



ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TITLE OF REPORT: 2014 Assessment Report for the Dunlevy Coal Project

TOTAL COST: \$468,865.32

AUTHOR(S): T. Arthur Palm, P Eng and Ronald F. McIntyre, P Geo (Geology section)

SIGNATURE(S): 

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COMMODITIES SOUGHT: coal

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MINING DIVISION: Liard

NTS / BCGS: NTS Map 94B, BCGS 94B.018, 94B.019, 94B.028, 94B.029

LATITUDE: 56° 12' 19.3"

LONGITUDE: -122° 27' 47.3" (at centre of work)

UTM Zone: 10 **EASTING:** 533304.45 **NORTHING:** 6229065.89

OWNER(S): Dunlevy Energy Inc

MAILING ADDRESS: 1199 West Hastings Street - Suite 800 Vancouver, BC V6E 3T5

OPERATOR(S) [who paid for the work]: Dunlevy Energy Inc.

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REPORT KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude. Do not use abbreviations or codes)

Coal, Dunlevy, core, quality, thickness, overburden, stratigraphy, license, location, FSI, petrography, recovery, ash, moisture, vitrinite

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:
See Bibliography

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (in metric units)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)	n/a		
Ground, mapping	n/a		
Photo interpretation	n/a		
GEOPHYSICAL (line-kilometres)	n/a		
Ground	n/a		
Magnetic	n/a		
Electromagnetic	n/a		
Induced Polarization	n/a		
Radiometric	n/a		
Seismic	n/a		
Other	n/a		
Airborne	n/a		
GEOCHEMICAL (number of samples analysed for ...)	n/a		
Soil, Silt, Rock	5		See statement of costs
Other (coal)			
DRILLING (total metres, number of holes, size, storage location)			
Core	5 holes 347.17 m		See statement of costs
Non-core	8 holes 954.94 m		See statement of costs
RELATED TECHNICAL			
Sampling / Assaying	4 samples		See statement of costs
Petrographic	4 samples		See statement of costs
Mineralographic			
Metallurgic			
PROSPECTING (scale/area)	n/a		
PREPATORY / PHYSICAL			
Line/grid (km)	n/a		
Topo/Photogrammetric (scale, area)	n/a		
Legal Surveys (scale, area)	n/a		
Road, local access (km)/trail	n/a		
Trench (number/metres), Underground, Other	n/a		
		TOTAL COST	See statement of costs

All information on Coal Quality (all/part of pages 8-11), Coal Quality Reports (pages 84-97), and the Coal Petrographic Report (pages 98-102) 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/25>

[1 2004](#)

**2014 ASSESSMENT REPORT FOR THE DUNLEVY COAL PROJECT
LIARD MINING DIVISION
NTS MAP SHEET 94B**

Coal License Numbers: 418441, 41844

Latitude: 56.20 Longitude: 122.46

NOW 1640904-201301 Submitted March 3, 2013 Approved: May 21, 2014

Coal Licenses Owned By:

**Dunlevy Energy Inc
1199 West Hastings Street – Suite 800
Vancouver, BC V6E 3T5**

Exploration Program Operated By:

**Dunlevy Energy Inc
1199 West Hastings Street – Suite 800
Vancouver, BC V6E 3T5**

Work Conducted July/August 2014

Authors: T. Arthur Palm, P Eng and Ronald F. McIntyre, P. Geo

Responsible Qualified Person: T. Arthur Palm, P Eng

Date Submitted: December 18, 2014

TABLE OF CONTENTS

	<u>PAGE</u>
INTRODUCTION	1
PROJECT OBJECTIVES	1
COAL LICENSES	1
PROPERTY DESCRIPTION, PHYSIOGRAPHY, LOCATION AND ACCESS	2
GEOLOGIC BACKGROUND	4
PROPERTY HISTORY	4
SITE PREPARATION – PRE-DRILLING	5
2014 DRILLING PROGRAM COMPONENTS	5
DRILLING PROGRAM EXECUTION	5
GEOPHYSICAL	8
SURVEY CONTROL	8
COAL QUALITY	8
GEOLOGICAL INTERPRETATION	11
STATEMENT OF COSTS	16
ECONOMIC AND GENERAL ASSESSMENT	18
CONCLUSION	18
STATEMENT OF QUALIFICATIONS	19
BIBLIOGRAPHY	21
GEOLOGIST LOGS	22
GEOLOGIST LOGS – CORE RECOVERY	35
GEOPHYSICAL LOGS	38
COAL WASHABILITY AND QUALITY REPORTS	84
COAL PETROGRAPHY REPORTS	98

LIST OF FIGURES

	<u>PAGE</u>
FIGURE 1 – DUNLEVY LOCATION MAP	3
FIGURE 2 – DRILL HOLE LOCATION MAP	7
FIGURE 3 – REGIONAL STRATIGRAPHY	12
FIGURE 4 – STRATIGRAPHY CORRELATION CHART	15

LIST OF TABLES

	<u>PAGE</u>
TABLE 1 – DUNLEVY COAL LICENSES	1
TABLE 2 – DRILL HOLE DATA	6
TABLE 3 – CORE SAMPLE ID AND SHIPPING DATA	8
TABLE 4 – LAB PRE-TREATMENT SUMMARY	8
TABLE 5 – RAW COAL QUALITY	9
TABLE 6 – GRAVITY AND TESTING SUMMARY	10
TABLE 7 – CLEAN COAL QUALITY	10
TABLE 8 – PETROGRAPHY	11
TABLE 9 – COAL RANK INDICATORS	11
TABLE 10 – STATEMENT OF COSTS	17

INTRODUCTION

This report presents the results of exploration activities conducted during July and August 2014 on the Dunlevy Coal Project (“Dunlevy” or the “Property”) located in northeastern British Columbia. The work was conducted by Dunlevy Energy Inc. (“Dunlevy Energy” or the “Company”), a wholly owned subsidiary of Jameson Resources Limited (“Jameson”) and various consultants and contractors. Work was conducted on two coal licenses: 418441 and 418442, under Notice of Work 1640904-201301 and Mines Act Permit CX-9-060.

PROJECT OBJECTIVES

The subject property had never been explored for coal via drilling in the past. As such, the 2014 program was designed to determine the following parameters for a limited number of sites:

- The number of coal seams present
- Depth to and between each coal seam
- Thickness of each coal seam
- Geology and structure of the explored area
- Coal quality (where sampled)

A limited program of open rotary holes with selected coring was designed to allow the Company to determine the above parameters.

COAL LICENSES

Dunlevy Energy has a 100% interest in the two coal licenses shown in the table below:

NAME	LICENSE NO.	STATUS	AREA (Ha)	RENT
Dunlevy	418441	Granted	1,146	\$8,022
Dunlevy	418442	Granted	1,388	\$9,716
TOTAL			2,534	\$17,738

Table 1: Dunlevy Coal License Summary

PROPERTY DESCRIPTION, PHYSIOGRAPHY, LOCATION AND ACCESS¹

The Dunlevy site is located north of Williston Lake in the Peace River Coalfield. Some of Canada's major metallurgical coal mines are located along strike southeast of the Property.

Dunlevy is approximately 90 km from Fort St John, a regional and commercial center, and 45 km from Hudson's Hope, the nearest community. It is accessible from the town of Hudson's Hope via a combination of improved and un-improved roads. From Hudson's Hope head west towards the W.A.C Bennett Dam, and turn right onto 12 Mile Road. The Project area is approximately 45 km by road from Hudson's Hope.

Figure 1 is a location plan of the Dunlevy project.

Rail and support services are located to the south at the town of Chetwynd, a distance of approximately 64 km.

Dunlevy is located in the Rocky Mountain foothills, in an area of moderate topography with relief ranging from 800 m to 1820 m along ridges. Local streams drain into Dunlevy Creek which flows directly into Williston Lake, a large man-made reservoir formed by the 1967 completion of the W.A.C. Bennett Dam. Coal outcrop in the area is relatively sparse, being limited to the sides of valleys and ridges. Some coal occurrences have been exposed during road construction (by others, ie: oil and gas, timber companies).

Wildlife is plentiful in the area, including wolf, grizzly bear, black bear, moose, mule deer, white tail deer, caribou, stone sheep, lynx, bobcat, and several species of bird.

Summers are warm and relatively dry; winters are characterized by snow cover. Average annual precipitation total is 447 mm, of which 318 mm is rainfall and the balance snow.

Land use includes logging, oil and gas activity, guide outfitting and trapping.

Vegetation is dominated by balsam fir, lodgepole pine, spruce, aspen, and birch. Shrubs and grasses occur in lower elevation areas. The tree line is at approximately 1500 m asl. Approximately 20-30 percent of the area has been logged, primarily by Canfor.

Soils are generally characterized by thin organic and A horizon soils, overlying well developed B horizon soils that overlie weathered subcrop.

¹ Sourced from *Independent Geologist's Report on the Mineral Properties of Jameson Resources Limited*; Ryan, Barry; October 15, 2011 and *Dunlevy 2012 Coal Assessment Report*; MacDonald, Ken; February 22, 2013

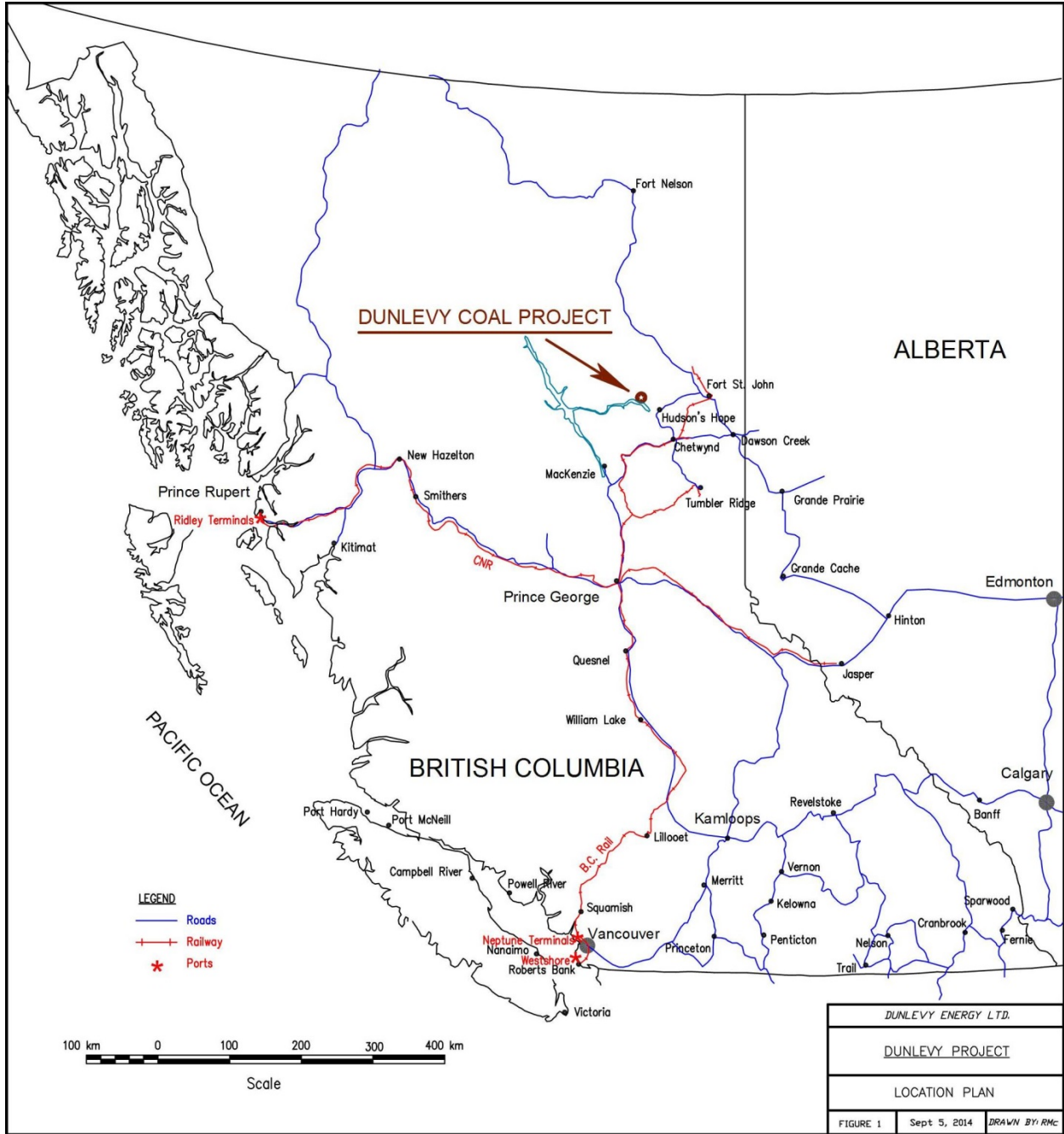


Figure 1: Dunlevy Location Map (Source: Ronald F. McIntyre, P Geo)

GEOLOGIC BACKGROUND²

The Canadian Rocky Mountains north of Peace River consist of two linear belts or sub-provinces: the Foothills structural sub-province and the Rocky Mountains structural sub-province. The Dunlevy Creek Property is located within the Rocky Mountain Foothills region of northeastern British Columbia where the Lower Cretaceous Gething Formation contains economic coal seams. Northwestern trending folds are prevalent throughout the region, as are southwesterly dipping thrust faults, which bring coal-bearing strata close to the surface in some areas.

Coal seams occur in the upper part and towards the base of the Gething Formation and also to a lesser extent in the underlying Cadomin Formation. Generally there are up to four better developed seams in the upper part of the Gething Formation (Superior, Trojan, Titan and Falls) and the Murray Seam near the base of the formation.

The potential for coal in the Dunlevy Creek area is contained within the Dunlevy Creek Syncline, which is a broad, open fold, bounded by tighter anticline folds to the southwest and northeast. The Dunlevy Creek Syncline plunges gently to the southeast at about 4 degrees.

The area is largely wooded, with access roads limited mainly to those constructed for timbering and oil and gas exploration/development purposes. The Dunlevy Creek drainage bisects the property and runs south into Williston Lake.

The Dunlevy coal licenses, 418441 and 418442 comprise 1146 and 1388 hectares respectively, and are in good standing. The next anniversary date of the licenses is January 7, 2015. Dunlevy Energy owns a 100% interest in the Project.

PROPERTY HISTORY

There has been no known historical exploration drilling on the subject Property. Amax Coal Company³, Utah Mines Ltd⁴, Hudson's Bay Oil & Gas Ltd⁵, and Cyprus Anvil Mining Corp⁶ all conducted exploration to the east and/or south of Dunlevy.

There are current and historical producing mines in the Peace River coalfield; none are/were located on the subject Property.

In 2009 Dunlevy Energy conducted a limited field reconnaissance program associated with the roadways across the Property followed in 2012 by a field mapping program. This work was limited to field observation, mapping, and hand trenching, and served to guide selection of exploration sites for the 2014 program.

² IBID

³ *Farrell Property, Peace River Project, Annual Report 1971-1972* for Amax Coal Company; Hughes, J.E.; Oct 21, 1972

⁴ *Dunlevy Project, Report of Field Activities, 1973 Field Season* for Utah Mines; Fullerton, D.S. and le Nobel, D.N.; December 15, 1973

⁵ *Drill Report on the Williston Project, Licenses 6793-6862* for Hudson's Bay Oil & Gas Company Ltd and Cyprus Anvil Mining Corp; Ronayne, E; December 3, 1981

⁶ IBID

A more detailed discussion of nearby historical exploration and the 2009 and 2012 programs is contained in the 2012 Dunlevy Coal Assessment Report⁷.

SITE PREPARATION PRE-DRILLING

Several procedures were required prior to the commencement of exploration.

To prevent fording of water courses, two temporary bridges were installed across tributaries to Dunlevy Creek.

A Dunlevy Project Wildlife Mitigation Plan and a separate Caribou Mitigation and Monitoring Plan were implemented prior to and during the exploration process.

An Archaeological Overview Assessment was conducted prior to any disturbance, and all exploration sites were cleared.

2014 DRILLING PROGRAM COMPONENTS

The 2014 drilling program was designed with 2 primary components:

- Open hole drilling accompanied by geophysical logging, and
- Core drilling

The open hole drilling with geophysical logging was utilized as a means to quickly and economically determine the parameters of interest (number of seams, depth to and between seams, seam thickness).

Core drilling was performed selectively, where the site geologist determined a representative sample could be acquired for laboratory analysis to determine coal washability and quality parameters.

DRILLING PROGRAM EXECUTION

Drilling was contracted by Dunlevy Energy to RC Drilling Ltd of Tumbler Ridge, BC.

RC Drilling mobilized a custom-built track-mounted down-hole hammer percussion style drill rig to site. This is a compact, mobile rig with a small relative footprint, requiring very little disturbance for pad preparation, and capable of operating on relatively narrow roadways.

The rig drilled with an Odex casing system (14 cm casing) and drilled 11.4 cm open holes after casing was installed. Casing was only installed where required through initial unconsolidated overburden or weathered bedrock.

Geophysical logging was contracted to Century Wireline Services. Ronald McIntyre, P. Geo, served as the site geologist for the duration of the project.

⁷ *Dunlevy 2012 Coal Assessment Report*; MacDonald, Ken; February 22, 2013

Drilling was scheduled for one 10-hour shift per day. Equipment included the aforementioned drill rig, a track-mounted hoe and dozer as required, support equipment, and pickup trucks.

Drill holes were numbered in the order they were collared. Each hole was assigned a unique identifier in the form “project” – “year” - “hole number”. If a hole was cored, the letter “C” was added to the end, to differentiate it from an open hole. For example, the third Dunlevy hole drilled in 2014 was hole D-14-3C.

A total of eight (8) open holes were completed during the program. Depths ranged from 39.6 m to 175.9 m. All holes intersected coal except D-14-12 which encountered groundwater and had to be prematurely terminated and plugged.

The project geologist selected five (5) locations to be cored for acquiring coal samples for laboratory analysis. Recovery was poor in hole D-4-3C and the small amount of core produced was not adequate for processing. All coring was performed with a standard HQ3 diamond-impregnated tungsten carbide bit, resulting in a 61.1 mm diameter core. Only selected coal-bearing intervals were targeted for coring. Core not shipped to the lab for analysis, consisting of rock above and below coal seams, is stored in wooden boxes on-site at coordinates 532444E 6228390N.

Table 2 contains key data regarding each hole drilled during the 2014 program.

Hole ID	Easting	Northing	Elevation	Dip	Azimuth	License	Type	Coal Zone Combined Net Thickness (m)	Core Diam	Geophysical Tools	Total Depth (m)	Year Drilled
D-14-1	533304.45	6229065.89	1147.56	Vertical	n/a	418442	Open Hole	4.97	n/a	CDRGNV	139.30	2014
D-14-2	534459.75	6229591.89	1109.68	Vertical	n/a	418442	Open Hole	5.20	n/a	CDRGNV	121.01	2014
D-14-3C	534513.90	6229627.66	1107.94	Vertical	n/a	418441	Core	2.65	HQ3 - 61.1mm	CDRGNV	61.11	2014
D-14-4	533759.77	6229234.39	1121.79	Vertical	n/a	418442	Open Hole	5.61	n/a	CDRGNV	141.83	2014
D-14-5	534665.40	6230424.61	1097.23	Vertical	n/a	418442	Open Hole	3.73	n/a	CDRGNV	96.57	2014
D-14-6	535085.88	6230164.68	1061.96	Vertical	n/a	418442	Open Hole	3.85	n/a	CDRGNV	96.65	2014
D-14-7C	534497.18	6229617.95	1108.74	Vertical	n/a	418442	Core	1.16	HQ3 - 61.1mm	CDRGNV	19.0	2014
D-14-8C	534498.61	6229618.85	1108.70	Vertical	n/a	418442	Core	1.16	HQ3 - 61.1mm	CDRGNV	22.33	2014
D-14-9C	533310.43	6229066.79	1147.18	Vertical	n/a	418442	Core	4.24	HQ3 - 61.1mm	CDRGNV	85.53	2014
D-14-10	532669.01	6228916.09	1174.66	Vertical	n/a	418442	Open Hole	3.39	n/a	CDRGNV	175.90	2014
D-14-11	533824.72	6228182.63	1159.37	Vertical	n/a	418442	Open Hole	2.98	n/a	CDRGNV	144.08	2014
D-14-12	532404.48	6228300.44	1170.91	Vertical	n/a	418442	Open Hole	0	n/a	CDRGNV	39.6	2014
D-14-13C	532664.45	6228912.05	1174.79	Vertical	n/a	418442	Core	3.61	HQ3 - 61.1mm	CDRGNV	159.20	2014
Survey Datum is NAD 83, UTM Zone 10										Geophysical Tools Legend:		
										C	Caliper	
										D	Density	
										R	Resistivity	
										G	Gamma	
										N	Neutron	
										V	Deviation	
										T	Temperature	

Table 2: Drill Hole Data

Figure 2 on the next page displays the outline of the Dunlevy Coal Licenses and the location of the exploration activity.

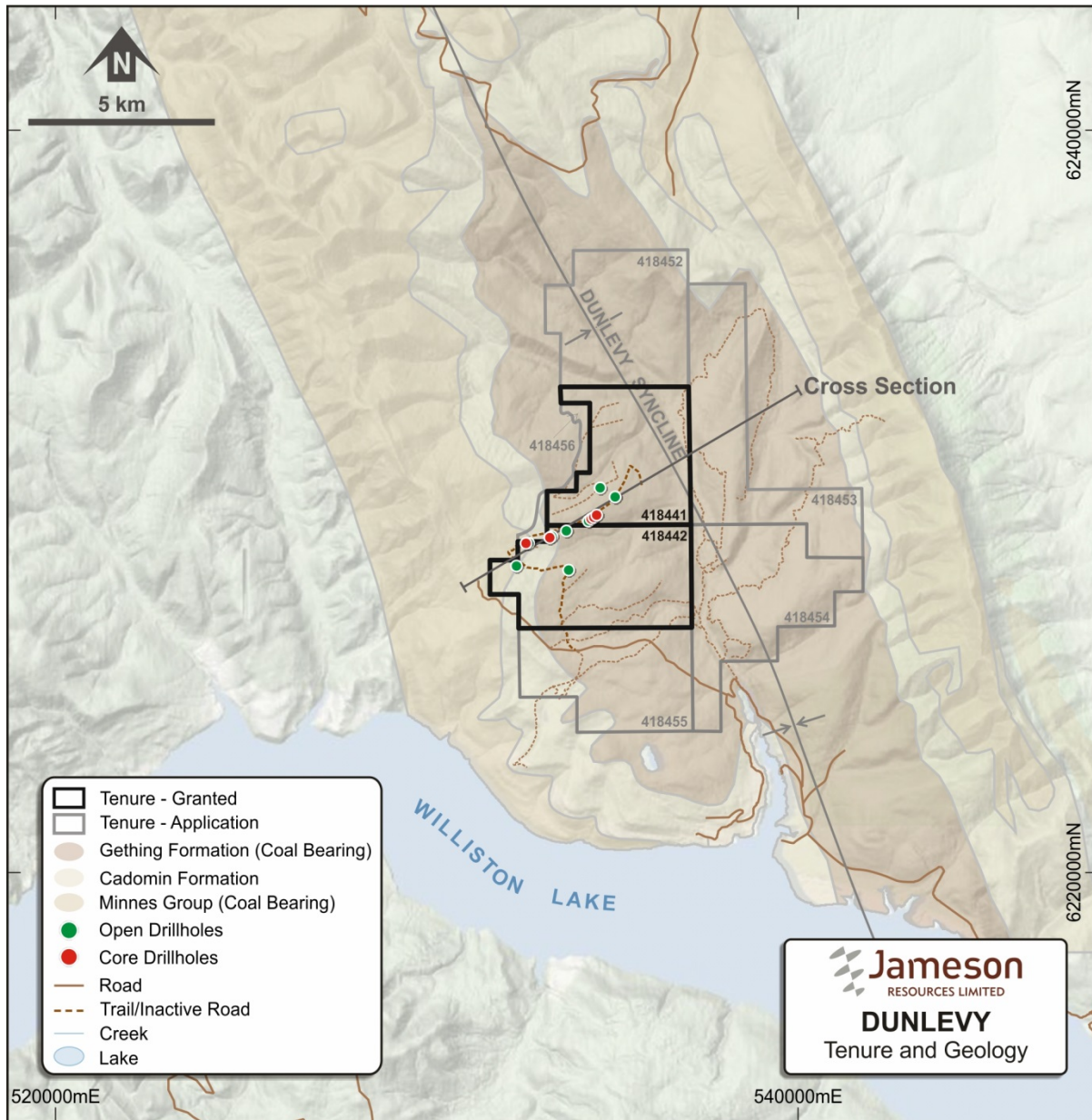


Figure 2: Dunlevy Coal Licenses and 2014 Drill Hole Locations

Chain of custody was ensured for the coal core from point of extraction to the shipper and ultimately to the lab. Recovered coal core was transported to Birtley Coal and Minerals Lab in Calgary, AB. Birtley reported all core was received in excellent condition. Table 3 summarizes key core sampling/shipping data.

Drillhole ID	Ply IDs	Comp ID	Seam ID	Drilling Date	Sampling Date	Site Shipment Date	Lab Received Date
D-14-7C	9802	9802	B1	29-Jul-14	29-Jul-14	30-Jul-14	01-Aug-14
D-14-8C	9810, 9811	9810	B1	29-Jul-14	02-Aug-14	05-Aug-14	07-Aug-14
D-14-9C	9804, 9805	9804	F4	30-Jul-14	01-Aug-14	05-Aug-14	07-Aug-14
D-14-9C	9807	9807	G5	30-Jul-14	02-Aug-14	05-Aug-14	07-Aug-14
D-14-13C	9814, 9815	9814	J4	10-Aug-14	10-Aug-14	11-Aug-14	13-Aug-14

Table 3: Core Sample ID and Shipping/Receipt Information

GEOPHYSICAL

All open holes with the exception of D-14-12 (lost due to groundwater) were geophysically logged. Core holes were also logged except for D-14-7C (lost core barrel in hole...not recovered).

The tools used for this process were:

- Caliper
- Density
- Resistivity
- Gamma
- Neutron
- Deviation

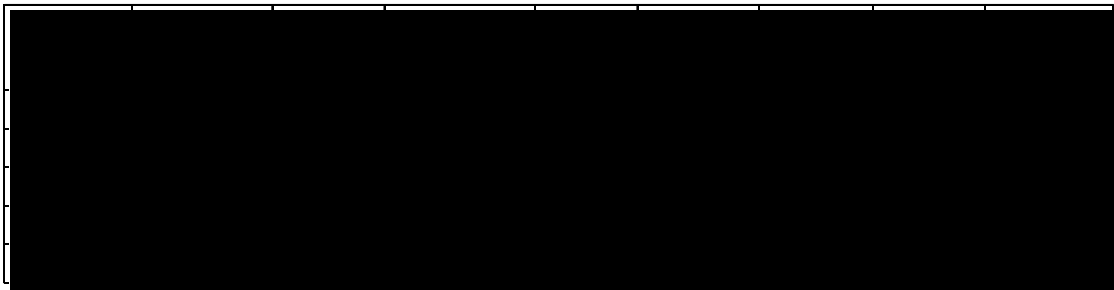
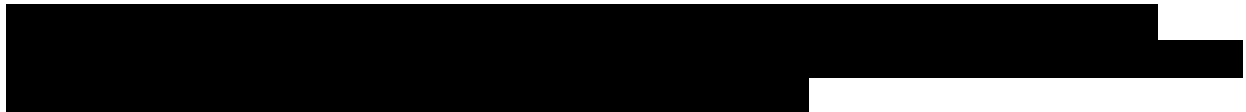
Based on the geophysical results, the project geologist selected coal intervals for coring.

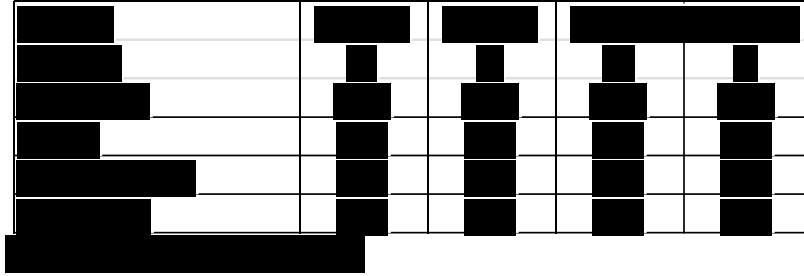
All geophysical logs are provided as part of this Coal Assessment Report.

SURVEY CONTROL

All collars were surveyed initially by a field hand-held GPS unit, and then by a registered professional surveyor. The surveyed coordinates are included in Table 2.

COAL QUALITY





GEOLOGICAL INTERPRETATION⁸

Regional Setting: The property sits within the eastern foothills belt of the Rocky Mountains, and forms part of the Peace River coalfield. Rocks in the region range from Upper Paleozoic through Upper Mesozoic in age. To the west, marine carbonates and clastics of Mississippian through Permian age are found, often overlain by a thick (to 1600m) series of Triassic shales, sandstones, dolomites and limestones. These rocks form the core of the Rocky Mountain thrust belt and are often intensely folded and overthrust. Limestones and fine clastics of the Triassic Pardonet, Baldonnel, Charlie Lake and Liard Formations are exposed ~6km west of the property on the southwest flank Twentymile Ridge at Williston Lake, where they are separated from younger rocks by thrust faulting that follows the Aylard Creek valley.

These rocks are overlain by clastic marine and fresh-water sediments ranging in age from Mid-Jurassic to Upper Cretaceous in age, including the coal bearing Gething and Gates Formations. Structural deformation declines markedly across this area, including the Dunlevy property, fading into the undisturbed flat-lying sediments that prevail east of Bullhead Mountain and Butler Ridge (see Regional Stratigraphy, Figure 3, below).

⁸ This section authored by Ronald F. McIntyre, P. Geo

SERIES	GROUP	FORMATION	THICK (m)	LITHOLOGY	
CRETACEOUS	Lower	Fort St John	Gates Fm	130	Sst, cglm, coal, siltstone, claystone.
			Moosebar Fm	130	Dark marine shale, sideritic concretions.
	Bullhead	Gething Fm	+450	Fine clastics, coal, med-fine sandstones.	
		Cadomin Fm	0-200	Massive cglm and salt&pepper sst.	
		Bickford Fm	0-50	Silty shale, sst, minor coal.	
JURASSIC	Upper	Minnes	Monach Fm	100	Argillaceous & quartz sandstones.
			Beatty Peaks Fm	100	Interbedded fg sst and silty shale.
			Monteith Fm	500	Fine to coarse quartz sandstone.
	Lower	Fernie		100	Shale, calcareous & phosphatic, sst, silt.
TRIASSIC	Upper		Pardonet Fm	50	Carbonaceous limestone, lmy shales.
			Baldonnel Fm	150	Limestone, sandstone, shale.
	Charlie Lake Fm		200	Dolomite, dolomitic sandstone.	
	Low-Mid		Liard Fm	450	Calcareous sst, minor limestone, silt.

Figure 3: Regional Stratigraphy

Local Geology: The Dunlevy property is underlain by Middle Jurassic to Lower Cretaceous rocks of the Fernie, Minnes and Bullhead Groups. The Fernie group shales and limestones represent a major marine transgression in the middle Jurassic. They are seldom exposed in the area and do not appear on the Dunlevy Property.

The Minnes Group straddles the Jurassic-Cretaceous boundary and in the Peace River district is subdivided into four formations, forming an up-to-2000m thick alternating sequence of thick bedded fluvial sandstones and fine, often marine clastics representing near-shore and deltaic depositional conditions. These are expressed topographically in the series of resistant sandstone ledges separated by recessive intervals that are prominent on the slopes above Williston Lake west of Dunlevy Inlet. Minor

coals occur in the upper strata of the Minnes Group. An unconformity separates the Minnes from the overlying continental Bullhead Group, which is made up of two formations: the regionally prominent Cadomin sandstones and conglomerates, and the coal-bearing Gething sandstones, siltstones and shales.

The fluvial Cadomin Formation forms a distinct stratigraphic marker ~200m thick in this region, and persists throughout the southern Rocky Mountains. It typically forms resistant ridges of massive chert & quartzite pebble/cobble conglomerate and well-sorted, salt-and pepper sandstone, and reflects the first phase of the Columbian orogeny in this part of western North America. The overlying Gething Formation is typically made up of up to 600-1000m of poorly-sorted sandstones, sometimes glauconitic, interspersed with coal bearing cyclothem. A distinctive Gething cap unit variously termed the Bluesky member or Moosebar conglomerate consists of 1-17 meters of glauconitic pebbly mudstone and/or conglomerate, as reported by Legun⁹ east of Butler Ridge.

Most of the Dunlevy property and the adjacent Dunlevy Creek valley is underlain by Gething sediments; they form a broad, gentle syncline separating the deformed rocks of Twentymile Ridge to the west from the steep-sided anticline of Butler Ridge to the east.

The Gething is overlain by soft, dark grey, concretionary marine shales of the Moosebar Formation, the lowest member of the mid-Cretaceous Fort St John Group. This formation is present east of Butler Ridge but appears to have been completely eroded away from the Dunlevy property.

Property Geology: The Dunlevy property is heavily forested with rather gentle topography consistent with its low elevation. It is mantled by overburden to tens of meters thick, outcrop is rare. Neither coals nor resistant sandstone beds can be mapped over useful distances from surface indications; geological investigation must rely on exposures of bedrock present in some road cuts, and on drilling. Unfortunately, the normal Lower Cretaceous sedimentary sequence described above and in many references does not prevail on the Dunlevy property and this has caused confusion in earlier investigation of the Dunlevy area. Mapping and drilling efforts were hampered by the lack of unambiguous stratigraphic markers both in outcrop and in drill logs. This led to holes being collared in the wrong locations and missing target strata, and to achieving only approximate correlations between drillholes.

The pre-Bullhead land surface was irregular here (Ferri)¹⁰ and it is uncertain whether the upper (Bickford) Fm of the Minnes Group is present at all. The Minnes/Bullhead unconformity is not readily apparent in outcrop.

The Cadomin Fm is thin here and may be absent under much of the southern Dunlevy valley. This may be due to lateral gradation of the typical conglomeratic facies into sandstones indistinguishable from those of the Gething. But its thinness suggests that another factor is at work, perhaps simply the local paleo-topography of the Minnes/Bullhead unconformity. The variable and discontinuous character of the Cadomin has been noted by others working in the Cretaceous north of the Peace River (J. DeGrace, pers com).

⁹ *Notes to Accompany Preliminary Map No. 57, Butler Ridge Map Area, Peace River District 94B/1* for BC Ministry of Energy, Mines and Petroleum Resources; Legun, A.; January 1985

¹⁰ *Geology of the Jones Peak Area NTS 94B/02 and 07, Halfway River Map Sheet 94B* for BC Ministry of Energy, Mines and Petroleum Resources Geoscience Reports 2009; Ferri, Filippo; 2009

On the Dunlevy property it appears to be best represented by rusty-weathering conglomeratic sandstone exposed beside the 12 Mile Road at the southeast corner of the Dunlevy property, which correlates fairly well to a prominent sandstone (or conglomerate) seen on the geophysical logs of the bottom of hole D-14-10. The Cadomin thickness wasn't tested in 2014 but its position relative to the Monach Fm logged at the collar of natural gas well Quasar et Al Dunlevy A-40-L leaves room for some tens of meters, though not the 100-200m thickness found elsewhere.

The Gething Fm is also atypical, sandstones are in the minority and the finer sequences do not exhibit the definitive rhythmic lithological alternation of cyclothems. The thickness and character seen in the 2014 drilling most closely resembles that reported by Hughes¹¹, though his Dresser Fm (Cadomin) is now interpreted to belong to the Monach and Bickford Formations of the upper Minnes Group. In fact the entire early Cretaceous consists of an alternating series of moderately thin and discontinuous units of sandstone separated by finer, carbonaceous clastics, with a character and appearance that does not change sharply through the sequence. No Bluesky cap unit has been located, though the upper portions of the Dunlevy strata include pebbly sandstones.

In outcrop and drillhole logs the separation of the Minnes, Cadomin and Gething strata has proved elusive. All consist of alternating sandstones and fine clastics and all have been found to contain thin coals. Investigators have mapped the formation boundaries at different stratigraphic levels, and without authoritative local chronological evidence some uncertainty is liable to remain.

Gething Stratigraphy: The 2014 drilling program was designed to document a complete stratigraphic section of the Gething Fm present on the Dunlevy property. This was facilitated by the orientation of the forestry road that provides access here. The road follows a ridge roughly perpendicular to bedding from near the Cadomin/Gething contact, up-section to an ~20m thick light-coloured, clean pebbly sandstone that forms a prominent cap on the northeast end of the ridge, the highest point in the local strata. This section resembles the "Ruddy Member" of Hughes, which he believed formed the uppermost 30m of the Gething.

All but three of the 2014 drill holes were collared along this stretch of road, where enough bedrock was exposed to ensure overlap of the strata in adjacent drillholes. Results of this work are presented in the Stratigraphy Correlation Chart, Figure 4.

The Gething consists primarily of coal-bearing silty rocks ranging from silty claystone to silty sandstone, separated by beds of fine to medium grained sandstone of varied thickness. In the current interpretation the Gething section drilled in 2014 has been divided into 10 sedimentary Series, which are named A through J Series from the top of the formation downward. Each series is capped by a sandstone bed from 1-10m thick. Most series contain 2-4 carbonaceous horizons that are correlatable between adjacent holes, but the complex G Series hosts at least 9 different carbonaceous horizons. Carbonaceous zones are numbered in descending order from the top of each series.

¹¹ *Farrell Property, Peace River Project, Annual Report 1971-1972 for Amax Coal Company; Hughes, J.E.; Oct 21, 1972*

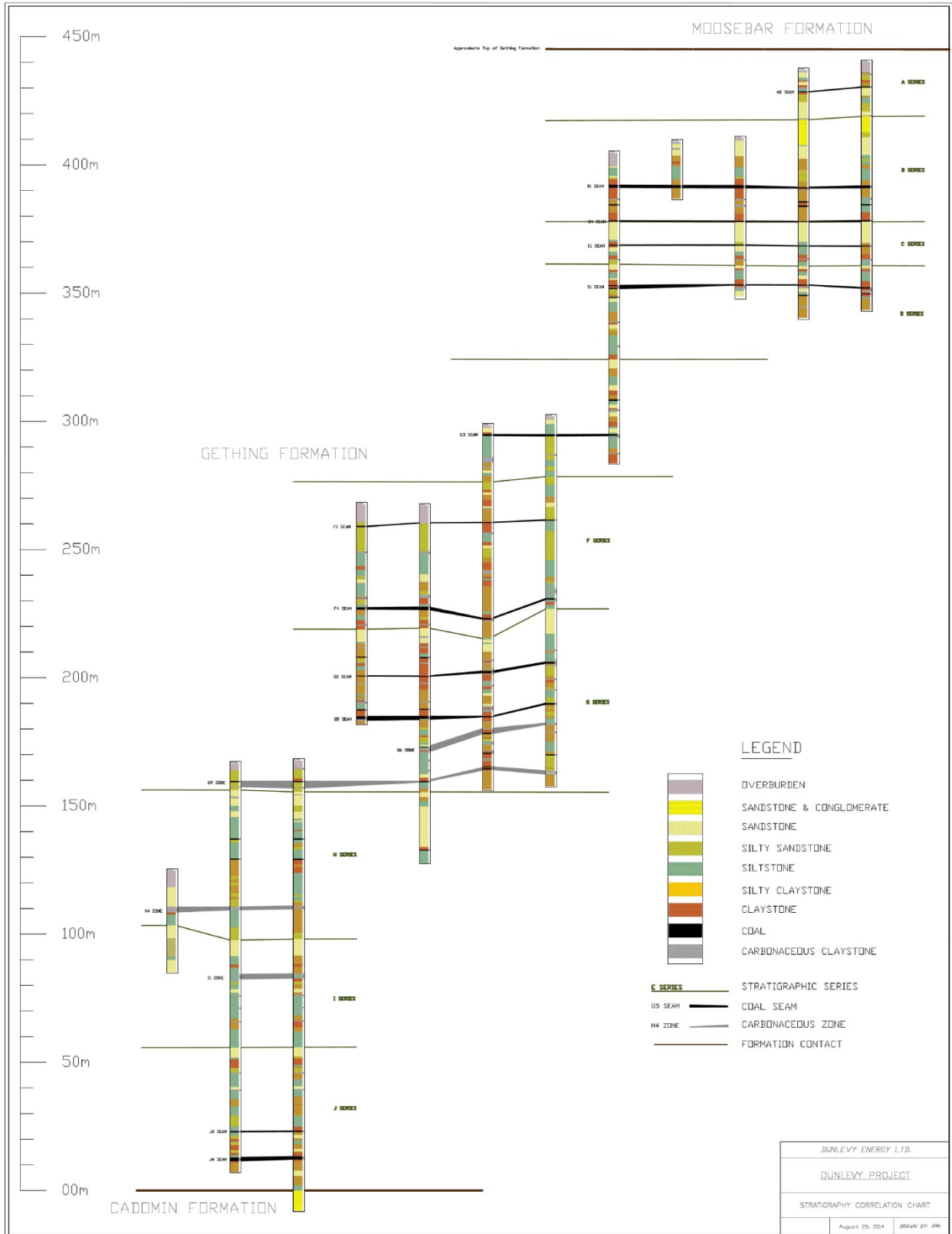


Figure 4: Stratigraphy Correlation Chart

Other carbonaceous zones were seen in individual drillholes; future work may show some of these to be laterally persistent and the numbering system will have to be modified to reflect this.

Many carbonaceous zones are coal seams; the thickness of individual seams varies from 0.34 to 1.52m and many carbonaceous horizons contain several coal and/or carbonaceous claystone plies separated by rock partings. Though only a few drill holes have been completed to date it is apparent that there is significant variation in the thickness and character of most coal seams and carbonaceous zones over relatively short distances. Overall, the Gething Formation on the Dunlevy property has a complex stratigraphy.

Structure: The Dunlevy property is situated on the west limb of the Dunlevy syncline, a broad, gentle fold that follows the Dunlevy Creek valley to the northwest. In outcrop bedding strike varies from 130-210°T but larger scale bedding determined from drillhole intersections is very regular, striking 158-162°T. Dips found in drilling averaged 7°NE but decrease from 13-14°NE west of drillhole D-14-10 to about 4.5°NE at drillhole D-14-6. They are projected to further decrease to ~3°NE near Dunlevy Creek, as the bottom of the syncline is approached.

So far, evidence of faulting has been virtually absent on the property, and outcrops show only minor local variations in bedding of a scale expected in any geological setting. This would support a geological complexity of Moderate under the standards of GSC Paper 88-21¹²

STATEMENT OF COSTS

The 2014 exploration program involved a total expenditure of \$468,865.32 as detailed in Table 10 (note the active Excel file has been filed with MTO as part of the Coal Assessment Report: full detail on days worked and hourly rates are included in that file).

¹² *A Standardized Coal Resource/Reserve Reporting System for Canada* Geological Survey of Canada Paper 88-21, Hughes, J. D. et al, 1989

Exploration Work type	Comment	Days		Totals
Personnel (Name) * / Position	Field Days (list actual days)	Days	Rate	Subtotal*
Inmar Geospatial Services	see next tab		\$0.00	\$2,800.50
EDI Environmental Dynamics	see next tab		\$0.00	\$42,188.75
McIntyre Associates	Drilling program		\$0.00	\$39,200.00
SBS Forestry	see next tab		\$0.00	\$210.00
JE Beswick	Land Access		\$0.00	\$40,776.49
Golder & associates	AOA of coal tenure areas			\$19,421.73
Trillium Geoscience				\$7,250.00
			\$0.00	\$0.00
				\$151,847.47
Office Studies	List Personnel (note - Office only, do not include field days)			
Literature search			\$0.00	\$0.00
Database compilation			\$0.00	\$0.00
Computer modelling			\$0.00	\$0.00
Reprocessing of data			\$0.00	\$0.00
General research			\$0.00	\$0.00
Report preparation			\$0.00	\$0.00
Other (specify)	David Fawcett			\$18,222.89
				\$18,222.89
Airborne Exploration Surveys	Line Kilometres / Enter total invoiced amount			
Aeromagnetics			\$0.00	\$0.00
Radiometrics			\$0.00	\$0.00
Electromagnetics			\$0.00	\$0.00
Gravity			\$0.00	\$0.00
Digital terrain modelling			\$0.00	\$0.00
Logging	Logging services for Downhole Survey			\$23,850.00
OLTC	see next tab			\$ 210.00
Land Survey	Vctor		\$0.00	\$1,989.26
				\$26,049.26
Remote Sensing	Area in Hectares / Enter total invoiced amount or list personnel			
Aerial photography			\$0.00	\$0.00
LANDSAT			\$0.00	\$0.00
Other (specify)			\$0.00	\$0.00
				\$0.00
Ground Exploration Surveys	Area in Hectares/List Personnel			
Geological mapping				
Regional				
Reconnaissance				
Prospect				
Underground	Define by length and width			
Trenches	Define by length and width		\$0.00	\$0.00
				\$0.00
Ground geophysics	Line Kilometres / Enter total amount invoiced list personnel			
Radiometrics				
Magnetics				
Gravity				
Digital terrain modelling				
Electromagnetics				
SP/AP/EP				
IP				
AMT/CSAMT				
Resistivity				
Complex resistivity				
Seismic reflection				
Seismic refraction				
Well logging	Define by total length			
Geophysical interpretation				
Petrophysics				
Other (specify)				
				\$0.00
Geochemical Surveying	Number of Samples	No.	Rate	Subtotal
Drill (cuttings, core, etc.)			\$0.00	\$0.00
Stream sediment			\$0.00	\$0.00
Soil			\$0.00	\$0.00
Rock	Coal Quality testing		\$0.00	\$13,730.75
Water			\$0.00	\$0.00
Biogeochemistry			\$0.00	\$0.00
Whole rock			\$0.00	\$0.00
Petrology			\$0.00	\$0.00
Other (specify)			\$0.00	\$0.00
				\$13,730.75
Drilling	No. of Holes, Size of Core and Metres	No.	Rate	Subtotal
Diamond			\$0.00	\$145,119.59
Reverse circulation (RC)			\$0.00	\$0.00
Rotary air blast (RAB)			\$0.00	\$0.00
Other (specify)			\$0.00	\$0.00
				\$145,119.59
Other Operations	Clarify	No.	Rate	Subtotal
Trenching			\$0.00	\$0.00
Bulk sampling			\$0.00	\$0.00
Underground development			\$0.00	\$0.00
Site Preparation			\$0.00	\$82,517.97
				\$82,517.97
Reclamation	Clarify	No.	Rate	Subtotal
After drilling			\$0.00	\$0.00
Monitoring			\$0.00	\$0.00
Other (specify)			\$0.00	\$0.00
				\$0.00
Transportation		No.	Rate	Subtotal
Field supplies	JE Beswick			\$ 1,358.84
Airfare	Coal works, JE Beswick, McIntyre		\$0.00	\$2,816.13
Taxi			\$0.00	\$0.00
truck rental	JE Beswick, McIntyre		\$0.00	\$6,743.79
kilometers			\$0.00	\$0.00
ATV			\$0.00	\$0.00
fuel	McIntyre - see next tab		\$0.00	\$984.66
Helicopter (hours)			\$0.00	\$0.00
Fuel (litres/hour)	JE Beswick		\$0.00	\$1,916.84
Other vehicle expenses	Coal works, JE Beswick			\$1,141.82
				\$14,962.08
Accommodation & Food	Rates per day			
Hotel/meals	n/a		\$0.00	\$14,751.65
Camp			\$0.00	\$0.00
Meals	day rate or actual costs-specify		\$0.00	\$0.00
				\$14,751.65
Miscellaneous				
Air photos	McIntyre - see next tab			\$87.26
Telephone			\$0.00	\$0.00
Misc Field supplies	McIntyre - see next tab			\$868.71
Other (Specify)				
				\$1,455.97
Equipment Rentals				
Field Gear (Specify)			\$0.00	\$0.00
Other (Specify)				
				\$0.00
Freight, rock samples				
Freight, rock samples	JE Beswick		\$0.00	\$207.69
			\$0.00	\$0.00
				\$207.69
				\$207.69
TOTAL Expenditures				\$468,865.32

Table 10: Statement of Costs

ECONOMIC AND GENERAL ASSESSMENT

Adequate information does not exist to perform any formal economic assessment on the Dunlevy project. Indeed, due to the limited extent of exploration conducted to-date (the 2014 drilling program) Dunlevy Energy has elected at this time not to conduct any form of compliant resource estimate, although Dunlevy Energy may conduct such a study in the future, based on existing and/or future data.

What can be concluded about Dunlevy with respect to its potential economic value is:

- Multiple coal seams exist and are shown to be continuous across the explored area.
- Coal seams outcrop in various portions of the property, suggesting the potential for open pit mining.
- In areas where the seams are deeper, the potential may exist for underground mining.
- At this point in time, it appears underground mining may be more predominant than open pit mining, but this is a general observation yet to be substantiated by modeling.
- Quality testing to-date suggests the Dunlevy product will be a combination of metallurgical and thermal coal which may include a very low ash component.
- Washability testing suggests the Dunlevy coal would have a relatively high wash plant yield.

Dunlevy Energy plans to continue to hold and evaluate the Dunlevy property, as it displays many favorable characteristics common to producing mines in the region.

CONCLUSION

In July and August of 2014 Dunlevy Energy Inc conducted the first drilling campaign ever performed on the Dunlevy property. The intention of that program was to determine if the property held potential as a future coal producer.

Based upon the results obtained in 2014 the Company believes the Dunlevy project does show significant potential. In the months ahead Dunlevy Energy will continue to evaluate what further actions it will take with respect to the project.

STATEMENT OF QUALIFICATIONS – RESPONSIBLE QUALIFIED PERSON AND PRIMARY AUTHOR

I, T. Arthur Palm, P.Eng., do hereby certify that:

1. I am a Mining Engineer and have been employed by the parent company of Dunlevy Energy Inc, Jameson Resources Ltd, West Perth, Western Australia since August 2009.
2. I received a B.S. Mining Engineering from the Colorado School of Mines in 1976, and a Master of Business Administration from the University of Wyoming in 1983.
3. I have worked as a Mining Engineer since 1976.
4. I am a registered Professional Engineer in British Columbia, Canada and the United States of America (AL,AR,AZ,CA,CO,GA,ID,IL,KY,MD,OH,PA,NM,NV,UT,VA,WA,WV,WY).
5. I was directly involved with the 2014 exploration drilling program on the Dunlevy Coal Project.
6. I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a “qualified person” for the purposes of NI 43-101.
7. I satisfy the requirements of a Competent Person as defined under the JORC Code, International Reciprocity of Competent Persons, as I am a member of APEGBC, which is listed by JORC as current ROPO/RPO’s. As required by JORC, I satisfy the other code requirements of a Competent Person.

Dated at Vancouver, Canada this day of December 18, 2014.



T. Arthur Palm, P.Eng.

STATEMENT OF QUALIFICATIONS – RESPONSIBLE QUALIFIED PERSON AND PRIMARY AUTHOR

I, Ronald F. McIntyre, P. Geo do hereby certify that:

1. I am an independent consulting geologist residing at #312-7139 18th Avenue, Burnaby, British Columbia, Canada.
2. I graduated from the University of British Columbia with a Bachelor of Science Degree in Geology in 1977.
3. I have practiced my profession as a geologist for 37 years since graduation.
4. I am a Professional Geoscientist, a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia, License #22670.
5. I fulfil the requirements to be a “Qualified Person” for the purposes on NI 43-101.
6. I conducted the exploration work described in this report, during July and August of 2014.
7. I prepared the Geology section of the 2014 Coal Assessment Report for the Dunlevy Coal Project and certain included figures.
8. I have no interest, nor an expectation of any interest in the Dunlevy property, in Dunlevy Energy Inc. or in Jameson Resources Ltd. I am independent of these companies under the tests of NI 43-101.
9. My sole remuneration is the professional fees charged for the work described in this report.

Dated at Burnaby, Canada this day of December 17, 2014.

A handwritten signature in black ink, appearing to read 'R. McIntyre', written over a horizontal line.

Ronald F. McIntyre, P. Geo

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Dunlevy 2012 Coal Assessment Report; MacDonald, Ken; February 22, 2013

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Dunlevy Project, Report of Field Activities, 1973 Field Season for Utah Mines; Fullerton, D.S. and le Nobel, D.N.; December 15, 1973

Drill Report on the Williston Project, Licenses 6793-6862 for Hudson's Bay Oil & Gas Company Ltd and Cyprus Anvil Mining Corp; Ronayne, E; December 3, 1981

Notes to Accompany Preliminary Map No. 57, Butler Ridge Map Area, Peace River District 94B/1 for BC Ministry of Energy, Mines and Petroleum Resources; Legun, A.; January 1985

Geology of the Jones Peak Area NTS 94B/02 and 07, Halfway River Map Sheet 94B for BC Ministry of Energy, Mines and Petroleum Resources Geoscience Reports 2009; Ferri, Filippo; 2009

A Standardized Coal Resource/Reserve Reporting System for Canada Geological Survey of Canada Paper 88-21, Hughes, J. D. et al, 1989

GEOLOGIST LOGS

<u>Lithology Key</u>		
Lithology		Abbrevia
Overburden		Ovb
Core Loss		Loss
Gouge		Gouge
Breccia		Brx
Sandstone		Sst
Sandstone-Siltstone		Slt-sst
Siltstone		Slt
Siltstone-Claystone		Slt-cly
Claystone		Cly
Carbonaceous Claystone		Cc
Coal		Coal
Coal - Bony		Cbn
Coal - Stoney		Cst
Coal - Dull		Cd
Coal - Dull-Banded		Cdb
Coal - Dull-And-Bright		Cdab
Coal - Bright Banded		Cbb
Coal - Bright		Cbr

Hole ID:	D-14-1			Type of Drill:	Air Rotary	Core Size:	N/A			Cbn		
Date Started:	July 21/14			Date Finished:	July 23/14					Cst		
Datum:	NAD 83, Zone 10			Easting		Northing		Elevation (m)		Ovb	Slt-sst	Cd
UTM Grid Location:	533304.45 6229065.89 1147.56			Survey:	RTK-GPS					Loss	Slt	Cdb
Azimuth:	000°			Dip:	-90°			Logged By:	Century	Gouge	Slt-cly	Cdab
Total Depth: (m)	139.30			Depth Datum:	0.00m = Ground Level			Date Logged:	July 23/14	Brx	Cly	Cbb
										Sst	Cc	Cbr
From (m)	To (m)	Interval (m)	Litho	Formation	Seam ID	Description						
0.00	7.00	7.00	Ovb			Cased to 80 ft						
7.00	17.80	10.80	Sst-slt	Gething		In casing						
17.80	18.30	0.50	Cc	Gething	F2	In casing						
18.30	18.50	0.20	Slt	Gething	F2	In casing						
18.50	19.00	0.50	Cc	Gething	F2	In casing						
19.00	26.70	7.70	Slt	Gething		In casing						
26.70	29.60	2.90	Sst	Gething								
29.60	29.90	0.30	Cc	Gething								
29.90	33.20	3.30	Slt-cly	Gething								
33.20	34.70	1.50	Sst-slt	Gething								
34.70	36.00	1.30	Cc	Gething	F3	Includes claystone parting						
36.00	38.28	2.28	Cly	Gething								
38.28	38.64	0.36	Cc	Gething	F4	Rider of upper seam						
38.64	39.31	0.67	Slt	Gething	F4	Parting						
39.31	40.64	1.33	Coal	Gething	F4	Upper seam in lower Gething strata, 8m above sst						
40.64	43.40	2.76	Slt-cly	Gething								
43.40	44.50	1.10	Sst-slt	Gething								
44.50	46.10	1.60	Cly	Gething								
46.10	46.55	0.45	Cc	Gething	F5							
46.55	47.70	1.15	Cly	Gething								
47.70	50.80	3.10	Sst	Gething								
50.80	51.50	0.70	Cc	Gething								
51.50	53.40	1.90	Sst	Gething								
53.40	53.70	0.30	Cc	Gething								
53.70	54.80	1.10	Cly	Gething								
54.80	55.30	0.50	Cc	Gething								
55.30	57.50	2.20	Cly	Gething								
57.50	58.94	1.44	Slt	Gething								
58.94	59.37	0.43	Coal	Gething	G1							
59.37	61.10	1.73	Cly	Gething								
61.10	61.60	0.50	Cc	Gething								
61.60	66.27	4.67	Cly	Gething								
66.27	66.70	0.43	Coal	Gething	G2	Higher intermediate seam, lower Gething section, 5.5m below sst						
66.70	68.90	2.20	Cly	Gething								
68.90	69.40	0.50	Cc	Gething								
69.40	71.60	2.20	Cly	Gething								
71.60	76.10	4.50	Slt-cly	Gething								
76.10	76.60	0.50	Cc	Gething	G3							
76.60	79.22	2.62	Slt-cly	Gething								
79.22	79.59	0.37	Coal	Gething	G4							
79.59	81.98	2.39	Cly	Gething								
81.98	83.10	1.12	Coal	Gething	G5	Lower seam in lower Gething strata, main seam						
83.10	83.54	0.44	Cc	Gething	G5	Lower seam in lower Gething strata, carbonaceous floor zone						
83.54	86.50	2.96	Slt-cly	Gething								
86.50	87.40	0.90	Sst-slt	Gething								
87.40	89.60	2.20	Slt	Gething								
89.60	90.30	0.70	Cly	Gething								
90.30	92.50	2.20	Sst-slt	Gething								
92.50	93.20	0.70	Slt	Gething								
93.20	93.94	0.74	Sst	Gething								
93.94	94.31	0.37	Coal	Gething	G6							
94.31	95.06	0.75	Slt	Gething	G6							
95.06	95.40	0.34	Cc	Gething	G6							
95.40	95.96	0.56	Cly	Gething	G6							
95.96	96.32	0.36	Cc	Gething	G6							
96.32	99.10	2.78	Slt	Gething								
99.10	99.60	0.50	Cc	Gething	G7							
99.60	103.10	3.50	Slt	Gething								
103.10	103.60	0.50	Cc	Gething	G8							
103.60	104.70	1.10	Slt	Gething								
104.70	106.00	1.30	Sst	Gething								
106.00	107.32	1.32	Cly	Gething								
107.32	107.84	0.52	Coal	Gething	G9	Seam 4m above first sst of thick sst section						
107.84	109.84	2.00	Slt	Gething								
109.84	110.22	0.38	Cc	Gething								
110.22	111.60	1.38	Slt-cly	Gething								
111.60	113.60	2.00	Sst	Gething								
113.60	115.00	1.40	Slt-cly	Gething								
115.00	117.20	2.20	Slt	Gething								
117.20	133.00	15.80	Sst	Gething								
133.00	134.04	1.04	Cly	Gething								
134.04	134.44	0.40	Coal	Gething	H1	First carbonaceous bed below 16m sandstone						
134.44	139.30	4.86	Slt	Gething								

Hole ID:	D-14-2	Type of Drill:	Air Rotary	Core Size:	N/A				Cbn
Date Started:	July 23/14	Date Finished:	July 24/14					Ovb	Slt-sst
								Loss	Slt
Datum:	NAD 83, Zone 10	Eastings		Northings		Elevation (m)		Survey:	RTK-GPS
UTM Grid Location:		534459.75	6229591.89		1109.68	Logged By:	Century	Gouge	Slt-cly
Azimuth:	000°	Dip:	-90°	Date Logged:	July 24/14			Brx	Cly
Interval Depth: (m)	121.01	Depth Datum:	0.00m = Ground Level					Sst	Cc
									Cbr
From (m)	To (m)	Interval (m)	Litho	Formation	Seam_ID	Description			
0.00	5.30	5.30	Ovb			Cased to 20 ft			
5.30	5.80	0.50	Sst	Gething					
5.80	9.00	3.20	Slt	Gething					
9.00	9.70	0.70	Sst	Gething					
9.70	10.30	0.60	Sst-slt	Gething					
10.30	12.43	2.13	Cly	Gething					
12.43	13.61	1.18	Coal	Gething	B1	Upper seam of upper Gething section			
13.61	17.8	4.19	Cly	Gething					
17.80	18.30	0.50	Cc	Gething	B2				
18.30	19.99	1.69	Slt-cly	Gething					
19.99	20.54	0.55	Coal	Gething	B3				
20.54	23.30	2.76	Slt-cly	Gething					
23.30	26.34	3.04	Cly	Gething					
26.34	26.83	0.49	Coal	Gething	B4	Coal on sst			
26.83	33.80	6.97	Sst	Gething					
33.80	34.60	0.80	Slt	Gething					
34.60	35.77	1.17	Cly	Gething					
35.77	36.22	0.45	Coal	Gething	C1				
36.22	36.80	0.58	Cly	Gething					
36.80	38.50	1.70	Sst	Gething					
38.50	40.00	1.50	Slt	Gething					
40.00	41.40	1.40	Cly	Gething					
41.40	41.80	0.40	Cc	Gething	C2				
41.80	43.40	1.60	Sst-slt	Gething					
43.40	45.50	2.10	Sst	Gething					
45.50	46.40	0.90	Cly	Gething					
46.40	46.70	0.30	Cc	Gething					
46.70	48.80	2.10	Slt	Gething					
48.80	49.50	0.70	Sst	Gething					
49.50	51.50	2.00	Cly	Gething					
51.50	51.95	0.45	Coal	Gething	D1	Lower target seam of upper Gething section			
51.95	52.60	0.65	Cly	Gething	D1	Parting			
52.60	53.10	0.50	Coal	Gething	D1	Lower target seam of upper Gething section			
53.10	55.00	1.90	Sst-slt	Gething					
55.00	56.10	1.10	Slt-cly	Gething					
56.10	56.45	0.35	Coal	Gething	D2				
56.45	56.80	0.35	Slt	Gething					
56.80	58.00	1.20	Sst	Gething					
58.00	62.00	4.00	Slt	Gething					
62.00	65.70	3.70	Slt-cly	Gething					
65.70	66.20	0.50	Cc	Gething	D3				
66.20	66.90	0.70	Cly	Gething					
66.90	68.50	1.60	Sst	Gething					
68.50	69.50	1.00	Sst-slt	Gething					
69.50	71.20	1.70	Slt-cly	Gething					
71.20	75.20	4.00	Slt	Gething					
75.20	75.60	0.40	Cc	Gething	D4				
75.60	78.60	3.00	Slt	Gething					
78.60	80.50	1.90	Cly	Gething					
80.50	84.00	3.50	Sst	Gething					
84.00	87.00	3.00	Slt-cly	Gething					
87.00	90.50	3.50	Slt	Gething					
90.50	92.60	2.10	Sst	Gething					
92.60	94.40	1.80	Cly	Gething					
94.40	96.02	1.62	Slt-cly	Gething					
96.02	96.65	0.63	Coal	Gething	E1				
96.65	98.00	1.35	Slt	Gething					
98.00	99.50	1.50	Sst	Gething					
99.50	99.95	0.45	Cly	Gething					
99.95	100.40	0.45	Cc	Gething	E2				
100.40	101.00	0.60	Slt	Gething					
101.00	102.70	1.70	Sst	Gething					
102.70	104.70	2.00	Slt-cly	Gething					
104.70	106.60	1.90	Cly	Gething					
106.60	107.30	0.70	Slt	Gething					
107.30	109.00	1.70	Sst	Gething					
109.00	109.60	0.60	Slt	Gething					
109.60	110.20	0.60	Coal	Gething	E3	Mid section marker seam			
110.20	110.70	0.50	Slt	Gething	E3	Parting			
110.70	111.10	0.40	Cc	Gething	E3	Mid section marker seam			
111.10	115.00	3.90	Slt	Gething					
115.00	117.00	2.00	Slt-cly	Gething					
117.00	117.40	0.40	Cc	Gething	E4				
117.40	121.01	3.61	Cly	Gething					

Hole ID:	D-14-3C			Type of Drill: Air Rotary	Core Size: HQ3				Cbn	
Date Started:	24-Jul-14			Date Finished: 26-Jul-14				Ovb	Slt-sst	Cst
Datum:	NAD 83, Zone 10			Easting	Northing	Elevation (m)	Survey: RTK-GPS	Loss	Slt	Cdb
UTM Grid Location:				534513.90	6229627.66	1107.94	Logged By: R. McIntyre	Gouge	Slt-cly	Cdab
Azimuth:	000°			Dip: -90°	Date Logged: 29-Jul-14			Brx	Cly	Cbb
nal Depth: (m)	62.48			Depth Datum: 0.00m = Ground Level				Sst	Cc	Cbr
From (m)	To (m)	Interval (m)	Litho	Formation	Seam ID	Description				
0.00	1.00	1.00	Ovb							
1.00	7.00	6.00	Sst	Gething						
7.00	11.40	4.40	Slt-cly	Gething						
11.40	15.10	3.70	Slt	Gething						
15.10	15.80	0.70	Sst-slt	Gething						
15.80	18.30	2.50	Cly	Gething						
18.30	19.54	1.24	Coal	Gething	B1	Upper seam of upper Gething section				
19.54	23.50	3.96	Cly	Gething						
23.50	23.60	0.10	Slt-cly	Gething						
23.60	24.15	0.55	Cc	Gething	B2					
24.15	25.80	1.65	Slt-cly	Gething						
25.80	26.75	0.95	Cc	Gething	B3					
26.75	29.40	2.65	Slt-cly	Gething						
29.40	32.22	2.82	Cly	Gething						
32.22	32.68	0.46	Coal	Gething	B4					
32.68	40.40	7.72	Sst	Gething						
40.40	41.40	1.00	Sst-slt	Gething						
41.40	41.90	0.50	Coal	Gething	C1					
41.90	44.20	2.30	Sst	Gething						
44.20	45.70	1.50	Slt	Gething						
45.70	47.10	1.40	Cly	Gething						
47.10	47.60	0.50	Cc	Gething	C2					
47.60	49.60	2.00	Slt-cly	Gething						
49.60	50.70	1.10	Sst	Gething						
50.70	51.40	0.70	Cly	Gething						
51.40	51.70	0.30	Cc	Gething						
51.70	55.00	3.30	Slt	Gething						
55.00	56.95	1.95	Cly	Gething						
56.95	57.40	0.45	Coal	Gething	D1	Lower target seam of upper Gething section				
57.40	57.90	0.50	Cly	Gething	D1	Interseam parting				
57.90	58.85	0.95	Cc	Gething	D1	Lower target seam of upper Gething section				
58.85	59.50	0.65	Slt	Gething						
59.50	61.58	2.08	Sst	Gething						

Hole ID:	D-14-4	Type of Drill:	Air Rotary	Core Size:	N/A				Cbn			
Date Started:	July 26/14	Date Finished:	July 27/14						Cst			
							Ovb	Slt-sst	Cd			
Datum:	NAD 83, Zone 10	Eastings	533759.77	Northings	6229234.39	Elevation (m)	1121.79	Survey:	RTK-GPS	Loss	Slt	Cdb
UTM Grid Location:								Logged By:	Century	Gouge	Slt-cly	Cdab
Azimuth:	000°	Dip:	-90°	Date Logged:	July 27/14				Brx	Cly		Cbb
Interval Depth (m):	141.83	Depth Datum:	0.00m = Ground Level						Sst	Cc		Cbr
From (m)	To (m)	Interval (m)	Litho	Formation	Seam ID	Description						
0.00	1.00	1.00	Ovb			Cased to 10 ft						
1.00	2.70	1.70	Sst	Gething								
2.70	3.40	0.70	Cly	Gething								
3.40	4.10	0.70	Coal	Gething	E3	Mid section marker seam						
4.10	12.20	8.10	Slt	Gething								
12.20	14.50	2.30	Cc	Gething	E4	Three Cc splits with cly and sst partings						
14.50	16.00	1.50	Slt-cly	Gething								
16.00	16.60	0.60	Cc	Gething								
16.60	17.50	0.90	Slt-cly	Gething								
17.50	18.50	1.00	Sst	Gething								
18.50	19.60	1.10	Slt	Gething								
19.60	22.00	2.40	Slt-cly	Gething								
22.00	25.00	3.00	Sst-slt	Gething								
25.00	26.00	1.00	Cly	Gething								
26.00	27.00	1.00	Sst	Gething								
27.00	29.00	2.00	Slt-cly	Gething								
29.00	31.50	2.50	Cly	Gething								
31.50	32.10	0.60	Sst	Gething								
32.10	32.60	0.50	Cc	Gething								
32.60	37.60	5.00	Slt-cly	Gething								
37.60	38.00	0.40	Coal	Gething	F1							
38.00	41.60	3.60	Cly	Gething								
41.60	42.30	0.70	Cc	Gething	F2							
42.30	45.40	3.10	Slt	Gething								
45.40	46.70	1.30	Cly	Gething								
46.70	47.90	1.20	Sst	Gething								
47.90	51.40	3.50	Sst-slt	Gething								
51.40	53.40	2.00	Slt-cly	Gething								
53.40	56.10	2.70	Cly	Gething								
56.10	56.60	0.50	Slt-cly	Gething								
56.60	57.80	1.20	Cc	Gething								
57.80	59.00	1.20	Slt-cly	Gething								
59.00	59.60	0.60	Cly	Gething								
59.60	60.40	0.80	Slt	Gething								
60.40	62.60	2.20	Cly	Gething								
62.60	72.50	9.90	Slt-cly	Gething								
72.50	73.60	1.10	Slt	Gething								
73.60	74.99	1.39	Cly	Gething								
74.99	75.61	0.62	Coal	Gething	F4	Upper seam in lower Gething strata, 8m above sst						
75.61	75.95	0.34	Cly	Gething	F4	Parting						
75.95	76.31	0.36	Cc	Gething	F4	Floor split, upper seam in lower Gething strata						
76.31	82.70	6.39	Slt-cly	Gething								
82.70	83.40	0.70	Slt	Gething								
83.40	84.60	1.20	Sst	Gething								
84.60	85.10	0.50	Slt	Gething								
85.10	88.20	3.10	Sst	Gething								
88.20	91.30	3.10	Slt-cly	Gething								
91.30	91.60	0.30	Cc	Gething	G1							
91.60	92.40	0.80	Cly	Gething								
92.40	92.80	0.40	Cc	Gething								
92.80	94.58	1.78	Slt-cly	Gething								
94.58	94.98	0.40	Cc	Gething	G2	Rider, higher intermediate seam, lower Gething section, 6.5m below sst						
94.98	95.62	0.64	Slt-cly	Gething	G2	Parting						
95.62	96.53	0.91	Coal	Gething	G2	Higher intermediate seam, lower Gething section						
96.53	96.82	0.29	Cly	Gething	G2	Parting						
96.82	97.08	0.26	Cc	Gething	G2	Floor split, higher intermediate seam, lower Gething section						
97.08	99.40	2.32	Cly	Gething								
99.40	99.80	0.40	Cc	Gething								
99.80	101.10	1.30	Slt	Gething								
101.10	101.60	0.50	Cc	Gething	G3							
101.60	102.70	1.10	Cly	Gething								
102.70	104.30	1.60	Slt	Gething								
104.30	105.30	1.00	Sst	Gething								
105.30	108.40	3.10	Slt-cly	Gething								
108.40	109.30	0.90	Sst	Gething								
109.30	110.00	0.70	Cc	Gething	G4							
110.00	110.50	0.50	Cly	Gething	G4	Parting						
110.50	111.10	0.60	Cc	Gething	G4							
111.10	111.60	0.50	Slt	Gething								
111.60	113.21	1.61	Cly	Gething								
113.21	113.71	0.50	Coal	Gething	G5							
113.71	115.20	1.49	Cly	Gething								
115.20	115.60	0.40	Cc	Gething								
115.60	118.00	2.40	Slt-cly	Gething								
118.00	118.40	0.40	Cc	Gething	G6							
118.40	119.61	1.21	Cly	Gething	G6	Parting						
119.61	120.19	0.58	Coal	Gething	G6							
120.19	121.60	1.41	Slt-cly	Gething								
121.60	122.00	0.40	Cly	Gething								
122.00	123.02	1.02	Sst-slt	Gething								
123.02	123.42	0.40	Cc	Gething	G7							
123.42	124.00	0.58	Slt	Gething	G7	Parting						
124.00	124.40	0.40	Cc	Gething	G7							
124.40	126.40	2.00	Slt-cly	Gething								
126.40	126.80	0.40	Cc	Gething	G8							
126.80	127.47	0.67	Cly	Gething	G8	Parting						
127.47	127.93	0.46	Coal	Gething	G8							
127.93	129.60	1.67	Cly	Gething								
129.60	130.10	0.50	Cc	Gething								
130.10	130.30	0.20	Cly	Gething		Parting						
130.30	130.70	0.40	Cc	Gething								
130.70	132.76	2.06	Cly	Gething								
132.76	133.12	0.36	Coal	Gething	G9	Upper split						
133.12	133.54	0.42	Cly	Gething	G9	Parting						
133.54	134.07	0.53	Coal	Gething	G9	Lower split						
134.07	141.83	7.76	Slt-cly	Gething								

Hole ID:	D-14-5	Type of Drill: Air Rotary		Core Size: N/A				Cbn
Date Started:	July 27/14	Date Finished: July 28/14						Cst
Datum:	NAD 83, Zone 10	Eastings	Northing	Elevation (m)	Survey: RTK-GPS		Ovb	Slt-sst
UTM Grid Location:		534665.40	6230424.61	1097.23	Logged By: Century	Gouge		Slt
Azimuth:	000°		Dip: -90°	Date Logged: July 28/14	Brx			Slt-cly
nal Depth: (m)	96.57	Depth Datum: 0.00m = Ground Level				Sst		Cc
								Cbb
								Cbr
From (m)	To (m)	Interval (m)	Litho	Formation	Seam ID	Description		
0.00	1.00	1.00	Ovb			Cased to 20 ft		
1.00	3.00	2.00	Sst	Gething		Includes thin pebble cgt zones		
3.00	3.70	0.70	Slt	Gething				
3.70	4.20	0.50	Cc	Gething	A1			
4.20	4.60	0.40	Cly	Gething				
4.60	6.00	1.40	Sst	Gething				
6.00	6.80	0.80	Cly	Gething				
6.80	7.40	0.60	Cc	Gething				
7.40	8.38	0.98	Slt	Gething				
8.38	8.77	0.39	Coal	Gething	A2			
8.77	9.50	0.73	Cly	Gething				
9.50	12.50	3.00	Sst-slt	Gething				
12.50	18.90	6.40	Sst	Gething				
18.90	19.40	0.50	Cc	Gething	A3			
19.40	29.30	9.90	Sst-cgt	Gething				
29.30	29.70	0.40	Slt	Gething				
29.70	34.60	4.90	Sst	Gething		Oxidized sandstone		
34.60	39.00	4.40	Slt-cly	Gething				
39.00	43.60	4.60	Sst-slt	Gething				
43.60	45.63	2.03	Slt-cly	Gething				
45.63	46.20	0.57	Coal	Gething	B1	Upper seam of upper Gething section		
46.20	46.58	0.38	Cly	Gething	B1	Parting		
46.58	46.86	0.28	Cc	Gething	B1	Upper seam of upper Gething section		
46.86	51.10	4.24	Slt-cly	Gething				
51.10	51.65	0.55	Coal	Gething	B2			
51.65	52.80	1.15	Cly	Gething				
52.80	53.40	0.60	Coal	Gething	B3			
53.40	58.91	5.51	Slt-cly	Gething				
58.91	59.28	0.37	Coal	Gething	B4			
59.28	67.00	7.72	Sst	Gething				
67.00	67.30	0.30	Slt	Gething				
67.30	67.60	0.30	Cc	Gething				
67.60	68.40	0.80	Slt	Gething				
68.40	68.79	0.39	Coal	Gething	C1			
68.79	72.00	3.21	Slt	Gething				
72.00	73.40	1.40	Cly	Gething				
73.40	73.90	0.50	Cc	Gething	C2			
73.90	74.60	0.70	Cly	Gething				
74.60	76.44	1.84	Slt	Gething				
76.44	77.60	1.16	Sst	Gething				
77.60	78.50	0.90	Cly	Gething				
78.50	80.00	1.50	Slt	Gething				
80.00	81.50	1.50	Sst	Gething				
81.50	83.59	2.09	Cly	Gething				
83.59	84.00	0.41	Coal	Gething	D1	Lower target seam of upper Gething section		
84.00	84.40	0.40	Cly	Gething	D1	Parting		
84.40	85.08	0.68	Cc	Gething	D1	Lower target seam of upper Gething section		
85.08	86.50	1.42	Sst	Gething				
86.50	87.65	1.15	Slt	Gething				
87.65	88.10	0.45	Coal	Gething	D2			
88.10	92.00	3.90	Slt-cly	Gething				
92.00	92.50	0.50	Cc	Gething				
92.50	96.57	4.07	Slt-cly	Gething				

Hole ID:	D-14-6		Type of Drill: Air Rotary		Core Size: N/A		Cbn	
Date Started:	July 28/14		Date Finished: July 28/14				Cst	
						Ovb	Slt-sst	
Datum:	NAD 83, Zone 10		Easting	Northing	Elevation (m)	Survey: RTK-GPS	Loss	Slt
UTM Grid Location:	535085.88	6230164.68		1061.96	Logged By: Century	Gouge	Slt-cly	Cdab
Azimuth:	000°		Dip:	-90°		Date Logged: July 28/14	Brx	Cly
nal Depth: (m)	96.65		Depth Datum: 0.00m = Ground Level			Sst	Cc	Cbr
From (m)	To (m)	Interval (m)	Litho	Formation	Seam_ID	Description		
0.00	4.00	4.00	Ovb			Cased to 20 ft		
4.00	4.70	0.70	Slt-cly	Gething				
4.70	5.20	0.50	Cc	Gething	A1			
5.20	7.20	2.00	Sst-slt	Gething				
7.20	8.10	0.90	Cly	Gething				
8.10	9.64	1.54	Slt-cly	Gething				
9.64	10.06	0.42	Coal	Gething	A2			
10.06	13.20	3.14	Sst	Gething				
13.20	14.00	0.80	Slt-cly	Gething				
14.00	16.10	2.10	Slt	Gething				
16.10	19.40	3.30	Sst-slt	Gething				
19.40	20.94	1.54	Sst	Gething				
20.94	21.24	0.30	Void	Gething	A3			
21.24	27.50	6.26	Sst-cgt	Gething				
27.50	29.40	1.90	Sst-slt	Gething				
29.40	36.40	7.00	Sst	Gething				
36.40	37.80	1.40	Slt	Gething				
37.80	38.70	0.90	Sst-slt	Gething				
38.70	40.00	1.30	Slt	Gething				
40.00	41.60	1.60	Slt-cly	Gething				
41.60	46.20	4.60	Slt	Gething				
46.20	48.20	2.00	Slt-cly	Gething				
48.20	49.25	1.05	Coal	Gething	B1	Upper seam of upper Gething section		
49.25	52.70	3.45	Slt-cly	Gething				
52.70	53.16	0.46	Slt	Gething				
53.16	53.66	0.50	Cc	Gething	B2			
53.66	55.46	1.80	Slt	Gething				
55.46	55.99	0.53	Coal	Gething	B3			
55.99	58.70	2.71	Slt	Gething				
58.70	61.70	3.00	Cly	Gething				
61.70	62.21	0.51	Coal	Gething	B4			
62.21	70.60	8.39	Sst	Gething				
70.60	71.59	0.99	Slt-cly	Gething				
71.59	72.00	0.41	Coal	Gething	C1			
72.00	75.10	3.10	Slt-cly	Gething				
75.10	76.85	1.75	Cly	Gething				
76.85	77.30	0.45	Cc	Gething	C2			
77.30	79.50	2.20	Slt	Gething				
79.50	80.40	0.90	Sst	Gething				
80.40	81.00	0.60	Slt-cly	Gething				
81.00	81.60	0.60	Cly	Gething				
81.60	82.40	0.80	Cc	Gething				
82.40	85.40	3.00	Slt	Gething				
85.40	87.80	2.40	Cly	Gething				
87.80	88.39	0.59	Coal	Gething	D1	Lower target seam of upper Gething section		
88.39	88.98	0.59	Cly	Gething	D1	Parting		
88.98	89.76	0.78	Cc	Gething	D1	Lower target seam of upper Gething section		
89.76	90.30	0.54	Cly	Gething				
90.30	90.64	0.34	Coal	Gething	D2			
90.64	91.50	0.86	Cly	Gething				
91.50	92.30	0.80	Slt	Gething				
92.30	96.65	4.35	Slt-cly	Gething				

Hole ID: D-14-8C	Type of Drill: Air Rotary		Core Size: HQ3					Cbn
Date Started: July 29/14	Date Finished: Aug 2/14							Cst
Hole located 2m NE of D-14-7C						Ovb	Slt-sst	Cd
Datum: NAD 83, Zone 10	Easting	Northing	Elevation (m)	Survey: RTK-GPS		Loss	Slt	Cdb
UTM Grid Location:	534498.61	6229618.85	1108.70	Logged By: R. McIntyre		Gouge	Slt-cly	Cdab
Azimuth: 000°		Dip: -90°		Date Logged: Aug 2/14		Brx	Cly	Cbb
Total Depth: (m)	22.33	Depth Datum: 0.00m = Ground Level				Sst	Cc	Cbr
From	To	Interval	Litho	Formation	Seam ID	Description		
(m)	(m)	(m)						
0.00	1.00	1.00	Ovb			Cased to 10 ft		
1.00	2.60	1.60	Sst	Gething				
2.60	3.20	0.60	Cc	Gething				
3.20	5.50	2.30	Sst	Gething				
5.50	7.70	2.20	Slt-cly	Gething				
7.70	8.80	1.10	Cly	Gething				
8.80	9.70	0.90	Slt-cly	Gething				
9.70	14.80	5.10	Slt	Gething				
14.80	16.99	2.19	Slt-cly	Gething				
16.99	18.15	1.16	Coal	Gething	B1	Upper seam of upper Gething section		
18.15	22.23	4.08	Slt-cly	Gething				

Hole ID: D-14-9C	Type of Drill: Air Rotary		Core Size: HQ3					Cbn
Date Started: July 30/14	Date Finished: Aug 2/14							Cst
						Ovb	Sst-slt	Cd
Datum: NAD 83, Zone 10	Easting	Northing	Elevation (m)	Survey: RTK-GPS		Loss	Slt	Cdb
UTM Grid Location:	533310.43	6229066.79	1147.18	Logged By: R McIntyre		Gouge	Slt-cly	Cdab
Azimuth: 000°		Dip: -90°		Date Logged: Aug 2/14		Brx	Cly	Cbb
nal Depth: (m)	85.53	Depth Datum: 0.00m = Ground Level				Sst	Cc	Cbr
From (m)	To (m)	Interval (m)	Litho	Formation	Seam ID	Description		
0.00	7.00	7.00	Ovb			Cased to 80 ft		
7.00	8.41	1.41	Sst-slt	Gething		In casing		
8.41	8.90	0.49	Coal?	Gething	F1?	In casing, possible washout of overburden		
8.90	18.30	9.40	Sst-slt	Gething		In casing		
18.30	19.00	0.70	Cc	Gething	F2	In casing		
19.00	24.10	5.10	Slt	Gething		In casing		
24.10	25.40	1.30	Cly	Gething				
25.40	27.60	2.20	Slt	Gething				
27.60	28.10	0.50	Cc	Gething				
28.10	29.30	1.20	Sst-slt	Gething				
29.30	30.60	1.30	Sst	Gething				
30.60	31.00	0.40	Cc	Gething				
31.00	35.50	4.50	Slt	Gething				
35.50	35.80	0.30	Sst-slt	Gething				
35.80	36.30	0.50	Cc	Gething	F3			
36.30	36.60	0.30	Cly	Gething	F3	Parting		
36.60	37.10	0.50	Cc	Gething	F3			
37.10	39.12	2.02	Sst-slt	Gething				
39.12	39.41	0.29	Cc	Gething	F4	Rider of upper seam		
39.41	40.12	0.71	Slt	Gething	F4	Parting		
40.12	40.92	0.80	Coal	Gething	F4	Upper seam in lower Gething strata, 7m above sst		
40.92	41.14	0.22	Cly	Gething	F4	Parting		
41.14	41.39	0.25	Cc	Gething	F4	Floor split		
41.39	43.20	1.81	Slt-cly	Gething				
43.20	45.20	2.00	Slt	Gething				
45.20	46.90	1.70	Cly	Gething				
46.90	47.30	0.40	Cc	Gething	F5			
47.30	48.70	1.40	Cly	Gething				
48.70	53.60	4.90	Sst	Gething				
53.60	53.90	0.30	Slt	Gething				
53.90	54.30	0.40	Cc	Gething				
54.30	55.60	1.30	Slt-cly	Gething				
55.60	56.00	0.40	Cc	Gething				
56.00	59.30	3.30	Slt-cly	Gething				
59.30	59.68	0.38	Coal	Gething	G1			
59.68	60.20	0.52	Slt-cly	Gething				
60.20	61.50	1.30	Sst-slt	Gething				
61.50	61.90	0.40	Cc	Gething				
61.90	63.00	1.10	Cly	Gething				
63.00	64.50	1.50	Slt	Gething				
64.50	66.67	2.17	Slt-cly	Gething				
66.67	67.08	0.41	Coal	Gething	G2	Higher intermediate seam, lower Gething section, 5.7m below sst		
67.08	69.60	2.52	Slt-cly	Gething				
69.60	70.05	0.45	Cc	Gething				
70.05	74.00	3.95	Slt-cly	Gething				
74.00	74.60	0.60	Slt	Gething				
74.60	75.70	1.10	Slt-cly	Gething				
75.70	76.30	0.60	Slt	Gething				
76.30	76.90	0.60	Cly	Gething				
76.90	77.60	0.70	Cc	Gething	G3			
77.60	79.71	2.11	Slt	Gething				
79.71	80.24	0.53	Coal	Gething	G4			
80.24	82.52	2.28	Cly	Gething				
82.52	83.68	1.16	Coal	Gething	G5	Lower seam in lower Gething strata, main seam		
83.68	84.25	0.57	Cc	Gething	G5	Lower seam in lower Gething strata, carbonaceous floor zone		
84.25	85.53	1.28	Slt-cly	Gething				

Hole ID: D-14-10		Type of Drill: Air Rotary			Core Size: N/A		Cbn	
Date Started: July 30/14		Date Finished: July 31/14					Cst	
Datum: NAD 83, Zone 10		Easting	Northing	Elevation (m)	Survey: RTK-GPS	Loss	Slt-sst	Cdb
UTM Grid Location:		532669.01	6228916.09	1174.66	Logged By: Century	Gouge	Slt-cly	Cdab
Azimuth: 000°		Dip: -90°		Date Logged: July 31/14		Brx	Cly	Cbb
Total Depth: (m)		175.90	Depth Datum: 0.00m = Ground Level		Sst	Cc	Cbr	
From (m)	To (m)	Interval (m)	Litho	Formation	Seam ID	Description		
0.00	2.91	2.91	Ovb			Cased to 10 ft		
2.91	3.46	0.55	Cc	Gething	G8	Some washout below casing shoe		
3.46	7.00	3.54	Sst-slt	Gething				
7.00	7.95	0.95	Cly	Gething				
7.95	8.48	0.53	Coal	Gething	G9	Upper split		
8.48	10.41	1.93	Sst-slt	Gething				
10.41	10.88	0.47	Cc	Gething	G9	Lower split		
10.88	12.20	1.32	Sst-slt	Gething				
12.20	13.22	1.02	Sst	Gething				
13.22	13.49	0.27	Cc	Gething				
13.49	17.70	4.21	Sst	Gething				
17.70	20.00	2.30	Sst-slt	Gething				
20.00	22.70	2.70	Sst	Gething				
22.70	23.40	0.70	Slt	Gething				
23.40	24.00	0.60	Sst	Gething				
24.00	27.00	3.00	Slt	Gething				
27.00	27.60	0.60	Cly	Gething				
27.60	30.36	2.76	Slt	Gething				
30.36	30.92	0.56	Coal	Gething	H2			
30.92	32.20	1.28	Slt	Gething				
32.20	33.80	1.60	Slt-cly	Gething				
33.80	34.70	0.90	Sst-slt	Gething				
34.70	38.28	3.58	Slt	Gething				
38.28	38.83	0.55	Coal	Gething	H3			
38.83	40.60	1.77	Cly	Gething				
40.60	41.60	1.00	Slt-cly	Gething				
41.60	43.80	2.20	Cly	Gething				
43.80	52.40	8.60	Slt	Gething				
52.40	53.20	0.80	Sst-slt	Gething				
53.20	54.60	1.40	Slt	Gething				
54.60	55.30	0.70	Sst-slt	Gething				
55.30	56.71	1.41	Slt-cly	Gething				
56.71	57.19	0.48	Cc	Gething	H4	Parting		
57.19	57.67	0.48	Slt-cly	Gething	H4			
57.67	58.02	0.35	Cc	Gething	H4			
58.02	67.30	9.28	Slt-cly	Gething				
67.30	69.70	2.40	Sst-slt	Gething				
69.70	76.20	6.50	Sst	Gething				
76.20	79.40	3.20	Slt-cly	Gething				
79.40	80.60	1.20	Cly	Gething				
80.60	83.21	2.61	Slt-cly	Gething				
83.21	83.61	0.40	Cc	Gething	I1	Parting		
83.61	84.66	1.05	Slt	Gething	I1			
84.66	85.12	0.46	Cc	Gething	I1			
85.12	86.20	1.08	Cly	Gething				
86.20	87.50	1.30	Sst-slt	Gething				
87.50	89.10	1.60	Slt-cly	Gething				
89.10	90.50	1.40	Sst	Gething				
90.50	91.50	1.00	Slt-cly	Gething				
91.50	92.00	0.50	Cc	Gething	I2			
92.00	96.28	4.28	Slt	Gething				
96.28	96.67	0.39	Cc	Gething	I3			
96.67	99.50	2.83	Slt	Gething				
99.50	101.40	1.90	Slt-cly	Gething				
101.40	101.80	0.40	Cc	Gething	I4			
101.80	104.20	2.40	Cly	Gething				
104.20	105.80	1.60	Slt-cly	Gething				
105.80	112.00	6.20	Slt	Gething				
112.00	115.40	3.40	Sst	Gething				
115.40	116.30	0.90	Sst-slt	Gething				
116.30	118.80	2.50	Cly	Gething				
118.80	119.40	0.60	Slt	Gething				
119.40	120.10	0.70	Slt-cly	Gething				
120.10	121.70	1.60	Sst-slt	Gething				
121.70	122.20	0.50	Cc	Gething	J1			
122.20	124.40	2.20	Slt-cly	Gething				
124.40	124.80	0.40	Cc	Gething				
124.80	127.10	2.30	Slt	Gething				
127.10	128.25	1.15	Sst	Gething				
128.25	128.60	0.35	Cc	Gething	J2			
128.60	131.20	2.60	Slt	Gething				
131.20	134.40	3.20	Slt-cly	Gething				
134.40	134.60	0.20	Cly	Gething		High gamma clay		
134.60	138.40	3.80	Slt-cly	Gething				
138.40	138.90	0.50	Sst-slt	Gething				
138.90	143.00	4.10	Slt	Gething				
143.00	144.63	1.63	Cly	Gething				
144.63	145.12	0.49	Coal	Gething	J3			
145.12	146.20	1.08	Slt-cly	Gething				
146.20	147.50	1.30	Sst	Gething				
147.50	148.40	0.90	Slt-cly	Gething				
148.40	149.80	1.40	Slt	Gething				
149.80	151.70	1.90	Slt-cly	Gething				
151.70	152.60	0.90	Sst	Gething				
152.60	153.00	0.40	Sst-slt	Gething				
153.00	154.64	1.64	Cly	Gething				
154.64	155.90	1.26	Coal	Gething	J4			
155.90	156.40	0.50	Cly	Gething				
156.40	160.20	3.80	Slt-cly	Gething				
160.20	162.30	2.10	Sst	Gething				
162.30	166.00	3.70	Slt-cly	Gething				
166.00	168.00	2.00	Slt	Gething				
168.00	175.90	7.90	Sst-cgt	Cadomin		Lithology assumed		

Hole ID: D-14-11 (redrill)		Type of Drill: Air Rotary		Core Size: N/A					Cbn
Date Started: Aug 2/14		Date Finished: Aug 10/14						Ovb	Slt-sst
Datum: NAD 83, Zone 10		Easting	Northing	Elevation (m)	Survey: RTK-GPS	Loss	Slt		Cdb
UTM Grid Location:		533824.72	6228182.63	1159.37	Logged By: Century	Gouge	Slt-cly		Cdab
Azimuth: 000°		Dip: -90°		Date Logged: Aug 10/14	Brx	Cly			Cbb
Interval Depth: (m)	144.08	Depth Datum: 0.00m = Ground Level			Sst	Cc			Cbr
From (m)	To (m)	Interval (m)	Litho	Formation	Seam ID	Description			
0.00	1.30	1.30	Ovb			Cased to 10 ft			
1.30	3.00	1.70	Sst	Gething					
3.00	6.98	3.98	Slt	Gething					
6.98	7.78	0.80	Coal	Gething	E3	Mid section marker seam			
7.78	14.80	7.02	Sst-slt	Gething					
14.80	15.20	0.40	Cc	Gething	E4				
15.20	17.00	1.80	Sst-slt	Gething					
17.00	19.50	2.50	Slt	Gething					
19.50	21.30	1.80	Sst-slt	Gething					
21.30	23.50	2.20	Slt	Gething					
23.50	26.70	3.20	Sst-slt	Gething					
26.70	31.20	4.50	Slt	Gething					
31.20	33.60	2.40	Slt-cly	Gething					
33.60	35.20	1.60	Sst	Gething					
35.20	40.19	4.99	Sst-slt	Gething					
40.19	40.59	0.40	Coal	Gething	F1				
40.59	44.60	4.01	Slt	Gething					
44.60	56.00	11.40	Sst-slt	Gething					
56.00	62.50	6.50	Slt	Gething					
62.50	64.30	1.80	Slt-cly	Gething					
64.30	65.00	0.70	Sst-slt	Gething					
65.00	67.10	2.10	Slt	Gething					
67.10	67.50	0.40	Cc	Gething	F3				
67.50	68.50	1.00	Slt	Gething	F3				
68.50	69.30	0.80	Cc	Gething	F3				
69.30	70.80	1.50	Slt	Gething					
70.80	71.44	0.64	Coal	Gething	F4	Upper seam in lower Gething strata, 3m above sst			
71.44	71.88	0.44	Slt	Gething	F4				
71.88	72.21	0.33	Cc	Gething	F4				
72.21	73.40	1.19	Cly	Gething					
73.40	75.00	1.60	Slt	Gething					
75.00	84.70	9.70	Sst	Gething					
84.70	90.84	6.14	Slt	Gething					
90.84	91.24	0.40	Cc	Gething	G1				
91.24	91.90	0.66	Slt-cly	Gething					
91.90	94.48	2.58	Slt	Gething					
94.48	94.88	0.40	Cc	Gething	G2	Rider, higher intermediate seam, lower Gething section, 6.5m below sst			
94.88	95.58	0.70	Slt	Gething	G2	Parting			
95.58	96.33	0.75	Coal	Gething	G2	Higher intermediate seam, lower Gething section			
96.33	97.04	0.71	Slt-cly	Gething	G2	Parting			
97.04	97.41	0.37	Cc	Gething	G2	Floor split, higher intermediate seam, lower Gething section			
97.41	101.20	3.79	Sst-slt	Gething					
101.20	102.20	1.00	Slt-cly	Gething					
102.20	102.60	0.40	Cc	Gething	G3				
102.60	103.60	1.00	Cly	Gething					
103.60	105.70	2.10	Slt-cly	Gething					
105.70	106.40	0.70	Sst-slt	Gething					
106.40	106.70	0.30	Cc	Gething	G4				
106.70	109.50	2.80	Slt	Gething					
109.50	111.65	2.15	Sst-slt	Gething					
111.65	112.30	0.65	Coal	Gething	G5				
112.30	113.30	1.00	Slt-cly	Gething					
113.30	113.80	0.50	Sst-slt	Gething					
113.80	115.00	1.20	Slt-cly	Gething					
115.00	116.60	1.60	Sst-slt	Gething					
116.60	117.50	0.90	Slt-cly	Gething					
117.50	119.40	1.90	Slt	Gething					
119.40	120.20	0.80	Cc	Gething	G6				
120.20	122.90	2.70	Slt-cly	Gething					
122.90	123.30	0.40	Cc	Gething	G7				
123.30	126.70	3.40	Slt-cly	Gething					
126.70	130.50	3.80	Slt	Gething					
130.50	131.66	1.16	Slt-cly	Gething					
131.66	132.05	0.39	Coal	Gething	G8				
132.05	136.80	4.75	Sst-slt	Gething					
136.80	137.30	0.50	Slt-cly	Gething					
137.30	138.05	0.75	Sst-slt	Gething					
138.05	138.84	0.79	Cc	Gething	G9	Upper split			
138.84	139.08	0.24	Sst	Gething	G9	Parting			
139.08	139.56	0.48	Cc	Gething	G9	Lower split			
139.56	144.08	4.52	Slt-cly	Gething					

Hole ID: D-14-12		Type of Drill: Air Rotary	Core Size: N/A				Cbn
Date Started: 3-Aug-14		Date Finished: 3-Aug-14					Cst
Data from drillers reports only, no geophysical log.							
Datum: NAD 83, Zone 10	Easting	Northing	Elevation (m)	Survey: RTK-GPS	Ovb	Slt-sst	Cd
UTM Grid Location:	533304.45	6229065.89	1147.56	Logged By: N/A	Gouge	Slt-cly	Cdab
Azimuth: 000°		Dip: -90°	Date Logged:		Brx	Cly	Cbb
Final Depth: (m)	139.30	Depth Datum: 0.00m = Ground Level			Sst	Cc	Cbr
From	To	Interval	Litho	Formation	Seam ID	Description	
(m)	(m)	(m)					
0.0	6.4	6.4	Ovb			Sand and boulders, cased 26ft	
6.4	14	7.6	Sst	Gething			
14.0	16.2	2.2	Cc	Gething	H4	Muddy coaly seams	
16.2	17.1	0.9	Cly	Gething			
17.1	21.3	4.2	Slt	Gething			
21.3	26.2	4.9	Sst	Gething			
26.2	33.5	7.3	Sst	Gething		At 86ft - 26.2m - hole encountered major fracture system under artesian pressure, heavy w	
33.5	34.7	1.2	Slt	Gething			
34.7	39.6	4.9	Sst	Gething		Hole abandoned at 36.9m due to excessive water production.	
						Hole was plugged at -20 m, then bentonite filled above plug. Seal was complete, no flow.	

Hole ID: D-14-13C		Type of Drill: Air Rotary			Core Size: N/A			Cbn
Date Started: Aug 4/14		Date Finished: Aug 9/14					Ovb	Sst-sst
Datum: NAD 83, Zone 10		Eastings	Northing	Elevation (m)	Survey: RTK-GPS		Loss	Slt
UTM Grid Location:		532664.45	6228912.05	1174.79	Logged By: Century		Gouge	Slt-cly
Azimuth: 000°		Dip: -90°			Date Logged: Aug 10/14		Brx	Cly
Total Depth: (m)		159.20	Depth Datum: 0.00m = Ground Level				Sst	Cc
From (m)	To (m)	Interval (m)	Litho	Formation	Seam_ID	Description		
0.00	2.70	2.70	Ovb			Cased to 10 ft		
2.70	6.86	4.16	Sst-slt	Gething				
6.86	7.40	0.54	Coal	Gething	G9	Upper split		
7.40	9.18	1.78	Sst-slt	Gething				
9.18	9.58	0.40	Cc	Gething	G9	Lower split		
9.58	10.40	0.82	Sst-slt	Gething				
10.40	12.96	2.56	Sst	Gething				
12.96	13.65	0.69	Cc	Gething		Washout in sandstone		
13.65	16.60	2.95	Sst	Gething				
16.60	18.70	2.10	Slt	Gething				
18.70	21.00	2.30	Sst	Gething				
21.00	29.22	8.22	Slt	Gething				
29.22	29.78	0.56	Coal	Gething	H2			
29.78	31.00	1.22	Sst-slt	Gething				
31.00	37.10	6.10	Slt	Gething				
37.10	37.57	0.47	Coal	Gething	H3			
37.57	44.00	6.43	Slt-cly	Gething				
44.00	45.20	1.20	Sst-slt	Gething				
45.20	46.50	1.30	Slt-cly	Gething				
46.50	47.60	1.10	Sst-slt	Gething				
47.60	50.50	2.90	Slt-cly	Gething				
50.50	52.00	1.50	Sst-slt	Gething				
52.00	53.10	1.10	Slt-cly	Gething				
53.10	55.85	2.75	Sst-slt	Gething				
55.85	57.20	1.35	Cc	Gething	H4			
57.20	63.90	6.70	Slt	Gething				
63.90	68.90	5.00	Sst-slt	Gething				
68.90	75.20	6.30	Sst	Gething				
75.20	78.40	3.20	Slt	Gething				
78.40	79.60	1.20	Cly	Gething				
79.60	82.15	2.55	Slt	Gething				
82.15	82.65	0.50	Cc	Gething	I1			
82.65	83.80	1.15	Slt	Gething	I1	Parting		
83.80	84.20	0.40	Cc	Gething	I1			
84.20	85.40	1.20	Slt	Gething				
85.40	86.20	0.80	Sst-slt	Gething				
86.20	88.00	1.80	Slt	Gething				
88.00	89.40	1.40	Sst	Gething				
89.40	90.50	1.10	Slt	Gething				
90.50	90.90	0.40	Cc	Gething	I2			
90.90	95.15	4.25	Slt	Gething				
95.15	95.60	0.45	Cc	Gething	I3			
95.60	99.50	3.90	Slt	Gething				
99.50	100.60	1.10	Slt-cly	Gething				
100.60	100.90	0.30	Cc	Gething	I4			
100.90	103.60	2.70	Slt-cly	Gething				
103.60	110.80	7.20	Slt	Gething				
110.80	114.60	3.80	Sst	Gething				
114.60	115.30	0.70	Slt	Gething				
115.30	118.70	3.40	Cly	Gething				
118.70	120.50	1.80	Sst-slt	Gething				
120.50	120.80	0.30	Cc	Gething	J1			
120.80	126.00	5.20	Slt	Gething				
126.00	127.00	1.00	Sst	Gething				
127.00	127.50	0.50	Cc	Gething	J2			
127.50	131.00	3.50	Slt	Gething				
131.00	133.60	2.60	Slt-cly	Gething				
133.60	137.20	3.60	Slt	Gething				
137.20	141.50	4.30	Sst-slt	Gething				
141.50	142.20	0.70	Slt	Gething				
142.20	142.70	0.50	Cc	Gething				
142.70	143.30	0.60	Slt	Gething				
143.30	143.78	0.48	Coal	Gething	J3			
143.78	145.00	1.22	Slt	Gething				
145.00	146.40	1.40	Sst-slt	Gething				
146.40	147.30	0.90	Cly	Gething				
147.30	147.60	0.30	Cc	Gething				
147.60	148.70	1.10	Sst-slt	Gething				
148.70	150.70	2.00	Cly	Gething				
150.70	151.80	1.10	Sst-slt	Gething				
151.80	152.60	0.80	Cly	Gething				
152.60	153.51	0.91	Slt	Gething				
153.51	155.03	1.52	Coal	Gething	J4			
155.03	155.50	0.47	Cly	Gething				
155.50	159.20	3.70	Slt-cly	Gething				

GEOLOGIST LOGS – CORE RECOVERY

Logged By:	R. McIntyre				D-14-3C			
Date Logged:								
Core Recovery Log								
Core Run	From (ft)	To (ft)	From (m)	To (m)	Cored Interval (m)	Measured Recovery (m)	Core Loss	Recovery %
1	62.00	64.00	18.90	19.51	0.61	0.44	0.17	72%
1	64.00	67.50	19.51	20.57	1.07	0.99	0.08	93%
1	67.50	74.50	20.57	22.71	2.13	1.73	0.40	81%
1	74.50	76.00	22.71	23.17	0.46	0.48	-0.02	105%
1	76.00	82.00	23.17	24.99	1.83	1.49	0.34	81%
1	82.00	92.00	24.99	28.04	3.05	3.08	-0.03	101%
1	92.00	94.00	28.04	28.65	0.61	0.62	-0.01	102%
Totals					9.75	8.83	0.92	91%
2	189.00	195.00	57.61	59.44	1.83	0.96	0.87	52%
2	195.00	205.00	59.44	62.48	3.05	2.75	0.30	90%
Totals					4.88	3.71	1.17	76%

Logged By:	R. McIntyre				D-14-7C			
Date Logged:	29-Jul-14							
Core Recovery Log								
Core Run	From (ft)	To (ft)	From (m)	To (m)	Cored Interval (m)	Measured Recovery (m)	Core Loss	Recovery %
1	51.50	52.90	15.70	16.12	0.43	0.39	0.04	91%
1	52.90	55.50	16.12	16.92	0.79	0.69	0.10	87%
1	55.50	58.75	16.92	17.91	0.99	0.87	0.12	88%
Totals					2.21	1.95	0.26	88%

Logged By:	R. McIntyre				D-14-8C			
Date Logged:	2-Aug-14							
Core Recovery Log								
Core Run	Driller From (ft)	Driller To (ft)	Driller From (m)	Driller To (m)	Cored Interval (m)	Measured Recovery (m)	Core Loss	Recovery %
1	55.00	64'10"	16.76	19.76	3.00	2.75	0.25	92%
Totals					3.00	2.75	0.25	92%

Logged By:	R. McIntyre				D-14-9C			
Date Logged:	Aug 2/14							
Core Recovery Log								
Core Run	From (ft)	To (ft)	From (m)	To (m)	Cored Interval (m)	Measured Recovery (m)	Core Loss	Recovery %
1	127.00	129'8"	38.71	39.52	0.81	0.81	0.00	100%
1	129'8"	132'3"	39.52	40.31	0.79	0.76	0.03	96%
1	132'3"	137'10"	40.31	42.01	1.70	1.57	0.13	92%
2	272.50	282.50	83.06	86.11	3.05	3.04	0.01	100%
Totals					6.35	6.18	0.17	97%

Logged By:	R. McIntyre				D-14-13C			
Date Logged:	Aug 9/14							
Core Recovery Log								
Core Run	From (ft)	To (ft)	From (m)	To (m)	Cored Interval (m)	Measured Recovery (m)	Core Loss	Recovery %
1	505.00	505.50	153.93	154.08	0.15	0.14	0.01	93%
1	505.50	513.00	154.08	156.36	2.28	1.21	1.07	53%
1	513.00	515.50	156.36	157.13	0.77	0.70	0.07	91%
Totals					3.20	2.05	1.15	64%

GEOPHYSICAL LOGS

(All geophysical logs have also been provided to MTO in TIFF and LAS format electronically)

Geotek
 GEOTECHNICAL ENGINEERING

**COMPENSATED DENSITY
 CORRECTED DENNIS
 D-14-1**

PROJECT: DUNLEVY COAL PROJECT
 CLIENT: BHP BILLITON
 LOCATION: DUNLEVY COAL PROJECT
 DATE: 07/23/14

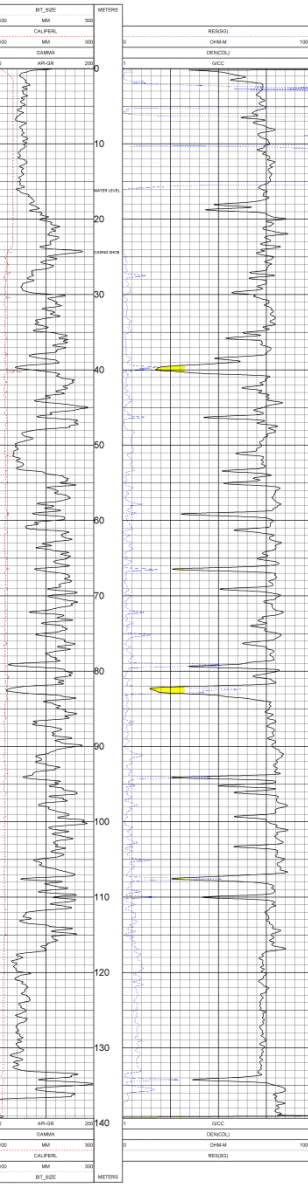
LOG NUMBER: 07232014
 SCALE: 1:100

LOG TITLE: 1:100 COMPENSATED DENSITY D-14-1 07/23/14

LOG PARAMETERS
 MATRIX DENSITY: 2.85 NEUTRON MATRIX: MATRIX DELTA T: 177
 MAGNETIC COEF.: 18.35 SELECT COEFF.: 0.0009 BT SIZE: 114.25
 PRESERVATION/DATE: 8238 DUNLEVY 1.0 07/23/2014 VERSION: 1.04L3

1:100 COMPENSATED DENSITY D-14-1 07/23/14

LOG PARAMETERS
 MATRIX DENSITY: 2.85 NEUTRON MATRIX: MATRIX DELTA T: 177
 MAGNETIC COEF.: 18.35 SELECT COEFF.: 0.0009 BT SIZE: 114.25
 PRESERVATION/DATE: 8238 DUNLEVY 1.0 07/23/2014 VERSION: 1.04L3



1:100 COMPENSATED DENSITY D-14-1 07/23/14

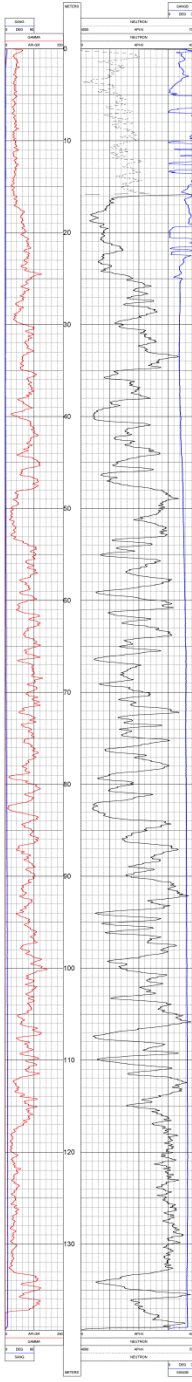
LOG PARAMETERS
 MATRIX DENSITY: 2.85 NEUTRON MATRIX: MATRIX DELTA T: 177
 MAGNETIC COEF.: 18.35 SELECT COEFF.: 0.0009 BT SIZE: 114.25
 PRESERVATION/DATE: 8238 DUNLEVY 1.0 07/23/2014 VERSION: 1.04L3

LOG CALIBRATION: 0.141 07/23/14 11:30
 TOOL NUMBER: 1014100000000
 SERIAL NUMBER: 2548

NO.	DATE	TIME	DEPTH	STANDARD	RESPONSE
1	JAN14	11:28:00	0.000	0.100 (APR 08)	0.000 (EPS)
2	JAN14	11:28:10	0.000	0.200 (APR 08)	0.000 (EPS)
3	JAN14	11:28:17	0.000	0.300 (APR 08)	0.000 (EPS)
4	JAN14	08:51:46	0.000	0.400 (APR 08)	0.000 (EPS)
5	JAN14	08:51:53	0.000	0.500 (APR 08)	0.000 (EPS)
6	JAN14	08:51:59	0.000	0.600 (APR 08)	0.000 (EPS)
7	JAN14	10:28:11	0.000	0.700 (APR 08)	0.000 (EPS)
8	JAN14	10:28:17	0.000	0.800 (APR 08)	0.000 (EPS)
9	JAN14	10:28:23	0.000	0.900 (APR 08)	0.000 (EPS)
10	JAN14	10:28:29	0.000	1.000 (APR 08)	0.000 (EPS)
11	JAN14	10:28:35	0.000	1.100 (APR 08)	0.000 (EPS)
12	JAN14	10:28:41	0.000	1.200 (APR 08)	0.000 (EPS)
13	JAN14	10:28:47	0.000	1.300 (APR 08)	0.000 (EPS)
14	JAN14	10:28:53	0.000	1.400 (APR 08)	0.000 (EPS)
15	JAN14	10:29:00	0.000	1.500 (APR 08)	0.000 (EPS)
16	JAN14	10:29:06	0.000	1.600 (APR 08)	0.000 (EPS)
17	JAN14	10:29:12	0.000	1.700 (APR 08)	0.000 (EPS)
18	JAN14	10:29:18	0.000	1.800 (APR 08)	0.000 (EPS)
19	JAN14	10:29:24	0.000	1.900 (APR 08)	0.000 (EPS)
20	JAN14	10:29:30	0.000	2.000 (APR 08)	0.000 (EPS)
21	JAN14	10:29:36	0.000	2.100 (APR 08)	0.000 (EPS)
22	JAN14	10:29:42	0.000	2.200 (APR 08)	0.000 (EPS)
23	JAN14	10:29:48	0.000	2.300 (APR 08)	0.000 (EPS)
24	JAN14	10:29:54	0.000	2.400 (APR 08)	0.000 (EPS)
25	JAN14	10:30:00	0.000	2.500 (APR 08)	0.000 (EPS)
26	JAN14	10:30:06	0.000	2.600 (APR 08)	0.000 (EPS)
27	JAN14	10:30:12	0.000	2.700 (APR 08)	0.000 (EPS)
28	JAN14	10:30:18	0.000	2.800 (APR 08)	0.000 (EPS)
29	JAN14	10:30:24	0.000	2.900 (APR 08)	0.000 (EPS)
30	JAN14	10:30:30	0.000	3.000 (APR 08)	0.000 (EPS)

Geotek	
SOUND, NEUTRON	
D-141	
LOG NUMBER: 1186	
LOG TITLE: NEUTRON LOG D-141 022314	
DATE: 02/23/14	
WELL: D-141	
DEPTH: 0 - 130	
LOG TYPE: NEUTRON	
LOG SCALE: LOG	
LOG UNIT: CM	
LOG INTERVAL: 10	
LOG START: 0	
LOG END: 130	
LOG BY: JTB	
LOG CHECKED: JTB	
LOG APPROVED: JTB	
LOG DATE: 02/23/14	

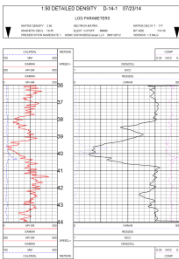
1186 NEUTRON LOG D-141 022314
 LOG PARAMETERS
 LOG NUMBER: 1186
 LOG TITLE: NEUTRON LOG D-141 022314
 DATE: 02/23/14
 WELL: D-141
 LOG TYPE: NEUTRON
 LOG SCALE: LOG
 LOG UNIT: CM
 LOG INTERVAL: 10
 LOG START: 0
 LOG END: 130
 LOG BY: JTB
 LOG CHECKED: JTB
 LOG APPROVED: JTB
 LOG DATE: 02/23/14



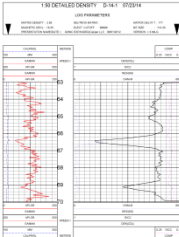
1186 NEUTRON LOG D-141 022314
 LOG PARAMETERS
 LOG NUMBER: 1186
 LOG TITLE: NEUTRON LOG D-141 022314
 DATE: 02/23/14
 WELL: D-141
 LOG TYPE: NEUTRON
 LOG SCALE: LOG
 LOG UNIT: CM
 LOG INTERVAL: 10
 LOG START: 0
 LOG END: 130
 LOG BY: JTB
 LOG CHECKED: JTB
 LOG APPROVED: JTB
 LOG DATE: 02/23/14

LOG NUMBER: 1186	
LOG TITLE: NEUTRON LOG D-141 022314	
DATE: 02/23/14	
WELL: D-141	
LOG TYPE: NEUTRON	
LOG SCALE: LOG	
LOG UNIT: CM	
LOG INTERVAL: 10	
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LOG END: 130	
LOG BY: JTB	
LOG CHECKED: JTB	
LOG APPROVED: JTB	
LOG DATE: 02/23/14	

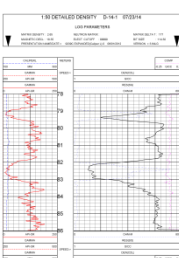
1.00 DETAILED DENSITY - 2.141 - 070314 LOG PARAMETERS DATE: 07/03/14 TIME: 14:00 WELL: 2.141 DEPTH: 141.00 LOG: 1.00 SCALE: 1.00 UNIT: 1.00 CORRECTED: 1.00 LOG: 1.00 SCALE: 1.00 UNIT: 1.00 CORRECTED: 1.00	
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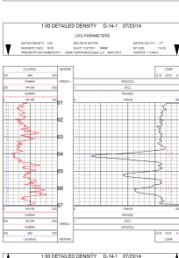
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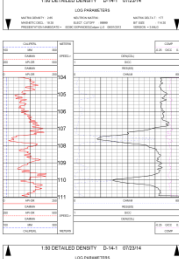
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1.00 DETAILED DENSITY - 2.141 - 070314 LOG PARAMETERS DATE: 07/03/14 TIME: 14:00 WELL: 2.141 DEPTH: 144.00 LOG: 1.00 SCALE: 1.00 UNIT: 1.00 CORRECTED: 1.00	
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1.00 DETAILED DENSITY - 2.141 - 070314 LOG PARAMETERS DATE: 07/03/14 TIME: 14:00 WELL: 2.141 DEPTH: 145.00 LOG: 1.00 SCALE: 1.00 UNIT: 1.00 CORRECTED: 1.00	
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1.00 DETAILED DENSITY - 2.141 - 070314 LOG PARAMETERS DATE: 07/03/14 TIME: 14:00 WELL: 2.141 DEPTH: 146.00 LOG: 1.00 SCALE: 1.00 UNIT: 1.00 CORRECTED: 1.00	
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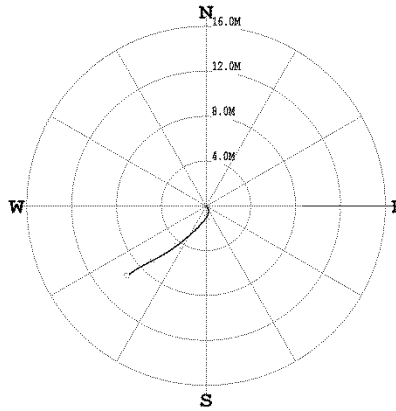
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PLAN VIEW COMPU-LOG DEVIATION

CLIENT: DUNLEVY COAL INC.
 LOCATION: N/A
 HOLE ID: D-14-1
 DATE OF LOG: 07/23/14
 PHONE: 90584 2615

SCALE: 2 M/CM
 TRUE DEPTH: 139.57 M
 AZIMUTH: 228.7
 DISTANCE: 9.4 M
 + = 20 M INCR
 ○ = BOTTOM OF HOLE

MAG DECL: 18.4



***** COMPU-LOG - VERTICAL DEVIATION *****

CLIENT : DUNLEVY COAL INC. HOLE ID. : D-14-1
 FIELD OFFICE : CENTURY GEO DATE OF LOG : 07/23/14
 DATA FROM : N/A PHONE : 90584 2615
 MAG. DECL. : 18.350 DEPTH UNITS : METERS
 LOG: D-14-1_07-23-14_10-50_90584_02_26_00_139.57_DEV1.LOG

TRUE DEPTH	MEAS DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
26.00	26.00	-0.00	0.00	0.0	148.4	0.5	148.4
27.00	27.00	-0.02	0.01	0.0	147.9	1.5	148.2
28.00	28.00	-0.04	0.03	0.1	148.3	1.4	147.5
29.00	29.00	-0.06	0.04	0.2	147.8	1.3	143.3
30.00	30.00	-0.08	0.05	0.3	148.0	1.2	139.7
31.00	31.00	-0.10	0.07	0.4	148.7	1.3	144.9
32.00	32.00	-0.12	0.08	0.5	148.2	1.2	134.4
33.00	33.00	-0.13	0.10	0.6	148.4	1.1	137.6
34.00	34.00	-0.15	0.11	0.7	143.8	1.1	138.9
35.00	35.00	-0.16	0.12	0.8	143.2	1.2	144.2
36.00	36.00	-0.18	0.13	0.9	143.5	0.9	146.6
37.00	37.00	-0.19	0.14	1.0	143.5	1.2	147.9
38.00	38.00	-0.21	0.15	1.1	143.5	1.3	149.9
39.00	39.00	-0.22	0.17	1.2	144.4	1.3	157.4
40.00	40.00	-0.25	0.18	1.3	143.3	1.3	158.1
41.00	41.00	-0.27	0.19	1.4	146.2	1.5	156.9
42.00	42.00	-0.29	0.20	1.5	146.9	1.5	161.4
43.00	43.00	-0.31	0.21	1.6	148.0	1.5	164.2
44.00	44.00	-0.34	0.22	1.7	149.4	1.7	171.6
45.00	45.00	-0.36	0.22	1.8	151.2	1.8	177.5
46.00	46.00	-0.38	0.22	1.9	152.9	1.8	182.9
47.00	47.00	-0.40	0.22	2.0	154.7	1.9	184.6
48.00	48.00	-0.42	0.22	2.1	156.5	2.0	186.0
49.00	49.00	-0.44	0.21	2.2	158.2	2.2	189.6
50.00	50.00	-0.46	0.21	2.3	160.4	2.4	193.2
51.00	51.00	-0.48	0.20	2.4	162.4	2.5	196.0
52.00	52.00	-0.51	0.19	2.5	164.2	2.6	197.2
53.00	53.00	-0.53	0.18	2.6	165.5	2.6	198.2
54.00	54.00	-0.55	0.17	2.7	166.5	2.6	199.2
55.00	55.00	-0.57	0.16	2.8	167.2	2.7	200.2
56.00	56.00	-0.59	0.15	2.9	167.5	3.1	202.4
57.00	57.00	-0.61	0.14	3.0	167.4	3.2	204.4
58.00	58.00	-0.63	0.13	3.1	167.1	3.2	205.4
59.00	59.00	-0.65	0.12	3.2	166.6	3.3	207.4
60.00	60.00	-0.67	0.11	3.3	165.9	3.4	210.7
61.00	61.00	-0.69	0.11	3.4	165.0	3.3	209.1
62.00	62.00	-0.71	0.10	3.5	164.4	3.5	218.7
63.00	63.00	-0.73	0.10	3.6	164.2	3.7	216.6
64.00	64.00	-0.75	0.10	3.7	164.0	4.0	215.2
65.00	65.00	-0.77	0.09	3.8	163.5	4.0	215.2
66.00	66.00	-0.79	0.09	3.9	162.8	3.6	212.9
67.00	67.00	-0.81	0.08	4.0	161.9	3.3	214.4
68.00	68.00	-0.83	0.08	4.1	160.8	3.0	214.4
69.00	69.00	-0.85	0.07	4.2	159.4	4.6	220.4
70.00	70.00	-0.87	0.07	4.3	157.8	5.0	222.4
71.00	71.00	-0.89	0.06	4.4	156.4	4.0	224.9
72.00	72.00	-0.91	0.05	4.5	154.8	4.1	220.6
73.00	73.00	-0.93	0.04	4.6	152.9	4.2	216.9
74.00	74.00	-0.95	0.04	4.7	150.8	4.2	216.9
75.00	75.00	-0.97	0.03	4.8	148.4	4.6	220.4
76.00	76.00	-0.99	0.03	4.9	145.8	5.0	222.4
77.00	77.00	-1.01	0.02	5.0	143.3	5.1	224.9
78.00	78.00	-1.03	0.02	5.1	140.8	5.5	224.9
79.00	79.00	-1.05	0.01	5.2	138.2	6.0	228.4
80.00	80.00	-1.07	0.01	5.3	135.5	6.5	228.4
81.00	81.00	-1.09	0.00	5.4	132.8	6.8	224.9
82.00	82.00	-1.11	0.00	5.5	130.0	7.0	220.6
83.00	83.00	-1.13	0.00	5.6	127.1	7.0	216.9
84.00	84.00	-1.15	0.00	5.7	124.2	6.7	212.9
85.00	85.00	-1.17	0.00	5.8	121.2	6.0	212.9
86.00	86.00	-1.19	0.00	5.9	118.2	5.0	212.9
87.00	87.00	-1.21	0.00	6.0	115.2	4.0	212.9
88.00	88.00	-1.23	0.00	6.1	112.2	3.0	212.9
89.00	89.00	-1.25	0.00	6.2	109.2	2.0	212.9
90.00	90.00	-1.27	0.00	6.3	106.2	1.0	212.9
91.00	91.00	-1.29	0.00	6.4	103.2	0.0	212.9
92.00	92.00	-1.31	0.00	6.5	100.2	0.0	212.9
93.00	93.00	-1.33	0.00	6.6	97.2	0.0	212.9
94.00	94.00	-1.35	0.00	6.7	94.2	0.0	212.9
95.00	95.00	-1.37	0.00	6.8	91.2	0.0	212.9
96.00	96.00	-1.39	0.00	6.9	88.2	0.0	212.9
97.00	97.00	-1.41	0.00	7.0	85.2	0.0	212.9
98.00	98.00	-1.43	0.00	7.1	82.2	0.0	212.9
99.00	99.00	-1.45	0.00	7.2	79.2	0.0	212.9
100.00	100.00	-1.47	0.00	7.3	76.2	0.0	212.9
101.00	101.00	-1.49	0.00	7.4	73.2	0.0	212.9
102.00	102.00	-1.51	0.00	7.5	70.2	0.0	212.9
103.00	103.00	-1.53	0.00	7.6	67.2	0.0	212.9
104.00	104.00	-1.55	0.00	7.7	64.2	0.0	212.9
105.00	105.00	-1.57	0.00	7.8	61.2	0.0	212.9
106.00	106.00	-1.59	0.00	7.9	58.2	0.0	212.9
107.00	107.00	-1.61	0.00	8.0	55.2	0.0	212.9
108.00	108.00	-1.63	0.00	8.1	52.2	0.0	212.9
109.00	109.00	-1.65	0.00	8.2	49.2	0.0	212.9
110.00	110.00	-1.67	0.00	8.3	46.2	0.0	212.9
111.00	111.00	-1.69	0.00	8.4	43.2	0.0	212.9
112.00	112.00	-1.71	0.00	8.5	40.2	0.0	212.9
113.00	113.00	-1.73	0.00	8.6	37.2	0.0	212.9
114.00	114.00	-1.75	0.00	8.7	34.2	0.0	212.9
115.00	115.00	-1.77	0.00	8.8	31.2	0.0	212.9
116.00	116.00	-1.79	0.00	8.9	28.2	0.0	212.9
117.00	117.00	-1.81	0.00	9.0	25.2	0.0	212.9
118.00	118.00	-1.83	0.00	9.1	22.2	0.0	212.9
119.00	119.00	-1.85	0.00	9.2	19.2	0.0	212.9
120.00	120.00	-1.87	0.00	9.3	16.2	0.0	212.9
121.00	121.00	-1.89	0.00	9.4	13.2	0.0	212.9
122.00	122.00	-1.91	0.00	9.5	10.2	0.0	212.9
123.00	123.00	-1.93	0.00	9.6	7.2	0.0	212.9
124.00	124.00	-1.95	0.00	9.7	4.2	0.0	212.9
125.00	125.00	-1.97	0.00	9.8	1.2	0.0	212.9
126.00	126.00	-1.99	0.00	9.9	0.0	0.0	212.9
127.00	127.00	-2.01	0.00	10.0	0.0	0.0	212.9
128.00	128.00	-2.03	0.00	10.1	0.0	0.0	212.9
129.00	129.00	-2.05	0.00	10.2	0.0	0.0	212.9
130.00	130.00	-2.07	0.00	10.3	0.0	0.0	212.9
131.00	131.00	-2.09	0.00	10.4	0.0	0.0	212.9
132.00	132.00	-2.11	0.00	10.5	0.0	0.0	212.9
133.00	133.00	-2.13	0.00	10.6	0.0	0.0	212.9
134.00	134.00	-2.15	0.00	10.7	0.0	0.0	212.9
135.00	135.00	-2.17	0.00	10.8	0.0	0.0	212.9
136.00	136.00	-2.19	0.00	10.9	0.0	0.0	212.9
137.00	137.00	-2.21	0.00	11.0	0.0	0.0	212.9
138.00	138.00	-2.23	0.00	11.1	0.0	0.0	212.9
139.00	139.00	-2.25	0.00	11.2	0.0	0.0	212.9
139.57	139.57	-2.27	0.00	11.3	0.0	0.0	212.9

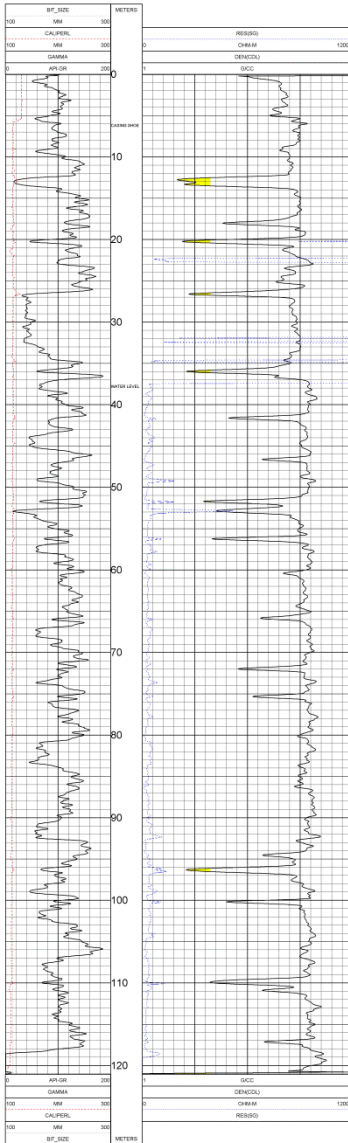
Century
COMPENSATED DENSITY
GAMMA-CALIPERS
D-14-2

DATE: 07/24/14
TIME: 13:00:00
WELL: DUNLEVY-14-2
CORRECTION: NONE
CORRECTION TYPE: NONE
CORRECTION VALUE: 0.00
CORRECTION SIGN: NONE
CORRECTION UNIT: NONE
CORRECTION PERCENT: 0.00
CORRECTION TYPE: NONE
CORRECTION VALUE: 0.00
CORRECTION SIGN: NONE
CORRECTION UNIT: NONE
CORRECTION PERCENT: 0.00
CORRECTION TYPE: NONE
CORRECTION VALUE: 0.00
CORRECTION SIGN: NONE
CORRECTION UNIT: NONE
CORRECTION PERCENT: 0.00

1:100 COMPENSATED DENSITY D-14-2 07/24/14

LOG PARAMETERS

MATRIX DENSITY: 2.65 NEUTRON MATRIX: SANDSTONE MATRIX DELTA: .177
MANGNETIC DECI: 10.00 RESC: CALIPER: 60000 BF: 502 1: 14.30
PRESENTATION NAME/CATE: KCSB-CALLEVY 1.0 07/23/2014 VERSION: 1.046.0



1:100 COMPENSATED DENSITY D-14-2 07/24/14

LOG PARAMETERS

MATRIX DENSITY: 2.65 NEUTRON MATRIX: SANDSTONE MATRIX DELTA: .177
MANGNETIC DECI: 10.00 RESC: CALIPER: 60000 BF: 502 1: 14.30
PRESENTATION NAME/CATE: KCSB-CALLEVY 1.0 07/23/2014 VERSION: 1.046.0

TOOL CALIBRATION: D-14-2 07/24/14 10:00
TOOL: 829231 TM VERSION: 2008
SERIAL NUMBER: 2008

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	JUN24 14	GAMMA	0.00	6176.000
2	JUN24 14	GAMMA	100.00	10200.000
3	JUN24 14	VOLTAGE	30.000	10000.000
4	JUN24 14	VOLTAGE	20.000	6176.000
5	JUN24 14	CALIPER	100.000	140000.000
6	JUN24 14	CALIPER	100.000	100000.000
7	JUN24 14	CALIPER	2.012	1074.000
8	JUN24 14	DENICOL	1.000	0.000
9	JUN24 14	DENICOL	2.000	0.000
10	JUN24 14	DENICOL	100.000	13857.000
11	JUN24 14	DENICOL	100.000	74500.000
12	JUN24 14	CURRENT	20.000	17000.000
13	JUN24 14	CURRENT	20.000	24000.000
14	JUN13 13	CURRENT	20.000	24000.000
15	JUN13 13	CURRENT	20.000	24000.000
16	JUN13 13	CURRENT	20.000	24000.000
17	JUN13 13	CURRENT	20.000	24000.000
18	JUN13 13	CURRENT	20.000	24000.000
19	JUN13 13	CURRENT	20.000	24000.000
20	JUN13 13	CURRENT	20.000	24000.000

Geophysical Data		Well Information		Log Parameters	
Well Name	DUNLEVY	Well ID	1100	Log Type	Gamma Neutron
Well Depth (m)	0 - 120	Well Status	Active	Log Scale	Linear
Well Diameter (mm)	100	Well Completion	Open	Log Units	SI

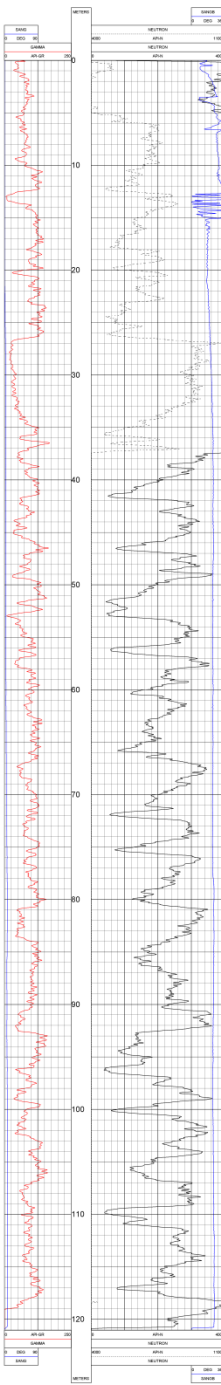
1100 GAMMA NEUTRON 0.142 07/24/14

LOG PARAMETERS

WELL NAME: DUNLEVY WELL ID: 1100 LOG TYPE: GAMMA NEUTRON

WELL DEPTH (m): 0 - 120 WELL STATUS: ACTIVE LOG SCALE: LINEAR

WELL DIAMETER (mm): 100 WELL COMPLETION: OPEN LOG UNITS: SI



1100 GAMMA NEUTRON 0.142 07/24/14

LOG PARAMETERS

WELL NAME: DUNLEVY WELL ID: 1100 LOG TYPE: GAMMA NEUTRON

WELL DEPTH (m): 0 - 120 WELL STATUS: ACTIVE LOG SCALE: LINEAR

WELL DIAMETER (mm): 100 WELL COMPLETION: OPEN LOG UNITS: SI

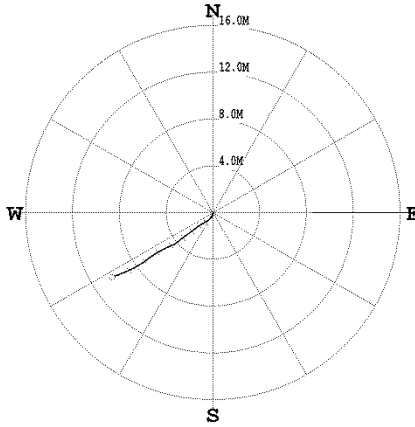
TRACK	NAME	UNITS	MIN	MAX	AVERAGE
1	GR	API	15	65	30
2	NP	PPM	0	100	50
3	RT	OHM-CM	1	1000	100
4	RT2	OHM-CM	1	1000	100
5	RT3	OHM-CM	1	1000	100
6	RT4	OHM-CM	1	1000	100
7	RT5	OHM-CM	1	1000	100
8	RT6	OHM-CM	1	1000	100

**PLAN VIEW
COMPU-LOG DEVIATION**

CLIENT: DUNLEVY COAL INC.
LOCATION: N/A
HOLE ID: D-14-2
DATE OF LOG: 07/24/14
PROBE: 9058A 2615

SCALE: 2 M/CM
TRUE DEPTH: 120.21 M
AZIMUTH: 237.3
DISTANCE: 10.2 M
+ = 10 M INCR
○ = BOTTOM OF HOLE

MAG DECL: 18.4



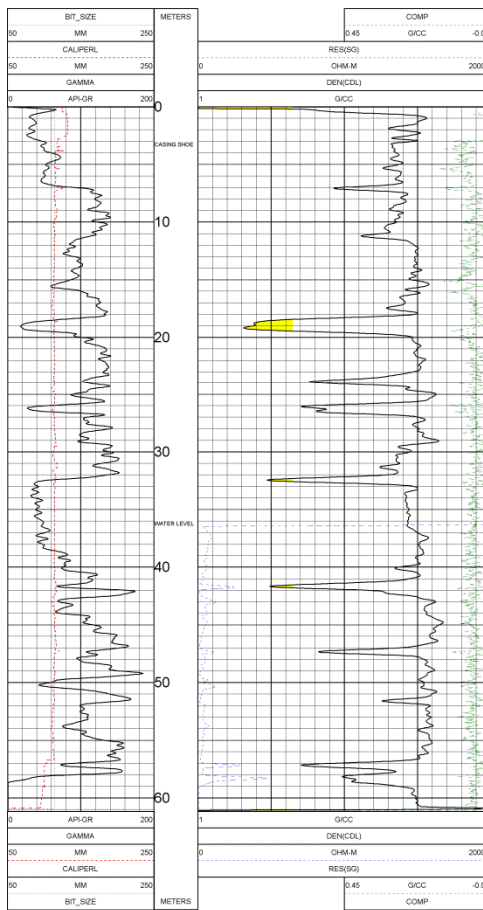
***** COMPU-LOG - VERTICAL DEVIATION *****

CLIENT : DUNLEVY COAL INC. HOLE ID. : D-14-2
FIELD OFFICE : CANNARY GEO DATE OF LOG : 07/24/14
DATA FROM : PROBE : 9058A 2615
MAG. DECL. : 18.350 DEPTH UNITS : METRES
LOG: D-14-2_07-24-14_09-41_9058A_02_10_00_121.01_DEV1.LOG

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SAND	SANDOR
18.00	18.00	-0.00	0.00	0.0	187.0	0.7	187.0
19.00	19.00	-0.01	0.00	0.0	176.2	0.7	179.8
20.00	20.00	-0.02	0.00	0.0	176.0	0.9	176.5
21.00	21.00	-0.04	0.00	0.0	174.3	0.9	170.2
22.00	22.00	-0.06	0.01	0.1	174.8	1.4	179.1
23.00	23.00	-0.09	0.00	0.1	178.1	1.7	187.3
24.00	24.00	-0.12	-0.00	0.1	181.2	2.0	186.7
25.00	25.00	-0.16	-0.01	0.2	184.9	2.4	197.8
26.00	26.00	-0.20	-0.03	0.2	188.1	2.7	199.3
27.00	27.00	-0.24	-0.05	0.2	191.0	2.9	203.5
28.00	27.99	-0.29	-0.07	0.3	194.0	3.1	210.4
29.00	28.99	-0.34	-0.08	0.4	196.6	3.3	210.7
30.00	29.99	-0.39	-0.14	0.4	199.5	3.5	218.4
31.00	30.99	-0.44	-0.18	0.5	202.1	3.7	222.1
32.00	32.99	-0.49	-0.22	0.5	204.4	3.8	220.4
33.00	32.98	-0.53	-0.27	0.6	206.7	3.8	227.6
34.00	33.98	-0.57	-0.32	0.7	208.8	3.8	228.7
35.00	34.98	-0.62	-0.37	0.7	210.9	3.7	230.6
36.00	35.98	-0.65	-0.42	0.8	212.7	3.5	225.8
37.00	36.98	-0.69	-0.47	0.8	214.5	3.7	228.3
38.00	37.97	-0.72	-0.52	0.9	216.0	3.4	236.2
39.00	38.97	-0.75	-0.58	0.9	217.3	3.4	238.4
40.00	39.97	-0.79	-0.63	1.0	218.6	3.4	236.7
41.00	40.97	-0.82	-0.68	1.1	219.8	3.7	239.7
42.00	41.97	-0.85	-0.74	1.1	220.8	3.7	237.3
43.00	42.96	-0.89	-0.78	1.2	221.6	3.7	236.6
44.00	43.96	-0.93	-0.84	1.3	222.3	3.7	243.8
45.00	44.96	-0.96	-0.90	1.3	223.3	3.8	236.2
46.00	45.96	-0.99	-0.95	1.4	223.9	3.8	240.3
47.00	46.96	-1.02	-1.01	1.4	224.7	3.8	237.4
48.00	47.95	-1.05	-1.06	1.5	225.1	3.8	236.3
49.00	48.95	-1.09	-1.12	1.6	225.7	4.0	227.3
50.00	49.95	-1.13	-1.17	1.6	226.1	3.8	232.8
51.00	50.95	-1.17	-1.23	1.7	226.4	4.4	236.4
52.00	51.94	-1.21	-1.29	1.8	226.8	4.4	236.2
53.00	52.94	-1.26	-1.35	1.8	227.1	4.3	237.7
54.00	53.94	-1.30	-1.42	1.9	227.4	4.3	231.6
55.00	54.94	-1.35	-1.48	2.0	227.6	4.4	238.9
56.00	55.93	-1.40	-1.54	2.1	227.7	4.8	230.4
57.00	56.93	-1.44	-1.60	2.2	227.9	4.8	233.1
58.00	57.93	-1.49	-1.66	2.2	228.1	4.8	229.1
59.00	58.92	-1.54	-1.73	2.3	228.4	4.8	235.6
60.00	59.92	-1.58	-1.78	2.4	228.6	4.8	237.7
61.00	60.92	-1.63	-1.86	2.5	228.9	4.4	232.4
62.00	61.91	-1.67	-1.92	2.6	229.0	5.0	236.8
63.00	62.91	-1.73	-2.00	2.6	229.2	5.0	237.7
64.00	63.90	-1.78	-2.07	2.7	229.3	5.2	234.6
65.00	64.90	-1.83	-2.15	2.8	229.5	5.3	237.7
66.00	65.90	-1.88	-2.22	2.9	229.7	5.3	236.2
67.00	66.89	-1.94	-2.30	2.9	229.8	5.4	239.4
68.00	67.89	-1.99	-2.38	3.1	230.1	5.5	235.1
69.00	68.88	-2.05	-2.45	3.2	230.1	5.5	232.6
70.00	69.88	-2.11	-2.53	3.3	230.2	5.8	230.8
71.00	70.87	-2.18	-2.61	3.4	230.2	6.0	229.6
72.00	71.87	-2.24	-2.69	3.5	230.2	6.3	232.2
73.00	72.86	-2.31	-2.78	3.6	230.3	6.5	230.4
74.00	73.85	-2.38	-2.87	3.7	230.3	6.9	230.0
75.00	74.85	-2.46	-2.96	3.9	230.3	7.3	233.9
76.00	75.84	-2.54	-3.07	4.0	230.4	7.7	233.3
77.00	76.83	-2.62	-3.17	4.1	230.5	7.4	234.1
78.00	77.82	-2.69	-3.28	4.2	230.6	7.8	234.9
79.00	78.81	-2.76	-3.40	4.4	231.0	8.0	247.2
80.00	79.80	-2.81	-3.53	4.5	231.5	8.1	246.3
81.00	80.78	-2.87	-3.66	4.6	231.8	8.1	243.8
82.00	81.78	-2.93	-3.78	4.8	232.2	7.9	245.5
83.00	82.77	-2.99	-3.91	4.9	232.6	8.0	246.9
84.00	83.76	-3.04	-4.03	5.0	232.9	8.0	245.8
85.00	84.75	-3.10	-4.16	5.2	233.3	7.7	246.9
86.00	85.75	-3.15	-4.27	5.3	233.6	7.0	239.7
87.00	86.74	-3.21	-4.38	5.4	233.8	7.0	244.3
88.00	87.73	-3.27	-4.49	5.6	234.0	7.2	244.6
89.00	88.72	-3.32	-4.60	5.7	234.1	7.3	243.8
90.00	89.72	-3.38	-4.71	5.8	234.3	7.3	239.7
91.00	90.71	-3.45	-4.82	5.9	234.4	7.5	239.8
92.00	91.70	-3.51	-4.92	6.1	234.5	7.2	233.2
93.00	92.69	-3.58	-5.03	6.2	234.6	7.2	235.4
94.00	93.68	-3.65	-5.13	6.3	234.5	7.2	234.5
95.00	94.66	-3.71	-5.24	6.4	234.6	7.6	239.8
96.00	95.65	-3.78	-5.35	6.4	234.6	7.9	239.0
97.00	96.64	-3.88	-5.46	6.7	234.6	7.8	232.3
98.00	97.63	-3.97	-5.56	6.8	234.5	8.1	232.4
99.00	98.64	-4.05	-5.67	7.0	234.5	7.9	232.3
100.00	99.63	-4.14	-5.79	7.1	234.4	8.1	233.2
101.00	100.62	-4.22	-5.90	7.3	234.5	8.4	236.2
102.00	101.61	-4.30	-6.03	7.4	234.6	8.4	238.9
103.00	102.60	-4.37	-6.15	7.5	234.6	8.7	237.8
104.00	103.58	-4.45	-6.28	7.7	234.7	8.6	240.7
105.00	104.57	-4.53	-6.41	7.9	234.8	8.7	239.9
106.00	105.56	-4.60	-6.54	8.0	234.9	8.6	239.9
107.00	106.55	-4.68	-6.67	8.2	235.0	8.8	241.7
108.00	107.54	-4.75	-6.81	8.5	235.1	8.6	241.7
109.00	108.53	-4.82	-6.94	8.4	235.2	8.7	241.8
110.00	109.52	-4.89	-7.08	8.6	235.4	8.6	243.1
111.00	110.50	-4.95	-7.21	8.7	235.5	8.7	244.4
112.00	111.49	-5.02	-7.35	8.9	235.7	8.9	242.1
113.00	112.48	-5.07	-7.49	9.0	235.9	8.9	248.3
114.00	113.47	-5.13	-7.64	9.2	236.1	8.9	248.0
115.00	114.46	-5.18	-7.78	9.3	236.2	8.8	246.8
116.00	115.45	-5.24	-7.92	9.5	236.5	8.8	249.3
117.00	116.43	-5.30	-8.06	9.6	236.7	8.7	246.2
118.00	117.42	-5.36	-8.20	9.8	236.8	9.0	252.5
119.00	118.41	-5.41	-8.35	9.9	237.1	8.8	248.9
120.00	119.40	-5.47	-8.49	10.1	237.2	9.0	249.2
121.00	120.39	-5.52	-8.61	10.2	237.4	9.0	0.0
122.00	120.38	-5.52	-8.61	10.2	237.4	9.0	244.6

CENTURY WIRELINE SERVICES		COMPENSATED DENSITY GAMMA-CALIBERES D-14-3C	
COMPANY	DUNLEVY COAL, INC.	OTHER SERVICES	
FIELD	N/A	WELL	N/A
COUNTRY	CANADA	WELL TYPE	NAI
PROVINCE	BRITISH COLUMBIA		
SECTION	N/A		
TOWNSHIP	N/A		
RANGE	N/A		
UNIQUE WELL ID	N/A		
PRESENTATION NAME	0293C1	ELEVATION IN	N/A
LOG HEADERS FROM LOG		ELEVATION TO	N/A
DATE	07/26/2014	ROTTUNBERG	N/A
DEPTH START	62.48	DEPTH END	114.30
DEPTH STOP	114.30	APPROX. TIME	4:30
LOG BOTTOM	91.11	LOGGING	LOGGING
CASING LOGS	3.54	CING STOPPED	N/A
COMPASS DIRECTION	3.54		
WIND DIRECTION	N/A		
WIND SPEED	N/A		
WIND TEMPERATURE	N/A		
WIND PRESSURE	N/A		
WIND LOGS	N/A		
WIND LOGS	N/A		
RECORDED BY	ABILL		
RECORDED BY	ABILL		
REMARKS 1	POST-PROCESSING PRINTING DATA		
REMARKS 2	ALL SENSORS SUBJECT TO GENERAL TERMS AND CONDITIONS		

1:100 COMPENSATED DENSITY D-14-3C 07/26/14		
LOG PARAMETERS		
MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA : 177
MAGNETIC DECL. : 18.35	ELECT CUTOFF : 5000	BIT SIZE : 114.30
PRESENTATION NAME/DATE : 9239-DUNLEVY 1.0 07/26/2014		VERSION : 3.64LG



1:100 COMPENSATED DENSITY D-14-3C 07/26/14		
LOG PARAMETERS		
MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA : 177
MAGNETIC DECL. : 18.35	ELECT CUTOFF : 5000	BIT SIZE : 114.30
PRESENTATION NAME/DATE : 9239-DUNLEVY 1.0 07/26/2014		VERSION : 3.64LG

TOOL CALIBRATION D-14-3C 07/26/14 12:30					
TOOL 9239C1 TM VERSION 2025					
SERIAL NUMBER 2648					
DATE	TIME	SENSOR	STANDARD	RESPONSE	
1	Jun04 14 11:08:10	GAMMA	0.100 [APIGR]	0.000	[CPS]
2	Jun04 14 11:08:17	GAMMA	500.000 [APIGR]	5291.000	[CPS]
3	Jun04 14 10:24:17	VOLTAGE	28.500 [MV]	15091.000	[CPS]
4	Jun04 14 10:24:17	VOLTAGE	204.800 [MV]	441337.000	[CPS]
5	Jun04 14 10:24:45	CALIPER	100.000 [MM]	140954.000	[CPS]
6	Jun04 14 09:55:44	CALIPER	150.000 [MM]	190325.000	[CPS]
7	Jul15 14 09:55:44	DEN(LS)	1.620 [GICC]	11788.400	[CPS]
8	Jul15 14 09:55:44	DEN(SS)	2.880 [GICC]	1874.000	[CPS]
9	Jul15 14 09:55:50	DEN(SS)	1.620 [GICC]	49098.000	[CPS]
10	Jul15 14 09:55:50	DEN(SS)	2.880 [GICC]	17868.000	[CPS]
11	Jul15 14 09:13:20	CALIPER	100.000 [MM]	138537.000	[CPS]
12	Jul15 14 09:13:20	CALIPER	200.000 [MM]	243995.000	[CPS]
13	Jun04 14 10:26:11	CURRENT	28.500 [UA]	7880.000	[CPS]
14	Jun04 14 10:26:11	CURRENT	224.900 [UA]	24484.000	[CPS]
15	Jun13 13 13:06:03	F	Default		[CPS]
16	Jun13 13 13:06:03	X	Default		[CPS]

Century
Energy Services Inc.

GAMMA - NEUTRON
D-14-3C

WELL: M-14-3C-001
LOG TITLE: M-14-3C-001
LOG DATE: 07/26/14
LOG TIME: 11:58:52
LOG USER: JEFFREY H. BROWN

CLIENT: WINDFALL OILFIELD
WELL: M-14-3C-001
LOG DATE: 07/26/14
LOG TIME: 11:58:52
LOG USER: JEFFREY H. BROWN

LOG TYPE: NEUTRON
CORRECTIONS: SCALED TO NEUTRON
SANGS: 0 DEG 360

LOG VERSION: 3.64G

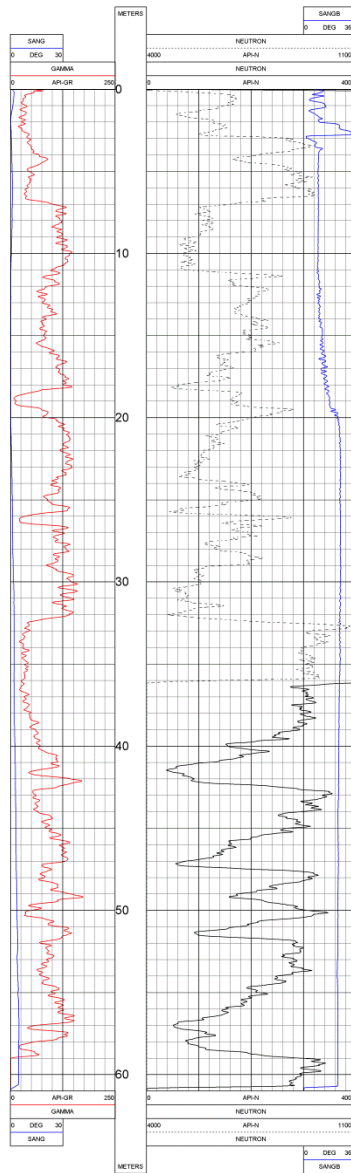
WELL: M-14-3C-001
LOG DATE: 07/26/14
LOG TIME: 11:58:52
LOG USER: JEFFREY H. BROWN

LOG TYPE: NEUTRON
CORRECTIONS: SCALED TO NEUTRON
SANGS: 0 DEG 360

1:100 GAMMA NEUTRON D-14-3C 07/26/14

LOG PARAMETERS

MATRIX DENSITY: 2.65 NEUTRON MATRIX: SANDSTONE MATRIX DELTA T: 177
MAGNETIC DECL: 18.36 ELECT CUTOFF: 50000 SF SZE: 114.30
PRESENTATION NAME/CATE: 0056 NEUTRON/DUNLEVY D 07/26/14 VERSION: 3.64G



1:100 GAMMA NEUTRON D-14-3C 07/26/14

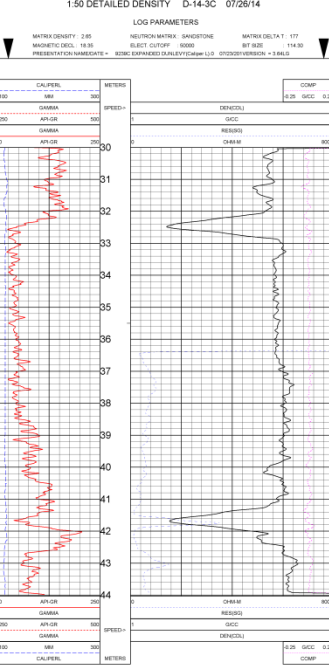
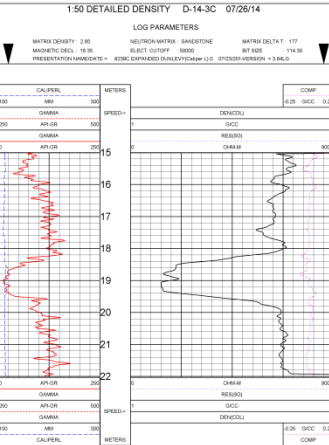
LOG PARAMETERS

MATRIX DENSITY: 2.65 NEUTRON MATRIX: SANDSTONE MATRIX DELTA T: 177
MAGNETIC DECL: 18.36 ELECT CUTOFF: 50000 SF SZE: 114.30
PRESENTATION NAME/CATE: 0056 NEUTRON/DUNLEVY D 07/26/14 VERSION: 3.64G

TOOL CALIBRATION D-14-3C 07/26/14 12:10
TOOL: GAMA 14.36 SER: 0056
SERIAL NUMBER: 3615

DATE	TIME	BENCHOR	STANDARD	RESPONSE
1	JAN14.4	11:57:45	GAMMA 0.100 (API GR)	6.000 [CPG]
2	JAN14.4	11:57:45	GAMMA 540.000 (API GR)	339.000 [CPG]
3	JAN14.4	11:58:52	TEMP -1.250 (DEG F)	33995.000 [CPG]
4	JAN14.4	11:58:52	TEMP 41.250 (DEG F)	33995.000 [CPG]
3	JAN14.4	11:58:57	NEUTRCP 0.000 (API N)	61.000 [CPG]
4	JAN14.4	11:58:57	NEUTRCP 97.100 (API N)	61.000 [CPG]
4	JAN14.4	11:58:02	POHNE 100.000 (PERCENT)	62.400 [CPG]

Century GAMMA-CALPER-RES D-14-3C			
PROJECT: [] COMPANY: [] CLIENT: [] LOCATION: [] DATE: []	LOG NUMBER: [] LOG DATE: [] LOG TIME: [] LOG BY: [] LOG CHECKED BY: []	WELL NAME: [] WELL NUMBER: [] WELL DATE: [] WELL TYPE: [] WELL STATUS: []	LOG TYPE: [] LOG SCALE: [] LOG SPEED: [] LOG RESOLUTION: [] LOG FILTER: []



LOG CALIBRATION D-14-3C 07/26/14 12:30

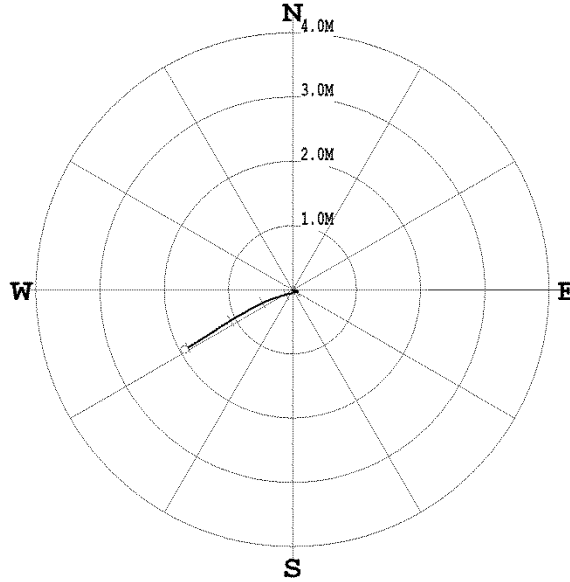
LOG NUMBER	TIME	SENSOR	STANDARD	RESPONSE
1	JAN 14 11:39:10	GAMMA	0.100	17680.000
2	JAN 14 11:39:11	GAMMA	0.200	17680.000
3	JAN 14 11:39:12	VOL TAPE	20.000	17680.000
4	JAN 14 11:39:13	CAL PAD	100.000	17680.000
5	JAN 14 11:39:14	CAL PAD	100.000	17680.000
6	JAN 14 11:39:15	DEN150	1.000	17680.000
7	JAN 14 11:39:16	DEN150	2.000	17680.000
8	JAN 14 11:39:17	CAL PAD	100.000	17680.000
9	JAN 14 11:39:18	CAL PAD	100.000	17680.000
10	JAN 14 11:39:19	CAL PAD	100.000	17680.000
11	JAN 14 11:39:20	CAL PAD	100.000	17680.000
12	JAN 14 11:39:21	CURRENT	1.000	17680.000
13	JAN 14 11:39:22	CURRENT	2.000	17680.000
14	JAN 14 11:39:23	CURRENT	3.000	17680.000
15	JAN 14 11:39:24	CURRENT	4.000	17680.000
16	JAN 14 11:39:25	CURRENT	5.000	17680.000
17	JAN 14 11:39:26	CURRENT	6.000	17680.000
18	JAN 14 11:39:27	CURRENT	7.000	17680.000
19	JAN 14 11:39:28	CURRENT	8.000	17680.000
20	JAN 14 11:39:29	CURRENT	9.000	17680.000
21	JAN 14 11:39:30	CURRENT	10.000	17680.000

PLAN VIEW COMPU-LOG DEVIATION

CLIENT: DUNLEVY COAL INC.
 LOCATION: N/A
 HOLE ID: D-14-3C
 DATE OF LOG: 07/26/14
 PROBE: 9058A 2615



SCALE: 1 M/CM
 TRUE DEPTH: 60.70 M
 AZIMUTH: 241.0
 DISTANCE: 1.9 M
 + = 10 M INCR
 ○ = BOTTOM OF HOLE



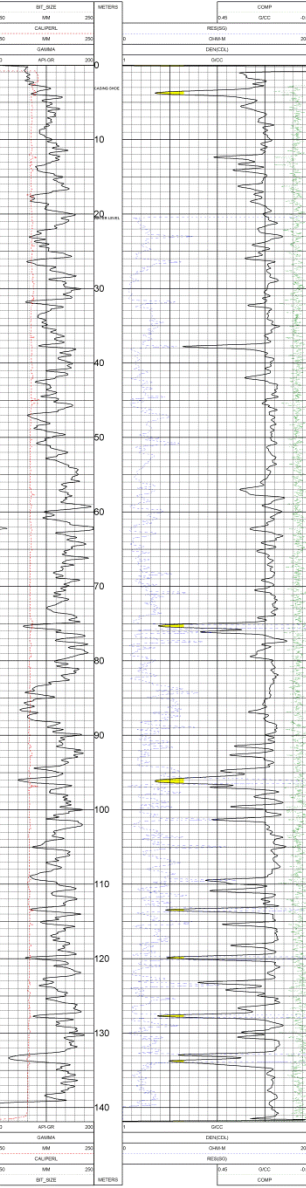
***** COMPU-LOG - VERTICAL DEVIATION *****

CLIENT : DUNLEVY COAL INC. HOLE ID. : D-14-3C
 FIELD OFFICE : CENTURY GEO DATE OF LOG : 07/26/14
 DATA FROM : N/A PROBE : 9058A , 2615
 MAG. DECL. : 18.35D DEPTH UNITS : METERS
 LOG: D-14-3C_07-26-14_12-10_9058A_02_7.00_60.95_DEVI.log

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANGS	SANGR
7.02	7.02	-0.00	0.00	0.0	102.9	1.1	102.9
8.00	8.00	-0.00	0.02	0.0	103.8	1.1	104.5
9.00	9.00	-0.01	0.03	0.0	103.6	0.9	102.6
10.00	10.00	-0.01	0.05	0.0	103.3	0.6	101.6
11.00	11.00	-0.01	0.06	0.1	103.0	0.4	94.8
12.00	12.00	-0.01	0.06	0.1	103.2	0.3	110.5
13.00	13.00	-0.02	0.07	0.1	103.7	0.3	109.4
14.00	14.00	-0.02	0.07	0.1	104.1	0.4	107.2
15.00	15.00	-0.02	0.07	0.1	104.9	0.2	131.6
16.00	16.00	-0.02	0.08	0.1	105.7	0.1	131.7
17.00	17.00	-0.02	0.08	0.1	106.6	0.1	124.3
18.00	18.00	-0.02	0.08	0.1	107.4	0.1	158.5
19.00	19.00	-0.03	0.08	0.1	108.5	0.1	183.4
20.00	20.00	-0.03	0.08	0.1	110.0	0.2	234.9
21.00	21.00	-0.03	0.07	0.1	112.8	0.5	251.0
22.00	22.00	-0.03	0.06	0.1	117.8	0.7	256.3
23.00	23.00	-0.04	0.05	0.1	126.4	0.8	255.9
24.00	24.00	-0.04	0.03	0.1	140.5	1.0	260.8
25.00	25.00	-0.05	0.02	0.0	161.0	1.2	252.7
26.00	26.00	-0.05	-0.00	0.1	184.7	1.2	255.7
27.00	27.00	-0.06	-0.03	0.1	204.4	1.2	256.5
28.00	28.00	-0.06	-0.05	0.1	217.7	1.4	257.0
29.00	29.00	-0.07	-0.07	0.1	227.1	1.6	255.2
30.00	30.00	-0.07	-0.10	0.1	233.9	1.8	253.9
31.00	31.00	-0.08	-0.14	0.2	239.6	2.1	255.8
32.00	32.00	-0.09	-0.17	0.2	241.5	2.4	255.9
33.00	33.00	-0.11	-0.21	0.2	243.2	2.2	250.9
34.00	33.99	-0.12	-0.25	0.3	244.4	2.3	252.0
35.00	34.99	-0.13	-0.29	0.3	245.6	2.2	253.2
36.00	35.99	-0.14	-0.32	0.4	246.2	2.2	247.9
37.00	36.98	-0.16	-0.36	0.4	246.4	2.1	247.0
38.00	37.99	-0.17	-0.39	0.4	246.5	2.3	248.2
39.00	38.99	-0.19	-0.43	0.5	246.5	2.4	244.4
40.00	39.99	-0.21	-0.47	0.5	246.4	2.7	244.3
41.00	40.99	-0.23	-0.51	0.6	246.3	2.8	244.2
42.00	41.99	-0.25	-0.56	0.6	246.1	2.7	242.0
43.00	42.99	-0.27	-0.61	0.7	245.9	3.0	242.3
44.00	43.98	-0.30	-0.65	0.7	245.5	3.1	238.4
45.00	44.98	-0.33	-0.70	0.8	245.1	3.2	240.6
46.00	45.98	-0.35	-0.75	0.8	244.8	3.2	244.4
47.00	46.98	-0.38	-0.80	0.9	244.5	3.4	243.3
48.00	47.98	-0.41	-0.85	0.9	244.3	3.5	239.5
49.00	48.98	-0.44	-0.91	1.0	244.0	3.7	238.4
50.00	49.97	-0.48	-0.96	1.1	243.7	3.9	237.9
51.00	50.97	-0.51	-1.02	1.1	243.4	4.1	240.3
52.00	51.97	-0.55	-1.08	1.2	243.1	4.3	238.3
53.00	52.97	-0.59	-1.15	1.3	242.8	4.0	236.0
54.00	53.96	-0.63	-1.20	1.4	242.4	4.2	232.8
55.00	54.96	-0.67	-1.27	1.4	242.1	4.4	237.8
56.00	55.96	-0.72	-1.34	1.5	241.8	4.6	239.3
57.00	56.95	-0.76	-1.41	1.6	241.7	5.0	237.9

Garvey		COMPENSATED DENSITY GAMMA-CORRECTED D-14-4	
TOOL JOBS	LOGS	DATE	TIME
LOG NO.	LOG DATE	LOG TIME	LOG USER
LOG NAME	LOG DESCRIPTION	LOG LOCATION	LOG COMMENTS
LOG TYPE	LOG STATUS	LOG VERSION	LOG REVISION
LOG OWNER	LOG PROJECT	LOG CLIENT	LOG FIELD
LOG INSTRUMENT	LOG SERIAL NO.	LOG MANUFACTURER	LOG MODEL
LOG OPERATOR	LOG ASSISTANT	LOG SUPERVISOR	LOG ENGINEER
LOG QUALITY CONTROL	LOG APPROVAL	LOG SIGNATURE	LOG DATE

1:100 COMPENSATED DENSITY D-14-4 07/27/14			
LOG PARAMETERS			
MATRIX DENSITY: 2.65	NEUTRON MATRIX: SANDSTONE	MATRIX DELTA T: 177	
MAGNETIC DELTA: 18.86	SLICED G-UPPER: 18500	BT SIZE: 14.80	
PREDEFINITION NAME/DATE: 8038 CALLEVOY 1.0 07/08/04		VERSION: 1.3.6.6.0	



1:100 COMPENSATED DENSITY D-14-4 07/27/14			
LOG PARAMETERS			
MATRIX DENSITY: 2.65	NEUTRON MATRIX: SANDSTONE	MATRIX DELTA T: 177	
MAGNETIC DELTA: 18.86	SLICED G-UPPER: 18500	BT SIZE: 14.80	
PREDEFINITION NAME/DATE: 8038 CALLEVOY 1.0 07/08/04		VERSION: 1.3.6.6.0	

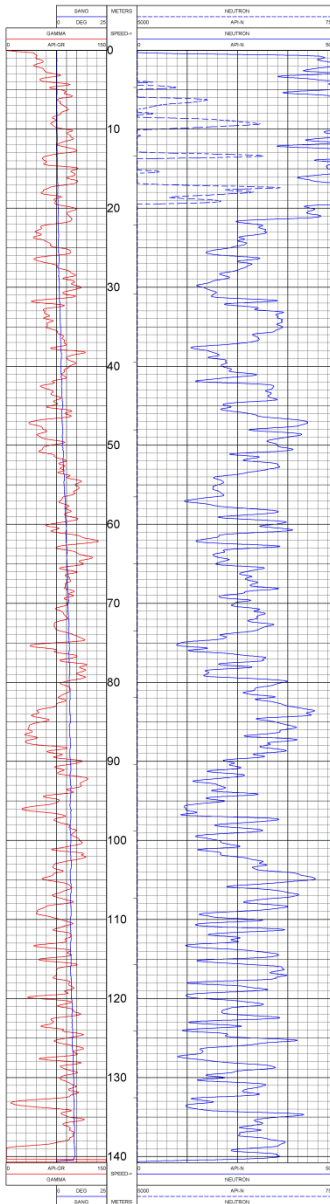
TOOL CALIBRATION: D-14-4 07/27/14 13:11			
TOOL SERIAL: 1001050304 02/02			
SERIAL NUMBER: 2988			
DATE	TIME	SEQUENCE	RESPONSE
1	JAN14 11:58:10	SAND	0.000 [AN GR] 0.000 [SP]
2	JAN14 11:58:10	SAND	100.000 [AN GR] 100.000 [SP]
3	JAN14 11:58:17	VOLTADE	238.000 [AN GR] 4937.000 [SP]
4	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
5	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
6	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
7	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
8	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
9	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
10	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
11	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
12	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
13	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
14	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
15	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
16	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
17	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
18	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
19	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
20	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
21	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
22	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
23	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
24	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
25	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
26	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
27	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
28	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
29	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]
30	JAN14 11:58:46	CAL/DEL	100.000 [AN GR] 8880.000 [SP]

CENTURY			GAMMA/NEUTRON LOG IN DRILL PIPE D-14-4		
WELL NO.	D-14-4	DATE LOGGED	LOG TYPE	LOG TIME	LOG TIME
WELL NAME	AMOR-OR	LOGGED BY	LOGGING COMPANY		
CUSTOMER	AMOR-OR	LOGGING DATE			
WELL TYPE	WATER	LOGGING TIME			
LOGGING DATE	07/27/14	LOGGING TIME			
LOGGING TIME	14:27	LOGGING TIME			
LOGGING TIME	14:27	LOGGING TIME			
LOGGING TIME	14:27	LOGGING TIME			
LOGGING TIME	14:27	LOGGING TIME			
LOGGING TIME	14:27	LOGGING TIME			
LOGGING TIME	14:27	LOGGING TIME			

1:100 GAMMA NEUTRON TP D-14-4 07/27/14

LOG PARAMETERS

MATRIX DENSITY: 2.65 NEUTRON MATRIX: SANDSTONE MATRIX DELTA: 1.17
 MAGNETIC DECL: 18.35 SELECT CURVE: 5000 BIT SIZE: 114.30
 PRESENTATION NAME DATE: DUNLEVY COAL LTP D-14-4 07/27/14 VERSION: 3.3 ML 0



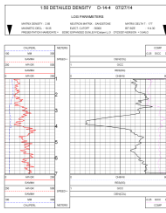
1:100 GAMMA NEUTRON TP D-14-4 07/27/14

LOG PARAMETERS

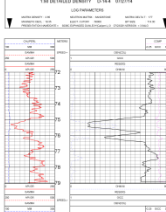
MATRIX DENSITY: 2.65 NEUTRON MATRIX: SANDSTONE MATRIX DELTA: 1.17
 MAGNETIC DECL: 18.35 SELECT CURVE: 5000 BIT SIZE: 114.30
 PRESENTATION NAME DATE: DUNLEVY COAL LTP D-14-4 07/27/14 VERSION: 3.3 ML 0

SERIAL NUMBER	DATE	SENSOR	STANDARD	RESPONSE
1	Jul 14 11:37:46	GAMMA	0.300 (AMOR)	6300 (SPC)
2	Jul 14 11:38:02	GAMMA	100.000 (AMOR)	8200 (SPC)
3	Jul 14 11:38:12	TEMP	47.070 (DECP)	30628.000 (SPC)
4	Jul 14 11:38:20	NEUTRON	37.000 (APL)	59400 (SPC)
4	Jul 14 11:38:32	PORTNELLI	50.000 (PKSLER)	5240 (SPC)

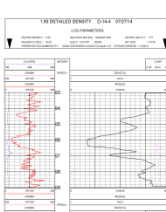
Geophysical	
Project Name:	Dunlevy Coal Project
Client:	...
Site Name:	...
Survey Date:	...
Survey Time:	...
Survey Location:	...
Survey Method:	...
Survey Equipment:	...
Survey Operator:	...
Survey Station:	...
Survey Depth:	...
Survey Interval:	...
Survey Duration:	...
Survey Status:	...
Survey Notes:	...



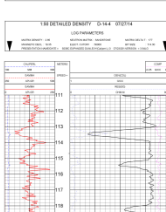
Geophysical	
Project Name:	Dunlevy Coal Project
Client:	...
Site Name:	...
Survey Date:	...
Survey Time:	...
Survey Location:	...
Survey Method:	...
Survey Equipment:	...
Survey Operator:	...
Survey Station:	...
Survey Depth:	...
Survey Interval:	...
Survey Duration:	...
Survey Status:	...
Survey Notes:	...



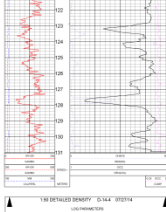
Geophysical	
Project Name:	Dunlevy Coal Project
Client:	...
Site Name:	...
Survey Date:	...
Survey Time:	...
Survey Location:	...
Survey Method:	...
Survey Equipment:	...
Survey Operator:	...
Survey Station:	...
Survey Depth:	...
Survey Interval:	...
Survey Duration:	...
Survey Status:	...
Survey Notes:	...



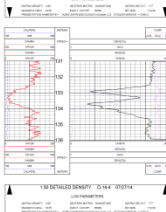
Geophysical	
Project Name:	Dunlevy Coal Project
Client:	...
Site Name:	...
Survey Date:	...
Survey Time:	...
Survey Location:	...
Survey Method:	...
Survey Equipment:	...
Survey Operator:	...
Survey Station:	...
Survey Depth:	...
Survey Interval:	...
Survey Duration:	...
Survey Status:	...
Survey Notes:	...



Geophysical	
Project Name:	Dunlevy Coal Project
Client:	...
Site Name:	...
Survey Date:	...
Survey Time:	...
Survey Location:	...
Survey Method:	...
Survey Equipment:	...
Survey Operator:	...
Survey Station:	...
Survey Depth:	...
Survey Interval:	...
Survey Duration:	...
Survey Status:	...
Survey Notes:	...



Geophysical	
Project Name:	Dunlevy Coal Project
Client:	...
Site Name:	...
Survey Date:	...
Survey Time:	...
Survey Location:	...
Survey Method:	...
Survey Equipment:	...
Survey Operator:	...
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Survey Interval:	...
Survey Duration:	...
Survey Status:	...
Survey Notes:	...

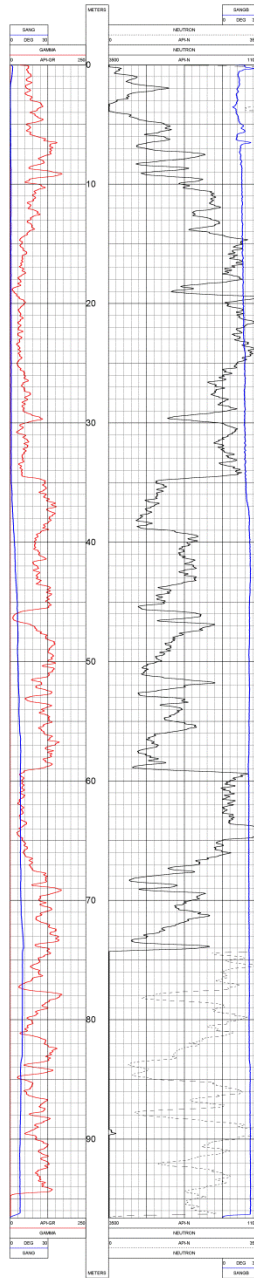


Geophysical	
Project Name:	Dunlevy Coal Project
Client:	...
Site Name:	...
Survey Date:	...
Survey Time:	...
Survey Location:	...
Survey Method:	...
Survey Equipment:	...
Survey Operator:	...
Survey Station:	...
Survey Depth:	...
Survey Interval:	...
Survey Duration:	...
Survey Status:	...
Survey Notes:	...

Geophysical	
Project Name:	Dunlevy Coal Project
Client:	...
Site Name:	...
Survey Date:	...
Survey Time:	...
Survey Location:	...
Survey Method:	...
Survey Equipment:	...
Survey Operator:	...
Survey Station:	...
Survey Depth:	...
Survey Interval:	...
Survey Duration:	...
Survey Status:	...
Survey Notes:	...


QUALITY WORK NEUTRON LOG	
D-14.3	
1:100 NEUTRON LOG	
LOG PARAMETERS	
WORTHINGTON 100 WORTHINGTON 100 WORTHINGTON 100 WORTHINGTON 100 WORTHINGTON 100 WORTHINGTON 100 WORTHINGTON 100 WORTHINGTON 100 WORTHINGTON 100	

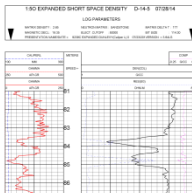
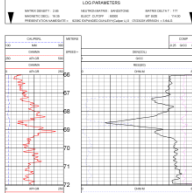
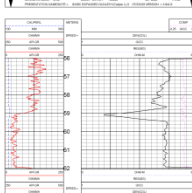
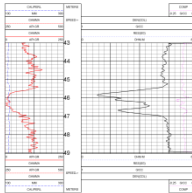
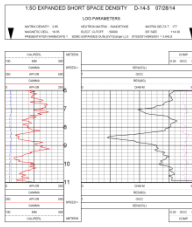
1:100 NEUTRON LOG D-14.3 0728/14		
LOG PARAMETERS		
WORTHINGTON 100	WORTHINGTON 100	WORTHINGTON 100
WORTHINGTON 100	WORTHINGTON 100	WORTHINGTON 100
WORTHINGTON 100	WORTHINGTON 100	WORTHINGTON 100



1:100 NEUTRON LOG D-14.3 0728/14		
LOG PARAMETERS		
WORTHINGTON 100	WORTHINGTON 100	WORTHINGTON 100
WORTHINGTON 100	WORTHINGTON 100	WORTHINGTON 100
WORTHINGTON 100	WORTHINGTON 100	WORTHINGTON 100

NO.	DATE	TIME	START	STOP	DEPTH	DEPTH	DEPTH
1	14/08/14	11:00:00	0.00	100.00	0.00	100.00	0.00
2	14/08/14	11:00:00	0.00	100.00	0.00	100.00	0.00
3	14/08/14	11:00:00	0.00	100.00	0.00	100.00	0.00
4	14/08/14	11:00:00	0.00	100.00	0.00	100.00	0.00

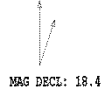
	
EXPLORATION LOGS	
LOG NUMBER LOG DATE LOG TITLE LOG TYPE LOG SCALE LOG INTERVAL LOG START LOG END LOG DEPTH LOG CORRECTION LOG UNIT LOG SCALE LOG INTERVAL LOG START LOG END LOG DEPTH LOG CORRECTION LOG UNIT	



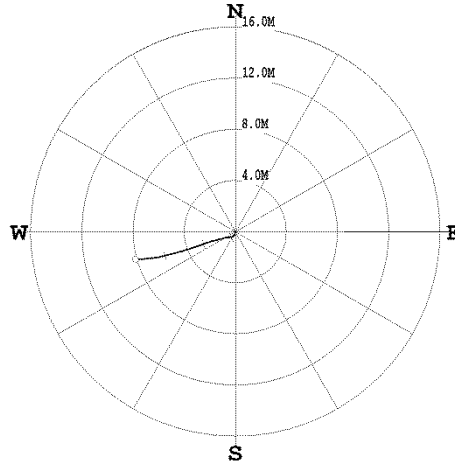
LOG SUMMARY	
LOG NUMBER LOG DATE LOG TITLE LOG TYPE LOG SCALE LOG INTERVAL LOG START LOG END LOG DEPTH LOG CORRECTION LOG UNIT	LOG NUMBER LOG DATE LOG TITLE LOG TYPE LOG SCALE LOG INTERVAL LOG START LOG END LOG DEPTH LOG CORRECTION LOG UNIT

**PLAN VIEW
COMPU-LOG DEVIATION**

CLIENT: DUNLEVY COAL INC.
LOCATION: N/A
HOLE ID: D-14-5
DATE OF LOG: 07/28/14
PROBE: 9058A 2615




SCALE: 2 M/CM
TRUE DEPTH: 95.82 M
AZIMUTH: 254.5
DISTANCE: 8.1 M
+ = 20 M INCR
o = BOTTOM OF HOLE



***** COMPU-LOG - VERTICAL DEVIATION *****

CLIENT : DUNLEVY COAL INC. HOLE ID. : D-14-5
FIELD OFFICE : CRESPOKY GEO DATE OF LOG : 07/28/14
DATA FROM : N/A FROM : 9058A , 2615
MAG. DECL. : 18.350 DEPTH UNITS : METERS
LOG: D-14-5_07-28-14_10-38_9058A_02_8.00_96.87_DEV1.log

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANBO
9.02	9.02	-0.00	-0.00	0.0	184.1	0.8	184.1
10.00	10.00	-0.01	-0.00	0.0	184.7	0.8	185.3
11.00	11.00	-0.03	-0.00	0.0	185.4	0.8	188.6
12.00	12.00	-0.04	-0.00	0.0	186.5	0.8	186.6
13.00	13.00	-0.05	-0.01	0.1	186.5	0.7	186.9
14.00	14.00	-0.07	-0.01	0.1	187.2	0.8	182.1
15.00	15.00	-0.08	-0.01	0.1	187.8	0.7	182.8
16.00	16.00	-0.09	-0.01	0.1	188.3	0.8	180.9
17.00	17.00	-0.10	-0.02	0.1	189.3	0.8	181.2
18.00	18.00	-0.12	-0.02	0.1	190.0	0.8	183.4
19.00	19.00	-0.13	-0.02	0.1	190.7	0.8	187.3
20.00	20.00	-0.15	-0.03	0.1	191.4	0.8	186.8
21.00	21.00	-0.16	-0.03	0.2	192.2	0.8	200.9
22.00	22.00	-0.17	-0.04	0.2	193.1	0.9	205.7
23.00	23.00	-0.19	-0.05	0.2	193.8	0.8	202.9
24.00	24.00	-0.20	-0.05	0.2	194.7	0.9	212.7
25.00	25.00	-0.21	-0.06	0.2	196.2	1.0	213.4
26.00	26.00	-0.23	-0.07	0.2	197.3	1.0	207.0
27.00	27.00	-0.24	-0.08	0.3	198.5	1.0	217.2
28.00	28.00	-0.25	-0.09	0.3	199.2	1.0	208.4
29.00	29.00	-0.27	-0.10	0.3	200.0	0.8	210.1
30.00	30.00	-0.28	-0.11	0.3	200.6	1.0	206.0
31.00	31.00	-0.30	-0.12	0.3	201.3	1.0	208.3
32.00	32.00	-0.31	-0.13	0.3	202.0	0.9	214.7
33.00	33.00	-0.33	-0.14	0.4	202.7	1.0	214.7
34.00	34.00	-0.34	-0.15	0.4	203.3	1.1	208.0
35.00	35.00	-0.35	-0.16	0.4	204.1	1.1	224.6
36.00	36.00	-0.37	-0.17	0.4	205.3	1.6	228.1
37.00	37.00	-0.39	-0.20	0.4	207.0	1.8	242.2
38.00	38.00	-0.40	-0.23	0.5	210.2	2.4	258.1
39.00	39.99	-0.43	-0.27	0.5	214.0	2.4	253.7
40.00	39.99	-0.42	-0.33	0.5	218.1	3.3	257.1
41.00	40.99	-0.43	-0.39	0.6	222.5	3.8	261.7
42.00	41.99	-0.44	-0.46	0.6	226.7	4.0	262.9
43.00	42.99	-0.44	-0.54	0.7	230.6	4.4	264.7
44.00	43.98	-0.45	-0.62	0.8	234.1	5.1	263.1
45.00	44.98	-0.47	-0.71	0.9	236.9	5.7	258.1
46.00	45.97	-0.49	-0.81	0.9	239.0	5.9	259.2
47.00	46.97	-0.51	-0.91	1.0	240.8	6.0	257.7
48.00	47.96	-0.53	-1.02	1.1	242.4	6.3	256.1
49.00	48.96	-0.56	-1.12	1.3	243.6	5.9	254.3
50.00	49.95	-0.59	-1.22	1.4	244.3	6.5	257.7
51.00	50.94	-0.62	-1.33	1.5	245.1	6.4	254.7
52.00	51.94	-0.64	-1.44	1.6	245.9	6.6	255.9
53.00	52.93	-0.67	-1.55	1.7	246.7	7.2	257.6
54.00	53.92	-0.70	-1.68	1.8	247.4	6.9	254.9
55.00	54.91	-0.73	-1.79	1.9	247.8	7.4	253.3
56.00	55.91	-0.77	-1.92	2.1	248.2	7.6	252.0
57.00	56.90	-0.81	-2.06	2.2	248.5	8.3	252.8
58.00	57.89	-0.85	-2.19	2.4	248.7	8.4	249.9
59.00	58.88	-0.91	-2.33	2.5	248.7	8.2	242.5
60.00	59.87	-0.96	-2.46	2.6	248.7	8.1	247.5
61.00	60.86	-1.00	-2.59	2.8	248.8	8.0	248.9
62.00	61.85	-1.05	-2.73	2.9	249.0	8.2	253.6
63.00	62.84	-1.09	-2.86	3.1	249.1	8.1	248.2
64.00	63.82	-1.14	-3.00	3.2	249.2	8.2	250.3
65.00	64.81	-1.19	-3.13	3.3	249.3	8.4	252.3
66.00	65.80	-1.23	-3.27	3.5	249.4	8.3	257.5
67.00	66.79	-1.28	-3.40	3.6	249.4	8.2	254.3
68.00	67.78	-1.32	-3.54	3.8	249.5	8.6	251.5
69.00	68.77	-1.37	-3.66	3.9	249.6	8.7	256.0
70.00	69.76	-1.41	-3.82	4.1	249.7	8.4	248.9
71.00	70.75	-1.46	-3.96	4.2	249.8	8.9	253.1
72.00	71.74	-1.51	-4.11	4.4	249.9	8.5	253.4
73.00	72.72	-1.55	-4.28	4.5	249.9	7.8	254.9
74.00	73.71	-1.60	-4.45	4.7	250.3	10.6	254.7
75.00	74.69	-1.64	-4.62	4.9	250.4	9.8	255.4
76.00	75.68	-1.69	-4.78	5.1	250.6	9.9	255.5
77.00	76.66	-1.73	-4.95	5.2	250.7	9.7	256.3
78.00	77.65	-1.77	-5.11	5.4	250.9	9.8	256.4
79.00	78.63	-1.81	-5.28	5.6	251.1	9.7	254.6
80.00	79.62	-1.85	-5.44	5.7	251.2	8.5	256.5
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83.00	82.58	-1.99	-5.92	6.2	251.5	8.6	255.7
84.00	83.56	-2.01	-6.07	6.4	251.7	8.4	264.9
85.00	84.55	-2.02	-6.22	6.5	251.9	8.5	263.6
86.00	85.54	-2.05	-6.36	6.7	252.2	8.5	261.6
87.00	86.53	-2.07	-6.51	6.8	252.4	8.4	260.7
88.00	87.52	-2.08	-6.66	7.0	252.6	8.2	262.4
89.00	88.51	-2.10	-6.80	7.1	252.9	7.9	263.5
90.00	89.50	-2.11	-6.93	7.2	253.1	8.0	266.6
91.00	90.49	-2.12	-7.07	7.4	253.2	7.7	265.1
92.00	91.48	-2.13	-7.20	7.5	253.5	7.8	268.1
93.00	92.47	-2.14	-7.34	7.6	253.7	7.9	265.5
94.00	93.47	-2.15	-7.47	7.8	254.0	7.7	266.8
95.00	94.46	-2.16	-7.61	7.9	254.2	7.9	267.4
96.00	95.45	-2.16	-7.74	8.0	254.4	7.8	277.8
96.38	95.82	-2.17	-7.80	8.1	254.5	8.0	264.6



**COMPENSATED DENSITY
GAMMA-CALIPERS
D-14-6**

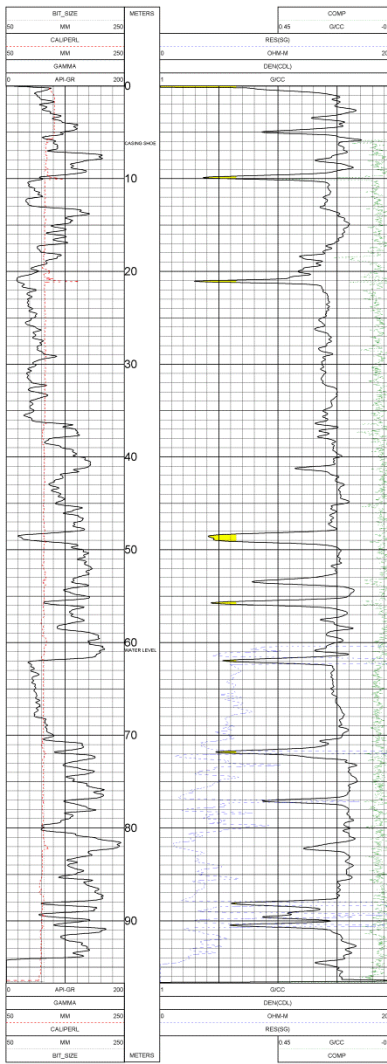
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STATE	OR	DATE	07/28/14
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LOG PARAMETERS

MATRIX DENSITY: 2.65	NEUTRON MATRIX: SANDSTONE	MATRIX DELTA T: 177
MAGNETIC DECIL: 18.35	ELECT CLUPRF: 0000	BIT SIZE: 114.30
PRESENTATION NAME/GATE: 9258-DUNLEVY1.0	07/28/2014	VERSION: 3.64L6



1:100 COMPENSATED DENSITY D-14-6 07/28/14

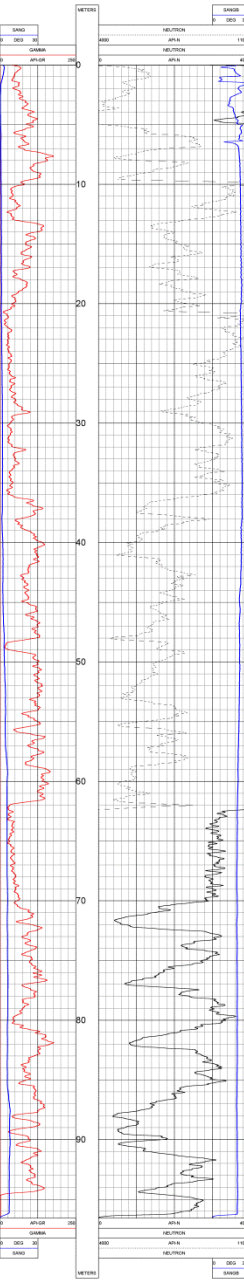
LOG PARAMETERS

MATRIX DENSITY: 2.65	NEUTRON MATRIX: SANDSTONE	MATRIX DELTA T: 177
MAGNETIC DECIL: 18.35	ELECT CLUPRF: 0000	BIT SIZE: 114.30
PRESENTATION NAME/GATE: 9258-DUNLEVY1.0	07/28/2014	VERSION: 3.64L6

TOOL CALIBRATION D-14-6 07/28/14 18:29					
SERIAL NUMBER 2648					
DATE	TIME	SENSOR	STANDARD		RESPONSE
Jun04-14	11:08:10	GAMMA	0.100	[APR-GR]	5200
Jun04-14	11:08:50	GAMMA	180.000	[APR-GR]	5200
Jun04-14	10:24:17	VOLTAGE	28.500	[MV]	15000
Jun04-14	10:24:37	VOLTAGE	224.800	[MV]	41300
Jun04-14	10:24:49	CURRENT	180.000	[MM]	18000
Jun15-14	09:59:50	DENS(L)	1.000	[G/CC]	17374
Jun15-14	09:59:44	DENS(L)	2.813	[G/CC]	16740
Jun15-14	09:59:50	DENS(L)	1.000	[G/CC]	40080
Jun15-14	09:59:50	DENS(L)	2.500	[G/CC]	17890
Jun15-14	09:59:50	CALIPER	150.000	[MM]	15000
Jun15-14	09:59:50	CALIPER	200.000	[MM]	20000
Jun15-14	10:28:11	CURRENT	29.500	[UA]	7900
Jun15-14	10:28:11	CURRENT	254.000	[UA]	34400
Jun15-14	11:08:00	F		[G/CC]	
Jun15-14	11:08:00	X		[G/CC]	

QUANTUM WELL D-146	
NEUTRON 1 NEUTRON 2 NEUTRON 3 NEUTRON 4 NEUTRON 5 NEUTRON 6 NEUTRON 7 NEUTRON 8 NEUTRON 9 NEUTRON 10 NEUTRON 11 NEUTRON 12 NEUTRON 13 NEUTRON 14 NEUTRON 15 NEUTRON 16 NEUTRON 17 NEUTRON 18 NEUTRON 19 NEUTRON 20 NEUTRON 21 NEUTRON 22 NEUTRON 23 NEUTRON 24 NEUTRON 25 NEUTRON 26 NEUTRON 27 NEUTRON 28 NEUTRON 29 NEUTRON 30 NEUTRON 31 NEUTRON 32 NEUTRON 33 NEUTRON 34 NEUTRON 35 NEUTRON 36 NEUTRON 37 NEUTRON 38 NEUTRON 39 NEUTRON 40 NEUTRON 41 NEUTRON 42 NEUTRON 43 NEUTRON 44 NEUTRON 45 NEUTRON 46 NEUTRON 47 NEUTRON 48 NEUTRON 49 NEUTRON 50 NEUTRON 51 NEUTRON 52 NEUTRON 53 NEUTRON 54 NEUTRON 55 NEUTRON 56 NEUTRON 57 NEUTRON 58 NEUTRON 59 NEUTRON 60 NEUTRON 61 NEUTRON 62 NEUTRON 63 NEUTRON 64 NEUTRON 65 NEUTRON 66 NEUTRON 67 NEUTRON 68 NEUTRON 69 NEUTRON 70 NEUTRON 71 NEUTRON 72 NEUTRON 73 NEUTRON 74 NEUTRON 75 NEUTRON 76 NEUTRON 77 NEUTRON 78 NEUTRON 79 NEUTRON 80 NEUTRON 81 NEUTRON 82 NEUTRON 83 NEUTRON 84 NEUTRON 85 NEUTRON 86 NEUTRON 87 NEUTRON 88 NEUTRON 89 NEUTRON 90 NEUTRON 91 NEUTRON 92 NEUTRON 93 NEUTRON 94 NEUTRON 95 NEUTRON 96 NEUTRON 97 NEUTRON 98 NEUTRON 99 NEUTRON 100	

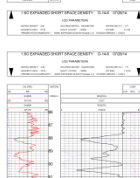
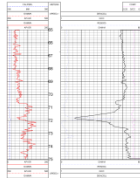
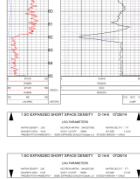
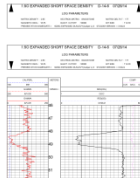
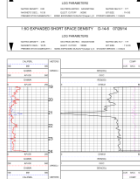
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1.100 GAMMA NEUTRON D-146 072614		
LOG PARAMETERS		
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DATE	TIME	STATUS	STANDBY	RESPONSE
1	11:00:00	START	0.000000	0.000000
2	11:00:10	STOP	0.000000	0.000000
3	11:00:20	START	0.000000	0.000000
4	11:00:30	STOP	0.000000	0.000000

Well Name	Well ID	Well Type	Well Status	Well Depth (m)	Well Completion Date	Well Completion Status
...



Well Name	Well ID	Well Type	Well Status	Well Depth (m)	Well Completion Date	Well Completion Status
...

PLAN VIEW COMPU-LOG DEVIATION

CLIENT: DUNLEVY COAL INC.
 LOCATION: N/A
 HOLE ID: D-14-6
 DATE OF LOG: 07/28/14
 PROBE: 9058A 2615

↑
N
8.0M
6.0M
4.0M
2.0M
W ← → E
S

MAG DECL: 18.4

SCALE: 1 M/CM
 TRUE DEPTH: 96.07 M
 AZIMUTH: 244.9
 DISTANCE: 5.8 M
 + = 10 M INCR
 ○ = BOTTOM OF HOLE

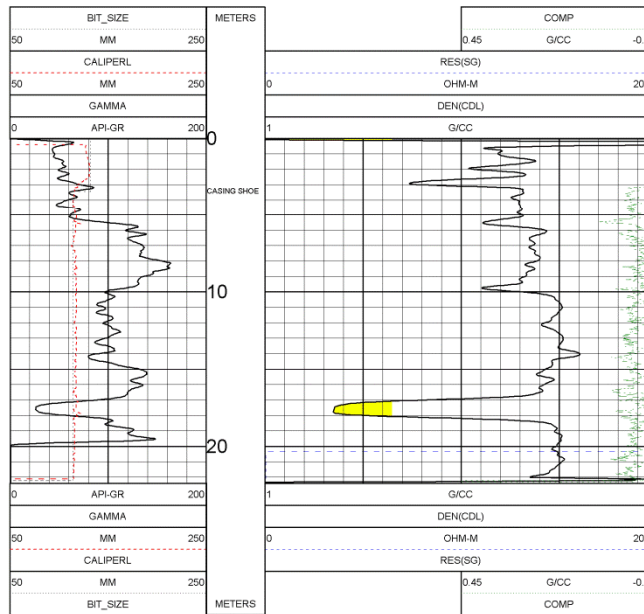
***** COMPU-LOG - VERTICAL DEVIATION *****

CLIENT : DUNLEVY COAL INC. HOLE ID. : D-14-6
 FIELD OFFICE : CEMPURY ORO DATE OF LOG : 07/28/14
 DATA FROM : N/A PROBE : 9058A , 2615
 MAG DECL. : 18.350 DEPTH UNITS : METERS
 LOG: D-14-6_07-28-14_18-04_9058A_02_9_00_96_63_DEV1.log

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
9.02	9.02	-0.00	-0.00	0.0	264.8	0.8	264.8
10.00	10.00	-0.00	-0.01	0.0	264.1	1.0	264.8
11.00	11.00	-0.00	-0.03	0.0	265.0	1.0	267.3
12.00	12.00	-0.00	-0.05	0.0	266.0	0.9	268.7
13.00	13.00	-0.00	-0.07	0.1	266.6	1.0	268.1
14.00	14.00	-0.00	-0.08	0.1	267.3	1.2	270.8
15.00	15.00	-0.00	-0.10	0.1	267.9	1.1	267.5
16.00	16.00	-0.00	-0.12	0.1	268.5	1.2	271.6
17.00	17.00	-0.00	-0.14	0.1	269.1	1.0	268.7
18.00	18.00	-0.00	-0.16	0.2	269.5	1.2	277.7
19.00	19.00	0.00	-0.18	0.2	270.5	1.3	275.9
20.00	20.00	0.00	-0.20	0.2	270.9	1.0	269.9
21.00	21.00	0.00	-0.22	0.2	270.6	1.0	266.7
22.00	22.00	0.00	-0.24	0.2	270.3	1.4	269.6
23.00	23.00	0.00	-0.26	0.3	270.1	1.3	268.3
24.00	24.00	0.00	-0.29	0.3	270.1	1.4	272.1
25.00	25.00	0.00	-0.31	0.3	270.3	1.5	272.5
26.00	26.00	0.00	-0.34	0.3	270.5	1.6	270.6
27.00	27.00	0.00	-0.37	0.4	270.7	1.7	275.8
28.00	28.00	0.01	-0.40	0.4	271.0	1.9	275.0
29.00	29.00	0.01	-0.43	0.4	271.4	1.8	276.4
30.00	29.99	0.01	-0.46	0.5	271.8	1.9	273.9
31.00	30.99	0.02	-0.50	0.5	272.2	2.0	280.7
32.00	31.99	0.02	-0.53	0.5	272.6	2.0	275.8
33.00	32.99	0.03	-0.56	0.6	273.0	2.0	277.6
34.00	33.99	0.04	-0.60	0.6	273.5	2.0	281.7
35.00	34.99	0.04	-0.63	0.6	274.0	2.0	280.3
36.00	35.99	0.05	-0.67	0.7	274.4	2.0	282.2
37.00	36.99	0.06	-0.70	0.7	274.8	1.9	278.4
38.00	37.99	0.06	-0.73	0.7	275.1	1.5	284.8
39.00	38.99	0.07	-0.76	0.8	275.1	1.8	269.6
40.00	38.99	0.07	-0.79	0.8	275.1	1.2	274.2
41.00	40.99	0.07	-0.83	0.9	275.0	2.3	279.9
42.00	41.99	0.08	-0.87	0.9	275.0	2.4	273.3
43.00	42.99	0.08	-0.91	0.9	274.8	2.3	268.8
44.00	43.99	0.08	-0.95	1.0	274.5	2.2	261.3
45.00	44.99	0.07	-0.99	1.0	273.9	1.3	268.0
46.00	45.98	0.06	-1.03	1.0	273.4	2.6	262.1
47.00	46.98	0.05	-1.08	1.1	272.7	3.0	262.8
48.00	47.98	0.04	-1.13	1.1	272.0	1.3	257.9
49.00	48.98	0.03	-1.19	1.2	271.4	3.2	259.0
50.00	49.98	0.02	-1.25	1.2	270.9	3.4	261.3
51.00	50.98	0.01	-1.31	1.3	270.4	3.8	267.5
52.00	51.97	-0.01	-1.37	1.4	269.8	4.4	268.5
53.00	52.97	-0.02	-1.45	1.4	269.1	4.2	264.9
54.00	53.97	-0.04	-1.52	1.5	268.4	4.3	264.5
55.00	54.97	-0.06	-1.59	1.6	267.9	4.1	263.4
56.00	55.96	-0.08	-1.66	1.7	267.1	4.0	262.5
57.00	56.96	-0.11	-1.73	1.7	266.4	4.3	248.3
58.00	57.96	-0.14	-1.80	1.8	265.5	5.0	248.7
59.00	58.95	-0.18	-1.89	1.9	264.4	5.7	242.7
60.00	59.95	-0.23	-1.98	2.0	263.4	5.6	245.4
61.00	60.94	-0.27	-2.06	2.1	262.5	5.5	238.2
62.00	61.94	-0.32	-2.14	2.2	261.5	5.5	237.5
63.00	62.93	-0.37	-2.22	2.3	260.5	5.4	236.1
64.00	63.93	-0.43	-2.30	2.3	259.5	5.5	235.7
65.00	64.92	-0.48	-2.38	2.4	258.6	5.6	235.7
66.00	65.92	-0.53	-2.46	2.5	257.8	5.6	235.9
67.00	66.91	-0.59	-2.54	2.6	256.9	5.5	233.3
68.00	67.91	-0.65	-2.62	2.7	256.1	5.7	230.1
69.00	68.91	-0.71	-2.70	2.8	255.2	5.9	234.7
70.00	69.90	-0.77	-2.78	2.9	254.5	6.0	236.1
71.00	70.89	-0.83	-2.87	3.0	253.9	5.7	235.8
72.00	71.89	-0.89	-2.95	3.1	253.3	5.8	232.2
73.00	72.88	-0.95	-3.03	3.2	252.6	6.0	232.4
74.00	73.88	-1.01	-3.12	3.3	252.1	5.9	235.6
75.00	74.87	-1.07	-3.20	3.4	251.6	6.0	235.2
76.00	75.87	-1.13	-3.29	3.5	251.1	6.1	234.5
77.00	76.86	-1.19	-3.38	3.6	250.6	6.3	237.8
78.00	77.86	-1.25	-3.47	3.7	250.2	6.2	238.1
79.00	78.85	-1.31	-3.56	3.8	249.8	6.1	235.7
80.00	79.84	-1.37	-3.64	3.9	249.4	6.0	235.6
81.00	80.84	-1.42	-3.73	4.0	249.1	5.8	237.5
82.00	81.83	-1.49	-3.81	4.1	248.8	5.9	236.6
83.00	82.83	-1.54	-3.90	4.2	248.5	5.9	236.6
84.00	83.82	-1.59	-3.98	4.3	248.2	5.7	233.3
85.00	84.82	-1.65	-4.07	4.4	247.9	5.9	232.8
86.00	85.81	-1.71	-4.15	4.5	247.6	6.2	232.6
87.00	86.81	-1.78	-4.24	4.6	247.2	7.4	233.8
88.00	87.80	-1.87	-4.33	4.7	246.8	7.7	233.9
89.00	88.79	-1.94	-4.42	4.8	246.5	7.4	232.7
90.00	89.78	-2.02	-4.57	5.0	246.2	7.9	234.7
91.00	90.77	-2.10	-4.68	5.1	245.9	7.7	237.0
92.00	91.76	-2.17	-4.79	5.3	245.6	7.4	238.1
93.00	92.75	-2.23	-4.90	5.4	245.5	7.3	241.7
94.00	93.75	-2.30	-5.01	5.5	245.3	7.2	238.4
95.00	94.74	-2.37	-5.12	5.6	245.2	7.3	237.8
96.00	95.73	-2.44	-5.22	5.8	245.0	7.2	242.1
96.34	96.07	-2.46	-5.26	5.9	244.9	7.2	234.9


Century WIRELINE SERVICES		COMPENSATED DENSITY GAMMA-CALIPERS D-14-8C	
COMPANY	DUNLEVY ENERGY INC.	OTHER SERVICES	NEU DEV
WELL	D-14-8C		
FIELD	N/A		
COUNTRY	CANADA		
PROVINCE	BRITISH COLUMBIA		
LEAD	N/A		
SECTION	N/A		
TOWNSHIP	N/A		
RANGE	N/A		
LICENCE NO.	N/A		
UNIQUE WELL ID	N/A		
PERMANENT DATUM	TGL	ELEVATION KB	N/A
LOG MEASURED FROM	GL	ELEVATION DF	N/A
DRILL MEASURED FROM	GL	ELEVATION GL	1172.00
DATE	08/02/14	RIS NUMBER	RIG DRILLING 1
DEPTH DRILLER	22.96	LOGGERS TO	22.54
BIT SIZE	114.30	ARRIVAL TIME	12:15
LOG TOP	0.00	DEPARTURE TIME	13:30
LOG BOTTOM	22.33	CIRC STOPPED	N/A
CASING LOGGERS	3.46		
CASING DRILLER	STEEL		
BORHOLE TYPE	WATER		
BORHOLE FLUID	N/A		
RMI TEMPERATURE	N/A		
MUD RES	N/A		
MUD WEIGHT	11.00		
WITNESSED BY	E RESNICK		
RECORDED BY	B HILL		
REMARKS 1	VERTICAL		
REMARKS 2	NORTHING 0229819 EASTING 834469		
ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS			

1:100 COMPENSATED DENSITY D-14-8C 08/02/14		
LOG PARAMETERS		
MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177
MAGNETIC DECL. : 18.35	ELECT. CUTOFF : 50000	BIT SIZE : 114.30
PRESENTATION NAME/DATE = 9239-DUNLEVY 1.0 07/29/2014		VERSION = 3.64LG



1:100 COMPENSATED DENSITY D-14-8C 08/02/14		
LOG PARAMETERS		
MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177
MAGNETIC DECL. : 18.35	ELECT. CUTOFF : 50000	BIT SIZE : 114.30
PRESENTATION NAME/DATE = 9239-DUNLEVY 1.0 07/29/2014		VERSION = 3.64LG

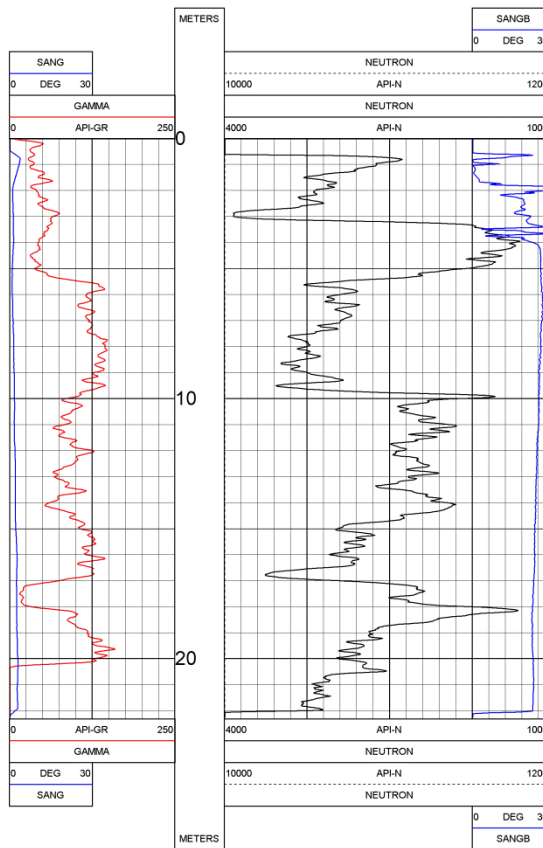
TOOL CALIBRATION D-14-8C 08/02/14 12:55						
TOOL 9239C1 TM VERSION 2025						
SERIAL NUMBER 2648						
DATE	TIME	SENSOR	STANDARD		RESPONSE	
1	Jun04,14 11:09:10	GAMMA	0.100 [API-GR]		0.000 [CPS]	
	Jun04,14 11:09:10	GAMMA	590.000 [API-GR]		529.000 [CPS]	
2	Jun04,14 10:24:17	VOLTAGE	28.500 [MV]		15061.000 [CPS]	
	Jun04,14 10:24:17	VOLTAGE	224.900 [MV]		41337.000 [CPS]	
3	Jun04,14 10:24:45	CALIPER	100.000 [MM]		140654.000 [CPS]	
	Jun04,14 10:24:45	CALIPER	150.000 [MM]		190025.000 [CPS]	
4	Jul15,14 09:55:44	DEN(LS)	1.620 [G/CC]		13799.400 [CPS]	
	Jul15,14 09:55:44	DEN(LS)	2.612 [G/CC]		1874.000 [CPS]	
5	Jul15,14 09:55:50	DEN(SS)	1.620 [G/CC]		46095.000 [CPS]	
	Jul15,14 09:55:50	DEN(SS)	2.580 [G/CC]		17898.000 [CPS]	
6	Jul15,14 09:13:20	CALIPERL	100.000 [MM]		138537.000 [CPS]	
	Jul15,14 09:13:20	CALIPERL	200.000 [MM]		245655.000 [CPS]	
7	Jun04,14 10:26:11	CURRENT	28.500 [UA]		7805.000 [CPS]	
	Jun04,14 10:26:11	CURRENT	224.900 [UA]		24464.000 [CPS]	
8	Jun13,13 13:06:03	F	Default [CPS]			
9	Jun13,13 13:06:03	X	Default [CPS]			

		GAMMA - NEUTRON D-14-8C	
COMPANY	: SANGB	WELL	: D-14-8C
FIELD	: N/A	COUNTRY	: CANADA
PROVINCE	: BRITISH COLUMBIA		
LOG NO	: N/A	LOG DATE	: N/A
LOG TIME	: N/A	LOG USER	: N/A
LOG RANGE	: N/A	LOG TIME	: N/A
LOG UNDERWELD	: N/A		
LOG DEPTH	: N/A	LOG TIME	: N/A
LOG TIME	: N/A		
LOG RANGE	: N/A		
LOG UNDERWELD	: N/A		
LOG DEPTH	: N/A		
LOG TIME	: N/A		
LOG RANGE	: N/A		
LOG UNDERWELD	: N/A		

1:100 GAMMA NEUTRON D-14-8C 08/02/14

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177
MAGNETIC DECL. : 18.35	ELECT. CUTOFF : 50000	BIT SIZE : 114.30
PRESENTATION NAME/DATE = 9058 NEUTRON DUNLEVY.0 07/29/2014		VERSION = 3.94LG



1:100 GAMMA NEUTRON D-14-8C 08/02/14

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177
MAGNETIC DECL. : 18.35	ELECT. CUTOFF : 50000	BIT SIZE : 114.30
PRESENTATION NAME/DATE = 9058 NEUTRON DUNLEVY.0 07/29/2014		VERSION = 3.94LG

TOOL CALIBRATION D-14-8C 08/02/14 12:38
TOOL 9058A TM VERSION 2
SERIAL NUMBER 2615

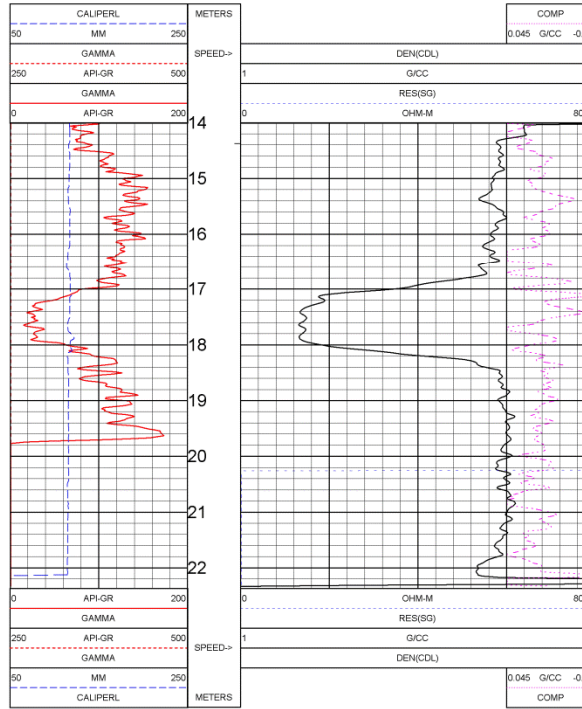
DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Jul14,14 11:57:45	GAMMA	0.100 [API-GR]	0.000 [CPS]
	Jul14,14 11:57:45	GAMMA	545.000 [API-GR]	528.000 [CPS]
2	Jul14,14 11:58:12	TEMP	1.200 [DEG_F]	331657.000 [CPS]
	Jul14,14 11:58:12	TEMP	47.770 [DEG_F]	396626.000 [CPS]
3	Jul14,14 11:56:57	NEUTRON	0.000 [API-N]	1.000 [CPS]
	Jul14,14 11:56:57	NEUTRON	271.000 [API-N]	65.900 [CPS]
4	Jul14,14 11:58:02	POR(NEI)	100.000 [PERCENT]	52.400 [CPS]

Century WIRELINE SERVICES		DETAILED DENSITY GAMMA - CALIPER - RES.	
COMPANY	DUNLEVY ENERGY INC.	WELL	D-14-8C
FIELD	N/A	WELL ID	D-14-8C
LOCATION	COLUMBIA	OTHER SERVICES	NEU DEV
LOG NAME	N/A	LOG NUMBER	2848
LOG DATE	N/A	LOG DATE	08/02/14
LOG TIME	N/A	LOG TIME	11:40
LOG BOTTOM	2233	LOG TOP	630
CASINO LOGGERS	3,49	LOG BOTTOM	2233
CASINO TYPE	STEEL	LOG TOP	630
BORERHOLE FLUID	WATER	LOG BOTTOM	2233
AIR TEMPERATURE	N/A	LOG TOP	630
WIND VELOCITY	1.00	LOG BOTTOM	2233
WIND DIRECTION	E-SEASW	LOG TOP	630
WIND SPEED	VERTICAL	LOG BOTTOM	2233
WIND SPEED	HORIZONTAL	LOG TOP	630
WIND SPEED	DIAGONAL	LOG BOTTOM	2233
REMARKS 1: HOURLY LOGGING SYSTEMS			
REMARKS 2: ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS			

1:50 EXPANDED SHORT SPACE DENSITY D-14-8C 08/02/14

LOG PARAMETERS

MATRIX DENSITY : 2.85	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177
MAGNETIC DECL. : 18.35	ELECT. CUTOFF : 50000	BIT SIZE : 114.30
PRESENTATION NAME/DATE = 9238C1 EXP DUNLEVY 0 07/30/2014	VERSION = 3.64LG	



1:50 EXPANDED SHORT SPACE DENSITY D-14-8C 08/02/14

LOG PARAMETERS

MATRIX DENSITY : 2.85	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177
MAGNETIC DECL. : 18.35	ELECT. CUTOFF : 50000	BIT SIZE : 114.30
PRESENTATION NAME/DATE = 9238C1 EXP DUNLEVY 0 07/30/2014	VERSION = 3.64LG	

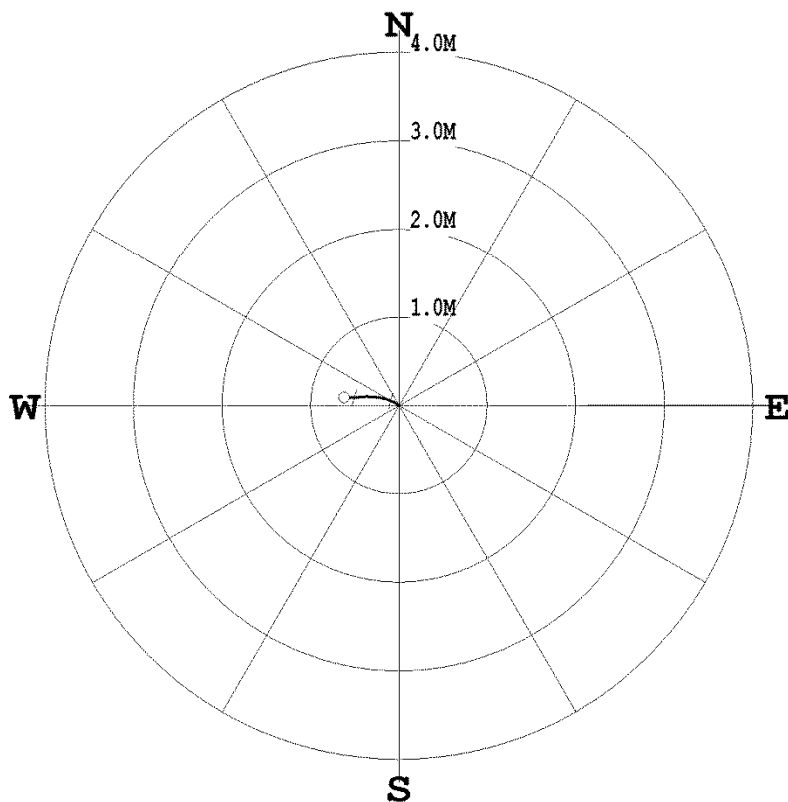
TOOL CALIBRATION D-14-8C 08/02/14 12:55					
TOOL: 9238C1 TM VERSION 2025					
SERIAL NUMBER 2848					
DATE	TIME	SENSOR	STANDARD	RESPONSE	
1 Jun04 14	11:08:10	GAMMA	0.100 [API-GR]	0.000	[CPS]
Jun04 14	11:08:10	GAMMA	500.000 [API-GR]	528.000	[CPS]
2 Jun04 14	10:24:17	VOLTAGE	28.500 [MV]	15081.000	[CPS]
Jun04 14	10:24:17	VOLTAGE	224.900 [MV]	41337.000	[CPS]
3 Jun04 14	10:24:45	CALIPER	100.000 [MM]	140954.000	[CPS]
Jun04 14	10:24:45	CALIPER	150.000 [MM]	190025.000	[CPS]
4 Jul15 14	09:55:44	DEN(LS)	1.620 [GCC]	13789.400	[CPS]
Jul15 14	09:55:44	DEN(LS)	2.912 [GCC]	1874.000	[CPS]
5 Jul15 14	09:55:50	DEN(SS)	1.620 [GCC]	46095.000	[CPS]
Jul15 14	09:55:50	DEN(SS)	2.580 [GCC]	17886.000	[CPS]
6 Jul15 14	09:13:20	CALIPERL	100.000 [MM]	138537.000	[CPS]
Jul15 14	09:13:20	CALIPERL	200.000 [MM]	243505.000	[CPS]
7 Jun04 14	10:28:11	CURRENT	28.500 [UA]	7895.000	[CPS]
Jun04 14	10:28:11	CURRENT	224.900 [UA]	24464.000	[CPS]
8 Jun13 13	13:06:03	F	Default	[CPS]	[CPS]
9 Jun13 13	13:06:03	X	Default	[CPS]	[CPS]

PLAN VIEW COMPU-LOG DEVIATION

CLIENT: DUNLEVY ENERGY INC.
 LOCATION: N/A
 HOLE ID: D-14-8C
 DATE OF LOG: 08/02/14
 PROBE: 9058A 2615



SCALE: 1 M/CM
 TRUE DEPTH: 22.07 M
 AZIMUTH: 277.9
 DISTANCE: 0.6 M
 + = 10 M INCR
 ○ = BOTTOM OF HOLE



* * * * * COMPU-LOG - VERTICAL DEVIATION * * * * *

CLIENT : DUNLEVY ENERGY INC. HOLE ID. : D-14-8C
 FIELD OFFICE : CENTURY GEO DATE OF LOG : 08/02/14
 DATA FROM : N/A PROBE : 9058A , 2615
 MAG. DECL. : 18.350 DEPTH UNITS : METERS
 LOG: D-14-8C_08-02-14_12-38_9058A_.02_6.00_22.27_DEVI.log

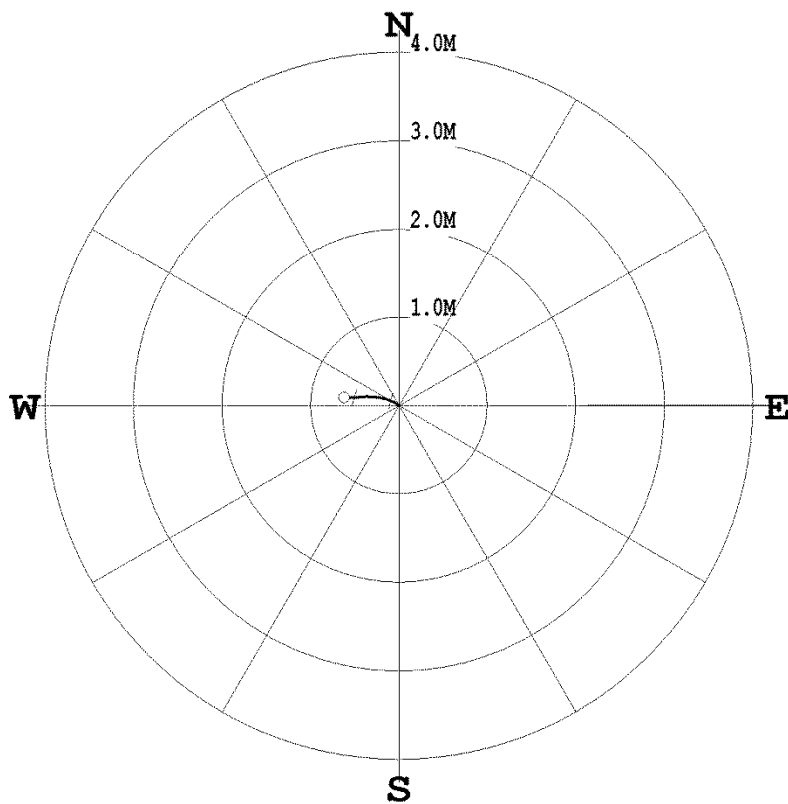
CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
6.02	6.02	0.00	-0.00	0.0	311.1	1.0	311.1
7.00	7.00	0.01	-0.02	0.0	308.4	1.4	309.2
8.00	8.00	0.03	-0.04	0.0	304.6	1.6	301.4
9.00	9.00	0.04	-0.07	0.1	302.0	1.7	294.9
10.00	10.00	0.05	-0.09	0.1	299.6	1.9	293.0
11.00	11.00	0.07	-0.13	0.1	297.9	1.7	293.0
12.00	12.00	0.08	-0.16	0.2	295.9	2.1	284.0
13.00	13.00	0.08	-0.19	0.2	293.6	2.1	282.1
14.00	14.00	0.09	-0.23	0.2	291.5	2.2	280.1
15.00	15.00	0.10	-0.27	0.3	289.6	2.3	275.9
16.00	15.99	0.10	-0.32	0.3	287.5	2.7	277.9
17.00	16.99	0.10	-0.36	0.4	285.7	2.6	272.8
18.00	17.99	0.10	-0.41	0.4	283.7	2.7	263.0
19.00	18.99	0.09	-0.46	0.5	281.7	2.7	264.3
20.00	19.99	0.09	-0.51	0.5	280.0	3.1	266.5
21.00	20.99	0.09	-0.56	0.6	278.9	2.9	269.8
22.00	21.99	0.09	-0.61	0.6	278.0	3.1	265.2
22.08	22.07	0.09	-0.62	0.6	277.9	3.1	265.2

PLAN VIEW COMPU-LOG DEVIATION

CLIENT: DUNLEVY ENERGY INC.
 LOCATION: N/A
 HOLE ID: D-14-8C
 DATE OF LOG: 08/02/14
 PROBE: 9058A 2615



SCALE: 1 M/CM
 TRUE DEPTH: 22.07 M
 AZIMUTH: 277.9
 DISTANCE: 0.6 M
 + = 10 M INCR
 ○ = BOTTOM OF HOLE



* * * * * COMPU-LOG - VERTICAL DEVIATION * * * * *

CLIENT : DUNLEVY ENERGY INC. HOLE ID. : D-14-8C
 FIELD OFFICE : CENTURY GEO DATE OF LOG : 08/02/14
 DATA FROM : N/A PROBE : 9058A , 2615
 MAG. DECL. : 18.350 DEPTH UNITS : METERS
 LOG: D-14-8C_08-02-14_12-38_9058A_.02_6.00_22.27_DEVI.log

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
6.02	6.02	0.00	-0.00	0.0	311.1	1.0	311.1
7.00	7.00	0.01	-0.02	0.0	308.4	1.4	309.2
8.00	8.00	0.03	-0.04	0.0	304.6	1.6	301.4
9.00	9.00	0.04	-0.07	0.1	302.0	1.7	294.9
10.00	10.00	0.05	-0.09	0.1	299.6	1.9	293.0
11.00	11.00	0.07	-0.13	0.1	297.9	1.7	293.0
12.00	12.00	0.08	-0.16	0.2	295.9	2.1	284.0
13.00	13.00	0.08	-0.19	0.2	293.6	2.1	282.1
14.00	14.00	0.09	-0.23	0.2	291.5	2.2	280.1
15.00	15.00	0.10	-0.27	0.3	289.6	2.3	275.9
16.00	15.99	0.10	-0.32	0.3	287.5	2.7	277.9
17.00	16.99	0.10	-0.36	0.4	285.7	2.6	272.8
18.00	17.99	0.10	-0.41	0.4	283.7	2.7	263.0
19.00	18.99	0.09	-0.46	0.5	281.7	2.7	264.3
20.00	19.99	0.09	-0.51	0.5	280.0	3.1	266.5
21.00	20.99	0.09	-0.56	0.6	278.9	2.9	269.8
22.00	21.99	0.09	-0.61	0.6	278.0	3.1	265.2
22.08	22.07	0.09	-0.62	0.6	277.9	3.1	265.2

Century
Energy Services Inc.

**COMPENSATED DENSITY
GAMMA-CALPERS
D-14-6**

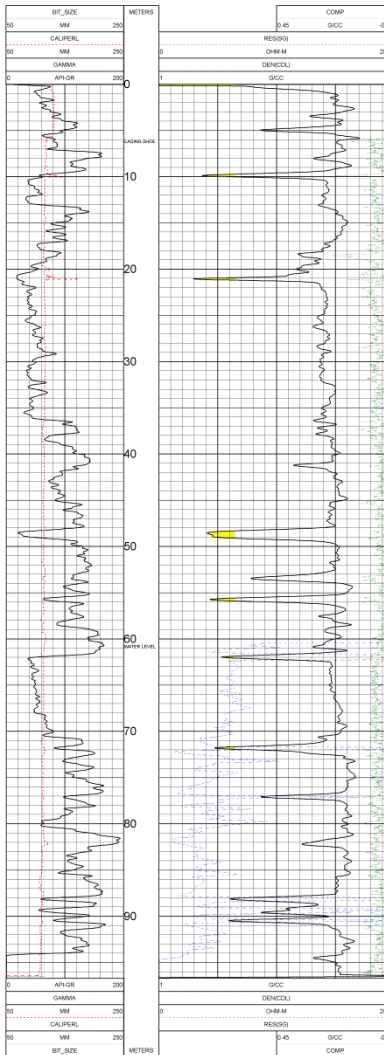
GENERAL INFORMATION		CLIENT: CENTURY ENERGY SERVICES INC.	
WELL NAME	D-14-6	COMPENSATION	YES
DATE	07/28/2014	OPERATOR	COULSON
LOG NUMBER	6238-DUNLEVY-1.0	LOG NUMBER	6238-DUNLEVY-1.0
LOG DATE	07/28/2014	LOG TIME	14:30
LOG TYPE	LOG	LOG STATUS	OK
LOG LOCATION	D-14-6	LOG SITE	D-14-6
LOG AREA	7500	LOG AREA	7500
LOG ELEVATION	141.28	LOG ELEVATION	141.28
LOG SURFACE	7500	LOG SURFACE	7500
LOG DEPTH	0.00	LOG DEPTH	0.00
LOG TOTAL TIME	14:30	LOG TOTAL TIME	14:30
LOG TOTAL TIME	14:30	LOG TOTAL TIME	14:30
LOG TOTAL TIME	14:30	LOG TOTAL TIME	14:30
LOG TOTAL TIME	14:30	LOG TOTAL TIME	14:30
LOG TOTAL TIME	14:30	LOG TOTAL TIME	14:30

ALL SERVICES PROVIDED SUBJECT TO STANDARD SERVICE CONDITIONS

1-100 COMPENSATED DENSITY D-14-6 07/28/14

LOG PARAMETERS

MATRIX DENSITY = 2.65	NEUTRON MATRIX SANDSTONE	MATRIX DELTA T = 177
MAGNETIC DECL = 18.36	ELECT CUTOFF = 6000	BT SIZE = 114.50
PRESANTATION NAME/GATE = 6238-DUNLEVY-1.0 07/28/2014		VERSION = 3.64.0



1-100 COMPENSATED DENSITY D-14-6 07/28/14

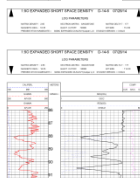
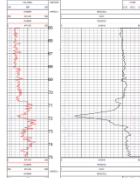
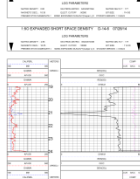
LOG PARAMETERS

MATRIX DENSITY = 2.65	NEUTRON MATRIX SANDSTONE	MATRIX DELTA T = 177
MAGNETIC DECL = 18.36	ELECT CUTOFF = 6000	BT SIZE = 114.50
PRESANTATION NAME/GATE = 6238-DUNLEVY-1.0 07/28/2014		VERSION = 3.64.0

TOOL CALIBRATION DATA LIST FROM 18:30
TOOL 6238C1 - 1M VERSION 2.05
SERIAL NUMBER 308

NO.	DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Jul08-14	11:09:10	GAMMA	0.15 [IAP-GR]	9.800 [CPS]
2	Jul08-14	11:09:10	GAMMA	900.000 [IAP-GR]	528.000 [CPS]
3	Jul08-14	11:24:45	VOLTAGE	31.50 [MV]	15097.000 [CPS]
4	Jul08-14	11:24:47	VOLTAGE	228.000 [MV]	41337.000 [CPS]
5	Jul08-14	11:24:48	CALPERL	100.000 [MM]	15000.000 [CPS]
6	Jul10-14	08:55:46	CALPERL	100.000 [MM]	15000.000 [CPS]
7	Jul10-14	08:55:46	DENLCS	1.000 [GICC]	13769.400 [CPS]
8	Jul10-14	08:55:50	DENLCS	1.000 [GICC]	46569.000 [CPS]
9	Jul10-14	08:55:50	DENLCS	2.000 [GICC]	17886.000 [CPS]
10	Jul10-14	08:13:20	CALPERL	100.000 [MM]	13853.000 [CPS]
11	Jul10-14	08:13:20	CALPERL	200.000 [MM]	24900.000 [CPS]
12	Jul08-14	11:28:21	CURRENT	20.000 [UA]	766.000 [CPS]
13	Jul08-14	11:28:11	CURRENT	224.000 [UA]	24468.000 [CPS]
14	Jul12-14	13:06:55	TEMP	32.000 [C]	888.000 [CPS]
15	Jul12-14	13:06:55	TEMP	32.000 [C]	888.000 [CPS]
16	Jul13-14	13:06:55	X	Default [CPS]	

Well Name	Well ID	Well Type	Well Status	Well Depth (m)	Well Completion Date	Well Operator
...



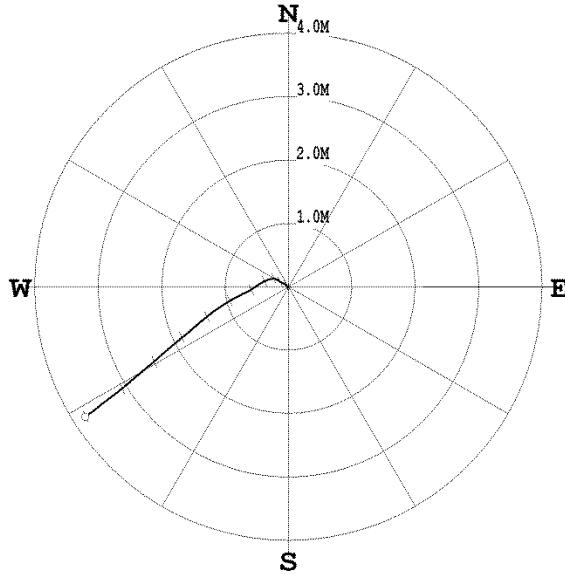
Well Name	Well ID	Well Type	Well Status	Well Depth (m)	Well Completion Date	Well Operator
...

PLAN VIEW COMPU-LOG DEVIATION

CLIENT: DUNLEVY ENERGY INC.
 LOCATION: N/A
 HOLE ID: D-14-9C
 DATE OF LOG: 08/02/14
 PROBE: 9058A 2615

↑
↓
MAG DECL: 18.4


SCALE: 1 M/CM
 TRUE DEPTH: 85.02 M
 AZIMUTH: 237.4
 DISTANCE: 3.8 M
 + = 5 M INCR
 ○ = BOTTOM OF HOLE



***** COMPU-LOG - VERTICAL DEVIATION *****

CLIENT : DUNLEVY ENERGY INC. HOLE ID. : D-14-9C
 FIELD OFFICE : CENTURY GEO DATE OF LOG : 08/02/14
 DATA FROM : N/A PROBE : 9058A , 2615
 MAG. DECL. : 18.350 DEPTH UNITS : METERS
 LOG: D-14-9C_08-02-14_10-11_9058A_02_30.00_85.41_DEVI.Log

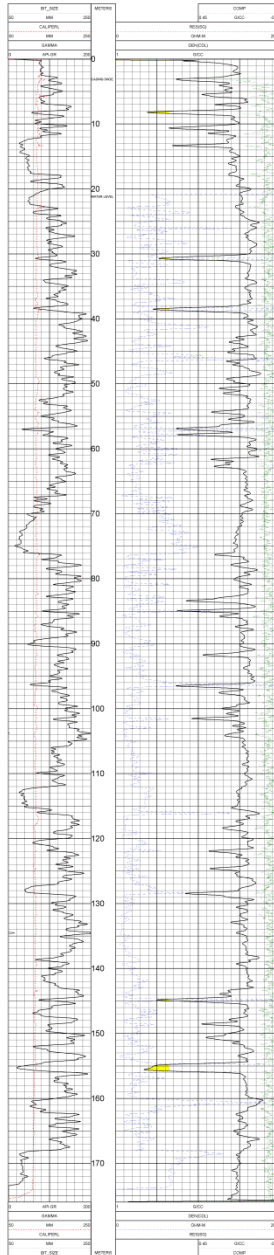
CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
30.02	30.02	0.00	-0.00	0.0	323.4	0.6	323.4
31.00	31.00	0.01	-0.01	0.0	319.4	0.5	315.7
32.00	32.00	0.01	-0.01	0.0	313.0	0.5	295.1
33.00	33.00	0.01	-0.02	0.0	307.4	0.5	298.7
34.00	34.00	0.02	-0.03	0.0	304.5	0.8	297.2
35.00	35.00	0.03	-0.04	0.0	304.2	0.9	308.4
36.00	36.00	0.04	-0.05	0.1	303.7	0.9	293.4
37.00	37.00	0.05	-0.07	0.1	302.2	1.2	296.1
38.00	38.00	0.06	-0.09	0.1	301.7	1.3	300.3
39.00	39.00	0.07	-0.11	0.1	301.6	1.3	300.8
40.00	40.00	0.08	-0.13	0.2	301.3	1.7	302.6
41.00	41.00	0.10	-0.16	0.2	301.8	1.4	305.0
42.00	42.00	0.11	-0.17	0.2	302.3	1.0	308.8
43.00	43.00	0.12	-0.19	0.2	301.9	1.2	289.8
44.00	44.00	0.13	-0.21	0.2	301.1	1.4	288.0
45.00	45.00	0.13	-0.23	0.3	299.5	1.2	274.5
46.00	46.00	0.13	-0.26	0.3	296.8	1.5	259.8
47.00	47.00	0.12	-0.28	0.3	293.6	1.7	257.3
48.00	48.00	0.12	-0.31	0.3	290.3	1.9	252.1
49.00	49.00	0.10	-0.35	0.4	286.8	2.0	247.5
50.00	49.99	0.09	-0.38	0.4	282.1	2.3	246.3
51.00	50.99	0.07	-0.42	0.4	279.5	2.5	241.2
52.00	51.99	0.05	-0.46	0.5	276.1	2.6	236.9
53.00	52.99	0.02	-0.50	0.5	272.5	2.8	233.9
54.00	53.99	-0.01	-0.54	0.5	269.0	3.2	236.3
55.00	54.98	-0.04	-0.59	0.6	265.8	3.8	235.9
56.00	55.99	-0.08	-0.65	0.7	263.3	3.9	241.0
57.00	56.98	-0.11	-0.71	0.7	261.4	4.3	237.6
58.00	57.98	-0.14	-0.78	0.8	259.8	4.4	241.2
59.00	58.98	-0.18	-0.85	0.9	258.1	4.7	244.5
60.00	59.97	-0.22	-0.93	1.0	256.6	4.9	239.4
61.00	60.97	-0.27	-1.00	1.0	255.1	4.9	238.6
62.00	61.97	-0.31	-1.07	1.1	253.8	4.7	237.4
63.00	62.96	-0.36	-1.14	1.2	252.6	5.1	237.1
64.00	63.96	-0.41	-1.21	1.3	251.3	5.2	232.4
65.00	64.95	-0.47	-1.29	1.4	250.0	5.4	231.1
66.00	65.95	-0.53	-1.36	1.5	248.8	5.5	228.1
67.00	66.95	-0.59	-1.43	1.5	247.6	5.6	229.4
68.00	67.94	-0.66	-1.51	1.6	246.5	6.2	229.1
69.00	68.93	-0.73	-1.59	1.7	245.5	6.4	230.2
70.00	69.93	-0.80	-1.68	1.9	244.6	6.4	230.8
71.00	70.92	-0.87	-1.76	2.0	243.8	6.4	230.3
72.00	71.92	-0.94	-1.85	2.1	243.1	6.4	229.8
73.00	72.91	-1.01	-1.93	2.2	242.4	6.4	229.4
74.00	73.90	-1.09	-2.02	2.3	241.7	6.9	227.1
75.00	74.90	-1.17	-2.11	2.4	241.0	7.2	229.2
76.00	75.89	-1.25	-2.21	2.5	240.5	7.2	231.3
77.00	76.88	-1.33	-2.30	2.7	240.0	7.1	231.5
78.00	77.87	-1.41	-2.40	2.8	239.5	7.4	229.8
79.00	78.86	-1.50	-2.50	2.9	239.1	7.8	230.6
80.00	79.85	-1.59	-2.61	3.1	238.7	8.0	229.1
81.00	80.84	-1.67	-2.72	3.2	238.3	8.3	232.7
82.00	81.83	-1.76	-2.83	3.3	238.1	8.3	233.3
83.00	82.82	-1.85	-2.95	3.5	237.9	8.4	232.9
84.00	83.81	-1.94	-3.06	3.6	237.6	8.3	231.1
85.00	84.80	-2.03	-3.17	3.8	237.4	8.3	233.0
85.22	85.02	-2.05	-3.20	3.8	237.4	8.3	233.0

	
COMPENSATED DENSITY D-14-10	
DATE: 07/31/14 TIME: 14:30 LOCATION: 14-10	WELL: 14-10 DEPTH: 170 SURFACE: 14-10
OPERATOR: [Name] ENGINEER: [Name] SUPERVISOR: [Name]	LOG NUMBER: [Number] LOG DATE: [Date]

1.100 COMPENSATED DENSITY D-14-10 07/31/14

LOG PARAMETERS

WELL: 14-10 SURFACE: 14-10 DEPTH: 170
 LOG DATE: 07/31/14 LOG NUMBER: [Number]



1.100 COMPENSATED DENSITY D-14-10 07/31/14

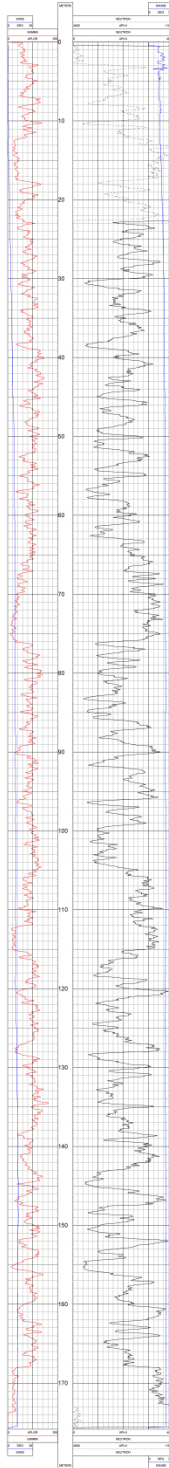
LOG PARAMETERS

WELL: 14-10 SURFACE: 14-10 DEPTH: 170
 LOG DATE: 07/31/14 LOG NUMBER: [Number]

TIME	DEPTH	WELL	LOG	LOG DATE	LOG NUMBER	LOG TITLE
07/31/14	170	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	165	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	160	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	155	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	150	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	145	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	140	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	135	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	130	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	125	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	120	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	115	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	110	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	105	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	100	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	95	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	90	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	85	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	80	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	75	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	70	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	65	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	60	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	55	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	50	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	45	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	40	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	35	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	30	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	25	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	20	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	15	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	10	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY
07/31/14	5	14-10	14-10	07/31/14	[Number]	1.100 COMPENSATED DENSITY

Geotech GEOTECHNICAL ENGINEERING 10000 10th Avenue, Suite 100 Denver, CO 80231 Phone: 303.733.8800 Fax: 303.733.8801 www.geotech.com	
PROJECT: 2014 ASSESSMENT REPORT FOR THE DUNLEVY COAL PROJECT	DATE: 10/15/2014
CLIENT: [REDACTED]	PROJECT NO.: [REDACTED]
DRIVER: [REDACTED]	SCALE: [REDACTED]
DESCRIPTION: [REDACTED]	REVISIONS: [REDACTED]

1 THE SUBSEQUENT SCALE TESTS
 [REDACTED]

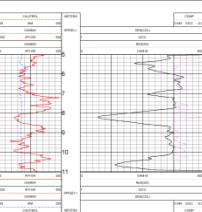


1 THE SUBSEQUENT SCALE TESTS
 [REDACTED]

TEST NO.: [REDACTED]	DATE: [REDACTED]
TESTER: [REDACTED]	SCALE: [REDACTED]
DESCRIPTION: [REDACTED]	REVISIONS: [REDACTED]

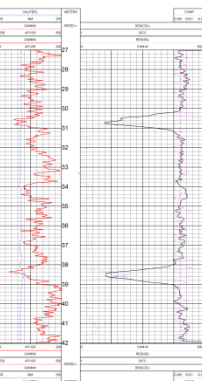
Geophysical Data	
Well Name	DUNLEVY
Well ID	01410
Well Type	Oil
Well Status	Active
Well Depth (m)	1000
Well Orientation	Vertical
Well Completion	Open
Well Production	Oil
Well Injection	None
Well Location	Block 10, Section 10, Township 10N, Range 10E
Well Operator	Energy Services
Well Completion Date	2010-01-01
Well Production Start Date	2010-01-01
Well Injection Start Date	None
Well Location	Block 10, Section 10, Township 10N, Range 10E
Well Operator	Energy Services
Well Completion Date	2010-01-01
Well Production Start Date	2010-01-01
Well Injection Start Date	None

130 EXPANDED SHORT SPACE DENSITY - D1410 - 010114



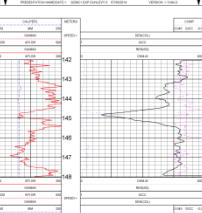
130 EXPANDED SHORT SPACE DENSITY - D1410 - 010114

130 EXPANDED SHORT SPACE DENSITY - D1410 - 010114



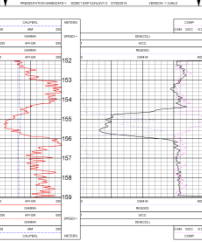
130 EXPANDED SHORT SPACE DENSITY - D1410 - 010114

130 EXPANDED SHORT SPACE DENSITY - D1410 - 010114



130 EXPANDED SHORT SPACE DENSITY - D1410 - 010114

130 EXPANDED SHORT SPACE DENSITY - D1410 - 010114

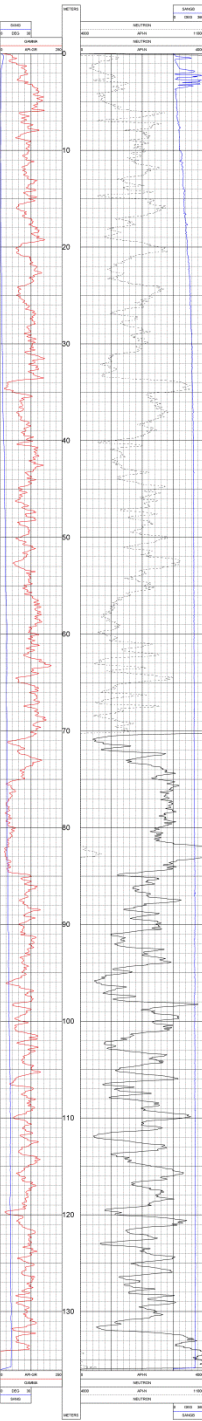


130 EXPANDED SHORT SPACE DENSITY - D1410 - 010114

Depth (m)	Density (g/cm³)	Other Parameter
10	2.2	0.5
11	2.4	0.8
12	2.5	0.9
13	2.3	0.6
14	2.1	0.4
15	2.0	0.3
16	2.1	0.4
17	2.2	0.5
18	2.3	0.6
19	2.4	0.7
20	2.5	0.8
21	2.6	0.9
22	2.5	0.8
23	2.4	0.7
24	2.3	0.6
25	2.2	0.5
26	2.1	0.4
27	2.0	0.3
28	2.1	0.4
29	2.2	0.5
30	2.3	0.6
31	2.4	0.7
32	2.5	0.8
33	2.6	0.9
34	2.5	0.8
35	2.4	0.7
36	2.3	0.6
37	2.2	0.5
38	2.1	0.4
39	2.0	0.3
40	2.1	0.4
41	2.2	0.5
42	2.3	0.6
43	2.4	0.7
44	2.5	0.8
45	2.6	0.9
46	2.5	0.8
47	2.4	0.7
48	2.3	0.6
49	2.2	0.5
50	2.1	0.4
51	2.0	0.3
52	2.1	0.4
53	2.2	0.5
54	2.3	0.6
55	2.4	0.7
56	2.5	0.8
57	2.6	0.9
58	2.5	0.8
59	2.4	0.7
60	2.3	0.6
61	2.2	0.5
62	2.1	0.4
63	2.0	0.3
64	2.1	0.4
65	2.2	0.5
66	2.3	0.6
67	2.4	0.7
68	2.5	0.8
69	2.6	0.9
70	2.5	0.8
71	2.4	0.7
72	2.3	0.6
73	2.2	0.5
74	2.1	0.4
75	2.0	0.3
76	2.1	0.4
77	2.2	0.5
78	2.3	0.6
79	2.4	0.7
80	2.5	0.8
81	2.6	0.9
82	2.5	0.8
83	2.4	0.7
84	2.3	0.6
85	2.2	0.5
86	2.1	0.4
87	2.0	0.3
88	2.1	0.4
89	2.2	0.5
90	2.3	0.6
91	2.4	0.7
92	2.5	0.8
93	2.6	0.9
94	2.5	0.8
95	2.4	0.7
96	2.3	0.6
97	2.2	0.5
98	2.1	0.4
99	2.0	0.3
100	2.1	0.4

GAMMA NEUTRON	
D 1411	
DATE	01/11/11
TIME	14:11
LOCATION	
DEPTH	
INSTRUMENT	
OPERATOR	
CLIENT	
PROJECT	
WELL	
LOG	
LOG NUMBER	
LOG DATE	
LOG TIME	
LOG USER	
LOG VERSION	
LOG STATUS	
LOG COMMENTS	

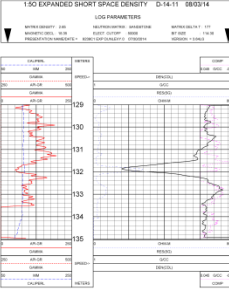
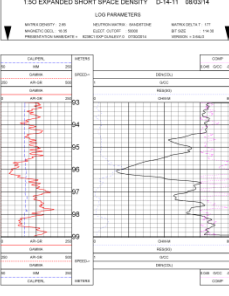
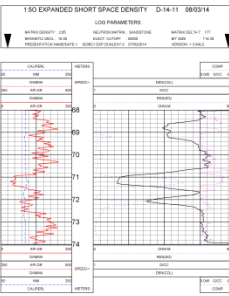
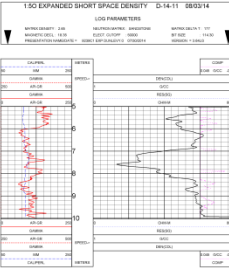
130GAMMA NEUTRON D 1411 080314



130GAMMA NEUTRON D 1411 080314

NO	DEPTH (M)	GRAB	STRENGTH	NEUTRON	LOG
1	0.00	0.00	0.00	0.00	0.00
2	0.10	0.10	0.10	0.10	0.10
3	0.20	0.20	0.20	0.20	0.20
4	0.30	0.30	0.30	0.30	0.30
5	0.40	0.40	0.40	0.40	0.40
6	0.50	0.50	0.50	0.50	0.50
7	0.60	0.60	0.60	0.60	0.60
8	0.70	0.70	0.70	0.70	0.70
9	0.80	0.80	0.80	0.80	0.80
10	0.90	0.90	0.90	0.90	0.90
11	1.00	1.00	1.00	1.00	1.00
12	1.10	1.10	1.10	1.10	1.10
13	1.20	1.20	1.20	1.20	1.20
14	1.30	1.30	1.30	1.30	1.30
15	1.40	1.40	1.40	1.40	1.40
16	1.50	1.50	1.50	1.50	1.50
17	1.60	1.60	1.60	1.60	1.60
18	1.70	1.70	1.70	1.70	1.70
19	1.80	1.80	1.80	1.80	1.80
20	1.90	1.90	1.90	1.90	1.90
21	2.00	2.00	2.00	2.00	2.00
22	2.10	2.10	2.10	2.10	2.10
23	2.20	2.20	2.20	2.20	2.20
24	2.30	2.30	2.30	2.30	2.30
25	2.40	2.40	2.40	2.40	2.40
26	2.50	2.50	2.50	2.50	2.50
27	2.60	2.60	2.60	2.60	2.60
28	2.70	2.70	2.70	2.70	2.70
29	2.80	2.80	2.80	2.80	2.80
30	2.90	2.90	2.90	2.90	2.90
31	3.00	3.00	3.00	3.00	3.00
32	3.10	3.10	3.10	3.10	3.10
33	3.20	3.20	3.20	3.20	3.20
34	3.30	3.30	3.30	3.30	3.30
35	3.40	3.40	3.40	3.40	3.40
36	3.50	3.50	3.50	3.50	3.50
37	3.60	3.60	3.60	3.60	3.60
38	3.70	3.70	3.70	3.70	3.70
39	3.80	3.80	3.80	3.80	3.80
40	3.90	3.90	3.90	3.90	3.90
41	4.00	4.00	4.00	4.00	4.00
42	4.10	4.10	4.10	4.10	4.10
43	4.20	4.20	4.20	4.20	4.20
44	4.30	4.30	4.30	4.30	4.30
45	4.40	4.40	4.40	4.40	4.40
46	4.50	4.50	4.50	4.50	4.50
47	4.60	4.60	4.60	4.60	4.60
48	4.70	4.70	4.70	4.70	4.70
49	4.80	4.80	4.80	4.80	4.80
50	4.90	4.90	4.90	4.90	4.90
51	5.00	5.00	5.00	5.00	5.00
52	5.10	5.10	5.10	5.10	5.10
53	5.20	5.20	5.20	5.20	5.20
54	5.30	5.30	5.30	5.30	5.30
55	5.40	5.40	5.40	5.40	5.40
56	5.50	5.50	5.50	5.50	5.50
57	5.60	5.60	5.60	5.60	5.60
58	5.70	5.70	5.70	5.70	5.70
59	5.80	5.80	5.80	5.80	5.80
60	5.90	5.90	5.90	5.90	5.90
61	6.00	6.00	6.00	6.00	6.00
62	6.10	6.10	6.10	6.10	6.10
63	6.20	6.20	6.20	6.20	6.20
64	6.30	6.30	6.30	6.30	6.30
65	6.40	6.40	6.40	6.40	6.40
66	6.50	6.50	6.50	6.50	6.50
67	6.60	6.60	6.60	6.60	6.60
68	6.70	6.70	6.70	6.70	6.70
69	6.80	6.80	6.80	6.80	6.80
70	6.90	6.90	6.90	6.90	6.90
71	7.00	7.00	7.00	7.00	7.00
72	7.10	7.10	7.10	7.10	7.10
73	7.20	7.20	7.20	7.20	7.20
74	7.30	7.30	7.30	7.30	7.30
75	7.40	7.40	7.40	7.40	7.40
76	7.50	7.50	7.50	7.50	7.50
77	7.60	7.60	7.60	7.60	7.60
78	7.70	7.70	7.70	7.70	7.70
79	7.80	7.80	7.80	7.80	7.80
80	7.90	7.90	7.90	7.90	7.90
81	8.00	8.00	8.00	8.00	8.00
82	8.10	8.10	8.10	8.10	8.10
83	8.20	8.20	8.20	8.20	8.20
84	8.30	8.30	8.30	8.30	8.30
85	8.40	8.40	8.40	8.40	8.40
86	8.50	8.50	8.50	8.50	8.50
87	8.60	8.60	8.60	8.60	8.60
88	8.70	8.70	8.70	8.70	8.70
89	8.80	8.80	8.80	8.80	8.80
90	8.90	8.90	8.90	8.90	8.90
91	9.00	9.00	9.00	9.00	9.00
92	9.10	9.10	9.10	9.10	9.10
93	9.20	9.20	9.20	9.20	9.20
94	9.30	9.30	9.30	9.30	9.30
95	9.40	9.40	9.40	9.40	9.40
96	9.50	9.50	9.50	9.50	9.50
97	9.60	9.60	9.60	9.60	9.60
98	9.70	9.70	9.70	9.70	9.70
99	9.80	9.80	9.80	9.80	9.80
100	9.90	9.90	9.90	9.90	9.90
101	10.00	10.00	10.00	10.00	10.00
102	10.10	10.10	10.10	10.10	10.10
103	10.20	10.20	10.20	10.20	10.20
104	10.30	10.30	10.30	10.30	10.30
105	10.40	10.40	10.40	10.40	10.40
106	10.50	10.50	10.50	10.50	10.50
107	10.60	10.60	10.60	10.60	10.60
108	10.70	10.70	10.70	10.70	10.70
109	10.80	10.80	10.80	10.80	10.80
110	10.90	10.90	10.90	10.90	10.90
111	11.00	11.00	11.00	11.00	11.00
112	11.10	11.10	11.10	11.10	11.10
113	11.20	11.20	11.20	11.20	11.20
114	11.30	11.30	11.30	11.30	11.30
115	11.40	11.40	11.40	11.40	11.40
116	11.50	11.50	11.50	11.50	11.50
117	11.60	11.60	11.60	11.60	11.60
118	11.70	11.70	11.70	11.70	11.70
119	11.80	11.80	11.80	11.80	11.80
120	11.90	11.90	11.90	11.90	11.90
121	12.00	12.00	12.00	12.00	12.00
122	12.10	12.10	12.10	12.10	12.10
123	12.20	12.20	12.20	12.20	12.20
124	12.30	12.30	12.30	12.30	12.30
125	12.40	12.40	12.40	12.40	12.40
126	12.50	12.50	12.50	12.50	12.50
127	12.60	12.60	12.60	12.60	12.60
128	12.70	12.70	12.70	12.70	12.70
129	12.80	12.80	12.80	12.80	12.80
130	12.90	12.90	12.90	12.90	12.90
131	13.00	13.00	13.00	13.00	13.00

DUNLEVY ENERGY	
DUNLEVY COAL PROJECT	
D-14-11	
DATE	2014-01-14
TIME	14:30
LOCATION	WINDY HILLS
DEPTH	100
INSTRUMENT	100
OPERATOR	100
LOGGERS	100
REVISIONS	100
APPROVALS	100
DATE	2014-01-14
TIME	14:30
LOCATION	WINDY HILLS
DEPTH	100
INSTRUMENT	100
OPERATOR	100
LOGGERS	100
REVISIONS	100
APPROVALS	100



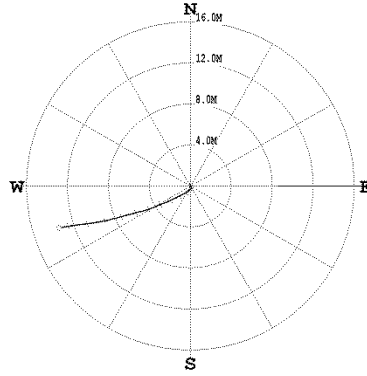
DEPTH	LOGS	SHORTS	LOGS	SHORTS	LOGS	SHORTS
0	100	100	100	100	100	100
1	100	100	100	100	100	100
2	100	100	100	100	100	100
3	100	100	100	100	100	100
4	100	100	100	100	100	100
5	100	100	100	100	100	100
6	100	100	100	100	100	100
7	100	100	100	100	100	100
8	100	100	100	100	100	100
9	100	100	100	100	100	100
10	100	100	100	100	100	100
11	100	100	100	100	100	100
12	100	100	100	100	100	100
13	100	100	100	100	100	100
14	100	100	100	100	100	100
15	100	100	100	100	100	100
16	100	100	100	100	100	100
17	100	100	100	100	100	100
18	100	100	100	100	100	100
19	100	100	100	100	100	100
20	100	100	100	100	100	100
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23	100	100	100	100	100	100
24	100	100	100	100	100	100
25	100	100	100	100	100	100
26	100	100	100	100	100	100
27	100	100	100	100	100	100
28	100	100	100	100	100	100
29	100	100	100	100	100	100
30	100	100	100	100	100	100
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32	100	100	100	100	100	100
33	100	100	100	100	100	100
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38	100	100	100	100	100	100
39	100	100	100	100	100	100
40	100	100	100	100	100	100
41	100	100	100	100	100	100
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45	100	100	100	100	100	100
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75	100	100	100	100	100	100
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78	100	100	100	100	100	100
79	100	100	100	100	100	100
80	100	100	100	100	100	100
81	100	100	100	100	100	100
82	100	100	100	100	100	100
83	100	100	100	100	100	100
84	100	100	100	100	100	100
85	100	100	100	100	100	100
86	100	100	100	100	100	100
87	100	100	100	100	100	100
88	100	100	100	100	100	100
89	100	100	100	100	100	100
90	100	100	100	100	100	100
91	100	100	100	100	100	100
92	100	100	100	100	100	100
93	100	100	100	100	100	100
94	100	100	100	100	100	100
95	100	100	100	100	100	100
96	100	100	100	100	100	100
97	100	100	100	100	100	100
98	100	100	100	100	100	100
99	100	100	100	100	100	100
100	100	100	100	100	100	100

PLAN VIEW
COMPU-LOG DEVIATION

CLIENT: DUNLEVY ENERGY INC.
LOCATION: N/A
BOLE ID: D-14-11
DATE OF LOG: 08/05/14
PROBE: 9058A 2615

SCALE: 2 M/CM
TRUE DEPTH: 134.92 M
AZIMUTH: 252.3
DISTANCE: 13.4 M
+ = 10 M INCH
* = BOTTOM OF BOLE

MAG DECL: 18.4



***** COMPU-LOG - VERTICAL DEVIATION *****

CLIENT: DUNLEVY ENERGY INC. BOLE ID: D-14-11
FIELD OFFICE: CHESTER MD. DATE OF LOG: 08/05/14
DATA FROM: N/A FROM: 9058A 2615
MAG DECL: 18.4 DEPTH UNIT: METERS
LOG: D-14-11_08-05-14_13-07_9058A_02_7_05_136.08.DMVZ.LOG

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	RANGE
7.00	7.00	0.00	0.00	0.0	56.1	0.0
8.00	8.00	0.00	0.00	0.0	70.9	0.0
9.00	9.00	0.00	0.00	0.0	70.4	0.0
10.00	10.00	0.01	0.03	0.0	73.2	0.4
11.00	11.00	0.02	0.03	0.0	78.4	0.3
12.00	12.00	0.00	0.04	0.0	86.1	0.4
13.00	13.00	-0.00	0.05	0.0	89.9	0.4
14.00	14.00	-0.01	0.06	0.1	85.0	0.5
15.00	15.00	-0.02	0.07	0.1	101.8	0.4
16.00	16.00	-0.02	0.07	0.1	105.2	0.4
17.00	17.00	-0.03	0.08	0.1	112.0	0.8
18.00	18.00	-0.03	0.08	0.1	113.6	0.8
19.00	19.00	-0.04	0.09	0.1	127.9	0.9
20.00	20.00	-0.04	0.09	0.1	134.9	1.1
21.00	21.00	-0.10	0.10	0.1	141.7	1.4
22.00	22.00	-0.12	0.09	0.1	144.7	1.4
23.00	23.00	-0.14	0.08	0.2	148.9	1.5
24.00	24.00	-0.14	0.08	0.2	155.4	1.4
25.00	25.00	-0.13	0.07	0.2	166.6	1.8
26.00	26.00	-0.13	0.07	0.2	171.2	1.8
27.00	27.00	-0.22	0.08	0.2	194.6	2.4
28.00	28.00	-0.24	0.04	0.2	175.2	2.2
29.00	29.00	-0.27	0.02	0.3	176.7	2.2
30.00	30.00	-0.29	-0.00	0.4	188.2	2.3
31.00	31.00	-0.30	-0.02	0.3	194.6	2.4
32.00	32.00	-0.35	-0.05	0.4	198.9	2.6
33.00	33.00	-0.39	-0.09	0.4	199.4	2.6
34.00	34.00	-0.42	-0.12	0.5	203.9	2.7
35.00	34.99	-0.45	-0.15	0.5	199.4	2.6
36.00	35.00	-0.47	-0.18	0.5	201.1	2.6
37.00	36.00	-0.50	-0.22	0.6	202.6	2.6
38.00	37.00	-0.53	-0.26	0.6	206.1	2.6
39.00	38.00	-0.56	-0.31	0.6	208.7	2.6
40.00	39.00	-0.62	-0.36	0.7	211.0	2.6
41.00	40.00	-0.63	-0.42	0.8	213.3	2.6
42.00	41.00	-0.67	-0.47	0.8	215.4	2.6
43.00	42.00	-0.70	-0.53	0.9	217.3	2.6
44.00	43.00	-0.74	-0.60	0.9	219.0	2.6
45.00	44.00	-0.77	-0.66	1.0	220.6	2.6
46.00	45.00	-0.81	-0.73	1.1	222.1	2.6
47.00	46.00	-0.84	-0.80	1.2	223.3	2.6
48.00	47.00	-0.88	-0.87	1.2	224.6	2.6
49.00	48.00	-0.92	-0.94	1.3	225.7	2.6
50.00	49.00	-0.96	-1.02	1.4	226.7	2.6
51.00	50.00	-1.00	-1.10	1.5	227.7	2.6
52.00	51.00	-1.04	-1.18	1.6	228.6	2.6
53.00	52.00	-1.08	-1.26	1.7	229.4	2.6
54.00	53.00	-1.12	-1.34	1.7	230.7	2.6
55.00	54.00	-1.16	-1.42	1.8	231.9	2.6
56.00	55.00	-1.20	-1.50	1.8	232.2	2.6
57.00	56.00	-1.24	-1.60	2.0	232.2	2.6
58.00	57.00	-1.28	-1.69	2.1	233.0	2.6
59.00	58.00	-1.33	-1.79	2.2	233.4	2.6
60.00	59.00	-1.38	-1.90	2.3	234.0	2.6
61.00	60.00	-1.42	-2.00	2.5	234.4	2.6
62.00	61.00	-1.47	-2.10	2.6	235.0	2.6
63.00	62.00	-1.52	-2.20	2.7	235.4	2.6
64.00	63.00	-1.56	-2.30	2.8	235.9	2.6
65.00	64.00	-1.61	-2.41	2.9	236.3	2.6
66.00	65.00	-1.65	-2.50	3.0	236.7	2.6
67.00	66.00	-1.69	-2.61	3.1	237.1	2.6
68.00	67.00	-1.73	-2.73	3.2	237.5	2.6
69.00	68.00	-1.77	-2.83	3.3	237.9	2.6
70.00	69.00	-1.81	-2.92	3.4	238.3	2.6
71.00	70.00	-1.84	-3.03	3.4	238.4	2.6
72.00	71.00	-1.88	-3.14	3.5	238.7	2.6
73.00	72.00	-1.92	-3.25	3.6	239.0	2.6
74.00	73.00	-1.95	-3.36	3.6	239.3	2.6
75.00	74.00	-1.98	-3.47	3.7	239.5	2.6
76.00	75.00	-2.01	-3.59	3.7	239.7	2.6
77.00	76.00	-2.04	-3.70	3.8	240.1	2.6
78.00	77.00	-2.07	-3.82	3.8	240.3	2.6
79.00	78.00	-2.10	-3.93	3.9	240.5	2.6
80.00	79.00	-2.13	-4.05	3.9	240.7	2.6
81.00	80.00	-2.16	-4.16	4.0	241.1	2.6
82.00	81.00	-2.19	-4.28	4.0	241.4	2.6
83.00	82.00	-2.22	-4.39	4.1	241.7	2.6
84.00	83.00	-2.25	-4.50	4.1	242.0	2.6
85.00	84.00	-2.28	-4.61	4.2	242.3	2.6
86.00	85.00	-2.31	-4.73	4.2	242.6	2.6
87.00	86.00	-2.34	-4.84	4.3	242.9	2.6
88.00	87.00	-2.37	-4.95	4.3	243.2	2.6
89.00	88.00	-2.40	-5.06	4.4	243.5	2.6
90.00	89.00	-2.43	-5.17	4.4	243.8	2.6
91.00	90.00	-2.46	-5.28	4.5	244.1	2.6
92.00	91.00	-2.49	-5.39	4.5	244.4	2.6
93.00	92.00	-2.52	-5.50	4.6	244.7	2.6
94.00	93.00	-2.55	-5.61	4.6	245.0	2.6
95.00	94.00	-2.58	-5.72	4.7	245.3	2.6
96.00	95.00	-2.61	-5.83	4.7	245.6	2.6
97.00	96.00	-2.64	-5.94	4.8	245.9	2.6
98.00	97.00	-2.67	-6.05	4.8	246.2	2.6
99.00	98.00	-2.70	-6.16	4.9	246.5	2.6
100.00	99.00	-2.73	-6.27	4.9	246.8	2.6
101.00	100.00	-2.76	-6.38	5.0	247.1	2.6
102.00	101.00	-2.79	-6.49	5.0	247.4	2.6
103.00	102.00	-2.82	-6.60	5.1	247.7	2.6
104.00	103.00	-2.85	-6.71	5.1	248.0	2.6
105.00	104.00	-2.88	-6.82	5.2	248.3	2.6
106.00	105.00	-2.91	-6.93	5.2	248.6	2.6
107.00	106.00	-2.94	-7.04	5.3	248.9	2.6
108.00	107.00	-2.97	-7.15	5.3	249.2	2.6
109.00	108.00	-3.00	-7.26	5.4	249.5	2.6
110.00	109.00	-3.03	-7.37	5.4	249.8	2.6
111.00	110.00	-3.06	-7.48	5.5	250.1	2.6
112.00	111.00	-3.09	-7.59	5.5	250.4	2.6
113.00	112.00	-3.12	-7.70	5.6	250.7	2.6
114.00	113.00	-3.15	-7.81	5.6	251.0	2.6
115.00	114.00	-3.18	-7.92	5.7	251.3	2.6
116.00	115.00	-3.21	-8.03	5.7	251.6	2.6
117.00	116.00	-3.24	-8.14	5.8	251.9	2.6
118.00	117.00	-3.27	-8.25	5.8	252.2	2.6
119.00	118.00	-3.30	-8.36	5.9	252.5	2.6
120.00	119.00	-3.33	-8.47	5.9	252.8	2.6
121.00	120.00	-3.36	-8.58	6.0	253.1	2.6
122.00	121.00	-3.39	-8.69	6.0	253.4	2.6
123.00	122.00	-3.42	-8.80	6.1	253.7	2.6
124.00	123.00	-3.45	-8.91	6.1	254.0	2.6
125.00	124.00	-3.48	-9.02	6.2	254.3	2.6
126.00	125.00	-3.51	-9.13	6.2	254.6	2.6
127.00	126.00	-3.54	-9.24	6.3	254.9	2.6
128.00	127.00	-3.57	-9.35	6.3	255.2	2.6
129.00	128.00	-3.60	-9.46	6.4	255.5	2.6
130.00	129.00	-3.63	-9.57	6.4	255.8	2.6
131.00	130.00	-3.66	-9.68	6.5	256.1	2.6
132.00	131.00	-3.69	-9.79	6.5	256.4	2.6
133.00	132.00	-3.72	-9.90	6.6	256.7	2.6
134.00	133.00	-3.75	-10.01	6.6	257.0	2.6
135.00	134.00	-3.78	-10.12	6.7	257.3	2.6
136.00	135.00	-3.81	-10.23	6.7	257.6	2.6
137.00	136.00	-3.84	-10.34	6.8	257.9	2.6
138.00	137.00	-3.87	-10.45	6.8	258.2	2.6
139.00	138.00	-3.90	-10.56	6.9	258.5	2.6
140.00	139.00	-3.93	-10.67	6.9	258.8	2.6
141.00	140.00	-3.96	-10.78	7.0	259.1	2.6
142.00	141.00	-3.99	-10.89	7.0	259.4	2.6
143.00	142.00	-4.02	-11.00	7.1	259.7	2.6
144.00	143.00	-4.05	-11.11	7.1	260.0	2.6
145.00	144.00	-4.08	-11.22	7.2	260.3	2.6
146.00	145.00	-4.11	-11.33	7.2	260.6	2.6
147.00	146.00	-4.14	-11.44	7.3	260.9	2.6
148.00	147.00	-4.17	-11.55	7.3	261.2	2.6
149.00	148.00	-4.20	-11.66	7.4	261.5	2.6
150.00	149.00	-4.23	-11.77	7.4	261.8	2.6
151.00	150.00	-4.26	-11.88	7.5	262.1	2.6
152.00	151.00	-4.29	-11.99	7.5	262.4	2.6
153.00	152.00	-4.32	-12.10	7.6	262.7	2.6
154.00	153.00	-4.35	-12.21	7.6	263.0	2.6
155.00	154.00	-4.38	-12.32	7.7	263.3	2.6
156.00	155.00	-4.41	-12.43	7.7	263.6	2.6
157.00	156.00	-4.44	-12.54	7.8	263.9	2.6
158.00	157.00	-4.47	-12.65	7.8	264.2	2.6
159.00	158.00	-4.50	-12.76	7.9	264.5	2.6
160.00	159.00	-4.53	-12.87	7.9	264.8	2.6
161.00	160.00	-4.56	-12.98	8.0	265.1	2.6
162.00	161.00	-4.59	-13.09	8.0	265.4	2.6
163.00	162.00	-4.62	-13.20	8.1	265.7	2.6
164.00	163.00	-4.65	-13.31	8.1	266.0	2.6
165.00	164.00	-4.68	-13.42	8.2	266.3	2.6
166.00	165.00	-4.71	-13.53	8.2	266.6	2.6
167.00	166.00	-4.74	-13.64	8.3	266.9	2.6
168.00	167.00	-4.77	-13.75	8.3	267.2	2.6
169.00	168.00	-4.80	-13.86	8.4	267.5	2.6
170.00	169.00	-4.83	-13.97	8.4	267.8	2.6
171.00	170.00	-4.86	-14.08	8.5	268.1	2.6
172.00	171.00	-4.89	-14.19	8.5	268.4	2.6

