Summary Report on the Trefi Coal Property

2008-2012 Exploration Program

Northeast British Columbia: Centered at 6,148,000N and 572,000E (NAD 83)

Trefi Coal Ltd.

Robert J. Morris, M.Sc., P.Geo.
Moose Mountain Technical Services

Submission Date: 16 July 2014

Pages 6, 7, 25, 31, 32, and Appendices A and C of this report remain confidential under the terms of the Coal Act Regulation, and have been removed from the public version.

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ASSESSMENT REPORT TITLE PAGE AND SUMMARY

TITLE OF REPORT: Summary Report on the Trefi Coal Property, 2008-2012 Exploration Program

TOTAL COST: $ 735,780.09

AUTHOR(S): Robert J. Morris, M.Sc., P.Geo.
SIGNATURE(S): RJMorris

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): CX-9-039

YEAR OF WORK: 2008-2012
PROPERTY NAME: Trefi Coal Project
CLAIM NAME(S) (on which work was done):

COMMODITIES SOUGHT: Coal

MINING DIVISION: Liard
NTS / BCGS:
LATITUDE: 55° 29' 43"
LONGITUDE: 121° 53' 34" (at centre of work)
UTM Zone: 9 **EASTING:** 572000 **NORTHING:** 6148000

OWNER(S): Trefi Coal Corp.

MAILING ADDRESS:, 33045-1583 Marine Drive, West Vancouver, BC V7V 2X7

OPERATOR(S) [who paid for the work]: Trefi Coal Corp.

MAILING ADDRESS:, 33045-1583 Marine Drive, West Vancouver, BC V7V 2X7

REPORT KEYWORDS: Walton Member, Commotion Formation, Coal

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:

Statement of Costs

Activity	Provider	2008	2009	2010	2011	2012	Total 2008-2012
Technical Services	MMTS	$ 66,541.12	$ 173,535.47	$ 32,069.36	$ 49,927.60	$ 10,013.78	$ 332,087.33
Drill Site Preparation	Jack Ganson		$ 30,944.85				$ 30,944.85
Drill Site Preparation	Peace Valley Line Locating		$ 3,678.70				$ 3,678.70
Drilling	Carbon Mountain Drilling		$ 264,403.36				$ 264,403.36
Drilling Services	Century Wireline Services		$ 9,744.49				$ 9,744.49
Core Storage	Pro-Saw Ventures		$ 500.00				$ 500.00
Equipment Rental	Total Oilfield Rentals		$ 6,540.00				$ 6,540.00
Drilling Services	McElhanney		$ 7,863.00				$ 7,863.00
Assays	Elk Valley Environmental		$ 2,636.00				$ 2,636.00
Site Visit	Trefi Coal Corp.			$ 5,803.22		$ 11,469.21	$ 17,272.43
Archaeological Study	Stantec			$ 3,304.75	$ 8,724.45		$ 12,029.20
Archaeological Study	ECOFOR				$ 14,681.05	$ 5,828.90	$ 20,509.95
Permitting	Silenus Resource Mgmt.				$ 3,000.00	$ 24,570.78	$ 27,570.78
Grand Total		**$ 66,541.12**	**$ 499,845.87**	**$ 41,177.33**	**$ 76,333.10**	**$ 51,882.67**	**$ 735,780.09**

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MMTS is of the opinion that the Trefi property hosts significant coal resources and is a property of merit, worthy of further exploration. It is recommended that the next phase of exploration consist of a mapping program to verify the dip of the limbs of the syncline and to revise the geological model to fit the mapping. A follow-up drill program in several key areas along with additional coal quality testing is also recommended.

2 INTRODUCTION & SCOPE

In June 2008, Moose Mountain Technical Services (MMTS) was retained by Anglo-Pacific Group Plc (Anglo-Pacific) to create a geological model of the Trefi coal deposit, to estimate the coal resources for the deposit and to recommend a follow-up drill program. Since that time, five drillholes, coal quality studies, and an updated resource estimate have been completed.

This report deals with coal seams found in the Walton Member of the Commotion Formation. The geology of this property is defined by the previous work of geologists from Gulf Canada Resource Inc. (Gulf Canada) and Norwest Resource Consultants Ltd. This report includes a review of the previous geology and drillhole data to the end of December, 1982, as well as drillhole data from 2009.

The author, Robert J. Morris, inspected the property during 21-22 April 2009, 21-22 October 2009, and 26 October 2012. During the site visits, access to the property was observed, drilling was in progress, drill core was inspected, and coal sampling protocol was confirmed.

3 PROPERTY DESCRIPTION, ACCESSIBILITY, CLIMATE, HISTORY, INFRASTRUCTURE

The Trefi coal property is located south of the Pine River Valley, approximately 30km southwest of the town of Chetwynd in the Peace River District of northeast British Columbia, Figure 3-1. The coal licences are located south of Highway 97 and the B.C.R. railway line. The approximate centre of the property is 6,148,000N and 572,000E (UTM NAD 83).

The property consists of 15 tenures and three licence applications, as shown in Table 3-1 and Figures 3-1 and 3-2. The total area of the tenure is approximately 7,337 hectares, while the licence application area is a further 2,100ha, Figures 3-3 and 3-4. The application area extends the extreme northwest portion of the licence area approximately 2km further to the north and west. Coal licences in British Columbia are obtained by "map staking" the area of interest. The coal licences are registered in the name of Trefi Coal Corp. (Trefi Coal), of Vancouver, B.C., a wholly-owned subsidiary of Anglo Pacific. There are no underlying agreements or royalties on the property.

Table 3-1 Trefi Coal, Owned Tenures

Project	Claim Number	Mining Division	Issued	Expiry Date	Area (ha)
Trefi Coal Corp	411463	Liard	22/06/2004	June 15,2015	294
Trefi Coal Corp	411464	Liard	22/06/2004	June 15,2015	294
Trefi Coal Corp	411465	Liard	22/06/2004	June 15,2015	294
Trefi Coal Corp	411466	Liard	22/06/2004	June 15,2015	294
Trefi Coal Corp	411467	Liard	22/06/2004	June 15,2015	294
Trefi Coal Corp	411468	Liard	22/06/2004	June 15,2015	294
Trefi Coal Corp	411469	Liard	22/06/2004	June 15,2015	294
Trefi Coal Corp	417047	Liard	08/09/2005	Sept 9, 2014	294
Trefi Coal Corp	417048	Liard	08/09/2005	Sept 9, 2014	294
Trefi Coal Corp	417049	Liard	08/09/2005	Sept 9, 2014	587
Trefi Coal Corp	417050	Liard	08/09/2005	Sept 9, 2014	881
Trefi Coal Corp	417051	Liard	08/09/2005	Sept 9, 2014	584
Trefi Coal Corp	417052	Liard	08/09/2005	Sept 9, 2014	1,465
Trefi Coal Corp	417053	Liard	08/09/2005	Sept 9, 2014	880
Trefi Coal Corp	417054	Liard	08/09/2005	Sept 9, 2014	294
				Total	**7,337**

All of the exploration completed to date has been by permit from the BC Government. The project currently has an active Mines Act Permit, CX-9-039, which covers the completed drill program.

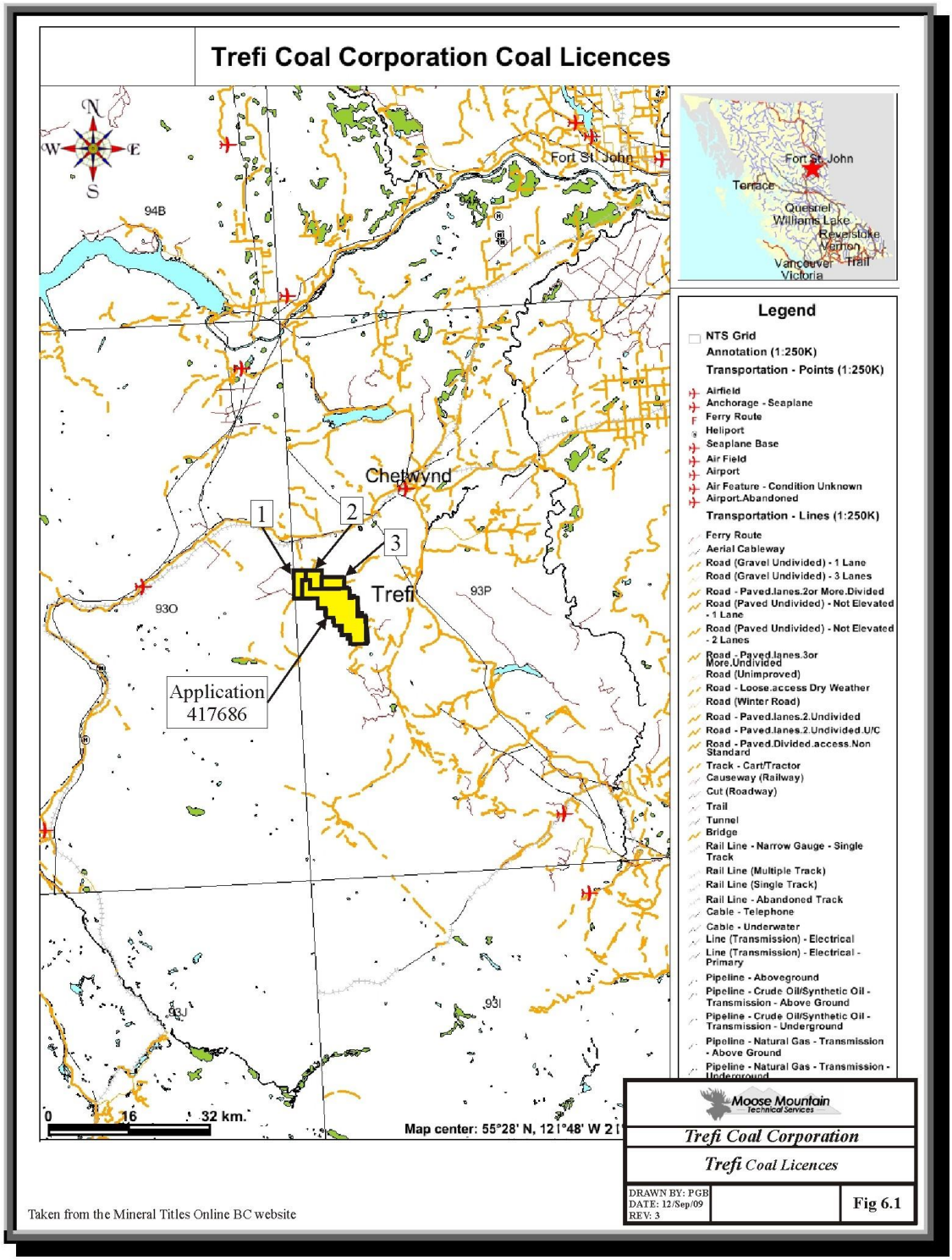

Figure 3-1 Trefi Coal Licences, 1 to 3 are the new application areas

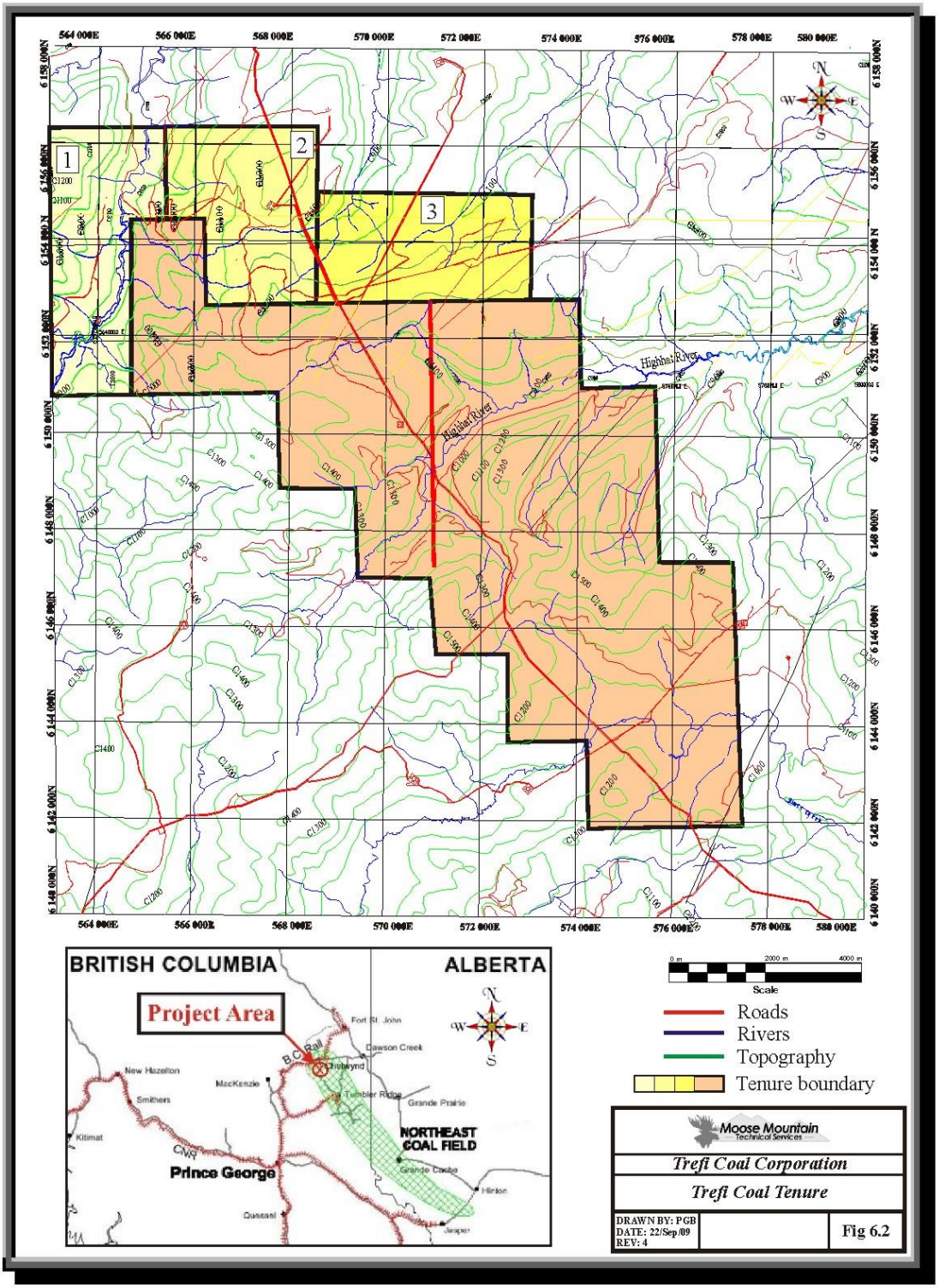

Figure 3-2 Trefi Coal Tenure, 1 to 3 are the new application areas

The Trefi property is located within the Pine Pass area in the Peace River District of northeast British Columbia. Primary road access to the general area is via the John Hart Highway, Highway 97, which is an all-weather paved highway which connects the Peace River District with the central interior city of Prince George, B.C. to the west and Chetwynd and Dawson Creek to the east. The southern portion of the property is accessible from Chetwynd via the Sukunka River road and an oil and gas and old coal exploration access road called the Highhat Road along Bluff Creek, a distance of about 50km. The northern portion of the property is accessible along the Hasler Creek road which leads off the main John Hart Highway about 26km west of Chetwynd and then along the Westcoast Transmission gas plant access road for a total distance from Chetwynd of about 40km. The Westcoast Transmission Grizzly Valley pipeline runs south from the main gas plant just south of the Pine River Valley through the western edge of the resource area. Some limited access is available along seismic cut lines during the winter season when the low swampy areas are sufficiently frozen.

Canadian National Railway (CN) operates a rail line through the Pine River Valley to service the Peace River District. The rail line is 8km north of the Trefi deposit and 21km from the south end of the property. The railway provides direct access to the port of Vancouver and to the Ridley Island Terminal at Prince Rupert.

The Peace River District is serviced by daily commercial airline flights to the cities of Prince George, Dawson Creek and Fort St. John. These services have respective road distances to the Trefi property of roughly 265km, 148km and 208km.

The property is situated in the Rocky Mountain Inner Foothills physiographical region and is characterized by relatively low, rounded, northwest-southeast trending ridges and valleys. Glaciation appears to have had a large influence in shaping the topography of the tenure area.

The highest elevation in the area is 1,425 metres at Highhat Mountain while the elevation in the Pine River Valley averages 600 metres. The average elevation of the area is approximately 1,240 metres.

The property is forested by jack pine and minor spruce. Poplar stands occur in low areas such as river valleys, and in wet areas adjacent to creeks and seepages. Most of the forested terrain may be classified as open forest, i.e., with little or no underbrush. The exceptions are the wet areas where willows and devil's club are common.

The climate of the region may be classified as northern temperate. Daily temperatures range from a mean maximum of 7ºC to a mean minimum of minus 6ºC, with a mean daily temperature of 1ºC. Extreme temperatures range from a maximum of 32ºC to a minimum of minus 48ºC. The average annual number of days with frost is 210.

The mean total precipitation in the region is approximately 425mm, which includes the rainfall equivalent of a mean snowfall of 165cm. The average annual number of days with measurable precipitation is ninety-five. The greatest recorded rainfall in twenty-four hours is 66.5mm.

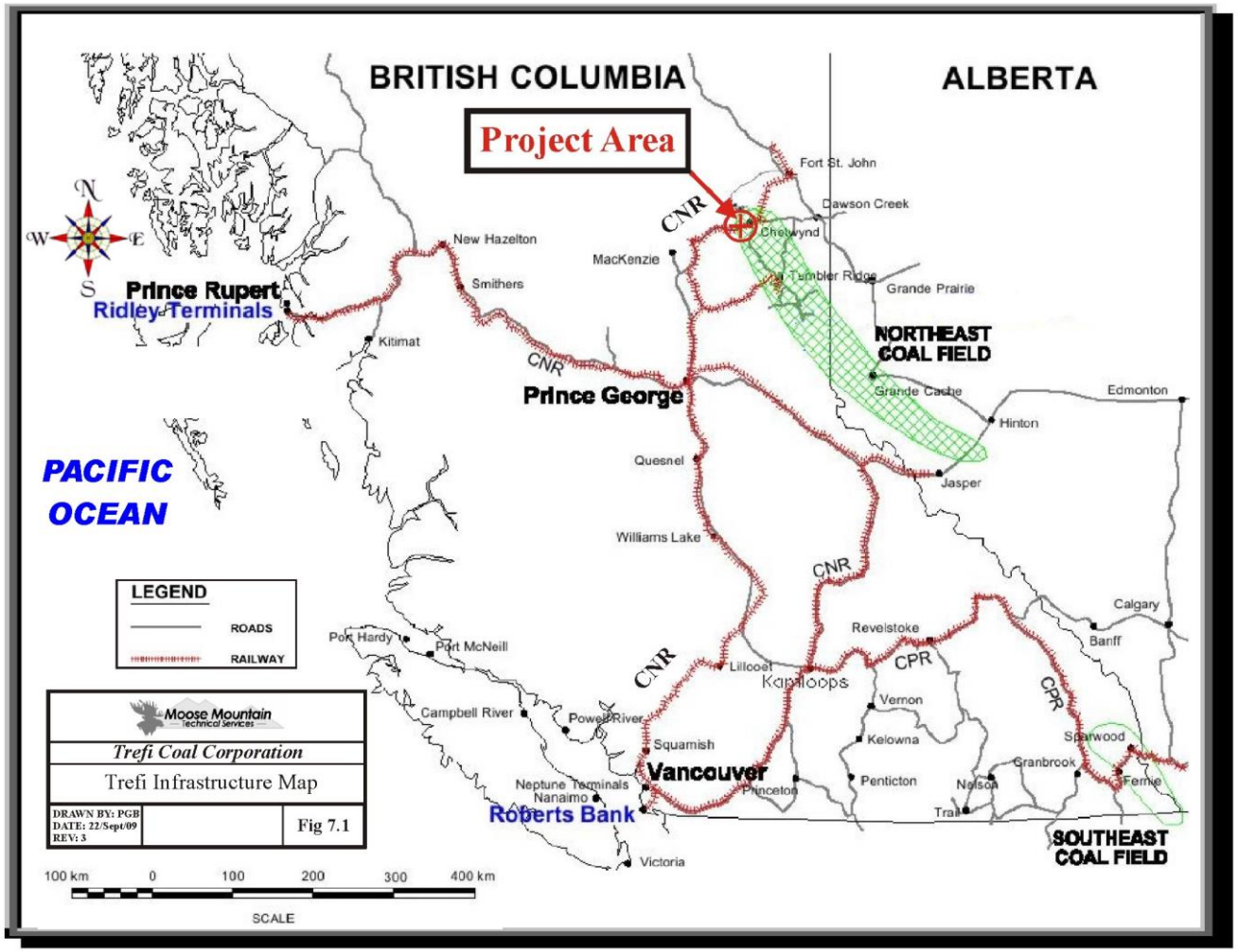

Figure 3-3 Trefi Coal, Infrastructure

4 GEOLOGY

4.1 History

Coal was discovered in the Peace River District of British Columbia during Alexander Mackenzie's overland journey to the Pacific about 200 years ago.

Exploration of the Trefi property began in April 1980, by Gulf Canada Resources Inc. The Trefi property at that time was three times the size that it is at present. Initial work involved 1:25,000 scale reconnaissance geological mapping and drilling. Rock and coal outcrop exposures on the tenures are limited due to a dense vegetative cover and overburden. The majority of geological field data was collected along drainage systems. Nine geological cross-sections were generated at approximately five kilometre centres on most of the property and at ten kilometre centres at the north end of the property.

Exploration in 1980 on the Trefi property consisted of twelve rotary drillholes and three diamond drillholes. The diamond drillholes were located south of the Pine River and have a total length of 641.4m. Core was sampled and sent for coal analysis. All holes were geophysically logged producing a suite of Gamma Ray, Neutron, Side Wall Density, Caliper and Focused Beam Resistivity Logs. The 1980 core was sent to Charlie Lake for storage. Of the rotary holes, six were drilled north of the Pine River and six south of the Pine River for a total length of 2,417.2m. Three of the 1980 holes south of the Pine River provided full seam core samples for analysis. After the 1980 field season, all the licences north of the Pine River were dropped. The size of the property shrank by approximately one half.

Exploration in 1981 on the Trefi property consisted of geological mapping at a 1:20,000 scale and the drilling of four diamond drillholes with a total length of 1,260.8m and six rotary drillholes with a total length of 1,662.3m. Four of these holes cored full seam samples of the Caron and Highhat Seams.

In 1982, exploration consisted of the drilling of two rotary drillholes with a total length of 350.4m. A full core section of the Caron seam was sampled in each hole. The drill program was designed to aid in a depositional analysis of the Trefi coal seams in order to better define the extent of the seams. Thirteen geological cross-sections were produced with the majority being spaced at two kilometre intervals though one at the south and two at the north were at four kilometre spacing.

Work completed on the Trefi property by Gulf Canada is filed with the BC Ministry of Energy and Mines as coal assessment reports 680, 681 and 682.

In the early 1980's, Gulf Canada estimated the inferred in-place resources for the Trefi region as 124.2 million tonnes for the thicker more extensive Caron seam (Seam C) and a possible 23.7 million tonnes for the thinner, less areal extensive Highhat seam (Seam H). These resources are considered historic in nature and do not comply with NI 43-101 standards.

The "inferred in-place" resource estimate from Gulf Canada would be equivalent to our total estimate of Measured, Indicated and Inferred resources combined. Gulf Canada's Caron seam resource estimate (124.2Mt) combines 11.6Mt of coal with true thickness between 0.5m and 1.5m, with an estimated 112.6Mt of coal with true thickness greater than 1.5m. The calculation methodology for the estimate is not stated. The difference between the Gulf Canada estimate and MMTS's would be that we have limited ours to the property boundary (some thick coal exists outside the coal licences) and we have not included coal that is greater than 600m below surface (some thick coal exists at greater depths of cover).

In 2009, Trefi Coal, a wholly-owned subsidiary of Anglo Pacific drilled five rotary drillholes on the Trefi property. Three of the holes were cored for coal. The total length of drilling was 1,006.39m.

The property is not in production nor has coal been produced from the property.

4.2 Geological Setting

The Cretaceous sediments of the northern Foothills were deposited along the western margin of the Western Canada Basin in a series of transgressive-regressive cycles during the Columbian Orogeny. Environments of deposition varied laterally and vertically from marine through prodeltaic and near shore, to delta plain and alluvial. Lithologies include mudstone, siltstone, sandstone, conglomerate and coal.

The Trefi property is underlain by the Lower Cretaceous Bullhead Group and Fort St. John Group sediments. Figure 4-1 compares the stratigraphic nomenclature used by Gulf Canada to that used by the Geological Survey of Canada (GSC). Because much of the present work is based on the former's work, the Gulf Canada nomenclature is used.

The oldest formation on the property is the Gething Formation which is part of the Bullhead Group. The Gething Formation is made up of fine to coarse grained sandstones, siltstones, mudstones, carbonaceous mudstones and coal. Many coal deposits in the Peace River district are in the Gething Formation. This formation may be present near the edge of the very southern licences but there are no known exposures of Gething Formation on the Trefi property.

Overlying the Gething Formation is the Moosebar Formation, which is marine and is the youngest unit of the Fort St. John Group. The Moosebar Formation is a recessive marine shale unit which consists of dark grey, rubbly weathering mudstones and siltstones.

Conformably overlying the Moosebar is the Commotion Formation, of which Gates Member is the youngest member. The Gates Member is comprised of sandstone, siltstone, mudstone, carbonaceous mudstone and some coal. Although the Gates, along with the Gething, is one of the main coal bearing units in the south part of the Peace River Coalfield, only thin seams, all less than 1.0 metre thick have been found in Gates drill core on the Trefi property.

The Hulcross Member is a recessive marine siltstone and mudstone sequence which conformably overlies the Gates Member. It, in turn, is conformably overlain by the Boulder Creek Member.

The Boulder Creek Member can be divided into 3 units: the lower, resistant, cliff forming sandstone and conglomerate unit, the middle interbedded sandstone, siltstone and minor mudstone unit and the upper, resistant, cliff forming sandstone/conglomerate unit. The majority of holes drilled on the Trefi property were terminated in this upper conglomeratic unit and it provided an excellent marker for the base of the coal-bearing Walton Member in the central part of the license area.

The Walton Member conformably overlies the Boulder Creek Member.

Overlying the Walton Member are the other formations of the Fort St. John Group, which, in this area, include in succeeding order, the Hasler and Goodrich Formations.

4.3 Walton Member

The coal-bearing Walton Member, between the underlying Boulder Creek Formation and the overlying Hasler Formation, is comprised of sandstone, siltstone, mudstone, carbonaceous mudstone, coal and occasional conglomeratic sandstone. Coal seam development occurs predominantly in the lower one-third of the Member. Interbedded mudstone, siltstone and channel sandstones comprise the upper two thirds of the Member.

South of the Pine River the thickness of the Walton Member varies from 60m to 88m, averaging 68m.

Prior to the 1980 drilling program, data on the coals of the Walton Member were derived from gas wells both on and off the property. Two seams, 2.1 and 1.37 metres thick, were intersected at a depth of 725.4m and 737.1m in Skelly Getty CS Commotion 93-P-12/a-23-D (Discovery Well) at the head waters of Goodrich Creek. Twenty-one kilometres south of this well, and outside the licences, two 0.9m seams at 1240m and 1243.5m and one 1.2m seam at 1261m, were intersected in Quasar et al Oetco: 93-P-5/c-28-I . Logs from Skelly Getty CS Commotion 93-P-12/c-29-C approximately 5.5km east of the "Discovery Well" indicated no coal of any significance and this well defines the easterly limit of coal development. The 1980 rotary and diamond drilling program demonstrated that the occurrence of these two seams is restricted to the South Pine Area. Thin coals and carbonaceous zones do occur north of the Pine River but appear discontinuous and difficult to correlate. Most of the coal seam development occurs within the basal one third of the member. Two significant coal seams are developed in the Walton Member. They are, in ascending stratigraphic, order the Highhat and the Caron Seams. A third, less significant but fairly continuous seam called the Linklater seam is found between the Highhat and Caron Seams.

The Highhat Seam occurs at the base of the member and either lies directly on the upper conglomeratic unit of the Boulder Creek Member or within one metre of the contact. The seam varies from a few centimetres to a maximum gross thickness of 2.68m containing 1.74m of coal.

The Linklater Seam is between the Highhat and Caron Seams at approximately 5 to 7m above the base of the Walton Member. It varies from 0.2m to 1.18m thick and averages 0.61m.

The Caron Seam occurs within eleven to nineteen metres of the base of the unit and varies in thickness from a few centimetres to a maximum thickness of 2.70m in the discovery well. The seam underlies most of the north-western portion of the South Pine area. The Caron Seam thins

to the east and north. In approximately half of the Caron Seam intersections, it is associated with a thin band of coal near its roof, called the Caron Rider Seam. The Caron Rider averages 0.43m thick and the rock band separating it from the Caron Seam averages 2.39m.

Detailed stratigraphic analysis undertaken as a part of the 1982 geologic program re-evaluated member contacts as well as the lateral continuity of stratigraphic units, particularly coal seams. Several datum horizons were identified including the tops of marine sandstones in the Boulder Creek Member, as well as coal seams, high natural gamma radiation beds and laterally persistent fluvial sandstone beds in the Walton Member.

This report deals with coal seams found in the Walton Member of the Commotion Formation. To date, two coal seams have been modelled on the Trefi property. They range in thickness from 0.2m to 4.85m. The seams are within a 20m portion of the lower Walton Member of the Commotion Formation.

For each seam the following criteria for inclusion in resource applies: minimum mineable seam thickness is 1.5m. A coal zone is considered mineable if it has a cumulative thickness of 1.5m or more.

Table 4-1 Distribution of Seam Thickness

Seam	Number of Intercepts	Thickness Range (m)	Number > 1m
CR	8	0.18 – 0.57	0
C	20	0.2 – 4.85	14
N	3	0.57 – 1.1	1
L	10	0.2 – 1.18	1
H	9	0.13 – 2.23	5

4.4 Structural Geology

The most intense structural feature affecting the Trefi property is the Pine River Anticline which lies immediately along the western margin of the property. Along the northeast limb of this feature resistant Boulder Creek Member sandstones and conglomerates outcrop and form northwest-trending ridges. The Walton Member is brought to surface as well, along this limb, but due to the recessive nature of the rocks and cover by surficial material, it is not normally exposed.

The northeast limb of the Pine River Anticline dips rather steeply to the northeast with attitudes ranging from 25° to 45°. At depth along this limb a flexure causes the dips to flatten and eventually dip in the opposite direction following a syncline. The syncline is called the Hulcross Syncline and this structure is generally broad with gentle dips, particularly along the northeast limb. The Hulcross Syncline narrows to the southeast and terminates just southeast of Highhat Mountain. To the northeast, the Hulcross Syncline is paired with the Commotion Anticline. Dips on the Commotion Anticline are relatively gentle. The Commotion Anticline terminates north of the Highhat Mountain where it converges with the Pine River Anticline. Axial plunge on all folds is towards the southeast.

A fault, named the Highhat Fault, is postulated just west of Highhat Mountain. Poor exposure makes it very difficult to detail this feature with any certainty.

Sub-surface investigation will be necessary to positively identify and locate this structure if present.

South of Highhat Mountain the structure becomes somewhat more complex with fold amplitudes increasing and some thrust faulting taking place. A series of thrust faults north-east of the north-east part of the property are considered to parallel the east edge of the Trefi coal property as far south as the Sukunka River. Displacement is considered to be in the order of 800metres, but there is a lack of detailed mapping in this area.

	Gulf Canada Resources Inc.			Geological Survey of Canada	
Lower Cretaceous	Fort St. John Group	Goodrich Formation		Fort St. John Group	Goodrich Formation
		Hasler Formation			Hasler Formation
		Commotion Formation	Walton Member		Boulder Creek Formation
			Boulder Creek Member		
			Hulcross Member		Hulcross Formation
			Gates Member		Gates Formation
		Moosebar Formation			Moosebar Formation
		Bluesky Formation			
	Crassier Group	Gething Formation		Bullhead Group	Gething Formation
		Dresser Formation			Cadomin Formation
Transitional		Brenot Formation		Minnes Group	Brickford Formation
	Beaudette Group	Monach Formation			Monach Formation
		Beattie Peaks Formation			Beattie Peaks Formation
		Monteith Formation			Monteith Formation
Jurassic	Fernie Formation			Fernie Formation	

Coal - bearing sequence

Moose Mountain Technical Services
Trefi Coal Corporation
Trefi Stratigraphic Column
DRAWN BY: PGB
DATE: 16/Aug/09
REV: 2
Fig 9.1

Figure 4-1 Stratigraphic Column; relates the older Gulf Canada nomenclature to the present day GSC nomenclature

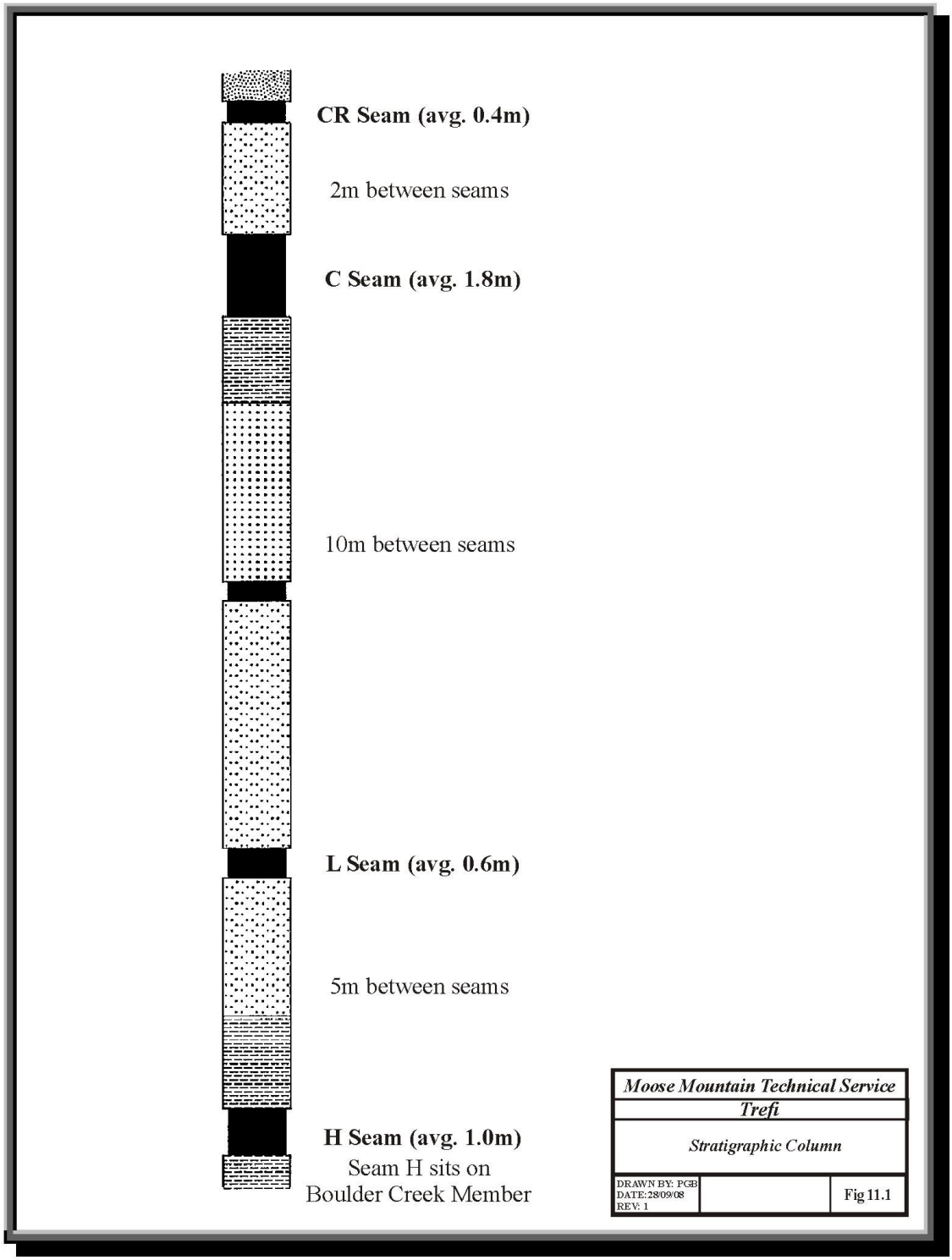

Figure 4-2 Detailed Stratigraphic Column

5 EXPLORATION PROGRAM

5.1 Historic Exploration

Coal was discovered in the Peace River District of British Columbia during Alexander Mackenzie's overland journey to the Pacific about 200 years ago.

Exploration of the Trefi property began in April 1980, by Gulf Canada Resources Inc. The Trefi property at that time was three times the size that it is at present. Initial work involved 1:25,000 scale reconnaissance geological mapping and drilling. Rock and coal outcrop exposures on the tenures are limited due to a dense vegetative cover and overburden. The majority of geological field data was collected along drainage systems. Nine geological cross-sections were generated at approximately five kilometre centres on most of the property and at ten kilometre centres at the north end of the property.

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Work completed on the Trefi property by Gulf Canada is filed with the BC Ministry of Energy and Mines as coal assessment reports 680, 681 and 682.

In the early 1980's, Gulf Canada estimated the inferred in-place resources for the Trefi region as 124.2 million tonnes for the thicker more extensive Caron seam (Seam C) and a possible 23.7 million tonnes for the thinner, less areal extensive Highhat seam (Seam H). These resources are considered historic in nature and do not comply with NI 43-101 standards.

The "inferred in-place" resource estimate from Gulf Canada would be equivalent to our total estimate of Measured, Indicated and Inferred resources combined. Gulf Canada's Caron seam

resource estimate (124.2Mt) combines 11.6Mt of coal with true thickness between 0.5m and 1.5m, with an estimated 112.6Mt of coal with true thickness greater than 1.5m. The calculation methodology for the estimate is not stated. The difference between the Gulf Canada estimate and MMTS's would be that we have limited ours to the property boundary (some thick coal exists outside the coal licences) and we have not included coal that is greater than 600m below surface (some thick coal exists at greater depths of cover).

The property is not in production nor has coal been produced from the property.

5.1.1 Drilling

Between 1980 and 1982, Gulf Canada completed seven diamond drillholes and sixteen rotary holes on the Trefi property. Holes were drilled into the Commotion Formation targeting the top of the Boulder Creek Member and ranged in depth from 90.0m to 617.2m.

Previous drilling located Seam C across a much larger area than that covered by the present day coal licences. It was found that to the north and northeast the seam became very thin and was deemed uneconomical.

In 2009, Trefi Coal drilled five rotary drillholes. Based on the 2008 model, holes were located in order to intersect and core the Walton Member coal seams. Four of the holes intersected the Walton Member seams, coal was cored and sampled in three of the holes and one hole was abandoned because of high water in-flow. Drillhole depths ranged from 161.84m to 288.95m.

Because the geology is simple and generally flat lying, vertical drillholes have been used to assess the resource potential of the area. The relationship between sample length and true thickness is very close to the same, but in detail it has been calculated using MineSight® which considers the 3D orientation of the drillhole and the coal seam.

In general, the Trefi coal deposit is an open syncline with a northwest/southeast strike orientation and dips on the limbs of less than 20°.

Table 5-1 Summary of Drilling, Trefi Property

Year	Diamond		Rotary		Total	
	Number	Length (m)	Number	Length (m)	Number	Length (m)
1980	3	641.4	8	1,967.7	11	2,609.1
1981	4	1,260.8	6	1,662.3	10	2,923.1
1982	0	0	2	350.4	2	350.4
2009	0	0	5	1,006.39	5	1,006.39
Totals	**7**	**1,902.2**	**21**	**4,986.8**	**28**	**6,889.0**

5.2 Geological Modelling 2009

Mineral resources have been estimated for the Trefi coal deposit. The property hosts a mineral resource that could be mined using underground methods.

The geological modelling portion of the project includes a review of the available data, formatting and treatment of data to support model development, a geological interpretation, and the construction of gridded-seam resource model. Interpretation and modelling has focused on the Caron Seam (Seam C) though the lower Highhat Seam (Seam H) may have some potential.

Model Extent

The block model is 17,500m long (in the northwest direction, the Y axis), 9,500m wide (in the northeast direction, the X axis), and 1,300m deep (elevation range from 300m to 1,600m, the Z axis). The model has been rotated 38° to the west (so that cross-sections view the deposit approximately at right angles to the strike).

Topography

Topography has been obtained from NTS maps at the scale of 1:50,000.

Overburden Surface

Overburden has not been considered in the model as it is a potential underground project.

Oxide Horizon

The degree of oxidation has not been considered in the model.

Geological Data

A geological interpretation of the footwall of Seam C was completed on cross-sections, and the footwalls from section were linked to develop a surface. The true thickness of the seam was determined mathematically by considering the orientation of the drillhole (from downhole survey) and the dip of the bedding as measured in drill core. A true thickness interpolation, using an inverse distance function (to the third power) and a 5,000m search distance, was then completed to determine seam thickness between drillholes.

Mineable thickness tagging

On the basis of the current knowledge, the Trefi deposit is classified as a moderate, potentially underground mineable deposit. Sample analysis shows the coal to be mid volatile bituminous rank, potentially marketable to the steel making industry as a weak coking coal (PCI) or as a thermal coal. Mineral resource assumptions for in situ bulk density, mineable true thicknesses, and depth below surface conform to the Paper 88-21 guidelines at 1.45g/cc, greater than 1.5 metres, and less than 600m respectively.

Mineral Resource Classification

During interpolation runs, MineSight® stores the distance from the model block to the nearest composite value in the zone that satisfies the search parameters. The distance values are then used to assign a resource classification code based on the sectional spacing prescription in GSC paper 88-21. A mineral resource code of one, measured mineral resources indicates the influence of composite values within 450m of the model block. A value of two, Indicated resources indicates

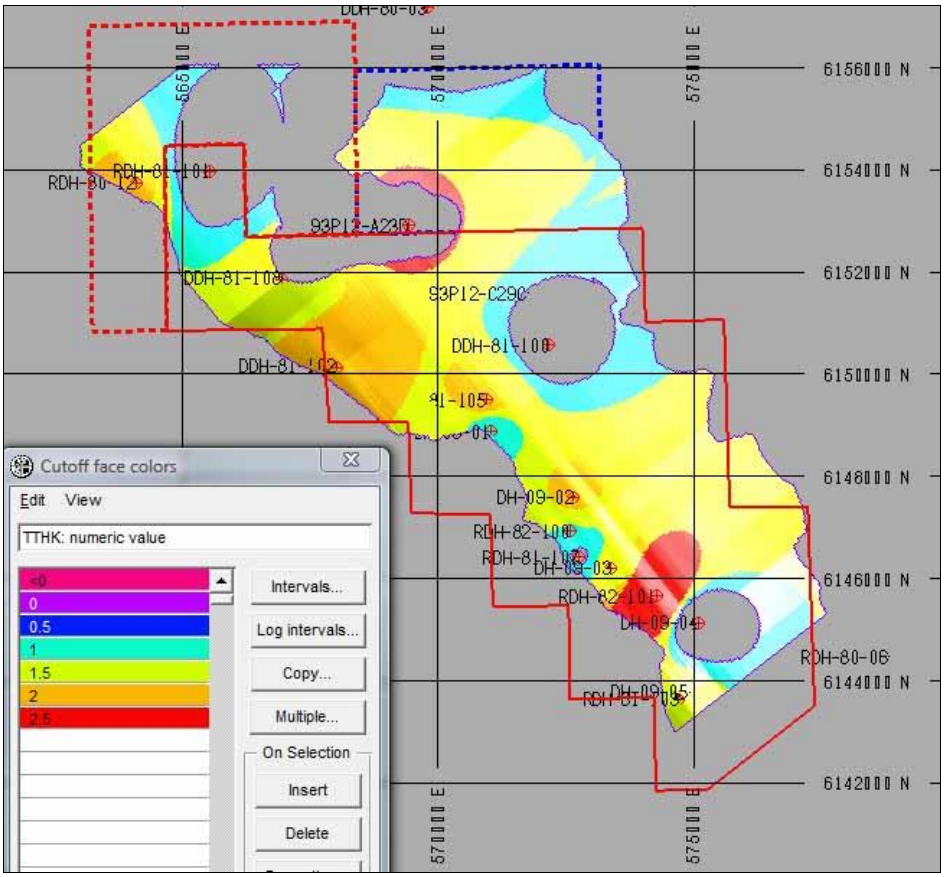


Figure 5-1 Distribution of Drillholes on Trefi Property

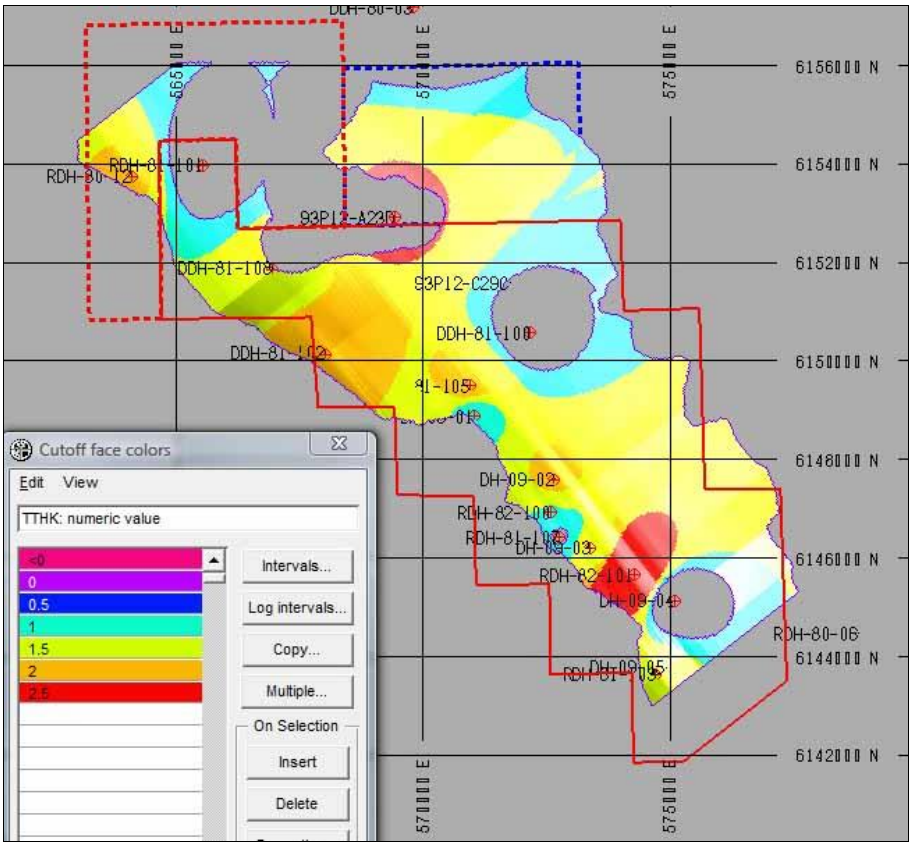


Figure 5-2 Plan showing the distribution of Seam C relative to the Trefi Property

(Red outlines the coal licences; while the red and blue dashed line outlines the coal licence application areas. The grid is 2km north/south and 5km east/west. The true thickness legend is shown in the lower left, with the yellow, orange and red colours representing coal >1.5m thick. The cut-out areas represent areas with >600m of cover.)

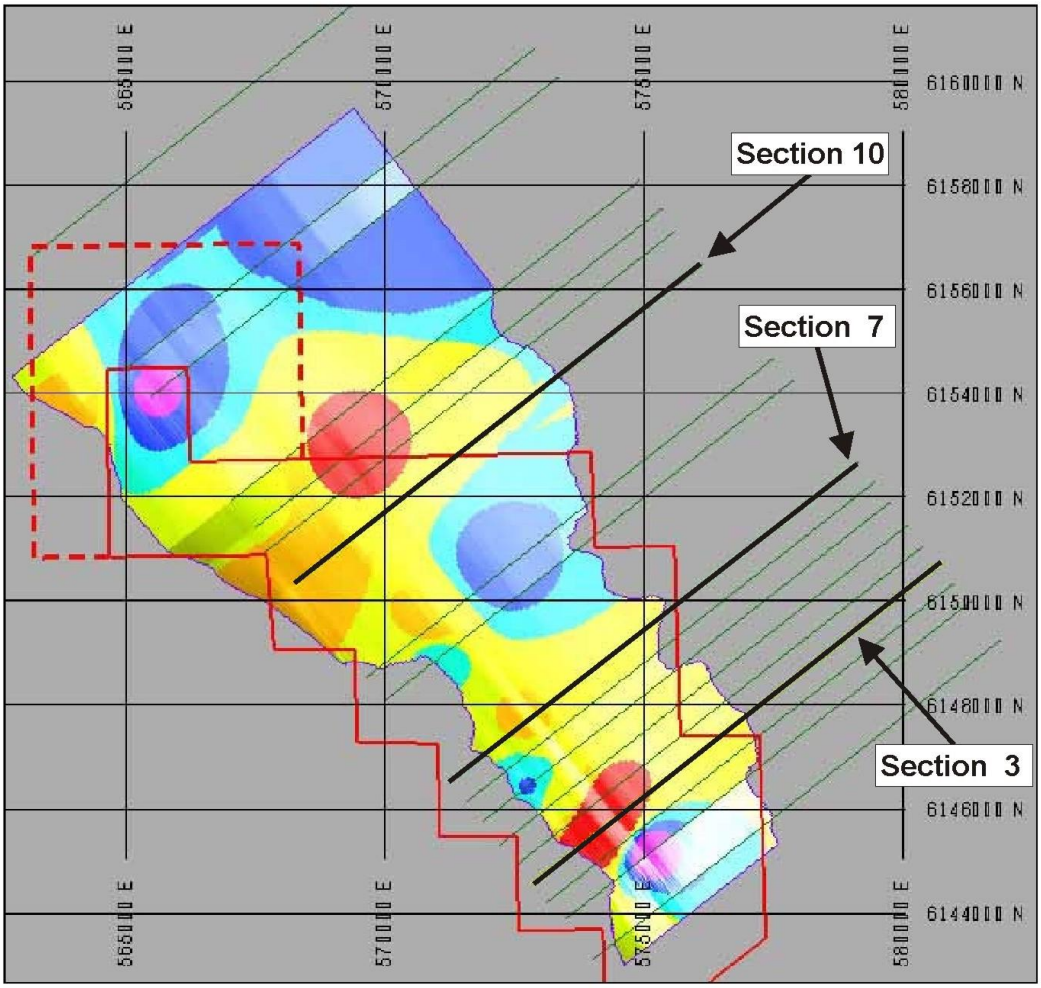


Figure 5-3 Plan showing Location of Cross-sections

(The solid red lines show the coal licences, while the dashed red line is one of the application areas (see Figure 5-2 for the additional application area)).

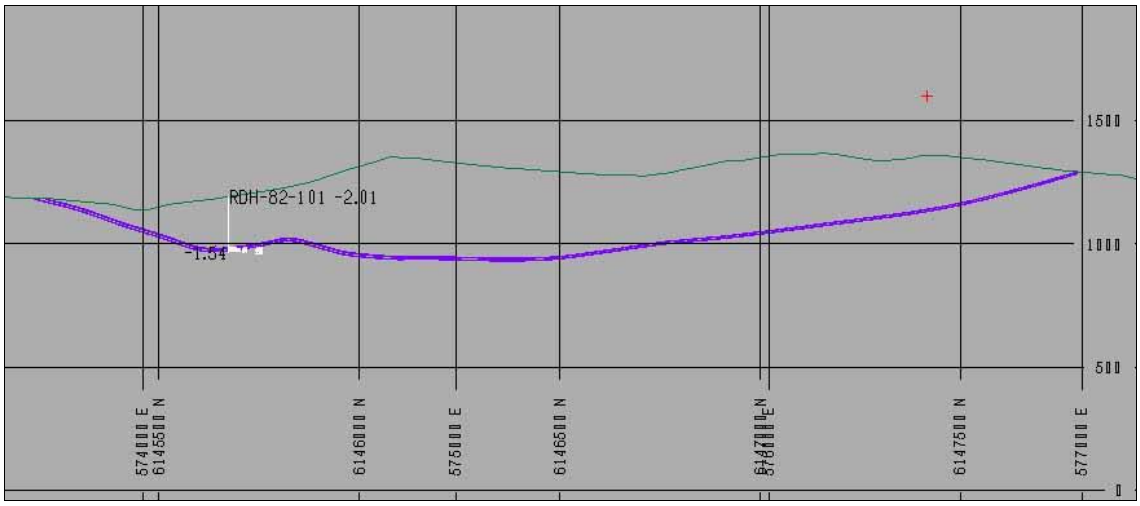


Figure 5-4 Cross-section 3; near the south end of the deposit, showing RDH82-101

(Seam C is shown in purple. The grid is 500m vertical.)

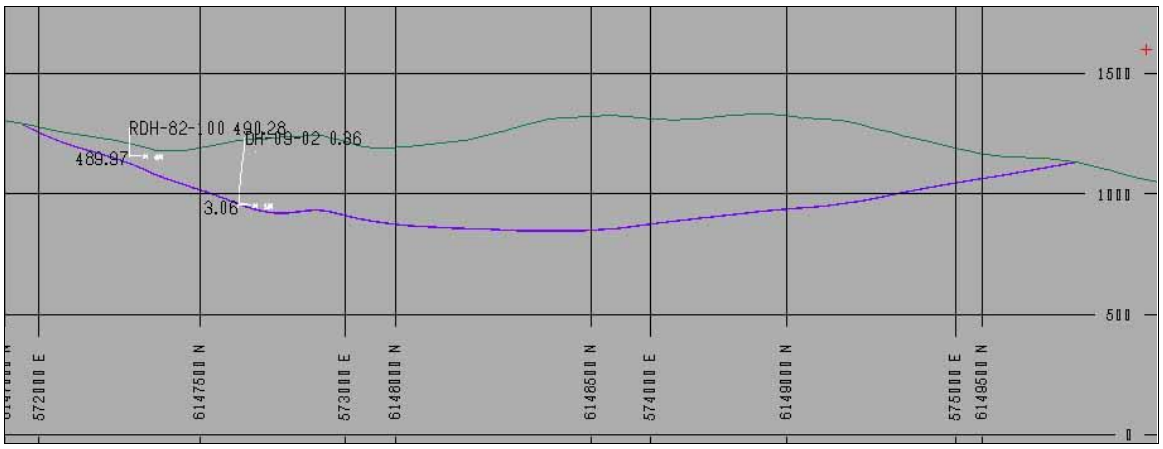


Figure 5-5 Cross-section 7; showing drillholes RDH82-100 and DH 09-02

(Seam C is in purple.)

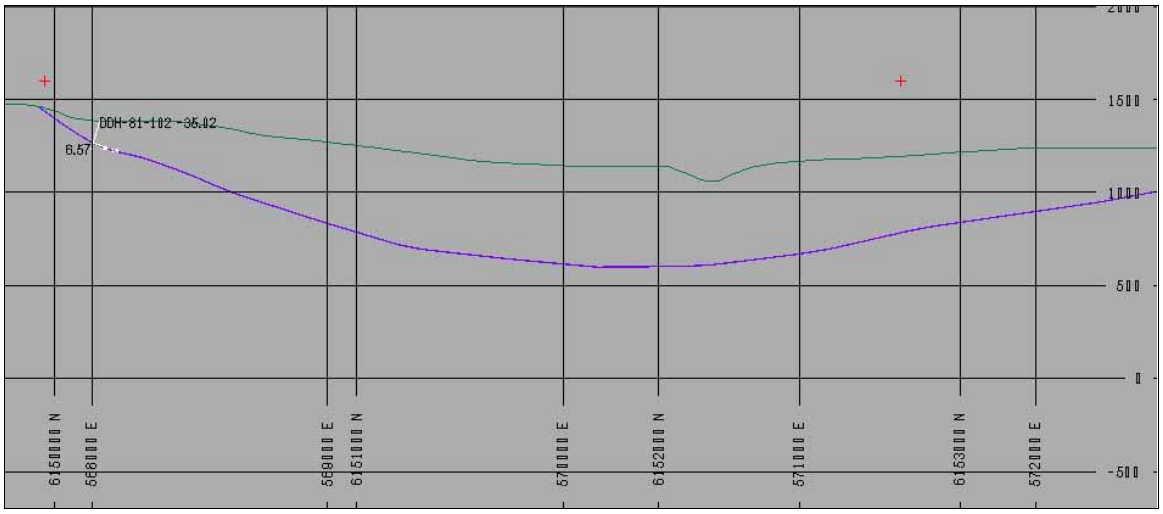


Figure 5-6 Cross-section 10; showing drillhole DDH81-102

(Seam C is in purple.)

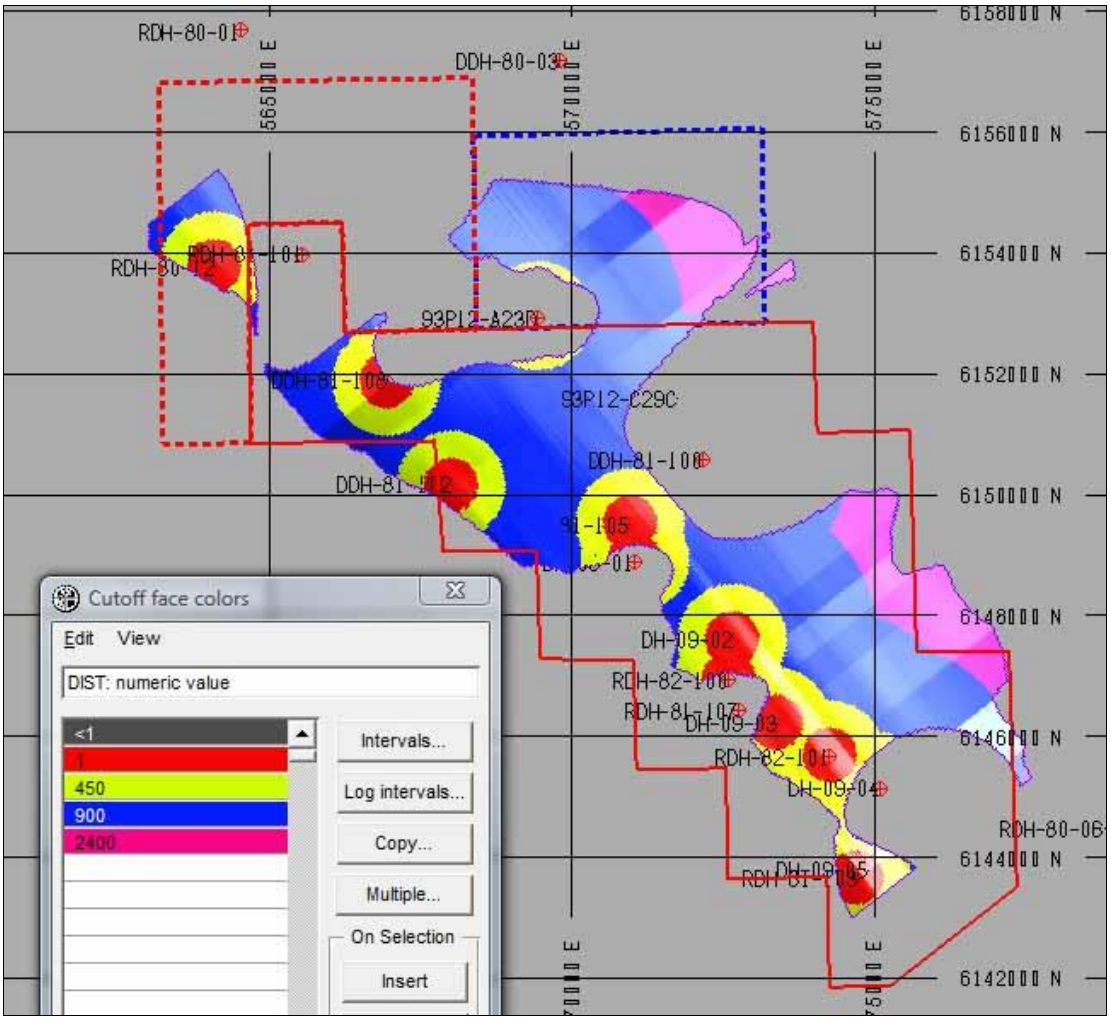


Figure 5-7 Trefi Project; Resource Classification of Seam C

(The red areas represent Measured resources, the yellow is Indicated, while the blue represents Inferred resources. The resources are further restricted in the drawing by true thickness of the seam (>1.5m) and depth of cover (<600m).)

CERTIFICATE AND SIGNATURE PAGES

CERTIFICATE OF QUALIFICATIONS: ROBERT J. MORRIS

I Robert J. Morris, Principal Geologist, Moose Mountain Technical Services hereby certify that:

1. This certificate applies to the assessment report titled ***Summary Report on the Trefi Coal Project – 2008-2012 Exploration Program*** dated 16 July 2014.
2. I am independent of the Panorama Coal Corp. and work as a consultant geologist.
3. That I graduated as a geologist from the University of British Columbia, Vancouver, with a degree of Bachelor of Science in 1973.
4. That I graduated as a geologist from Queen's University, Kingston, Ontario, with a degree of Master of Science in 1978.
5. That I am a member in good standing of the Association of Professional Engineers and Geoscientists of the Province of British Columbia (registration #18,301).
6. That I have been involved in the mining and exploration projects since my graduation in 1973.
7. That I am familiar with the subject area from site visits in 2009 and 2012, and that I personally supervised the preparation of this report.

Dated this 16th day of July 2014; in Fernie, British Columbia

"Signed and Sealed"

_____

R.J. Morris, M.Sc., P.Geo.

Appendix A Coal Quality

Overview

Gulf Canada completed nine core holes on the Trefi property between 1980 and 1982 during successive exploration campaigns. Analyses from this historic data were used for comparative purposes to the results acquired by MMTS in the 2009 drilling campaign.

There are only two core samples available from the 2009 MMTS drilling program. These are located proximal to locations drilled by Gulf Canada in 1981 and allow for direct comparison with the historical data. The total number of samples available (Gulf Canada, MMTS) is eleven; so, the laboratory results should be regarded as providing an "indicative" assessment of coal quality for the Trefi property.

The MMTS coal samples were processed at Elk Valley Environmental Services lab (EVES). Raw coal samples were analysed for dry ash content and FSI values. This was followed by float/sink analysis at 1.40 SG and 1.60 SG separation points to simulate a clean coal product and get an initial appreciation for washability performance.

The clean 1.60 SG coal samples were analysed for rheology, ash chemistry and petrographic composition to quantify their coke making potential.

Rheological tests are designed to quantify the plastic nature of the coal as it melts under high temperature. The Gieseler Fluidity test measures the melt state viscosity in dial divisions per minute (ddpm) while the Plastometer measures expansion and contraction of the heated sample to quantify expected pressure on a coke oven.

Ash Chemistry analysis quantifies the non-combustible elements present in the coal. As these will normally be retained in the hot metal or slag, their type and occurrence (particularly Phosphorous) is important to the steel maker.

Petrographic analysis sorts the microscopic components of coal (called macerals) into two main groups, including:

- The Reactive Macerals which melt when heated and,
- The Inert Macerals which do not melt

The analogy here is to concrete manufacturing. The reactive component is Portland cement which binds the inert aggregate material. It is the precise ratio of these components which provides strength. In coke making there is an optimum ratio of Reactives to Inerts which forms the strongest coke.

APPENDIX D

GEOPHYSICAL LOGS

Century WIRELINE SERVICES

DETAILED DENSITY
GAMMA - CALIPER - RES.
DH09-01

COMPANY	:TREFI COAL CORP.		
WELL	:DH09-01		
FIELD	:UPPER HIGHHAT		
COUNTRY	:CANADA		
PROVINCE	:BRITISH COLUMBIA		
LOCATION	:UPPER HIGHHAT		
SECTION	:N/A		
TOWNSHIP	:N/A		
RANGE	:N/A		
LICENCE NO.	:N/A		
UNIQUE WELL ID.	:		
PERMANENT DATUM	:GL	ELEVATION KB	:N/A
LOG MEASURED FROM	:GL	ELEVATION DF	:N/A
DRL MEASURED FROM	:GL	ELEVATION GL	:N/A
DATE	:04/13/09	RIG NUMBER	:
DEPTH DRILLER	:184.09	LOGGER TD	:
BIT SIZE	:13.97	ARRIVAL TIME	:
LOG TOP	:-0.91	DEPARTURE TIME	:
LOG BOTTOM	:179.26	CIRC STOPPED	:N/A
CASING LOGGER	:12.19		
CASING DRILLER	:12.19		
CASING TYPE	:STEEL		
BOREHOLE FLUID	:WATER		
RM TEMPERATURE	:N/A		
MUD RES	:N/A		
MUD WEIGHT	:1.00		
WITNESSED BY	:		
RECORDED BY	:T. NEAL		
REMARKS 1	:VERTICAL		
REMARKS 2	:		

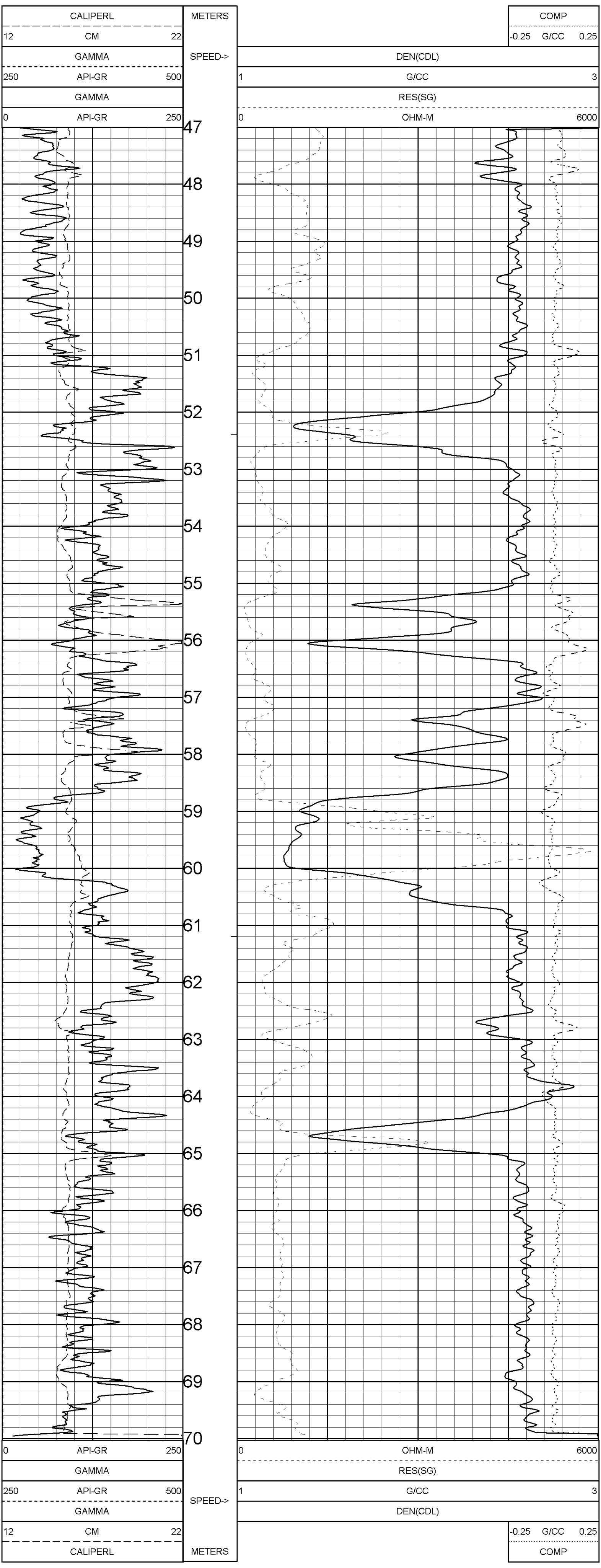
OTHER SERVICES: NEUTRON

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

1:50 BULK DENSITY DH09-01 04/13/09

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177
MAGNETIC DECL : 19.9	ELECT. CUTOFF : 99999	BIT SIZE : 13.97
PRESENTATION NAME/DATE = 9139C EXPANDED.0 03/20/2008		VERSION = 3.64HE



1:50 BULK DENSITY DH09-01 04/13/09

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177
MAGNETIC DECL : 19.9	ELECT. CUTOFF : 99999	BIT SIZE : 13.97
PRESENTATION NAME/DATE = 9139C EXPANDED.0 03/20/2008		VERSION = 3.64HE

TOOL CALIBRATION DH09-01 04/13/09 14:05
TOOL 9239C1 TM VERSION 2021
SERIAL NUMBER 4416

	DATE	TIME	SENSOR	STANDARD		RESPONSE	
1	Mar22,09	17:50:57	GAMMA	0.000	[API-GR]	20.000	[CPS]
	Mar22,09	17:50:57	GAMMA	250.000	[API-GR]	278.000	[CPS]
2	Mar22,09	17:51:32	VOLTAGE	30.450	[MV]	6482.000	[CPS]
	Mar22,09	17:51:32	VOLTAGE	232.800	[MV]	33790.000	[CPS]
3	Mar22,09	17:52:18	CALIPER	8.900	[CM]	143340.000	[CPS]
	Mar22,09	17:52:18	CALIPER	21.000	[CM]	425662.000	[CPS]
4	Mar22,09	17:53:03	DEN(LS)	1.000	[G/CC]	26210.000	[CPS]
	Mar22,09	17:53:03	DEN(LS)	2.323	[G/CC]	2550.000	[CPS]
5	Mar22,09	17:53:32	DEN(SS)	1.000	[G/CC]	51170.000	[CPS]
	Mar22,09	17:53:32	DEN(SS)	2.323	[G/CC]	18080.000	[CPS]
6	Apr11,09	11:47:49	CALIPERL	7.620	[CM]	108900.000	[CPS]
	Apr11,09	11:47:49	CALIPERL	20.000	[CM]	238606.000	[CPS]
7	Mar22,09	17:55:23	CURRENT	30.500	[UA]	5796.200	[CPS]
	Mar22,09	17:55:23	CURRENT	232.800	[UA]	22880.000	[CPS]
8	Mar22,09	17:50:18	F	Default	[CPS]		
9	Mar22,09	17:50:18	X	Default	[CPS]		

Company:	Centrica
Well:	DH09-01
Field:	DANA FIELD, CLUSTER
Structure:	DANA FIELD, CLUSTER
Slot:	DH09-01
Location:	DANA FIELD, CLUSTER
Province:	
Country:	UNITED KINGDOM
Service Company:	Schlumberger
Logging Date:	04/13/2009
Log Type:	PRESSURE
Run Number:	1
Depth Reference:	RT
Elevation:	0.00 m
Permanent Datum:	MSL
Log Measured From:	RT
Drilling Measured From:	RT
Date 1st Entered:	04/13/2009
Date Last Updated:	04/13/2009
Comments:	

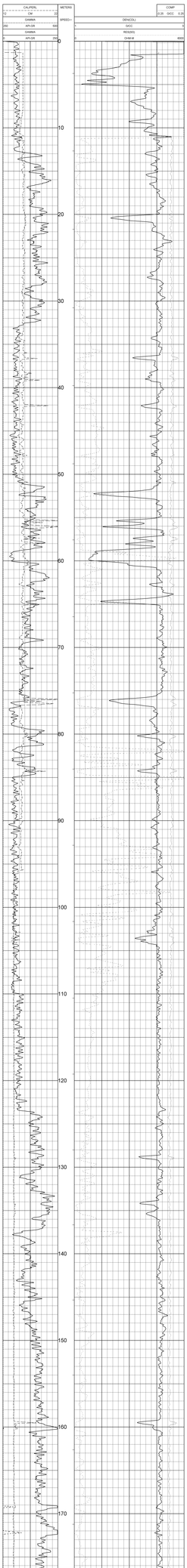
COMPENSATED DENSITY GAMMA - CALIPER - REES DH09-01

Total Depth: 1.00 m

1:100 BULK DENSITY DH09-01 04/13/09

LOG PARAMETERS

MATRIX DENSITY - 2.65 NEUTRON MATRIX - SANDSTONE MATRIX DELTA-T - 177
MAGNETIC DECL - 18.0 ELECT. CUTOFF - 99999 BIT SIZE - 10.87
PRESENTATION NAME/DATE + 3113BC DENSITY/Caliper L10 04/13/2009 VERSION + 3.5-b4-E



1:100 BULK DENSITY DH09-01 04/13/09

LOG PARAMETERS

MATRIX DENSITY - 2.65 NEUTRON MATRIX - SANDSTONE MATRIX DELTA-T - 177
MAGNETIC DECL - 18.0 ELECT. CUTOFF - 99999 BIT SIZE - 10.87
PRESENTATION NAME/DATE + 3113BC DENSITY/Caliper L10 04/13/2009 VERSION + 3.5-b4-E

TOOL CALIBRATION CHECK-07 04/13/09 14:05
TOOL SCMC - 1 - 1M VERSION 2021
SERIAL NUMBER 4410
CHECK 1 OK

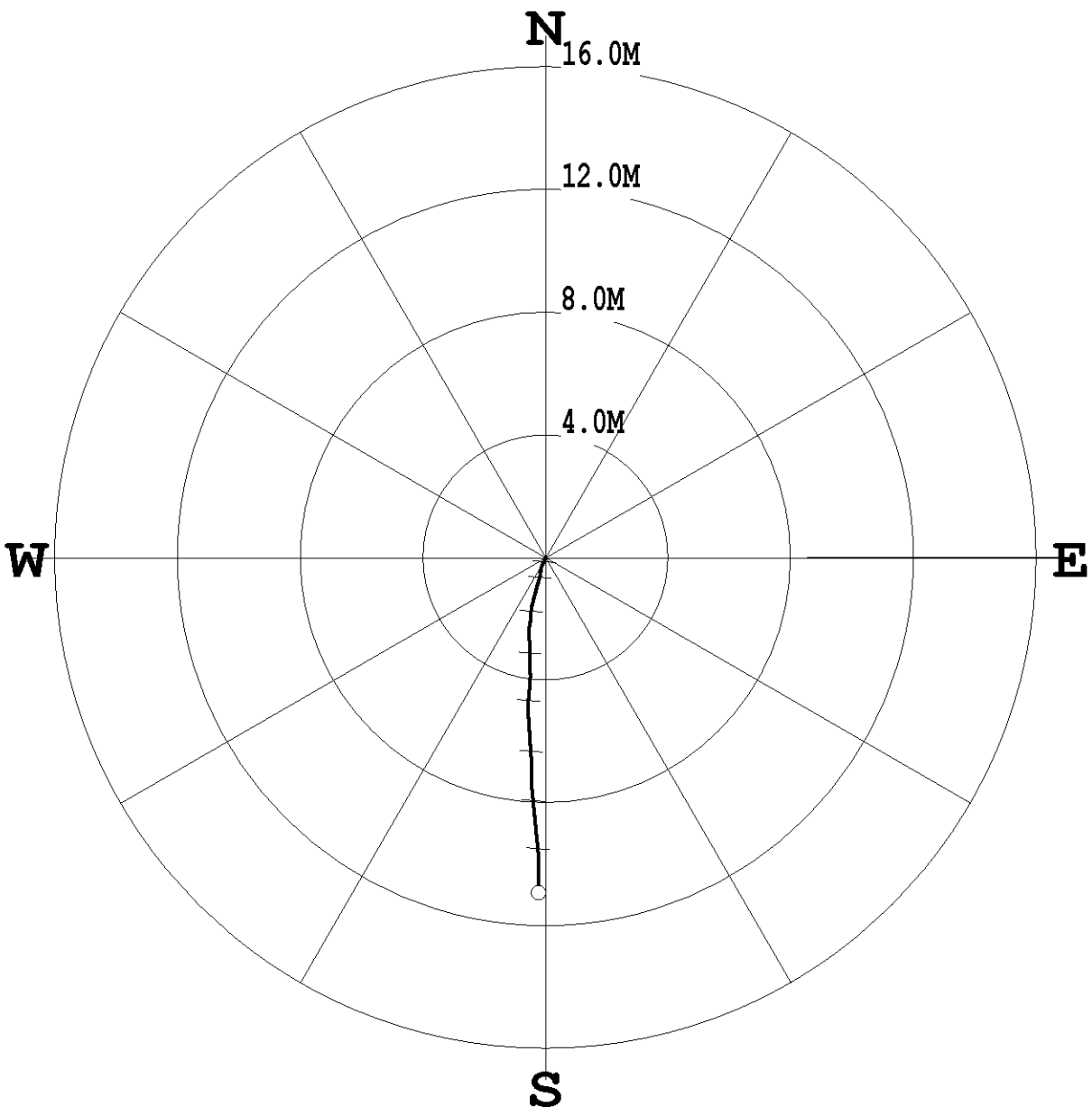
			SENSOR	STANDARD		RESPONSE	
1	Mar22:08	17:50:57	GAMMA	0.000	API-GR	20.908	[CPS]
	Mar22:08	17:50:57	GAMMA	250.000	API-GR	279.000	[CPS]
2	Mar22:08	17:52:52	VOLTAGE	0.000	8V	10.000	[CPS]
	Mar22:08	17:52:52	VOLTAGE	252.000	8V	10790.000	[CPS]
3	Mar22:08	17:52:14	CALIPER	8.600	CM	143040.000	[CPS]
	Mar22:08	17:52:14	CALIPER	25.000	CM	416000.000	[CPS]
4	Mar22:08	17:53:52	DENS.S	1.000	GCC	2670.000	[CPS]
	Mar22:08	17:53:52	DENS.S	3.000	GCC	8010.000	[CPS]
5	Mar22:08	17:53:52	DENCOL	1.000	GCC	6170.000	[CPS]
	Mar22:08	17:53:52	DENCOL	3.000	GCC	18510.000	[CPS]
6	Apr11:09	11:47:49	CALIPER	7.620	CM	128800.000	[CPS]
	Apr11:09	11:47:49	CALIPER	20.000	CM	230800.000	[CPS]
7	Apr11:09	11:49:23	CURRENT	0.000	CM	0.000	[CPS]
	Apr11:09	11:49:23	CURRENT	252.000	CM	2280.000	[CPS]
8	Mar22:08	17:50:14	P	Default	[CPS]		
	Mar22:08	17:50:14	P	Default	[CPS]		

PLAN VIEW
COMPU-LOG DEVIATION

CLIENT: TREFI COAL CORP.
LOCATION: UPPER HIGHHAT
HOLE ID: DH09-01
DATE OF LOG: 04/13/09
PROBE: 9057A 4565

MAG DECL: 19.9

SCALE: 2 M/CM
TRUE DEPTH: 178.73 M
AZIMUTH: 181.1
DISTANCE: 10.9 M
+ = 20 M INCR
○ = BOTTOM OF HOLE



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

CLIENT : TREFI COAL CORP. HOLE ID. : DH09-01
FIELD OFFICE : CENTURY GEO DATE OF LOG : 04/13/09
DATA FROM : N/A PROBE : 9057A , 4565
MAG. DECL. : 19.900 DEPTH UNITS : METERS
LOG: DH09-01_04-13-09_13-25_9057A_.02_-1.73_179.30_DEVI.log

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
14.00	14.01	-0.00	-0.00	0.0	210.2	1.5	192.7
16.00	16.01	-0.04	-0.02	0.0	204.7	0.9	234.0
18.00	18.01	-0.09	-0.04	0.1	204.1	1.4	237.2
20.00	20.01	-0.13	-0.06	0.1	204.1	1.6	220.7
22.00	22.01	-0.17	-0.08	0.2	205.1	1.6	202.3
24.00	24.01	-0.20	-0.10	0.2	205.7	0.6	195.1
26.00	26.01	-0.24	-0.12	0.3	206.3	1.1	231.5
28.00	28.01	-0.28	-0.13	0.3	205.7	1.2	201.6
30.00	30.01	-0.32	-0.15	0.4	204.6	1.4	174.8
32.00	32.01	-0.37	-0.16	0.4	203.0	1.0	190.3
34.00	34.00	-0.42	-0.16	0.5	201.2	1.5	185.4
36.00	36.00	-0.49	-0.17	0.5	199.5	1.8	188.7
38.00	38.00	-0.55	-0.18	0.6	198.3	2.4	194.6
40.00	40.00	-0.64	-0.20	0.7	197.8	2.6	196.8
42.00	42.00	-0.73	-0.22	0.8	197.2	2.7	194.1
44.00	44.00	-0.82	-0.25	0.9	197.0	2.6	203.9
46.00	45.99	-0.91	-0.28	1.0	197.3	2.7	182.9
48.00	47.99	-1.02	-0.31	1.1	196.7	3.3	195.0
50.00	49.99	-1.13	-0.34	1.2	196.6	3.2	196.3
52.00	51.98	-1.23	-0.37	1.3	196.7	3.4	190.1
54.00	53.98	-1.35	-0.40	1.4	196.4	3.6	192.4
56.00	55.98	-1.47	-0.43	1.5	196.1	3.9	201.6
58.00	57.97	-1.60	-0.46	1.7	195.9	3.8	191.5
60.00	59.97	-1.73	-0.48	1.8	195.4	3.8	188.9
62.00	61.96	-1.86	-0.49	1.9	194.8	3.5	186.7
64.00	63.96	-1.99	-0.50	2.1	194.1	3.6	184.4
66.00	65.96	-2.11	-0.51	2.2	193.5	3.9	192.7
68.00	67.95	-2.24	-0.53	2.3	193.4	3.6	190.9
70.00	69.95	-2.36	-0.55	2.4	193.1	3.6	181.4
72.00	71.94	-2.50	-0.55	2.6	192.3	4.2	180.1
74.00	73.94	-2.64	-0.54	2.7	191.5	4.1	176.1
76.00	75.93	-2.79	-0.52	2.8	190.7	4.4	172.6
78.00	77.93	-2.94	-0.52	3.0	190.0	4.4	182.6
80.00	79.92	-3.09	-0.52	3.1	189.6	4.4	178.6
82.00	81.91	-3.25	-0.52	3.3	189.1	4.3	177.5
84.00	83.91	-3.40	-0.52	3.4	188.6	4.2	179.1
86.00	85.90	-3.55	-0.51	3.6	188.2	4.1	177.4
88.00	87.90	-3.70	-0.51	3.7	187.8	4.3	178.4
90.00	89.89	-3.85	-0.50	3.9	187.4	4.0	186.4
92.00	91.89	-3.99	-0.51	4.0	187.3	4.0	187.3
94.00	93.88	-4.14	-0.52	4.2	187.2	4.7	183.2
96.00	95.87	-4.31	-0.53	4.3	187.1	4.9	184.2
98.00	97.87	-4.47	-0.55	4.5	187.0	4.6	186.1
100.00	99.86	-4.63	-0.56	4.7	186.9	4.7	184.5
102.00	101.85	-4.80	-0.57	4.8	186.8	4.9	181.0
104.00	103.85	-4.97	-0.57	5.0	186.6	5.1	164.0
106.00	105.84	-5.14	-0.56	5.2	186.3	4.6	178.5
108.00	107.83	-5.30	-0.55	5.3	186.0	4.6	177.3
110.00	109.83	-5.46	-0.54	5.5	185.7	4.7	176.4
112.00	111.82	-5.62	-0.53	5.6	185.4	4.8	175.5
114.00	113.81	-5.79	-0.52	5.8	185.2	4.7	175.6
116.00	115.81	-5.95	-0.51	6.0	184.9	4.7	176.6
118.00	117.80	-6.12	-0.50	6.1	184.7	4.7	176.3
120.00	119.79	-6.28	-0.49	6.3	184.5	4.7	176.8
122.00	121.79	-6.44	-0.48	6.5	184.3	4.7	175.5
124.00	123.78	-6.61	-0.47	6.6	184.0	4.6	176.2
126.00	125.77	-6.77	-0.46	6.8	183.9	4.5	171.0
128.00	127.77	-6.93	-0.46	6.9	183.8	4.5	181.9
130.00	129.76	-7.08	-0.46	7.1	183.8	4.4	180.0
132.00	131.75	-7.24	-0.47	7.3	183.7	4.7	188.5
134.00	133.75	-7.40	-0.46	7.4	183.6	4.7	175.8
136.00	135.74	-7.57	-0.45	7.6	183.4	4.7	174.9
138.00	137.73	-7.72	-0.43	7.7	183.2	4.6	173.1
140.00	139.73	-7.88	-0.42	7.9	183.0	4.6	174.6
142.00	141.72	-8.04	-0.40	8.1	182.8	4.5	174.6
144.00	143.71	-8.20	-0.39	8.2	182.7	4.7	174.8
146.00	145.71	-8.36	-0.37	8.4	182.5	4.4	174.3
148.00	147.70	-8.52	-0.36	8.5	182.4	4.4	174.4
150.00	149.70	-8.67	-0.34	8.7	182.2	4.5	174.8
152.00	151.69	-8.83	-0.32	8.8	182.1	4.5	175.4
154.00	153.68	-8.98	-0.31	9.0	182.0	4.5	174.5
156.00	155.68	-9.14	-0.29	9.1	181.8	4.4	174.3
158.00	157.67	-9.29	-0.28	9.3	181.7	4.4	174.2
160.00	159.67	-9.45	-0.26	9.4	181.6	4.5	174.2
162.00	161.66	-9.60	-0.25	9.6	181.5	4.3	176.7
164.00	163.65	-9.75	-0.24	9.8	181.4	4.2	179.6
166.00	165.65	-9.90	-0.24	9.9	181.4	4.2	180.9
168.00	167.64	-10.04	-0.24	10.0	181.4	4.3	183.3
170.00	169.64	-10.20	-0.25	10.2	181.4	4.5	179.2
172.00	171.63	-10.36	-0.24	10.4	181.3	4.7	179.9
174.00	173.62	-10.52	-0.24	10.5	181.3	4.6	178.7
176.00	175.62	-10.68	-0.23	10.7	181.3	4.7	179.1
178.00	177.61	-10.84	-0.22	10.8	181.2	4.3	174.5
179.12	178.73	-10.92	-0.22	10.9	181.1	4.2	180.0

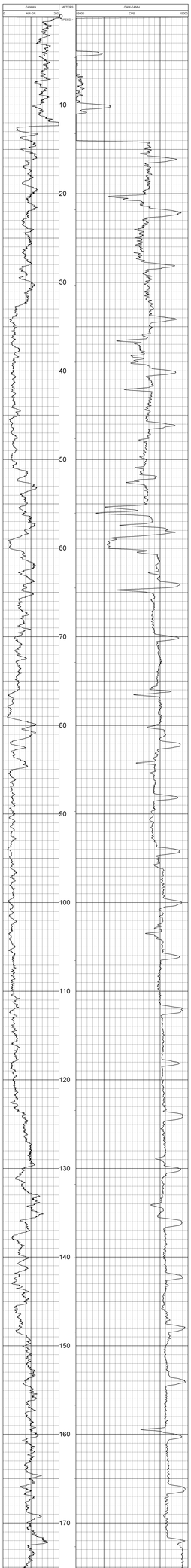
COMPANY	Geotech Geophysical Services
WELL	GAM-GAMH
FIELD	SLIM TOOL
COUNTY	DH09-01
PROVINCE	
COUNTRY	Canada
LOCATION	
OTHER SERVICES	
PERMANENT DATUM	GROUND
LOG MEASURED FROM	GROUND
DRILLING MEASURED FROM	GROUND
ELEVATION	
PERMANENT DATUM	GROUND
ELEVATION	
KB	
DF	
GL	
DATE	04/13/09
RUN NO.	ONE
TYPE OF LOG	GAMMA
DEPTH-DRILLER	180.0
DEPTH-LOGGER	179.0
BTM LOG INTERVAL	179.0
TOP LOG INTERVAL	0.0
CASING-DRILLER	
CASING-LOGGER	
BIT SIZE	13.97
TYPE FLUID IN HOLE	
DENSITY	
VISCOSITY	
PH	
FLUID LOSS	
SOURCE OF SAMPLE	
RM @ MEASURED TEMP.	
RMF @ MEASURED TEMP.	
RMC @ MEASURED TEMP.	
SOURCE RMF / RMC	
RM @ BHT	
TIME SINCE CIRC.	
TIME LOGGER ON BOTTOM	
MAX. REC. TEMP.	
EQUIP. LOCATION	
RECORDED BY	
WITNESSED BY	

PRODUCED BY THE WELL SERVICES DIVISION OF GEOTECH GEOPHYSICAL SERVICES LTD.

1:100 GAM-GAMH DH09-01 04/13/09

LOG PARAMETERS

MATRIX DENSITY : 2.65		NEUTRON MATRIX : SANDSTONE		MATRIX DELTA T : 177	
MAGNETIC DECL. : 16.9		ELECT. CUTOFF : 99999		BIT SIZE : 13.97	
PRESENTATION NAMEDATE =	9066 GAMMA-GAMMA C	10/12/2007		VERSION = 3.64HE	



1:100 GAM-GAMH DH09-01 04/13/09

LOG PARAMETERS

MATRIX DENSITY : 2.65		NEUTRON MATRIX : SANDSTONE		MATRIX DELTA T : 177	
MAGNETIC DECL. : 16.9		ELECT. CUTOFF : 99999		BIT SIZE : 13.97	
PRESENTATION NAMEDATE =	9066 GAMMA-GAMMA C	10/12/2007		VERSION = 3.64HE	

TOOL CALIBRATION: GH09-01 04/13/09 09:58
TOOL TYPE: GAMMA-GAMMA
SERIAL NUMBER: 9066

	DATE	TIME	SENSOR	STANDARD		RESPONSE	
1	Jul-26-04	18:14:02	GAMMA	3.000	[API-GR]	1.000	[CPS]
	Jul-26-04	18:14:02	GAMMA	200.000	[API-GR]	81.000	[CPS]

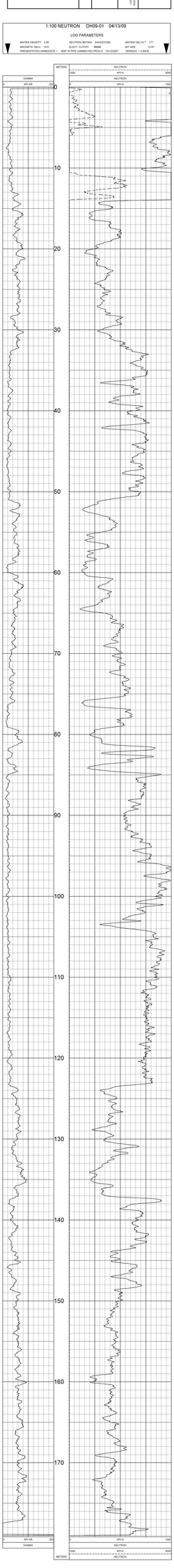
Company:	Geotrax Australia Pty Ltd
Contractor:	Geotrax Australia Pty Ltd
Rig:	
Well:	DH09-01
Field:	
County/State:	
Country:	Australia
Other Services:	
Permanent Datum:	GROUND
Log Measured From:	GROUND
Drilling Measured From:	GROUND
Elevation:	
Elevation:	
Elevation:	
Date:	04/13/09
Run Number:	ONE
Depth Driller:	180.00
Depth Logger:	180.00
Bottom Log Interval:	180.00
Top Log Interval:	0.00
Casing Driller Size at Depth:	N/A @ N/A
Casing Logger Size at Depth:	N/A @ N/A
Bit Size:	N/A
Type Fluid in Hole:	DRY
Density:	N/A
Viscosity:	N/A
PH:	N/A
Fluid Loss:	N/A
Source of Sample:	N/A
Rm @ Meas. Temp.:	N/A @ N/A
Rmf @ Meas. Temp.:	N/A @ N/A
Rmc @ Meas. Temp.:	N/A @ N/A
Source of Rmf / Rmc:	N/A
Rm @ BHT:	N/A @ N/A
Time Since Circulation:	N/A
Max. Rec. Temp.:	N/A
Equipment Number:	N/A
Location:	N/A
Recorded By:	N/A
Witnessed By:	N/A

IN PIPE GAMMA-NEUTRON
DH09-01

1:100 NEUTRON DH09-01 04/13/09

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177	
MAGNETIC DECL. : 19.8	ELECT. CUTOFF : 99999	BIT SIZE : 113.87	
PRESENTATION NAMECASTE =	9087 IN PIPE GAMMA-NEUTRON.S 10/12/2007	VERSION = 3.64HE	



1:100 NEUTRON DH09-01 04/13/09

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177	
MAGNETIC DECL. : 19.8	ELECT. CUTOFF : 99999	BIT SIZE : 113.87	
PRESENTATION NAMECASTE =	9087 IN PIPE GAMMA-NEUTRON.S 10/12/2007	VERSION = 3.64HE	

TOOL CALIBRATION: DH09-01 04/13/09 10:34
TOOL MAPPA : 1M VERSION 1
TOOL SERIAL NUMBER : 0

	DATE	TIME	SENSOR	STANDARD		RESPONSE	
1	Mar01.22	14:59:58	GAMMA	Default	[CPS]	Default	[CPS]
	Mar01.32	14:59:58	GAMMA	106.000	[API-GR]	53.000	[CPS]
2	Feb22.96	08:07:12	NEUTRON	1000.000	[API-N]	1000.000	[CPS]
	Feb22.96	08:07:12	NEUTRON	Default	[CPS]	Default	[CPS]

Company	Centrica Resource Energy
Well	DH09-01
Field	Dunkirk
County	Chautauqua
State	New York
Country	USA
Surface Location	
Latitude	42.4833
Longitude	-79.3333
Elevation	1,300 ft
Datum	KB
Date	04/13/09
Time	11:51
Depth Reference	KB
Depth Unit	ft
Log Interval	0 - 1,000 ft
Log Type	Gamma Neutron
Tool Type	Gamma Neutron
Tool Serial Number	2
Tool Length	10 ft
Tool Diameter	1.5 in
Tool Position	Centered
Tool Speed	30 ft/min
Sample Rate	0.5 ft
Log Direction	Up
Log Quality	Good
Operator	Jim Lundquist
Witness	Jim Lundquist
Comments	Gamma Neutron

GAMMA - NEUTRON

DH09-01

Gamma Energy Services

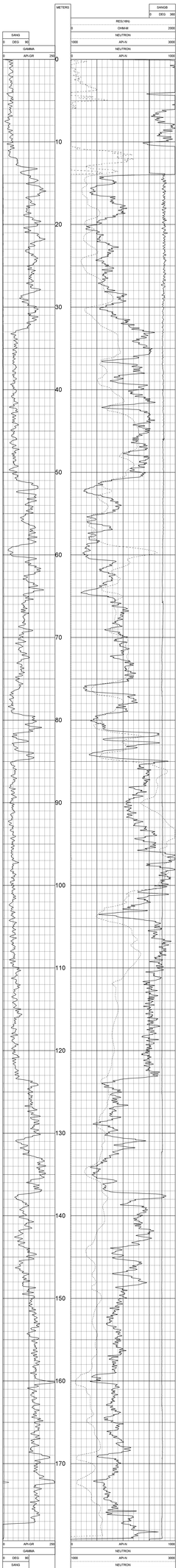
1:100 NEUTRON DH09-01 04/13/09

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX SANDSTONE MATRIX DELTA-T 177

MAGNETIC DECL : 19.9 ELECT. CUTOFF 99999 BIT SIZE 13.87

PRESENTATION NAMEDATE + 8051K.0 02/04/2008 VERSION + 3.64HE



1:100 NEUTRON DH09-01 04/13/09

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX SANDSTONE MATRIX DELTA-T 177

MAGNETIC DECL : 19.9 ELECT. CUTOFF 99999 BIT SIZE 13.87

PRESENTATION NAMEDATE + 8051K.0 02/04/2008 VERSION + 3.64HE

TOOL CALIBRATION DH09-01 04/13/09 13:25
TOOL 9051A TM VERSION 2
TOOL SERIAL NUMBER 9051

	DATE	TIME	SENSOR	STANDARD	RESPONSE	
1	Mar13,08	11:51:18	GAMMA 0.000	[API-GR]	4.000	[CPS]
2	Mar13,08	11:51:18	GAMMA 330.000	[API-GR]	316.000	[CPS]
3	Apr17,08	09:22:11	NEUTRON Default	[CPS]	Default	[CPS]
4	Apr17,08	09:22:11	NEUTRON 0.000	[API-N]	0.000	[CPS]
5	May13,08	11:46:50	SP 0.000	[MV]	320180.000	[CPS]
6	May13,08	11:46:50	SP 146.000	[MV]	149150.000	[CPS]
7	May13,08	14:09:51	RES1MIN 0.000	[OHMM]	0.000	[CPS]
8	May13,08	14:09:51	RES1MIN 1963.000	[OHMM]	42366.000	[CPS]
9	May13,08	14:09:58	RES3MIN 0.000	[OHMM]	3135.000	[CPS]
10	May13,08	14:09:58	RES3MIN 1963.000	[OHMM]	42366.000	[CPS]
11	Feb24,09	10:19:14	TEMP 12.830	[DEG F]	346522.000	[CPS]
12	Feb24,09	10:19:14	TEMP 32.940	[DEG F]	372566.000	[CPS]
13	Feb24,09	11:44:50	RES 0.000	[OHM]	0.000	[CPS]
14	Feb24,09	11:44:50	RES 943.000	[OHM]	16415.000	[CPS]

Century WIRELINE SERVICES

DETAILED DENSITY
GAMMA - CALIPER - RES.
DH09-02

COMPANY	:TREFI COAL CORP.		
WELL	:DH09-02		
FIELD	:UPPER HIGHHAT		
COUNTRY	:CANADA		
PROVINCE	:BRITISH COLUMBIA		
LOCATION	:UPPER HIGHHAT		
SECTION	:N/A		
TOWNSHIP	:N/A		
RANGE	:N/A		
LICENCE NO.	:N/A		
UNIQUE WELL ID.	:		
PERMANENT DATUM	:GL	ELEVATION KB	:N/A
LOG MEASURED FROM	:GL	ELEVATION DF	:N/A
DRL MEASURED FROM	:GL	ELEVATION GL	:N/A
DATE	:04/16/09	RIG NUMBER	:
DEPTH DRILLER	:288.95	LOGGER TD	:
BIT SIZE	:13.97	ARRIVAL TIME	:
LOG TOP	:-0.68	DEPARTURE TIME	:
LOG BOTTOM	:282.92	CIRC STOPPED	:N/A
CASING LOGGER	:4.57		
CASING DRILLER	:4.57		
CASING TYPE	:STEEL		
BOREHOLE FLUID	:WATER		
RM TEMPERATURE	:N/A		
MUD RES	:N/A		
MUD WEIGHT	:1.00		
WITNESSED BY	:		
RECORDED BY	:T. NEAL		
REMARKS 1	:VERTICAL		
REMARKS 2	:		

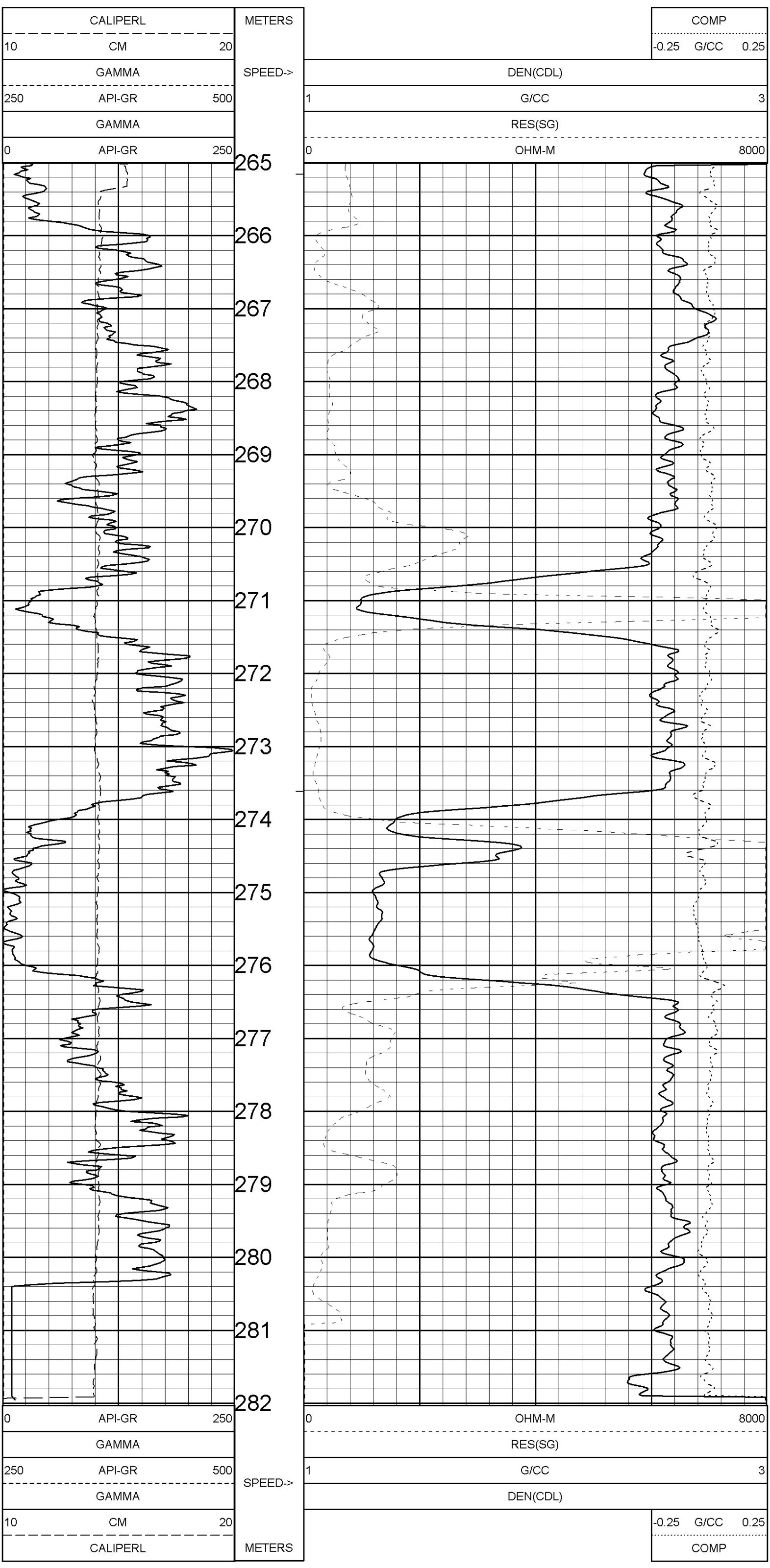
OTHER SERVICES:
NEUTRON

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

1:50 BULK DENSITY DH09-02 04/16/09

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177
MAGNETIC DECL : 19.9	ELECT. CUTOFF : 99999	BIT SIZE : 13.97
PRESENTATION NAME/DATE = 9139C EXPANDED(Caliper L).0 04/13/2009		VERSION = 3.64HE



1:50 BULK DENSITY DH09-02 04/16/09

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177
MAGNETIC DECL : 19.9	ELECT. CUTOFF : 99999	BIT SIZE : 13.97
PRESENTATION NAME/DATE = 9139C EXPANDED(Caliper L).0 04/13/2009		VERSION = 3.64HE

TOOL CALIBRATION DH09-02 04/16/09 16:46
TOOL 9239C1 TM VERSION 2021
SERIAL NUMBER 4416

	DATE	TIME	SENSOR	STANDARD		RESPONSE	
1	Mar22,09	17:50:57	GAMMA	0.000	[API-GR]	20.000	[CPS]
	Mar22,09	17:50:57	GAMMA	250.000	[API-GR]	278.000	[CPS]
2	Mar22,09	17:51:32	VOLTAGE	30.450	[MV]	6482.000	[CPS]
	Mar22,09	17:51:32	VOLTAGE	232.800	[MV]	33790.000	[CPS]
3	Mar22,09	17:52:18	CALIPER	8.900	[CM]	143340.000	[CPS]
	Mar22,09	17:52:18	CALIPER	21.000	[CM]	425662.000	[CPS]
4	Mar22,09	17:53:03	DEN(LS)	1.000	[G/CC]	26210.000	[CPS]
	Mar22,09	17:53:03	DEN(LS)	2.323	[G/CC]	2550.000	[CPS]
5	Mar22,09	17:53:32	DEN(SS)	1.000	[G/CC]	51170.000	[CPS]
	Mar22,09	17:53:32	DEN(SS)	2.323	[G/CC]	18080.000	[CPS]
6	Apr11,09	11:47:49	CALIPERL	7.620	[CM]	108900.000	[CPS]
	Apr11,09	11:47:49	CALIPERL	20.000	[CM]	238606.000	[CPS]
7	Mar22,09	17:55:23	CURRENT	30.500	[UA]	5796.200	[CPS]
	Mar22,09	17:55:23	CURRENT	232.800	[UA]	22880.000	[CPS]
8	Mar22,09	17:50:18	F	Default	[CPS]		
9	Mar22,09	17:50:18	X	Default	[CPS]		

Company	Calfrac Well Services Ltd.
Well	Dhdn-02
Field	Dhdn
County/Parish	Dawson
State/Province	Alberta
Country	Canada
API Number	00
Other Services	Dsi
Permanent Datum	Ground Level
Log Measured From	Kelly Bushing
Drilling Measured From	Kelly Bushing
Elevation	Kb 0 m Df Gl
Date	04/16/09
Run Number	One
Depth Driller	1100 m
Depth Logger	1100 m
Bottom Logged Interval	1100 m
Top Log Interval	0 m
Casing Driller	0 m @ 0 m
Casing Logger	0 m
Bit Size	0 mm
Type Fluid In Hole	Water
Density	0 kg/m3
Viscosity	0 mPa.s
Fluid Loss	0 mm
Source Of Sample	Flowline
Rm @ Measured Temp	0 ohm.m @ 0 degC
Rmf @ Measured Temp	0 ohm.m @ 0 degC
Rmc @ Measured Temp	0 ohm.m @ 0 degC
Rm @ Bhst	0 ohm.m @ 0 degC
Bhst	0 degC
Max Rec Temp	0 degC
Equipment Location	Dawson Creek
Recorded By	Ryan Hoffman
Witnessed By	Ryan Hoffman

Calfrac

COMPENSATED DENSITY
GAMMA RAY
DHDN-02
DAWSON CREEK, BC

Calfrac Well Services Ltd.
Dawson Creek, BC

1:100 BULK DENSITY DHDN-02 04/16/09

LOG PARAMETERS

MATRIX DENSITY : 2.65 MATRIX DELTA-T : 55.5
MUD DENSITY : 1000 MUD DELTA-T : 189.0
PRESENTATION NUMBER(S) : 01 RT/KB : DEPARTTO Calfrac LLC DATUM : DEPARTTO : 1.0 M/E

COLPERL CM | DEPTH M | CGR GAPI | DENSITY G/CC | CORR G/CC | CALIPER CM

1:100 BULK DENSITY DHDN-02 04/16/09

LOG PARAMETERS

MATRIX DENSITY : 2.65 MATRIX DELTA-T : 55.5
MUD DENSITY : 1000 MUD DELTA-T : 189.0
PRESENTATION NUMBER(S) : 01 RT/KB : DEPARTTO Calfrac LLC DATUM : DEPARTTO : 1.0 M/E

TOOL: CALIBRATED: CALIBRATION CHECKED: OK
CALIBRATION TYPE: BEFORE AND AFTER
CALIBRATION TYPE: BEFORE AND AFTER

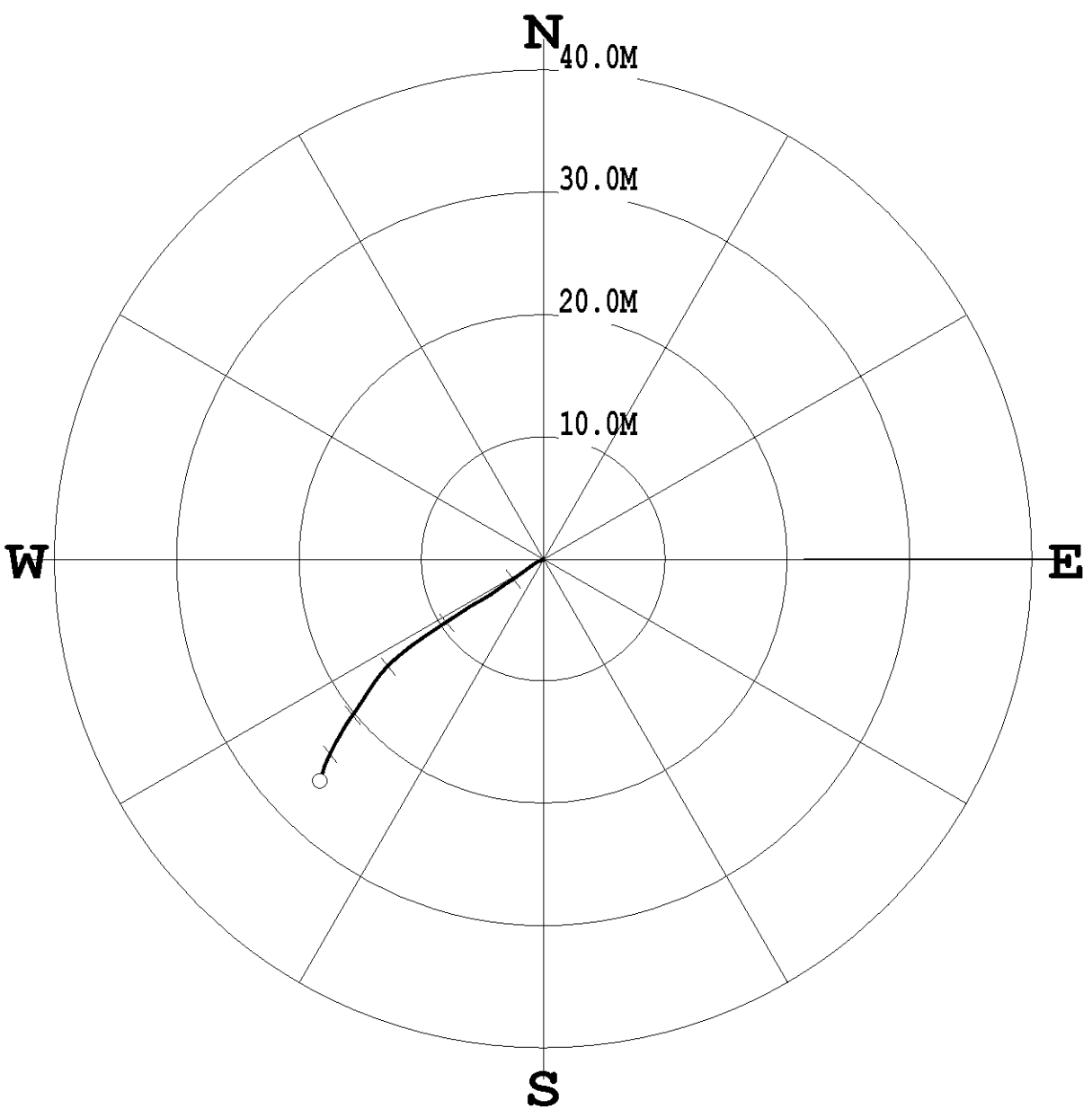
No	Date/Time	Description	Before Value	After Value	Unit
1	Mar/27/09 - 11:00:00	Air Density	0.000	0.000	G/CC
2	Mar/27/09 - 11:00:00	Water Density	1.000	1.000	G/CC
3	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
4	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
5	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
6	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
7	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
8	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
9	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
10	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
11	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
12	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
13	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
14	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
15	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
16	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
17	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
18	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
19	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC
20	Mar/27/09 - 11:00:00	Aluminum Density	2.700	2.700	G/CC

PLAN VIEW
COMPU-LOG DEVIATION

CLIENT: TREFI COAL CORP.
LOCATION: UPPER HIGHHAT
HOLE ID: DH09-02
DATE OF LOG: 04/16/09
PROBE: 9057A 4565

MAG DECL: 19.9

SCALE: 5 M/CM
TRUE DEPTH: 281.41 M
AZIMUTH: 225.2
DISTANCE: 25.8 M
+ = 50 M INCR
○ = BOTTOM OF HOLE



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

CLIENT : TREFI COAL CORP. HOLE ID. : DH09-02
FIELD OFFICE : CENTURY GEO DATE OF LOG : 04/16/09
DATA FROM : N/A PROBE : 9057A , 4565
MAG. DECL. : 19.900 DEPTH UNITS : METERS
LOG: DH09-02_04-16-09_15-51_9057A_.02_3.82_282.96_DEVI.log

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
6.00	6.00	-0.00	-0.01	0.0	246.1	1.1	245.1
8.00	8.00	-0.02	-0.04	0.0	243.4	1.3	245.1
10.00	10.00	-0.04	-0.09	0.1	243.9	1.5	239.8
12.00	12.00	-0.07	-0.15	0.2	244.6	2.0	249.6
14.00	14.00	-0.10	-0.21	0.2	245.7	2.1	249.6
16.00	16.00	-0.12	-0.28	0.3	246.1	2.3	248.4
18.00	17.99	-0.16	-0.36	0.4	246.3	2.6	250.5
20.00	19.99	-0.19	-0.44	0.5	246.1	2.6	253.9
22.00	21.99	-0.24	-0.53	0.6	245.8	3.1	241.8
24.00	23.99	-0.29	-0.62	0.7	245.1	2.9	238.2
26.00	25.98	-0.35	-0.72	0.8	244.1	3.7	232.0
28.00	27.98	-0.43	-0.82	0.9	242.6	4.1	239.2
30.00	29.97	-0.51	-0.94	1.1	241.3	4.4	234.1
32.00	31.97	-0.60	-1.06	1.2	240.7	4.1	234.0
34.00	33.96	-0.69	-1.19	1.4	239.8	4.7	233.5
36.00	35.95	-0.79	-1.33	1.5	239.2	5.0	235.6
38.00	37.95	-0.90	-1.47	1.7	238.6	5.0	232.7
40.00	39.94	-1.00	-1.61	1.9	238.1	5.5	236.1
42.00	41.93	-1.12	-1.77	2.1	237.8	5.7	235.6
44.00	43.92	-1.23	-1.93	2.3	237.5	5.9	238.1
46.00	45.91	-1.35	-2.10	2.5	237.2	6.1	234.7
48.00	47.90	-1.48	-2.28	2.7	236.9	6.3	232.4
50.00	49.88	-1.61	-2.46	2.9	236.8	6.6	234.2
52.00	51.87	-1.75	-2.65	3.2	236.6	7.2	240.1
54.00	53.85	-1.88	-2.86	3.4	236.8	7.2	241.7
56.00	55.84	-2.00	-3.07	3.7	236.9	7.2	246.2
58.00	57.82	-2.14	-3.28	3.9	236.9	7.2	234.4
60.00	59.81	-2.29	-3.48	4.2	236.7	7.1	233.8
62.00	61.79	-2.43	-3.69	4.4	236.6	7.3	234.8
64.00	63.78	-2.58	-3.89	4.7	236.5	7.2	234.4
66.00	65.76	-2.72	-4.09	4.9	236.4	6.8	234.4
68.00	67.75	-2.86	-4.29	5.2	236.3	7.1	233.9
70.00	69.73	-3.00	-4.50	5.4	236.3	7.3	248.0
72.00	71.71	-3.14	-4.73	5.7	236.5	7.9	240.7
74.00	73.69	-3.27	-4.96	5.9	236.6	7.4	240.1
76.00	75.68	-3.40	-5.19	6.2	236.8	7.8	241.6
78.00	77.66	-3.53	-5.43	6.5	237.0	7.8	240.4
80.00	79.64	-3.66	-5.66	6.7	237.1	7.8	239.1
82.00	81.62	-3.80	-5.90	7.0	237.2	7.8	248.1
84.00	83.60	-3.93	-6.12	7.3	237.3	7.7	235.9
86.00	85.59	-4.08	-6.34	7.5	237.2	7.5	242.7
88.00	87.57	-4.23	-6.56	7.8	237.2	7.6	236.5
90.00	89.55	-4.38	-6.79	8.1	237.2	7.7	236.7
92.00	91.53	-4.52	-7.01	8.3	237.2	7.7	236.9
94.00	93.51	-4.67	-7.23	8.6	237.2	7.7	237.1
96.00	95.50	-4.81	-7.46	8.9	237.2	7.6	235.2
98.00	97.48	-4.96	-7.68	9.1	237.1	7.6	236.7
100.00	99.46	-5.10	-7.90	9.4	237.1	7.5	236.8
102.00	101.44	-5.25	-8.12	9.7	237.1	7.5	236.5
104.00	103.43	-5.39	-8.34	9.9	237.1	7.4	237.0
106.00	105.41	-5.53	-8.55	10.2	237.1	7.4	237.2
108.00	107.39	-5.67	-8.77	10.4	237.1	7.4	236.4
110.00	109.38	-5.81	-8.98	10.7	237.1	7.3	236.3
112.00	111.36	-5.95	-9.19	11.0	237.1	7.3	236.3
114.00	113.35	-6.09	-9.40	11.2	237.0	7.2	236.0
116.00	115.33	-6.23	-9.61	11.5	237.0	7.1	236.2
118.00	117.31	-6.37	-9.81	11.7	237.0	7.1	235.7
120.00	119.30	-6.51	-10.02	11.9	237.0	7.0	235.2
122.00	121.28	-6.65	-10.22	12.2	236.9	7.0	235.0
124.00	123.27	-6.79	-10.41	12.4	236.9	6.9	234.5
126.00	125.26	-6.93	-10.61	12.7	236.8	6.8	233.9
128.00	127.24	-7.07	-10.80	12.9	236.8	6.8	233.3
130.00	129.23	-7.21	-10.99	13.1	236.7	6.7	232.4
132.00	131.21	-7.35	-11.17	13.4	236.6	6.6	232.3
134.00	133.20	-7.50	-11.35	13.6	236.6	6.5	231.3
136.00	135.19	-7.64	-11.52	13.8	236.5	6.4	229.8
138.00	137.18	-7.78	-11.70	14.0	236.4	6.5	229.7
140.00	139.16	-7.93	-11.87	14.3	236.3	6.4	229.3
142.00	141.15	-8.07	-12.04	14.5	236.1	6.4	228.2
144.00	143.14	-8.22	-12.20	14.7	236.0	6.3	228.0
146.00	145.13	-8.37	-12.36	14.9	235.9	6.3	227.3
148.00	147.11	-8.52	-12.52	15.1	235.8	6.1	225.4
150.00	149.10	-8.66	-12.67	15.3	235.6	5.9	225.4
152.00	151.09	-8.82	-12.81	15.6	235.5	5.9	223.7
154.00	153.08	-8.97	-12.95	15.8	235.3	5.9	222.3
156.00	155.07	-9.12	-13.09	16.0	235.1	5.8	221.2
158.00	157.06	-9.27	-13.22	16.1	235.0	5.7	220.7
160.00	159.05	-9.43	-13.35	16.3	234.8	5.8	218.0
162.00	161.04	-9.59	-13.48	16.5	234.6	5.9	218.7
164.00	163.03	-9.76	-13.61	16.7	234.3	6.2	217.6
166.00	165.02	-9.93	-13.73	16.9	234.1	6.1	216.3
168.00	167.01	-10.11	-13.86	17.2	233.9	6.2	214.5
170.00	168.99	-10.28	-13.98	17.4	233.7	6.2	213.0
172.00	170.98	-10.46	-14.10	17.6	233.4	6.2	214.7
174.00	172.97	-10.64	-14.22	17.8	233.2	6.2	214.1
176.00	174.96	-10.82	-14.34	18.0	233.0	6.1	213.6
178.00	176.95	-11.00	-14.45	18.2	232.7	6.1	213.6
180.00	178.94	-11.17	-14.57	18.4	232.5	5.9	212.0
182.00	180.93	-11.35	-14.67	18.5	232.3	5.7	211.1
184.00	182.92	-11.52	-14.77	18.7	232.1	5.6	200.7
186.00	184.91	-11.67	-14.88	18.9	231.9	5.3	213.1
188.00	186.90	-11.83	-14.98	19.1	231.7	5.3	215.0
190.00	188.89	-11.97	-15.08	19.3	231.6	5.1	214.3
192.00	190.88	-12.12	-15.18	19.4	231.4	4.9	214.4
194.00	192.88	-12.26	-15.27	19.6	231.2	4.8	213.8
196.00	194.87	-12.40	-15.37	19.7	231.1	4.4	211.0
198.00	196.86	-12.53	-15.47	19.9	231.0	4.8	215.5
200.00	198.86	-12.67	-15.56	20.1	230.9	4.7	215.2
202.00	200.85	-12.80	-15.65	20.2	230.7	4.6	215.1
204.00	202.84	-12.93	-15.74	20.4	230.6	4.5	214.7
206.00	204.84	-13.05	-15.83	20.5	230.5	4.5	215.4
208.00	206.83	-13.18	-15.92	20.7	230.4	4.3	212.4
210.00	208.83	-13.31	-16.00	20.8	230.3	4.3	213.8
212.00	210.82	-13.43	-16.09	21.0	230.1	4.2	207.7
214.00	212.81	-13.56	-16.17	21.1	230.0	4.4	211.5
216.00	214.81	-13.69	-16.25	21.2	229.9	4.4	210.0
218.00	216.80	-13.82	-16.32	21.4	229.7	4.4	214.1
220.00	218.80	-13.95	-16.40	21.5	229.6	4.4	209.6
222.00	220.79	-14.08	-16.48	21.7	229.5	4.3	210.0
224.00	222.78	-14.22	-16.55	21.8	229.3	4.4	210.0
226.00	224.78	-14.35	-16.63	22.0	229.2	4.6	212.1
228.00	226.77	-14.48	-16.70	22.1	229.1	4.1	211.3
230.00	228.77	-14.62	-16.78	22.3	228.9	4.6	206.9
232.00	230.76	-14.75	-16.86	22.4	228.8	4.3	211.9
234.00	232.76	-14.88	-16.93	22.5	228.7	4.1	208.1
236.00	234.75	-15.00	-17.00	22.7	228.6	3.9	208.6
238.00	236.75	-15.12	-17.06	22.8	228.5	3.9	207.9
240.00	238.74	-15.24	-17.13	22.9	228.3	3.9	205.2
242.00	240.74	-15.36	-17.19	23.0	228.2	3.7	205.9
244.00	242.73	-15.48	-17.24	23.2	228.1	3.7	205.9
246.00	244.73	-15.60	-17.30	23.3	228.0	4.0	197.1
248.00	246.72	-15.72	-17.37	23.4	227.8	4.1	217.7
250.00	248.72	-15.84	-17.43	23.5	227.7	3.8	200.0
252.00	250.71	-15.96	-17.48	23.7	227.6	3.5	202.4
254.00	252.71	-16.07	-17.53	23.8	227.5	3.3	190.1
256.00	254.71	-16.18	-17.59	23.9	227.4	3.7	207.2
258.00	256.70	-16.30	-17.64	24.0	227.3	3.7	207.3
260.00	258.70	-16.43	-17.71	24.2	227.1	4.2	208.8
262.00	260.69	-16.57	-17.76	24.3	227.0	4.5	203.2
264.00	262.68	-16.73	-17.83	24.4	226.8	5.2	205.4
266.00	264.68	-16.90	-17.90	24.6	226.6	5.2	198.1
268.00	266.67	-17.05	-17.95	24.8	226.5	4.7	195.9
270.00	268.66	-17.21	-18.00	24.9	226.3	4.8	197.4
272.00	270.66	-17.37	-18.04	25.0	226.1	4.6	198.5
274.00	272.65	-17.53	-18.09	25.2	225.9	4.6	197.0
276.00	274.64	-17.68	-18.13	25.3	225.7	4.4	195.1
278.00	276.64	-17.82	-18.18	25.5	225.6	3.7	205.0
280.00	278.63	-17.95	-18.22	25.6	225.4	3.9	195.8
282.00	280.63	-18.08	-18.26	25.7	225.3	4.1	195.1
282.78	281.41	-18.14	-18.27	25.7	225.2	4.1	194.4

Century WIRELINE SERVICES

GAM-GAMH
SLIM TOOL
DH09-02

OTHER SERVICES:
NEUTRON

COMPANY	:TREFI COAL CORP.
WELL	:DH09-02
FIELD	:UPPER HIGHHAT
COUNTRY	:CANADA
PROVINCE	:BRITISH COLUMBIA
LOCATION	:UPPER HIGHHAT
SECTION	:N/A
TOWNSHIP	:N/A
RANGE	:N/A
LICENCE NO.	:N/A
UNIQUE WELL ID.	:

PERMANENT DATUM	:GL	ELEVATION KB	:N/A
LOG MEASURED FROM	:GL	ELEVATION DF	:N/A
DRL MEASURED FROM	:GL	ELEVATION GL	:N/A

DATE	:04/16/09	RIG NUMBER	:
DEPTH DRILLER	:288.95	LOGGER TD	:
BIT SIZE	:13.97	ARRIVAL TIME	:
LOG TOP	:-1.32	DEPARTURE TIME	:
LOG BOTTOM	:282.74	CIRC STOPPED	:N/A
CASING LOGGER	:4.57		
CASING DRILLER	:4.57		
CASING TYPE	:STEEL		
BOREHOLE FLUID	:WATER		
RM TEMPERATURE	:N/A		
MUD RES	:N/A		
MUD WEIGHT	:1.00		
WITNESSED BY	:		
RECORDED BY	:T. NEAL		
REMARKS 1	:VERTICAL		
REMARKS 2	:		

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

1:50 GAM-GAMH DH09-02 04/16/09

LOG PARAMETERS

MATRIX DENSITY : 2.65
NEUTRON MATRIX : SANDSTONE
MATRIX DELTA T : 177
MAGNETIC DECL : 19.9
ELECT. CUTOFF : 99999
BIT SIZE : 13.97
PRESENTATION NAME/DATE = 9068 GAMMA-GAMMA.0 10/12/2007
VERSION = 3.64HE

1:50 GAM-GAMH DH09-02 04/16/09

LOG PARAMETERS

MATRIX DENSITY : 2.65
NEUTRON MATRIX : SANDSTONE
MATRIX DELTA T : 177
MAGNETIC DECL : 19.9
ELECT. CUTOFF : 99999
BIT SIZE : 13.97
PRESENTATION NAME/DATE = 9068 GAMMA-GAMMA.0 10/12/2007
VERSION = 3.64HE

TOOL CALIBRATION DH09-02 04/16/09 10:02
TOOL 9068A TM VERSION 1
SERIAL NUMBER 643

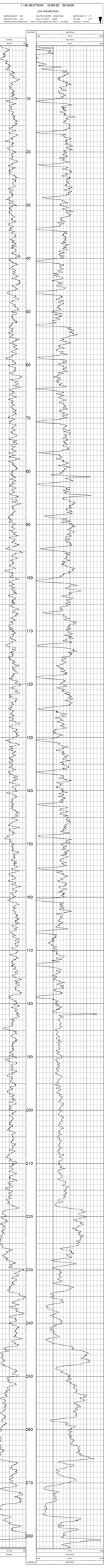
	DATE	TIME	SENSOR	STANDARD		RESPONSE	
1	Jun28,04	18:14:02	GAMMA	3.000	[API-GR]	1.000	[CPS]
	Jun28,04	18:14:02	GAMMA	265.000	[API-GR]	81.000	[CPS]

Company	Cuadrilátero
Well	CH09-02
Field	IN SITU CONVERSION
County	
State	
Country	
Date	04/16/09
Time	
Depth Reference	
Elevation	
Operator	
Logging Co.	
Log Type	
Log Run	
Log Date	
Log Time	
Bit Size	
Max Temp	
Max Rec Time	
Mud Type	
Mud Density	
Mud Viscosity	
Mud Resistivity	
Mud Temp	
Mud Loss	
Rmf	
Rmf Temp	
Rmc	
Rmc Temp	
Rm	
Rm Temp	
Rw	
Rw Temp	
Rmb	
Rmb Temp	
Source Rmf	
Source Rmc	
Source Rm	
Source Rw	
Source Rmb	
Rm @ Max Circ Temp	
Rmf @ Max Circ Temp	
Rmc @ Max Circ Temp	
Rw @ Max Circ Temp	
Rmb @ Max Circ Temp	
Equipment	
Location	
Recorded By	
Witnessed By	

1:100 NEUTRON CH09-02 04/16/09

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177
MATRIX DELTA : N/A	FLUID DENSITY : 1.0000	BIT SIZE : 11.00
PRESENT ECCENTRALIZATION : 0	BRD SLPPRE CHANGE DELTA RELTO : 120 LEVEL	SENSOR : 1.15448



1:100 NEUTRON CH09-02 04/16/09

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177
MATRIX DELTA : N/A	FLUID DENSITY : 1.0000	BIT SIZE : 11.00
PRESENT ECCENTRALIZATION : 0	BRD SLPPRE CHANGE DELTA RELTO : 120 LEVEL	SENSOR : 1.15448

TOOL: CALIBRATION: CHECKS: SHOP/PRE-TEST
FIELD: NORM: PRE-TEST: POST-TEST:

1	04/16	1600		SENSOR	0/10/20/40		0/10/20/40
2	04/16	1600		SENSOR	0/10/20/40		0/10/20/40
3	04/16	1600		SENSOR	0/10/20/40		0/10/20/40
4	04/16	1600		SENSOR	0/10/20/40		0/10/20/40
5	04/16	1600		NEUTRON	0/40/80	0/40/80	0/40/80

Century WIRELINE SERVICES

GAMMA - NEUTRON
DH09-02

COMPANY :TREFI COAL CORP.
WELL :DH09-02
FIELD :UPPER HIGHHAT
COUNTRY :CANADA
PROVINCE :BRITISH COLUMBIA
LOCATION :UPPER HIGHHAT
SECTION :N/A
TOWNSHIP :N/A
RANGE :N/A
LICENCE NO. :N/A
UNIQUE WELL ID. :

OTHER SERVICES:
DENSITY

PERMANENT DATUM :GL
LOG MEASURED FROM :GL
DRL MEASURED FROM :GL
ELEVATION KB :N/A
ELEVATION DF :N/A
ELEVATION GL :N/A

DATE :04/16/09
DEPTH DRILLER :288.95
BIT SIZE :13.97
LOG TOP :3.82
LOG BOTTOM :282.96
CASING LOGGER :4.57
CASING DRILLER :4.57
CASING TYPE :STEEL
BOREHOLE FLUID :WATER
RM TEMPERATURE :N/A
MUD RES :N/A
MUD WEIGHT :1.00
WITNESSED BY :
RECORDED BY :T. NEAL
REMARKS 1 :VERTICAL
REMARKS 2 :
RIG NUMBER :
LOGGER TD :
ARRIVAL TIME :
DEPARTURE TIME :
CIRC STOPPED :N/A

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

1:100 NEUTRON DH09-02 04/16/09

LOG PARAMETERS

MATRIX DENSITY : 2.65
NEUTRON MATRIX : SANDSTONE
MATRIX DELTA T : 177
MAGNETIC DECL : 19.9
ELECT. CUTOFF : 99999
BIT SIZE : 13.97
PRESENTATION NAME/DATE = 9057A.0 02/24/2008
VERSION = 3.64HE

1:100 NEUTRON DH09-02 04/16/09

LOG PARAMETERS

MATRIX DENSITY : 2.65
NEUTRON MATRIX : SANDSTONE
MATRIX DELTA T : 177
MAGNETIC DECL : 19.9
ELECT. CUTOFF : 99999
BIT SIZE : 13.97
PRESENTATION NAME/DATE = 9057A.0 02/24/2008
VERSION = 3.64HE

TOOL CALIBRATION DH09-02 04/16/09 15:51
TOOL 9057A TM VERSION 2
SERIAL NUMBER 4565

	DATE	TIME	SENSOR	STANDARD		RESPONSE	
1	May13,08	11:51:18	GAMMA	0.000	[API-GR]	4.000	[CPS]
	May13,08	11:51:18	GAMMA	330.000	[API-GR]	316.000	[CPS]
2	Apr17,08	09:32:11	NEUTROI	Default	[CPS]	Default	[CPS]
	Apr17,08	09:32:11	NEUTROI	Default	[CPS]	Default	[CPS]
3	May13,08	11:46:00	SP	0.000	[MV]	320190.000	[CPS]
	May13,08	11:46:00	SP	349.000	[MV]	149150.000	[CPS]
4	May13,08	14:09:51	RES(16N)	0.000	[OHM-M]	4158.000	[CPS]
	May13,08	14:09:51	RES(16I	1953.000	[OHM-M]	422983.000	[CPS]
5	May13,08	14:09:08	RES(64N)	0.000	[OHM-M]	3135.000	[CPS]
	May13,08	14:09:08	RES(64I	1990.000	[OHM-M]	425737.000	[CPS]
6	Feb24,09	10:19:14	TEMP	12.830	[DEG F]	346522.000	[CPS]
	Feb24,09	10:19:14	TEMP	32.940	[DEG F]	372068.000	[CPS]
7	May13,08	11:44:50	RES	0.000	[OHM]	4217.000	[CPS]
	May13,08	11:44:50	RES	943.000	[OHM]	161475.000	[CPS]

Company	Geotech
Well	DH09-03
Field	
County	
State	
Country	
Service Co.	
Date	04/19/09
Time	
Run No.	
Depth Driller	
Depth Logger	
Bottom Log Int.	
Top Log Int.	
Casing Driller	
Casing Logger	
Bit Size	
Type Fluid	
Density	
Viscosity	
pH	
Fluid Loss	
Source of Sample	
Rm @ Meas. Temp.	
Rmf @ Meas. Temp.	
Rmc @ Meas. Temp.	
Source Rmf / Rmc	
Rm @ BHT	
Time Since Circ.	
Max. Rec. Temp.	
Equip. Location	
Recorded By	
Witnessed By	

COMPENSATED DENSITY
GAMMA, CALIPER, RES
DH09-03

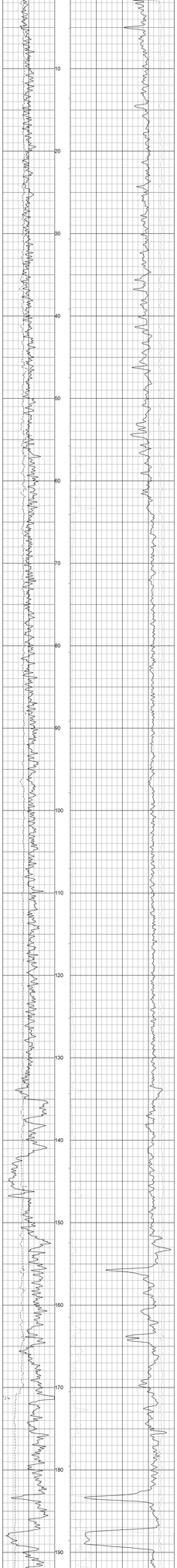
Schlumberger

1:100 BULK DENSITY DH09-03 04/19/09

LOG PARAMETERS

MATRIX DENSITY :	2.65	NEUTRON MATRIX :	SANDSTONE	MATRIX DELTA T :	177
MAGNETIC DECL :	19.8	ELECT. CUTOFF :	9999	BIT SIZE :	13.87
PRESENTATION NAMECRATE :		WGSC DENSITYCalcpar LLC	04/13/2009	VERSION :	1.3-b40

CALIPER1	METERS	COMP	
12 CM 22		0.25 GICC 0.25	
GAMMA	SPEED=	DENCDL=	
200 API-GR 150		GICC	0
		RESIXD	
API-GR 250		GAM-M	9999



API-GR 250		GAM-M	9999
		RESIXD	
		GICC	0
GAMMA	SPEED=	DENCDL=	
12 CM 22		0.25 GICC 0.25	
200 API-GR 150		COMP	
CALIPER1	METERS		

1:100 BULK DENSITY DH09-03 04/19/09

LOG PARAMETERS

MATRIX DENSITY :	2.65	NEUTRON MATRIX :	SANDSTONE	MATRIX DELTA T :	177
MAGNETIC DECL :	19.8	ELECT. CUTOFF :	9999	BIT SIZE :	13.87
PRESENTATION NAMECRATE :		WGSC DENSITYCalcpar LLC	04/13/2009	VERSION :	1.3-b40

TOOL CALIBRATION: DH09-03 04/19/09 00:20
TOOL BOBCC: TM VERSION 2021
TOOL SERIALNO: 9999

	DATE	TIME	SENSOR	STANDARD		RESPONSE	
1	Mar22.09	17:50:57	GAMMA	0.000	API-GR	20.000	[CPS]
2	Mar22.09	17:51:12	GAMMA	200.000	API-GR	1000.000	[CPS]
3	Mar22.09	17:51:27	VOLTAGE	30.400	[kV]	4400.000	[CPS]
4	Mar22.09	17:51:42	VOLTAGE	252.800	[kV]	15790.000	[CPS]
5	Mar22.09	17:51:57	CALIPER	6.000	[CM]	2000.000	[CPS]
6	Mar22.09	17:52:12	CALIPER	21.000	[CM]	42000.000	[CPS]
7	Mar22.09	17:52:27	DENCDL	0.000	[GICC]	0.000	[CPS]
8	Mar22.09	17:53:03	DENCDL	2.500	[GICC]	1250.000	[CPS]
9	Mar22.09	17:53:18	DENCDL	3.000	[GICC]	1500.000	[CPS]
10	Mar22.09	17:53:33	DENCDL	3.500	[GICC]	1800.000	[CPS]
11	Apr13.09	17:46:46	CALIPER	6.000	[CM]	2000.000	[CPS]
12	Apr13.09	17:47:01	CALIPER	22.500	[CM]	45000.000	[CPS]
13	Apr13.09	17:47:16	CURRENT	0.000	[A]	0.000	[CPS]
14	Apr13.09	17:47:31	CURRENT	0.500	[A]	2000.000	[CPS]
15	Mar22.09	17:50:16	X	DefaultX	[CPS]		
16	Mar22.09	17:50:31	X	DefaultX	[CPS]		

Company	Geotech Geophysical Services
Well	GAM-GAMH
Field	BLUE MOUNTAIN
County	DH09-03
State	
Country	
Other Services	
Permanent Datum	GROUND LEVEL
Log Measured From	
Drilling Measured From	
Elevation	
Date	04/18/09
Run Number	ONE
Depth Driller	200
Depth Logger	200
Bottom Log Interval	200
Top Log Interval	0
Casing Driller	
Casing Logger	
Bit Size	12.1/4"
Type Fluid in Hole	AIR
Density	
Viscosity	
Ph	
Fluid Loss	
Source of Sample	
Rm	
Rmf	
Rmc	
Rm @ Meas. Temp.	
Rmf @ Meas. Temp.	
Rmc @ Meas. Temp.	
Source: Rmf / Rmc	
Rm @ BHT	
Time Since Circulation	
Time Since Cement	
Max. Rec. Temp.	
Equipment Location	
Recorded By	
Witnessed By	

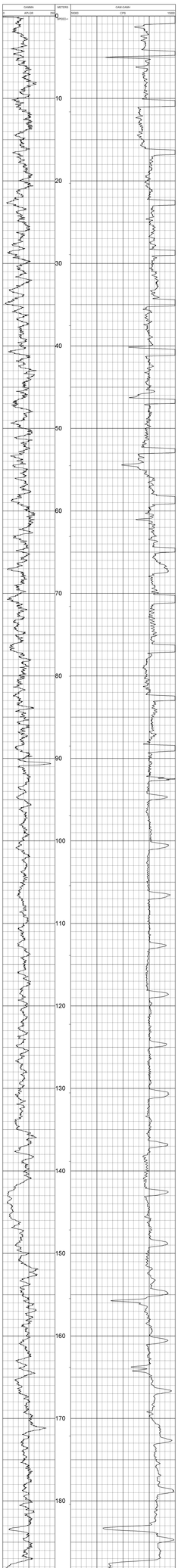
Run No.	ONE
Depth Driller	200
Depth Logger	200
Bottom Log Interval	200
Top Log Interval	0
Casing Driller	
Casing Logger	
Bit Size	12.1/4"
Type Fluid in Hole	AIR
Density	
Viscosity	
Ph	
Fluid Loss	
Source of Sample	
Rm	
Rmf	
Rmc	
Rm @ Meas. Temp.	
Rmf @ Meas. Temp.	
Rmc @ Meas. Temp.	
Source: Rmf / Rmc	
Rm @ BHT	
Time Circulation Stopped	
Time Logger on Bottom	
Max. Rec. Temp.	
Equipment Location	
Recorded By	
Witnessed By	

Tool Number	9088
Tool Type (Gamma/Density/Neutron)	GAMMA
Detector Type	NA
Detector Serial Number	NA
Source Type	NA
Source Strength	NA
Source Serial Number	NA
Calibrator Type	NA
Calibrator Serial Number	NA
Calibrator Value	NA
Tool Length	7.00
Tool Diameter	1.75
Tool Weight	15
Tool Position	
Max. Temp.	125
Max. Pressure	
Logging Speed	30
Time Constant	1
Gamma Ray Scale	200
Density Scale	NA
Neutron Scale	NA
Density Window	NA
Density Matrix	NA
Density Fluid	NA
Neutron Matrix	SANDSTONE
Neutron Fluid	NA
Neutron Calibration Method	NA
Density Calibration Method	NA
Gamma Ray Calibration Method	NA
Gamma Ray Calibrator Value	NA
Density Calibrator Value	NA
Neutron Calibrator Value	NA
Gamma Ray Calibrator Unit	NA
Density Calibrator Unit	NA
Neutron Calibrator Unit	NA
Gamma Ray Calibrator Type	NA
Density Calibrator Type	NA
Neutron Calibrator Type	NA
Gamma Ray Calibrator Serial Number	NA
Density Calibrator Serial Number	NA
Neutron Calibrator Serial Number	NA
Gamma Ray Calibrator Date	NA
Density Calibrator Date	NA
Neutron Calibrator Date	NA
Gamma Ray Calibrator Time	NA
Density Calibrator Time	NA
Neutron Calibrator Time	NA

1:100 GAM-GAMH DH09-03 04/18/09

LOG PARAMETERS

MATRIX DENSITY: 2.65 NEUTRON MATRIX: SANDSTONE MATRIX DELTA-T: 177
MAGNETIC DECL: 19.9 ELECT. CUTOFF: 99999 BIT SIZE: 12.87
PRESENTATION NAME/DATE: 9088 GAMMA GAMMA 5 12/12/2007 VERSION: 1.0 BAKE



1:100 GAM-GAMH DH09-03 04/18/09

LOG PARAMETERS

MATRIX DENSITY: 2.65 NEUTRON MATRIX: SANDSTONE MATRIX DELTA-T: 177
MAGNETIC DECL: 19.9 ELECT. CUTOFF: 99999 BIT SIZE: 12.87
PRESENTATION NAME/DATE: 9088 GAMMA GAMMA 5 12/12/2007 VERSION: 1.0 BAKE

TOOL CALIBRATION: DH09-03 04/18/09 20:08
TOOL: 9088 TM VERSION: 1
CALIBRATOR: 9088 TM

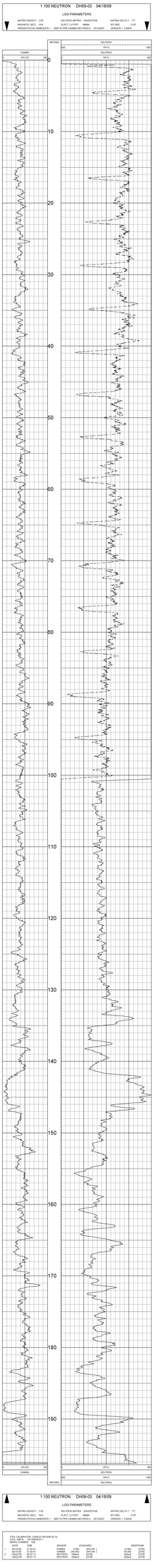
	DATE	TIME	SENSOR	STANDARD		RESPONSE	
1.	Jun26,06	19:14:02	GAMMA	0.000	[API-GR]	0.000	[CPS]
2.	Jun26,06	19:14:02	GAMMA	265.000	[API-GR]	81.000	[CPS]

Company	Cambridge Geophysics		
Rig			
Date	04/18/09		
Time	07:00:00		
Count	1		
Max	1000.00		
Depth	0.00		
Speed	0.00		
Comment			
Operator			
Witness			

IN PIPE GAMMA-NEUTRON

DH09-03

Depth Control			
Length			
Wireline Head			
Cable Type			
Cable Length			
Casing 1			
Casing 2			
Casing 3			
Bit 1			
Bit 2			
Bit 3			
Fluid Type			
Fluid Level			
Borehole Record			
Logging Equipment			
Tool Type			
Serial Number			
Calibration Date			
Calibration Type			
Logging Company			
Operator			
Witness			



TOOL CALIBRATION: DA09-20 04/18/09 20:19
TOOL MATA: TM-VERSION 1
TOOL CALIBRATION

	DATE	TIME	SENSOR	STANDARD		RESPONSE	
1	Apr18,09	21:03:41	GAMMA	0.000	API-GR	10.000	[CPS]
2	Apr18,09	21:07:12	GAMMA	0.000	API-GR	10.000	[CPS]
3	Feb22,08	08:07:12	NEUTRON	Default	[CPS]	Default	[CPS]
4	Feb22,08	08:07:12	NEUTRON	Default	[CPS]	Default	[CPS]

Century WIRELINE SERVICES

DETAILED DENSITY
GAMMA - CALIPER - RES.
DH09-03

OTHER SERVICES:
NEUTRON

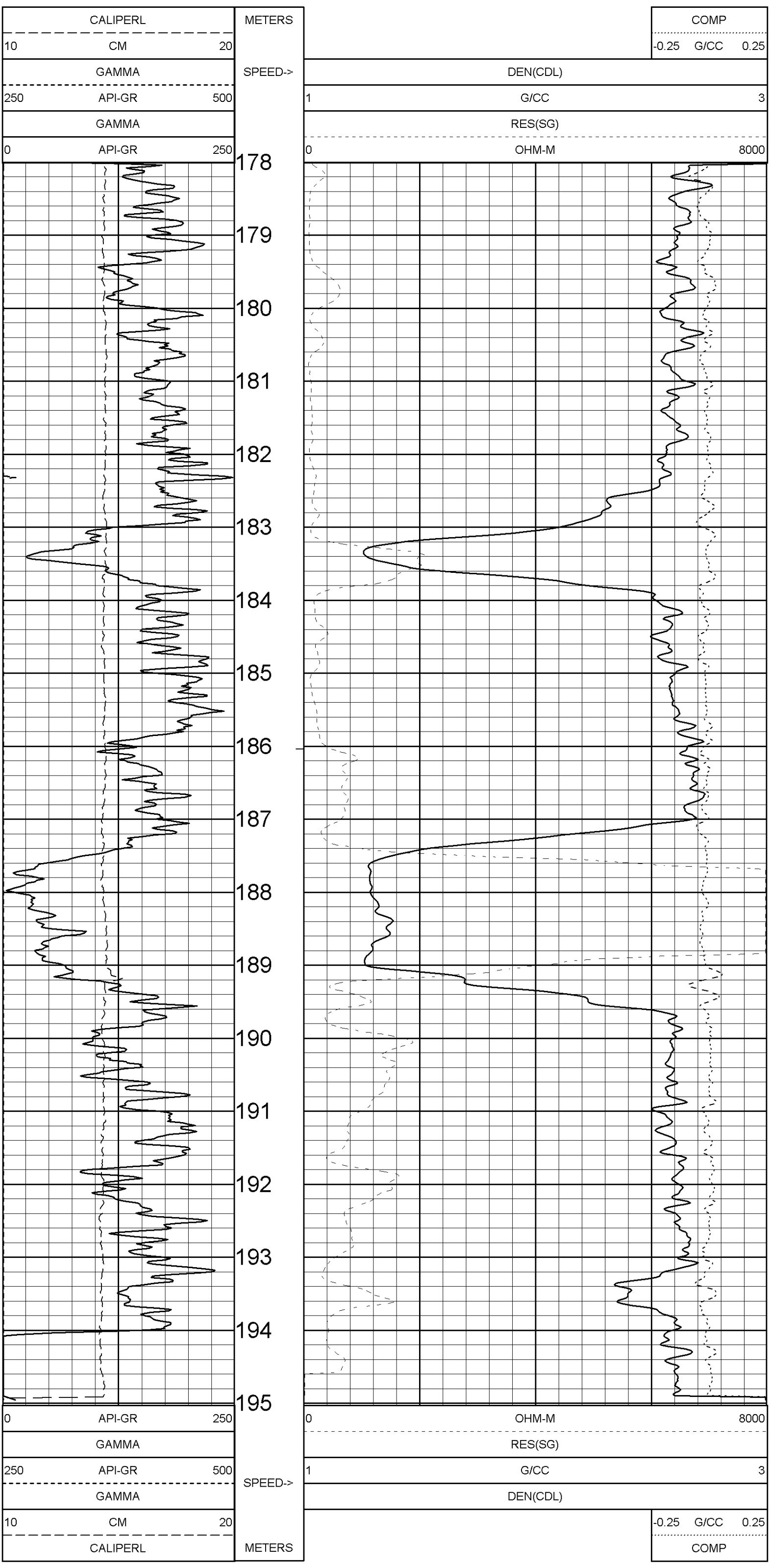
COMPANY	:TREFI COAL CORP.		
WELL	:DH09-03		
FIELD	:UPPER HIGHHAT		
COUNTRY	:CANADA		
PROVINCE	:BRITISH COLUMBIA		
LOCATION	:UPPER HIGHHAT		
SECTION	:N/A		
TOWNSHIP	:N/A		
RANGE	:N/A		
LICENCE NO.	:N/A		
UNIQUE WELL ID.	:		
PERMANENT DATUM	:GL	ELEVATION KB	:N/A
LOG MEASURED FROM	:GL	ELEVATION DF	:N/A
DRL MEASURED FROM	:GL	ELEVATION GL	:N/A
DATE	:04/19/09	RIG NUMBER	:
DEPTH DRILLER	:197.51	LOGGER TD	:
BIT SIZE	:13.97	ARRIVAL TIME	:
LOG TOP	:-0.79	DEPARTURE TIME	:
LOG BOTTOM	:196.61	CIRC STOPPED	:N/A
CASING LOGGER	:1.82		
CASING DRILLER	:1.82		
CASING TYPE	:STEEL		
BOREHOLE FLUID	:WATER		
RM TEMPERATURE	:N/A		
MUD RES	:N/A		
MUD WEIGHT	:1.00		
WITNESSED BY	:		
RECORDED BY	:T. NEAL		
REMARKS 1	:VERTICAL		
REMARKS 2	:		

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

1:50 BULK DENSITY DH09-03 04/19/09

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 177
MAGNETIC DECL : 19.9 ELECT. CUTOFF : 99999 BIT SIZE : 13.97
PRESENTATION NAME/DATE = 9139C EXPANDED(Caliper L).0 04/13/2009 VERSION = 3.64HE



1:50 BULK DENSITY DH09-03 04/19/09

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 177
MAGNETIC DECL : 19.9 ELECT. CUTOFF : 99999 BIT SIZE : 13.97
PRESENTATION NAME/DATE = 9139C EXPANDED(Caliper L).0 04/13/2009 VERSION = 3.64HE

TOOL CALIBRATION DH09-03 04/19/09 00:20
TOOL 9239C1 TM VERSION 2021
SERIAL NUMBER 4416

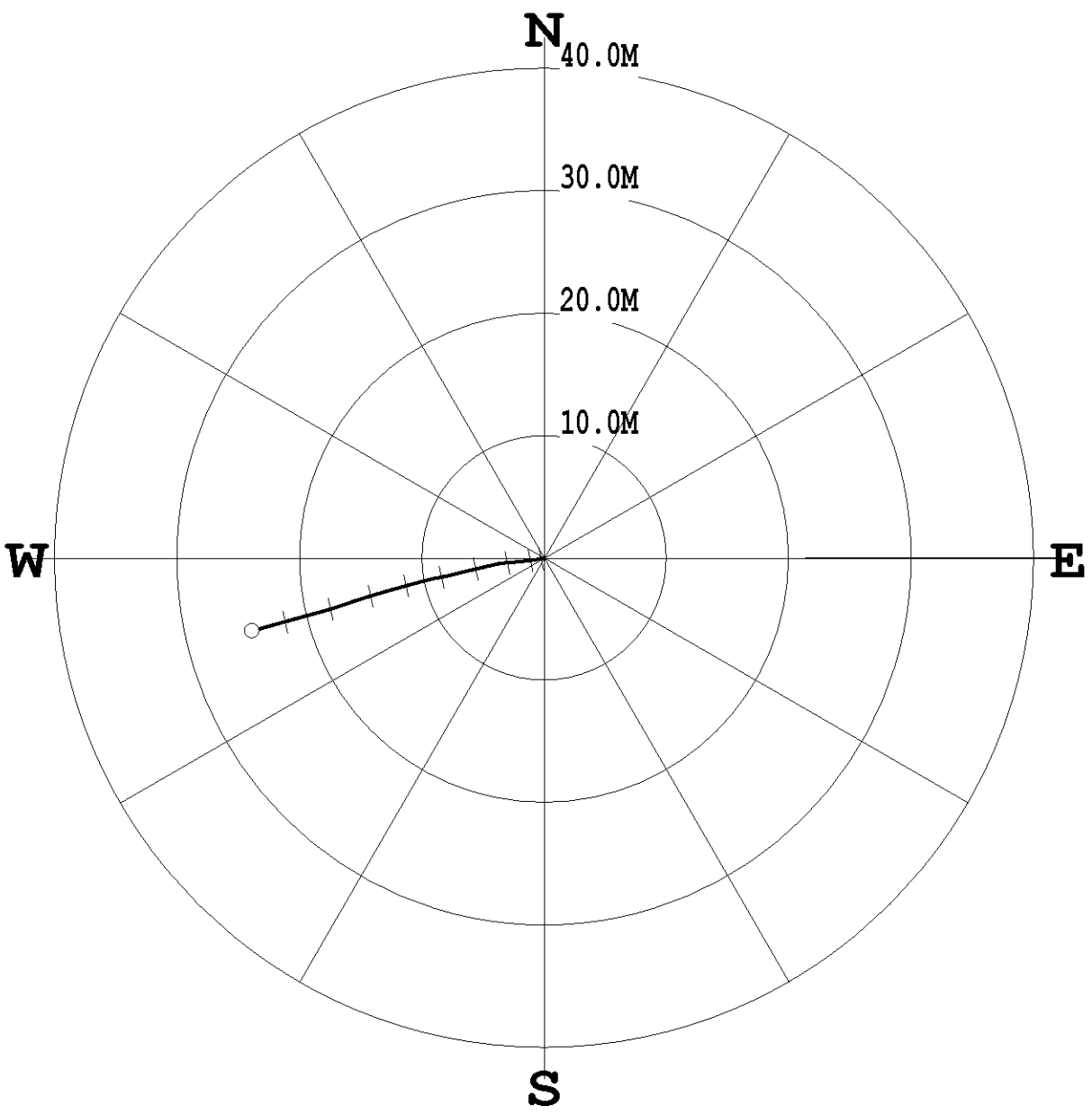
	DATE	TIME	SENSOR	STANDARD		RESPONSE	
1	Mar22,09	17:50:57	GAMMA	0.000	[API-GR]	20.000	[CPS]
	Mar22,09	17:50:57	GAMMA	250.000	[API-GR]	278.000	[CPS]
2	Mar22,09	17:51:32	VOLTAGE	30.450	[MV]	6482.000	[CPS]
	Mar22,09	17:51:32	VOLTAGE	232.800	[MV]	33790.000	[CPS]
3	Mar22,09	17:52:18	CALIPER	8.900	[CM]	143340.000	[CPS]
	Mar22,09	17:52:18	CALIPER	21.000	[CM]	425662.000	[CPS]
4	Mar22,09	17:53:03	DEN(LS)	1.000	[G/CC]	26210.000	[CPS]
	Mar22,09	17:53:03	DEN(LS)	2.323	[G/CC]	2550.000	[CPS]
5	Mar22,09	17:53:32	DEN(SS)	1.000	[G/CC]	51170.000	[CPS]
	Mar22,09	17:53:32	DEN(SS)	2.323	[G/CC]	18080.000	[CPS]
6	Apr11,09	11:47:49	CALIPERL	7.620	[CM]	108900.000	[CPS]
	Apr11,09	11:47:49	CALIPERL	20.000	[CM]	238606.000	[CPS]
7	Mar22,09	17:55:23	CURRENT	30.500	[UA]	5796.200	[CPS]
	Mar22,09	17:55:23	CURRENT	232.800	[UA]	22880.000	[CPS]
8	Mar22,09	17:50:18	F	Default	[CPS]		
9	Mar22,09	17:50:18	X	Default	[CPS]		

PLAN VIEW
COMPU-LOG DEVIATION

CLIENT: TREFI COAL CORP.
LOCATION: UPPER HIGHHAT
HOLE ID: DH09-03
DATE OF LOG: 04/19/09
PROBE: 9057A 4565

MAG DECL: 19.9

SCALE: 5 M/CM
TRUE DEPTH: 194.62 M
AZIMUTH: 256.0
DISTANCE: 24.6 M
+ = 20 M INCR
○ = BOTTOM OF HOLE



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

CLIENT : TREFI COAL CORP. HOLE ID. : DH09-03
FIELD OFFICE : CENTURY GEO DATE OF LOG : 04/19/09
DATA FROM : N/A PROBE : 9057A , 4565
MAG. DECL. : 19.900 DEPTH UNITS : METERS
LOG: DH09-03_04-19-09_01-02_9057A_.02_1.93_196.67_DEVI.log

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
4.00	3.99	-0.00	-0.00	0.0	244.0	0.6	249.6
6.00	5.99	-0.01	-0.03	0.0	256.5	0.8	270.5
8.00	7.99	-0.01	-0.05	0.1	259.7	0.9	263.6
10.00	9.99	-0.01	-0.08	0.1	260.2	0.7	261.3
12.00	11.99	-0.02	-0.11	0.1	261.2	1.0	266.7
14.00	13.99	-0.02	-0.15	0.1	262.2	1.0	268.1
16.00	15.99	-0.02	-0.19	0.2	263.1	1.2	267.1
18.00	17.99	-0.02	-0.23	0.2	264.0	1.2	270.5
20.00	19.99	-0.03	-0.27	0.3	264.2	1.1	258.4
22.00	21.99	-0.03	-0.31	0.3	264.1	1.3	261.4
24.00	23.99	-0.04	-0.37	0.4	263.4	1.6	252.6
26.00	25.99	-0.06	-0.43	0.4	262.1	1.9	252.2
28.00	27.98	-0.08	-0.50	0.5	260.9	2.1	257.3
30.00	29.98	-0.09	-0.58	0.6	260.7	2.6	264.8
32.00	31.98	-0.11	-0.67	0.7	260.6	2.8	262.4
34.00	33.98	-0.13	-0.77	0.8	260.4	3.0	258.2
36.00	35.97	-0.15	-0.88	0.9	260.4	3.7	262.9
38.00	37.97	-0.17	-1.01	1.0	260.4	3.7	259.2
40.00	39.97	-0.19	-1.14	1.2	260.5	4.0	260.7
42.00	41.96	-0.21	-1.28	1.3	260.6	4.3	259.6
44.00	43.96	-0.23	-1.42	1.4	260.8	4.2	267.5
46.00	45.95	-0.24	-1.58	1.6	261.2	4.9	265.8
48.00	47.94	-0.26	-1.75	1.8	261.6	5.0	267.4
50.00	49.93	-0.28	-1.93	1.9	261.8	5.1	264.4
52.00	51.93	-0.29	-2.11	2.1	262.1	5.2	268.6
54.00	53.92	-0.31	-2.31	2.3	262.3	6.2	264.0
56.00	55.90	-0.33	-2.54	2.6	262.7	6.6	260.7
58.00	57.89	-0.35	-2.77	2.8	262.9	6.8	265.4
60.00	59.87	-0.37	-3.01	3.0	263.0	6.8	265.2
62.00	61.86	-0.40	-3.25	3.3	263.1	7.1	264.0
64.00	63.84	-0.42	-3.50	3.5	263.1	7.4	272.1
66.00	65.83	-0.45	-3.75	3.8	263.1	6.9	256.3
68.00	67.81	-0.51	-3.99	4.0	262.8	7.4	257.2
70.00	69.79	-0.57	-4.25	4.3	262.4	7.5	257.4
72.00	71.78	-0.63	-4.50	4.5	262.1	7.7	256.4
74.00	73.76	-0.69	-4.77	4.8	261.8	7.8	255.9
76.00	75.74	-0.75	-5.03	5.1	261.5	7.9	256.3
78.00	77.72	-0.81	-5.30	5.4	261.3	7.9	257.2
80.00	79.70	-0.88	-5.57	5.6	261.0	7.9	256.5
82.00	81.68	-0.94	-5.84	5.9	260.8	7.9	256.5
84.00	83.66	-1.01	-6.10	6.2	260.6	8.1	257.3
86.00	85.64	-1.07	-6.38	6.5	260.5	8.0	256.2
88.00	87.62	-1.14	-6.65	6.7	260.3	8.0	255.8
90.00	89.60	-1.20	-6.92	7.0	260.1	8.1	256.9
92.00	91.58	-1.27	-7.19	7.3	260.0	8.2	256.3
94.00	93.56	-1.34	-7.47	7.6	259.8	8.1	256.6
96.00	95.54	-1.41	-7.75	7.9	259.7	8.1	256.4
98.00	97.52	-1.47	-8.03	8.2	259.6	8.9	258.9
100.00	99.50	-1.53	-8.32	8.5	259.6	8.6	259.0
102.00	101.48	-1.59	-8.62	8.8	259.6	8.6	259.2
104.00	103.46	-1.64	-8.91	9.1	259.6	8.6	259.7
106.00	105.43	-1.70	-9.20	9.4	259.6	8.4	257.1
108.00	107.41	-1.77	-9.48	9.6	259.4	8.3	255.9
110.00	109.39	-1.84	-9.76	9.9	259.3	8.4	255.6
112.00	111.37	-1.92	-10.04	10.2	259.2	8.5	255.1
114.00	113.35	-2.00	-10.33	10.5	259.1	8.5	255.2
116.00	115.33	-2.07	-10.62	10.8	259.0	8.5	255.0
118.00	117.30	-2.15	-10.90	11.1	258.8	8.5	254.7
120.00	119.28	-2.23	-11.19	11.4	258.7	8.6	255.3
122.00	121.26	-2.31	-11.48	11.7	258.6	8.6	254.9
124.00	123.24	-2.39	-11.76	12.0	258.5	8.5	254.5
126.00	125.21	-2.47	-12.05	12.3	258.4	8.5	254.7
128.00	127.19	-2.55	-12.34	12.6	258.3	8.5	253.9
130.00	129.17	-2.63	-12.62	12.9	258.2	8.5	254.1
132.00	131.15	-2.71	-12.90	13.2	258.2	8.4	253.8
134.00	133.13	-2.79	-13.18	13.5	258.1	8.5	253.5
136.00	135.10	-2.87	-13.47	13.8	258.0	8.5	253.8
138.00	137.08	-2.96	-13.76	14.1	257.9	8.8	252.8
140.00	139.06	-3.05	-14.05	14.4	257.8	8.8	251.6
142.00	141.03	-3.14	-14.34	14.7	257.7	9.0	255.4
144.00	143.01	-3.23	-14.65	15.0	257.6	9.5	253.4
146.00	144.98	-3.33	-14.97	15.3	257.4	9.5	252.3
148.00	146.95	-3.43	-15.28	15.7	257.4	9.4	251.9
150.00	148.93	-3.53	-15.59	16.0	257.2	9.6	249.0
152.00	150.90	-3.65	-15.91	16.3	257.1	10.0	251.2
154.00	152.87	-3.76	-16.24	16.7	257.0	10.1	250.9
156.00	154.84	-3.87	-16.57	17.0	256.9	9.9	252.6
158.00	156.81	-3.98	-16.90	17.4	256.8	10.3	250.9
160.00	158.77	-4.09	-17.24	17.7	256.6	10.3	251.0
162.00	160.74	-4.20	-17.59	18.1	256.6	10.7	254.7
164.00	162.70	-4.30	-17.95	18.5	256.5	10.8	254.8
166.00	164.67	-4.40	-18.31	18.8	256.5	10.8	255.8
168.00	166.63	-4.50	-18.67	19.2	256.5	10.9	257.3
170.00	168.60	-4.60	-19.04	19.6	256.4	11.0	253.0
172.00	170.56	-4.70	-19.41	20.0	256.4	11.0	254.3
174.00	172.52	-4.80	-19.77	20.3	256.4	10.8	254.8
176.00	174.49	-4.90	-20.14	20.7	256.3	11.1	254.2
178.00	176.45	-5.00	-20.51	21.1	256.3	10.8	254.2
180.00	178.41	-5.10	-20.87	21.5	256.3	10.9	254.9
182.00	180.38	-5.20	-21.24	21.9	256.2	10.8	253.9
184.00	182.34	-5.30	-21.60	22.2	256.2	10.8	254.7
186.00	184.31	-5.41	-21.96	22.6	256.2	10.9	253.5
188.00	186.27	-5.51	-22.32	23.0	256.1	10.9	254.6
190.00	188.24	-5.61	-22.69	23.4	256.1	10.8	255.1
192.00	190.20	-5.72	-23.05	23.7	256.1	10.7	254.7
194.00	192.16	-5.82	-23.41	24.1	256.0	10.9	255.2
196.00	194.13	-5.92	-23.77	24.5	256.0	10.8	253.8
196.50	194.62	-5.95	-23.86	24.6	256.0	10.8	252.4

Company:	Centrica Storage Limited
Well:	DH09-03
Field:	Hill Farm
County:	Cheshire
Country:	United Kingdom
Date:	04/19/09
Time:	11:51:15
Operator:	Mark Jones
Logging Unit:	Gamma Neutron
Logging Company:	Centrica Storage Limited
Logging Engineer:	Mark Jones
Witnessed by:	Mark Jones
Comments:	

GAMMA - NEUTRON

DH09-03

Centrica Storage Limited

TOOL CALIBRATION: DH09-03 04/19/09 01:02
TOOL TYPE: GAMMA NEUTRON
SERIAL NUMBER: 4555

DATE	TIME	SENSOR		STANDARD		RESPONSE	
1	May13,09	11:51:15	GAMMA	0.000	API-GR	1.000	[CPS]
	May13,09	11:51:15	RES(16")	0.000	OHM-M	3.000	[CPS]
2	Apr17,08	08:32:11	NEUTRON	Default	[CPS]	Default	[CPS]
3	Apr17,08	08:32:11	NEUTRON	Default	[CPS]	Default	[CPS]
4	May13,09	11:46:00	HT	0.000	DEG F	32768.000	[CPS]
	May13,09	11:46:00	HT	340.000	DEG F	14610.000	[CPS]
5	May13,09	14:09:08	RES(16")	0.000	OHM-M	42.000	[CPS]
	May13,09	14:09:08	RES(16")	100.000	OHM-M	42.000	[CPS]
6	May13,09	14:09:08	RES(Med)	0.000	OHM-M	3135.000	[CPS]
	May13,09	14:09:08	RES(Med)	100.000	OHM-M	3135.000	[CPS]
7	Feb24,09	15:19:14	TEMP	12.840	DEG F	24812.000	[CPS]
	Feb24,09	15:19:14	TEMP	32.840	DEG F	372968.000	[CPS]
8	May13,09	11:44:52	RES	0.000	OHM	16.000	[CPS]
	May13,09	11:44:52	RES	840.000	OHM	16415.000	[CPS]

Century WIRELINE SERVICES

COMPENSATED DENSITY GAMMA - CALIPER - RES: DH09-04

COMPANY	TRACE ENERGY
FIELD	TRACE
WELL	DH09-04
COUNTY	LAMPASAS
STATE	TEXAS
COUNTRY	UNITED STATES OF AMERICA
API NUMBER	42-307-31997
LOCATION	SECTION 15, BLK 1, CCSD&RGNG
LATITUDE	31.0
LONGITUDE	-98.0
ELEVATION	1,000 FT
DATE	04/23/2009
DATUM	KB 10 FT ABOVE GL
RUN NUMBER	ONE
DEPTH DRILLER	1,500
DEPTH LOGGER	1,500
BOTTOM LOGGED INTERVAL	1,500
TOP LOGGED INTERVAL	SURFACE
CASING DRILLER	8.625 @ 1,500
CASING LOGGER	1,500
BIT SIZE	7.875
TYPE FLUID IN HOLE	WATER
DENSITY / VISCOSITY	N/A
PH / FLUID LOSS	N/A
SOURCE OF SAMPLE	FLOWLINE
RM @ MEASURED TEMP	N/A
RMF @ MEASURED TEMP	N/A
RMC @ MEASURED TEMP	N/A
SOURCE RMF / RMC	N/A
RM @ BHT	N/A
MAX REC. TEMP.	N/A
EQUIP. LOCATION	3 MILES SW OF LAMPASAS
RECORDED BY	B. MCCLOUD
WITNESSED BY	N/A

RUN NUMBER: ONE

DATE: 04/23/2009

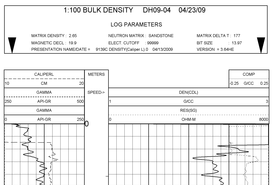
TIME: 17:00

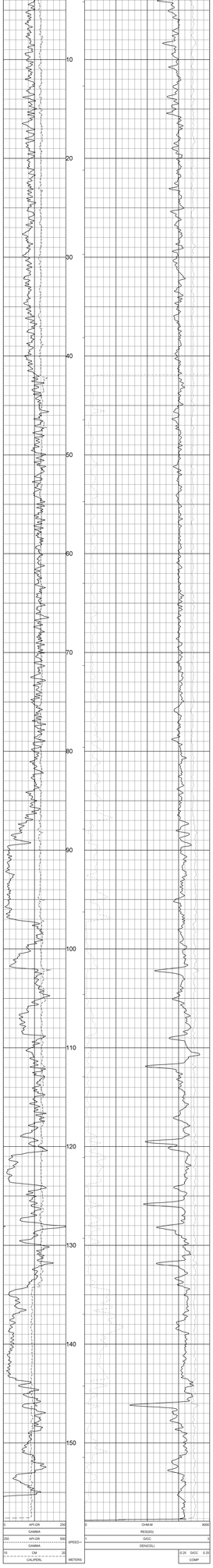
"A" PRESENTATION NUMBER: 1

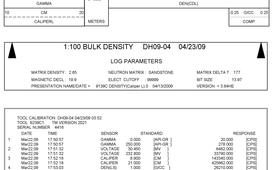
"A" PRESENTATION DESCRIPTION: 1:100 BULK DENSITY

"A" PRESENTATION TIME: 17:00

"A" PRESENTATION DATE: 04/23/2009







TOOL CALIBRATION: DH09-04 04/23/09 03:52
TOOL SCBECT: 1M VERSION 2021
TOOL SERIAL NUMBER: 1M-918

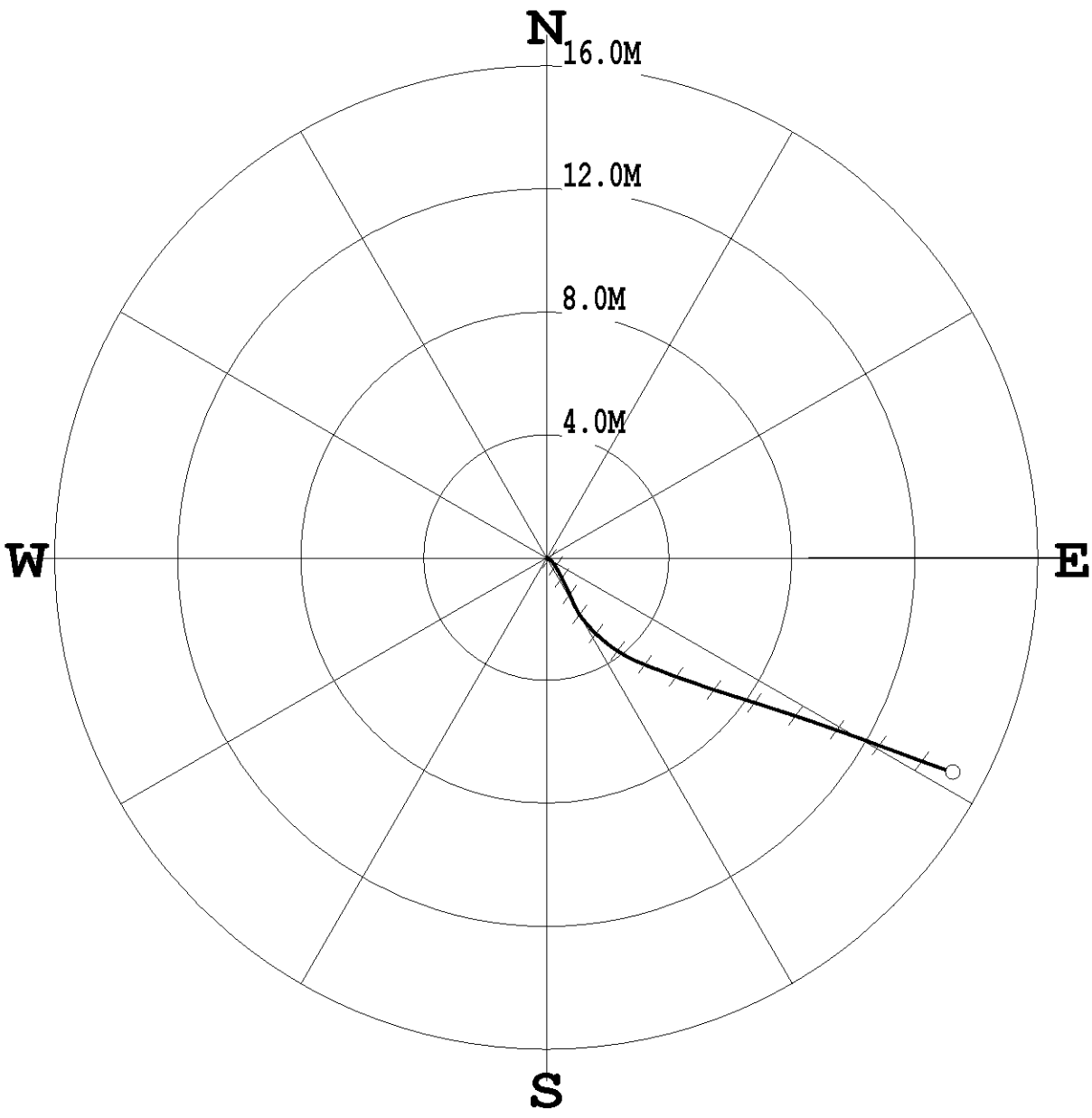
	DATE	TIME	SENSOR	STANDARD		RESPONSE	
1	Mar22,09	17:50:57	GAMMA	0.000	API-GR	20.000	[CPS]
2	Mar22,09	17:50:57	GAMMA	200.000	API-GR	1000.000	[CPS]
3	Mar22,09	17:51:32	VOLTAGE	252.800	5V	4000.000	[CPS]
4	Mar22,09	17:51:32	VOLTAGE	252.800	5V	33790.000	[CPS]
5	Mar22,09	17:53:18	CALIPER	8.500	CM	1000.000	[CPS]
6	Mar22,09	17:53:18	CALIPER	21.590	CM	42500.000	[CPS]
7	Mar22,09	17:53:55	DEN(LS)	1.000	G/CC	2670.000	[CPS]
8	Mar22,09	17:53:55	DEN(LS)	3.123	G/CC	2700.000	[CPS]
9	Mar22,09	17:53:32	DEN(SS)	1.000	G/CC	14000.000	[CPS]
10	Mar22,09	17:53:32	DEN(SS)	2.323	G/CC	14000.000	[CPS]
11	Mar22,09	17:47:49	CALIPER(L)	12.500	CM	10000.000	[CPS]
12	Mar22,09	17:55:23	CURRENT	50.500	LA	5796.200	[CPS]
13	Mar22,09	17:55:23	CURRENT	252.800	LA	22860.000	[CPS]
14	Mar22,09	17:50:18	X	Default	[CPS]		
15	Mar22,09	17:50:18	X	Default	[CPS]		

PLAN VIEW
COMPU-LOG DEVIATION

CLIENT: TREFI COAL CORP.
LOCATION: UPPER HIGHHAT
HOLE ID: DH09-04
DATE OF LOG: 04/23/09
PROBE: 9057A□ 4416

MAG DECL: 19.9

SCALE: 2 M/CM
TRUE DEPTH: 156.89 M
AZIMUTH: 117.8
DISTANCE: 14.9 M
+ = 10 M INCR
○ = BOTTOM OF HOLE



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

CLIENT : TREFI COAL CORP. HOLE ID. : DH09-04
FIELD OFFICE : CENTURY GEO DATE OF LOG : 04/23/09
DATA FROM : N/A PROBE : 9057A , 4416
MAG. DECL. : 19.900 DEPTH UNITS : METERS
LOG: DH09-04_04-23-09_03-52_9057A_.02_-0.75_157.97_DEVI.log

CABLE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG	SANGB
6.10	6.11	-0.00	0.00	0.0	104.2	1.2	104.2
8.00	8.01	-0.01	0.04	0.0	109.2	1.3	116.2
10.00	10.01	-0.04	0.08	0.1	114.7	1.5	125.5
12.00	12.01	-0.07	0.12	0.1	119.9	1.6	132.9
14.00	14.01	-0.11	0.16	0.2	124.3	1.7	136.6
16.00	16.01	-0.16	0.20	0.3	128.1	2.0	141.3
18.00	18.01	-0.22	0.25	0.3	131.2	2.1	145.1
20.00	20.00	-0.28	0.29	0.4	133.9	2.1	148.1
22.00	22.00	-0.34	0.33	0.5	136.3	2.3	147.7
24.00	24.00	-0.41	0.37	0.6	138.4	2.4	151.3
26.00	26.00	-0.49	0.41	0.6	140.3	2.6	162.6
28.00	28.00	-0.57	0.45	0.7	141.8	2.7	150.9
30.00	29.99	-0.65	0.49	0.8	142.8	2.7	148.2
32.00	31.99	-0.75	0.54	0.9	144.2	3.3	156.4
34.00	33.99	-0.85	0.59	1.0	145.3	3.2	155.6
36.00	35.99	-0.95	0.64	1.1	146.1	3.4	153.5
38.00	37.98	-1.07	0.69	1.3	147.0	3.9	156.4
40.00	39.98	-1.19	0.75	1.4	147.9	3.9	160.6
42.00	41.97	-1.32	0.80	1.5	148.6	4.1	153.8
44.00	43.97	-1.45	0.86	1.7	149.3	4.3	155.3
46.00	45.96	-1.58	0.92	1.8	149.7	4.0	151.1
48.00	47.96	-1.71	0.99	2.0	149.8	4.3	151.6
50.00	49.95	-1.84	1.07	2.1	149.9	4.2	146.7
52.00	51.94	-1.96	1.16	2.3	149.5	4.5	140.8
54.00	53.94	-2.09	1.26	2.4	148.9	4.5	142.5
56.00	55.93	-2.21	1.36	2.6	148.3	4.8	140.4
58.00	57.92	-2.34	1.48	2.8	147.7	4.8	136.2
60.00	59.92	-2.46	1.60	2.9	147.0	4.9	134.3
62.00	61.91	-2.57	1.72	3.1	146.2	5.0	130.3
64.00	63.90	-2.69	1.86	3.3	145.4	5.1	130.8
66.00	65.89	-2.80	1.99	3.4	144.6	5.1	128.7
68.00	67.89	-2.91	2.14	3.6	143.7	5.3	125.5
70.00	69.88	-3.01	2.29	3.8	142.8	5.5	123.7
72.00	71.87	-3.12	2.46	4.0	141.8	5.6	121.1
74.00	73.86	-3.21	2.62	4.1	140.7	5.6	117.4
76.00	75.85	-3.30	2.80	4.3	139.8	5.6	116.3
78.00	77.84	-3.38	2.98	4.5	138.6	5.9	112.4
80.00	79.83	-3.46	3.17	4.7	137.5	5.9	115.7
82.00	81.82	-3.54	3.36	4.9	136.5	6.1	111.7
84.00	83.81	-3.61	3.57	5.1	135.4	6.3	108.1
86.00	85.79	-3.69	3.76	5.3	134.4	5.9	110.1
88.00	87.78	-3.77	3.96	5.5	133.6	6.9	110.5
90.00	89.77	-3.85	4.18	5.7	132.6	6.9	111.6
92.00	91.75	-3.94	4.42	5.9	131.7	7.2	102.7
94.00	93.74	-4.02	4.66	6.2	130.7	7.4	108.2
96.00	95.72	-4.10	4.91	6.4	129.9	7.4	113.4
98.00	97.70	-4.19	5.15	6.6	129.2	7.3	109.1
100.00	99.68	-4.28	5.40	6.9	128.4	7.8	109.6
102.00	101.67	-4.36	5.66	7.1	127.6	7.6	107.9
104.00	103.65	-4.44	5.91	7.4	126.9	7.9	107.3
106.00	105.63	-4.52	6.18	7.7	126.2	8.1	107.4
108.00	107.61	-4.61	6.45	7.9	125.5	7.9	107.8
110.00	109.59	-4.69	6.71	8.2	125.0	7.9	107.7
112.00	111.57	-4.77	6.97	8.4	124.4	7.9	108.7
114.00	113.55	-4.86	7.23	8.7	123.9	7.9	107.3
116.00	115.53	-4.94	7.50	9.0	123.4	8.0	107.6
118.00	117.51	-5.03	7.76	9.2	122.9	8.0	108.3
120.00	119.49	-5.12	8.03	9.5	122.5	7.9	108.6
122.00	121.47	-5.20	8.29	9.8	122.1	7.9	108.1
124.00	123.46	-5.29	8.55	10.1	121.8	8.0	108.5
126.00	125.44	-5.38	8.81	10.3	121.4	8.0	109.2
128.00	127.42	-5.48	9.08	10.6	121.1	8.1	108.7
130.00	129.40	-5.57	9.35	10.9	120.8	8.3	109.0
132.00	131.38	-5.66	9.62	11.2	120.5	8.3	109.6
134.00	133.35	-5.76	9.89	11.4	120.2	8.3	109.8
136.00	135.33	-5.86	10.17	11.7	119.9	8.5	109.5
138.00	137.31	-5.96	10.44	12.0	119.7	8.3	110.3
140.00	139.29	-6.06	10.71	12.3	119.5	8.4	109.9
142.00	141.27	-6.16	10.99	12.6	119.3	8.3	110.1
144.00	143.25	-6.26	11.26	12.9	119.1	8.4	110.3
146.00	145.23	-6.36	11.53	13.2	118.9	8.4	109.9
148.00	147.20	-6.47	11.81	13.5	118.7	8.6	110.4
150.00	149.18	-6.57	12.09	13.8	118.5	8.5	110.3
152.00	151.16	-6.67	12.37	14.1	118.3	8.9	110.1
154.00	153.14	-6.77	12.66	14.4	118.1	8.8	109.2
156.00	155.11	-6.88	12.95	14.7	118.0	9.1	109.7
157.80	156.89	-6.97	13.22	14.9	117.8	8.9	110.7

Century WIRELINE SERVICES

GAM-GAMH
SLIM TOOL
DH09-04

OTHER SERVICES:
NEUTRON

COMPANY :TREFI COAL CORP.
WELL :DH09-04
FIELD :UPPER HIGHHAT
COUNTRY :CANADA
PROVINCE :BRITISH COLUMBIA
LOCATION :UPPER HIGHHAT
SECTION :N/A
TOWNSHIP :N/A
RANGE :N/A
LICENCE NO. :N/A
UNIQUE WELL ID. :

PERMANENT DATUM :GL
LOG MEASURED FROM :GL
DRL MEASURED FROM :GL
ELEVATION KB :N/A
ELEVATION DF :N/A
ELEVATION GL :N/A

DATE :04/22/09
DEPTH DRILLER :161.84
BIT SIZE :13.97
LOG TOP :-1.31
LOG BOTTOM :157.89
CASING LOGGER :4.27
CASING DRILLER :4.27
CASING TYPE :STEEL
BOREHOLE FLUID :WATER
RM TEMPERATURE :N/A
MUD RES :N/A
MUD WEIGHT :1.00
WITNESSED BY :
RECORDED BY :T. NEAL
REMARKS 1 :VERTICAL
REMARKS 2 :
RIG NUMBER :
LOGGER TD :
ARRIVAL TIME :
DEPARTURE TIME :
CIRC STOPPED :N/A

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

1:100 GAM-GAMH DH09-04 04/22/09

LOG PARAMETERS

MATRIX DENSITY : 2.65
NEUTRON MATRIX : SANDSTONE
MATRIX DELTA T : 177
MAGNETIC DECL : 19.9
ELECT. CUTOFF : 99999
BIT SIZE : 13.97
PRESENTATION NAME/DATE = 9068 GAMMA-GAMMA.0 10/12/2007
VERSION = 3.64HE

1:100 GAM-GAMH DH09-04 04/22/09

LOG PARAMETERS

MATRIX DENSITY : 2.65
NEUTRON MATRIX : SANDSTONE
MATRIX DELTA T : 177
MAGNETIC DECL : 19.9
ELECT. CUTOFF : 99999
BIT SIZE : 13.97
PRESENTATION NAME/DATE = 9068 GAMMA-GAMMA.0 10/12/2007
VERSION = 3.64HE

TOOL CALIBRATION DH09-04 04/22/09 23:46
TOOL 9068A TM VERSION 1
SERIAL NUMBER 643

	DATE	TIME	SENSOR	STANDARD		RESPONSE	
1	Jun28,04	18:14:02	GAMMA	3.000	[API-GR]	1.000	[CPS]
	Jun28,04	18:14:02	GAMMA	265.000	[API-GR]	81.000	[CPS]

Century WIRELINE SERVICES

GAM-GAMH
SLIM TOOL
DH09-04

OTHER SERVICES:
NEUTRON

COMPANY :TREFI COAL CORP.
WELL :DH09-04
FIELD :UPPER HIGHHAT
COUNTRY :CANADA
PROVINCE :BRITISH COLUMBIA
LOCATION :UPPER HIGHHAT
SECTION :N/A
TOWNSHIP :N/A
RANGE :N/A
LICENCE NO. :N/A
UNIQUE WELL ID. :

PERMANENT DATUM :GL
LOG MEASURED FROM :GL
DRL MEASURED FROM :GL

ELEVATION KB :N/A
ELEVATION DF :N/A
ELEVATION GL :N/A

DATE :04/22/09
DEPTH DRILLER :161.84
BIT SIZE :13.97
LOG TOP :-1.31
LOG BOTTOM :157.89
CASING LOGGER :4.27
CASING DRILLER :4.27
CASING TYPE :STEEL
BOREHOLE FLUID :WATER
RM TEMPERATURE :N/A
MUD RES :N/A
MUD WEIGHT :1.00
WITNESSED BY :
RECORDED BY :T. NEAL
REMARKS 1 :VERTICAL
REMARKS 2 :

RIG NUMBER :
LOGGER TD :
ARRIVAL TIME :
DEPARTURE TIME :
CIRC STOPPED :N/A

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

1:100 GAM-GAMH DH09-04 04/22/09

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177
MAGNETIC DECL : 19.9	ELECT. CUTOFF : 99999	BIT SIZE : 13.97
PRESENTATION NAME/DATE = 9068 GAMMA-GAMMA.0 10/12/2007		VERSION = 3.64HE

1:100 GAM-GAMH DH09-04 04/22/09

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177
MAGNETIC DECL : 19.9	ELECT. CUTOFF : 99999	BIT SIZE : 13.97
PRESENTATION NAME/DATE = 9068 GAMMA-GAMMA.0 10/12/2007		VERSION = 3.64HE

TOOL CALIBRATION DH09-04 04/22/09 23:46
TOOL 9068A TM VERSION 1
SERIAL NUMBER 643

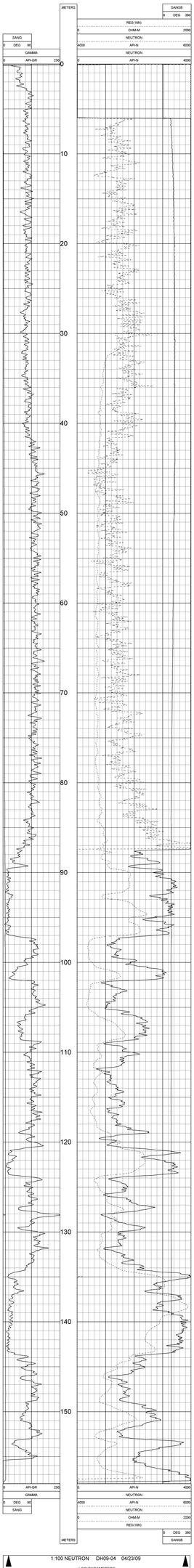
	DATE	TIME	SENSOR	STANDARD		RESPONSE	
1	Jun28,04	18:14:02	GAMMA	3.000	[API-GR]	1.000	[CPS]
	Jun28,04	18:14:02	GAMMA	265.000	[API-GR]	81.000	[CPS]

Company	Century Geophysical Corporation		
Well	GAMMA - NEUTRON DH09-04		
Field			
County			
State			
Other Services			
Permanent Datum		Elevation	
Log Measured From			
Drilling Measured From			
Date	04/23/09		
Run Number	ONE		
Depth-Driller	150		
Depth-Logger	150		
Bottom Logged Interval	150		
Top Log Interval	0		
Casing-Driller			
Casing-Logger			
Bit Size	6 1/2		
Type Fluid in Hole	DRY		
Dens. / Visc.			
PH / Fluid Loss			
Source of Sample			
Rm @ Meas. Temp.			
Rmf @ Meas. Temp.			
Rmc @ Meas. Temp.			
Source: Rmf / Rmc			
Rm @ BHT			
Time Since Circulation			
Time Since Logging			
Max. Rec. Temp.			
Equipment Location			
Recorded By			
Witnessed By			

1:100 NEUTRON DH09-04 04/23/09

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177	
MAGNETIC DECL : 16.9	ELECT CUTOFF : 99999	BIT SIZE : 13.97	
PRESENTATION NAMEDATE =	BOTA D : 02/04/2008	VERSION = 3.64-E	



1:100 NEUTRON DH09-04 04/23/09

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 177	
MAGNETIC DECL : 16.9	ELECT CUTOFF : 99999	BIT SIZE : 13.97	
PRESENTATION NAMEDATE =	BOTA D : 02/04/2008	VERSION = 3.64-E	

TOOL CALIBRATION: DH09-04 04/23/09 03:52
TOOL NAME: 2021 SERIES VERSION 2021
SERIAL NUMBER: 4416

	DATE	TIME	SENSOR	STANDARD		RESPONSE
1	Mar22,09	17:50:57	GAMMA	0.000	[API-GR]	20.000 [CPS]
2	Mar22,09	17:50:57	GAMMA	250.000	[API-GR]	278.000 [CPS]
3	Mar22,09	17:51:32	VOLTAGE	20.400	[MV]	19750.000 [CPS]
4	Mar22,09	17:51:32	VOLTAGE	22.800	[MV]	30792.000 [CPS]
5	Mar22,09	17:52:18	CALPER	12.000	[CM]	143340.000 [CPS]
6	Mar22,09	17:52:18	CALPER	21.000	[CM]	423662.000 [CPS]
7	Mar22,09	17:53:03	DEN(LS)	1.000	[G/CC]	26210.000 [CPS]
8	Mar22,09	17:53:03	DEN(LS)	2.000	[G/CC]	63000.000 [CPS]
9	Mar22,09	17:52:33	DEN(SS)	1.000	[G/CC]	51170.000 [CPS]
10	Mar22,09	17:52:33	DEN(SS)	2.323	[G/CC]	16080.000 [CPS]
11	Apr01,09	11:47:49	CALPER	7.625	[CM]	168950.000 [CPS]
12	Apr01,09	11:47:49	CALPER	20.000	[CM]	238806.000 [CPS]
13	Mar22,09	17:55:23	CURRE	20.000	[MA]	2000.000 [CPS]
14	Mar22,09	17:55:23	CURRE	22.800	[MA]	2288.000 [CPS]