff.
- 3a5 — Division 5 -- siltstone, sandstone, and coal (base drawn at roof of Hudette 'B' coal zone).
- 3a4 — Division 4 -- siltstone, sandstone, and coal (Hudette 'B' coal zone through roof of Hudette 'F' coal zone).
- 3a23 — Divisions 2 and 3 (together) -- siltstone, sandstone, and coal (Hudette 'F' zone through floor of Hudette 'K' coal zone).
- 3a1 — (?Barremian to early Albian) Division 1 -- sandstone and conglomerate; minor siltstone; rare thin coals, not recognised as minable.

(?Hauterivian to Barremian)

- 2 — **Cadomin Formation** -- sandstone and conglomerate; minor siltstone; rare thin coals.

MINNES GROUP (Berriasian to Valanginian)

- 1 — **Bickford Formation** -- sandstone, siltstone, conglomerate; minor coal.

- Anticline
- Syncline
- Thrust fault
- Canfor logging road (one or two lanes, gravel)
- Walter Energy drilling trail (one lane, dirt)
- Seismic line (unclassified as to driveability, mostly overgrown)
- Dirt or gravel trail (unclassified - from TRIM)
- Falling Creek Connector Road -- high-grade two-lane gravel road
- Kilometre markers along road

- Borehole or monitoring well (year-2020 or older)
- Borehole or monitoring well (year-2021)
- Recommended drill site (year-2022)

Note -- names of roads and trails are as assigned by Conuma

File 17-B

map scale in metres
0 400 800

Conuma Resources Limited

Map 4-1: Hudette coal property: Bedrock geological map

Construction details of current boreholes: **Table A-1**

Borehole	Site details					Drilling event dates (year-2021)			Rockhead depth (m)	Casing base (m)		Total depth (m)		Bit size (mm)	Setup (degrees)	
	.Easting	Northing	Collar (m)	Planned site	Tenure	Started drilling	Started logging	Logs run		Logger	Driller	Logger	Driller		Azimuth	Dip
2021-2022 work term																
HUD21HQ-01	556437.93	6148262.69	1284.10	YD	392476	17 Jul 21	24 Jul 21	yes	13.2	13.30	13.50	248.40	249.71	96	0	-90
HUD21HQ-02	555760.84	6147725.98	1314.65	XG	392476	29 Jul 21	5 Aug 21	yes	2.42	2.90	3.00	249.45	249.72	96	0	-90
HUD21HQ-03	556314.91	6147986.64	1295.17	YF	392476	18 Aug 21	24 Aug 21	yes	9.10	26.80	27.00	246.18	246.65	96	0	-90
HUD21HQ-04	555829.97	6148484.42	1193.76	ZV	392476	5 Sep 21	9 Sep 21	yes	7.14	9.10	8.95	197.68	198.00	96	0	-90
HUD21HQ-05	556155.16	6147496.22	1317.08	XL	392476	8 Sep 21	19 Sep 21	yes	2.84	2.98	3.15	243.35	244.54	96	0	-90
HUD21HQ-06	555412.48	6148519.9	1133.34	Z	392476	29 Sep 21	2 Oct 21	yes	14.24	24.15	24.00	246.55	246.74	96	0	-90
HUD21HQ-07	557342.48	6147779.49	1267.83	YN	392550	21 Sep 21	30 Sep 21	yes	3.97	4.37	4.15	252.19	251.50	96	0	-90
HUD21LD-01	556435.74	6148259.92	1284.35	YD	392476	27 Aug 21	4 Sep 21	yes	10.50	10.55	10.50	151.83	152.10	228.6	0	-90
HUD21MW-01S	555758.45	6147728	1314.63	XG	392476	16 Oct 21	n/a	no	2.05	n/a	3.00	n/a	56.54	n/d	0	-90
HUD21MW-01D	555760.84	6147725.98	1314.65	XG	392476	installation 18 Oct 21	n/a	yes -- as HQ-02	2.42	2.90	3.00	249.45	249.72	96	0	-90
HUD21MW-02S	558500.69	6148214.59	1289.40	X	392549	24 Oct 21	n/a	no	5.50	n/a	16.76	n/a	55.25	n/d	0	-90
HUD21MW-03S	554869.38	6149509.96	1072.38	H	418537	14 Nov 21	n/a	no	22.90	n/a	22.90	n/a	50.30	n/d	0	-90
HUD21MW-03D	554870.65	6149507.5	1072.72	H	418537	6 Nov 21	12 Nov 21	yes	26.15	30.26	30.20	80.00	80.81	139.7	0	-90
HUD21MW-04S	557272.38	6147361.88	1261.97	F	392550	22 Nov 21	n/a	no	5.90	n/a	5.9	n/a	94.04	139.7	0	-90
HUD21MW-04D	557270.77	6147363.17	1261.88	F	392550	19 Nov 21	22 Nov 21	yes	6.10	7.58	7.60	198.90	199.80	152.4	0	-90
HUD21RC-01	555415.25	6148712.87	1154.51	AG	392476	3 Oct 21	8 Oct 21	yes	10.90	13.60	13.70	204.97	205.60	139.7	0	-90
HUD21RC-02A	555358.16	6148398.09	1150.48	XA	392476	8 Oct 21	n/a	no	12.20	n/a	19.80	n/a	21.34	n/d	0	-90
HUD21RC-02B	555361.42	6148398.27	1150.31	XA	392476	10 Oct 21	14 Oct 21	yes	19.80	34.70	33.52	209.57	210.70	133.35	0	-90
17 holes 2868.87 m										17 holes 214.11 m						

File name: *Hudette 2021 drilling_220413b.csv*
Note: n/a denotes 'not applicable; n/d denotes 'no data'; borehole HUD21HQ-2 was completed as monitoring well HUD21MW-01D

Geophysical logging details of current boreholes: **Table A-2**

	9239C tool		9058A tool		9411A tool		9411A tool		9325A2 tool		7201 tool		9804AM tool	
Borehole	Density-Gamma-Caliper-Resistivity	Log bottom (m)	Gamma-Neutron	Log bottom (m)	Deviation	Log bottom (m)	Dipmeter	Log bottom (m)	Sonic	Log bottom (m)	Spectral Gamma (KUT)	Log bottom (m)	Acoustic Televiewer	Log bottom (m)
2020-2021 work term														
HUD21HQ-01	yes	248.12	yes	248.08	yes	248.10	yes	248.10	yes	248.34	yes	247.90	yes	247.48
HUD21HQ-02	yes	249.22	yes	249.16	yes	249.27	yes	249.27	yes	249.18	yes	249.00	yes	248.64
HUD21HQ-03	yes	245.92	yes	245.80	yes	245.98	yes	246.04	yes	246.12	yes	245.74	yes	245.32
HUD21HQ-04	yes	197.42	yes	180.38	yes	180.59	yes	180.59	yes	197.40	yes	197.32	yes	196.90
HUD21HQ-05	yes	243.10	yes	243.00	yes	242.87	yes	242.87	yes	242.82	yes	242.64	yes	241.86
HUD21HQ-06	yes	246.28	yes	245.89	yes	246.16	yes	246.16	yes	246.36	yes	245.92	yes	245.17
HUD21HQ-07	yes	251.92	yes	251.90	yes	251.99	yes	251.99	yes	252.22	yes	251.94	yes	250.89
HUD21LD-01	yes	151.58	yes	151.60	yes	151.65	yes	151.65	no	n/a	no	n/a	no	n/a
HUD21MW-01S	not logged													
HUD21MW-01D	logged as HUD21HQ-02													
HUD21MW-02S	not logged													
HUD21MW-03S	not logged													
HUD21MW-03D	yes	79.74	yes	79.72	yes	79.70	yes	79.77	no	n/a	no	n/a	no	n/a
HUD21MW-04S	not logged													
HUD21MW-04D	yes	198.80	yes	198.78	yes	198.00	yes	198.66	no	n/a	no	n/a	no	n/a
HUD21RC-01	yes	204.62	yes	204.88	yes	204.97	yes	204.97	no	n/a	no	n/a	no	n/a
HUD21RC-02A	junked hole -- not logged													
HUD21RC-02B	yes	209.08	yes	209.08	yes	209.47	yes	209.47	no	n/a	no	n/a	no	n/a
totals (m)	2525.80 m		2525.31 m		2508.75 m		2509.54 m		1682.44 m		1680.46 m		1676.26 m	
no. of holes	12 boreholes		12 boreholes		12 boreholes		12 boreholes		7 boreholes		7 boreholes		7 boreholes	

File name: *Geophysics-2021-table.xls/dat*

Annexe B: Lithological table for year-2021 Hudette boreholes

The following table (**Table B-1**) summarises lithological interpretation of most of the year-2021 boreholes drilled at Hudette Main. The data source for the table is an *Excel* spreadsheet provided by Marshall Miller & Associates. The multiple-page spreadsheet is included as a supporting file, within the digital version of this report.

In the original spreadsheet, lithologies (and intervals of lost core) are represented as short codes, comprising two to six alphabetic characters. In **Table B-1**, the codes have been translated to descriptive nouns and phrases, and brief free-text comments (present in the original file) are given in the right-most column of the table. All depths are given in metres.

Lithological description of year-2021 Hudette boreholes: **Table B-1**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-01	0	10.2	10.2	OV	Overburden		Tri-core roller bit, bottom of casing at 10.2 meters.
HUD21HQ-01	10.2	13.25	3.05	NCLC	No core / lost core		
HUD21HQ-01	13.25	14.45	1.2	SH	Shale		dark grey, somewhat blocky, planar, immediate top very slightly sandy to silty
HUD21HQ-01	14.45	19.8	5.35	SH	Shale		dark grey, becoming slightly firmer, planar, scattered siderite nodules at ~14 meters, somewhat blocky where broken, slightly rooted at 15.61 meters, moderate sharp basal contact
HUD21HQ-01	19.8	20.35	0.55	MS	Mudstone		light grey
HUD21HQ-01	20.35	23.85	3.5	SH	Shale		dark grey, moderately firm, planar, think mud lens near base
HUD21HQ-01	23.85	24.03	0.18	MS	Mudstone		grey
HUD21HQ-01	24.03	24.4	0.37	SH	Shale		interpreted from e-log
HUD21HQ-01	24.4	24.75	0.35	MS	Mudstone		grey
HUD21HQ-01	24.75	45.98	21.23	SH	Shale		grey to dark grey, firm and slightly silty, planar, occasional pyrite, calcite streaks throughout, slightly silty from ~40.24 - 40.82 grading to carbonaceous shale at base, gradational basal contact
HUD21HQ-01	45.98	46.16	0.18	SHCR	Carbonaceous shale		dark grey, blocky, some mud seams
HUD21HQ-01	46.16	46.24	0.08	CO	Coal	A150	black with occasional bright bands,
HUD21HQ-01	46.24	46.28	0.04	CO	Coal	A150	black
HUD21HQ-01	46.28	47.09	0.81	CO	Coal	A150	black, mostly dull, rare bright bands
HUD21HQ-01	47.09	47.14	0.05	CO	Coal	A150	black
HUD21HQ-01	47.14	47.19	0.05	CO	Coal	A150	black, mostly dull (All coals sampled from 43.46-44.61 Sample ID 00501)
HUD21HQ-01	47.19	47.25	0.06	SHCR	Carbonaceous shale		dark grey (Sampled from 44.61-44.71, including a little of below unit, Sample ID 00503)
HUD21HQ-01	47.25	47.33	0.08	SHWCO	Shale with coal		dull to dark grey,
HUD21HQ-01	47.33	47.94	0.61	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-01	47.94	48.37	0.43	SH	Shale		dark grey, slightly carbonaceous, gradational basal contact
HUD21HQ-01	48.37	53.31	4.94	SH	Shale		grey to slightly dark grey, slightly carbonaceous at top becoming less downward, occasional calcite streaks, mostly firm and planar

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-01	53.31	54	0.69	SHCR	Carbonaceous shale		dark grey to black, blocky at top
HUD21HQ-01	54	59.01	5.01	SH	Shale		grey, mostly firm, planar, scattered calcite streaks
HUD21HQ-01	59.01	59.28	0.27	BOWCO	Bone with coal		dark grey to black, blocky at top, more coaly at base, sharp basal contact
HUD21HQ-01	59.28	62.21	2.93	SH	Shale		grey, mostly firm, planar, scattered calcite streaks towards middle and base, sharp basal contact
HUD21HQ-01	62.21	62.24	0.03	CO	Coal		bright banded
HUD21HQ-01	62.24	68.05	5.81	SH	Shale		grey, scattered sandstone streaks, rare thin calcite veins, moderate sharp basal contact
HUD21HQ-01	68.05	68.26	0.21	NCLC	No core / lost core		
HUD21HQ-01	68.26	68.42	0.16	BO	Bone		dark grey to near black, dull, blocky, sharp basal contact (sampled from 65.55-65.65, Sample ID 00504)
HUD21HQ-01	68.42	69.86	1.44	CO	Coal	B250	black, mostly dull (sampled from 65.65-67.09, Sample ID 00505)
HUD21HQ-01	69.86	69.99	0.13	NCLC	No core / lost core		(No Footwall Sample Collected)
HUD21HQ-01	69.99	70.66	0.67	MS	Mudstone		light grey, slightly carbonaceous at top
HUD21HQ-01	70.66	70.76	0.1	CT	Claystone		light grey, somewhat unconsolidated
HUD21HQ-01	70.76	71.23	0.47	SHCR	Carbonaceous shale		dark grey, moderately sharp basal contact
HUD21HQ-01	71.23	72.86	1.63	SH	Shale		grey, planar, firm, becoming carbonaceous downward, gradational basal contact
HUD21HQ-01	72.86	72.92	0.06	COBO	Bony coal		dull
HUD21HQ-01	72.92	73.02	0.1	SHCR	Carbonaceous shale		dark grey, sharp basal contact
HUD21HQ-01	73.02	73.06	0.04	COBO	Bony coal		dull
HUD21HQ-01	73.06	81.92	8.86	SH	Shale		dark grey, slightly carbonaceous at immediate top becoming firm downward, occasional siderite bands, calcite becoming more prevalent downward, occasional coal spars, becoming slightly carbonaceous downward, gradational basal contact
HUD21HQ-01	81.92	82.06	0.14	COASH	Coal and shale		dark grey to black
HUD21HQ-01	82.06	87.4	5.34	SH	Shale		grey, firm, planar, occasional calcite streaks and coal spars (mainly in fractures) rare silty zones, sharp basal contact

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-01	87.4	87.53	0.13	CO	Coal		black, some bright bands
HUD21HQ-01	87.53	87.67	0.14	SHCR	Carbonaceous shale		nearly black, calcite veins throughout, grading to shale downward, gradational basal contact
HUD21HQ-01	87.67	89.74	2.07	SH	Shale		dark grey, fairly firm, planar, sharp basal contact
HUD21HQ-01	89.74	89.98	0.24	CO	Coal	C340	black, moderately hard, occasional bright bands
HUD21HQ-01	89.98	90.02	0.04	SH	Shale	C340	dark grey
HUD21HQ-01	90.02	90.13	0.11	CO	Coal	C340	bright banded
HUD21HQ-01	90.13	90.19	0.06	COBO	Bony coal	C340	dark grey to black
HUD21HQ-01	90.19	90.26	0.07	SH	Shale		grey, firm
HUD21HQ-01	90.26	90.47	0.21	SHCR	Carbonaceous shale		dark grey to near black at top, firm
HUD21HQ-01	90.47	90.58	0.11	CO	Coal	C350	black, blocky
HUD21HQ-01	90.58	91.43	0.85	CO	Coal	C350	bright banded
HUD21HQ-01	91.43	91.59	0.16	CO	Coal	C350	dull, very soft
HUD21HQ-01	91.59	92.37	0.78	SHCR	Carbonaceous shale		black to dull, coal streaks throughout
HUD21HQ-01	92.37	92.41	0.04	CO	Coal		black
HUD21HQ-01	92.41	93.06	0.65	SHCR	Carbonaceous shale		dark grey to black, mostly firm with coal streaks throughout
HUD21HQ-01	93.06	93.19	0.13	COWSH	Coal with shale		alternating coal and shale
HUD21HQ-01	93.19	93.98	0.79	SHCR	Carbonaceous shale		dark grey, moderately soft with numerous coal spars and streaks
HUD21HQ-01	93.98	94.08	0.1	CO	Coal		dull, very soft
HUD21HQ-01	94.08	94.26	0.18	COBO	Bony coal		dull
HUD21HQ-01	94.26	94.84	0.58	SHCR	Carbonaceous shale		black/dark grey
HUD21HQ-01	94.84	95.82	0.98	CO	Coal	D450	occasional bright bands
HUD21HQ-01	95.82	96.36	0.54	COLST	Lost coal	D450	lost core, believed lost at bottom of run
HUD21HQ-01	96.36	96.65	0.29	SHCR	Carbonaceous shale		dark grey to black, gradational basal contact

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-01	96.65	102.3	5.65	SH	Shale		dark grey at top becoming grey downward, slightly carbonaceous at top, firm, planar, thin mudstone lens near centre, occasional calcite veins
HUD21HQ-01	102.3	102.36	0.06	CO	Coal		
HUD21HQ-01	102.36	104.47	2.11	SHCR	Carbonaceous shale		dark grey, numerous coal streaks and spars
HUD21HQ-01	104.47	104.88	0.41	COWSHK	Coal with shale streaks		black, mostly dull, slightly shaly
HUD21HQ-01	104.88	105.36	0.48	SHCR	Carbonaceous shale		black to dark grey, somewhat coaly, scattered coal lenses
HUD21HQ-01	105.36	105.59	0.23	SH	Shale		interpreted from e-log
HUD21HQ-01	105.59	106.14	0.55	SH	Shale		grey, moderately firm, some calcite veins, sandstone streaks, sharp basal contact
HUD21HQ-01	106.14	106.44	0.3	COSH	Shaly coal		light grey
HUD21HQ-01	106.44	116.06	9.62	SH	Shale		grey, firm, scattered calcite veins, some cross bedding, slightly silty with sandstone streaks, sharp basal contact
HUD21HQ-01	116.06	116.09	0.03	CT	Claystone		light grey, nearly unconsolidated, sharp basal contact
HUD21HQ-01	116.09	119.19	3.1	SH	Shale		grey, firm, planar, some cross bedding and sandstone streaks, calcite veins
HUD21HQ-01	119.19	119.47	0.28	SH	Shale		grey, calcite and coal spars
HUD21HQ-01	119.47	121.44	1.97	SH	Shale		grey, firm, planar, sharp basal contact
HUD21HQ-01	121.44	121.52	0.08	CO	Coal		mostly dull
HUD21HQ-01	121.52	121.56	0.04	SHCR	Carbonaceous shale		interpreted from e-log
HUD21HQ-01	121.56	121.93	0.37	COSH	Shaly coal		black to dark grey
HUD21HQ-01	121.93	122.1	0.17	SHCR	Carbonaceous shale		dark grey, contains some coaly material
HUD21HQ-01	122.1	122.32	0.22	CO	Coal		dull, very soft
HUD21HQ-01	122.32	122.44	0.12	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-01	122.44	123.42	0.98	SH	Shale		grey, calcite throughout, driller lost circulation near top, sharp basal contact
HUD21HQ-01	123.42	123.46	0.04	CT	Claystone		grey, nearly unconsolidated, sharp basal contact
HUD21HQ-01	123.46	124.6	1.14	SH	Shale		grey, firm, mud filling near centre, planar
HUD21HQ-01	124.6	125	0.4	SH	Shale		grey, calcite

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-01	125	126.59	1.59	SSCC	Calcareous sandstone		grey, firm, fine grained, many calcite streaks, sharp basal streaks
HUD21HQ-01	126.59	134.96	8.37	SH	Shale		grey, firm, planar, calcite mostly absent, sharp basal contact
HUD21HQ-01	134.96	135.1	0.14	CO	Coal		mostly dull but occasional bright bands
HUD21HQ-01	135.1	135.36	0.26	SHCR	Carbonaceous shale		dark grey, occasional coal streaks
HUD21HQ-01	135.36	135.43	0.07	CO	Coal		
HUD21HQ-01	135.43	135.73	0.3	SHCR	Carbonaceous shale		dark grey
HUD21HQ-01	135.73	135.87	0.14	CO	Coal		very soft, occasional bright bands
HUD21HQ-01	135.87	135.93	0.06	SHCR	Carbonaceous shale		dark grey
HUD21HQ-01	135.93	135.97	0.04	CO	Coal		bright banded
HUD21HQ-01	135.97	136.4	0.43	SHCR	Carbonaceous shale		dark grey
HUD21HQ-01	136.4	136.44	0.04	CO	Coal		bright banded
HUD21HQ-01	136.44	136.65	0.21	SHCR	Carbonaceous shale		dark grey, occasional coal streaks
HUD21HQ-01	136.65	136.76	0.11	COASH	Coal and shale		dark grey to black, coal, very soft at base
HUD21HQ-01	136.76	137.3	0.54	SH	Shale		grey, slightly carbonaceous, planar
HUD21HQ-01	137.3	137.46	0.16	BOSHCR	Bone with carbonaceous shale		dark grey, more carbonaceous at top, clayey at immediate top
HUD21HQ-01	137.46	137.75	0.29	CO	Coal	E540	bright banded becoming more dull downward
HUD21HQ-01	137.75	138.1	0.35	SH	Shale		black, very soft
HUD21HQ-01	138.1	139.2	1.1	CO	Coal	E550	occasional bright bands, more firm than above unit
HUD21HQ-01	139.2	142.8	3.6	SH	Shale		grey, planar, coal spars and occasional thin coal lenses, becoming slightly carbonaceous downward (drilling circulation returned at top of this unit)
HUD21HQ-01	142.8	144.23	1.43	SHCR	Carbonaceous shale		numerous coal streaks, spars, and lenses, dark grey
HUD21HQ-01	144.23	144.31	0.08	CO	Coal		bright banded
HUD21HQ-01	144.31	144.7	0.39	SH	Shale		grey, planar
HUD21HQ-01	144.7	144.76	0.06	COSH	Shaly coal		dull

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-01	144.76	147.31	2.55	SHCR	Carbonaceous shale		dark grey, numerous coal streaks, spurs and lenses
HUD21HQ-01	147.31	151.95	4.64	SH	Shale		dark grey, slightly carbonaceous, planar, occasional coal spars becoming more numerous downward
HUD21HQ-01	151.95	152.04	0.09	SH	Shale		
HUD21HQ-01	152.04	152.16	0.12	CO	Coal		mostly dull
HUD21HQ-01	152.16	152.78	0.62	SHCR	Carbonaceous shale		dark grey
HUD21HQ-01	152.78	152.92	0.14	CO	Coal		occasional bright bands
HUD21HQ-01	152.92	153.09	0.17	SHCR	Carbonaceous shale		dark grey
HUD21HQ-01	153.09	153.15	0.06	CO	Coal		dull, very soft
HUD21HQ-01	153.15	153.4	0.25	SHCR	Carbonaceous shale		dark grey
HUD21HQ-01	153.4	154.22	0.82	SH	Shale		grey, becoming slightly carbonaceous downward, mostly firm, sharp basal contact
HUD21HQ-01	154.22	154.36	0.14	CT	Claystone		grey, nearly unconsolidated, sharp basal contact
HUD21HQ-01	154.36	155.31	0.95	SH	Shale		grey to dark grey, slightly carbonaceous
HUD21HQ-01	155.31	155.36	0.05	SH	Shale		interpreted from e-log
HUD21HQ-01	155.36	155.61	0.25	COSH	Shaly coal	F650	black, fairly dense, dull
HUD21HQ-01	155.61	156.97	1.36	CO	Coal	F650	occasional bright bands
HUD21HQ-01	156.97	157.21	0.24	CO	Coal	F650	black, very soft
HUD21HQ-01	157.21	157.51	0.3	CO	Coal	F650	bright, banded
HUD21HQ-01	157.51	157.74	0.23	CO	Coal	F650	block, very soft
HUD21HQ-01	157.74	158.31	0.57	COLST	Lost coal	F650	
HUD21HQ-01	158.31	158.61	0.3	SH	Shale		interpreted from e-log
HUD21HQ-01	158.61	159.34	0.73	SHCR	Carbonaceous shale		dark grey, numerous coal streaks
HUD21HQ-01	159.34	159.39	0.05	CO	Coal		bright bands, very soft
HUD21HQ-01	159.39	159.45	0.06	SHCR	Carbonaceous shale		dark grey

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-01	159.45	160.45	1	SH	Shale		grey, slightly carbonaceous, calcite streak near top
HUD21HQ-01	160.45	162.45	2	SH	Shale		grey, firm, planar, slightly silty
HUD21HQ-01	162.45	162.74	0.29	SHCR	Carbonaceous shale		interpreted from e-log
HUD21HQ-01	162.74	162.86	0.12	CO	Coal		dull
HUD21HQ-01	162.86	163.27	0.41	SHCR	Carbonaceous shale		dark grey, occasional coal spars
HUD21HQ-01	163.27	163.32	0.05	COBO	Bony coal		dull
HUD21HQ-01	163.32	167.76	4.44	SH	Shale		grey, slightly carbonaceous at top, planar, becoming firm and sandy downward, occasional calcite streaks, sharp basal contact
HUD21HQ-01	167.76	167.86	0.1	CO	Coal		dull
HUD21HQ-01	167.86	168.3	0.44	SH	Shale		grey, planar, firm (Note: no photograph of core between 165.71 and 168.71)
HUD21HQ-01	168.3	168.34	0.04	SHCR	Carbonaceous shale		interpreted from e-log
HUD21HQ-01	168.34	168.62	0.28	CO	Coal	G740	dull (likely lost ????)
HUD21HQ-01	168.62	168.9	0.28	SHCR	Carbonaceous shale	G740	dark grey
HUD21HQ-01	168.9	169.16	0.26	COLST	Lost coal	G740	
HUD21HQ-01	169.16	169.56	0.4	NCLC	No core / lost core		
HUD21HQ-01	169.56	170.06	0.5	COLST	Lost coal	G750	
HUD21HQ-01	170.06	170.79	0.73	CO	Coal	G750	mostly dull, slightly soft at top
HUD21HQ-01	170.79	170.96	0.17	CO	Coal	G750	dull (Note: seam not sampled - IDs 00540-00544-wind blew core)
HUD21HQ-01	170.96	171.79	0.83	SH	Shale		grey, slightly carbonaceous with coal spar, sharp basal contact
HUD21HQ-01	171.79	171.81	0.02	CT	Claystone		brown, unconsolidated, sharp basal contact
HUD21HQ-01	171.81	172.87	1.06	SH	Shale		grey, firm, planar, large vertical calcite vein at immediate top, sharp basal contact
HUD21HQ-01	172.87	173.09	0.22	CT	Claystone		brown, unconsolidated, sharp basal contact
HUD21HQ-01	173.09	174.56	1.47	SH	Shale		grey, moderately firm, planar, very rare calcite streaks, gradational basal contact
HUD21HQ-01	174.56	175.72	1.16	SH	Shale		grey, firm, slightly silty, planar
HUD21HQ-01	175.72	177.51	1.79	SHCC	Calcareous shale		grey, moderately firm, calcite veins, mud lens near top

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-01	177.51	178.36	0.85	COLST	Lost coal		
HUD21HQ-01	178.36	179.61	1.25	SHCC	Calcareous shale		
HUD21HQ-01	179.61	179.66	0.05	SH	Shale		grey
HUD21HQ-01	179.66	185.91	6.25	SHCC	Calcareous shale		grey, firm, calcite veins throughout, sharp basal contact
HUD21HQ-01	185.91	191.76	5.85	SHSNSK	Sandy shale with sandstone streaks		
HUD21HQ-01	191.76	191.83	0.07	CO	Coal		bright banded
HUD21HQ-01	191.83	192.1	0.27	SHCC	Calcareous shale		grey, firm, large calcite vein at top
HUD21HQ-01	192.1	193.04	0.94	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-01	193.04	193.15	0.11	CO	Coal	H850	likely lost part of coal
HUD21HQ-01	193.15	193.89	0.74	COSH	Shaly coal	H850	dark grey, occasional coal spars and lenses
HUD21HQ-01	193.89	193.94	0.05	COBO	Bony coal	H850	dull
HUD21HQ-01	193.94	194.04	0.1	SHCR	Carbonaceous shale		dark grey, coal lens in middle
HUD21HQ-01	194.04	194.91	0.87	SHCR	Carbonaceous shale		dark grey to grey, not as carbonaceous as above unit, firmer
HUD21HQ-01	194.91	195.19	0.28	CO	Coal		bright banded, soft near base (not sampled due to potential core loss)
HUD21HQ-01	195.19	195.3	0.11	COSH	Shaly coal		black, dense (not sampled due to potential core loss)
HUD21HQ-01	195.3	196.01	0.71	COLST	Lost coal		
HUD21HQ-01	196.01	196.21	0.2	SHCR	Carbonaceous shale		dark grey, scattered coal spars
HUD21HQ-01	196.21	196.3	0.09	CO	Coal		
HUD21HQ-01	196.3	198.64	2.34	SH	Shale		dark grey, slightly carbonaceous throughout, becoming more downward, occasional calcite streaks, coal spars
HUD21HQ-01	198.64	200.56	1.92	SHWCO	Shale with coal		interpreted from e-log
HUD21HQ-01	200.56	200.94	0.38	CO	Coal	I950	occasional bright bands (not sampled due to potential core loss)
HUD21HQ-01	200.94	201.06	0.12	CO	Coal	I950	(not sampled due to potential core loss)
HUD21HQ-01	201.06	201.18	0.12	CO	Coal	I950	occasional bright bands (not sampled due potential core loss)

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-01	201.18	201.46	0.28	COLST	Lost coal	l950	
HUD21HQ-01	201.46	202.53	1.07	BOSHCR	Bone with carbonaceous shale		dark grey, occasional coal spars and lenses, increasing downward
HUD21HQ-01	202.53	206.79	4.26	SH	Shale		grey, firm, planar, rare coal spars and calcite veins, very slightly carbonaceous
HUD21HQ-01	206.79	207.01	0.22	SHCR	Carbonaceous shale		dark grey, coal streaks
HUD21HQ-01	207.01	207.1	0.09	COASH	Coal and shale		dull
HUD21HQ-01	207.1	207.54	0.44	SHCR	Carbonaceous shale		dark grey, occasional coal spar
HUD21HQ-01	207.54	207.63	0.09	CO	Coal		mostly dull
HUD21HQ-01	207.63	207.75	0.12	SHCR	Carbonaceous shale		dark grey, only slightly carbonaceous, calcite vein
HUD21HQ-01	207.75	208.05	0.3	SHWCO	Shale with coal		dark grey, numerous coal lenses
HUD21HQ-01	208.05	208.22	0.17	SHCR	Carbonaceous shale		dark grey, numerous coal spars
HUD21HQ-01	208.22	208.44	0.22	CO	Coal	l995	bright, banded
HUD21HQ-01	208.44	210.74	2.3	SHCR	Carbonaceous shale		dark grey, numerous coal spars and lenses
HUD21HQ-01	210.74	210.84	0.1	SHCR	Carbonaceous shale		
HUD21HQ-01	210.84	210.91	0.07	SHCR	Carbonaceous shale		dark grey
HUD21HQ-01	210.91	211.12	0.21	CO	Coal		occasional bright bands
HUD21HQ-01	211.12	213.46	2.34	SHCR	Carbonaceous shale		dark grey, only slightly carbonaceous, calcite veins
HUD21HQ-01	213.46	213.52	0.06	CO	Coal		dull, very soft
HUD21HQ-01	213.52	213.61	0.09	SHCR	Carbonaceous shale		
HUD21HQ-01	213.61	213.95	0.34	SHCR	Carbonaceous shale		dark grey, moderately firm
HUD21HQ-01	213.95	214.42	0.47	SH	Shale		grey to dark grey, slightly carbonaceous, planar
HUD21HQ-01	214.42	214.62	0.2	SH	Shale		interpreted from e-log
HUD21HQ-01	214.62	222.95	8.33	SH	Shale		grey to dark grey, slightly carbonaceous, planar, occasional coal spars, somewhat firm and becoming more competent downward, rare calcite
HUD21HQ-01	222.95	225.12	2.17	SHCC	Calcareous shale		grey, calcite veins throughout as well as a "spider-web" pattern
HUD21HQ-01	225.12	228.95	3.83	SH	Shale		grey, firm, scattered calcite veins, planar

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-01	228.95	230.73	1.78	SH	Shale		grey, mostly firm but not as a base unit
HUD21HQ-01	230.73	232.91	2.18	SH	Shale		grey, moderately firm, planar, occasional coal spars and calcite streaks
HUD21HQ-01	232.91	237.95	5.04	SHWSSK	Shale with sandstone streaks		grey, firm, planar, occasional calcite streaks
HUD21HQ-01	237.95	241.78	3.83	SH	Shale		grey, firm, calcite streaks increasing
HUD21HQ-01	241.78	241.84	0.06	MD	Mud		brown, unconsolidated
HUD21HQ-01	241.84	249.04	7.2	SH	Shale		grey, moderately firm, calcite veins scattered throughout
HUD21HQ-01	249.04	251.89	2.85	SHCC	Calcareous shale		grey, firm, calcite veins throughout
HUD21HQ-01	251.89	252.95	1.06	SH	Shale		grey, moderately firm, planar, rare coal spars
HUD21HQ-02	0	2.42	2.42	OV	Overburden		driller set casing to _____
HUD21HQ-02	2.42	2.54	0.12	SS	Sandstone		tan to grey, fine grained, somewhat rounded at top
HUD21HQ-02	2.54	3.82	1.28	SHCC	Calcareous shale		grey, slightly silty
HUD21HQ-02	3.82	4.06	0.24	NCLC	No core / lost core		
HUD21HQ-02	4.06	5.13	1.07	SHCC	Calcareous shale		grey, slightly silty, calcite veins decreasing downward, mostly firm
HUD21HQ-02	5.13	5.41	0.28	SHCC	Calcareous shale		grey, moderately firm, planar
HUD21HQ-02	5.41	6.3	0.89	SHCC	Calcareous shale		grey to dark grey, slightly rooted, some iron staining, coal spars
HUD21HQ-02	6.3	6.4	0.1	SHWCO	Shale with coal		dark grey to black, weathered
HUD21HQ-02	6.4	6.76	0.36	NCLC	No core / lost core		
HUD21HQ-02	6.76	8.85	2.09	SH	Shale		grey to dark grey, coal spars throughout, some calcite streaks
HUD21HQ-02	8.85	9.96	1.11	SHCC	Calcareous shale		grey, firm, occasional calcite streaks
HUD21HQ-02	9.96	10.2	0.24	SHCR	Carbonaceous shale		dark grey, occasional mud zones and calcite streaks, coal spars increasing downward
HUD21HQ-02	10.2	10.39	0.19	CO	Coal	A150	bright banded
HUD21HQ-02	10.39	10.47	0.08	COSH	Shaly coal	A150	dark grey to black

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-02	10.47	11.22	0.75	SH	Shale		dark grey at top to grey, slightly carbonaceous at top, occasional coal spars, coal lens at base
HUD21HQ-02	11.22	12.1	0.88	SSWSHK	Sandstone with shale streaks		grey, micaceous, argillaceous, calcite streaks
HUD21HQ-02	12.1	12.23	0.13	SSWSHK	Sandstone with shale streaks		interpreted from e-log
HUD21HQ-02	12.23	14.21	1.98	SSWSHK	Sandstone with shale streaks		grey, micaceous, argillaceous, some cross bedding, scattered calcite streaks, rare coal spars
HUD21HQ-02	14.21	17.59	3.38	SHCC	Calcareous shale		grey, firm, silty, calcite streaks throughout
HUD21HQ-02	17.59	18.39	0.8	SHCC	Calcareous shale		light grey, firm, numerous calcite streaks throughout
HUD21HQ-02	18.39	22.39	4	SHCC	Calcareous shale		grey, firm calcite streaks, scattered, immediate base contains numerous calcite streaks
HUD21HQ-02	22.39	26.29	3.9	SH	Shale		grey, firm, calcite streaks and veins, occasional coal lens
HUD21HQ-02	26.29	26.47	0.18	CO	Coal		mostly dull, shaly
HUD21HQ-02	26.47	27.25	0.78	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-02	27.25	27.75	0.5	SH	Shale		dark grey, numerous calcite streaks at top, coal spars increasing downward, slightly carbonaceous
HUD21HQ-02	27.75	27.81	0.06	SHCR	Carbonaceous shale		numerous coal streaks
HUD21HQ-02	27.81	27.88	0.07	CO	Coal		bright banded
HUD21HQ-02	27.88	27.95	0.07	SHCR	Carbonaceous shale		dark grey, large calcite streak
HUD21HQ-02	27.95	28.03	0.08	CO	Coal		bright, banded
HUD21HQ-02	28.03	28.21	0.18	SHCR	Carbonaceous shale		dark grey, occasional coal streaks
HUD21HQ-02	28.21	28.27	0.06	CO	Coal		mostly dull with occasional bright bands
HUD21HQ-02	28.27	28.55	0.28	SHCR	Carbonaceous shale		dark grey, coal streaks
HUD21HQ-02	28.55	30.09	1.54	SHCC	Calcareous shale		grey to light grey, slightly sandy, firm
HUD21HQ-02	30.09	30.43	0.34	SH	Shale		interpreted from e-log
HUD21HQ-02	30.43	31.16	0.73	SH	Shale		grey, firm, coal lens at base
HUD21HQ-02	31.16	33.01	1.85	SHCC	Calcareous shale		grey to light grey, mostly firm, occasional coal spars and lenses

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-02	33.01	33.06	0.05	CO	Coal		bright, banded
HUD21HQ-02	33.06	37	3.94	SHCC	Calcareous shale		grey, firm, calcite streaks and veins, occasional coal lenses and spars
HUD21HQ-02	37	37.08	0.08	SH	Shale		grey, slightly carbonaceous
HUD21HQ-02	37.08	37.48	0.4	CO	Coal	B240	occasional bright beads
HUD21HQ-02	37.48	38.85	1.37	SH	Shale		grey, firm, planar, rare calcite streaks
HUD21HQ-02	38.85	39.39	0.54	CO	Coal	B250	occasional bright bands
HUD21HQ-02	39.39	40.12	0.73	CO	Coal	B250	occasional bright bands
HUD21HQ-02	40.12	40.2	0.08	COBO	Bony coal	B250	dull
HUD21HQ-02	40.2	40.25	0.05	CO	Coal	B250	bright banded
HUD21HQ-02	40.25	40.48	0.23	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-02	40.48	41.03	0.55	SH	Shale		dark grey, occasional coal streaks, slightly carbonaceous
HUD21HQ-02	41.03	41.11	0.08	CO	Coal	B270	bright banded
HUD21HQ-02	41.11	42.17	1.06	SH	Shale		grey, slightly carbonaceous at top
HUD21HQ-02	42.17	47.68	5.51	SHCC	Calcareous shale		grey to light grey, slightly sandy, calcite streaks common (one very large vein at ~44.3 meters)
HUD21HQ-02	47.68	49.72	2.04	SSCC	Calcareous sandstone		grey, fine grained, somewhat argillaceous, occasional calcite streaks
HUD21HQ-02	49.72	53.68	3.96	SHCC	Calcareous shale		grey, firm, occasional calcite streaks and veins, some cross bedding, slightly sandy, circulation returned around 53 meters
HUD21HQ-02	53.68	53.72	0.04	SH	Shale		grey, completely weathered
HUD21HQ-02	53.72	54.17	0.45	SH	Shale		grey, firm, occasional calcite vein, pyrite clast near top
HUD21HQ-02	54.17	54.65	0.48	SHWCOK	Shale with coal streaks		grey very slightly carbonaceous, top has "poker chip" bedding
HUD21HQ-02	54.65	54.76	0.11	CO	Coal		mostly dull, soft at base
HUD21HQ-02	54.76	55	0.24	SH	Shale		grey, firm, slightly sandy to silty
HUD21HQ-02	55	57.17	2.17	SSCC	Calcareous sandstone		grey, occasional clay streaks and clasts, calcite streaks/veins scattered, occasional coal spars
HUD21HQ-02	57.17	68.63	11.46	SHCC	Calcareous shale		grey, firm, sandy to silty, calcite veins and streaks, rare coal spars

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-02	68.63	70.15	1.52	SH	Shale		grey, firm, occasional calcite streaks, planar, coal lens at ~70.3 meters
HUD21HQ-02	70.15	71.61	1.46	SHCC	Calcareous shale		grey, firm, numerous calcite streaks and larger veins near base
HUD21HQ-02	71.61	71.85	0.24	CO	Coal	C350	dull, very soft
HUD21HQ-02	71.85	76.63	4.78	SHCC	Calcareous shale		grey, firm, calcite throughout (including larger veins), few coal spars
HUD21HQ-02	76.63	77.11	0.48	SHCR	Carbonaceous shale		dark grey, occasional coal spars
HUD21HQ-02	77.11	77.2	0.09	CO	Coal	D440	dull, very soft
HUD21HQ-02	77.2	77.26	0.06	SHCR	Carbonaceous shale		dark grey, moderately soft
HUD21HQ-02	77.26	77.37	0.11	SH	Shale		interpreted from e-log
HUD21HQ-02	77.37	77.63	0.26	SHSN	Sandy shale		grey, firm
HUD21HQ-02	77.63	77.87	0.24	CO	Coal	D450	occasional bright bands, moderately soft
HUD21HQ-02	77.87	78.69	0.82	COWSH	Coal with shale	D450	interpreted from e-log
HUD21HQ-02	78.69	78.98	0.29	CO	Coal	D450	occasional bright bands, moderately soft
HUD21HQ-02	78.98	79.08	0.1	SHCR	Carbonaceous shale		dark grey, soft, occasional coal streaks
HUD21HQ-02	79.08	79.95	0.87	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-02	79.95	80.2	0.25	BOSHCR	Bone with carbonaceous shale		dull, occasional coal streaks
HUD21HQ-02	80.2	80.73	0.53	SHCR	Carbonaceous shale		dark grey, coal streaks throughout
HUD21HQ-02	80.73	82.64	1.91	SHWCOK	Shale with coal streaks		grey, moderately firm, calcite veins/streaks throughout
HUD21HQ-02	82.64	83.59	0.95	SH	Shale		grey, moderately firm, numerous calcite veins
HUD21HQ-02	83.59	83.79	0.2	SHCR	Carbonaceous shale		dark grey
HUD21HQ-02	83.79	83.84	0.05	CO	Coal		weathered, very soft
HUD21HQ-02	83.84	84.36	0.52	SH	Shale		grey, moderately firm, calcite streaks throughout
HUD21HQ-02	84.36	100.35	15.99	SSCC	Calcareous sandstone		grey, firm, shaly interbeds throughout, occasional calcite streaks/veins throughout (0.03 m vein at ~95.5 meters), occasional clay clasts, occasional coal spars, slightly micaceous in sandy intervals
HUD21HQ-02	100.35	100.35	0	CO	Coal	E540	

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-02	100.35	100.38	0.03	CO	Coal	E550	bright banded
HUD21HQ-02	100.38	105.73	5.35	SSCC	Calcareous sandstone		grey, firm, abundant calcite streaks and veins as well as coal spars and lenses, numerous clay clasts, driller lost circulation at ~103.7 meters, pyrite at ~105.4 meters
HUD21HQ-02	105.73	108.73	3	SSCC	Calcareous sandstone		grey, firm, abundant calcite streaks and veins, more intact than above unit, scattered high-angle thin coal lenses/spars, slightly micaceous, intervals of abundant elongated clay clasts, becoming less intact downward
HUD21HQ-02	108.73	120.73	12	SSCC	Calcareous sandstone		grey, abundant calcite streaks and veins, clay clasts throughout, slightly micaceous, coal spars, rare pyrite streaks, less intact than above unit
HUD21HQ-02	120.73	125.95	5.22	SSCC	Calcareous sandstone		grey, calcite veins and streaks throughout, more intact than above unit
HUD21HQ-02	125.95	126.12	0.17	SH	Shale		grey
HUD21HQ-02	126.12	127.61	1.49	SHCC	Calcareous shale		grey, abundant calcite streaks and veins
HUD21HQ-02	127.61	127.83	0.22	CO	Coal	F650	occasional bright bands, scattered shaly bands
HUD21HQ-02	127.83	128.68	0.85	COBO	Bony coal	F650	interpreted from e-log WITH PYRITE
HUD21HQ-02	128.68	128.85	0.17	SH	Shale		grey, firm, calcite
HUD21HQ-02	128.85	128.9	0.05	CO	Coal		mostly dull
HUD21HQ-02	128.9	129.13	0.23	SH	Shale		grey
HUD21HQ-02	129.13	129.17	0.04	CO	Coal		dull,
HUD21HQ-02	129.17	129.36	0.19	SH	Shale		grey
HUD21HQ-02	129.36	130.13	0.77	SHCC	Calcareous shale		grey, calcite streaks throughout
HUD21HQ-02	130.13	130.17	0.04	CO	Coal		bright, banded
HUD21HQ-02	130.17	130.27	0.1	SH	Shale		dark grey, slightly carbonaceous, occasional calcite streaks
HUD21HQ-02	130.27	130.35	0.08	CO	Coal		bright, banded
HUD21HQ-02	130.35	130.56	0.21	SH	Shale		dark grey, slightly carbonaceous, rare calcite streak
HUD21HQ-02	130.56	130.61	0.05	CO	Coal		
HUD21HQ-02	130.61	130.88	0.27	SHCC	Calcareous shale		grey, numerous calcite streaks, drilling circulation returned

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-02	130.88	131.83	0.95	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-02	131.83	133.19	1.36	SH	Shale		grey, numerous calcite streaks, slightly calcareous
HUD21HQ-02	133.19	134.45	1.26	SH	Shale		dark grey, little to no calcite
HUD21HQ-02	134.45	134.68	0.23	CT	Claystone		grey, nearly unconsolidated
HUD21HQ-02	134.68	135.36	0.68	SH	Shale		interpreted from e-log
HUD21HQ-02	135.36	136.41	1.05	SH	Shale		dark grey, no calcite, completely incohesive
HUD21HQ-02	136.41	137.16	0.75	SHCR	Carbonaceous shale		dark grey to black, nearly bony, somewhat blocky, coal streaks
HUD21HQ-02	137.16	137.84	0.68	SHSHCR	Shale and carbonaceous shale		
HUD21HQ-02	137.84	140.49	2.65	SH	Shale		dark grey, occasional coal spars and lenses, somewhat large concentration of pyrite at ~139.3 meters, becoming carbonaceous downward, rare calcite streaks
HUD21HQ-02	140.49	140.9	0.41	SHWCO	Shale with coal		some calcite on shale
HUD21HQ-02	140.9	141.24	0.34	SH	Shale		dark grey, some calcite streaks
HUD21HQ-02	141.24	142.36	1.12	SHCC	Calcareous shale		grey, mostly firm, occasional calcite streaks
HUD21HQ-02	142.36	148.64	6.28	SH	Shale		grey to dark grey, somewhat carbonaceous, calcite streaks, occasional pyrite nodules, coal spars becoming more common downward
HUD21HQ-02	148.64	150.15	1.51	SH	Shale		dark grey, moderately firm, more cohesive than above unit, slightly sandy at bottom, occasional calcite streaks, planar
HUD21HQ-02	150.15	151.9	1.75	SHCC	Calcareous shale		grey, slightly sandy, firm, calcite streaks and spars, mostly cohesive
HUD21HQ-02	151.9	158.02	6.12	SH	Shale		dark grey, moderately firm, occasional calcite streaks and veins, not as cohesive as some of the above units but still somewhat incohesive
HUD21HQ-02	158.02	160.34	2.32	SHCC	Calcareous shale		grey, slightly sandy and moderately firm, calcite streaks
HUD21HQ-02	160.34	160.49	0.15	SH	Shale		interpreted from e-log
HUD21HQ-02	160.49	160.67	0.18	SH	Shale		black, carbonaceous, incohesive
HUD21HQ-02	160.67	160.86	0.19	CO	Coal	G750	occasional bright bands
HUD21HQ-02	160.86	161.26	0.4	SHCC	Calcareous shale		grey, firm, calcite, becoming sandy downward
HUD21HQ-02	161.26	167.15	5.89	SSCC	Calcareous sandstone		grey, calcite veins throughout, occasional shaly lenses, calcite veins numerous at ~164.2 meters, occasional coal spars (some with pyrite)

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-02	167.15	169.82	2.67	SHCC	Calcareous shale		grey, moderately firm, calcite throughout, planar
HUD21HQ-02	169.82	172.87	3.05	SH	Shale		grey to dark grey, moderately firm, calcite streaks and veins (many veins are vertically oriented), rare pyrite, coal spars near base
HUD21HQ-02	172.87	183.88	11.01	SSCC	Calcareous sandstone		grey, firm, scattered calcite streaks, cohesive, bottom meter contains some pyrite
HUD21HQ-02	183.88	185.71	1.83	CO	Coal	I950	bright banded, intact, possible trace of siderite nodules at base and pyrite at top
HUD21HQ-02	185.71	188.35	2.64	SHCC	Calcareous shale		grey, moderately firm, slightly silty, pyrite at immediate top, occasional calcite streaks, micaceous
HUD21HQ-02	188.35	189.3	0.95	SH	Shale		grey to dark grey, numerous calcite streaks throughout, slightly incohesive
HUD21HQ-02	189.3	192.3	3	SHCC	Calcareous shale		grey, moderately firm, occasional calcite streaks and veins, rare coal spars/lenses, pyrite nodules at immediate top
HUD21HQ-02	192.3	194.23	1.93	SHWCO	Shale with coal		grey to dark grey, planar, calcite streaks, occasional coal spars and lenses, becoming slightly more firm downward
HUD21HQ-02	194.23	194.49	0.26	SHWCO	Shale with coal		dark grey
HUD21HQ-02	194.49	196.06	1.57	SHCC	Calcareous shale		grey, pyrite throughout, coal spars and calcite streaks
HUD21HQ-02	196.06	196.71	0.65	SH	Shale		dark grey, numerous calcite streaks/veins and coal spars/lenses, planar
HUD21HQ-02	196.71	196.78	0.07	CO	Coal	I995	dull, very soft
HUD21HQ-02	196.78	221.66	24.88	SHCC	Calcareous shale		grey, firm, occasional calcite streaks, slightly sandy, occasional sandy zones, rare coal spars, rare pyrite nodules
HUD21HQ-02	221.66	221.86	0.2	SH	Shale		interpreted from e-log
HUD21HQ-02	221.86	221.91	0.05	CO	Coal		bright banded
HUD21HQ-02	221.91	222.98	1.07	SHCC	Calcareous shale		grey, firm, occasional calcite streaks, slightly sandy
HUD21HQ-02	222.98	224.25	1.27	SHCR	Carbonaceous shale		grey, becoming dark grey downward, occasional calcite streaks mainly at top, numerous coal spars
HUD21HQ-02	224.25	224.3	0.05	CO	Coal		bright banded
HUD21HQ-02	224.3	224.63	0.33	SHCR	Carbonaceous shale		dark grey, coal streaks and spars throughout
HUD21HQ-02	224.63	225.03	0.4	CO	Coal		bright banded, slightly soft at top
HUD21HQ-02	225.03	225.5	0.47	NCLC	No core / lost core		

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-02	225.5	225.6	0.1	CO	Coal		dull, very soft
HUD21HQ-02	225.6	225.73	0.13	SHCR	Carbonaceous shale		dark grey, coal streaks
HUD21HQ-02	225.73	225.89	0.16	CO	Coal		dull with few bright bands
HUD21HQ-02	225.89	226.01	0.12	SH	Shale		grey, moderately firm and slightly sandy, coal streaks
HUD21HQ-02	226.01	226.28	0.27	COWSH	Coal with shale		occasional bright bands with shale bands (typically less than 0.02 meters thick)
HUD21HQ-02	226.28	226.58	0.3	CO	Coal		dull, very soft
HUD21HQ-02	226.58	226.7	0.12	SH	Shale		grey, coal streaks
HUD21HQ-02	226.7	227.32	0.62	SHSHCR	Shale and carbonaceous shale		interpreted from e-log
HUD21HQ-02	227.32	227.46	0.14	SHWCO	Shale with coal		predominantly shale with bright banded coal throughout
HUD21HQ-02	227.46	227.58	0.12	CO	Coal		bright, banded
HUD21HQ-02	227.58	228.77	1.19	SHCC	Calcareous shale		grey, firm, calcite streaks, pyrite nodules throughout (some nearly 2 cm across)
HUD21HQ-02	228.77	228.98	0.21	SHWCO	Shale with coal		alternating shale and coal (appears to be predominantly shale)
HUD21HQ-02	228.98	229.32	0.34	CO	Coal		bright banded with occasional thin coal streaks
HUD21HQ-02	229.32	229.69	0.37	SI	Siltstone		grey, firm, coal spars
HUD21HQ-02	229.69	230.01	0.32	CO	Coal		occasional bright bands, thin shale lenses (mostly near top)
HUD21HQ-02	230.01	230.47	0.46	SI	Siltstone		grey, firm, occasional coal spars
HUD21HQ-02	230.47	231.5	1.03	SHCR	Carbonaceous shale		dark grey, numerous coal streaks throughout
HUD21HQ-02	231.5	232.48	0.98	SHCR	Carbonaceous shale		dark grey, numerous coal streaks and lenses throughout, near vertical coal lens down the centre of the core
HUD21HQ-02	232.48	232.59	0.11	CO	Coal		dull, very soft
HUD21HQ-02	232.59	232.76	0.17	SHCR	Carbonaceous shale		dark grey, coal streaks
HUD21HQ-02	232.76	232.85	0.09	CO	Coal		mostly dull
HUD21HQ-02	232.85	233.6	0.75	NCLC	No core / lost core		
HUD21HQ-02	233.6	233.87	0.27	BOSHCR	Bone with carbonaceous shale		dark grey to black, numerous coal streaks
HUD21HQ-02	233.87	233.94	0.07	COWSH	Coal with shale		bright banded, predominantly coal

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-02	233.94	234.56	0.62	SHCR	Carbonaceous shale		dark grey, numerous coal streaks
HUD21HQ-02	234.56	235.17	0.61	SHCR	Carbonaceous shale		dark grey, coal streaks (not as predominant as above unit), rare calcite streaks
HUD21HQ-02	235.17	235.9	0.73	CO	Coal	J1050	bright banded, somewhat soft at base
HUD21HQ-02	235.9	238.86	2.96	CO	Coal	J1050	bright banded, very scattered thin shale streaks, predominantly clean
HUD21HQ-02	238.86	239.25	0.39	COLST	Lost coal	J1050	interpreted from e-log
HUD21HQ-02	239.25	240.45	1.2	CO	Coal	J1050	bright banded
HUD21HQ-02	240.45	240.65	0.2	BOCOSH	Bone and shaly coal		mostly dull
HUD21HQ-02	240.65	240.95	0.3	SH	Shale		interpreted from e-log
HUD21HQ-02	240.95	241.26	0.31	SH	Shale		grey, moderately firm, slightly silty
HUD21HQ-02	241.26	241.76	0.5	SHCR	Carbonaceous shale		dark grey, numerous coal streaks and large near vertical coal lens down centre of core
HUD21HQ-02	241.76	242.4	0.64	SH	Shale		grey, moderately firm
HUD21HQ-02	242.4	242.95	0.55	CO	Coal		occasional bright bands, soft at immediate base
HUD21HQ-02	242.95	243.48	0.53	COSH	Shaly coal		dull, occasional shale bands
HUD21HQ-02	243.48	244.05	0.57	SH	Shale		dark grey, coal streaks
HUD21HQ-02	244.05	248.63	4.58	SH	Shale		grey to dark grey, moderately firm, several coal spars and lenses, scattered calcite streaks
HUD21HQ-02	248.63	249.38	0.75	SHCR	Carbonaceous shale		dark grey, slightly carbonaceous scattered coal spars and lenses
HUD21HQ-03	0	5.3	5.3	OV	Overburden		driller reports coal in overburden at ~5.0 meters. Casing reset to 27.0 meters
HUD21HQ-03	5.3	6.1	0.8	CO	Coal		
HUD21HQ-03	6.1	6.5	0.4	COBO	Bony coal		
HUD21HQ-03	6.5	7.2	0.7	CO	Coal		
HUD21HQ-03	7.2	7.5	0.3	SHCR	Carbonaceous shale		
HUD21HQ-03	7.5	9	1.5	COWSHK	Coal with shale streaks		

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-03	9	10.4	1.4	OV	Overburden		
HUD21HQ-03	10.4	11.9	1.5	SH	Shale		
HUD21HQ-03	11.9	16.24	4.34	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-03	16.24	16.64	0.4	SH	Shale		dark grey, very slightly sandy
HUD21HQ-03	16.64	17.22	0.58	BOSHCR	Bone with carbonaceous shale		mostly black, numerous coal streaks/lenses
HUD21HQ-03	17.22	18.51	1.29	SH	Shale		grey, planar, coal streaks
HUD21HQ-03	18.51	18.6	0.09	CO	Coal		very soft
HUD21HQ-03	18.6	18.65	0.05	SH	Shale		grey
HUD21HQ-03	18.65	19.78	1.13	NCLC	No core / lost core		
HUD21HQ-03	19.78	21.64	1.86	SH	Shale		grey to dark grey, slightly sandy zones, coal spars
HUD21HQ-03	21.64	21.75	0.11	NCLC	No core / lost core		
HUD21HQ-03	21.75	22.27	0.52	SH	Shale		grey, planar, slightly sandy
HUD21HQ-03	22.27	22.67	0.4	CO	Coal	B240	occasional bright bands, soft to very soft
HUD21HQ-03	22.67	23.25	0.58	SH	Shale		
HUD21HQ-03	23.25	24.07	0.82	CO	Coal	B250	bright banded to dull
HUD21HQ-03	24.07	24.73	0.66	CO	Coal	B250	interpreted from e-log
HUD21HQ-03	24.73	26.03	1.3	CO	Coal	B250	bright banded with occasional soft zones
HUD21HQ-03	26.03	26.29	0.26	CT	Claystone		light grey, nearly unconsolidated
HUD21HQ-03	26.29	28.81	2.52	SH	Shale		grey, planar, coal spars and some lenses throughout, becoming sandy downward, gradational basal contact
HUD21HQ-03	28.81	30.17	1.36	SSCC	Calcareous sandstone		grey, firm, occasional calcite streaks and coal spars
HUD21HQ-03	30.17	30.86	0.69	SH	Shale		grey, firm, planar, little pyrite
HUD21HQ-03	30.86	31.16	0.3	SH	Shale		grey, coal spars and lenses, pyritic, occasional calcite streaks
HUD21HQ-03	31.16	31.3	0.14	COLST	Lost coal		
HUD21HQ-03	31.3	35.63	4.33	SH	Shale		grey, slightly sandy, occasional coal spars and calcite streaks

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-03	35.63	37.53	1.9	SHCC	Calcareous shale		grey, firm, occasional calcite streaks, sandy, occasional coal spars
HUD21HQ-03	37.53	42.92	5.39	SH	Shale		grey, firm, planar, very slightly sandy, coal lens at ~38.95 meters, scattered calcite streaks, occasional calcareous zones
HUD21HQ-03	42.92	45.34	2.42	SH	Shale		grey, moderately firm with sandy zones, not as intact as above unit
HUD21HQ-03	45.34	45.66	0.32	SHCR	Carbonaceous shale		dark grey
HUD21HQ-03	45.66	45.96	0.3	COASH	Coal and shale		occasional bright bands
HUD21HQ-03	45.96	46.65	0.69	SHCR	Carbonaceous shale		dark grey to grey, occasional coal spars and lenses, some pyrite in coal lenses
HUD21HQ-03	46.65	51.71	5.06	SH	Shale		grey, firm, slightly sandy, occasional coal spars
HUD21HQ-03	51.71	52.05	0.34	NCLC	No core / lost core		depth correction from e-log
HUD21HQ-03	52.05	52.15	0.1	CO	Coal	C350	bright, banded
HUD21HQ-03	52.15	53.05	0.9	COLST	Lost coal	C350	
HUD21HQ-03	53.05	53.35	0.3	SHCR	Carbonaceous shale		dark grey, numerous coal spars/lenses
HUD21HQ-03	53.35	54	0.65	SH	Shale		
HUD21HQ-03	54	54.55	0.55	CO	Coal	D440	
HUD21HQ-03	54.55	55.03	0.48	SH	Shale		black, occasional calcite streaks, somewhat carbonised and slightly sandy
HUD21HQ-03	55.03	55.13	0.1	SH	Shale		
HUD21HQ-03	55.13	56.81	1.68	CO	Coal	D450	
HUD21HQ-03	56.81	57.33	0.52	CO	Coal	D450	mostly dull with occasional soft zones
HUD21HQ-03	57.33	60.51	3.18	SH	Shale		grey, mostly firm, occasional calcite streaks
HUD21HQ-03	60.51	69.33	8.82	SH	Shale		grey, calcite streaks increasing, not as intact as above unit, slightly silty, rare coal spars
HUD21HQ-03	69.33	72.93	3.6	SH	Shale		grey, firm, slightly silty, calcite streaks/veins still prevalent but not as prevalent as above unit
HUD21HQ-03	72.93	76.47	3.54	SH	Shale		grey, moderately firm, slightly silty, not as intact as above unit, scattered calcite streaks/veins, coal spars downward
HUD21HQ-03	76.47	76.57	0.1	CO	Coal		bright, banded

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-03	76.57	79.12	2.55	SSSH	Shaly sandstone		grey to dark grey, moderately firm, occasional calcite streaks and coal spars, gradational basal contact
HUD21HQ-03	79.12	80.45	1.33	SHWSSK	Shale with sandstone streaks		
HUD21HQ-03	80.45	81.33	0.88	SH	Shale		dark grey, firm, slightly sandy at top
HUD21HQ-03	81.33	83.92	2.59	SH	Shale		dark grey, moderately firm, coal spars and some lenses throughout, not as intact as above unit
HUD21HQ-03	83.92	84.37	0.45	NCLC	No core / lost core		
HUD21HQ-03	84.37	88.2	3.83	SH	Shale		dark grey, firm, rare coal spars, planar
HUD21HQ-03	88.2	88.92	0.72	CO	Coal	E550	mostly dull with occasional bright bands
HUD21HQ-03	88.92	89.51	0.59	COLST	Lost coal	E550	interpreted from e-log
HUD21HQ-03	89.51	89.73	0.22	CO	Coal	E550	mostly dull with occasional bright bands
HUD21HQ-03	89.73	96.69	6.96	SH	Shale		grey, firm, slightly sandy at top, coal spars scattered, occasional calcite streaks, occasional calcareous lenses
HUD21HQ-03	96.69	97.49	0.8	SH	Shale		grey, moderately firm, not as intact as above unit, coal spars and lenses, carbonaceous at base
HUD21HQ-03	97.49	97.59	0.1	CO	Coal	F650	occasional bright bands
HUD21HQ-03	97.59	97.77	0.18	NCLC	No core / lost core		
HUD21HQ-03	97.77	99.04	1.27	SH	Shale		grey, moderately firm at top, becoming softer downward, coal spars
HUD21HQ-03	99.04	99.25	0.21	NCLC	No core / lost core		
HUD21HQ-03	99.25	99.65	0.4	COASH	Coal and shale		dark grey, predominately carbonaceous shale
HUD21HQ-03	99.65	100.11	0.46	SHCR	Carbonaceous shale		dark grey, numerous coal streaks
HUD21HQ-03	100.11	100.28	0.17	NCLC	No core / lost core		
HUD21HQ-03	100.28	103.85	3.57	SH	Shale		grey, firm, planar, scattered calcite streaks, rare pyrite, very rare coal spars
HUD21HQ-03	103.85	104.6	0.75	NCLC	No core / lost core		
HUD21HQ-03	104.6	113	8.4	SH	Shale		grey, firm, planar, scattered calcite streaks, occasional sandy lenses, rare pyrite, scattered coal spars, slightly calcareous from ~112-113 meters
HUD21HQ-03	113	113.52	0.52	NCLC	No core / lost core		

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-03	156.6	165.1	8.5	SHCC	Calcareous shale		grey, firm, slightly sandy, scattered coal spar, rare calcite streaks, and a few pyrite flakes
HUD21HQ-03	165.1	168.3	3.2	SSCC	Calcareous sandstone		grey, fine grained, calcite streaks scattered, rare pyrite flakes, clay clasts at base
HUD21HQ-03	168.3	173.16	4.86	SHCC	Calcareous shale		grey, firm, planar, occasional calcite streaks, rare pyrite flakes
HUD21HQ-03	173.16	174.27	1.11	SH	Shale		grey, firm, sandy
HUD21HQ-03	174.27	175.08	0.81	SH	Shale		grey, planar, mostly incohesive, coal lens/spar at base
HUD21HQ-03	175.08	175.48	0.4	SH	Shale		grey, moderately firm, occasional coal spars
HUD21HQ-03	175.48	179.97	4.49	SH	Shale		grey, moderately firm, occasional coal spars, somewhat cohesive
HUD21HQ-03	179.97	195.66	15.69	SH	Shale		grey, firm, slightly sandy, occasional calcite streaks, driller lost partial circulation at base, becoming more sandy downward
HUD21HQ-03	195.66	205.07	9.41	SSCC	Calcareous sandstone		grey, fine grained, massive, occasional siderite bands and calcite streaks
HUD21HQ-03	205.07	206.97	1.9	SSCC	Calcareous sandstone		grey, fine grained, calcite streaks increasing
HUD21HQ-03	206.97	210.17	3.2	SSCC	Calcareous sandstone		grey, fine grained, only slightly calcareous, calcite streaks not as frequent as above unit
HUD21HQ-03	210.17	218.01	7.84	SHSN	Sandy shale		grey, firm, calcite streaks (a few have small-scale solution cavities), partial circulation returns and ~214 meters, occasional pyrite flakes, some calcareous intervals downward
HUD21HQ-03	218.01	235.85	17.84	SSCC	Calcareous sandstone		grey, fine grained, very rare pyrite flakes, occasional calcite streaks, massive, clay streaks at ~229 meters
HUD21HQ-03	235.85	239.17	3.32	SSCC	Calcareous sandstone		grey, fine grained, numerous calcite streaks and occasional veins
HUD21HQ-03	239.17	245.97	6.8	SSCC	Calcareous sandstone		grey, fine grained, calcite not as frequent as above unit. Bottom of Hole.
HUD21HQ-04	0	7.14	7.14	OV	Overburden		no coals detected in overburden; casing set to 7.5m (later reset to 8.95m). Start coring at 7.17m.
HUD21HQ-04	7.14	9.03	1.89	SHCC	Calcareous shale		grey, some iron staining, slightly silty lenses, scattered calcite streaks
HUD21HQ-04	9.03	9.9	0.87	SH	Shale		dark grey, slightly iron staining near top, scattered silty laminations
HUD21HQ-04	9.9	12	2.1	SHWCOK	Shale with coal streaks		grey

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-03	113.52	114.25	0.73	SH	Shale		grey, planar, coal lenses and streaks, somewhat incohesive
HUD21HQ-03	114.25	116.75	2.5	SH	Shale		grey to dark grey, mostly firm, planar, coal spars throughout, occasional calcite streaks
HUD21HQ-03	116.75	117.25	0.5	NCLC	No core / lost core		
HUD21HQ-03	117.25	119.71	2.46	SH	Shale		grey, moderately firm, scattered calcite at top, coal spars throughout, large thin vertical coal lens at base
HUD21HQ-03	119.71	119.78	0.07	NCLC	No core / lost core	F695	
HUD21HQ-03	119.78	122.94	3.16	SH	Shale		grey, mostly firm, planar, occasional coal spars, becoming slightly sandy
HUD21HQ-03	122.94	128.13	5.19	SS	Sandstone		grey, fine grained, scattered calcite streaks and veins, coal spars near base, small pyrite streak at 123.8 meters
HUD21HQ-03	128.13	128.35	0.22	SHWCO	Shale with coal		Black, shale is carbonaceous
HUD21HQ-03	128.35	128.7	0.35	COLST	Lost coal	G740	interpreted from e-log
HUD21HQ-03	128.7	128.78	0.08	BOWCO	Bone with coal		
HUD21HQ-03	128.78	129.45	0.67	BOWCO	Bone with coal		black, shale is carbonaceous, blocky
HUD21HQ-03	129.45	129.97	0.52	CO	Coal	G750	bright, banded with soft zones
HUD21HQ-03	129.97	130.23	0.26	COLST	Lost coal	G750	
HUD21HQ-03	130.23	134.89	4.66	SH	Shale		grey, firm, planar
HUD21HQ-03	134.89	135.13	0.24	SH	Shale		interpreted from e-log
HUD21HQ-03	135.13	135.64	0.51	COSH	Shaly coal	I950	dull with occasional thin shale streaks
HUD21HQ-03	135.64	136.23	0.59	COLST	Lost coal		
HUD21HQ-03	136.23	136.48	0.25	SH	Shale		grey, slightly carbonaceous, coal streaks, becoming sandy downward, gradational basal contact
HUD21HQ-03	136.48	137.33	0.85	NCLC	No core / lost core		
HUD21HQ-03	137.33	140.03	2.7	SS	Sandstone		grey, fine grained, very scattered coal spars and pyrite flakes
HUD21HQ-03	140.03	153.6	13.57	SSCC	Calcareous sandstone		grey, fine grained, rare pyrite flakes and coal spars, scattered calcite streaks
HUD21HQ-03	153.6	156.6	3	SH	Shale		grey, firm, slightly sandy/silty, planar

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-04	12	12.48	0.48	CO	Coal	G740	occasional bright bands and overall dull appearance
HUD21HQ-04	12.48	13.02	0.54	COLST	Lost coal	G740	
HUD21HQ-04	13.02	13.52	0.5	SHCR	Carbonaceous shale		dark grey, very rare coal streaks
HUD21HQ-04	13.52	13.87	0.35	CO	Coal	G750	bright banded, blocky
HUD21HQ-04	13.87	14.2	0.33	COLST	Lost coal	G750	
HUD21HQ-04	14.2	15.69	1.49	SH	Shale		grey, slightly silty
HUD21HQ-04	15.69	27.87	12.18	SSSH	Shaly sandstone		grey, scattered calcite streaks, very rare pyrite, scattered coal spars in bedding planes, slightly micaceous, calcite streaks
HUD21HQ-04	27.87	30.36	2.49	SSWCOK	Sandstone with coal streaks		grey, fine grained, coal streaks throughout, occasional clay streaks, rare pyrite found on coal
HUD21HQ-04	30.36	32.23	1.87	SH	Shale		grey to dark grey, becoming carbonaceous downward, occasional coal streaks
HUD21HQ-04	32.23	32.37	0.14	CO	Coal	H850	dull with occasional bright bands
HUD21HQ-04	32.37	32.6	0.23	COBO	Bony coal	H850	black
HUD21HQ-04	32.6	33.05	0.45	CO	Coal	H850	bright banded, some pyrite at base
HUD21HQ-04	33.05	33.45	0.4	COLST	Lost coal	H850	
HUD21HQ-04	33.45	35.04	1.59	SHCR	Carbonaceous shale		dark grey, coal streaks throughout, becoming coaly/more carbonaceous at base
HUD21HQ-04	35.04	35.68	0.64	NCLC	No core / lost core		
HUD21HQ-04	35.68	35.89	0.21	CO	Coal		mostly dull
HUD21HQ-04	35.89	35.99	0.1	SHCR	Carbonaceous shale		dark grey to black, highly carbonaceous with many coal streaks
HUD21HQ-04	35.99	36.57	0.58	SH	Shale		grey, slightly carbonaceous
HUD21HQ-04	36.57	36.66	0.09	CO	Coal		dull
HUD21HQ-04	36.66	37.01	0.35	SHCR	Carbonaceous shale		dark grey to near black, highly carbonaceous coaly streaks throughout
HUD21HQ-04	37.01	41.49	4.48	SHCC	Calcareous shale		grey, occasional calcite and sandy streaks, top .25m contains numerous coal lenses
HUD21HQ-04	41.49	44.25	2.76	SSCC	Calcareous sandstone		grey, fine grained, calcite streaks
HUD21HQ-04	44.25	44.56	0.31	SHCR	Carbonaceous shale		black, numerous coal streaks at top, slightly coaly/highly carbonaceous

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-04	44.56	49.35	4.79	SH	Shale		grey, planar, becoming slightly silty/sandy downward
HUD21HQ-04	49.35	51.33	1.98	SSCC	Calcareous sandstone		grey, fine grained, slightly shaly, calcite streaks
HUD21HQ-04	51.33	52.72	1.39	SH	Shale		grey, planar
HUD21HQ-04	52.72	52.87	0.15	CO	Coal		mostly dull with occasional bright bands
HUD21HQ-04	52.87	53.17	0.3	SHCR	Carbonaceous shale		dark grey to black, numerous coal streaks, highly carbonaceous
HUD21HQ-04	53.17	53.3	0.13	CO	Coal		occasional bright bands
HUD21HQ-04	53.3	55.04	1.74	SH	Shale		grey, scattered calcite streaks
HUD21HQ-04	55.04	55.13	0.09	COSH	Shaly coal		
HUD21HQ-04	55.13	55.23	0.1	SHCR	Carbonaceous shale		dark grey, coal streaks
HUD21HQ-04	55.23	55.33	0.1	CO	Coal		bright banded at top
HUD21HQ-04	55.33	61.3	5.97	SSSH	Shaly sandstone		grey, fine grained, calcite streaks scattered, coal spars increasing downward, scattered clay clasts
HUD21HQ-04	61.3	61.6	0.3	CO	Coal	l950	mostly dull with occasional bright bands
HUD21HQ-04	61.6	61.65	0.05	SHCR	Carbonaceous shale		dark grey coal streaks
HUD21HQ-04	61.65	61.81	0.16	COCOBO	Coal and bony coal		mostly dull, blocky
HUD21HQ-04	61.81	62	0.19	SHCR	Carbonaceous shale		dark grey, coal streaks
HUD21HQ-04	62	66.28	4.28	SH	Shale		grey, rare calcite streaks, becoming sandy downward
HUD21HQ-04	66.28	66.34	0.06	CO	Coal		bright banded
HUD21HQ-04	66.34	72.79	6.45	SHCC	Calcareous shale		grey, planar, calcite streaks, sandy zones
HUD21HQ-04	72.79	73.98	1.19	SH	Shale		grey, calcite streaks
HUD21HQ-04	73.98	74.15	0.17	CO	Coal	l995	dull
HUD21HQ-04	74.15	74.99	0.84	SHST	Silty shale		grey, occasional coal spars
HUD21HQ-04	74.99	76.22	1.23	SHCC	Calcareous shale		grey, calcite streaks and veins
HUD21HQ-04	76.22	76.32	0.1	COBO	Bony coal		dull
HUD21HQ-04	76.32	90.64	14.32	SHCC	Calcareous shale		grey, sandy, calcite streaks and veins, coal streaks, very scattered becoming less calcareous at base, gradational basal contact

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-04	90.64	94.97	4.33	SH	Shale		grey, planar, coal spars and streaks, occasional calcite streaks, occasional thin calcareous intervals, some coal streaks contain pyrite
HUD21HQ-04	94.97	97.33	2.36	SHCC	Calcareous shale		grey, sandy, occasional calcite streaks
HUD21HQ-04	97.33	98.08	0.75	SHCC	Calcareous shale		dark grey, planar, rare calcite streaks, slightly carbonaceous downward
HUD21HQ-04	98.08	98.24	0.16	SHCR	Carbonaceous shale		dark grey, occasional calcite streaks, pyrite
HUD21HQ-04	98.24	99.41	1.17	CO	Coal	J1050	overall mostly dull but has occasional bright bands, some portions crushed and block
HUD21HQ-04	99.41	100.48	1.07	SH	Shale		grey, planar, calcite streaks near base, some pyrite near top, becoming sandy downward
HUD21HQ-04	100.48	105.64	5.16	SSCC	Calcareous sandstone		grey, fine grained, some cross-bedding, calcite streaks/veins, fairly common (one vein has evidence of solution cavity)
HUD21HQ-04	105.64	106.46	0.82	SHSHCR	Shale and carbonaceous shale		grey, planar, occasional calcite streaks, slightly carbonaceous
HUD21HQ-04	106.46	106.74	0.28	SHCR	Carbonaceous shale		dark grey
HUD21HQ-04	106.74	106.88	0.14	COWSHK	Coal with shale streaks		bright banded
HUD21HQ-04	106.88	107.23	0.35	SHCR	Carbonaceous shale		dark grey, coal streaks
HUD21HQ-04	107.23	110.05	2.82	SH	Shale		grey, planar, thinly laminated within several intervals, occasional coal streaks and spars
HUD21HQ-04	110.05	113.47	3.42	SHCC	Calcareous shale		grey, planar, occasional coal spars, calcite streaks/veins (some vugs)
HUD21HQ-04	113.47	113.55	0.08	CO	Coal		crushed
HUD21HQ-04	113.55	114.5	0.95	SH	Shale		grey to slightly dark grey, planar, coal streaks, carbonaceous zones
HUD21HQ-04	114.5	115.75	1.25	SH	Shale		mostly dark grey, somewhat carbonaceous(more so than above unit) coal streaks and lenses throughout, planar
HUD21HQ-04	115.75	116.28	0.53	CO	Coal		mostly dull with some bright banding
HUD21HQ-04	116.28	117.33	1.05	COLST	Lost coal		
HUD21HQ-04	117.33	117.45	0.12	CO	Coal		mostly dull
HUD21HQ-04	117.45	118.49	1.04	SH	Shale		grey, calcite streaks/veins

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-04	118.49	130.76	12.27	SHCC	Calcareous shale		grey, planar, calcite streaks and veins, began artesianing conditions ~125m
HUD21HQ-04	130.76	167.59	36.83	SH	Shale		grey, planar, occasional calcite streaks, occasional coal spars (a few with pyrite), sandy lenses throughout becoming carbonaceous at base, gradational basal contact
HUD21HQ-04	167.59	168.04	0.45	NCLC	No core / lost core		
HUD21HQ-04	168.04	168.65	0.61	SHCR	Carbonaceous shale		dark grey to near black, coal streaks
HUD21HQ-04	168.65	168.75	0.1	CO	Coal		mostly dull with occasional bright bands
HUD21HQ-04	168.75	169.03	0.28	SHCR	Carbonaceous shale		dark grey, calcite streaks
HUD21HQ-04	169.03	169.53	0.5	SH	Shale		grey, slightly sandy, planar, occasional calcite and coal streaks
HUD21HQ-04	169.53	173.35	3.82	SHCC	Calcareous shale		grey, planar, scattered sandy zones
HUD21HQ-04	173.35	181.03	7.68	SHCC	Calcareous shale		grey, fine grained, calcite streaks increasing downward
HUD21HQ-04	181.03	198.1	17.07	SHCC	Calcareous shale		grey, planar, sandy, calcite streaks becoming prevalent at base
HUD21HQ-05	0	2.52	2.52	CA	Casing		coal streak in casing, 2.98 m casing
HUD21HQ-05	2.52	2.61	0.09	NCLC	No core / lost core		gravel
HUD21HQ-05	2.61	2.84	0.23	GVL	Gravel		sandy
HUD21HQ-05	2.84	2.94	0.1	SS	Sandstone		grey, fine grained
HUD21HQ-05	2.94	3.24	0.3	SSWCOK	Sandstone with coal streaks		light grey, fine grained, clay streak
HUD21HQ-05	3.24	3.36	0.12	SHBK	Black shale		
HUD21HQ-05	3.36	3.73	0.37	SHWSSK	Shale with sandstone streaks		interpreted from e-log
HUD21HQ-05	3.73	3.8	0.07	SSSH	Shaly sandstone		black, carbonaceous
HUD21HQ-05	3.8	4.6	0.8	SS	Sandstone		interpreted from e-log (fractured)
HUD21HQ-05	4.6	4.85	0.25	SS	Sandstone		grey
HUD21HQ-05	4.85	4.95	0.1	SHCR	Carbonaceous shale		black
HUD21HQ-05	4.95	5.05	0.1	CO	Coal		

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-05	5.05	5.46	0.41	SH	Shale		grey
HUD21HQ-05	5.46	5.56	0.1	SHCR	Carbonaceous shale		dark
HUD21HQ-05	5.56	5.79	0.23	SHWCO	Shale with coal		dark, coal bands
HUD21HQ-05	5.79	6.04	0.25	SHWCO	Shale with coal		black
HUD21HQ-05	6.04	6.13	0.09	SHST	Silty shale		grey, silty
HUD21HQ-05	6.13	6.64	0.51	SHWCOK	Shale with coal streaks		grey, coal bands
HUD21HQ-05	6.64	6.8	0.16	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-05	6.8	7.47	0.67	SHWCOK	Shale with coal streaks		dark grey, calcite streaks and bands
HUD21HQ-05	7.47	7.54	0.07	CO	Coal		bright
HUD21HQ-05	7.54	7.75	0.21	SHWCOK	Shale with coal streaks		grey, banded
HUD21HQ-05	7.75	9.64	1.89	SHCC	Calcareous shale		light grey, calcite veins
HUD21HQ-05	9.64	9.74	0.1	SHST	Silty shale		light grey, calcite vein
HUD21HQ-05	9.74	11.57	1.83	SSCC	Calcareous sandstone		light grey, fine grained
HUD21HQ-05	11.57	12.69	1.12	SHCC	Calcareous shale		light grey, banded, silty
HUD21HQ-05	12.69	15.69	3	SHCC	Calcareous shale		light grey
HUD21HQ-05	15.69	15.93	0.24	SH	Shale		grey
HUD21HQ-05	15.93	15.99	0.06	CO	Coal		dull, blocky
HUD21HQ-05	15.99	16.11	0.12	SHWCO	Shale with coal		
HUD21HQ-05	16.11	16.18	0.07	CO	Coal		bright
HUD21HQ-05	16.18	16.19	0.01	SHWCOK	Shale with coal streaks		grey, silty
HUD21HQ-05	16.19	16.21	0.02	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-05	16.21	16.76	0.55	CO	Coal	B250	bright
HUD21HQ-05	16.76	16.85	0.09	SHSN	Sandy shale		grey
HUD21HQ-05	16.85	16.93	0.08	CO	Coal		bright
HUD21HQ-05	16.93	17.16	0.23	SHBK	Black shale		

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-05	17.16	17.29	0.13	CO	Coal		
HUD21HQ-05	17.29	17.43	0.14	SH	Shale		dark grey
HUD21HQ-05	17.43	17.45	0.02	CO	Coal		soft, banded
HUD21HQ-05	17.45	17.63	0.18	SHDK	Dark shale		dark grey
HUD21HQ-05	17.63	17.88	0.25	SHWCO	Shale with coal		dark grey, coal band
HUD21HQ-05	17.88	18.56	0.68	SH	Shale		grey
HUD21HQ-05	18.56	19.11	0.55	SHBK	Black shale		grey
HUD21HQ-05	19.11	19.18	0.07	CO	Coal		bright
HUD21HQ-05	19.18	20.54	1.36	SHWCO	Shale with coal		grey, coal bands
HUD21HQ-05	20.54	20.68	0.14	CO	Coal		dull
HUD21HQ-05	20.68	20.77	0.09	SHWCOK	Shale with coal streaks		possibly coal (0.07 on Run 11)
HUD21HQ-05	20.77	21.43	0.66	SHBK	Black shale		carbonaceous bands
HUD21HQ-05	21.43	22.65	1.22	SHWCO	Shale with coal		dark grey, coal bands
HUD21HQ-05	22.65	22.8	0.15	CO	Coal		dull
HUD21HQ-05	22.8	23.02	0.22	SHDK	Dark shale		dark grey
HUD21HQ-05	23.02	23.95	0.93	SH	Shale		grey
HUD21HQ-05	23.95	24.28	0.33	SHDK	Dark shale		dark grey
HUD21HQ-05	24.28	24.43	0.15	SHWCO	Shale with coal		dark grey, coal band
HUD21HQ-05	24.43	24.55	0.12	SHBK	Black shale		
HUD21HQ-05	24.55	24.61	0.06	CODUL	Dull coal		dirty
HUD21HQ-05	24.61	24.76	0.15	SHBK	Black shale		
HUD21HQ-05	24.76	27.43	2.67	SHCC	Calcareous shale		light grey
HUD21HQ-05	27.43	30.43	3	SHCC	Calcareous shale		light grey, few clay bands, calcite veins
HUD21HQ-05	30.43	30.68	0.25	SHCC	Calcareous shale		light grey, silty
HUD21HQ-05	30.68	33.43	2.75	SSCC	Calcareous sandstone		light grey, calcite fragments

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-05	33.43	33.9	0.47	SSCC	Calcareous sandstone		light grey
HUD21HQ-05	33.9	34.17	0.27	SHST	Silty shale		light grey
HUD21HQ-05	34.17	35.68	1.51	SH	Shale		light grey
HUD21HQ-05	35.68	36.24	0.56	SHST	Silty shale		light grey
HUD21HQ-05	36.24	36.43	0.19	SHWCO	Shale with coal		dark grey, coal band
HUD21HQ-05	36.43	36.83	0.4	SHST	Silty shale		grey, bioturbated, coal spar, shale streaks
HUD21HQ-05	36.83	38.04	1.21	SHWCO	Shale with coal		grey, coal bands
HUD21HQ-05	38.04	38.33	0.29	SHST	Silty shale		grey
HUD21HQ-05	38.33	39.25	0.92	SH	Shale		light grey
HUD21HQ-05	39.25	39.43	0.18	SHWCO	Shale with coal		grey
HUD21HQ-05	39.43	39.8	0.37	SHWCOK	Shale with coal streaks		dark grey, coal bands
HUD21HQ-05	39.8	39.99	0.19	CO	Coal	C340	bright, dull
HUD21HQ-05	39.99	40.06	0.07	SHWCO	Shale with coal		black, coaly
HUD21HQ-05	40.06	40.31	0.25	CO	Coal		dull, good recovery
HUD21HQ-05	40.31	40.37	0.06	SHWCO	Shale with coal		black
HUD21HQ-05	40.37	40.62	0.25	SHWCOK	Shale with coal streaks		black, coal band
HUD21HQ-05	40.62	40.98	0.36	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-05	40.98	42.22	1.24	SH	Shale		dark grey, calcite streak
HUD21HQ-05	42.22	42.55	0.33	SS	Sandstone		light grey, fine grained
HUD21HQ-05	42.55	42.79	0.24	SH	Shale		light grey
HUD21HQ-05	42.79	43.92	1.13	SH	Shale		dark grey, calcite vein, coal streak at top
HUD21HQ-05	43.92	44.13	0.21	CO	Coal	C350	
HUD21HQ-05	44.13	44.46	0.33	SHWCO	Shale with coal	C350	black
HUD21HQ-05	44.46	44.59	0.13	CO	Coal	C350	bright
HUD21HQ-05	44.59	44.65	0.06	COLST	Lost coal	C350	interpreted from e-log

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-05	44.65	44.88	0.23	SH	Shale		grey
HUD21HQ-05	44.88	45.85	0.97	SHST	Silty shale		light grey
HUD21HQ-05	45.85	46.05	0.2	SHST	Silty shale		grey
HUD21HQ-05	46.05	47.7	1.65	SS	Sandstone		light grey, fine grain, numerous siltstone streaks
HUD21HQ-05	47.7	48.81	1.11	SI	Siltstone		light grey
HUD21HQ-05	48.81	48.91	0.1	SHDK	Dark shale		dark grey
HUD21HQ-05	48.91	50.44	1.53	CO	Coal	D450	bright, dull
HUD21HQ-05	50.44	51.04	0.6	SHST	Silty shale		grey, sand streaks
HUD21HQ-05	51.04	51.28	0.24	SHDK	Dark shale		dark grey, coal at base
HUD21HQ-05	51.28	51.61	0.33	COLST	Lost coal		interpreted from e-log (3% core recovery on seam)
HUD21HQ-05	51.61	51.62	0.01	CO	Coal	D460	
HUD21HQ-05	51.62	52.05	0.43	SHST	Silty shale		light grey, coal spar, gradational basal contact
HUD21HQ-05	52.05	54.61	2.56	SSCC	Calcareous sandstone		light grey, fine grained
HUD21HQ-05	54.61	57.61	3	SSCC	Calcareous sandstone		light grey, fine grained
HUD21HQ-05	57.61	60.61	3	SSCC	Calcareous sandstone		light grey, shale bands
HUD21HQ-05	60.61	60.67	0.06	SHCC	Calcareous shale		grey
HUD21HQ-05	60.67	60.7	0.03	SHCC	Calcareous shale		interpreted from e-log
HUD21HQ-05	60.7	61.25	0.55	SHCC	Calcareous shale		grey
HUD21HQ-05	61.25	63.3	2.05	SHDK	Dark shale		grey, calcite streak at bottom
HUD21HQ-05	63.3	63.45	0.15	SHDK	Dark shale		black coal band, calcite streak
HUD21HQ-05	63.45	63.61	0.16	SHDK	Dark shale		grey
HUD21HQ-05	63.61	65.79	2.18	SH	Shale		grey, occasional calcite streaks
HUD21HQ-05	65.79	66.61	0.82	SI	Siltstone		light grey, calcite
HUD21HQ-05	66.61	69.61	3	SI	Siltstone		light grey, calcite
HUD21HQ-05	69.61	72.67	3.06	SI	Siltstone		light grey, calcite streaks in middle

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-05	72.67	75.67	3	SI	Siltstone		light grey, calcite streaks
HUD21HQ-05	75.67	78.67	3	SSCC	Calcareous sandstone		light grey, calcite streaks, fine grained
HUD21HQ-05	78.67	80.47	1.8	SSCC	Calcareous sandstone		light grey, occasional calcite streaks
HUD21HQ-05	80.47	81.65	1.18	SSCC	Calcareous sandstone		light grey, calcite streaks, shale streaks, medium grained
HUD21HQ-05	81.65	84.02	2.37	SSCC	Calcareous sandstone		light grey, calcite and shale streaks, coal streaks, calcite veins, medium grained
HUD21HQ-05	84.02	84.61	0.59	SHDK	Dark shale		dark grey with coal streaks
HUD21HQ-05	84.61	84.71	0.1	SHDK	Dark shale		dark grey, calcite streaks, coal streaks
HUD21HQ-05	84.71	84.86	0.15	SHDK	Dark shale		interpreted from e-log
HUD21HQ-05	84.86	85.44	0.58	SI	Siltstone		light grey, calcite streaks, shale streaks
HUD21HQ-05	85.44	85.93	0.49	SH	Shale		grey, calcite streaks, coal streams
HUD21HQ-05	85.93	86.88	0.95	SHCC	Calcareous shale		dark grey, calcite streaks, gradational basal contact
HUD21HQ-05	86.88	87.76	0.88	SHST	Silty shale		grey, calcite streaks
HUD21HQ-05	87.76	89.83	2.07	SHCC	Calcareous shale		light grey, occasional calcite streaks, coal streaks
HUD21HQ-05	89.83	90.76	0.93	SH	Shale		grey
HUD21HQ-05	90.76	93.12	2.36	SH	Shale		grey, occasionally silty, few coal streaks, occasional calcite streaks
HUD21HQ-05	93.12	93.13	0.01	SHCR	Carbonaceous shale		
HUD21HQ-05	93.13	93.24	0.11	CO	Coal		soft, bright
HUD21HQ-05	93.24	93.7	0.46	SHDK	Dark shale		grey, calcite streaks
HUD21HQ-05	93.7	93.83	0.13	SHDK	Dark shale		calcite streaks
HUD21HQ-05	93.83	96.25	2.42	SSASHI	Interbedded sandstone and shale		light grey, calcite streaks, occasional crossbedding, occasional coal bands
HUD21HQ-05	96.25	96.56	0.31	SHCC	Calcareous shale		grey, calcite streaks, coal streak at base
HUD21HQ-05	96.56	96.67	0.11	COLST	Lost coal	E550	interpreted from e-log
HUD21HQ-05	96.67	96.94	0.27	COLST	Lost coal	E550	interpreted from e-log
HUD21HQ-05	96.94	97.06	0.12	CO	Coal	E550	bright

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-05	97.06	97.19	0.13	SHDK	Dark shale		calcite streak
HUD21HQ-05	97.19	97.25	0.06	SHDK	Dark shale		interpreted from e-log
HUD21HQ-05	97.25	99.46	2.21	SHSLK	Slickensided shale		dark, calcite streaks
HUD21HQ-05	99.46	99.61	0.15	SHSLK	Slickensided shale		calcite streaks
HUD21HQ-05	99.61	100.51	0.9	SH	Shale		calcite streaks, coal band near bottom
HUD21HQ-05	100.51	101.01	0.5	CO	Coal		bright
HUD21HQ-05	101.01	101.16	0.15	SH	Shale		grey, calcite streaks
HUD21HQ-05	101.16	101.2	0.04	CO	Coal		bright
HUD21HQ-05	101.2	101.23	0.03	SH	Shale		interpreted from e-log
HUD21HQ-05	101.23	101.62	0.39	SHSLK	Slickensided shale		dark, clay streaks
HUD21HQ-05	101.62	101.76	0.14	LS	Limestone		light grey, calcite streaks
HUD21HQ-05	101.76	102.45	0.69	CL	Clay		and dirty coal, dull, bright, calcite streaks, no sample; e-log caliper indicates a washout in this interval
HUD21HQ-05	102.45	103.35	0.9	SHSLK	Slickensided shale		grey, calcite streaks, clay band near bottom
HUD21HQ-05	103.35	104.01	0.66	SHWSSK	Shale with sandstone streaks		grey
HUD21HQ-05	104.01	104.75	0.74	SHSLK	Slickensided shale		grey, occasional coal streak
HUD21HQ-05	104.75	104.97	0.22	SH	Shale		interpreted from e-log
HUD21HQ-05	104.97	104.99	0.02	SH	Shale		interpreted from e-log
HUD21HQ-05	104.99	105.45	0.46	SH	Shale		grey, calcite streaks
HUD21HQ-05	105.45	105.7	0.25	SHSLK	Slickensided shale		dark
HUD21HQ-05	105.7	105.82	0.12	LS	Limestone		light grey, calcite streaks
HUD21HQ-05	105.82	107.13	1.31	SHSLK	Slickensided shale		dark grey, calcite streaks
HUD21HQ-05	107.13	107.28	0.15	SHCC	Calcareous shale		light grey, calcite streaks
HUD21HQ-05	107.28	107.42	0.14	SHCR	Carbonaceous shale		black
HUD21HQ-05	107.42	107.52	0.1	CO	Coal		dull

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-05	107.52	107.55	0.03	SH	Shale		interpreted from e-log
HUD21HQ-05	107.55	108.32	0.77	SSCC	Calcareous sandstone		light grey, shale streak at bottom
HUD21HQ-05	108.32	108.42	0.1	SHCR	Carbonaceous shale		black
HUD21HQ-05	108.42	109.13	0.71	SHCC	Calcareous shale		grey, calcite streaks, clay bands
HUD21HQ-05	109.13	109.28	0.15	SHCR	Carbonaceous shale		black
HUD21HQ-05	109.28	109.42	0.14	CO	Coal		dull
HUD21HQ-05	109.42	109.79	0.37	SHCR	Carbonaceous shale		dark brownish grey
HUD21HQ-05	109.79	111.42	1.63	SHST	Silty shale		medium to dark grey/slightly brownish, slightly carbonaceous
HUD21HQ-05	111.42	114.42	3	SHSNBU	Burrowed sandy shale		medium grey (light to dark grey S&P), silty in part, heavily bioturbated, slightly carbonaceous, wavy bedding, minor pyrite at 111.88m
HUD21HQ-05	114.42	117.42	3	SHSNBU	Burrowed sandy shale		medium to dark grey (occasional S&P), silty in part, slightly carbonaceous, heavily bioturbated, wavy bedding, brown to grey pyrite cubes, minor pyrite patches, brachiopod fossils
HUD21HQ-05	117.42	120.42	3	SHSNBU	Burrowed sandy shale		medium to dark grey, slightly brown/grey (occasional S&P), heavily bioturbated, slightly carbonaceous, wavy bedding, silty in part, decreasing bioturbated downward
HUD21HQ-05	120.42	123.61	3.19	SHST	Silty shale		medium-to dark grey, slightly brown/grey, slightly carbonaceous
HUD21HQ-05	123.61	125.64	2.03	SHCC	Calcareous shale		medium to dark grey, slightly brown/grey, increasing carbonaceous downward, decreasing silty downward
HUD21HQ-05	125.64	126.61	0.97	SHCR	Carbonaceous shale		medium to dark brownish-grey, increasing carbon downward
HUD21HQ-05	126.61	127.42	0.81	SHCR	Carbonaceous shale		
HUD21HQ-05	127.42	129.04	1.62	CO	Coal	F650	
HUD21HQ-05	129.04	129.14	0.1	CO	Coal	F650	interpreted from e-log
HUD21HQ-05	129.14	129.61	0.47	CO	Coal	F650	
HUD21HQ-05	129.61	129.97	0.36	CO	Coal	F650	
HUD21HQ-05	129.97	131.25	1.28	COLST	Lost coal		interpreted from e-log

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-05	131.25	131.74	0.49	SHCR	Carbonaceous shale		interpreted from e-log
HUD21HQ-05	131.74	133.24	1.5	SHWCO	Shale with coal		very dark brown to black, more rock than coal, very carbonaceous (numerous regular ashy coal bands of ~0.25m)
HUD21HQ-05	133.24	136.26	3.02	SHCR	Carbonaceous shale		very dark greyish-brown, numerous coal partings
HUD21HQ-05	136.26	136.34	0.08	SHWCOK	Shale with coal streaks		
HUD21HQ-05	136.34	136.72	0.38	SHWCOK	Shale with coal streaks		coaly rock with coal bands, very dark near bottom
HUD21HQ-05	136.72	136.86	0.14	SHCR	Carbonaceous shale		barely to increasing calcite
HUD21HQ-05	136.86	136.99	0.13	SI	Siltstone		hinge of a fold?? Seeing a contact here and abundant deformation
HUD21HQ-05	136.99	137.6	0.61	CO	Coal	G750	riding along a contact (intact of coal)
HUD21HQ-05	137.6	137.93	0.33	SHDK	Dark shale		
HUD21HQ-05	137.93	138.47	0.54	NCLC	No core / lost core		
HUD21HQ-05	138.47	138.6	0.13	CO	Coal		
HUD21HQ-05	138.6	139.25	0.65	SHSHCR	Shale and carbonaceous shale		
HUD21HQ-05	139.25	139.6	0.35	CO	Coal		e-log-not coal (dirty coal)
HUD21HQ-05	139.6	140.47	0.87	ST	Silt		
HUD21HQ-05	140.47	140.63	0.16	SH	Shale		interpreted from e-log
HUD21HQ-05	140.63	142	1.37	SHCC	Calcareous shale		grey, slightly sandy, ????? Calcite streaks throughout
HUD21HQ-05	142	143.47	1.47	SHST	Silty shale		grey, slightly silty, calcite streaks and veins throughout
HUD21HQ-05	143.47	143.65	0.18	COASH	Coal and shale	H850	dull
HUD21HQ-05	143.65	146.47	2.82	SHCC	Calcareous shale		grey, slightly sandy, ????? Calcite streaks throughout
HUD21HQ-05	146.47	146.86	0.39	SHCR	Carbonaceous shale		dark grey to black, occasional calcite streaks
HUD21HQ-05	146.86	149.14	2.28	SHCC	Calcareous shale		grey, moderately firm, calcite streaks
HUD21HQ-05	149.14	149.47	0.33	SHWCO	Shale with coal		black
HUD21HQ-05	149.47	149.58	0.11	SHWCOK	Shale with coal streaks		
HUD21HQ-05	149.58	150.15	0.57	COWSH	Coal with shale		dull (e-log dirty coal) with shale laminations

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-05	150.15	151.41	1.26	SHCR	Carbonaceous shale		dark grey to black, occasional calcite streaks
HUD21HQ-05	151.41	151.57	0.16	CO	Coal	l950	dull
HUD21HQ-05	151.57	153.19	1.62	SHCR	Carbonaceous shale		dark grey, occasional coal streaks near base
HUD21HQ-05	153.19	154.59	1.4	SHCR	Carbonaceous shale		dark grey
HUD21HQ-05	154.59	155.96	1.37	SHCR	Carbonaceous shale		highly carbonaceous, black, coal streaks
HUD21HQ-05	155.96	156.38	0.42	SH	Shale		grey to dark grey, numerous calcite streaks
HUD21HQ-05	156.38	157.59	1.21	SH	Shale		grey to dark grey, numerous calcite streaks
HUD21HQ-05	157.59	160.59	3	SHSN	Sandy shale		medium grained, occasional calcite streaks
HUD21HQ-05	160.59	163.59	3	SHSN	Sandy shale		grey, sandy, occasional calcite streaks
HUD21HQ-05	163.59	163.93	0.34	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-05	163.93	164.18	0.25	SHDK	Dark shale		grey
HUD21HQ-05	164.18	164.3	0.12	SHCR	Carbonaceous shale		black
HUD21HQ-05	164.3	165.03	0.73	SHSLK	Slickensided shale		
HUD21HQ-05	165.03	165.63	0.6	SHSN	Sandy shale		grey, sandy, calcite streaks
HUD21HQ-05	165.63	165.68	0.05	COLST	Lost coal	l995	interpreted from e-log
HUD21HQ-05	165.68	165.78	0.1	CO	Coal	l995	black, dull
HUD21HQ-05	165.78	166.47	0.69	SHCC	Calcareous shale		light grey, numerous calcite streaks
HUD21HQ-05	166.47	168.72	2.25	SHCC	Calcareous shale		light grey, numerous calcite streaks, shale bands, silty, planar, ripple bedded
HUD21HQ-05	168.72	171.72	3	SHCC	Calcareous shale		light grey, silty, calcite streaks
HUD21HQ-05	171.72	174.72	3	SHCC	Calcareous shale		light grey, calcite streaks, silty at top
HUD21HQ-05	174.72	177.72	3	SHCC	Calcareous shale		light grey, silty, calcite streaks, gradational basal contact
HUD21HQ-05	177.72	178.64	0.92	SHCC	Calcareous shale		medium grey, calcite streaks
HUD21HQ-05	178.64	180.62	1.98	SSCC	Calcareous sandstone		light grey, silty, fine grained, numerous calcite streaks, gradational basal contact
HUD21HQ-05	180.62	180.72	0.1	SI	Siltstone		light grey, calcite, sandy near top

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-05	180.72	183.72	3	SHCC	Calcareous shale		light grey, silty in middle, calcite streaks, green mineral with ?????, rippled bed at bottom
HUD21HQ-05	183.72	185.73	2.01	SHCC	Calcareous shale		grey, calcite streaks, occasional coal streak
HUD21HQ-05	185.73	186.39	0.66	SHSLK	Slickensided shale		dark grey, calcite streaks, one coal band
HUD21HQ-05	186.39	186.72	0.33	SI	Siltstone		light grey, calcite streaks, slump, sharp basal contact
HUD21HQ-05	186.72	187.29	0.57	SHCC	Calcareous shale		dark grey, calcite streaks
HUD21HQ-05	187.29	188.25	0.96	SI	Siltstone		medium grained, silty, calcite streaks
HUD21HQ-05	188.25	188.56	0.31	LS	Limestone		light grey, calcite streaks, coal streaks
HUD21HQ-05	188.56	188.84	0.28	CO	Coal	J1050	bright
HUD21HQ-05	188.84	189.66	0.82	SHSLK	Slickensided shale		dark grey with coal bands
HUD21HQ-05	189.66	189.72	0.06	SH	Shale		
HUD21HQ-05	189.72	189.82	0.1	SHST	Silty shale		light grey, numerous sandstone streaks
HUD21HQ-05	189.82	189.92	0.1	CO	Coal		dull
HUD21HQ-05	189.92	191.04	1.12	SHWCOK	Shale with coal streaks		black, coal bands
HUD21HQ-05	191.04	191.91	0.87	SHSLK	Slickensided shale		dark, 1 coal streak at top
HUD21HQ-05	191.91	192.08	0.17	SHST	Silty shale		light grey, sandstone streaks
HUD21HQ-05	192.08	193	0.92	SHSLK	Slickensided shale		dark, coal streaks
HUD21HQ-05	193	194.32	1.32	SHDK	Dark shale		occasional coal bands
HUD21HQ-05	194.32	194.9	0.58	SHWCO	Shale with coal		dark with coal bands
HUD21HQ-05	194.9	194.98	0.08	CO	Coal		bright
HUD21HQ-05	194.98	195.56	0.58	SHWCOK	Shale with coal streaks		
HUD21HQ-05	195.56	196.39	0.83	CO	Coal		bright
HUD21HQ-05	195.56	195.56	0	NCLC	No core / lost core		
HUD21HQ-05	196.39	196.6	0.21	CO	Coal		bright
HUD21HQ-05	196.6	196.82	0.22	COLST	Lost coal		interpreted from e-log

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-05	196.82	197.04	0.22	SHCR	Carbonaceous shale		black with coal streaks
HUD21HQ-05	197.04	197.2	0.16	SHCR	Carbonaceous shale		interpreted from e-log
HUD21HQ-05	197.2	197.62	0.42	CO	Coal		bright
HUD21HQ-05	197.62	197.95	0.33	CO	Coal		bright
HUD21HQ-05	197.95	198.12	0.17	CO	Coal		black, bright
HUD21HQ-05	198.12	198.19	0.07	SHWCOK	Shale with coal streaks		black, coal streaks
HUD21HQ-05	198.19	198.64	0.45	SHWSSK	Shale with sandstone streaks		grey
HUD21HQ-05	198.64	199.97	1.33	SH	Shale		grey
HUD21HQ-05	199.97	200.21	0.24	SHCR	Carbonaceous shale		dark grey, coal spars
HUD21HQ-05	200.21	200.42	0.21	SHWCOK	Shale with coal streaks		black with numerous coal spars
HUD21HQ-05	200.42	200.7	0.28	SHWCOK	Shale with coal streaks		black
HUD21HQ-05	200.7	200.78	0.08	SHWCOK	Shale with coal streaks		black coal streaks
HUD21HQ-05	200.78	200.93	0.15	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-05	200.93	201.2	0.27	SHWCOK	Shale with coal streaks		black
HUD21HQ-05	201.2	201.74	0.54	SHWCOK	Shale with coal streaks		black, small coal spurs
HUD21HQ-05	201.74	201.97	0.23	SHWCOK	Shale with coal streaks		black with coal streaks
HUD21HQ-05	201.97	202.4	0.43	COWSH	Coal with shale		bright
HUD21HQ-05	202.4	202.5	0.1	SI	Siltstone		light grey
HUD21HQ-05	202.5	203.34	0.84	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-05	203.34	203.47	0.13	SHWCOK	Shale with coal streaks		black
HUD21HQ-05	203.47	204	0.53	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-05	204	204.08	0.08	CO	Coal		dull
HUD21HQ-05	204.08	204.22	0.14	SHWCOK	Shale with coal streaks		black
HUD21HQ-05	204.22	204.7	0.48	SHSLK	Slickensided shale		black
HUD21HQ-05	204.7	205.04	0.34	SHWCOK	Shale with coal streaks		black

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-05	205.04	205.55	0.51	SHDK	Dark shale		few coal streaks
HUD21HQ-05	205.55	205.74	0.19	SHWCOK	Shale with coal streaks		
HUD21HQ-05	205.74	205.84	0.1	SHST	Silty shale		grey, coal streaks
HUD21HQ-05	205.84	206.22	0.38	CO	Coal		bright
HUD21HQ-05	206.22	206.31	0.09	SHBK	Black shale		
HUD21HQ-05	206.31	206.46	0.15	CO	Coal		dull
HUD21HQ-05	206.46	206.72	0.26	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-05	206.72	207.59	0.87	SHWCOK	Shale with coal streaks		black, ss streak, coal bands
HUD21HQ-05	207.59	208.2	0.61	SHSLK	Slickensided shale		black
HUD21HQ-05	208.2	208.25	0.05	CO	Coal		dull
HUD21HQ-05	208.25	208.32	0.07	SHSLK	Slickensided shale		black, few coal bands
HUD21HQ-05	208.32	208.82	0.5	SH	Shale		interpreted from e-log
HUD21HQ-05	208.82	209.15	0.33	SH	Shale		dark grey
HUD21HQ-05	209.15	210.23	1.08	SHDK	Dark shale		dark grey, few sandstone streaks, occasional coal streaks
HUD21HQ-05	210.23	210.66	0.43	SHWCOK	Shale with coal streaks		black, coal streaks
HUD21HQ-05	210.66	213.66	3	SHWCOK	Shale with coal streaks		grey, numerous coal spars, sandstone spars near bottom
HUD21HQ-05	213.66	213.99	0.33	SH	Shale		
HUD21HQ-05	213.99	214.16	0.17	CO	Coal		black with shale
HUD21HQ-05	214.16	214.55	0.39	COLST	Lost coal		
HUD21HQ-05	214.55	214.69	0.14	CO	Coal		
HUD21HQ-05	214.69	214.82	0.13	SHCR	Carbonaceous shale		black
HUD21HQ-05	214.82	215.52	0.7	CO	Coal		bright
HUD21HQ-05	215.52	216.76	1.24	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-05	216.76	217.79	1.03	SHDK	Dark shale		dark grey, occasional coal spar, few clay streaks
HUD21HQ-05	217.79	218.27	0.48	SHWCOK	Shale with coal streaks		grey

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-05	218.27	218.59	0.32	SHWCOK	Shale with coal streaks		black, numerous coal streaks
HUD21HQ-05	218.59	218.64	0.05	CO	Coal		bright
HUD21HQ-05	218.64	218.82	0.18	SHDK	Dark shale		grey, few coal streaks
HUD21HQ-05	218.82	219.14	0.32	CO	Coal		dull
HUD21HQ-05	219.14	219.4	0.26	COLST	Lost coal		interpreted from e-log
HUD21HQ-05	219.4	219.52	0.12	SHCR	Carbonaceous shale		black, gradational basal contact
HUD21HQ-05	219.52	219.62	0.1	CO	Coal		bright
HUD21HQ-05	219.62	219.72	0.1	SHCR	Carbonaceous shale		black
HUD21HQ-05	219.72	219.9	0.18	CO	Coal		dull
HUD21HQ-05	219.9	220.44	0.54	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-05	220.44	220.46	0.02	SH	Shale		grey
HUD21HQ-05	220.46	220.75	0.29	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-05	220.75	220.88	0.13	CO	Coal		bright
HUD21HQ-05	220.88	221.38	0.5	SH	Shale		grey, occasional clay band
HUD21HQ-05	221.38	221.43	0.05	CL	Clay		brown
HUD21HQ-05	221.43	223.46	2.03	SH	Shale		grey, occasional clay bands, coal band near bottom
HUD21HQ-05	223.46	223.86	0.4	SHSLK	Slickensided shale		grey
HUD21HQ-05	223.86	226.4	2.54	SH	Shale		interpreted from e-log
HUD21HQ-05	226.4	226.55	0.15	SHST	Silty shale		light grey
HUD21HQ-05	226.55	228.24	1.69	SHBK	Black shale		few sandstone streaks, coal bands at top
HUD21HQ-05	228.24	228.74	0.5	SHBK	Black shale		calcite streak
HUD21HQ-05	228.74	228.8	0.06	CO	Coal		dull
HUD21HQ-05	228.8	229.06	0.26	SI	Siltstone		light grey
HUD21HQ-05	229.06	229.21	0.15	SHSLK	Slickensided shale		black, coal streaks
HUD21HQ-05	229.21	229.55	0.34	CO	Coal		dull

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-05	229.55	229.84	0.29	CO	Coal		bright
HUD21HQ-05	229.84	230.02	0.18	CO	Coal		interpreted from e-log
HUD21HQ-05	230.02	230.22	0.2	CO	Coal		bright
HUD21HQ-05	230.22	230.53	0.31	CO	Coal		bright
HUD21HQ-05	230.53	230.9	0.37	CO	Coal		dull, cleats
HUD21HQ-05	230.9	231.5	0.6	SHSHCR	Shale and carbonaceous shale		dark grey, carbonaceous
HUD21HQ-05	231.5	231.93	0.43	CO	Coal		bright
HUD21HQ-05	231.93	232.09	0.16	COLST	Lost coal		interpreted from e-log
HUD21HQ-05	232.09	232.33	0.24	SH	Shale		interpreted from e-log
HUD21HQ-05	232.33	232.52	0.19	CO	Coal		bright
HUD21HQ-05	232.52	232.96	0.44	SHSLK	Slickensided shale		black with coal streaks
HUD21HQ-05	232.96	233.18	0.22	CO	Coal		bright
HUD21HQ-05	233.18	233.2	0.02	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-05	233.2	233.47	0.27	SHWCOK	Shale with coal streaks		black
HUD21HQ-05	233.47	233.72	0.25	CO	Coal		bright
HUD21HQ-05	233.72	233.84	0.12	SH	Shale		dark
HUD21HQ-05	233.84	234.03	0.19	CO	Coal		dull
HUD21HQ-05	234.03	234.14	0.11	SHWCOK	Shale with coal streaks		
HUD21HQ-05	234.14	234.7	0.56	CO	Coal		bright
HUD21HQ-05	234.7	235.44	0.74	COCOSH	Coal and shaly coal		bright
HUD21HQ-05	235.44	235.68	0.24	COCOSH	Coal and shaly coal		
HUD21HQ-05	235.68	236.09	0.41	SHWCOK	Shale with coal streaks		bright, blocky

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-05	236.09	236.32	0.23	SH	Shale		grey
HUD21HQ-05	236.32	236.38	0.06	SH	Shale		grey
HUD21HQ-05	236.38	236.42	0.04	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-05	236.42	236.47	0.05	CO	Coal		
HUD21HQ-05	236.47	236.7	0.23	SHWCO	Shale with coal		black, coal bands
HUD21HQ-05	236.7	237.45	0.75	SH	Shale		grey, coal bands near top, gradational basal contact
HUD21HQ-05	237.45	237.86	0.41	SI	Siltstone		light grey, sandstone streaks, banded, gradational basal contact
HUD21HQ-05	237.86	238.44	0.58	SHSLK	Slickensided shale		sandstone or bone streak
HUD21HQ-05	238.44	239.56	1.12	SH	Shale		grey, calcite streaks, coal streak at bottom
HUD21HQ-05	239.56	239.77	0.21	CO	Coal		bright, cleated

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-05	239.77	240.11	0.34	COLST	Lost coal		interpreted from e-log
HUD21HQ-05	240.11	240.81	0.7	CO	Coal		bright, blocky
HUD21HQ-05	240.81	241.09	0.28	CO	Coal		
HUD21HQ-05	241.09	241.28	0.19	CO	Coal		dull, blocky
HUD21HQ-05	241.28	241.44	0.16	CO	Coal		bright
HUD21HQ-05	241.44	241.74	0.3	SHSLK	Slickensided shale		light grey with coal bands
HUD21HQ-05	241.74	241.77	0.03	SH	Shale		interpreted from e-log
HUD21HQ-05	241.77	242.22	0.45	CO	Coal		bright, blocky
HUD21HQ-05	242.22	242.84	0.62	CO	Coal		bright, blocky
HUD21HQ-05	242.84	242.92	0.08	COLST	Lost coal		drilling terminated due to hole conditions
HUD21HQ-06	0	14.24	14.24	OV	Overburden		overburden, driller
HUD21HQ-06	14.24	14.38	0.14	SS	Sandstone		grey to very bright grey, iron stained
HUD21HQ-06	14.38	14.93	0.55	SS	Sandstone		grey, fine grained
HUD21HQ-06	14.93	15.24	0.31	SNPB	Sand with pebbles		mostly unconsolidated, numerous sandy pebbles (both angular and rounded)
HUD21HQ-06	15.24	15.74	0.5	SS	Sandstone		interpreted from e-log
HUD21HQ-06	15.74	17.36	1.62	CGSDPB	Siderite pebble conglomerate		interpreted from e-log
HUD21HQ-06	17.36	17.78	0.42	SS	Sandstone		grey, fine grained, rare calcite streaks
HUD21HQ-06	17.78	18.74	0.96	SS	Sandstone		grey, fine grained
HUD21HQ-06	18.74	20.09	1.35	SS	Sandstone		interpreted from e-log
HUD21HQ-06	20.09	20.59	0.5	CLSN	Sandy clay		brown, unconsolidated
HUD21HQ-06	20.59	20.69	0.1	SS	Sandstone		grey, fine to slightly medium grained
HUD21HQ-06	20.69	21.44	0.75	SS	Sandstone		interpreted from e-log
HUD21HQ-06	21.44	21.74	0.3	CLSN	Sandy clay		brown, unconsolidated, sandstone pebbles

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-06	21.74	22.38	0.64	SS	Sandstone		interpreted from e-log. This is the base of the sandstone unit.
HUD21HQ-06	22.38	22.88	0.5	CLSN	Sandy clay		brown, unconsolidated, becoming more consolidated towards base, top of competent bedrock
HUD21HQ-06	22.88	23.42	0.54	SHST	Silty shale		grey to dark grey, calcareous (well has gone artesian)
HUD21HQ-06	23.42	24.74	1.32	SHCC	Calcareous shale		grey to dark grey, planar, occasional calcite streaks (casing to 24 m)
HUD21HQ-06	24.74	27.56	2.82	SH	Shale		grey to dark grey, a few slightly calcareous zones, planar, occasional calcite streaks
HUD21HQ-06	27.56	27.76	0.2	VO	Void		or washout, interpreted from e-log
HUD21HQ-06	27.76	33.76	6	SH	Shale		grey, planar, occasional calcite streaks, mostly incohesive
HUD21HQ-06	33.76	39.76	6	SH	Shale		grey, planar, occasional calcite streaks and pyrite flakes, occasional iron stains
HUD21HQ-06	39.76	48.31	8.55	SHCC	Calcareous shale		grey, calcite streaks, slightly sandy, pyritic
HUD21HQ-06	48.31	48.76	0.45	SH	Shale		grey, slightly sandy, occasional calcite streaks
HUD21HQ-06	48.76	54.18	5.42	SHCC	Calcareous shale		grey, planar, occasional calcite streaks, occasional pyrite flakes
HUD21HQ-06	54.18	55.7	1.52	SH	Shale		grey, slightly sandy at top, rare pyrite near top and calcite at base
HUD21HQ-06	55.7	55.99	0.29	SHCR	Carbonaceous shale		dark grey, calcite streak
HUD21HQ-06	55.99	56.05	0.06	CO	Coal	A150	mostly dull
HUD21HQ-06	56.05	56.11	0.06	SH	Shale	A150	grey
HUD21HQ-06	56.11	56.28	0.17	CO	Coal	A150	mostly dull
HUD21HQ-06	56.28	56.63	0.35	SHCR	Carbonaceous shale		dark grey, rare coal streaks
HUD21HQ-06	56.63	59.45	2.82	SH	Shale		grey, planar, scattered calcite streaks, becoming carbonaceous, coaly at base
HUD21HQ-06	59.45	59.59	0.14	CO	Coal		dull
HUD21HQ-06	59.59	60.19	0.6	SHCR	Carbonaceous shale		dark grey, scattered coal spars
HUD21HQ-06	60.19	67.46	7.27	SHCC	Calcareous shale		grey, sandy, calcite streaks, cross bedding, occasional clay clasts
HUD21HQ-06	67.46	72.04	4.58	SSCC	Calcareous sandstone		grey, medium grained, calcite streaks/veins, occasional shale laminations
HUD21HQ-06	72.04	72.29	0.25	SH	Shale		interpreted from e-log

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-06	72.29	73.95	1.66	SH	Shale		dark grey, carbonaceous at top and bottom, planar
HUD21HQ-06	73.95	74.27	0.32	SHCR	Carbonaceous shale		dark grey to black, calcite and coal streaks
HUD21HQ-06	74.27	74.31	0.04	CO	Coal		dull
HUD21HQ-06	74.31	76.64	2.33	SSCC	Calcareous sandstone		grey, fine grained, argillaceous, occasional calcite streaks
HUD21HQ-06	76.64	78.44	1.8	SH	Shale		grey, planar, occasional calcareous laminations, occasional calcite streaks
HUD21HQ-06	78.44	89.31	10.87	SHCC	Calcareous shale		grey, sandy, rare calcite streaks
HUD21HQ-06	89.31	97.22	7.91	SSCC	Calcareous sandstone		grey, fine grained, rare calcite streaks, becoming shaly downward
HUD21HQ-06	97.22	97.54	0.32	SHSHCR	Shale and carbonaceous shale		interpreted from e-log
HUD21HQ-06	97.54	98.23	0.69	SHCR	Carbonaceous shale		dark grey, occasional coal streaks
HUD21HQ-06	98.23	98.31	0.08	CO	Coal	B250	mostly dull
HUD21HQ-06	98.31	98.69	0.38	COLST	Lost coal	B250	interpreted from e-log
HUD21HQ-06	98.69	99	0.31	CO	Coal	B250	occasional bright bands
HUD21HQ-06	99	99.37	0.37	SHCR	Carbonaceous shale		interpreted from e-log
HUD21HQ-06	99.37	99.44	0.07	CO	Coal		mostly dull
HUD21HQ-06	99.44	99.52	0.08	COSH	Shaly coal		black
HUD21HQ-06	99.52	99.66	0.14	CO	Coal		occasional bright bands
HUD21HQ-06	99.66	99.76	0.1	COSH	Shaly coal		black
HUD21HQ-06	99.76	99.99	0.23	CO	Coal	C350	bright banded, blocky
HUD21HQ-06	99.99	100.26	0.27	COLST	Lost coal	C350	interpreted from e-log
HUD21HQ-06	100.26	100.84	0.58	COWSHK	Coal with shale streaks	C350	occasional bright bands, blocky, occasional shale laminations
HUD21HQ-06	100.84	100.88	0.04	SH	Shale	C350	dark grey to grey
HUD21HQ-06	100.88	101.06	0.18	CO	Coal	C350	bright, banded, blocky
HUD21HQ-06	101.06	101.13	0.07	SH	Shale		somewhat coaly
HUD21HQ-06	101.13	101.53	0.4	SH	Shale		dark grey, occasional sandy zones
HUD21HQ-06	101.53	101.59	0.06	COASH	Coal and shale		

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-06	101.59	102.05	0.46	SHCR	Carbonaceous shale		dark grey, numerous coal streaks/lenses
HUD21HQ-06	102.05	102.21	0.16	CO	Coal	D450	mostly dull
HUD21HQ-06	102.21	102.31	0.1	COLST	Lost coal	D450	interpreted from e-log
HUD21HQ-06	102.31	102.47	0.16	CO	Coal	D450	mostly dull
HUD21HQ-06	102.47	102.6	0.13	COSH	Shaly coal	D450	dull
HUD21HQ-06	102.6	102.71	0.11	CO	Coal	D450	bright banded
HUD21HQ-06	102.71	103.15	0.44	CO	Coal	D450	dull with occasional bright coal bands
HUD21HQ-06	103.15	103.35	0.2	CO	Coal	D450	dull
HUD21HQ-06	103.35	103.7	0.35	SHCR	Carbonaceous shale	D450	interpreted from e-log
HUD21HQ-06	103.7	103.81	0.11	COLST	Lost coal	D450	interpreted from e-log
HUD21HQ-06	103.81	104.06	0.25	COSH	Shaly coal	D450	dull
HUD21HQ-06	104.06	105.08	1.02	SHCR	Carbonaceous shale		dark grey, numerous coal streaks and lenses
HUD21HQ-06	105.08	105.27	0.19	COASH	Coal and shale	D460	alternating shale and coal
HUD21HQ-06	105.27	106.51	1.24	SHCR	Carbonaceous shale		dark grey, numerous coal streaks and lenses
HUD21HQ-06	106.51	108.55	2.04	SHWCOK	Shale with coal streaks		dark grey to grey, occasional coal streaks, slightly carbonaceous
HUD21HQ-06	108.55	115.58	7.03	SH	Shale		grey, slightly sandy, scattered coal streaks/lenses throughout, rare calcite
HUD21HQ-06	115.58	119.99	4.41	SSCC	Calcareous sandstone		grey, fine grained, rippled bedding, occasional calcite streaks
HUD21HQ-06	119.99	121.43	1.44	SHWCOK	Shale with coal streaks		grey, occasional coal spars and calcite streaks
HUD21HQ-06	121.43	122.81	1.38	SHWCOK	Shale with coal streaks		grey, abundant calcite streaks
HUD21HQ-06	122.81	122.99	0.18	SHCR	Carbonaceous shale		dark grey, numerous coal streaks/lenses, some calcite
HUD21HQ-06	122.99	123.21	0.22	SH	Shale		grey, abundant calcite
HUD21HQ-06	123.21	123.77	0.56	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-06	123.77	128.05	4.28	SHCC	Calcareous shale		grey, calcite streaks, planar
HUD21HQ-06	128.05	128.5	0.45	SH	Shale		grey, occasional coal streaks
HUD21HQ-06	128.5	128.54	0.04	CO	Coal		bright, banded

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-06	128.54	128.79	0.25	SH	Shale		grey
HUD21HQ-06	128.79	129.31	0.52	CO	Coal	E550	bright, banded
HUD21HQ-06	129.31	129.38	0.07	COSH	Shaly coal		mostly dull
HUD21HQ-06	129.38	129.63	0.25	SHCR	Carbonaceous shale		dark grey, occasional coal streaks
HUD21HQ-06	129.63	129.77	0.14	SHCR	Carbonaceous shale		
HUD21HQ-06	129.77	132.77	3	SS	Sandstone		grey, fine grained, calcite streaks, some ripple bedding
HUD21HQ-06	132.77	156.77	24	SSCC	Calcareous sandstone		grey, fine grained, some rippled bedding, massive, rare calcite streaks and coal spars, some clay clasts
HUD21HQ-06	156.77	163.86	7.09	SHCC	Calcareous shale		grey, sandy, occasional calcite streaks, scattered coal spars and lenses, scattered pyrite
HUD21HQ-06	163.86	166.33	2.47	SSCC	Calcareous sandstone		grey, fine grained, calcite, some rippled bedding
HUD21HQ-06	166.33	166.76	0.43	SSCC	Calcareous sandstone		grey, fine grained, numerous calcite veins/streaks
HUD21HQ-06	166.76	174.77	8.01	SHCC	Calcareous shale		grey, occasional calcite streaks, sandy to silty, occasional coal spars
HUD21HQ-06	174.77	178.8	4.03	SH	Shale		grey, occasional calcite streaks
HUD21HQ-06	178.8	178.89	0.09	CT	Claystone		grey to brown, nearly completely unconsolidated
HUD21HQ-06	178.89	179.8	0.91	SHCR	Carbonaceous shale		dark grey
HUD21HQ-06	179.8	181.34	1.54	CO	Coal	F650	mostly dull
HUD21HQ-06	181.34	181.74	0.4	NCLC	No core / lost core	F650	
HUD21HQ-06	181.74	182.69	0.95	CO	Coal	F650	mostly dull with occasional bright bands
HUD21HQ-06	182.69	183.22	0.53	SHSHCR	Shale and carbonaceous shale		interpreted from e-log
HUD21HQ-06	183.22	183.86	0.64	SHCR	Carbonaceous shale		dark grey to black, numerous coal streaks
HUD21HQ-06	183.86	183.95	0.09	CO	Coal		bright banded
HUD21HQ-06	183.95	184.51	0.56	SHCR	Carbonaceous shale		dark grey to near black, thin coal lenses and streaks
HUD21HQ-06	184.51	188.19	3.68	SH	Shale		dark grey to grey, slightly carbonaceous at top, calcite streaks scattered, occasional coal spars
HUD21HQ-06	188.19	188.35	0.16	SH	Shale		interpreted from e-log

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-06	188.35	189.02	0.67	CO	Coal	G740	occasional bright bands, blocky
HUD21HQ-06	189.02	189.11	0.09	COLST	Lost coal	G740	interpreted from e-log
HUD21HQ-06	189.11	189.22	0.11	SHSHCR	Shale and carbonaceous shale		interpreted from e-log
HUD21HQ-06	189.22	189.52	0.3	SHCR	Carbonaceous shale		dark grey
HUD21HQ-06	189.52	189.65	0.13	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-06	189.65	190.19	0.54	COWSH	Coal with shale	G750	interpreted from e-log
HUD21HQ-06	190.19	190.47	0.28	COSH	Shaly coal	G750	mostly dull, blocky
HUD21HQ-06	190.47	190.56	0.09	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-06	190.56	190.71	0.15	SHCR	Carbonaceous shale		dark grey
HUD21HQ-06	190.71	195.6	4.89	SHST	Silty shale		grey, occasional calcite streaks, coal spars/lenses
HUD21HQ-06	195.6	196.73	1.13	SH	Shale		grey, coal spar and lenses increasing downward, slightly silty at top
HUD21HQ-06	196.73	196.87	0.14	COWSH	Coal with shale	H850	occasional bright bands with think shale laminations
HUD21HQ-06	196.87	196.92	0.05	SHCR	Carbonaceous shale		dark grey
HUD21HQ-06	196.92	196.96	0.04	CO	Coal		occasional bright bands
HUD21HQ-06	196.96	199.9	2.94	SH	Shale		grey, slightly silty, occasional coal spars and calcite streaks
HUD21HQ-06	199.9	200.15	0.25	COSH	Shaly coal	I950	mostly dull
HUD21HQ-06	200.15	200.72	0.57	CO	Coal	I950	occasional bright bands
HUD21HQ-06	200.72	202.02	1.3	SHST	Silty shale		grey firm, occasional coal streaks
HUD21HQ-06	202.02	211.3	9.28	SSCC	Calcareous sandstone		grey, fine grained, occasional calcite streaks, some ripple bedding, occasional coal spars
HUD21HQ-06	211.3	212.94	1.64	SH	Shale		grey, planar, numerous coal streaks and lenses
HUD21HQ-06	212.94	214.69	1.75	SHCC	Calcareous shale		grey, sandy
HUD21HQ-06	214.69	219.65	4.96	SSCC	Calcareous sandstone		grey to light grey at immediate top, scattered calcite streaks/veins, fine grained, some ripple bedding, occasional clay clasts
HUD21HQ-06	219.65	220.28	0.63	SH	Shale		grey, planar, rare calcite streaks, slightly calcareous at top

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-06	220.28	220.73	0.45	CO	Coal	I995	mostly dull with scattered bright bands
HUD21HQ-06	220.73	222.29	1.56	SH	Shale		grey, planar, coal streaks near base
HUD21HQ-06	222.29	222.32	0.03	CO	Coal		dull
HUD21HQ-06	222.32	222.5	0.18	SH	Shale		grey, planar
HUD21HQ-06	222.5	222.59	0.09	CO	Coal		dull
HUD21HQ-06	222.59	223.93	1.34	SH	Shale		grey, becoming sandy downward, coal spars/lenses at immediate top
HUD21HQ-06	223.93	225.99	2.06	SSCC	Calcareous sandstone		grey, fine grained, occasional coal spars
HUD21HQ-06	225.99	226.14	0.15	SH	Shale		interpreted from e-log
HUD21HQ-06	226.14	228.36	2.22	SH	Shale		grey, occasional calcite streaks and coal spars, becoming slightly carbonaceous at base, occasional sandy zones
HUD21HQ-06	228.36	228.58	0.22	SHWCO	Shale with coal		dark grey, coal lenses
HUD21HQ-06	228.58	229.53	0.95	SH	Shale		dark grey, coal streaks
HUD21HQ-06	229.53	229.64	0.11	SHWCO	Shale with coal		dark grey, coal lenses
HUD21HQ-06	229.64	230.7	1.06	SH	Shale		dark grey, numerous coal streaks and lenses, rare calcite streaks
HUD21HQ-06	230.7	235.32	4.62	SH	Shale		dark grey, occasional calcite streaks, scattered coal lenses/spars, scattered sandy zones, calcareous at base
HUD21HQ-06	235.32	235.52	0.2	CO	Coal		mostly dull, blocky
HUD21HQ-06	235.52	236.28	0.76	SH	Shale		grey, slightly silty
HUD21HQ-06	236.28	236.33	0.05	CO	Coal		bright banded
HUD21HQ-06	236.33	239.48	3.15	SH	Shale		grey, planar
HUD21HQ-06	239.48	240.26	0.78	COLST	Lost coal	J1050	
HUD21HQ-06	240.26	240.36	0.1	CO	Coal	J1050	dull
HUD21HQ-06	240.36	240.64	0.28	SHWCOK	Shale with coal streaks		black
HUD21HQ-06	240.64	242.68	2.04	SH	Shale		grey, planar
HUD21HQ-06	242.68	244.54	1.86	SSSH	Shaly sandstone		grey, fine grained, coal streaks and thin lenses, occasional cross bedding

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-06	244.54	246.74	2.2	SSCC	Calcareous sandstone		grey, fine grained, coal spars and thin lenses, occasional clay clasts/streaks
HUD21HQ-07	0	3.66	3.66	CA	Casing		casing to 4.5 m
HUD21HQ-07	3.66	3.74	0.08	OV	Overburden		interpreted from e-log
HUD21HQ-07	3.74	3.97	0.23	GVL	Gravel		
HUD21HQ-07	3.97	4.17	0.2	SHDK	Dark shale		dark grey
HUD21HQ-07	4.17	4.29	0.12	CO	Coal		weathered rock, coal?
HUD21HQ-07	4.29	5.74	1.45	SHDK	Dark shale		dark grey, few weathered bands
HUD21HQ-07	5.74	6.55	0.81	SHST	Silty shale		light grey, silty, clay band at bottom
HUD21HQ-07	6.55	9.58	3.03	SH	Shale		light grey, silty, occasional mud streaks, occasional coal streaks
HUD21HQ-07	9.58	9.6	0.02	SH	Shale		interpreted from e-log
HUD21HQ-07	9.6	10.4	0.8	SH	Shale		grey, occasional coal streak at bottom
HUD21HQ-07	10.4	10.6	0.2	CO	Coal		bright
HUD21HQ-07	10.6	12.55	1.95	SHWCOP	Shale with coal spars		grey, few coal bands
HUD21HQ-07	12.55	13.43	0.88	SHWCOP	Shale with coal spars		grey
HUD21HQ-07	13.43	13.59	0.16	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-07	13.59	15.71	2.12	SHCC	Calcareous shale		light grey, calcite streak at top, coal band near bottom
HUD21HQ-07	15.71	16.42	0.71	SHCC	Calcareous shale		light grey, silty, gradational basal contact
HUD21HQ-07	16.42	17.7	1.28	SHCC	Calcareous shale		light grey, len??? Bedded, sharp basal contact
HUD21HQ-07	17.7	18.71	1.01	SHCC	Calcareous shale		light prey, planar bedded, somewhat silty
HUD21HQ-07	18.71	19.34	0.63	SHCC	Calcareous shale		grey, one coal band
HUD21HQ-07	19.34	19.38	0.04	CO	Coal		banded
HUD21HQ-07	19.38	19.5	0.12	SHCR	Carbonaceous shale		black, coal streaks
HUD21HQ-07	19.5	19.97	0.47	CO	Coal		bright
HUD21HQ-07	19.97	20.23	0.26	SHWCOP	Shale with coal spars		light grey

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-07	20.23	20.68	0.45	SHWCOP	Shale with coal spars		grey
HUD21HQ-07	20.68	20.85	0.17	CO	Coal		bright, blocky
HUD21HQ-07	20.85	21.71	0.86	SHWCOK	Shale with coal streaks		grey, numerous coal streaks
HUD21HQ-07	21.71	23.47	1.76	SHWCOP	Shale with coal spars		dark grey, numerous coal streaks, clay band
HUD21HQ-07	23.47	24.25	0.78	SHCC	Calcareous shale		grey, coal band in middle, calcite streak
HUD21HQ-07	24.25	24.27	0.02	SHCC	Calcareous shale		interpreted from e-log
HUD21HQ-07	24.27	27.35	3.08	SHCC	Calcareous shale		light grey, coal band and calcite streak at bottom
HUD21HQ-07	27.35	30.42	3.07	SHCC	Calcareous shale		light grey, calcite streaks
HUD21HQ-07	30.42	30.5	0.08	SHCC	Calcareous shale		light grey
HUD21HQ-07	30.5	31.17	0.67	SHWCOP	Shale with coal spars		grey, coal banded, caly bands, calcite streak
HUD21HQ-07	31.17	31.53	0.36	SH	Shale		light grey, soft clay
HUD21HQ-07	31.53	33.41	1.88	SH	Shale		light grey, silty
HUD21HQ-07	33.41	36.53	3.12	SSASHI	Interbedded sandstone and shale		light grey, coal spar near bottom
HUD21HQ-07	36.53	39.63	3.1	SSASHI	Interbedded sandstone and shale		light grey, coal spars near top
HUD21HQ-07	39.63	42.71	3.08	SSASHI	Interbedded sandstone and shale		light grey, calcareous, occasional coal spars, few coal streaks
HUD21HQ-07	42.71	45.59	2.88	SSCC	Calcareous sandstone		light grey, numerous calcite streaks, shale streaks, coal streaks, medium grained, ripple bedding at bottom, mud vein near middle
HUD21HQ-07	45.59	45.64	0.05	SH	Shale		dark grey, coal streaks
HUD21HQ-07	45.64	45.7	0.06	SH	Shale		interpreted from e-log
HUD21HQ-07	45.7	48.41	2.71	SSCC	Calcareous sandstone		light grey, numerous coal bands, shale streaks, calcite streaks, medium grained
HUD21HQ-07	48.41	48.7	0.29	SHDK	Dark shale		dark grey, silty
HUD21HQ-07	48.7	49.8	1.1	CO	Coal		bright
HUD21HQ-07	48.7	48.7	0	NCLC	No core / lost core		

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-07	49.8	50.6	0.8	COLST	Lost coal		interpreted from e-log
HUD21HQ-07	50.6	50.75	0.15	CO	Coal		dirty
HUD21HQ-07	50.75	50.88	0.13	SH	Shale		grey
HUD21HQ-07	50.88	53.97	3.09	SS	Sandstone		light grey few shale streaks, calcite streaks and vein, medium grained
HUD21HQ-07	53.97	54.95	0.98	SS	Sandstone		light grey, few hale streaks, calcite streaks, medium grained
HUD21HQ-07	54.95	57.41	2.46	SS	Sandstone		light grey, few shale streaks, calcite streaks, medium grained
HUD21HQ-07	57.41	60.41	3	SS	Sandstone		light grey, shale streaks, calcite streaks, coal bands, medium grained
HUD21HQ-07	60.41	63.41	3	SS	Sandstone		light grey, few coal streaks, few calcite streaks, medium grained
HUD21HQ-07	63.41	65.01	1.6	SS	Sandstone		light grey, shale spars, calcite spars, medium to fine grained, sharp basal contact
HUD21HQ-07	65.01	66.41	1.4	SHSNSK	Sandy shale with sandstone streaks		light grey, coal bands, coal and calcite streaks
HUD21HQ-07	66.41	67.16	0.75	SHSNSK	Sandy shale with sandstone streaks		light grey, shale spars, coal streaks
HUD21HQ-07	67.16	67.51	0.35	SHSNSK	Sandy shale with sandstone streaks		light grey, shale streaks, sharp basal contact
HUD21HQ-07	67.51	67.61	0.1	CO	Coal		dull
HUD21HQ-07	67.61	69.23	1.62	SSCC	Calcareous sandstone		light grey, numerous calcite streaks, shale streaks, medium to fine grained, sharp basal contact
HUD21HQ-07	69.23	69.37	0.14	SHCC	Calcareous shale		grey
HUD21HQ-07	69.37	72.37	3	SHCC	Calcareous shale		light grey, few coal streaks, calcite streaks
HUD21HQ-07	72.37	75.37	3	SHCC	Calcareous shale		light grey, shale streaks, calcite streaks, some rippled bedding
HUD21HQ-07	75.37	78.41	3.04	SHCC	Calcareous shale		light grey, shale streaks, calcite streaks, some rippled bedding
HUD21HQ-07	78.41	81.4	2.99	SHCC	Calcareous shale		light grey, numerous shale streaks, coal band in middle, calcite and coal streaks
HUD21HQ-07	81.4	81.76	0.36	SHCC	Calcareous shale		light grey
HUD21HQ-07	81.76	84.37	2.61	SH	Shale		light grey, calcite streaks, planar bedding
HUD21HQ-07	84.37	86.16	1.79	SH	Shale		grey, occasional coal spars, calcite streaks, coal band near bottom

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-07	86.16	86.86	0.7	SHWCO	Shale with coal		black, carbonaceous shale with coal, numerous coal bands
HUD21HQ-07	86.86	87.07	0.21	COWSH	Coal with shale		black, coal and shale bands
HUD21HQ-07	87.07	87.16	0.09	SH	Shale		grey, coal at top
HUD21HQ-07	87.16	87.74	0.58	SHWCOK	Shale with coal streaks		dark grey, calcite streak
HUD21HQ-07	87.74	88.14	0.4	SHWCOK	Shale with coal streaks		grey
HUD21HQ-07	88.14	88.91	0.77	SH	Shale		grey, occasional coal bands
HUD21HQ-07	88.91	90.48	1.57	SHCC	Calcareous shale		light grey, some ripple bedding
HUD21HQ-07	90.48	91.08	0.6	SH	Shale		dark grey, calcite streaks, coal streaks, gradational basal contact
HUD21HQ-07	91.08	93.27	2.19	SHCC	Calcareous shale		light grey, calcite streaks, few sandy streaks
HUD21HQ-07	93.27	93.45	0.18	SH	Shale		light grey, calcite streaks
HUD21HQ-07	93.45	96.49	3.04	SH	Shale		light grey, calcite, occasional coal spar, planar bedding, calcite streaks
HUD21HQ-07	96.49	96.97	0.48	SH	Shale		dark grey, planar bedding
HUD21HQ-07	96.97	98.32	1.35	SHCC	Calcareous shale		light grey, silty, sandy, calcareous, ripple bedded
HUD21HQ-07	98.32	99.48	1.16	SHCC	Calcareous shale		grey, coal spars
HUD21HQ-07	99.48	100.13	0.65	SHCC	Calcareous shale		grey, few sandstone streaks, calcareous, gradational basal contact
HUD21HQ-07	100.13	102.18	2.05	SH	Shale		grey, few coal streaks at bottom
HUD21HQ-07	102.18	103.18	1	SHWCOP	Shale with coal spars		dark grey, few coal spars
HUD21HQ-07	103.18	104.93	1.75	SH	Shale		dark grey, few coal spars, calcite streaks
HUD21HQ-07	104.93	105.51	0.58	SHCC	Calcareous shale		grey, calcareous nodules
HUD21HQ-07	105.51	107.31	1.8	SHCC	Calcareous shale		light grey
HUD21HQ-07	107.31	108.51	1.2	SH	Shale		dark grey
HUD21HQ-07	108.51	109.19	0.68	SH	Shale		dark grey, occasional coal streak
HUD21HQ-07	109.19	109.47	0.28	SHCR	Carbonaceous shale		black, calcite streaks at base
HUD21HQ-07	109.47	110.44	0.97	CO	Coal	B250	bright, banded, intact
HUD21HQ-07	110.44	110.79	0.35	COLST	Lost coal	B250	interpreted from e-log

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-07	110.79	111.52	0.73	CO	Coal	B250	
HUD21HQ-07	111.52	111.54	0.02	SHCR	Carbonaceous shale		grey
HUD21HQ-07	111.54	111.73	0.19	SHBK	Black shale		black, few coal streaks
HUD21HQ-07	111.73	111.8	0.07	SHCR	Carbonaceous shale		black, coal streak
HUD21HQ-07	111.8	112.43	0.63	SHWSSK	Shale with sandstone streaks		dark grey, sandstone streak near top
HUD21HQ-07	112.43	114.64	2.21	SHDK	Dark shale		dark grey, few calcite streaks
HUD21HQ-07	114.64	115.99	1.35	SH	Shale		light grey, planar bedding
HUD21HQ-07	115.99	116.29	0.3	SHCR	Carbonaceous shale		black with coal streaks and bands
HUD21HQ-07	116.29	116.55	0.26	SH	Shale		light grey with coal spars
HUD21HQ-07	116.55	117.05	0.5	SH	Shale		dark grey with coal spar
HUD21HQ-07	117.05	117.22	0.17	CO	Coal	C340	bright, banded
HUD21HQ-07	117.22	117.53	0.31	CO	Coal	C340	bright, dull
HUD21HQ-07	117.53	118.07	0.54	SHWCO	Shale with coal		dark grey
HUD21HQ-07	118.07	118.18	0.11	SHCR	Carbonaceous shale		black, coal streaks
HUD21HQ-07	118.18	119.98	1.8	CO	Coal	C350	dull intact in middle, good recovery
HUD21HQ-07	119.98	120.01	0.03	CO	Coal	C350	interpreted from e-log
HUD21HQ-07	120.01	121.33	1.32	CO	Coal	C350	dull at top, bright in middle, intact, blocky
HUD21HQ-07	121.33	121.4	0.07	COIM	Dirty coal	C350	dull
HUD21HQ-07	121.4	122.48	1.08	SHWCO	Shale with coal		dark grey, black, coal bands
HUD21HQ-07	122.48	122.74	0.26	SHWCOK	Shale with coal streaks		dark grey, occasional coal streaks
HUD21HQ-07	122.74	122.94	0.2	CO	Coal		bright
HUD21HQ-07	122.94	123.08	0.14	SHWCO	Shale with coal		grey, coal bands
HUD21HQ-07	123.08	123.15	0.07	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-07	123.15	124.06	0.91	SHWCO	Shale with coal		grey, numerous coal bands
HUD21HQ-07	124.06	124.1	0.04	SHWCOK	Shale with coal streaks		interpreted from e-log

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-07	124.1	124.55	0.45	SHWCOK	Shale with coal streaks		dark grey, few coal streaks
HUD21HQ-07	124.55	125.58	1.03	SHWCOP	Shale with coal spars		dark grey
HUD21HQ-07	125.58	126.41	0.83	SHWCOK	Shale with coal streaks		grey, coal streaks
HUD21HQ-07	126.41	129.41	3	SH	Shale		light grey, numerous calcite streaks, sandstone band near bottom, coal streak
HUD21HQ-07	129.41	132.41	3	SH	Shale		light grey, few calcite streaks, few coal bands, siderite nodules near bottom
HUD21HQ-07	132.41	133.85	1.44	SH	Shale		grey, siderite nodules cut top
HUD21HQ-07	133.85	134.26	0.41	SHWCOK	Shale with coal streaks		grey, calcite streaks, coal bands
HUD21HQ-07	134.26	134.52	0.26	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-07	134.52	134.95	0.43	SHWCOK	Shale with coal streaks		dark grey, coal bands
HUD21HQ-07	134.95	135.01	0.06	SHWCOK	Shale with coal streaks		dark grey, coal bands
HUD21HQ-07	135.01	135.48	0.47	SHWSSK	Shale with sandstone streaks		grey, sandstone streak near middle, coal streaks
HUD21HQ-07	135.48	136.12	0.64	SH	Shale		grey, sharp basal contact
HUD21HQ-07	136.12	136.36	0.24	CO	Coal		bright
HUD21HQ-07	136.36	138.44	2.08	SHCC	Calcareous shale		grey, calcite streaks, silty near bottom
HUD21HQ-07	138.44	141.49	3.05	SHCC	Calcareous shale		light grey, numerous calcite streaks, few coal streaks
HUD21HQ-07	141.49	141.72	0.23	SHCR	Carbonaceous shale		black with coal streaks
HUD21HQ-07	141.72	142.46	0.74	SHWCOK	Shale with coal streaks		dark with coal streaks, calcite streaks
HUD21HQ-07	142.46	142.83	0.37	SHCR	Carbonaceous shale		black, with coal streaks and calcite streaks
HUD21HQ-07	142.83	143.65	0.82	CO	Coal	D450	dull, blocky, intact
HUD21HQ-07	143.65	143.67	0.02	CO	Coal	D450	covered in driller mud
HUD21HQ-07	143.67	143.72	0.05	SHCR	Carbonaceous shale	D450	black
HUD21HQ-07	143.72	143.77	0.05	SHWCOK	Shale with coal streaks	D450	grey
HUD21HQ-07	143.77	143.91	0.14	CO	Coal	D450	dull
HUD21HQ-07	143.91	145.42	1.51	CO	Coal	D450	bright, intact
HUD21HQ-07	145.42	145.5	0.08	SHWCO	Shale with coal		grey, coal band at bottom

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-07	145.5	145.8	0.3	SHWCOK	Shale with coal streaks		interpreted from e-log
HUD21HQ-07	145.8	147.17	1.37	SHWCO	Shale with coal		dark grey, few coal bands
HUD21HQ-07	147.17	147.82	0.65	SHWCO	Shale with coal		black, coal spar, sharp basal contact
HUD21HQ-07	147.82	148.09	0.27	COWSH	Coal with shale	D460	bright, blocky, shale streak near middle
HUD21HQ-07	148.09	148.57	0.48	SHWCO	Shale with coal		black, coal bands
HUD21HQ-07	148.57	150.26	1.69	SHWSSK	Shale with sandstone streaks		grey, sandstone layers near bottom, rippled bedding near bottom
HUD21HQ-07	150.26	150.6	0.34	SHWSSK	Shale with sandstone streaks		light grey, sandstone streaks, gradational basal contact
HUD21HQ-07	150.6	152.39	1.79	SH	Shale		light grey, few sandstone nodules
HUD21HQ-07	152.39	153.69	1.3	SHWSS	Shale with sandstone		light grey, sandy in middle, shale spars
HUD21HQ-07	153.69	156.69	3	SHWSSK	Shale with sandstone streaks		grey, few coal spars and streaks, sandstone band near bottom, calcite streak near bottom
HUD21HQ-07	156.69	158.78	2.09	SH	Shale		grey, few coal streaks, calcite streaks
HUD21HQ-07	158.78	159.2	0.42	SHCR	Carbonaceous shale		black with coal
HUD21HQ-07	159.2	159.64	0.44	CO	Coal	E550	dull, intact
HUD21HQ-07	159.64	159.66	0.02	COLST	Lost coal	E550	interpreted from e-log
HUD21HQ-07	159.66	160.14	0.48	CO	Coal	E550	bright, intact, blocky
HUD21HQ-07	160.14	160.8	0.66	SHWCO	Shale with coal		dark, numerous coal streaks
HUD21HQ-07	160.8	161.28	0.48	SHWCOK	Shale with coal streaks		light grey
HUD21HQ-07	161.28	161.7	0.42	SHWCO	Shale with coal		dark, numerous coal bands, gradational basal contact
HUD21HQ-07	161.7	162.72	1.02	SH	Shale		grey, few siderite nodules, silty
HUD21HQ-07	162.72	163.93	1.21	SHST	Silty shale		grey, few coal streaks, silty, sandy
HUD21HQ-07	163.93	165.71	1.78	SHCC	Calcareous shale		light grey, silty
HUD21HQ-07	165.71	168.71	3	SS	Sandstone		light grey, calcite streaks, few coal streaks
HUD21HQ-07	168.71	169.92	1.21	SHCC	Calcareous shale		grey, calcite streaks, coal streaks/dip ~ 55°, gradational basal contact

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-07	169.92	171.57	1.65	SHSNSK	Sandy shale with sandstone streaks		light grey, calcareous, calcite streaks, coal streaks, gradational basal contact
HUD21HQ-07	171.57	171.71	0.14	SH	Shale		dark grey, calcite streaks
HUD21HQ-07	171.71	174.74	3.03	SHCC	Calcareous shale		light grey, calcite streaks, few sandstone streaks, sandy near top, occasional coal streaks
HUD21HQ-07	174.74	177.74	3	SHWSS	Shale with sandstone		light grey, shale and sandstone, calcite streaks, few coal streaks
HUD21HQ-07	177.74	177.94	0.2	SHWSS	Shale with sandstone		light grey, calcite streaks
HUD21HQ-07	177.94	181.43	3.49	SSWSH	Sandstone with shale		light grey, calcite streaks, occasional coal bands, ripple bedded, calcareous
HUD21HQ-07	181.43	182.54	1.11	SH	Shale		dark grey, more carbonaceous downward, scattered calcite and coal streaks at base, pyritic at base
HUD21HQ-07	182.54	182.75	0.21	COASH	Coal and shale	F640	occasional bright bands, shaly at base
HUD21HQ-07	182.75	186.75	4	SHCC	Calcareous shale		dark grey, occasional coal streaks, occasional calcite streaks, becoming sandy downward, rippled bedding, bioturbated
HUD21HQ-07	186.75	187.55	0.8	SH	Shale		grey to dark grey, rare calcite streaks and coal spars, slightly carbonaceous
HUD21HQ-07	187.55	189.47	1.92	CO	Coal	F650	mostly dull with occasional bright bands, blocky
HUD21HQ-07	189.47	189.64	0.17	SHST	Silty shale	F650	grey
HUD21HQ-07	189.64	189.75	0.11	CO	Coal	F650	bright, banded
HUD21HQ-07	189.75	192.75	3	SH	Shale		dark grey to grey, slightly carbonaceous at top, occasional coal streaks and calcite streaks
HUD21HQ-07	192.75	196.38	3.63	SHCC	Calcareous shale		grey, calcite streaks
HUD21HQ-07	196.38	196.57	0.19	CO	Coal		mostly dull with occasional bright bands, shale streaks
HUD21HQ-07	196.57	201.01	4.44	SH	Shale		dark grey to grey, occasional coal streaks, planar, occasional pyrite becoming carbonaceous downward, gradational basal contact
HUD21HQ-07	201.01	201.28	0.27	SHCR	Carbonaceous shale		dark grey, occasional coal streaks
HUD21HQ-07	201.28	201.46	0.18	COWSHK	Coal with shale streaks	G750	occasional bright bands
HUD21HQ-07	201.46	201.52	0.06	SHCR	Carbonaceous shale	G750	dark grey

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-07	201.52	201.74	0.22	CO	Coal	G750	occasional bright bands, blocky
HUD21HQ-07	201.74	202.19	0.45	SHCR	Carbonaceous shale		dark grey, numerous coal streaks and lenses
HUD21HQ-07	202.19	203.75	1.56	SH	Shale		grey, occasional coal streaks and calcareous lenses, moderately sharp basal contact
HUD21HQ-07	203.75	204.52	0.77	SSCC	Calcareous sandstone		grey, fine grained, rippled and bioturbated, occasional coal streaks
HUD21HQ-07	204.52	207.52	3	SHCC	Calcareous shale		grey, sandy, occasional calcite streaks
HUD21HQ-07	207.52	213.33	5.81	SH	Shale		grey, occasional thin bioturbated and carbonaceous intervals, occasional rippled-up clasts, scattered pyrite, coal streaks/lenses throughout
HUD21HQ-07	213.33	213.76	0.43	SHCR	Carbonaceous shale		dark grey to dark brown/grey, occasional calcite streaks and wisps, occasional coal streaks/lenses throughout
HUD21HQ-07	213.76	215.42	1.66	SHCC	Calcareous shale		medium grey, silty, ripple bedding, bioturbated in parts, occasional calcite wisps, minor coal wisps
HUD21HQ-07	215.42	215.78	0.36	SHCR	Carbonaceous shale		dark grey to dark brown/grey, occasional coal streaks/lenses
HUD21HQ-07	215.78	215.85	0.07	SHWCOK	Shale with coal streaks		very dark grey
HUD21HQ-07	215.85	216.3	0.45	CO	Coal	H850	black, dull, bright banded
HUD21HQ-07	216.3	216.44	0.14	SHCR	Carbonaceous shale		very dark grey/brown
HUD21HQ-07	216.44	217.09	0.65	SH	Shale		medium to dark grey, occasional thin bioturbated and carbonaceous intervals, occasional coal wisps
HUD21HQ-07	217.09	217.15	0.06	CO	Coal		black, bright
HUD21HQ-07	217.15	217.48	0.33	SH	Shale		medium to dark grey, increasing grain size downward, becoming silty, possible shale fragments, minor coal wisps at top
HUD21HQ-07	217.48	218.06	0.58	SS	Sandstone		light to medium grey, massive, very fine to fine grained S & P , rare local disseminated pyrite
HUD21HQ-07	218.06	219.44	1.38	SSASHI	Interbedded sandstone and shale		bioturbated, laminated bedding, very fine to fine grained sandstone, cross bedding at bottom, increasing calcite streaks downward (lost circulation somewhere between 219.3 - 229.98m)
HUD21HQ-07	219.44	222.44	3	SSASHI	Interbedded sandstone and shale		interbedded light to dark grey, bioturbated (trace fossil visible), (stained brown), occasional calcite streaks in upper, massive in part, calcareous, rare coal lens, common carbonaceous strings/wisps, visible cross-bedding interchanging with laminar bedding scattered micropyrite
HUD21HQ-07	222.44	223.99	1.55	SHCC	Calcareous shale		with calcareous sandstone lenses, medium to dark grey with occasional light grey, bioturbated and plant fossils, laminated bedding and ripples, occasional calcite streaks throughout, minor coal lenses

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-07	223.99	224.3	0.31	SSASHI	Interbedded sandstone and shale		calcareous, interbedded light to dark grey, wavy bedding, bioturbated
HUD21HQ-07	224.3	225.44	1.14	SSCC	Calcareous sandstone		mainly light grey with occasional medium grey, heavily bioturbated, massive, fine to medium grained, S&P, common carbonaceous wisps, grain size decreasing going downward, becoming a little interbedded downward with shale at base
HUD21HQ-07	225.44	230.9	5.46	SSASHI	Interbedded sandstone and shale		calcareous, interbedded light to dark grey, bioturbated, slightly massive, laminated to wavy bedding (stained brown to rust fill) S & P in part, some bioturbation shows that we are "right side up", very fine to medium grained sandstone, becoming more silty and shaly at bottom
HUD21HQ-07	230.9	233.65	2.75	SHCC	Calcareous shale		with calcareous sandstone lenses, medium to dark grey, fairly massive (could be a silty shale), laminar and wavy bedding, bioturbated, occasional very fine to fine grain sandstone lenses, occasional calcite and coaly streaks
HUD21HQ-07	233.65	234.44	0.79	SHSHCR	Shale and carbonaceous shale		medium to very dark grey, mainly laminar bedding with some wavy bedding, decreasing bioturbated downward, decreasing calcareous downward, increasing carbonaceous downward, increasing calcite and carbonaceous streaks downward
HUD21HQ-07	234.44	234.68	0.24	SHWCOK	Shale with coal streaks		dark to very dark grey, coaly rock and carbonaceous shale, pyrite nodules, visual calcite and coal streaks
HUD21HQ-07	234.68	234.79	0.11	COLST	Lost coal	I995	
HUD21HQ-07	234.79	235.38	0.59	SH	Shale		medium to dark grey, occasional evidence of wavy and laminar bedding, bioturbated, minor coal streaks, calcite wisps throughout
HUD21HQ-07	235.38	237.44	2.06	SSASHI	Interbedded sandstone and shale		interbedded light, medium, and dark grey, shale, siltstone, and very fine to medium grained sandstone, laminar and wavy bedding, abundant bioturbated
HUD21HQ-07	237.44	237.59	0.15	SHSHCR	Shale and carbonaceous shale		medium-dark grey, occasional coal streaks
HUD21HQ-07	237.59	237.64	0.05	SHWCOK	Shale with coal streaks		very dark grey/brown to black, occasional calcite streaks, firm to moderately firm, slickensides
HUD21HQ-07	237.64	237.87	0.23	SHSHCR	Shale and carbonaceous shale		medium to dark grey, common coal streaks at bottom
HUD21HQ-07	237.87	237.99	0.12	SHSHCR	Shale and carbonaceous shale		interpreted from e-log
HUD21HQ-07	237.99	238.38	0.39	CO	Coal	J1050	black, dull to bright banded
HUD21HQ-07	238.38	238.43	0.05	SHWCOK	Shale with coal streaks		very dark grey/brown to black, grading downward into carbonaceous shale
HUD21HQ-07	238.43	238.58	0.15	SHCR	Carbonaceous shale		dark grey/brown, grading upward into coaly rock, minor calcite streaks, coal streaks
HUD21HQ-07	238.58	239.9	1.32	SH	Shale		medium to dark grey, minor calcite streaks, firm, slickensides at top

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-07	239.9	240.12	0.22	SI	Siltstone		light to medium grey, disseminated pyrite in part
HUD21HQ-07	240.12	240.26	0.14	SH	Shale		interpreted from e-log
HUD21HQ-07	240.26	240.4	0.14	COWSH	Coal with shale		very dark grey to black, evidence of bright coal bands
HUD21HQ-07	240.4	240.7	0.3	COLST	Lost coal		interpreted from e-log
HUD21HQ-07	240.7	240.9	0.2	SHWCOK	Shale with coal streaks		black to very dark grey/brown, common coal streaks
HUD21HQ-07	240.9	240.92	0.02	CO	Coal		black
HUD21HQ-07	240.92	241.45	0.53	SH	Shale		dark to very dark grey to brownish grey, minor calcite streaks near bottom, coal lenses throughout
HUD21HQ-07	241.45	241.54	0.09	CO	Coal		black, dull and banded
HUD21HQ-07	241.54	241.77	0.23	SHWCOK	Shale with coal streaks		very dark brown to brown/grey to black, coal lenses throughout
HUD21HQ-07	241.77	242.43	0.66	SH	Shale		medium to dark grey, minor calcite streaks throughout
HUD21HQ-07	242.43	242.68	0.25	SHWCOK	Shale with coal streaks		
HUD21HQ-07	242.68	244.67	1.99	SHSHCR	Shale and carbonaceous shale		dark grey to dark brownish grey, minor calcite streaks at top, occasional coal streaks, common calcite wisps at bottom
HUD21HQ-07	244.67	244.8	0.13	CO	Coal		black, dull
HUD21HQ-07	244.8	244.95	0.15	SHWCOK	Shale with coal streaks		very dark brown/grey to black, common coal streaks
HUD21HQ-07	244.95	245.13	0.18	SHSHCR	Shale and carbonaceous shale		dark to very dark brown/grey
HUD21HQ-07	245.13	245.26	0.13	CO	Coal		black, bright banded
HUD21HQ-07	245.26	245.63	0.37	COLST	Lost coal		interpreted from e-log
HUD21HQ-07	245.63	246.07	0.44	SHSHCR	Shale and carbonaceous shale		interpreted from e-log
HUD21HQ-07	246.07	246.31	0.24	SHSHCR	Shale and carbonaceous shale		dark to very dark brownish/grey, coal streaks throughout
HUD21HQ-07	246.31	246.36	0.05	SHCR	Carbonaceous shale		dark to very dark brown/grey, coal lens at top
HUD21HQ-07	246.36	246.4	0.04	CO	Coal		black, dull and bright banded
HUD21HQ-07	246.4	246.55	0.15	SHCR	Carbonaceous shale		dark to very dark brown/grey, coal lenses at top and bottom, minor calcite wisps throughout
HUD21HQ-07	246.55	246.62	0.07	CO	Coal		black, bright banded

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21HQ-07	246.62	246.72	0.1	SHCR	Carbonaceous shale		dark to very dark brown/grey, common coal streaks throughout
HUD21HQ-07	246.72	246.78	0.06	CO	Coal		black, bright mostly
HUD21HQ-07	246.78	246.86	0.08	SHCR	Carbonaceous shale		dark to very dark brown/grey
HUD21HQ-07	246.86	246.94	0.08	CO	Coal		black, dull and bright banded
HUD21HQ-07	246.94	247.06	0.12	SHCR	Carbonaceous shale		dark to very dark brown/grey
HUD21HQ-07	247.06	247.14	0.08	SHWCOK	Shale with coal streaks		black, carbonaceous shale lenses throughout
HUD21HQ-07	247.14	247.23	0.09	SHCR	Carbonaceous shale		dark to very dark grey/brown, common calcite streaks and wisps, pyrite band at base
HUD21HQ-07	247.23	247.46	0.23	SHCC	Calcareous shale		dark grey, minor calcite wisps throughout
HUD21HQ-07	247.46	250.24	2.78	SSASHI	Interbedded sandstone and shale		light to dark grey, interbedded, massive, wavy and laminar bedding, pyrite band at top, abundant bioturbation, sandstone is very fine to fine grain, occasional calcite streaks throughout
HUD21HQ-07	250.24	250.98	0.74	SSCC	Calcareous sandstone		light grey, massive, occasional carbonaceous shale streaks and wisps, wavy bedding
HUD21HQ-07	250.98	252.29	1.31	SH	Shale		medium to dark grey, massive, occasional laminar and wavy bedding near top
HUD21LD-01	0	10.5	10.5	OV	Overburden		overburden material; driller hit water at ~4.5 m; casing (10") installed to 10.5 m
HUD21LD-01	10.5	38.42	27.92	RM	Rotary drilling		rotary drilling, begin core drilling at 38.42m
HUD21LD-01	38.42	39.37	0.95	SH	Shale		grey
HUD21LD-01	39.37	40.37	1	SH	Shale		grey, rare calcite streaks
HUD21LD-01	40.37	40.47	0.1	SHCR	Carbonaceous shale		grey to dark grey
HUD21LD-01	40.47	41.69	1.22	CO	Coal	A150	Mostly dull with occasional bright bands, bedding planes mostly horizontal, blocky, scattered pyrite (not prevalent)
HUD21LD-01	41.69	41.87	0.18	NCLC	No core / lost core		
HUD21LD-01	41.87	42.17	0.3	NCLC	No core / lost core		
HUD21LD-01	42.17	43.37	1.2	SH	Shale		grey, coal spar and lenses

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21LD-01	43.37	62.88	19.51	RM	Rotary drilling		rotary drilling from 43.37-62.88m (driller reportedly drilled into top of coal seam about 0.5 m due to mis-counting of drill rods)
HUD21LD-01	62.88	63.37	0.49	CO	Coal	B250	mostly dull with occasional bright bands
HUD21LD-01	63.37	63.62	0.25	SHWCO	Shale with coal	B250	grey, appears to be mostly shale
HUD21LD-01	63.62	63.88	0.26	CO	Coal	B250	mostly dull
HUD21LD-01	63.88	64.38	0.5	COLST	Lost coal	B250	
HUD21LD-01	64.38	64.43	0.05	SHCR	Carbonaceous shale		dark grey to black with coal streaks
HUD21LD-01	64.43	64.58	0.15	SH	Shale		grey, occasional coal streaks
HUD21LD-01	64.58	64.68	0.1	MS	Mudstone		grey, coal spars
HUD21LD-01	64.68	64.79	0.11	SH	Shale		grey
HUD21LD-01	64.79	64.88	0.09	NCLC	No core / lost core		
HUD21LD-01	64.88	81.64	16.76	RM	Rotary drilling		rotary drilling from 64.38-81.64 m
HUD21LD-01	81.64	82.54	0.9	SH	Shale		grey, scattered calcite streaks
HUD21LD-01	82.54	84.04	1.5	SH	Shale		grey, scattered calcite streaks
HUD21LD-01	84.04	84.32	0.28	SH	Shale		grey, becoming carbonaceous downward, coal streaks downward
HUD21LD-01	84.32	84.44	0.12	COBO	Bony coal	C340	occasional bright bands, blocky
HUD21LD-01	84.44	84.5	0.06	SH	Shale	C340	grey to slightly dark grey, slightly carbonaceous
HUD21LD-01	84.5	84.63	0.13	COBO	Bony coal	C340	dull
HUD21LD-01	84.63	85.02	0.39	SHSN	Sandy shale		grey to slightly dark grey, slightly sandy
HUD21LD-01	85.02	85.21	0.19	SHWCO	Shale with coal		carbonaceous, predominantly carbonaceous shale
HUD21LD-01	85.21	85.54	0.33	CO	Coal	C350	bright, banded, blocky
HUD21LD-01	85.54	85.89	0.35	NCLC	No core / lost core	C350	
HUD21LD-01	85.89	86.39	0.5	CO	Coal	C350	bright, banded
HUD21LD-01	86.39	87.04	0.65	SHCR	Carbonaceous shale		dark grey, scattered coal streaks, occasional shale laminations
HUD21LD-01	87.04	88.06	1.02	SH	Shale		grey, occasional sandy lenses, coal streaks

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21LD-01	88.06	88.15	0.09	COSH	Shaly coal		dull, blocky
HUD21LD-01	88.15	88.54	0.39	SHCR	Carbonaceous shale		dark grey, coals streaks
HUD21LD-01	88.54	89.49	0.95	SHCR	Carbonaceous shale		dark grey, coal streaks throughout, coal lenses ~0.55 m above seam
HUD21LD-01	89.49	90.04	0.55	CO	Coal	D450	occasional bright bands, thin shale lamination near top
HUD21LD-01	90.04	91.04	1	CO	Coal	D450	mostly dull with occasional bright bands, occasional thin shale laminations
HUD21LD-01	91.04	91.54	0.5	SHCR	Carbonaceous shale		grey to dark grey, occasional coal streaks
HUD21LD-01	91.54	97.23	5.69	NCLC	No core / lost core		
HUD21LD-01	97.23	98	0.77	SH	Shale		grey, becoming more carbonaceous downward, thin coal lens at base, coal spars increasing downward
HUD21LD-01	98	98.2	0.2	COWSH	Coal with shale	D495	bright bands, somewhat blocky
HUD21LD-01	98.2	98.75	0.55	SHCR	Carbonaceous shale		dark grey, coaly interbeds but predominantly carbonaceous shale
HUD21LD-01	98.75	99.35	0.6	NCLC	No core / lost core		
HUD21LD-01	99.35	100.27	0.92	SH	Shale		grey, slightly carbonaceous at top decreasing downward
HUD21LD-01	100.27	114.98	14.71	RM	Rotary drilling		begin rotary drilling at 100 m and continue to 115 m. Begin coring at 115 m.
HUD21LD-01	114.98	116.5	1.52	SH	Shale		grey, occasional calcite streaks, slightly sandy
HUD21LD-01	116.5	118.02	1.52	SSCC	Calcareous sandstone		grey, occasional coal spars, clay clasts throughout, pyrite at base
HUD21LD-01	118.02	119.54	1.52	SHCC	Calcareous shale		grey, occasional coal spars (some with pyrite), occasional calcite, slightly silty
HUD21LD-01	119.54	121.06	1.52	SHCC	Calcareous shale		grey, scattered calcite, slightly silty
HUD21LD-01	121.06	122.58	1.52	SH	Shale		grey, occasional thin calcareous zones (mostly non-calcareous), occasional coal streaks
HUD21LD-01	122.58	124.1	1.52	SHCC	Calcareous shale		grey, occasional coal spars and calcite streaks, sandy
HUD21LD-01	124.1	125.62	1.52	SHCC	Calcareous shale		grey, occasional coal spars, sandy
HUD21LD-01	125.62	127.14	1.52	SHCC	Calcareous shale		grey, firm, sandy at top, occasional coal spars, becoming soft downward
HUD21LD-01	127.14	127.22	0.08	SHCR	Carbonaceous shale		dark grey
HUD21LD-01	127.22	127.4	0.18	COWSH	Coal with shale	E540	bright banded

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21LD-01	127.4	127.65	0.25	SHCR	Carbonaceous shale		dark grey, coal spars
HUD21LD-01	127.65	128.15	0.5	SH	Shale		grey, coal spars
HUD21LD-01	128.15	128.66	0.51	NCLC	No core / lost core		
HUD21LD-01	128.66	128.78	0.12	NCLC	No core / lost core		
HUD21LD-01	128.78	129.48	0.7	SHCR	Carbonaceous shale		dark grey, coal spars
HUD21LD-01	129.48	129.58	0.1	COSH	Shaly coal	E550	black with coal
HUD21LD-01	129.58	129.9	0.32	CO	Coal	E550	mostly bright banded
HUD21LD-01	129.9	130.18	0.28	COBO	Bony coal	E550	dull with rare bright bands, less cleated than above and below coals
HUD21LD-01	130.18	130.68	0.5	CO	Coal	E550	mostly bright banded, blocky
HUD21LD-01	130.68	130.81	0.13	CO	Coal	E550	bright banded, blocky
HUD21LD-01	130.81	131.8	0.99	NCLC	No core / lost core		
HUD21LD-01	131.8	132.2	0.4	SH	Shale		grey to dark grey, slightly carbonaceous, coal spars
HUD21LD-01	132.2	145.18	12.98	RM	Rotary drilling		
HUD21LD-01	145.18	145.62	0.44	SH	Shale		grey to dark grey, slightly carbonaceous, very rare pyrite on coal spars, coal spars
HUD21LD-01	145.62	145.78	0.16	COASH	Coal and shale	F640	occasional bright bands, scattered shale streaks (predominately shaly)
HUD21LD-01	145.78	146.02	0.24	SHCR	Carbonaceous shale		dark grey
HUD21LD-01	146.02	146.14	0.12	NCLC	No core / lost core		
HUD21LD-01	146.14	146.47	0.33	SH	Shale		grey, slightly carbonaceous
HUD21LD-01	146.47	147.12	0.65	SH	Shale		grey, slightly carbonaceous, occasional calcite streaks
HUD21LD-01	147.12	147.54	0.42	SH	Shale		grey to slightly dark grey, slightly carbonaceous, heavy calcite in bedding plane
HUD21LD-01	147.54	148.71	1.17	SH	Shale		grey to slightly dark grey, slightly calcitic, carbonaceous, thin coal lenses at top
HUD21LD-01	148.71	148.91	0.2	COSH	Shaly coal	F650	mostly dull with very rare bright bands
HUD21LD-01	148.91	149.06	0.15	NCLC	No core / lost core	F650	

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21LD-01	149.06	149.66	0.6	NCLC	No core / lost core	F650	
HUD21LD-01	149.66	150.58	0.92	CO	Coal	F650	mostly dull with occasional bright bands, with occasional soft lenses, occasional very thin shale laminations (<0.5 cm)
HUD21LD-01	150.58	152.1	1.52	NCLC	No core / lost core	F650	
HUD21MW-03D	0	22.9	22.9	CA	Casing		
HUD21MW-03D	22.9	25.2	2.3	SHCR	Carbonaceous shale		
HUD21MW-03D	25.2	30.2	5	CA	Casing		
HUD21MW-03D	30.2	36.5	6.3	RK	Rock		
HUD21MW-03D	36.5	37.2	0.7	SHCR	Carbonaceous shale		
HUD21MW-03D	37.2	68.5	31.3	RK	Rock		
HUD21MW-03D	68.5	71.8	3.3	SHCR	Carbonaceous shale		
HUD21MW-03D	71.8	80	8.2	RK	Rock		
HUD21MW-04D	0	7.32	7.32	RK	Rock		
HUD21MW-04D	7.32	7.58	0.26	CO	Coal		
HUD21MW-04D	7.58	8.38	0.8	PTG	Parting		
HUD21MW-04D	8.38	9.27	0.89	CO	Coal	B250	
HUD21MW-04D	9.27	26.42	17.15	RK	Rock		
HUD21MW-04D	26.42	27.74	1.32	CO	Coal	C350	
HUD21MW-04D	27.74	27.88	0.14	PTG	Parting		
HUD21MW-04D	27.88	27.95	0.07	COIM	Dirty coal		
HUD21MW-04D	27.95	43.62	15.67	RK	Rock		
HUD21MW-04D	43.62	43.62	0	CO	Coal	D440	
HUD21MW-04D	43.62	43.92	0.3	CO	Coal	D450	

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21MW-04D	43.92	44.11	0.19	PTG	Parting	D450	
HUD21MW-04D	44.11	44.67	0.56	CO	Coal	D450	
HUD21MW-04D	44.67	44.79	0.12	SHCR	Carbonaceous shale		
HUD21MW-04D	44.79	54.52	9.73	RK	Rock		
HUD21MW-04D	54.52	55.98	1.46	CO	Coal	E550	
HUD21MW-04D	55.98	56.3	0.32	SHCR	Carbonaceous shale		
HUD21MW-04D	56.3	56.79	0.49	CO	Coal		
HUD21MW-04D	56.79	59.59	2.8	RK	Rock		
HUD21MW-04D	59.59	59.99	0.4	COIM	Dirty coal	F640	
HUD21MW-04D	59.99	60.5	0.51	SHCR	Carbonaceous shale		
HUD21MW-04D	60.5	61	0.5	COIM	Dirty coal	F650	
HUD21MW-04D	61	62.83	1.83	RK	Rock		
HUD21MW-04D	62.83	63.56	0.73	SHCR	Carbonaceous shale		
HUD21MW-04D	63.56	63.8	0.24	COIM	Dirty coal		
HUD21MW-04D	63.8	64.67	0.87	PTG	Parting		
HUD21MW-04D	64.67	65.08	0.41	COIM	Dirty coal	G750	
HUD21MW-04D	65.08	65.7	0.62	CO	Coal	G750	
HUD21MW-04D	65.7	66.22	0.52	SHWCO	Shale with coal		
HUD21MW-04D	66.22	66.53	0.31	SHCR	Carbonaceous shale		
HUD21MW-04D	66.53	66.72	0.19	CO	Coal		
HUD21MW-04D	66.72	80.14	13.42	RK	Rock		
HUD21MW-04D	80.14	80.37	0.23	CO	Coal	H850	
HUD21MW-04D	80.37	111.43	31.06	RK	Rock		
HUD21MW-04D	111.43	111.47	0.04	CO	Coal	I950	
HUD21MW-04D	111.47	130.2	18.73	RK	Rock		

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21MW-04D	130.2	130.53	0.33	CO	Coal	J1050	
HUD21MW-04D	130.53	150.9	20.37	RK	Rock		
HUD21MW-04D	150.9	151.05	0.15	CO	Coal	K1150	
HUD21MW-04D	151.05	199.8	48.75	RK	Rock		
HUD21MW-04S	0	7.8	7.8	CA	Casing		
HUD21MW-04S	7.8	199.8	192	RK	Rock		
HUD21RC-01	0	13.62	13.62	SS	Sandstone		
HUD21RC-01	13.62	17.05	3.43	SHSN	Sandy shale		
HUD21RC-01	17.05	17.8	0.75	SHWCOK	Shale with coal streaks		
HUD21RC-01	17.8	18.9	1.1	SH	Shale		
HUD21RC-01	18.9	20.08	1.18	CO	Coal		
HUD21RC-01	20.08	20.42	0.34	COWSHK	Coal with shale streaks		
HUD21RC-01	20.42	22.43	2.01	SH	Shale		
HUD21RC-01	22.43	22.72	0.29	CO	Coal		
HUD21RC-01	22.72	24.2	1.48	SHSHCR	Shale and carbonaceous shale		
HUD21RC-01	24.2	26.9	2.7	CO	Coal	A150	
HUD21RC-01	26.9	28.25	1.35	SHWCOK	Shale with coal streaks		
HUD21RC-01	28.25	31	2.75	SHWSSK	Shale with sandstone streaks		
HUD21RC-01	31	35.8	4.8	SH	Shale		occasional co bands
HUD21RC-01	35.8	37	1.2	LSSH			
HUD21RC-01	37	37.75	0.75	SHSN	Sandy shale		
HUD21RC-01	37.75	41.8	4.05	SH	Shale		
HUD21RC-01	41.8	42.62	0.82	LSSH			

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21RC-01	42.62	49.2	6.58	SH	Shale		
HUD21RC-01	49.2	54.75	5.55	SHWSSK	Shale with sandstone streaks		silty
HUD21RC-01	54.75	62	7.25	SH	Shale		
HUD21RC-01	62	64.25	2.25	SHWSSK	Shale with sandstone streaks		
HUD21RC-01	64.25	64.25	0	CO	Coal	B250	
HUD21RC-01	64.25	66.4	2.15	SHSN	Sandy shale		
HUD21RC-01	66.4	66.4	0	CO	Coal	C350	
HUD21RC-01	66.4	68.78	2.38	SHSHCR	Shale and carbonaceous shale		
HUD21RC-01	68.78	69.5	0.72	COCOBO	Coal and bony coal	D450	
HUD21RC-01	69.5	70.25	0.75	SHWCOK	Shale with coal streaks		
HUD21RC-01	70.25	70.5	0.25	CO	Coal	D460	
HUD21RC-01	70.5	71.4	0.9	SHSHCR	Shale and carbonaceous shale		
HUD21RC-01	71.4	75.75	4.35	SHSNSK	Sandy shale with sandstone streaks		calcareous
HUD21RC-01	75.75	82.5	6.75	SS	Sandstone		
HUD21RC-01	82.5	84.3	1.8	SSWCOP	Sandstone with coal spars		argillaceous
HUD21RC-01	84.3	86.5	2.2	SS	Sandstone		
HUD21RC-01	86.5	90.87	4.37	SSSH	Shaly sandstone		
HUD21RC-01	90.87	91.2	0.33	COSH	Shaly coal	E550	
HUD21RC-01	91.2	92.85	1.65	FCSN			sl carb, co stks
HUD21RC-01	92.85	95.9	3.05	SSCC	Calcareous sandstone		
HUD21RC-01	95.9	97.5	1.6	SS	Sandstone		
HUD21RC-01	97.5	106.1	8.6	SHSNSK	Sandy shale with sandstone streaks		
HUD21RC-01	106.1	119.05	12.95	SS	Sandstone		

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21RC-01	119.05	123.75	4.7	SHSNSK	Sandy shale with sandstone streaks		
HUD21RC-01	123.75	128.15	4.4	SS	Sandstone		
HUD21RC-01	128.15	129.2	1.05	SHWSSK	Shale with sandstone streaks		
HUD21RC-01	129.2	130.15	0.95	SHSN	Sandy shale		
HUD21RC-01	130.15	134.9	4.75	SH	Shale		few ss stks
HUD21RC-01	134.9	137.25	2.35	SHSNSK	Sandy shale with sandstone streaks		
HUD21RC-01	137.25	139.35	2.1	SH	Shale		sl carb; few co stk
HUD21RC-01	139.35	140.85	1.5	SHSHCR	Shale and carbonaceous shale		
HUD21RC-01	140.85	141.07	0.22	SHWCOK	Shale with coal streaks		
HUD21RC-01	141.07	141.55	0.48	CO	Coal	F650	
HUD21RC-01	141.55	141.9	0.35	COSH	Shaly coal	F650	
HUD21RC-01	141.9	142.5	0.6	CO	Coal	F650	
HUD21RC-01	142.5	142.85	0.35	BO	Bone	F650	
HUD21RC-01	142.85	143.92	1.07	CO	Coal	F650	
HUD21RC-01	143.92	144.72	0.8	FC			
HUD21RC-01	144.72	145.25	0.53	SHWCOK	Shale with coal streaks		
HUD21RC-01	145.25	148.9	3.65	SH	Shale		
HUD21RC-01	148.9	149.75	0.85	SHSN	Sandy shale		
HUD21RC-01	149.75	150.15	0.4	SHWCOK	Shale with coal streaks		
HUD21RC-01	150.15	150.4	0.25	COBO	Bony coal	G740	
HUD21RC-01	150.4	151.08	0.68	SHSHCR	Shale and carbonaceous shale		
HUD21RC-01	151.08	152.15	1.07	CO	Coal	G750	
HUD21RC-01	152.15	154.15	2	SH	Shale		

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21RC-01	154.15	154.4	0.25	COSH	Shaly coal		
HUD21RC-01	154.4	155.13	0.73	SH	Shale		
HUD21RC-01	155.13	155.8	0.67	SHSN	Sandy shale		
HUD21RC-01	155.8	156.17	0.37	SH	Shale		
HUD21RC-01	156.17	156.46	0.29	CO	Coal		
HUD21RC-01	156.46	157.41	0.95	SH	Shale		
HUD21RC-01	157.41	157.6	0.19	COSH	Shaly coal		
HUD21RC-01	157.6	158.76	1.16	CO	Coal	H850	
HUD21RC-01	158.76	159.29	0.53	SH	Shale		
HUD21RC-01	159.29	160.26	0.97	CO	Coal	H870	
HUD21RC-01	160.26	161	0.74	SH	Shale		
HUD21RC-01	161	161.3	0.3	COASH	Coal and shale		
HUD21RC-01	161.3	162.12	0.82	SHSHCR	Shale and carbonaceous shale		
HUD21RC-01	162.12	163.37	1.25	SHWCOK	Shale with coal streaks		
HUD21RC-01	163.37	164.3	0.93	SHWCO	Shale with coal		carb sh interbedded w/co
HUD21RC-01	164.3	165.6	1.3	SH	Shale		
HUD21RC-01	165.6	166.04	0.44	SHWCOK	Shale with coal streaks		
HUD21RC-01	166.04	166.54	0.5	CO	Coal	I950	
HUD21RC-01	166.54	167.6	1.06	SH	Shale		
HUD21RC-01	167.6	169.75	2.15	SHST	Silty shale		
HUD21RC-01	169.75	173.6	3.85	SSCC	Calcareous sandstone		
HUD21RC-01	173.6	174.75	1.15	SHSHCR	Shale and carbonaceous shale		
HUD21RC-01	174.75	175.75	1	SHWCOK	Shale with coal streaks		
HUD21RC-01	175.75	177	1.25	SHSHCR	Shale and carbonaceous shale		
HUD21RC-01	177	181.3	4.3	SSSH	Shaly sandstone		

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21RC-01	181.3	181.65	0.35	SHCR	Carbonaceous shale		
HUD21RC-01	181.65	181.95	0.3	CO	Coal	I995	
HUD21RC-01	181.95	187.1	5.15	SHWSSK	Shale with sandstone streaks		
HUD21RC-01	187.1	191.2	4.1	SS	Sandstone		
HUD21RC-01	191.2	193	1.8	SHSN	Sandy shale		
HUD21RC-01	193	195	2	SH	Shale		
HUD21RC-01	195	196	1	SHWCOK	Shale with coal streaks		
HUD21RC-01	196	197.12	1.12	SH	Shale		
HUD21RC-01	197.12	200.8	3.68	SHWCOK	Shale with coal streaks		
HUD21RC-01	200.8	205	4.2	RK	Rock		
HUD21RC-02B	0	27.07	27.07	SS	Sandstone		in casing
HUD21RC-02B	27.07	30.15	3.08	CO	Coal	A150	in casing
HUD21RC-02B	30.15	30.72	0.57	SH	Shale		in casing
HUD21RC-02B	30.72	31.23	0.51	CO	Coal	A170	in casing
HUD21RC-02B	31.23	34.7	3.47	SSWSHK	Sandstone with shale streaks		in casing
HUD21RC-02B	34.7	37.75	3.05	SH	Shale		fractured
HUD21RC-02B	37.75	41.75	4	SHWSSK	Shale with sandstone streaks		fractured
HUD21RC-02B	41.75	43.2	1.45	SSCC	Calcareous sandstone		
HUD21RC-02B	43.2	46	2.8	SH	Shale		
HUD21RC-02B	46	48.05	2.05	SHSN	Sandy shale		
HUD21RC-02B	48.05	48.35	0.3	COSH	Shaly coal	B250	
HUD21RC-02B	48.35	49	0.65	SH	Shale	B250	
HUD21RC-02B	49	49.28	0.28	COSH	Shaly coal	B250	
HUD21RC-02B	49.28	53.75	4.47	SHWSSK	Shale with sandstone streaks		

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21RC-02B	53.75	55.12	1.37	SH	Shale		
HUD21RC-02B	55.12	57.25	2.13	SHST	Silty shale		
HUD21RC-02B	57.25	57.5	0.25	CO	Coal	C340	
HUD21RC-02B	57.5	61	3.5	SHWSSK	Shale with sandstone streaks		silty
HUD21RC-02B	61	61.3	0.3	COSH	Shaly coal	C350	
HUD21RC-02B	61.3	61.8	0.5	SH	Shale	C350	
HUD21RC-02B	61.8	62.12	0.32	COBO	Bony coal	C350	
HUD21RC-02B	62.12	63.23	1.11	SH	Shale		
HUD21RC-02B	63.23	64.05	0.82	SHWCOK	Shale with coal streaks		
HUD21RC-02B	64.05	64.9	0.85	CO	Coal	D450	
HUD21RC-02B	64.9	65.93	1.03	SHSHCR	Shale and carbonaceous shale		few co stks
HUD21RC-02B	65.93	69.85	3.92	SHWSSK	Shale with sandstone streaks		
HUD21RC-02B	69.85	71.3	1.45	SHCL	Calcareous shale		
HUD21RC-02B	71.3	73.5	2.2	SH	Shale		
HUD21RC-02B	73.5	73.9	0.4	SHWCOK	Shale with coal streaks		
HUD21RC-02B	73.9	75.25	1.35	SHCL	Calcareous shale		
HUD21RC-02B	75.25	78.75	3.5	SHST	Silty shale		
HUD21RC-02B	78.75	80	1.25	SHSN	Sandy shale		calcareous
HUD21RC-02B	80	82.85	2.85	SHWSSK	Shale with sandstone streaks		
HUD21RC-02B	82.85	86.75	3.9	SHSNSK	Sandy shale with sandstone streaks		
HUD21RC-02B	86.75	89.15	2.4	SHWSSK	Shale with sandstone streaks		silty
HUD21RC-02B	89.15	91.1	1.95	SSSH	Shaly sandstone		
HUD21RC-02B	91.1	96	4.9	SS	Sandstone		
HUD21RC-02B	96	98.6	2.6	SSSH	Shaly sandstone		

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21RC-02B	98.6	101.25	2.65	SSWSHK	Sandstone with shale streaks		
HUD21RC-02B	101.25	106.3	5.05	SHSN	Sandy shale		
HUD21RC-02B	106.3	107.55	1.25	SS	Sandstone		
HUD21RC-02B	107.55	120	12.45	SHWSSK	Shale with sandstone streaks		silty
HUD21RC-02B	120	120.25	0.25	COSH	Shaly coal	E550	
HUD21RC-02B	120.25	125.45	5.2	SS	Sandstone		
HUD21RC-02B	125.45	128.5	3.05	SHSNSK	Sandy shale with sandstone streaks		
HUD21RC-02B	128.5	129.87	1.37	SS	Sandstone		
HUD21RC-02B	129.87	137.25	7.38	SHWSSK	Shale with sandstone streaks		silty
HUD21RC-02B	137.25	138.2	0.95	SSCC	Calcareous sandstone		
HUD21RC-02B	138.2	140.15	1.95	SH	Shale		grades to carby at base
HUD21RC-02B	140.15	140.62	0.47	SHWCOK	Shale with coal streaks		
HUD21RC-02B	140.62	140.82	0.2	CO	Coal	F640	
HUD21RC-02B	140.82	141.3	0.48	SH	Shale		
HUD21RC-02B	141.3	142.02	0.72	CO	Coal	F650	
HUD21RC-02B	142.02	142.37	0.35	COCOBO	Coal and bony coal	F650	
HUD21RC-02B	142.37	142.72	0.35	CO	Coal	F650	
HUD21RC-02B	142.72	143.28	0.56	SH	Shale		
HUD21RC-02B	143.28	144	0.72	SHWCOK	Shale with coal streaks		
HUD21RC-02B	144	144.7	0.7	SH	Shale		
HUD21RC-02B	144.7	146.25	1.55	SHWSSK	Shale with sandstone streaks		silty
HUD21RC-02B	146.25	147.97	1.72	SH	Shale		
HUD21RC-02B	147.97	148.21	0.24	CO	Coal		
HUD21RC-02B	148.21	148.94	0.73	SH	Shale		

Lithological description of year-2021 Hudette boreholes: **Table B-1 (continued)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21RC-02B	148.94	149.77	0.83	CO	Coal	G740	
HUD21RC-02B	149.77	150.28	0.51	SH	Shale		
HUD21RC-02B	150.28	150.48	0.2	CO	Coal	G750	
HUD21RC-02B	150.48	150.85	0.37	COCOBO	Coal and bony coal	G750	
HUD21RC-02B	150.85	151.38	0.53	CO	Coal	G750	
HUD21RC-02B	151.38	151.7	0.32	SH	Shale		
HUD21RC-02B	151.7	156.1	4.4	SSSH	Shaly sandstone		
HUD21RC-02B	156.1	159.82	3.72	SSHD			
HUD21RC-02B	159.82	160.25	0.43	SHWCOK	Shale with coal streaks		
HUD21RC-02B	160.25	161.2	0.95	SH	Shale		
HUD21RC-02B	161.2	161.62	0.42	COSH	Shaly coal		
HUD21RC-02B	161.62	161.9	0.28	SH	Shale		
HUD21RC-02B	161.9	162.25	0.35	LS	Limestone		
HUD21RC-02B	162.25	164.09	1.84	SHCL	Calcareous shale		sl carb
HUD21RC-02B	164.09	164.53	0.44	CO	Coal	I950	
HUD21RC-02B	164.53	164.86	0.33	COBO	Bony coal	I950	
HUD21RC-02B	164.86	165.08	0.22	CO	Coal	I950	
HUD21RC-02B	165.08	165.55	0.47	SH	Shale		
HUD21RC-02B	165.55	167.75	2.2	SHWSSK	Shale with sandstone streaks		
HUD21RC-02B	167.75	168.52	0.77	SHSN	Sandy shale		
HUD21RC-02B	168.52	170.75	2.23	SH	Shale		
HUD21RC-02B	170.75	174.95	4.2	SHSNSK	Sandy shale with sandstone streaks		
HUD21RC-02B	174.95	176.25	1.3	SHWCOK	Shale with coal streaks		
HUD21RC-02B	176.25	177.2	0.95	BO	Bone		

Lithological description of year-2021 Hudette boreholes: **Table B-1 (concluded)**

	metres			code and translation		Coal zone	Comments
Borehole	From	To	Thick-ness	Code	Lithology		
HUD21RC-02B	177.2	178.4	1.2	SH	Shale		
HUD21RC-02B	178.4	182.05	3.65	SHSNSK	Sandy shale with sandstone streaks		
HUD21RC-02B	182.05	183.5	1.45	SHSN	Sandy shale		
HUD21RC-02B	183.5	184.3	0.8	SH	Shale		
HUD21RC-02B	184.3	184.66	0.36	CO	Coal	I995	
HUD21RC-02B	184.66	186.05	1.39	SHWCOK	Shale with coal streaks		
HUD21RC-02B	186.05	190.45	4.4	SHWSSK	Shale with sandstone streaks		silty
HUD21RC-02B	190.45	190.85	0.4	SHCL	Calcareous shale		
HUD21RC-02B	190.85	193.55	2.7	SHWCOK	Shale with coal streaks		
HUD21RC-02B	193.55	197.38	3.83	SH	Shale		
HUD21RC-02B	197.38	197.66	0.28	CO	Coal		
HUD21RC-02B	197.66	198.78	1.12	SH	Shale		
HUD21RC-02B	198.78	199.05	0.27	CO	Coal		
HUD21RC-02B	199.05	200.15	1.1	SH	Shale		
HUD21RC-02B	200.15	201.27	1.12	CO	Coal	J1050	
HUD21RC-02B	201.27	202.25	0.98	SH	Shale		
HUD21RC-02B	202.25	203.5	1.25	SHSHCR	Shale and carbonaceous shale		
HUD21RC-02B	203.5	206.8	3.3	SHWSSK	Shale with sandstone streaks		silty
HUD21RC-02B	206.8	207.13	0.33	CO	Coal		
HUD21RC-02B	207.13	208	0.87	RK	Rock		no gamma

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