

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

HAT CREEK PROJECT  
PRELIMINARY GEOLOGICAL REPORT  
NO. 2 DEPOSIT

MINING DEPARTMENT  
HAT CREEK THERMAL PROJECTS GROUP

604H-11091

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GEOLOGICAL REPORT  
NO. 2 DEPOSIT

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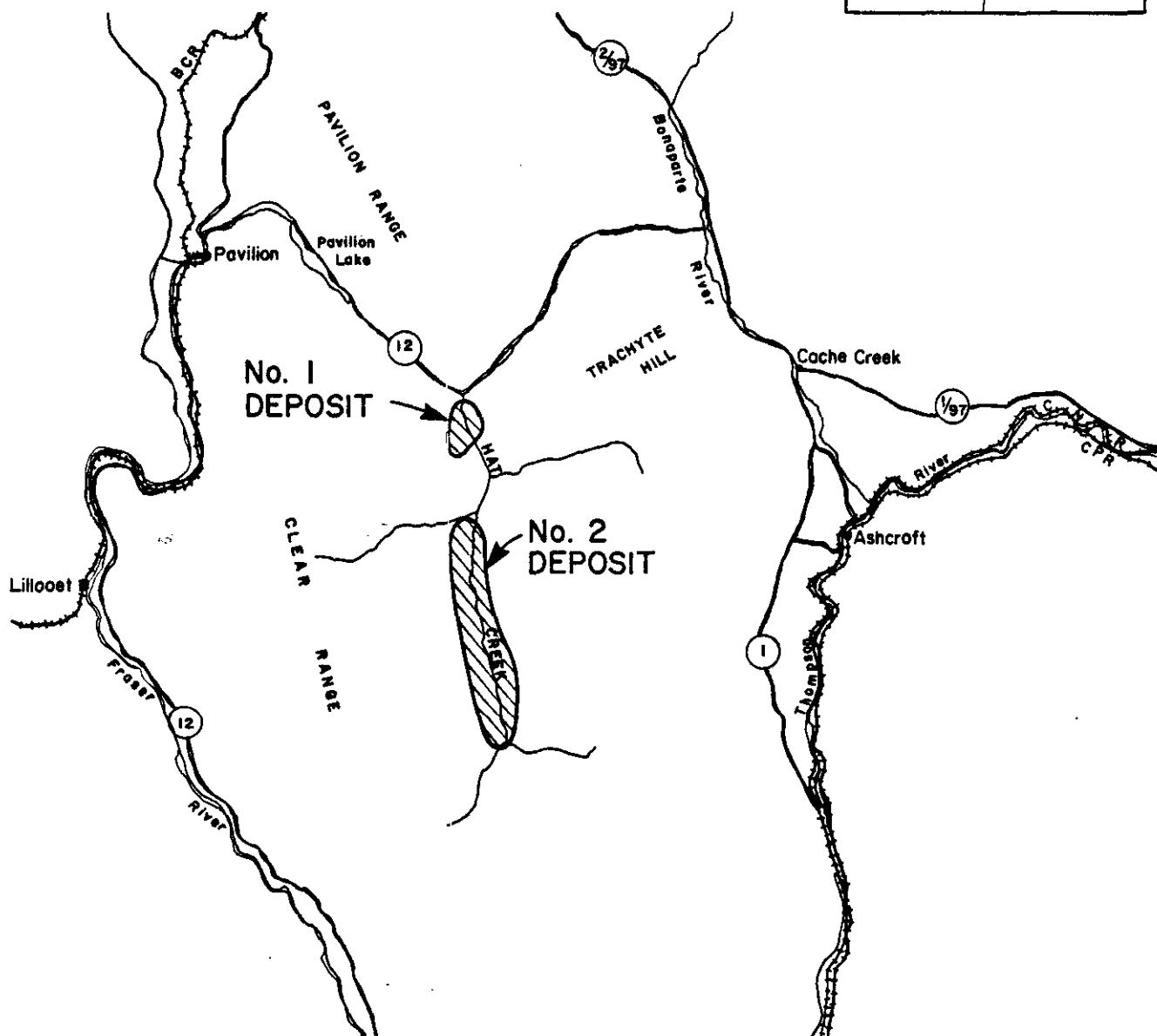
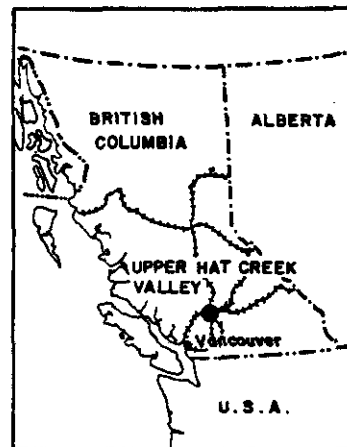
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5 0 5 10 15 20  
SCALE IN KILOMETRES

BRITISH COLUMBIA HYDRO & POWER AUTHORITY

THERMAL DIVISION · MINING DEPARTMENT  
HAT CREEK PROJECT · No. 1 DEPOSIT

## LOCATION PLAN

SEPTEMBER 1979

PLATE 1

## 1.0 INTRODUCTION

Hat Creek No. 2 Deposit lies to the southeast of No. 1 Deposit (Plate 1). The coal licences held by British Columbia Hydro and Power Authority are consolidated into three groups (Plate 2). Coal-bearing formation is confined within a narrow elongated horst faulted anticline 7.5 km long north-south and 3.6 km wide east-west. This report reviews and updates the information on the geology, geophysics, coal quality and reserves in the Hat Creek Coal No. 2 Deposit.

Data from 64 holes (not including abandoned holes) aggregating 21,799.9 m drilled during the 1975-1976 exploration program which included downhole geophysics, surface geophysics, and chemical analyses of the coal cores were studied in detail (Appendix I).

The structural interpretation and reserve estimates are confined to the coal above 400 m elevation which is the maximum depth penetrated by the boreholes: none of the boreholes are known to have intersected the stratigraphic base of Hat Creek Coal Formation.

The geophysical parameters established for the No. 1 Deposit (API vs Ash-Range) has been slightly modified to fit No. 2 Deposit. Any anomaly in the logs has been verified by actual core examination.

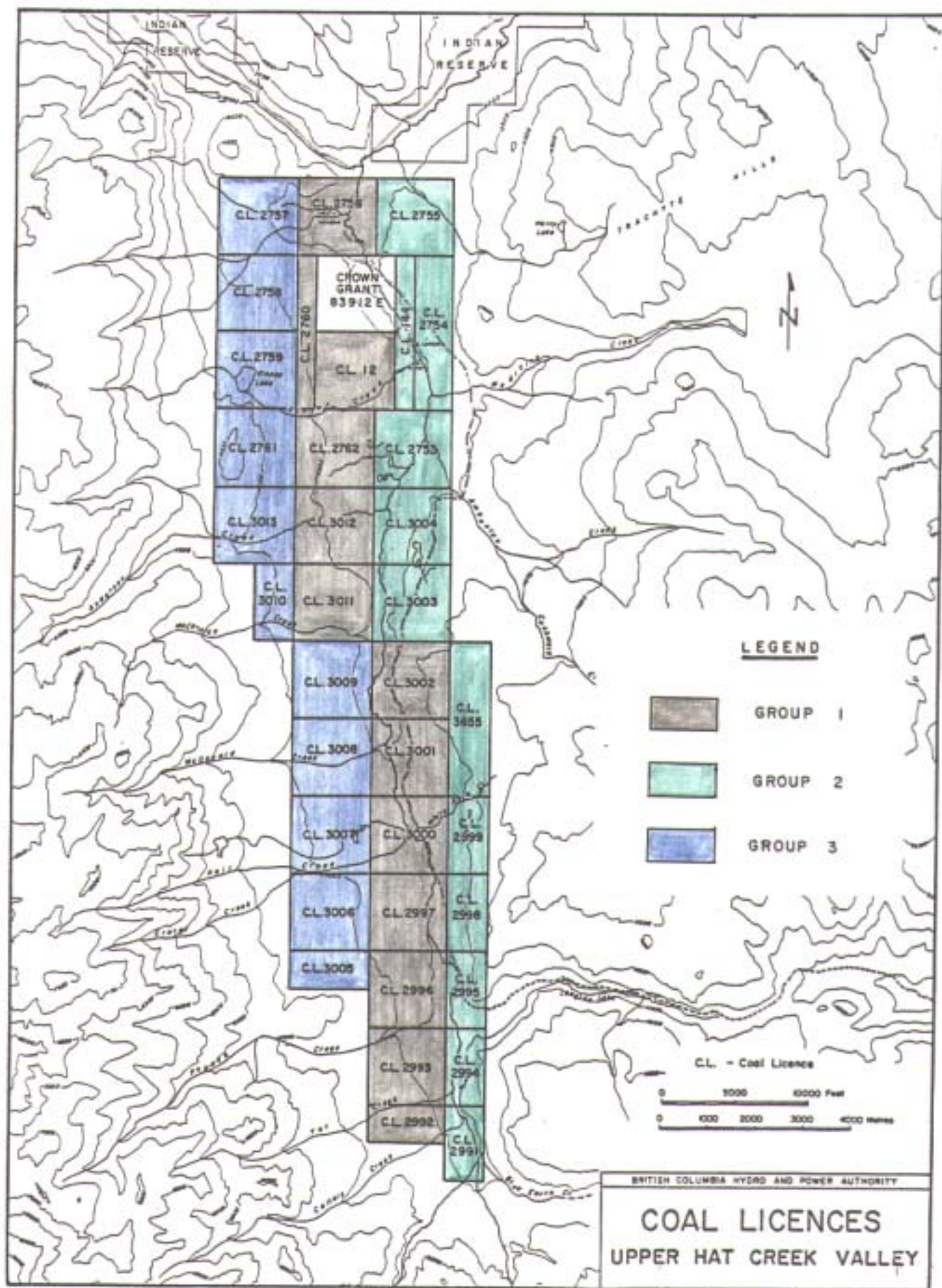
The geological in place reserve of possible category has been estimated as in excess of 4.5 billion tons. An allowance of 25% has been made for waste in the sections.

Applying the same criterion as in No. 1 Deposit: material greater than 60% ash is classified as waste; the quality of the coal appears slightly lower than in No. 1 Deposit based on the limited data currently available.

## 2.0 EXPLORATION

### 2.1 Drilling

In the early phases of drilling in 1975-1976, most sites were selected on their easy accessibility.



In later phases of the program anomalies indicated by gravity surveys which differentiates between the low density coal and high density sandstone, claystone, limestone etc., were drilled. There was no set pattern nor drilling grid for this program as it was more of a wildcat nature. Appendix II shows the location and depth of the holes.

## 2.2 Sampling

For normal proximate and heating value determination sampling was done on intervals varying from 1.5 m to 15 m. Ultimates, ash mineral analysis, ash fusibility in oxidizing and reducing atmospheres were conducted on composite samples from three or more intervals - varying from 15 m to 60 m.

## 2.3 Geophysical Logging

All drill holes in No. 2 Deposit have been geophysically logged, except those which were abandoned due to severe squeezing or caving. The types of logs used were gamma ray and bulk density.

### Application of Downhole Geophysics

Through the evaluation of the downhole geophysics along with the descriptive geological logs, the various lithologic intervals intersected by drill holes were classified into various categories for identification and correlation purposes (Plate 11).

Table 1

### Lithologic Classification for Geological Correlation

<u>Category</u>	<u>Formation</u>	<u>Description</u>
W1	Hat Creek Formation	Carbonaceous to coaly claystone or shale.
W2	"	Claystone, siltstone.
W3	"	Sandstone, conglomerate.
W4	"	Petrified wood.
W5	"	Ironstone, siderite.
W6	"	Carbonate, marl.
W7	"	Ash.

Table 1 (Cont'd)

W8	Medicine Creek Formation	Siltstone, claystone.
W9	Coldwater Formation	Siltstone, sandstone, claystone, conglomerate.
W10	Finney Lake Formation	Lahar, sandstone, conglomerate.
W11	Kamloops Volcanics	Rhyolite, dacite, andesite, basalt and equivalent pyroclastics.
W12	Spences Bridge Group	Andesite, dacite, basalt, rhyolite, tuff breccias, agglomerate.
W13	Hat Creek Formation	Burned zone.
C1	"	Coal $\geq 18.0$ MJ/kg ( $\leq 23.2$ API and $\leq 1.47$ gram/cc on gamma and density logs.)
C2	"	Coal 18.0 - 9.3 MJ/kg (23.2 - 38 API and 1.47 - 1.62 gram/cc on gamma and density logs.)

## 2.4 Geophysical Survey:

### Magnetometer Survey

B. C. Department of Mines and Petroleum Resources in conjunction with the Geological Survey of Canada had issued maps of airborne magnetometer surveys covering the area (maps N.T.S. 92I/11, 12, 13 and 14). As this area was flown in two separate years, November 1966 and May 1968, one using fixed-wing and the other helicopter, and also as they measured relative and absolute values for the gravity, the two sectors were not compatible. However, each can be interpreted and evaluated individually.

The magnetic field strength does not appear to vary significantly from ground level to an elevation of 1000 feet above. This indicates that the magnetic source is very deep - probably to the depth of the Cache Creek Metavolcanics Group.

The 1975 Ground Magnetometer Survey was directed towards:

- 1) mapping the Tertiary volcanic units,
- 2) determining the depth of the basin and nature of deep geological structure.



This survey also outlined the volcanics, burnt outcrops (subcrops) and the regional tectonics.

### Gravity Survey

Gravity Survey has been the most effective tool in outlining the limits of the coal basin. In 1974, the first attempt at interpreting the Bouguer Gravity anomaly was not successful essentially due to insufficient data and not being able to evaluate the effect of underlying high density material. When more data and proper mathematical treatment, the gravity survey carried out during May-December 1975 yielded recognizable contrasts assisting in exploration program.

C. A. Ager & Associates undertook this gravity survey over No. 2 Deposit. The east-west lines were 4000' - 5000' apart, the station intervals were 200 feet. The calculated gravity anomaly shows the highest contrast ever recorded. Exploration drill holes located using the results of the gravity survey had a very high success ratio in intersecting coal horizons.

## 3.0 REGIONAL GEOLOGY

### 3.1 Stratigraphy

The stratigraphic sequence shown in Table 2 covers a span of over 200 million years of sedimentation processes and igneous activities in the vicinity of the Upper Hat Creek Valley.

The lowest stratigraphic unit is the Paleozoic Cache Creek Group, which has been divided into greenstone and the limestone of the Marble Canyon Formation. The limestone was intruded by the Mount Martley stock of Jurassic or Cretaceous age which is composed of granodiorite and tonalite coeval with the Lytton Batholith. The stock is unconformably overlain by the Spence Bridge Group of the Lower Cretaceous Period consisting mainly of andesite and basalt. The Kamloops Group of the Eocene Epoch unconformably overlies the Spences Bridge Group. Deposition of this unit began with volcanic eruptions of lavas and pyroclastics of rhyolite, dacite and basalt. The volcanic pile

is overlain by clastic rocks composed mainly of conglomerate, sandstone and siltstone of the Coldwater Formation. Lying conformably over the Coldwater Formation is the coal-bearing Hat Creek Coal Formation at least 550 m thick.

The Hat Creek Coal Formation is overlain in apparent paraconformity by the Medicine Creek Formation, which is made up of monotonous lacustrine sediments of over 550 m true thickness. The Finney Lake Formation represents the uppermost stratigraphic unit of the Kamloops Group and consists of sandstone and conglomerate beds at the base and lahar beds higher in the stratigraphic section. Generally, the sedimentary rocks derived from the underlying igneous, sedimentary and metamorphic assemblages have been semi-indurated.

The youngest volcanic rocks in the area are olivine basalt, basalt, vesicular basalt, andesite (locally) and the equivalent pyroclastics all of the Miocene Epoch. A flow or dyke of these rocks occurs in the headwall of the active slide northwest of the No. 1 Deposit.

During the Pleistocene Epoch the entire Hat Creek area, along with much of the Interior Plateau, underwent extensive glaciation. This resulted in the deposition of glacial and glacio-fluvial sediments, ranging in thickness from a few metres to 200 m.

### 3.2 Structure

The Hat Creek Coal Basin lies in a north-trending topographic depression within the southwest part of the Intermontane Basin of the Canadian Cordillera. The Fraser River separates the Intermontane Belt from the Coast Plutonic Complex. During the Eocene Epoch, non-marine, synorogenic and syn-tectonic clastic sediments were deposited, preceded and possibly succeeded by the accumulation of sub-aerial volcanic rocks. Mid-Tertiary erosional activities resulted in widespread areas with low relief. The main physiographic features of the Fraser and Thompson River drainage systems were well established at this time.

Table 2

REGIONAL STRATIGRAPHY - HAT CREEK COAL BASIN

Period	Epoch	Million Years	Formation or Group	Thickness (m)	Rock Types	
Quaternary	Recent			Not Determined	Alluvium, Colluvium, fluvial sands and gravels, slide debris, lacustrine sediments.	
	Pleistocene	1.5 - 2			Glacial till, glacio-lacustrine silt, glacio-fluvial sands and gravels, land slides.	
Unconformity						
Tertiary	Miocene	7 - 26	Plateau Basalts	Not Determined	Basalt, olivine basalt (13.2 m.y.), andesite, vesicular basalt.	
	Unconformity (?)					
	Miocene or Middle Eocene ?		Kamloops Group	Finney Lake Formation	Not Determined	Lahar, sandstone, conglomerate.
	Unconformity					
	Late Eocene			Medicine Creek Formation	600+	Bentonitic claystone and siltstone.
	Paraconformity					
	Late Eocene to Middle Eocene	* 36 - 42		Hat Creek Coal Formation	550	Mainly coal with intercalated siltstone, claystone, sandstone and conglomerate.
				Coldwater Formation	375	Siltstone, claystone, sandstone, conglomerate, minor coal.
	Fault Contact or Nonconformity					
	Middle Eocene	43.6-49.9			Not Determined	Rhyolite, dacite, andesite, basalt and equivalent pyroclastics.
Unconformity (McKay 1925; Duffell & McTaggart 1952)						
Cretaceous or Later	Coniacian to Aptian **	88.3±3 m.y.	Spences Bridge Group	Not Determined	Andesite, dacite, basalt, rhyolite; tuff breccias, agglomerate.	
	Erosional Unconformity (Duffell & McTaggart 1952)					
		98	Mount Martley Stock	Not Determined	Granodiorite, tonallite.	
Intrusive Contact (Duffell & McTaggart 1952)						
Pennsylvanian to Permian or earlier		250-330	Cache Creek Group:	Not Determined	Marble, limestone, argillite	
			Marble Canyon Formation Greenstone		Not Determined	Greenstone, chert, argillite; minor limestone and quartzite, chlorite schist, quartz-mica, schist.

\* Based on palynology by Rouse 1977

\*\* Based on plant fossils by Duffell & McTaggart 1952.

The Tertiary coal basin in the Hat Creek Valley is a graben, flanked on either side by gravity faults. This interpretation of the structure is based on the regional tectonic trend and the available geological records.

This graben is formed principally by downward movement on a series of tensional faults approximately north-south trending. Transverse faults trending north-west have locally offset the graben.

#### 4.0 LOCAL GEOLOGY

##### 4.1 Bedrock Geology

The bedrock geologic map (Plate 3) is based on the geophysical surveys and geologic mapping undertaken by the Generation Planning Dept. in 1975-1976. This map forms the basis of the current review till such time as it is revised or confirmed by our own fieldwork.

The Tertiary sediments including Coldwater Formation, Hat Creek Coal Formation, Medicine Creek Formation and Finney Lake Formation occupy the central section of the Hat Creek Valley. These Formations are bordered on the east by the Marble Canyon Formation, Permian or earlier in age, and in the west by the Kamloops Volcanic rocks of Early Tertiary age and/or the Spences Bridge Group volcanic rocks of Cretaceous age.

The eastern contacts are faulted while the western contacts could be either faulted and/or unconformable, as seen in Plate 4.

The top of bedrock contour (Plate 5) shows the near surface exposure of coal in the central and northern part of the deposit.

##### 4.2 Lithofacies Change on Stratigraphic Profile

A stratigraphic correlation over the entire area of the No. 2 Deposit is not possible at this time due to the low drilling density and only partial intersection of the coal measures in the holes. A rapid facie change from

main coal facies to the silty and coarser detrital facies is evident in traversing from east to west across the deposit. This conclusion is confirmed by the drilling results from the following holes in the western sector of the deposit:

Hole 82 on Section 5,619,220 N;

Intersected 90 m of detrital rocks, but the same stratigraphic position in Hole 77, about 300 m to the east of this hole shows no detritals.

Hole 109 on Section 5,618,470 N:

The 28 m of detrital rocks, lying 281 m below the base of Medicine Creek Formation thins out and is replaced by coal in Hole 102, about 650 m to the east.

Hole 81 on Section 5,617,870:

Numerous silty to sandy bands up to 15 m which in this hole disappear in Hole 88, about 230 m to the northeast.

Hole 68 on Section 5,617,120:

This hole intersected 27 m of sandstone and conglomerate beginning at 340 m below the base of Medicine Creek Formation. Hole 115 about 330 m east of the above hole shows no significant detrital rocks except 10 m of silty sandstone bed.

#### 4.3 Structure

On the basis of the structural contour map for the top of coal (Plate 4) the basic structure of the No. 2 Deposit appears to be an anticlinal horst, of which the east limb is truncated by the boundary fault, bringing the Medicine Creek Formation and Hat Creek Coal Formation in juxtaposition with the Marble Canyon Formation of Permian Period. This boundary fault has been mapped by B. N. Church and P. T. McCullough.

However, the western fault system (Plate 3) is not fully confirmed. It is critical to define the location and disposition of the coal sequence in this fault system as it affects the coal reserves, mine planning and slope stability aspects.

The NW-SE trending axis of the anticline makes an angle of  $10^{\circ}$  with the true north. This angle varies towards the south. The western limb dips at  $40^{\circ}$  towards west, the eastern limb is slightly steeper. At the north end, the fold plunges steeply to the north (Plate 6, 7 and 8).

Aside from the major eastern boundary fault, at least two normal faults may be inferred in the eastern sector of the deposit, based on the fact that Medicine Creek Formation appears at the projected Hat Creek Coal Formation horizon. These faults are based on the borehole data of the following sections:

Hole 63 on Section 5,619,220

87 on Section 5,616,370

104 on Section 5,616,070

103 on Section 5,615,620

Abrupt changes in coal roof elevation in Holes 101, 96, 98, 79 and 100 in the southern sector suggests an east-west trending normal fault between Section 5,615,500 N and 5,614,500 N.

## 5.0 QUALITY

All of the data pertaining to No. 2 Deposit is based on core analyses. The directives given by Dolmage Campbell & Associates were to conduct proximate, Sulphur and thermal value determination on all uniform-appearing samples. These intervals varied in length from 1.5 to 17.7 metres.

However, ultimate, ash-mineral analysis, 8-pt. ash fusion temperature, Hardgrove Grindability indices, proximate, thermal value determinations and form sulphur were conducted on composite samples which varied from 15 m to 60 m in length.

In determining the sample intervals, visual examination of the core was probably the only controlling factor. The geophysical logs were available only at the completion of the hole, by which time the core was already split. Thus, the analyses presented here appear to contain bands of low grade coal or waste which could be eliminated when mining.

At times two or more samples were composited for analyses eliminating the intervening parting. In reporting, all the components were assigned the common value.

An estimate of ash content, and hence the heating value, can be made by evaluating the geophysical responses. Hole 75-81 has been geophysically reevaluated to reflect the change in quality by assigning the estimated values (Table 3).

It is recommended that all holes in No. 2 Deposit be reevaluated, and average quality of the deposit be established.

The proximate, ultimate and mineral analyses of ash fusibility and grindability is presented in Appendix III A.

The statistical summaries for the proximate heating value, ultimate and ash analyses is shown in Appendix III B. Only those samples on which all the tests were done has been summarized.

It is of interest to note that the ash-heating value regression (Appendix III C.) for the No. 2 Deposit (for ash < 60% ash (db) ) is:

$$Y = 84.5909 - 0.00282283.X$$

$$X = 29966.7 - 354.254.Y$$

Where Y = % of ash (db)

X = thermal value in kJ/kg

This equation is remarkably similar to the one established for No. 1 Deposit:

TABLE 3

## REEVALUATION OF THE ANALYTICAL DATA OF BOREHOLE 75-81

					Average Grade and Coal, Waste Ratio*								
Interval In Meters		Interval Length In Meters	Lab Samples Used		From Lab Samples			From Geophysically Adjusted Data			% Change From Lab Samples To Adjusted Samples		
					Grade In kJ/kg	Length of Coal in m	Length of Waste in m	Grade In kJ/kg	Length of Coal in m	Length of Waste in m	Grade	Length of Coal	Length of Waste
From	To		From	To									
26.2	104.8	78.6	1	12	15,198	78.6	0	18,120	62.0	16.6	+19.2%	-21.1%	-
104.8	199.9	95.1	13	24	16,024	79.8	15.3	17,339	76.6	18.5	+8.2%	-4.0%	20.9%
199.9	303.8	103.9	25	36	13,481	81.3	22.6	14,698	73.1	30.8	+9.0%	-10.1%	36.3%
303.8	401.7	97.9	37	44	16,193	71.7	26.2	17,824	63.7	34.2	+10.1%	-11.2%	30.5%
401.7	502.9	101.2	45	57	14,019	64.6	36.6	15,539	60.4	40.8	+10.8%	-6.5%	11.5%
502.9	560.2	57.3	58	67	11,056	25.4	31.9	15,297	16.5	40.8	+38.4%	-35.0%	27.9%
26.2	560.2	534.0	1	67	14,740	401.4	132.6	16,612	352.3	181.7	+12.7%	-12.2%	+37.0%

\*Based on selective mining, minimum 1 m parting and 9300 kJ/kg (db) cutoff grade.



$$Y = 86.6254 - 0.00292962.X$$

$$X = 29568.8 - 341.341.Y$$

This similarity indicates that the two coal deposits may have a common organic source and have undergone approximately the same degree of metamorphism in spite of the fact that No. 2 Deposit coal lies under a deeper overburden. The shallower depth of No. 1 Deposit may have resulted from erosion or extensive glaciation after coalification and metamorphism have ceased. Palynological studies also indicate the same age of the formations in the two deposits. These are reflected by the ash vs heating value regression analysis (Appendix III D.).

## 6.0 RESERVES

The reserve for No. 2 Deposit was calculated by the section method, extending each section halfway to the next section north and south. Slices 100 m thick between 1100 m and 400 m elevation were treated individually (Table 4).

Due to lack of sufficient density of holes, roughly 25% of the total volume was assigned to waste with specific gravity 2, while coal formed 75% of the volume at 1.5 specific gravity. This is based on average coal-waste ratio of the holes.

Table 4  
Reserve Estimates

<u>Depth Meters</u>	<u>Coal Tonnes x 10<sup>6</sup></u>	<u>Waste Tonnes x 10<sup>6</sup></u>
1100-1000	60	27
1000- 900	280	124
900- 800	489	217
800- 700	731	325
700- 600	900	400
600- 500	1024	455
500- 400	1080	480
Total	4564	2028

The computer model method which was used for No. 1 Deposit could not be applied to No. 2 Deposit because of insufficient data points and imprecise nature of structural geometry.

The limits of the deposits have not been established by drilling: they have been projected by surface geophysical surveys and by "top of coal" structure contours. The location and disposition of the faults and other tectonic elements, have not been fully established to permit a more precise determination of reserves.

For purpose of this study the reserves are confined within 5,613,000 N and 5,620,500 N. The eastern and western limits are the projected structures extended to 400 m elevation. As such, these reserve estimates should be considered as only preliminary.

## 7.0 RECOMMENDATION

The current level of information for No. 2 Deposit is too scanty for a complete geological evaluation. None of the holes penetrated the entire coal sequence - nor are the coal deposit limits established with any certainty. Due to lack of this knowledge neither stratigraphical correlation nor the quality and reserves estimation can be done with confidence.

To meet these basic requirements the following stages of exploration work are recommended:

### Stage I

#### Objective:

1. To define the limits of the coal deposits.
2. To outline the local structure and identify major tectonic elements within the sectional lines.
3. To recognize the sedimentary, volcanic and burnt coal formations.

## Geophysical Surveys

### Gravity Survey:

The geophysical work conducted in the past proved to be very useful in defining coal and no-coal zone. The distance between these sections varied between 1200 m - 1500 m (Plate 9). This should be reduced to at least 500 m. The spacing between stations should be between 50 - 75 m depending on the variation between their readings.

A proposal for carrying out this work has been submitted by C.A. Ager & Associates. About 2500 stations are estimated for this survey.

### Magnetic Survey:

Airborne proton precession magnetometer survey to  $\pm 1$  gamma sensitivity to be flown over the coal-bearing area to define the faults disposition, burnt outcrop and volcanics more precisely.

This work can be integrated with the gravity survey and the airborne magnetic survey data obtained earlier by the B. C. Department of Mines and the Geological Survey of Canada and ground magnetic survey conducted by B. C. Hydro in 1975 (Plate 10).

## Evaluation of Technological Characteristics & Utilization

Standard proximate analyses and fusibility - grindability study are not sufficient for evaluating technological characteristics of coal. A gas-chromatography and petrographical study with combustion related studies are essential for establishing the technological characteristics. A proposal for this work has been discussed with U.B.C., Department of Metallurgy (Dr. A. C. Chaklader) who had studied Hat Creek coal before.

### Stage II

#### Objective:

1. To establish the thickness and variation of the coal-bearing horizon.

2. To confirm the major and minor tectonic in the deposit.
3. To permit planning of a detailed exploration program.

#### Drilling, Logging & Sampling:

A total of 14,520 m is proposed of which 8,840 m is of higher priority and 5,680 m of lower priority. The coordinates and objective of each of the holes is listed in Table 5. The location and drilling depth required for intersecting the bottom of the Hat Creek Formation is shown in Plate 12.

#### Geophysical and Geological Logging:

All boreholes drilled will be geophysically logged for gamma and bulk density to the scale of 1:250.

Geological logging will be assisted by geophysical logs confirming the contact between coal and various lithologies.

Coal sampling intervals will depend on their lithologic uniformity and be confirmed by geophysical logs. The maximum length will be maintained at 6 m, as in the case of No. 1 Deposit.

Proximate analyses, heating value determinations and sulphur will be run on all samples containing less than 60% ash.

Larger composites combining three or more intervals are prepared for fusibility grindability and other special tests.

#### Stage III

##### Detailed Exploration:

##### Objective:

1. To establish major and minor structure affecting mining.

TABLE 5

DRILLING PROPOSAL IN NO. 2 DEPOSITFirst Priority:

Layout Nos.	Coordinates		Inclination	Azimuth	Proposed Depth (m)	Objective
	Northing	Easting				
A	5,618,170	599,130	90°	0	500	To establish stratigraphy and correlation with borehole Nos. 109, 81, 88.
B	5,618,370	599,580	90°	0	600	To establish stratigraphy in the central sector of No. 2
C	5,616,370	599,815	65°	090°	600	To locate position of fault west of graben (east).
D	5,619,220	598,380	90°	0	880	To establish stratigraphy and to determine west boundary fault.
E	5,616,370	598,980	90°	0	1,030	To delimit coal and to determine west boundary fault in the central west.
F	5,619,220	599,280	90°	0	1,200	Same as C on the NE sector.
G	5,614,120	600,180	90°	0	930	To establish stratigraphy & structure in the southern sector.
H	5,614,120	599,580	90°	0	1,000	Same as the above in the southwestern sector.
I	5,620,120	598,230	90°	0	950	To establish stratigraphy & to determine the northern limit of the coal deposit.
J	5,619,670	597,930	90°	0	1,150	To determine the northwestern limit of the deposit.

Subtotal 8,840 m for 10 holes.

Second Priority:

Layout Nos.	Coordinates		Inclination	Azimuth	Proposed Depth (m)	Objective
	Northing	Easting				
K	5,616,020	599,130	90°	0	1,100	To determine west boundary fault in the southwestern sector.
L	5,617,720	598,530	90°	0	1,150	Same as above in the central west sector.
M	5,618,170	598,680	90°	0	1,000	To establish stratigraphy and to correlate with "A".
N	5,618,170	599,430	90°	0	850	Same as M in the eastern sector.
P	5,617,420	599,130	90°	0	780	To establish stratigraphy in the gap between Boreholes L&E.
Q	5,615,920	599,580	90°	0	800	To establish stratigraphy & structure between Borehole No. 60 & results of "B".

Subtotal 5,680 m for 6 holes.

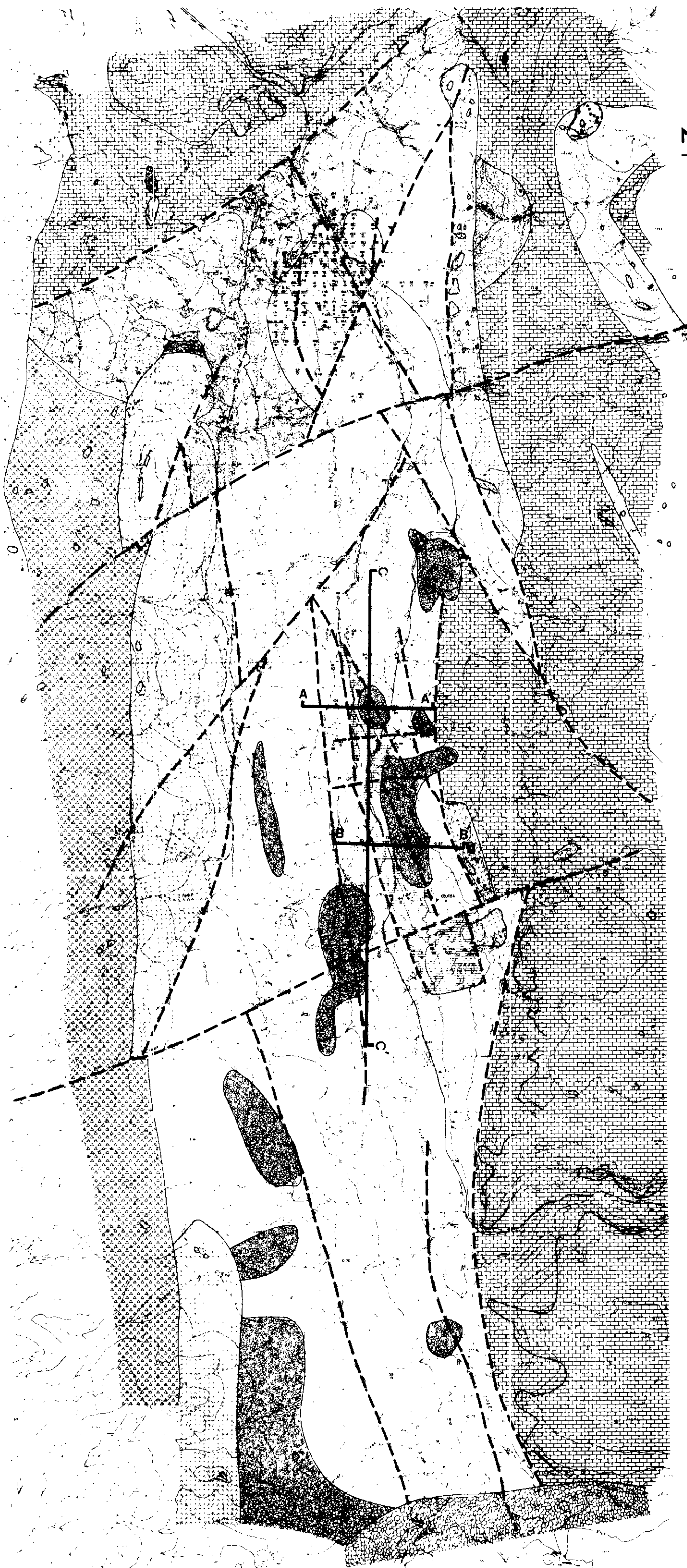
Proposed Total Drilling 14,520 m for 16 holes.

2. To study the detailed structure of the coal seam and establish mining grade and reserves.
3. To compile adequate data for mine planning.

The drill hole spacing will be determined as the program proceeds based on the complexity of the structure and the continuity of coal quality.

#### REFERENCES

- Ager, C. A., January 1976, "Hat Creek Basin Gravity Survey", C. A. Ager and Associates Ltd.
- Ager, C. A., April 1980, Letter to B. Dutt proposing possible Gravity and Magnetic Surveys over the No. 2 Deposit, B. C. Hydro File.
- ASTM, 1974, "Gaseous Fuels, Coal and Coke.", Annual Book of ASTM Standards, Pt. 26, Philadelphia, Pa. 328 p.
- B. C. Hydro Report, 1979, "Geological Report, No. 1 Deposit", Mining Dept., Thermal Division.
- Campbell, D. D., Jory, L. T. and Saunders, C. R., 1977, "Geology of the Hat Creek Coal Deposits.", CIMM Bulletin Vol. 70, No. 782, pp. 99-108.
- Chaklader, A. C. D., April 1980, Letter to J. J. Fitzpatrick discussing the gasification of Hat Creek No. 2 Deposit Coal, B. C. Hydro File.
- Church, B. N., 1977, "Geology of the Hat Creek Coal Basin." In "Geology in British Columbia.", B. C. Ministry of Mines Publication.
- Dolmage Campbell & Associates Ltd., 1977, "Progress Report No. 1, No. 2 Coal Deposit Hat Creek Project."
- Hoy, T., 1975, "Geology of a Tertiary Sedimentary Basin NE of Hat Creek." Summary of Field Activities, B. C. Dept. of Mines, pp. 109-115.
- Kim, H., 1979, "Depositional Environment and Stratigraphic Subdivision of the Hat Creek No. 1 Deposit", CIMM paper, B. C. Hydro Mining Department.
- McCullough, P. T., 1975, "Hat Creek Magnetometer Survey." B. C. Hydro.
- PD-NCB, London, 1976, "Preliminary Report on Hat Creek Open Pit No. 2" B.C. Hydro File (604H-M6).

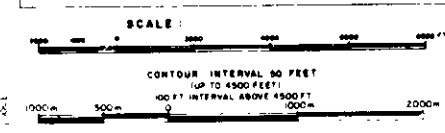


A A' SECTION LINE

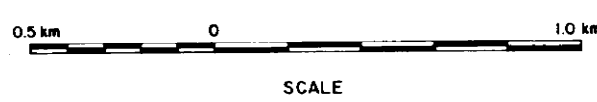
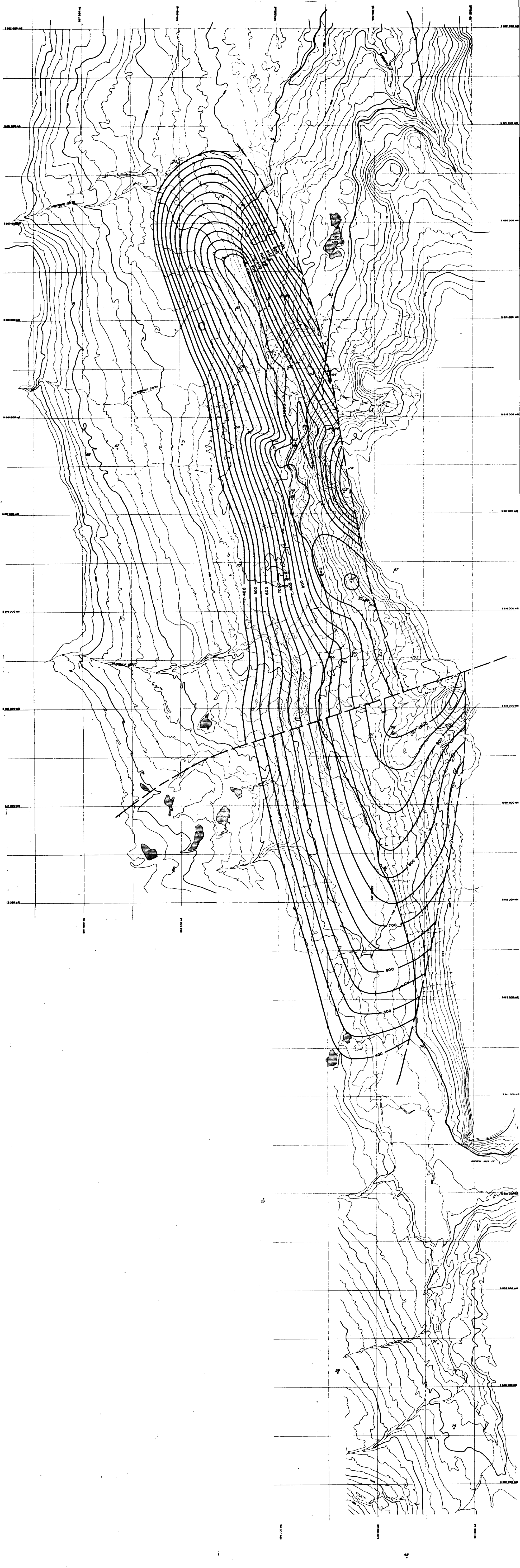
LEGEND

- TERTIARY
- MIocene
  - OLIVINE BASALT
- MIocene OR Eocene
  - LAKAR
- Eocene
  - KAMLOOPS GROUP: MEDICINE CREEK FORMATION, SILTSTONE, CLAYSTONE
  - HAT CREEK COAL FORMATION: COAL (NEAR SURFACE)
  - COLDWATER BEDS: SANDSTONE, SILTSTONE, CONGLOMERATE, MINOR SHALE AND CLAYSTONE
  - DACITE, VESICULAR BASALT, RHYOLITE, ANDESITE
- CRETACEOUS AND LATER
  - UNDIFFERENTIATED VOLCANIC ROCKS
- CRETACEOUS
  - SPENCES BRIDGE GROUP: ANDESITE, RHYOLITE, BASALT, DACITE
  - MOUNT MARTLEY STOCK: GRANODIORITE
- PERMAIN AND EARLIER
  - CACHE CREEK GROUP: MARBLE CANYON FORMATION, LIMESTONE
  - GREENSTONE
- OUTCROPS
- CONTACTS (APPROXIMATE)
- FAULTS AND LINEAMENTS (TOPOGRAPHIC AND GEOPHYSICAL)
- MAIN ROAD
- SECONDARY ROAD
- LAKE
- CREEK

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY  
GEOLOGICAL MAP  
HAT CREEK VALLEY



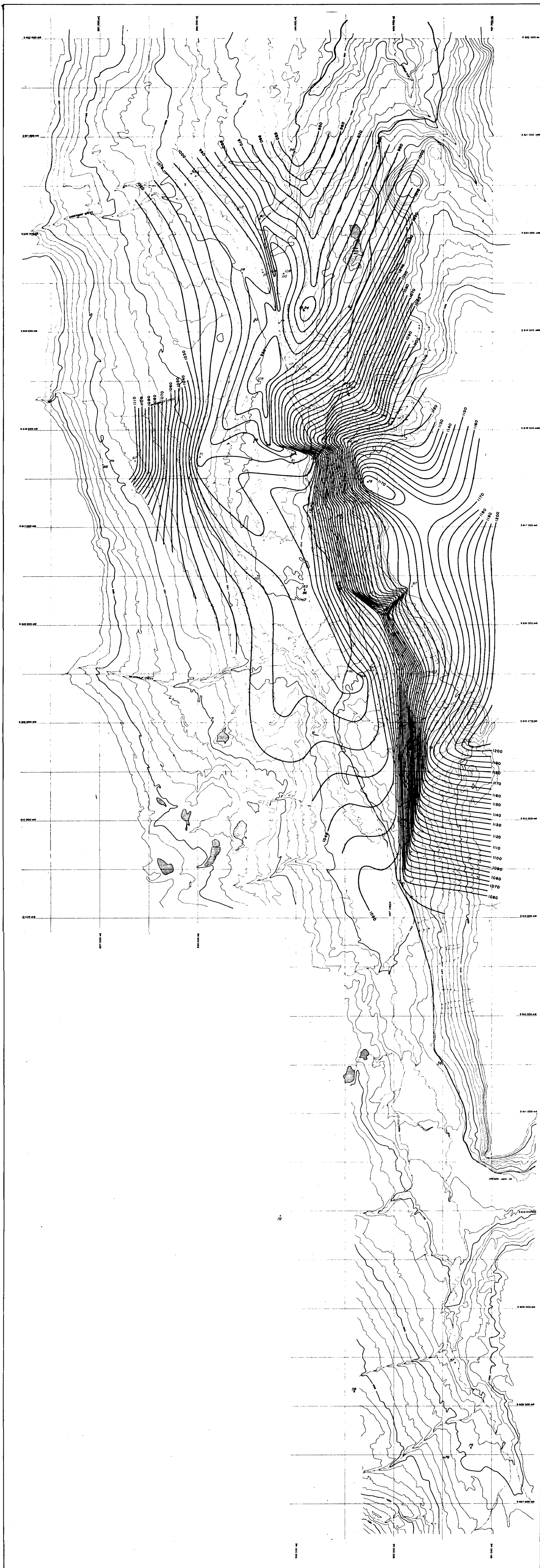




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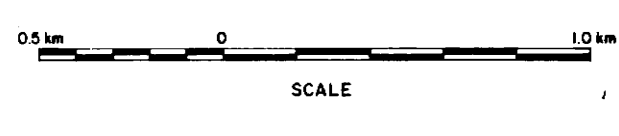
- 1000 — STRUCTURAL CONTOUR, TOP OF COAL
- EXISTING DRILL HOLE
- FAULT

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY	
HAT CREEK No 2 DEPOSIT	
STRUCTURAL CONTOURS TOP OF COAL	
DATE: APRIL, 1980	PLATE 4

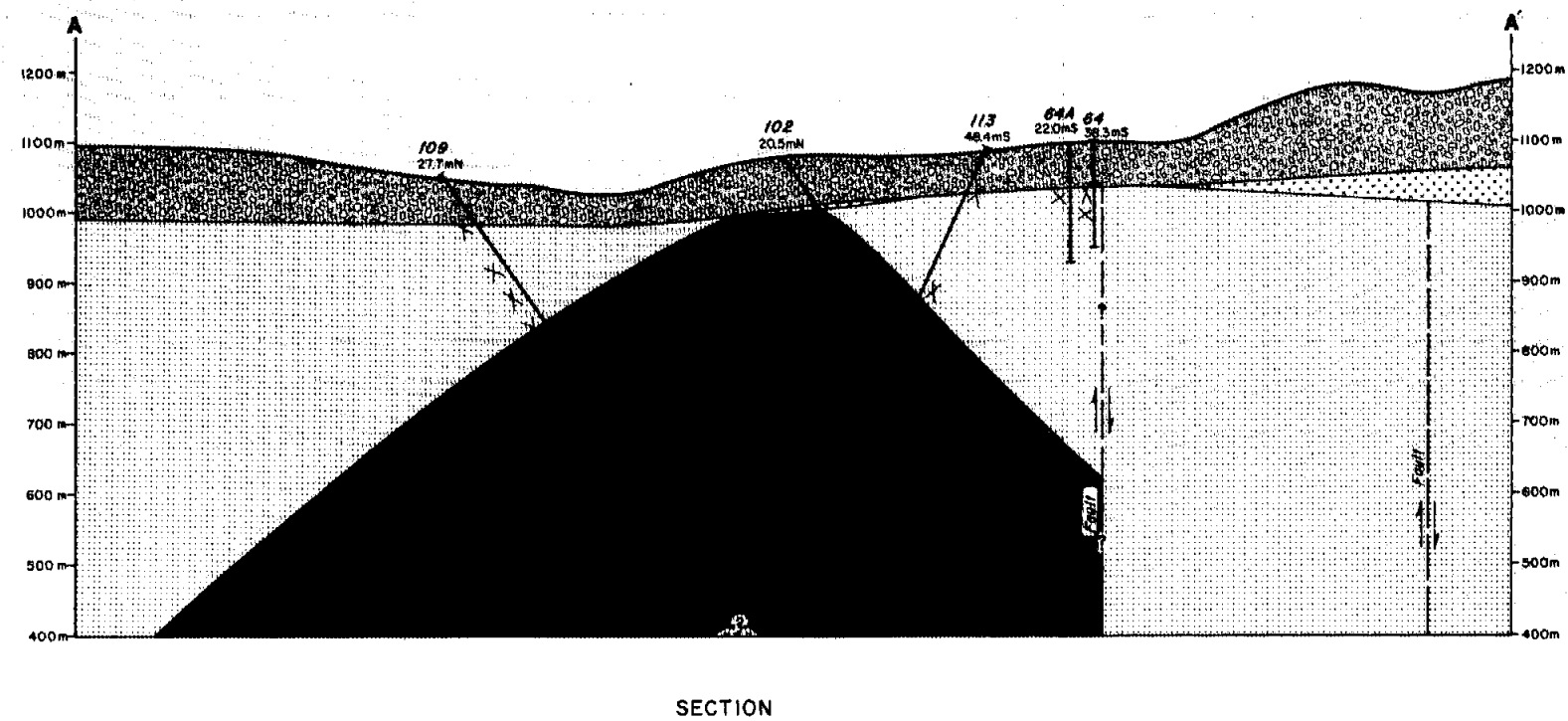
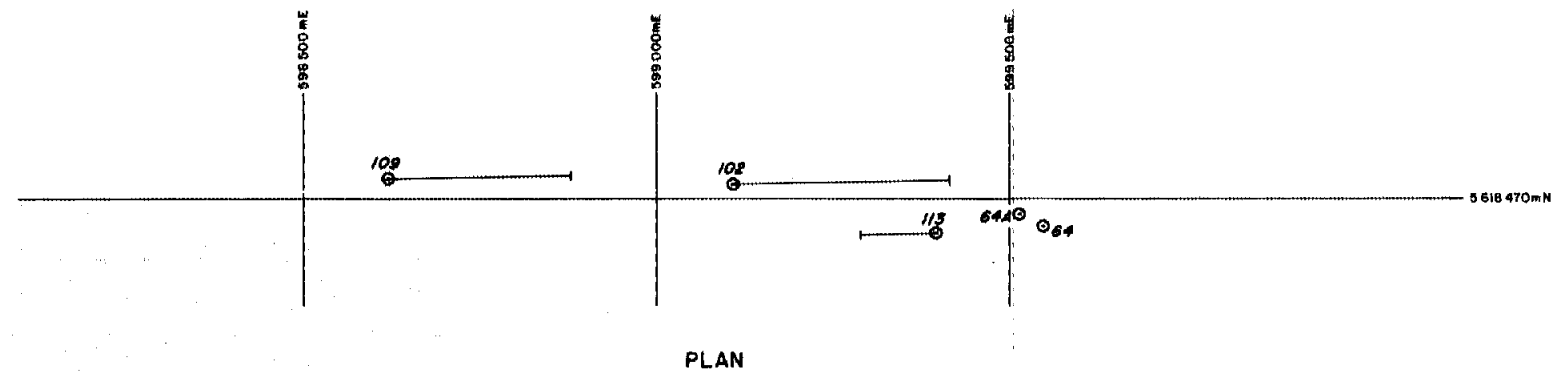


**LEGEND**







- 1000 — BEDROCK ELEVATION
- BEDROCK CONTOURS
- <sup>54</sup> DRILL HOLES

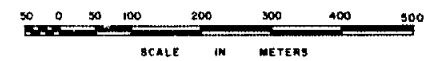


DATE: H. K. M. 1980 DRAWN: P. W. 1980 CHECKED: A. P. 1980 REVISION: 1980 SCALE: 1:50,000		BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK No. 2 DEPOSIT <b>CONTOURS - TOP OF BEDROCK</b> <b>PLATE 5</b>	
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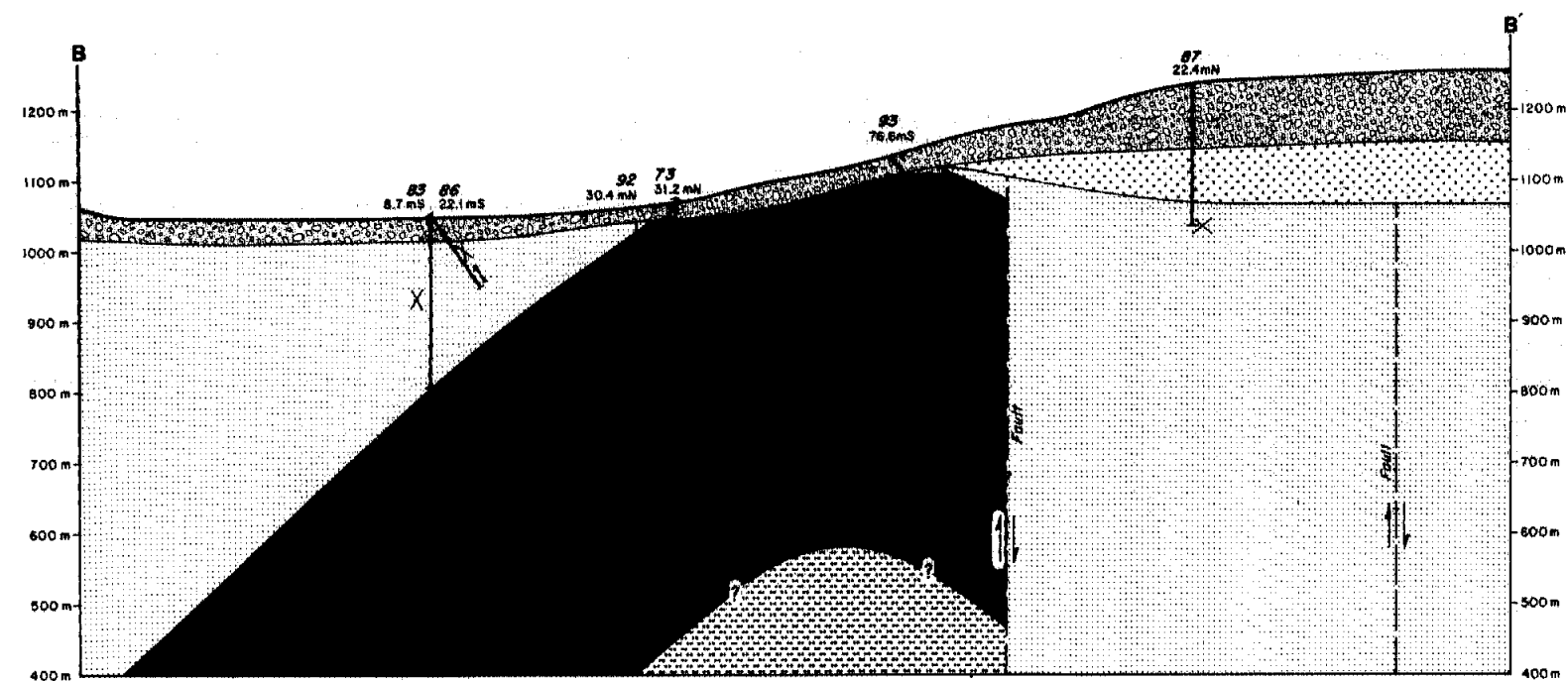
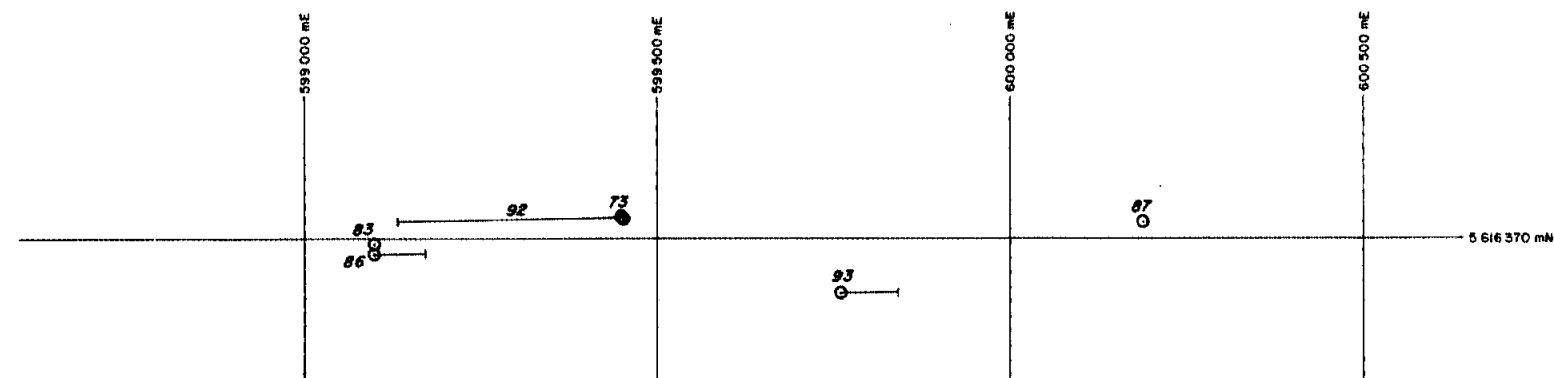
# LEGEND

-  OVERBURDEN
-  MIOCENE VOLCANICS
-  BURNED ZONE
-  MEDICINE CREEK FORMATION
-  HAT CREEK FORMATION
-  COLDWATER FORMATION



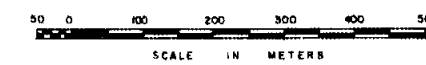
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HAT CREEK PROJECT - MINING ENGINEERING SERVICES					
No. 2 DEPOSIT					
SECTION 5618470mN					
DRAWN	DESIGN	APPROVED	DATE	DWG No	REVISION
A. W. Penney	H. K. B. D.		MAR 1980	PLATE 6	

REV	DWN	APPD	DATE	DESCRIPTION



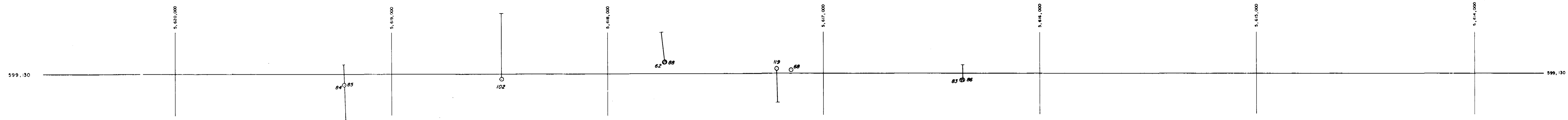
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- OVERBURDEN
- MIOCENE VOLCANICS
- BURNED ZONE
- MEDICINE CREEK FORMATION
- HAT CREEK FORMATION
- COLDWATER FORMATION

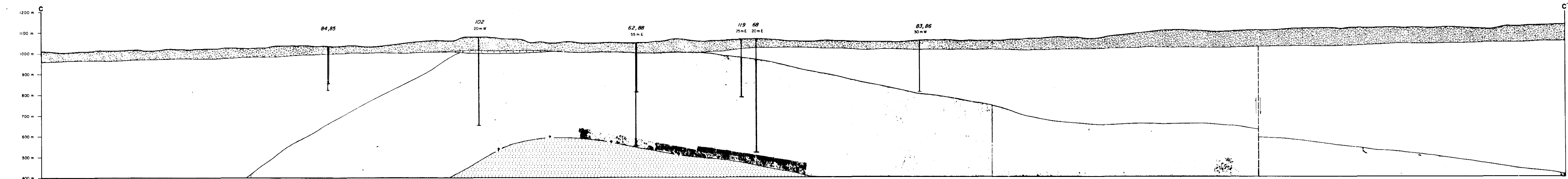


BRITISH COLUMBIA HYDRO AND POWER AUTHORITY					
HAT CREEK PROJECT - MINING ENGINEERING SERVICES					
No. 2 DEPOSIT					
SECTION 5 616 370mN					
DRAWN	DESIGN	APPROVED	DATE	DWG No	REVISION
A. W. Palmer	B. Dutt		MAR 1980	PLATE 7	

REV	OWN	APPD	DATE	DESCRIPTION








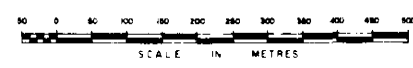
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SECTION

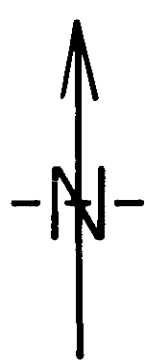
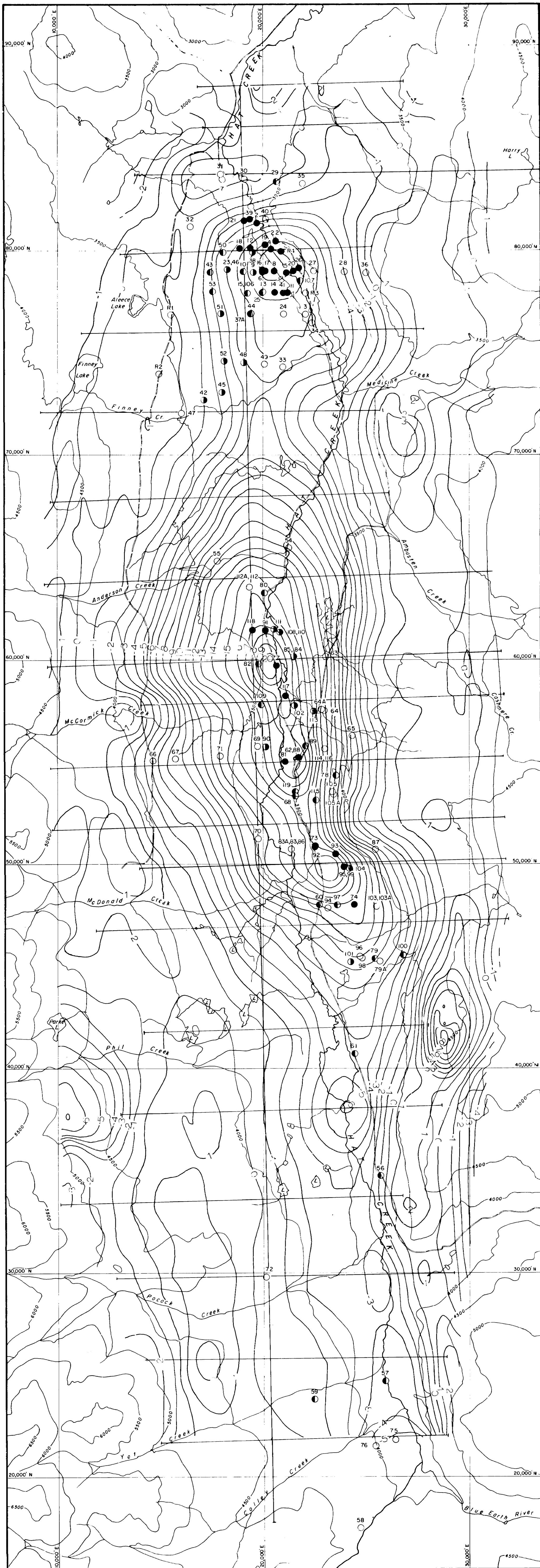
LEGEND

-  OVERBURDEN
-  MIOCENE VOLCANICS
-  MEDICINE CREEK FORMATION
-  HAT CREEK FORMATION
-  COLDWATER FORMATION



BRITISH COLUMBIA HYDRO AND POWER AUTHORITY				
HAT CREEK PROJECT - MINING ENGINEERING SERVICES				
No 2 DEPOSIT				
SECTION 599 130 E				
DRAWN	DESIGN	APPROVED	DATE	DWG No
A.W. P. 1980	Dep't. 10/11	1/11/1980	MAY 1980	PLATE 8





— 10 — Gravity Contours (milligals)

2000 0 2000 4000 FEET

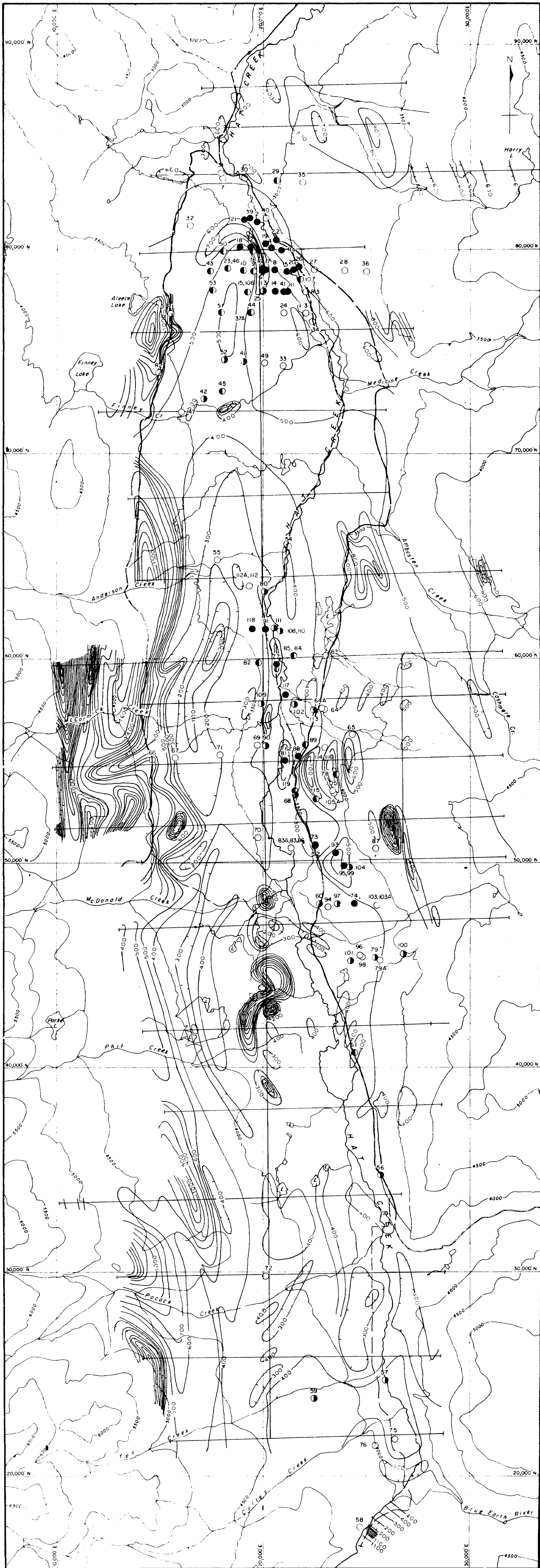
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1957 - DDH N° 8 to 15  
1959 - DDH N° 16 to 22  
1974 - DDH N° 23 to 48, R1 & R2  
1975 - DDH N° 49 to 110, R3 & R4  
1976 - DDH N° 111 onwards

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B.C. HYDRO & POWER AUTHORITY  
VANCOUVER, CANADA

HAT CREEK PROJECT

# DRILL-HOLE LOCATIONS RESIDUAL GRAVITY

SCALE : 1" = 2000' MARCH 1976 FIG.



Drilling periods - 1925 - DDH No 1 to 7  
 1957 - DDH No 8 to 15  
 1959 - DDH No 16 to 22  
 1974 - DDH No 23 to 48, R1 & R2  
 1975 - DDH No 49 to 110, R3 & R4  
 1976 - DDH No 111 onwards

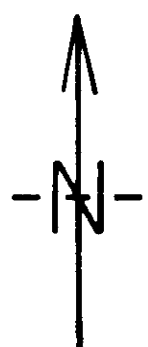
DOLMAGE CAMPBELL & ASSOCIATES LTD CONSULTANTS  
 VANCOUVER, CANADA

B.C. HYDRO & POWER AUTHORITY  
 VANCOUVER, CANADA

HAT CREEK PROJECT

DRILL-HOLE LOCATIONS  
 TOTAL FIELD GROUND  
 MAGNETOMETER SURVEY

SCALE: 1" = 2000' MARCH 1976 FIG.



500 Magnetic Contours (gammas)  
 Grid Lines



# ROKE

SIDEWALL DENSLOG

GAMMA RAY

OIL ENTERPRISES LTD. CALGARY, ALBERTA

COMPANY: DOLMIG, CAMERON ASSOCIATES LTD.

WELL: 75-81

LOCATION: 55.015N 21.067E

FIELD: HAT CREEK

PROVIDE: BRITISH COLUMBIA

GEOL. LEVEL: 2

WELL DEPTH: 1820

DATE: 4/5 AUGUST

LOG NO. 045

LOG SCALE: 1820

LOG SCALE: 1820

LOG SCALE: 1820

LOG SCALE: 1820

LOG SCALE: 1820

LOG SCALE: 1820

LOG SCALE: 1820

LOG SCALE: 1820

LOG SCALE: 1820

LOG SCALE: 1820

LOG SCALE: 1820

LOG SCALE: 1820

LOG SCALE: 1820

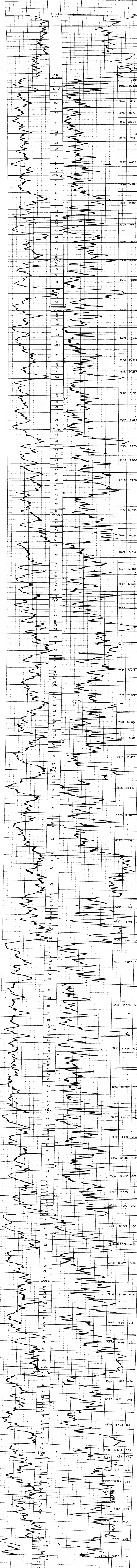
LOG SCALE: 1820

GENERAL				GAMMA RAY				SIDEWALL DENSLOG			
RUN NO.	DEPTH FROM	DEPTH TO	SPEED FT/MIN	T.C. SEC.	SENS. DIV.	API GR. UNITS	PER LOG DIV.	T.C. SEC.	SENS. DIV.	API GR. UNITS	PER LOG DIV.
1	1820	0	10	18	3	100	0	3	100	22	16.103
2	1820	0	0	18	3	100	0	3	100	22	16.103

REMARKS: HOLE LOGGED THROUGH DRILL RODS 1820-93 THROUGH CASING 93-000

TOOL # 554

TOOL # 15



DDH 75-81

Legend:

W1 Carbonaceous to coaly claystone or shale

W2 Claystone, siltstone

W3 Sandstone, conglomerate

W4 Petrified wood

W5 Ironstone, siderite

W6 Carbonate, marl

W7 Ash

C1 Coal 18.0 mJ/kg (223.2 API and 51.47 gram/cc on gamma and density logs)

C2 Coal 18.0 - 9.3 mJ/kg (23.2 - 38 API and 1.47 - 1.62 gram/cc on gamma and density logs)

B.C. HYDRO & POWER AUTHORITY  
VANCOUVER, CANADA  
HAT CREEK COAL PROJECT  
No. 2 DEPOSIT

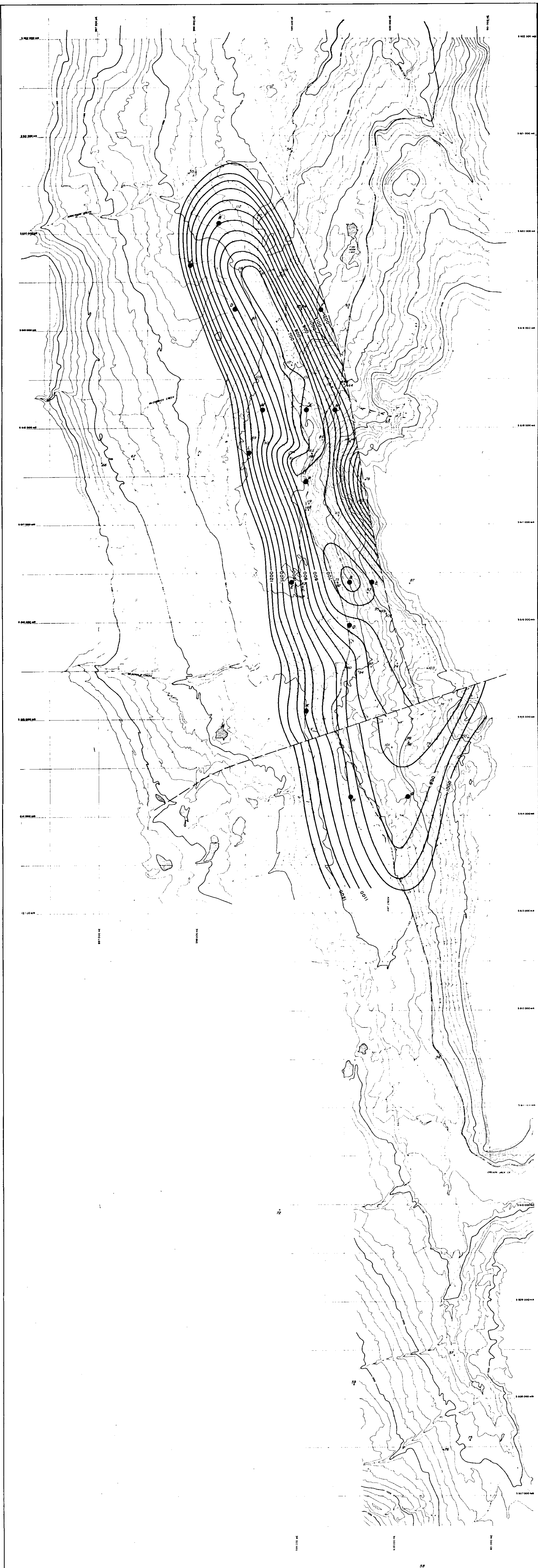
GAMMA RAY  
SIDEWALL DENSLOG  
BORE HOLE No. 75-81

Scale: 1" = 20'

May 1980

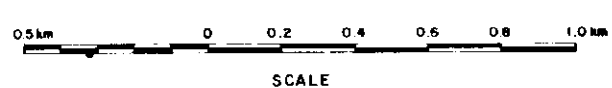
PLATE 11





**LEGEND**

- PROPOSED DRILL SITES
- 1000— DRILLING DEPTH TO CONFIRM THE BASE OF HAT CREEK COAL FORMATION
- FAULT
- EXISTING DRILL HOLES



H Km P W APR 1980		BRITISH COLUMBIA HYDRO AND POWER AUTHORITY HAT CREEK No. 2 DEPOSIT PROPOSED DRILLING PLAN
SHEET NO. 100 OF 100	SCALE	DATE: <b>PLATE 12</b>

APPENDIX I

List of Borehole Data

LIST OF BOREHOLE DATA  
NO. 2 DEPOSIT

ABBREVIATIONS USED:

A.F.T.	- Ash Fusion Temperature	Gam.	- Gamma	S.	- Sulphur
Ash Min.	- Ash Mineralogy	Moist.	- Moisture	S.G.	- Specific Gravity
B.T.U.	- British Thermal Units	Neu.	- Neutron	Spec. Tests	- Special Tests
Cal.	- Caliper	Petr.	- Petrography	Th. V.	- Thermal Value
Den.	- Density	Ply.	- Palynology	Tr. El.	- Trace Elements
Env.	- Environmental	Prox.	- Proximate Analysis	Ult.	- Ultimate Analysis
Foc. Beam	- Focus Beam	Res.	- Resistance	Wash T.	- Wash Test

HOLE NO.	GEOPHYSICAL LOGGING	GEOLOGICAL LOGGING	PHYSICAL AND CHEMICAL ANALYSIS
75-64	-	Written (D.C.)	-
75-65	-	Written (D.C.)	-
75-66	-	Written (D.C.)	-
75-67	Den.-Cal. (K.E.) Gam.-Den. (K.E.) Gam.-Res. (K.E.)	Written (D.C.)	-
75-68	Den.-Cal. (K.E.) Gam.-Den. (K.E.)	Written (D.C.)	Loring Lab. (Prox., B.T.U., S., Ult., X-ray, S.G., spec. tests, A.F.T.), Acres (Env.), Church (Ply)
75-69	Gam.-Den. (K.E.)	Written (D.C.)	Loring Lab. (S.G.)
75-70	Gam.-Res. (K.E.) Den.-Cal. (K.E.)	Written (D.C.)	Loring Lab. (S.G.), Church (Ply)
75-71	Gam.-Den. (K.E.)	Written (D.C.)	Loring Lab. (S.G.)
75-72	Gam.-Den. (K.E.)	Written (D.C.)	Loring Lab. (S.G.), Church (Ply)
75-73	Gam.-Res. (K.E.) Den.-Cal. (K.E.) Gam.-Den. (K.E.)	Written (D.C.)	Commercial Testing (Prox., B.T.U., S., Ult., X-ray, S.G., spec. tests, A.F.T.), Church (Ply, Petr.)

HOLE NO.	GEOPHYSICAL LOGGING	GEOLOGICAL LOGGING	PHYSICAL AND CHEMICAL ANALYSIS
75-74	Gam.-Res. (K.E.) Den.-Cat. (K.E.) Gam.-Den. (K.E.)	Written (D.C.)	Loring Lab. (Prox., B.T.U., S., spec. tests, Ult., A.F.T., S-ray), Acres (Env.), Church (Ply), S.G.
75-75	-	Graphic (D.C.) Written (D.C.)	S.G.
75-76	Gam.-Den. (K.E.) Den.-Cal. (K.E.) Gam.-Res. (K.E.)	Written (D.C.)	S.G.
75-77	Gam.-Den. (K.E.) Den.-Cal. (K.E.) Gam.-Res. (K.E.)	Written (D.C.)	Commercial Testing (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray, S.G.), Acres (Env.)
75-78	Gam.-Den. (K.E.)	Written (D.C.)	Commercial Testing (Prox., B.T.U., S., spec. tests, X-ray, S.G.)
75-79	Gam.-Den. (K.E.)	Written (D.C.)	General Testing (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), Acres (Env.), S.G.
75-79A	Gam.-Den. (K.E.)	Written (D.C.)	S.G.
75-80	Gam.-Den. (K.E.)	Graphic (D.C.) Written (D.C.)	Loring Lab (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), S.G.
75-81	Gam.-Res. (K.E.) Den.-Cal. (K.E.) Gam.-Den. (K.E.)	Written (D.C.)	Commercial Testing (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray, S.G.), Acres (Env.)
75-82	Gam.-Den. (K.E.)	Graphic (D.C.) Written (D.C.)	Loring Lab. (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), Acres (Env.), S.G.

HOLE NO.	GEOPHYSICAL LOGGING	GEOLOGICAL LOGGING	PHYSICAL AND CHEMICAL ANALYSIS
75-83	Gam.-Den. (K.E.)	Written (D.C.)	S.G.
75-83A	-	Written (D.C.)	S.G.
75-84	Gam.-Den. (K.E.)	Written (D.C.)	S.G.
75-85	Gam.-Den. (K.E.)	Written (D.C.)	Commercial Testing (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), Acres (Env.), S.G.
75-86	-	Written (D.C.)	S.G.
75-87	Gam.-Den. (K.E.)	Written (D.C.)	S.G.
75-88	Gam.-Den. (K.E.) Den.-Cal. (K.E.)	Written (D.C.)	General Testing (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), S.G.
75-89	Gam.-Res. (K.E.) Gam.-Den. (K.E.) Den.-Cal. (K.E.)	Written (D.C.)	Commercial Testing (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), Acres (Env.), S.G.
75-90	Gam.-Den. (K.E.)	Written (D.C.)	Commercial Testing (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), S.G.
75-91	Gam.-Den. (K.E.) Gam.-Res. (K.E.)	Written (D.C.)	Loring Lab. (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), Acres (Env.), S.G.

HOLE NO.	GEOPHYSICAL LOGGING	GEOLOGICAL LOGGING	PHYSICAL AND CHEMICAL ANALYSIS
75-92	Gam.-Den. (K.E.)	Written (D.C.)	Commercial Testing (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray) Acres (Env.), S.G.
75-93	Gam.-Den. (K.E.)	Written (D.C.)	Loring Lab. (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), Acres (Env.), S.G.
75-94	-	Written (D.C.)	-
75-95	Gam.-Den. (K.E.)	Written (D.C.)	Loring Lab. (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), S.G.
75-96	-	Written (D.C.)	S.G.
75-97	Gam.-Den. (K.E.)	Written (D.C.)	Commercial Testing (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), Acres (Env.), S.G.
75-98	-	Written (D.C.)	S.G.
75-98A	-	Written (D.C.)	-
75-99	-	Written (D.C.)	S.G.
75-100	Gam.-Den. (K.E.)	Written (D.C.)	General Testing (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), S.G.
75-101	Gam.-Den. (K.E.)	Written (D.C.)	Loring Lab. (Prox. B.T.U., S., spec. tests, Ult., A.F.T., X-ray), Acres (Env.), S.G.
75-102	Gam.-Den. (K.E.)	Written (D.C.)	Commercial Testing (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), S.G.

HOLE NO.	GEOPHYSICAL LOGGING	GEOLOGICAL LOGGING	PHYSICAL AND CHEMICAL ANALYSIS
75-103	Gam.-Den. (K.E.)	Written (D.C.)	S.G.
75-103A	-	Written (D.C.)	S.G.
75-104	Gam.-Den. (K.E.)	Written (D.C.)	S.G.
75-105	Gam.-Den. (K.E.)	Written (D.C.)	-
75-105A	Gam.-Den. (K.E.)	Written (D.C.)	1
75-108	Gam.-Den. (K.E.)	Written (D.C.)	S.G.
75-109	Gam.-Den. (K.E.) Gam.-Res. (K.E.)	Written (D.C.)	Commercial Testing (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), S.G.
75-110	Gam.-Den. (K.E.)	Written (D.C.)	General Testing (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), S.G.
76-111	Gam.-Den. (K.E.)	Written (D.C.)	Loring Dab (Prox. B.T.U., S., spec. tests., Ult., A.F.T., X-ray.
76-112	Gam.-Den. (K.E.) Gam.-Res. (K.E.)	Written (D.C.)	-
75-112A	-	Written (D.C.)	1
19,319	-	Written (D.C.)	
75-113	Gam.- Den. (K.E.)	Written (D.C.)	Commercial Testing (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray) Across (Env.)



HOLE NO.	GEOPHYSICAL LOGGING	GEOLOGICAL LOGGING	PHYSICAL AND CHEMICAL ANALYSIS
76-114	-	Written (D.C.)	S.G.
76-115	Gam.-Den. (K.E.)	Written (D.C.)	Loring Lab (Prox., B.T.U., S., spec. tests, Ult., X-ray, A.F.T.), S.G.
76-116	Gam.-Den. (K.E.)	Written (D.C.)	S.G.
76-117	Gam.-Den. (K.E.)	Written (D.C.)	Commercial Testing (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), Acres (Env.), S.G.
76-118	Gam.-Den. (K.E.)	Written (D.C.)	Commercial Testing (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), Acres (Env.), S.G.
76-119	Gam.-Den. (K.E.)	Written (D.C.)	Loring Lab (Prox., B.T.U., S., spec. tests, Ult., A.F.T., X-ray), S.G.

APPENDIX II

Summary of Boreholes

DRILL HOLE#	COLLAR DATA (U T M)				D I P T E S T S			DRILLED THICKNESS		TOTAL DEPTH M	DEPTH TO:				ELEVATIONS M			
	COORDINATES	REFERENCE ELEVATION	DIP	AZI	DEPTH	DIP	AZI	O.B. M	B.R. M		TOP OF BEDROCK M	TOP OF COAL M	BASE COAL M	TOP OF COLDWATER M	TOP OF COAL	BASE OF COAL	TOP OF COLDWATER	BOTTOM OF HOLE
75-0054	5 620 847.3 N 598 982.7 E	965.0	-90.0		304.8	-86.0		10.6	294.2	304.8	10.7							660.7
75-0055	5 620 626.1 N 597 924.2 E	1031.8	-90.0		304.8	-89.0		28.3	276.5	304.8	28.3							727.0
75-0056	5 611 513.7 N 600 502.3 E	1126.7	-90.0					128.6	51.2	179.8	128.6	128.6	179.8		998.1	946.9		946.9
75-0057	5 608 446.0 N 600 630.9 E	1163.3	-90.0		465.7	-87.0		112.4	359.4	471.8	112.5	112.5	269.1		1050.8	691.5		691.5
75-0058	5 606 245.8 N 600 301.4 E	127.3	-90.0					48.7	147.2	195.9	48.8	269.1	471.8					1076.4
75-0059	5 608 153.6 N 599 595.7 E	1267.2	-90.0		326.1	-86.0		12.1	441.4	453.5	12.2	252.8	444.0		1014.4	823.7		814.3
75-0060	5 615 530.0 N 599 534.2 E	1093.3	-90.0		319.4 592.5	-84.5 -80.5		77.1	516.6	593.7	77.1	258.9	593.8		853.4	507.5		507.5
75-0061	5 613 324.9 N 600 089.8 E	1103.6	-90.0		316.0	-89.0		48.7	353.6	402.3	48.8	193.9	402.3		909.7	701.3		701.3
75-0062	5 617 736.2 N 599 181.8 E	1057.6	-90.0		313.3 496.8	-87.5 -84.5		45.7	465.7	511.4	45.7	45.7	511.5		1011.9	548.6		548.6
75-0063	5 619 232.6 N 599 558.2 E	1075.3	-90.0		304.8	-80.5		76.2	228.6	304.8	76.2							774.8
75-0064	5 618 448.0 N 599 516.0 E	1097.9	-90.0					58.5	108.8	167.3	64.0							930.6
75-0065	5 618 085.3 N 981.9 E	1152.9	-90.0					45.7	179.8	225.5	45.7			155.1?			997.8?	927.4

DRILL HOLE#	COLLAR DATA (U T M)				DIP T E S T S			DRILLED THICKNESS		TOTAL DEPTH M	DEPTH TO:				ELEVATIONS M			
	COORDINATES	REFERENCE ELEVATION	DIP	AZI	DEPTH	DIP	AZI	O.B. M	B.R. M		TOP OF BEDROCK M	TOP OF COAL M	BASE COAL M	TOP OF COLDWATER M	TOP OF COAL	BASE OF COAL	TOP OF COLDWATER	BOTTOM OF HOLE
75-0066	5 617 640.2 N 597 028.7 E	1160.6	-90.0					33.8	7.3	41.1	33.8							1119.5
75-0067	5 617 679.9 N 597 357.4 E	1136.0	-90.0					21.6	196.3	217.9	24.4			36.3?			1099.7	918.1
75-0068	5 617 148.2 N 599 147.6 E	1062.8	-90.0		304.8	-80.5		42.6	519.1	561.7	42.6	93.9	561.7		969.1	517.8		517.8
75-0069	5 617 877.6 N 598 573.3 E	1040.6	-90.0		332.2	-80.5		33.5	374.3	407.8	33.5							640.3
75-0070	5 616 502.1 N 598 614.6 E	1053.4	-90.0		332.2	-84.5		30.4	359.7	390.1	30.5							664.8
75-0071	5 617 722.4 N 598 019.4 E	1086.9	-90.0		295.6	-84.5		77.7	227.4	305.1	77.7							783.0
75-0072	5 609 952.8 N 598 833.8 E	1269.3	-90.0					52.4	217.6	270.0	52.4			204.2?			1065.1?	999.3
75-0073	5 616 401.2 N 599 450.0 E	1075.6	-90.0		310.5 586.7	-86.0 -86.0		38.1	553.2	591.3	25.5	25.5	583.5	583.5?	1050.1	493.5	493.5?	485.7
75-0074	5 615 567.0 N 600 055.5 E	1146.9	-90.0		335.2 576.9	-76.5 -76.5		83.8	596.5	680.3	83.8	83.8	680.3		1063.1	485.4		485.4
75-0075	5 607 573.2 N 600 792.8 E	1199.8	-90.0					70.1	51.2	121.3	70.1							1078.5
75-0076	5 607 470.4 N 600 514.4 E	1223.3	-90.0		306.9	-86.5		25.2	371.0	396.2	25.3							827.7
75-0077	5 619 093.6 N 598 829.7 E	1021.1	-90.0		304.8 562.6	-76.5 -86.0		29.5	533.1	562.6	29.6	29.6	562.7		991.5	465.4		465.4

DRILL HOLE#	COLLAR DATA (U T M)				DIP T E S T S			DRILLED THICKNESS		TOTAL DEPTH M	DEPTH TO:				ELEVATIONS M			
	COORDINATES	REFERENCE ELEVATION	DIP	AZI	DEPTH	DIP	AZI	O.B. M	B.R. M		TOP OF BEDROCK M	TOP OF COAL M	BASE COAL M	TOP OF COLDWATER M	TOP OF COAL	BASE OF COAL	TOP COLDWATER	BOTTOM OF HOLE
75-0078	5 617 465.1 N 599 736.4 E	1220.0	-90.0					39.6	180.7	220.3	41.8	214.0	220.3		1006.0	999.7		999.7
75-0079	5 614 711.2 600 375.0 E	1188.0	-90.0		304.8 590.0	-86.0 -83.0		10.0	583.7	593.7	10.1	199.3	593.8		989.0	597.6		597.6
75-0080	5 620 155.9 N 598 632.8 E	998.3	-90.0		304.8 534.0	-87.5 -73.0		15.2	518.8	534.0	15.2	357.2	534.0		641.6	482.5		482.5
75-0081	5 617 655.3 N 598 982.5 E	1037.2	-90.0		304.8 551.0	-86.0 -82.0		26.2	534.0	560.2	25.9	25.9	560.2		1011.3	481.1		481.1
75-0082	5 619 109.4 N 598 570.7 E	1060.1	-90.0		304.8 526.3	-80.5 -80.5		55.4	470.9	526.3	61.0	143.9	436.6	436.6	916.2	629.5	629.5	541.0
75-0083	5 616 361.3 N 599 098.5 E	1054.6	-90.0		244.4	-84.5		37.1	209.1	246.2	37.2							809.3
75-0084	5 619 218.6 N 599 076.3 E	1022.6	-60.0	88.9	152.4	-60.0		60.9	128.3	189.2	61.0							858.8
75-0085	5 619 218.6 N 599 076.3 E	1022.6	-55.0	268.9	152.4 271.8	-52.0 -47.5		65.2	206.6	271.8	65.2	228.6	271.9		838.7	820.6		820.6
75-0086	5 616 347.9 N 599 098.7 E	1055.2	-55.0	88.9				51.8	74.3	126.1	51.8							951.9
75-0087	5 616 392.4 N 600 188.6 E	1240.4	-90.0		182.8	-86.0		89.0	111.8	200.8	89.0							1040.1
75-0088	5 617 734.1 N 599 183.1 E	1057.6	-60.0	86.9	152.4 274.3	-64.5 -62.0		15.2	264.6	279.8	15.2	15.2	279.8		1044.4	810.5		810.5
75-0089	5 617 879.9 N 599 287.3 E	1018.7	-55.0	88.9	152.4	-55.0			217.3	217.3	0.9	39.6	217.3		1-46.3	900.7		900.7

DRILL HOLE#	COLLAR DATA (U T M)				D I P T E S T S			DRILLED THICKNESS		TOTAL DEPTH M	DEPTH TO:				ELEVATIONS M			
	COORDINATES	REFERENCE ELEVATION	DIP	AZI	DEPTH	DIP	AZI	O.B. M	B.R. M		TOP OF BEDROCK M	TOP OF COAL M	BASE COAL M	TOP OF COLDWATER M	TOP OF COAL	BASE OF COAL	TOP COLDWATER	BOTTOM OF HOLE
75-0090	5 617 874.6 N 598 702.2 E	1038.1	-55.0	88.9	182.8 304.8 457.2	-56.0 -56.0 -53.0		55.1	404.5	459.6	54.6	318.5	459.6		774.1	671.1		671.1
75-0091	5 619 610.9 N 598 662.6 E	1010.7	-90.0					7.6	286.5	294.1	4.3	4.3	294.1		1006.4	716.6		716.6
75-0092	5 616 400.4 N 599 453.1 E	1075.3	-55.0	289.9	152.4 304.8 457.2	-54.0 -58.5 -60.0		29.5	528.8	558.3	29.6	29.6	517.9	517.9	1051.1	626.8	626.8	591.8
75-0093	5 616 293.4 E 599 759.9 E	1134.4	-55.0	88.9	141.1	-54.0		24.3	116.8	141.1	24.4	32.9	130.6		1107.4	1028.7		1020.3
75-0094	5 615 483.3 N 599 660.0 E	1103.6	-65.0	88.9				95.4		95.4	95.4(Not reached Bedrock)							1017.1
75-0095	5 616 107.7 N 599 882.8 E	1133.5	-75.0	268.9	152.4 304.8 457.2	-69.5 -70.0 -69.0		68.2	391.1	459.3	65.5	65.5	459.3		1071.9	704.7		704.7
75-0096	5 614 776.3 N 600 145.5 E	1154.8	-90.0					64.6	36.5	101.1	64.6							1053.7
75-0097	5 615 534.0 N 599 791.6 E	1104.5	-90.0		304.8	-82.5		86.8	372.8	459.6	71.6	134.4	459.6		970.3	649.4		649.4
75-0098	5 614 748.6 N 600 177.7 E	1166.4	-85.0					74.6	49.7	124.3	74.7							1042.6
75-0099	5 616 107.8 N 599 885.9 E	1133.5	-55.0	88.9				68.5	21.1	89.6	68.6	68.6	89.6					1060.1

DRILL HOLE#	COLLAR DATA (U T M)				D I P T E S T S			DRILLED THICKNESS		TOTAL DEPTH M	DEPTH TO:				ELEVATIONS M			
	COORDINATES	REFERENCE ELEVATION	DIP	AZI	DEPTH	DIP	AZI	O.B. M	B.R. M		TOP OF BEDROCK M	TOP OF COAL M	BASE COAL M	TOP OF COLDWATER M	TOP OF COAL	BASE OF COAL	TOP COLDWATER	BOTTOM OF HOLE
75-0100	5 614 801.3 N 600 784.7 E	1207.5	-90.0		304.8 -89.0 457.2 -84.0			1.5	457.8	459.3	1.5	317.8	459.3		889.7	750.7		750.7
75-0101	5 614 697.1 N 600 000.4 E	113.6	-90.0		304.8 -86.5 457.2 -85.0			99.6	360.0	459.6	99.7	164.9	459.6		970.8	677.7		677.7
75-0102	5 618 490.5 N 599 107.2 E	1075.3	-55.0	88.9	152.4 -55.0 304.8 -59.0 457.2 -53.0			74.9	457.5	532.4	78.1	90.6	532.5		1001.1	650.1		650.1
75-0103	5 615 516.8 N 600 367.3 E	1182.5	-90.0		304.8 -87.0			45.7	320.6	366.3	45.7							816.7
75-0104	5 616 081.6 N 599 950.7 E	1143.2	-55.0	88.9	152.4 -57.5			27.4	186.5	213.9	27.4	27.4	69.0		1120.1	1085.0		962.8
75-0105	5 617 218.8 N 599 686.5 E	1184.7	-90.0					57.9	214.8	272.7	57.9							912.0
75-0108	5 619 593.3 N 598 872.3 E	1012.0	-55.0	88.9	152.4 -54.5 304.8 -49.0			18.8	286.0	304.8	18.9							782.0
75-0109	5 618 497.7 N 598 618.5 E	1053.7	-55.0	88.9	152.4 -54.0 304.8 -53.5 451.7 -51.5			83.5	368.2	451.7	83.5	254.5	451.7		847.8	697.8		697.8
75-0110	5 619 593.3 N 598 872.0 E	1011.7	-90.0		304.8 -89.0 457.2 -89.5			13.4	445.9	459.3	12.5	307.8	459.3		703.9	552.4		552.4
76-0111	5 619 621.6 N 598 788.9 E	1011.4	-55.0	268.9	212.7 -57.0			24.3	188.4	212.7	27.4	141.7	212.7		892.6	833.0		833.0
76-0112	5 620 248.7 N 598 400.6 E	1022.9	-90.0		230.7 -83.0			27.4	206.3	233.7	27.4							790.9

DRILL HOLE#	COLLAR DATA (U T M)				DIP T E S T S			DRILLED THICKNESS		TOTAL DEPTH M	DEPTH TO:				ELEVATIONS M			
	COORDINATES	REFERENCE ELEVATION	DIP	AZI	DEPTH	DIP	AZI	O.B. M	B.R. M		TOP OF BEDROCK M	TOP OF COAL M	BASE COAL M	TOP OF COLDWATER M	TOP OF COAL	BASE OF COAL	TOP COLDWATER	BOTTOM OF HOLE
76-0113	5 618 421.6 N 599 394.6 E	1091.5	-65.0	268.9				68.5	191.4	259.9	68.6	218.1	260.0		893.8	856.0		856.0
76-0114	5 617 851.3 N 599 581.0 E	1173.4	-80.0	268.9				47.2	69.2	116.4	47.2							1058.8
76-0115	5 617 092.5 N 599 456.4 E	1117.7	-90.0		304.8	-82.0		32.0	274.9	306.9	32.0	94.3	306.9		1024.3	813.8		813.8
76-0116	5 617 851.3 N 599 581.3 E	1173.4	-90.0					48.7	102.1	150.8	48.8							1022.6
76-0117	5 618 640.4 N 598 976.3 E	1038.5	-90.0		214.8	-90.0		44.5	170.3	214.8	43.7	43.7	214.8		994.8	823.7		823.7
76-0118	5 619 602.7 N 598 452.5 E	1050.7	-90.0		268.5	-87.0		48.9	254.6	303.5	48.9	48.9	303.5		1001.8	747.6		747.6
76-0119	5 617 216.9 N 599 152.3 E	1062.5	-60.0	268.9	152.4	-62.0		42.6	264.3	306.9	42.7	115.2	306.9		960.8	784.4		784.4
					304.8	-66.0												
75-64A	5 618 431.6 N 599 550.5 E	1101.8	-90.0					64.0	84.4	148.4								
75-79A	5 614 716.5 N 600 443.8 E	1194.4	-90.0					3.9	86.6	90.5								
75-83A	5 616 361.3 N 599 098.5 E	1054.6	-90.0					37.1	42.7	79.8								
75-98A	5 614 747.7 N 600 177.7 E	1166.4	-90.0					78.0		78.0								



DRILL HOLE#	COLLAR DATA (U T M)				D I P T E S T S			DRILLED THICKNESS		TOTAL DEPTH M	DEPTH TO:				ELEVATIONS M			
	COORDINATES	REFERENCE ELEVATION	DIP	AZI	DEPTH	DIP	AZI	O.B. M	B.R. M		TOP OF BEDROCK M	TOP OF COAL M	BASE COAL M	TOP OF COLDWATER M	TOP OF COAL	BASE OF COAL	TOP OF COLDWATER	BOTTOM OF HOLE
75-103A	5 615 516.8 N 600 365.8 E	1182.5	-90.0					73.1	130.2	203.3								
75-105A	5 617 180.1 N 599 700.4 E	1182.0	-90.0					48.7	47.3	96.0								
76-112A	5 620 248.7 N 598 401.9 E	1022.9	-90.0					27.4	38.7	66.1								
								<u>3,410.5</u>										
								<u>18,386.3</u>										
										<u>21,796.8</u>								

APPENDIX IIIA

Physical and Chemical Analyses



20 MAY 80

## HAT CREEK COAL DEVELOPMENT - SAMPLE DATA: DRY BASIS

PAGE 2

## COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0057

SAMPLE		PROXIMATE ANALYSIS				ULTIMATE ANALYSIS					FUSION ANALYSIS				MINERAL ANALYSIS								
LENGTH											OXYGEN	ID-R	ST-R	HT-R	FL-R	SI02	AL2O3	TIO2	FE2O3	CAO	GRIND		
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
2001U	0.0	112.4																					
1U	112.4	119.4	35.57	34.79	29.64	16807					.31												
2U	119.4	127.1				8839					.37												
2002U	127.1	131.9	93.00																				
23U	131.9	135.6	84.72																				
2003U	135.6	159.1																					
3U	159.1	169.4	51.52	25.01	23.47	12281					.31												
24U	169.4	172.2	89.23																				
2004U	172.2	189.5																					
25U	189.5	192.0	84.46																				
2005U	192.0	195.0																					
901U	195.0	197.8	84.46																				
26U	197.8	205.7	87.75																				
27U	205.7	213.3	91.44																				
28U	213.3	216.4	90.35																				
2006U	216.4	227.9																					
29U	227.9	234.6	70.00																				
2007U	234.6	261.8																					
30U	261.8	269.1	84.72																				
4U	269.1	281.3	31.97	32.82	35.21	18591					.32												
1001C	269.1	319.2	41.29	30.19	28.52	14856	40.30	3.52	.99	.03	.32	13.55	1454	1459	1465	1471	50.00	31.10	1.11	6.78	4.93		39
													+1482	+1482	+1482	+1482	1.29	.98	.84	.39	2.01	+	.57
5U	281.3	293.5	31.78	33.00	35.22	18538					.37												
6U	293.5	304.1	42.78	29.41	27.81	14942					.15												
7U	304.1	308.3	69.02	22.12	8.86	5031					.32												
8U	308.3	319.2	44.82	29.61	25.57	14297					.77												
31U	319.2	324.6	89.05																				
9U	324.6	333.7	57.06	24.53	18.41	10850					.39												
1002C	324.6	344.4	48.64	25.71	25.65	12767	33.67	3.02	.76	.03	.46	13.42	+1482	+1482	+1482	+1482	53.92	31.10	1.13	6.40	1.79		44
													+1482	+1482	+1482	+1482	1.21	1.08	1.00	.30	1.30	+	.77
10U	333.7	344.4	35.46	31.51	33.03	17726					.24												
32U	344.4	346.2	88.31																				
11U	346.2	352.0	66.52	19.91	13.57	7280					.35												
1101C	346.2	352.0	48.64	25.71	25.65	12767	33.67	3.02	.76	.03	.46	13.42	+1482	+1482	+1482	+1482	53.92	31.10	1.13	6.40	1.79		44
													+1482	+1482	+1482	+1482	1.21	1.08	1.00	.30	1.30	+	.77
33U	352.0	353.5	87.41																				
34U	353.5	358.4	85.69																				
2008U	358.4	358.9																					
12U	358.9	366.9	65.65	20.80	13.55	7301					.30												
1102C	358.9	397.7	48.64	25.71	25.65	12767	33.67	3.02	.76	.03	.46	13.42	+1482	+1482	+1482	+1482	53.92	31.10	1.13	6.40	1.79		44
													+1482	+1482	+1482	+1482	1.21	1.08	1.00	.30	1.30	+	.77
13U	366.9	379.1	43.37	30.21	26.42	14821					.52												
14U	379.1	383.7	33.60	31.36	35.04	18156					.56												
15U	383.7	390.7	53.93	24.80	21.27	11025					.38												
16U	390.7	397.7	38.00	29.25	32.75	17105					.46												
35U	397.7	400.5	86.13																				
17U	400.5	407.5	39.03	30.29	30.68	16561					.80												
1003C	400.5	463.2	28.10	34.90	37.00	19568	50.68	4.09	1.12	.01	.63	15.37	+1482	+1482	+1482	+1482	50.95	32.36	1.10	7.09	2.46		32
													+1482	+1482	+1482	+1482	1.28	1.47	.81	.20	2.11	+	.17

## COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0057

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SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS						
	LENGTH											OXYGEN BY DIFF.	ID-R	ST-R	HT-R	FL-R	SIO2	AL2O3	TIO2	FE2O3	CAO		GRIND
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S		ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
18U	407.5	419.7	19.09	37.03	43.88	23318					.56												
19U	419.7	431.9	23.38	37.87	38.75	21908					.51												
20U	431.9	444.0	36.75	31.33	31.92	17340					.73												
21U	444.0	453.5	24.56	33.93	41.51	21424					.38												
22U	453.5	463.2	31.72	33.40	34.88	18833					.56												
2009U	463.2	471.8																					

COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0059

[illegible]

DDH 75-0060

*****																									
SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS								
NO.	LENGTH		ASH	VM	F.C.	HHV	C	H	N	CL	S	OXYGEN	ID-R	ST-R	HT-R	FL-R	SI02	AL2O3	TIO2	FE2O3	CAO	GRIND			
	FROM	TO										BY	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5		SO3	UND+ER	INDEX
*****																									
2001U	0.3	77.1																							
2002U	77.1	258.7																							
36U	258.7	260.2	84.32																						
1U	260.2	264.7	81.92																						
2U	264.7	270.5	85.88																						
3U	270.5	278.2	24.04	38.04	37.92	21262					.88														
1001C	270.5	330.4	34.37	32.79	32.84	17598	45.31	3.82	1.37	.04	.60	14.49	1448	1454	1462	1471	48.02	30.79	1.12	10.95	3.11		41		
													+1482	+1482	+1482	+1482	1.36	1.14	.99	.49	1.97 +	.06			
4U	278.2	287.4	36.46	33.23	30.31	16891					.40														
5U	287.4	291.8	28.45	36.94	34.61	19843					.84														
6U	291.8	300.8	31.16	37.05	31.79	18312					.50														
7U	300.8	310.2	30.32	35.25	34.43	19301					.51														
8U	310.2	319.4	36.05	34.19	29.76	16533					.50														
9U	319.4	326.4	32.55	33.25	34.20	18603					.56														
10U	326.4	330.4	67.66	20.03	12.31	6533					.25														
11U	330.4	337.7	80.66																						
12U	337.7	345.0	68.95	20.84	10.21	6259					.23														
1002C	337.7	369.8	52.93	25.37	21.70	11353	30.71	2.97	.79	.02	.52	12.06	+1482	+1482	+1482	+1482	53.78	30.39	1.14	7.45	1.67		54		
													+1482	+1482	+1482	+1482	1.68	1.20	1.13	.32	.94 +	.30			
13U	345.0	352.6	46.73	29.22	24.05	13879					.45														
14U	352.6	357.9	43.38	29.40	27.22	14528					.71														
15U	357.9	362.4	63.17	22.82	14.01	7540					.37														
16U	362.4	369.8	40.82	30.72	28.46	15651					.57														
37U	369.8	373.3	82.81																						
17U	373.3	380.2	46.14	31.28	22.58	13379					.48														
1101C	373.5	380.2	52.93	25.37	21.70	11353	30.71	2.97	.79	.02	.52	12.06	+1482	+1482	+1482	+1482	53.78	30.39	1.14	7.45	1.67		54		
													+1482	+1482	+1482	+1482	1.68	1.20	1.13	.32	.94 +	.30			
38U	380.2	382.8	84.47																						
18U	382.8	387.8	41.01	31.52	27.47	15984					.53														
1102C	382.8	400.2	52.93	25.37	21.70	11353	30.71	2.97	.79	.02	.52	12.06	+1482	+1482	+1482	+1482	53.78	30.39	1.14	7.45	1.67		54		
													+1482	+1482	+1482	+1482	1.68	1.20	1.13	.32	.94 +	.30			
19U	387.8	400.2	57.03	25.62	17.35	10578					.42														
20U	400.2	412.3	49.12	28.50	22.38	12688					.57														
1003C	400.2	429.9	56.04	25.29	18.67	10446	28.21	2.72	1.02	.02	.53	11.46	+1482	+1482	+1482	+1482	53.92	30.96	1.13	7.28	1.68		57		
													+1482	+1482	+1482	+1482	1.45	1.08	1.14	.29	1.00 +	.07			
21U	412.3	424.5	53.03	26.40	20.57	11474					.50														
22U	424.5	429.9	64.53	19.45	16.02	7105					.42														
39U	429.9	433.4	85.70																						
23U	433.4	443.0	72.43																						
24U	443.0	452.9	58.95	24.06	16.99	9559					.50														
1103C	443.0	460.8	56.04	25.29	18.67	10446	28.21	2.72	1.02	.02	.53	11.46	+1482	+1482	+1482	+1482	53.92	30.96	1.13	7.28	1.68		57		
													+1482	+1482	+1482	+1482	1.45	1.08	1.14	.29	1.00 +	.07			
25U	452.9	460.8	54.67	21.91	23.42	11420					.38														
26U	460.8	464.0	72.92																						
27U	464.0	471.8	63.09	23.35	13.56	7959					.39														
1104C	464.0	471.8	56.04	25.29	18.67	10446	28.21	2.72	1.02	.02	.53	11.46	+1482	+1482	+1482	+1482	53.92	30.96	1.13	7.28	1.68		57		
													+1482	+1482	+1482	+1482	1.45	1.08	1.14	.29	1.00 +	.07			
28U	471.8	477.6	49.03	27.18	23.79	12911					.80														
29U	477.6	481.5	85.39																						





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DDH 75-0061

[illegible]



## COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0062

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SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS						
LENGTH												OXYGEN BY DIFF.	ID-R	ST-R	HT-R	FL-R	SiO2	Al2O3	TiO2	Fe2O3	CaO		GRIND
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S		ID-O	ST-O	HT-O	FL-O	MgO	Na2O	K2O	P2O5	SO3	UND+ER	INDEX
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
36U	398.6	410.2	34.86	31.02	34.12	17761					.20												
37U	410.2	418.0	43.48	33.36	23.16	12830					.29												
38U	418.0	433.2	35.34	33.60	31.06	17807					.52												
39U	433.2	448.5	25.88	36.58	37.54	21108					.30												
1007C	433.2	511.4	25.29	36.68	38.03	21501	52.96	4.75	.97	.41	.24	15.38	+1448	+1448	+1448	+1448	53.54	33.32	1.45	5.76	1.89		34
													+1448	+1448	+1448	+1448	.80	.41	.03	.31	1.22	+ 1.27	
40U	448.5	463.7	24.27	36.19	39.54	21601					.24												
41U	463.7	478.9	26.83	37.37	35.80	21052					.22												
42U	478.9	494.2	26.67	37.45	35.88	21189					.24												
43U	494.2	502.7	27.22	36.58	36.20	21101					.26												
44U	502.7	511.4	20.06	39.15	40.79	23481					.22												

## COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0068

SAMPLE		PROXIMATE ANALYSIS					ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS						
LENGTH												OXYGEN	ID-R	ST-R	HT-R	FL-R	SI02	AL2O3	TIO2	FE2O3	CAO		GRIND
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX
2001U	0.0	42.6																					
2002U	42.6	90.8																					
1U	90.8	93.8	87.64																				
2U	93.8	103.0	78.31																				
3U	103.0	106.3	71.23	19.50	9.27	3619					.42												
1001C	103.0	157.2	35.23	32.04	32.73	17745	44.21	4.78	1.04	.01	.90	13.83	1434	+1448	+1448	+1448	53.32	29.92	1.36	6.58	1.89		49
													+1448	+1448	+1448	+1448	.90	.88	.93	.31	2.03	+ 1.88	
4U	106.3	112.1	25.51	37.92	36.57	20687					.70												
5U	112.1	117.9	39.34	32.11	28.55	16298					.62												
6U	117.9	121.6	39.17	31.43	29.40	16070					.57												
7U	121.6	130.1	35.50	33.72	30.78	17498					.75												
8U	130.1	138.6	30.91	36.19	32.90	19080					1.21												
9U	138.6	144.7	36.53	33.83	29.64	17219					1.35												
10U	144.7	149.9	37.91	31.47	30.62	16861					.73												
11U	149.9	153.0	39.35	35.55	25.10	15561					.58												
12U	153.0	157.2	26.88	36.21	36.91	20106					.66												
13U	157.2	161.6	38.41	32.27	29.32	16284					.61												
1002C	157.2	207.5	51.10	25.34	23.56	12083	31.66	3.54	.73	.01	.88	12.08	1429	+1448	+1448	+1448	54.30	29.54	1.14	7.15	1.85		62
													+1448	+1448	+1448	+1448	.96	.67	.80	.20	2.21	+ 1.18	
14U	161.6	169.1	58.93	25.92	15.15	9015					.38												
15U	169.1	174.9	39.33	33.06	27.61	17514					1.62												
16U	174.9	182.5	50.26	26.90	22.84	13653					1.22												
17U	182.5	192.9	62.49	21.98	15.53	7845					.54												
18U	192.9	200.2	52.86	26.11	21.03	11309					.44												
19U	200.2	207.5	40.34	30.41	29.25	15793					.73												
20U	207.5	213.0	83.55																				
21U	213.0	220.6	38.65	31.95	29.40	16421					.54												
1003C	213.0	291.6	46.66	28.70	24.64	13167	34.62	3.50	.79	.01	.54	13.88	1304	1359	1390	1418	51.88	28.46	1.23	7.58	3.50		52
													1409	1446	+1448	+1448	2.03	.88	.84	.26	1.99	+ 1.35	
22U	220.6	222.1	71.95	16.89	11.16	4575					.35												
23U	222.1	228.4	32.26	34.44	33.30	18640					.52												
24U	228.4	233.7	27.73	36.57	35.70	19989					.59												
25U	233.7	238.9	47.44	28.96	23.60	13100					.61												
26U	238.9	241.4	23.94	36.74	39.32	21122					.83												
27U	241.4	255.8	40.60	31.14	28.26	15393					.56												
28U	255.8	259.6	37.84	32.21	29.95	16147					.59												
29U	259.6	270.0	40.46	31.28	28.26	15902					.74												
30U	270.0	276.1	67.54	19.91	12.55	6324					.38												
31U	276.1	283.4	54.98	26.71	18.31	9190					.46												
32U	283.4	291.6	68.08	22.42	9.50	4212					.45												
33U	291.6	299.3	83.62																				
34U	299.3	309.6	49.98	27.11	22.91	12304					.64												
1004C	299.3	312.1	58.79	23.57	17.64	9148	25.41	2.65	.57	.00	.48	12.10	1337	1401	1432	1448	55.02	27.71	1.14	9.65	.84		64
													1448	+1448	+1448	+1448	1.74	.74	.87	.23	1.47	+ .59	
35U	309.6	312.1	56.58	24.91	18.51	9769					.48												
36U	312.1	318.5	84.86																				
37U	318.5	329.4	54.57	23.58	21.85	10941					.55												
1101C	318.5	346.4	58.79	23.57	17.64	9148	25.41	2.65	.57	.00	.48	12.10	1337	1401	1432	1448	55.02	27.71	1.14	9.65	.84		64
													1448	+1448	+1448	+1448	1.74	.74	.87	.23	1.47	+ .59	



20 MAY 80

## HAT CREEK COAL DEVELOPMENT - SAMPLE DATA: DRY BASIS

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## COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DOH 75-0073

*****																									
SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS								
	LENGTH											OXYGEN	ID-R	ST-R	HT-R	FL-R	SI02	AL2O3	TIO2	FE2O3	CAO			GRIND	
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	BY	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX	
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
2001U	0.0	38.1																							
1U	38.1	49.0	34.67	33.29	32.04	17868					.86														
1001C	39.6	100.5	44.13	30.78	25.09	14304	37.62	3.29	.80	.02	.66	13.48	1454	1465	1476	1482	48.80	29.84	1.15	10.88	3.14			45	
														+1482	+1482	+1482	+1482	1.61	.47	.90	.28	2.23	+	.70	
2U	49.0	57.9	35.49	36.33	28.18	16977					.72														
3U	57.9	62.9	57.19	24.44	18.37	10601					.59														
4U	62.9	69.1	27.39	35.91	36.70	20573					1.30														
5U	69.1	73.7	51.97	27.36	20.67	12137					.55														
6U	73.7	81.0	39.36	33.83	26.81	15293					.59														
7U	81.0	91.7	47.52	27.64	24.84	13511					.60														
8U	91.7	100.5	52.23	29.28	18.49	11109					.63														
9U	100.5	109.7	48.50	27.64	23.86	13679					.54														
1002C	100.5	158.1	41.19	30.26	28.55	15688	40.34	3.42	.89	.02	.65	13.49	+1482	+1482	+1482	+1482	52.82	31.75	1.15	7.05	2.27			40	
														+1482	+1482	+1482	+1482	1.15	.55	.97	.29	.20	+	1.72	
10U	109.7	120.0	50.94	26.71	22.35	12590					.63														
11U	120.0	128.3	31.59	35.70	32.71	18989					.70														
12U	128.3	135.9	19.93	40.88	39.19	22843					.68														
13U	135.9	144.3	37.62	30.83	31.55	17224					.97														
14U	144.3	153.0	40.15	31.67	28.18	15958					.77														
15U	153.0	158.1	60.87	22.66	16.47	9234					.43														
2002U	158.1	160.3																							
16U	160.3	167.3	42.61	30.48	26.91	15030					1.00														
1003C	160.3	206.3	38.10	31.75	30.15	16519	42.30	3.60	1.03	.01	.84	14.12	1371	1382	1393	1409	47.45	28.07	1.13	12.45	2.69			41	
														1476	+1482	+1482	+1482	2.42	.81	.90	.27	1.91	+	1.90	
17U	167.3	181.0	42.31	31.23	26.46	14751					.64														
18U	181.0	191.4	26.38	37.44	36.18	20589					.95														
19U	191.4	199.9	33.24	35.22	31.54	18028					.72														
20U	199.9	206.3	47.63	28.03	24.34	13555					.93														
21U	206.3	211.0	82.10																						
22U	211.0	215.7	46.07	26.80	27.13	13930					.61														
1004C	211.0	272.4	56.19	25.86	17.95	9559	27.51	2.42	.92	.03	.58	12.35	1187	1198	1209	1221	48.10	24.49	.98	11.80	5.97			55	
														1276	1293	1309	1326	2.51	.85	.90	.28	2.31	+	1.81	
23U	215.7	233.1	61.18	29.81	9.01	7243					.87														
24U	233.1	241.7	55.87	24.55	19.58	11141					.51														
25U	241.7	249.3	52.08	26.09	21.83	11095					.44														
26U	249.3	255.1	35.93	32.89	31.18	17449					.56														
27U	255.1	263.0	74.19	16.97	8.84	4393					.30														
28U	263.0	272.4	46.50	29.51	23.99	13155					.37														
29U	272.4	275.8	81.11																						
1005C	272.4	337.7	54.68	24.65	20.67	10995	29.88	2.53	.86	.01	.47	11.57	1426	1443	1459	1482	52.43	27.00	1.11	9.52	2.13			50	
														+1482	+1482	+1482	+1482	2.66	1.15	1.14	.40	1.50	+	.96	
30U	275.8	285.2	32.26	33.72	34.02	18963					.67														
31U	285.2	291.0	60.65	22.15	17.20	9138					.38														
32U	291.0	298.0	58.08	23.43	18.49	9569					.46														
33U	298.0	307.2	49.96	28.18	21.86	12369					.78														
2003U	307.2	322.6																							
34U	322.6	329.6	33.37	32.54	34.09	18356					.92														
1006C	322.6	329.6	38.47	29.67	31.86	16649	42.90	3.58	1.04	.05	.54	13.42	+1482	+1482	+1482	+1482	50.95	30.91	1.00	8.30	2.36			34	
														+1482	+1482	+1482	+1482	1.53	1.15	.84	.27	1.28	+	1.41	







## COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0074

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SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS						
LENGTH												OXYGEN BY DIFF.	ID-R	ST-R	HT-R	FL-R	SiO2	AL2O3	TiO2	FE2O3	CAO		GRIND
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S		ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
35U	424.2	439.5	28.38	36.67	34.95	20017					.91												
36U	439.5	456.5	28.87	36.20	34.93	19785					1.11												
37U	456.5	465.7	53.35	27.36	19.29	10469					.51												
1008C	456.5	511.4	32.40	36.07	31.53	18645	46.70	4.29	.89	.00	.91	14.81	1373	1401	1409	1418	44.08	29.39	1.76	14.94	4.20		44
													+1448	+1448	+1448	+1448	.93	.35	.06	.29	3.04	+	.96
38U	465.7	480.9	28.99	35.73	35.28	19922					1.11												
39U	480.9	496.2	28.23	37.30	34.47	19899					1.13												
40U	496.2	511.4	28.29	37.70	34.01	19926					.71												
41U	511.4	521.2	25.15	37.02	37.83	21473					.67												
1009C	511.4	562.0	28.14	35.72	36.14	20289	51.00	4.81	1.05	.00	.80	14.20	1359	+1448	+1448	+1448	47.38	31.01	1.92	5.72	7.49		51
													+1448	+1448	+1448	+1448	.65	.93	.10	.15	3.74	+	.91
42U	521.2	530.3	29.49	36.40	34.11	19740					.68												
43U	530.3	545.5	29.90	35.99	34.11	18575					.94												
44U	545.5	554.1	30.69	35.13	34.18	19184					.84												
45U	554.1	562.0	32.05	33.06	34.89	18936					.77												
46U	562.0	566.0	41.20	30.27	28.53	15877					.56												
1010C	562.0	620.5	42.27	29.76	27.97	15330	39.43	3.88	.85	.00	1.07	12.50	+1448	+1448	+1448	+1448	51.62	31.57	1.96	6.01	3.22		60
													+1448	+1448	+1448	+1448	.55	.74	.12	.24	3.26	+	.71
47U	566.0	569.3	43.50	30.24	26.26	14914					.62												
48U	569.3	577.1	48.33	28.43	23.24	13274					.97												
49U	577.1	592.3	37.28	32.72	30.00	16796					.90												
50U	592.3	607.6	35.81	31.77	32.42	17684					1.26												
51U	607.6	614.4	56.33	23.93	19.74	10234					.92												
52U	614.4	620.5	44.93	30.88	24.19	14409					1.38												
53U	620.5	634.8	44.57	29.12	26.31	14484					1.59												
1011C	620.5	680.3	51.02	25.27	23.71	11955	31.67	3.31	.78	.00	.85	12.37	+1448	+1448	+1448	+1448	52.04	33.01	1.71	7.58	1.60		60
													+1448	+1448	+1448	+1448	.60	.22	.03	.15	1.28	+	1.78
54U	634.8	638.5	38.59	37.10	24.31	15535					.99												
55U	638.5	646.4	59.92	22.20	17.88	9204					.98												
56U	646.4	653.4	56.51	23.96	19.53	10601					.45												
57U	653.4	659.2	61.08	22.57	16.35	8766					.35												
58U	659.2	672.3	44.81	28.79	26.40	14246					.46												
59U	672.3	680.3	59.48	24.65	15.87	8503					.52												

## COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0077

SAMPLE		PROXIMATE ANALYSIS					ULTIMATE ANALYSIS					FUSION ANALYSIS				MINERAL ANALYSIS							
LENGTH												OXYGEN	ID-R	ST-R	HT-R	FL-R	SiO2	AL2O3	TiO2	FE2O3	CAO	GRIND	
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX
2001U	0.6	29.5																					
1U	29.5	42.3	22.27	36.67	41.06	22138					.71												
1001C	30.7	88.2	30.07	33.78	36.15	19408	48.98	3.95	.96	.01	.55	15.48	1421	1432	1443	1454	48.13	30.55	.92	10.74	2.92		40
													+1482	+1482	+1482	+1482	.97	1.67	1.00	.32	2.28	+	.50
2U	42.3	50.9	24.57	38.09	37.34	21141					.72												
3U	50.9	57.3	29.80	37.10	33.10	19054					1.05												
4U	57.3	64.0	33.81	32.56	33.63	18366					.53												
5U	64.0	69.1	43.38	29.79	26.83	15160					.47												
6U	69.1	73.1	20.61	37.55	41.84	22597					.38												
7U	73.1	79.2	37.77	31.41	30.82	16654					.42												
8U	79.2	86.2	26.24	34.85	38.91	20620					.53												
9U	86.2	88.2	56.17	23.89	19.94	11181					.33												
10U	88.2	103.4	33.19	35.00	31.81	18254					.64												
1002C	88.2	135.0	31.98	34.10	33.92	18563	47.45	3.90	1.03	.05	.71	14.88	1437	1448	1459	1482	48.42	30.40	1.01	9.33	3.34		45
													+1482	+1482	+1482	+1482	2.09	1.72	.96	.50	2.16	+	.07
11U	103.4	118.7	34.87	32.74	32.39	17719					.92												
12U	118.7	135.0	28.15	34.44	37.41	19915					.73												
13U	135.0	152.7	31.07	33.51	35.42	19056					.64												
1003C	135.0	191.8	32.75	33.13	34.12	18496	47.27	3.85	.98	.03	.68	14.44	+1482	+1482	+1482	+1482	51.51	31.03	1.01	7.44	2.55		48
													+1482	+1482	+1482	+1482	1.84	1.60	.95	.34	1.61	+	.12
14U	152.7	164.8	30.82	33.58	35.60	19540					.68												
15U	164.8	177.0	25.87	35.16	38.97	20859					.88												
16U	177.0	188.5	36.38	32.93	30.69	17579					.69												
17U	188.5	191.8	65.19	22.38	12.43	7326					.52												
18U	191.8	197.9	79.60																				
19U	197.9	212.4	48.85	27.16	23.99	12983					.58												
1004C	197.9	258.1	44.66	28.97	26.37	14121	37.59	3.15	.93	.01	.61	13.05	1248	1259	1271	1282	51.51	26.73	.85	8.08	6.33		57
													1315	1326	1337	1348	1.53	.97	.83	.19	2.52	+	.46
20U	212.4	218.5	69.86	24.61	5.53	3868					.28												
21U	218.5	224.6	34.01	32.69	33.30	17542					.61												
22U	224.6	229.5	46.10	28.91	24.99	13983					.87												
23U	229.5	235.7	22.87	35.64	41.49	22318					.72												
24U	235.7	247.1	34.36	30.94	34.70	18263					.84												
25U	247.1	258.1	42.43	29.04	28.53	15226					.65												
26U	258.1	269.4	57.97	27.56	14.47	8094					.36												
1005C	258.1	316.9	51.89	26.44	21.67	11683	31.62	2.59	.91	.05	.60	12.34	1237	1259	1276	1293	51.09	27.43	.84	8.76	5.35		66
													1348	1359	1371	1415	1.45	.81	1.00	.24	2.66	+	.37
27U	269.4	275.5	60.25	21.85	17.90	9636					.66												
28U	275.5	282.8	43.85	27.90	28.25	15286					.56												
29U	282.8	290.4	54.28	26.38	19.34	11046					.78												
30U	290.4	295.3	46.13	29.05	24.82	13872					.73												
31U	295.3	299.9	46.02	29.54	24.44	13911					.57												
32U	299.9	302.3	56.76	23.09	20.15	9885					.99												
33U	302.3	304.4	71.60	18.14	10.26	5261					.36												
34U	304.4	314.8	44.40	27.97	27.63	15133					.76												
35U	314.8	316.9	44.28	26.74	28.98	14712					.99												
36U	316.9	324.3	59.06	22.35	18.59	9841					.57												
1006C	316.9	376.1	45.75	29.73	24.52	13553	36.76	3.09	.95	.05	.35	13.05	1254	1265	1271	1282	46.71	28.87	.95	10.29	6.71		60
													1376	1387	1398	1409	1.55	.90	.73	.19	2.57	+	.53





DDH 75-0079

*****																							
SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS						
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	OXYGEN	ID-R	ST-R	HT-R	FL-R	SI02	AL203	TIO2	FE203	CAO	GRIND	
												BY	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3		UND+ER
*****																							
2001U	1.5	10.0																					
2002U	10.0	196.9																					
1U	196.9	199.9	70.40	19.17	10.43	6405					.96												
2U	199.9	215.1	24.98	37.31	37.71	20264					.52												
1001C	199.9	260.9	29.87	35.62	34.51	18563	48.37	4.35	.99	.06	.49	15.87	+1371	+1371	+1371	+1371	51.27	30.71	1.13	7.72	2.52	31	
													1398	1482	+1482	+1482	1.41	.77	.72	.52	1.96 + 1.27		
3U	215.1	230.4	29.91	34.30	35.79	19068					.43												
4U	230.4	245.6	32.67	33.72	33.61	18319					.44												
5U	245.6	260.9	34.08	33.18	32.74	17942					.66												
6U	260.9	276.1	40.94	31.99	27.07	15523					.45												
1002C	260.9	321.8	34.87	35.49	29.64	17196	44.95	5.05	.94	.06	.54	13.59	1354	+1371	+1371	+1371	49.65	29.97	1.15	9.83	3.14	33	
													1398	1454	1465	+1482	1.46	.77	.65	.34	1.66 + 1.38		
7U	276.1	291.3	28.54	35.76	35.70	19443					.57												
8U	291.3	306.6	30.05	35.70	34.25	19005					.48												
9U	306.6	321.8	42.32	30.92	26.76	14898					.45												
10U	321.8	337.1	33.36	33.78	32.86	18105					.94												
1003C	321.8	382.8	38.82	32.94	28.24	15833	42.09	4.38	.85	.04	.65	13.17	+1432	+1432	+1432	+1432	51.97	31.10	1.05	6.97	1.99	37	
													+1482	+1482	+1482	+1482	1.24	.79	.72	.28	1.72 + 2.17		
11U	337.1	352.3	47.90	28.63	23.47	13479					.63												
12U	352.3	367.5	36.95	32.71	30.34	16384					.68												
13U	367.5	382.8	33.26	33.40	33.34	18114					.97												
14U	382.8	398.0	37.19	34.06	28.75	16296					.62												
1004C	382.8	461.7	33.41	36.73	29.86	17763	46.20	4.57	.89	.06	.73	14.14	1387	+1415	+1415	+1415	49.15	28.87	.94	11.55	2.84	36	
													1332	1404	1454	+1454	1.39	1.02	.56	.20	2.30 + 1.18		
15U	398.0	413.3	30.77	36.38	32.85	18787					.66												
16U	413.3	428.5	30.86	35.06	34.08	18763					.86												
17U	428.5	443.7	31.82	33.91	34.27	18512					.97												
18U	443.7	456.8	30.17	35.67	34.16	18931					.89												
19U	456.8	461.7	40.84	32.00	27.16	15528					.84												
20U	461.7	470.3	54.60	25.28	20.12	11032					.75												
1005C	461.7	538.5	46.30	31.40	22.30	13669	35.74	3.77	.68	.05	.88	12.58	+1371	+1371	+1371	+1371	50.62	29.61	.94	10.89	1.96	55	
													+1459	+1459	+1459	+1459	1.11	.79	.59	.26	1.86 + 1.37		
21U	470.3	479.2	44.42	32.75	22.83	14391					1.25												
22U	479.2	493.1	31.55	34.39	34.06	18568					1.05												
23U	493.1	506.2	41.57	30.73	27.70	15319					1.04												
24U	506.2	508.7	54.09	26.75	19.16	11139					1.06												
25U	508.7	516.9	50.97	27.30	21.73	11876					.78												
26U	516.9	526.9	44.59	29.02	26.39	14323					.92												
27U	526.9	538.5	63.54	21.94	14.52	7882					.81												
2003U	538.5	541.6																					
28U	541.6	550.1	58.61	24.07	17.32	9680					.58												
1006C	541.6	593.7	61.36	25.43	13.21	8382	23.43	2.74	.48	.07	.32	11.60	+1371	+1371	+1371	+1371	54.32	29.51	1.00	8.80	1.01	58	
													1371	1443	+1482	+1482	1.19	.66	.68	.21	1.00 + 1.62		
29U	550.1	555.3	60.11	23.07	16.82	9336					.54												
30U	555.3	562.6	65.45	21.56	12.99	7457					.32												
31U	562.6	569.6	64.87	24.31	10.82	7578					.27												
32U	569.6	578.5	56.06	28.05	15.89	10267					.25												
33U	578.5	587.1	55.59	27.09	17.32	10376					.22												
34U	587.1	593.7	68.30	21.72	9.98	6824					.17												



HAT CREEK COAL DEVELOPMENT - SAMPLE DATA: DRY BASIS

COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0081

*****																							
SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS						
LENGTH												OXYGEN	ID-R	ST-R	HT-R	FL-R	SiO2	AL2O3	TiO2	FE2O3	CAO		GRIND
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	BY DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
2001U	0.6	26.2																					
1U	26.2	31.6	59.02	22.09	18.89	9950					.29												
1001C	27.4	74.8	38.55	31.36	30.09	16254	41.26	3.49	.90	.02	.68	15.10	+1482	+1482	+1482	+1482	51.50	32.99	1.12	6.64	2.32		45
													+1482	+1482	+1482	+1482	1.43	.92	.99	.40	1.36	+	.33
2U	31.6	36.5	38.67	30.41	30.92	16812					.70												
3U	36.5	40.2	31.09	33.92	34.99	18877					.81												
4U	40.2	43.1	19.50	38.21	42.29	22694					.62												
5U	43.1	51.8	34.28	31.39	34.33	17931					.69												
6U	51.8	61.2	36.27	32.73	31.00	16903					1.07												
7U	61.2	66.9	29.94	35.95	34.11	19512					.56												
8U	66.9	74.8	50.11	25.79	24.10	12386					.41												
9U	74.8	82.6	35.09	30.70	34.21	17977					.66												
1002C	74.8	125.5	43.09	29.90	27.01	14602	38.26	3.16	.95	.02	.48	14.04	+1482	+1482	+1482	+1482	50.57	32.49	1.04	8.58	2.40		47
													+1482	+1482	+1482	+1482	1.25	.02	.68	.28	1.54	+	.35
10U	82.6	87.7	55.75	24.10	20.15	10325					.30												
11U	87.7	96.3	44.33	28.64	27.03	13958					.54												
12U	96.3	104.8	56.60	24.22	19.18	10108					.40												
13U	104.8	115.2	36.97	33.23	29.80	16489					.48												
14U	115.2	125.5	26.72	34.46	38.82	20494					.57												
15U	125.5	129.8	55.36	24.29	20.35	10829					.45												
1003C	125.5	175.2	48.63	27.92	23.45	13172	34.10	2.95	.66	.02	.52	13.12	+1482	+1482	+1482	+1482	53.36	29.91	1.01	7.67	2.42		49
													+1482	+1482	+1482	+1482	1.34	1.06	.98	.38	1.51	+	.36
16U	129.8	134.1	56.16	23.20	20.64	10415					.35												
17U	134.1	144.4	32.86	33.18	33.96	18315					.54												
18U	144.4	154.5	29.25	33.29	37.46	19622					.55												
19U	154.5	161.2	59.79	21.77	18.44	9729					.37												
20U	161.2	164.8	46.93	26.24	26.83	14090					.70												
21U	164.8	175.2	60.16	23.06	16.78	9236					.49												
22U	175.2	187.7	43.47	28.37	28.16	14635					.48												
1004C	175.2	222.1	51.05	27.54	21.41	12351	32.34	2.76	.56	.04	.59	12.66	1459	1462	1465	+1482	51.84	29.45	1.13	8.99	2.40		52
													+1482	+1482	+1482	+1482	1.72	1.05	1.02	.26	1.87	+	.27
23U	187.7	192.6	74.64	15.68	9.68	5021					.25												
24U	192.6	199.9	40.07	29.27	30.66	16316					.70												
25U	199.9	204.0	57.27	21.90	20.83	10395					.51												
26U	204.0	211.2	35.27	32.31	32.42	17575					1.08												
27U	211.2	222.1	58.06	25.47	16.47	9608					.55												
2002U	222.1	224.6																					
28U	224.6	234.0	67.16	20.45	12.39	6812					.35												
1005C	224.6	249.9	54.42	25.50	20.08	11285	29.69	2.71	.58	.03	.50	12.07	1465	+1482	+1482	+1482	53.46	28.78	.97	8.05	2.79		57
													+1482	+1482	+1482	+1482	1.60	1.07	1.00	.27	1.56	+	.45
29U	234.0	242.3	57.84	22.94	19.22	10013					.44												
30U	242.3	249.9	45.14	28.43	26.43	14402					.57												
2003U	249.9	253.4																					
31U	253.4	260.7	46.23	27.33	26.44	13890					.53												
1101C	253.4	272.7	54.42	25.50	20.08	11285	29.69	2.71	.58	.03	.50	12.07	1465	+1482	+1482	+1482	53.46	28.78	.97	8.05	2.79		57
													+1482	+1482	+1482	+1482	1.60	1.07	1.00	.27	1.56	+	.45
32U	260.7	265.1	65.58	23.31	11.11	6187					.26												
33U	265.1	272.7	39.99	30.56	29.45	16407					.69												
2004U	272.7	275.5																					





## COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0081

[illegible]

## COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0082

SAMPLE		PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS						
LENGTH																						
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	OXYGEN BY DIFF.	ID-R	ST-R	HT-R	FL-R	SI02	AL2O3	TIO2	FE2O3	CAO	GRIND
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
2001U	0.0	55.4																				
2002U	55.4	140.2																				
1U	140.2	145.2	85.31																			
2U	145.2	154.5	15.76	39.30	44.94	23869					.62											
1001C	145.2	205.2	31.95	33.94	34.11	18684	47.33	4.55	1.32	.00	.67	14.18	1404	1440	1448	+1448	48.48	30.54	1.63	7.94	4.09	53
													+1448	+1448	+1448	+1448	.71	.43	.11	.32	2.76 + 2.99	
3U	154.5	165.2	28.66	32.67	38.67	19640					.74											
4U	165.2	172.2	38.82	31.30	29.88	15656					.42											
5U	172.2	182.2	45.09	26.76	28.15	14118					.65											
6U	182.2	193.2	33.75	32.84	33.41	17128					.70											
7U	193.2	205.2	36.90	30.96	32.14	16116					.65											
8U	205.2	213.3	39.21	28.67	32.12	16291					.73											
1002C	205.2	264.8	46.27	28.21	25.52	13742	35.42	3.62	.76	.00	.66	13.27	+1448	+1448	+1448	+1448	53.36	31.39	1.68	5.50	2.41	67
													+1448	+1448	+1448	+1448	.60	.33	.11	.19	1.90 + 2.53	
9U	213.3	218.0	35.42	34.58	30.00	15854					.54											
10U	218.0	228.9	46.31	31.57	22.12	13309					.46											
11U	228.9	238.8	54.95	23.23	21.82	10669					.68											
12U	238.8	248.1	50.59	26.42	22.99	12118					.58											
13U	248.1	259.0	34.89	31.13	33.98	17749					.68											
14U	259.0	264.8	51.20	24.77	24.03	11583					.64											
2003U	264.8	281.6																				
15U	281.6	290.0	54.38	25.50	20.12	10320					.42											
1003C	281.6	305.1	49.98	26.05	23.97	12518	33.24	3.36	.90	.00	.57	11.95	1373	+1448	+1448	+1448	54.50	26.95	1.61	10.08	1.89	73
													+1448	+1448	+1448	+1448	1.45	.29	.11	.22	1.66 + 1.24	
16U	290.0	305.1	39.00	30.49	30.51	16291					.57											
2004U	305.1	313.0																				
17U	313.0	320.9	44.18	24.72	31.10	13037					.71											
1101C	313.0	326.8	49.98	26.05	23.97	12518	33.24	3.36	.90	.00	.57	11.95	1373	+1448	+1448	+1448	54.50	26.95	1.61	10.08	1.89	73
													+1448	+1448	+1448	+1448	1.45	.29	.11	.22	1.66 + 1.24	
18U	320.9	326.8	57.89	21.05	21.06	10087					.56											
2005U	326.8	330.5																				
19U	330.5	340.4	54.15	25.96	19.89	10704					.47											
1102C	330.5	340.4	49.98	26.05	23.97	12518	33.24	3.36	.90	.00	.57	11.95	1373	+1448	+1448	+1448	54.50	26.95	1.61	10.08	1.89	73
													+1448	+1448	+1448	+1448	1.45	.29	.11	.22	1.66 + 1.24	
20U	340.4	344.1	57.37	24.97	17.66	9306					.37											
21U	344.1	349.9	80.01																			
22U	349.9	359.3	47.85	28.90	23.25	13869					.73											
1004C	349.9	366.9	54.17	24.84	20.99	11074	30.27	3.24	.83	.00	.64	10.85	1396	1434	1443	1448	55.98	26.57	1.66	9.15	1.19	78
													+1448	+1448	+1448	+1448	1.45	.35	.31	.29	1.44 + 1.61	
23U	359.3	366.9	50.86	25.49	23.65	12686					.73											
2006U	366.9	373.3																				
24U	373.3	380.3	55.58	22.45	21.97	11025					.41											
1103C	373.3	399.2	54.17	24.84	20.99	11074	30.27	3.24	.83	.00	.64	10.85	1396	1434	1443	1448	55.98	26.57	1.66	9.15	1.19	78
													+1448	+1448	+1448	+1448	1.45	.35	.31	.29	1.44 + 1.61	
25U	380.3	388.9	70.09	17.64	12.27	5168					.46											
26U	388.9	399.2	57.14	21.69	21.17	10315					.55											
2007U	399.2	405.2																				
27U	405.2	411.7	47.58	26.51	25.91	13439					.68											





HAT CREEK COAL DEVELOPMENT - SAMPLE DATA: DRY BASIS

COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0088

[illegible]

## COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0089

*****																							
SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS						
LENGTH												OXYGEN	ID-R	ST-R	HT-R	FL-R	SiO2	AL2O3	TiO2	FE2O3	CAO		
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
2001U	0.3	44.1																					
1U	44.1	58.8	26.53	36.73	36.74	20240					1.05												
1001C	48.7	96.3	32.92	34.12	32.96	18114	46.89	3.64	.97	.05	.68	14.85	+1482	+1482	+1482	+1482	49.02	34.74	1.11	7.11	2.66		
													+1482	+1482	+1482	+1482	1.67	.84	.71	.49	1.52	+	
2U	58.8	74.0	36.45	31.34	32.21	16951					.62												
3U	74.0	82.2	25.09	36.27	38.64	20578					.62												
4U	82.2	90.2	29.26	36.84	33.90	19275					.52												
5U	90.2	96.3	46.75	29.74	23.51	13665					.38												
6U	96.3	105.0	40.99	30.65	28.36	15477					.51												
1002C	96.3	117.8	30.88	34.04	35.08	18996	48.66	4.10	1.23	.05	.47	14.61	+1482	+1482	+1482	+1482	51.47	33.61	1.13	6.02	2.77		
													+1482	+1482	+1482	+1482	1.51	1.07	.69	.34	1.20	+	
7U	105.0	117.8	22.84	36.43	40.73	21562					.65												
2002U	117.8	120.3																					
8U	120.3	126.4	40.72	30.85	28.43	15665					.43												
1101C	120.3	148.1	30.88	34.04	35.08	18996	48.66	4.10	1.23	.05	.47	14.61	+1482	+1482	+1482	+1482	51.47	33.61	1.13	6.02	2.77		
													+1482	+1482	+1482	+1482	1.51	1.07	.69	.34	1.20	+	
9U	126.4	132.8	33.29	33.15	33.56	18131					.43												
10U	132.8	148.1	21.43	38.77	39.80	21973					.40												
11U	148.1	163.3	29.61	34.49	35.90	19359					.56												
1003C	148.1	206.0	26.66	35.78	37.56	20447	51.67	4.09	1.20	.03	.68	15.67	+1482	+1482	+1482	+1482	50.34	34.56	1.14	6.03	2.65		
													+1482	+1482	+1482	+1482	1.27	1.33	.71	.37	1.25	+	
12U	163.3	178.6	19.66	37.67	42.67	22536					.81												
13U	178.6	187.4	23.52	37.23	39.25	21438					.59												
14U	187.4	190.8	33.57	33.27	33.16	18228					.84												
15U	190.8	195.6	29.11	34.29	36.60	19540					.72												
16U	195.6	203.6	29.28	34.05	36.67	19554					.63												
17U	203.6	206.0	37.98	30.70	31.32	16754					1.08												
18U	206.0	212.1	83.76																				
2003U	212.1	217.3																					

COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0090

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SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS							FUSION ANALYSIS				MINERAL ANALYSIS					
	LENGTH											OXYGEN BY	ID-R	ST-R	HT-R	FL-R	SIO2	AL2O3	TIO2	FE2O3	CAO		GRIND
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
2001U	0.6	55.1																					
2002U	55.1	317.2																					
1U	317.2	321.5	67.19	21.86	10.95	6831					.30												
1001C	317.2	334.5	52.47	27.36	20.17	11992	31.44	2.64	.35	.04	.44	12.62	1334	1337	1340	1351	50.69	26.85	1.00	11.28	3.71		62
													1404	1432	1448	+1482	1.97	1.05	1.02	.31	1.76	+	.36
2U	321.5	324.0	69.27	20.09	10.64	6117					.36												
3U	324.0	328.5	38.81	29.90	31.29	16679					.78												
4U	328.5	334.5	47.71	25.07	27.22	13860					.48												
5U	334.5	340.1	81.90																				
6U	340.1	347.4	43.02	31.45	25.53	13721					.37												
1101C	340.1	347.4	52.47	27.36	20.17	11992	31.44	2.64	.35	.04	.44	12.62	1334	1337	1340	1351	50.69	26.85	1.00	11.28	3.71		62
													1404	1432	1448	+1482	1.97	1.05	1.02	.31	1.76	+	.36
7U	347.4	351.1	77.87																				
8U	351.1	361.7	42.51	31.95	25.54	14681					.52												
1002C	351.1	406.9	33.55	34.46	31.99	18345	46.64	3.66	.78	.02	.64	14.71	1265	1279	1293	1304	46.81	27.81	.83	11.05	6.49		47
													1354	1384	1407	1448	1.98	1.12	.56	.48	2.72	+	.15
9U	361.7	377.0	33.89	34.32	31.79	17710					.63												
10U	377.0	392.2	29.35	35.81	34.84	19650					.74												
11U	392.2	406.9	34.86	30.43	34.71	18017					.60												
12U	406.9	419.4	42.74	27.87	29.39	15456					.54												
1003C	406.9	459.6	41.98	29.44	28.58	15226	39.49	3.14	.92	.01	.80	13.66	1473	1479	+1482	+1482	52.04	30.36	1.09	8.04	2.77		62
													+1482	+1482	+1482	+1482	1.51	.84	.56	.32	2.18	+	.29
13U	419.4	425.5	45.73	29.36	24.91	14137					.78												
14U	425.5	431.2	44.17	28.44	27.39	15056					1.59												
15U	431.2	434.3	57.22	24.54	18.24	10529					1.13												
16U	434.3	440.1	16.32	37.48	46.20	24758					.89												
17U	440.1	443.3	50.76	30.95	18.29	10643					.43												
18U	443.3	450.9	37.86	30.64	31.50	17010					.61												
19U	450.9	459.6	43.00	28.33	28.67	15326					.73												

DDH 75-0091

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SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS							
	LENGTH											OXYGEN	ID-R	ST-R	HT-R	FL-R	SiO2	AL2O3	TiO2	FE2O3	CAO		GRIND	
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	BY	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
2001U	0.3	7.6																						
2002U	7.6	12.1																						
1U	12.1	16.1	14.46	41.77	43.77	24262					.54													
1001C	12.1	67.0	29.21	35.70	35.09	19077	48.63	4.17	1.06	.02	.64	16.27	+1448	+1448	+1448	+1448	51.44	28.54	1.16	7.86	1.64		57	
2U	16.1	21.4	54.68	28.45	16.87	9732					.31													
3U	21.4	32.3	22.85	36.01	41.14	20975					.55													
4U	32.3	44.1	30.64	33.23	36.13	18731					.51													
5U	44.1	53.3	22.82	35.82	41.36	21383					.55													
6U	53.3	56.5	50.70	26.78	22.52	11316					.37													
7U	56.5	61.4	33.68	33.57	32.75	17431					.56													
8U	61.4	67.0	26.69	34.83	38.48	19859					1.65													
9U	67.0	70.1	17.17	17.16	11.67	4542					.48													
1002C	67.0	112.4	38.97	34.36	26.67	15460	39.85	3.42	.86	.01	.50	16.39	1396	1434	1440	1440	47.04	20.16	.96	12.08	2.73		56	
10U	70.1	74.5	44.83	28.89	26.28	13937					.48													
11U	74.5	77.4	65.51	22.74	11.75	5647					.29													
12U	77.4	86.5	26.79	34.44	38.77	19729					.63													
13U	86.5	91.5	61.90	23.01	15.09	7887					.31													
14U	91.5	104.0	36.32	36.61	27.07	15312					.43													
15U	104.0	112.4	17.51	39.86	42.63	22925					.47													
16U	112.4	125.5	31.17	33.45	35.38	18575					.62													
1003C	112.4	174.3	30.71	36.59	32.70	18587	47.39	3.92	.97	.01	.56	16.44	1326	1343	1365	1407	48.74	26.09	1.17	6.81	8.89		56	
17U	125.5	134.4	23.96	36.38	39.66	20761					.48													
18U	134.4	140.8	42.10	35.24	22.66	11329					.36													
19U	140.8	153.9	20.13	38.31	41.56	22304					.54													
20U	153.9	158.9	43.66	29.04	27.30	14330					.45													
21U	158.9	162.3	25.46	35.71	38.83	20166					.63													
22U	162.3	165.0	40.60	30.62	28.78	15570					.52													
23U	165.0	169.9	27.74	34.54	37.72	20138					.52													
24U	169.9	174.3	38.23	31.05	30.72	15900					.55													
25U	174.3	178.6	29.91	34.72	35.37	18954					.54													
1004C	174.3	229.5	33.28	34.96	31.76	18049	46.24	4.01	.94	.00	.56	14.97	1423	1434	1448	+1448	48.18	28.92	.84	8.69	4.06		44	
26U	178.6	183.7	25.62	34.58	39.80	20078					.59													
27U	183.7	187.7	50.33	26.43	23.24	12109					.35													
28U	187.7	194.1	36.05	30.15	33.80	17040					.47													
29U	194.1	199.6	15.70	39.38	44.92	24274					.59													
30U	199.6	206.5	30.49	33.84	35.67	18915					.56													
31U	206.5	210.0	60.36	28.49	11.15	5501					.33													
32U	210.0	214.2	45.73	30.08	24.19	13551					.62													
33U	214.2	229.5	28.96	36.32	34.72	19524					.62													
34U	229.5	244.7	22.57	36.75	40.68	21810					.67													
1005C	229.5	294.1	26.32	36.77	36.91	20443	51.76	4.22	1.00	.00	.75	15.95	1248	1265	1309	1343	47.82	24.57	.97	9.45	6.30		50	
35U	244.7	253.5	27.62	36.26	36.12	20245					.58													
36U	253.5	262.4	22.39	36.91	40.70	21987					.79													
37U	262.4	266.3	33.47	33.02	33.51	18398					.80													



HAT CREEK COAL DEVELOPMENT - SAMPLE DATA: DRY BASIS

COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0091

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SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS						
LENGTH												OXYGEN BY	ID-R	ST-R	HT-R	FL-R	SiO2	AL2O3	TiO2	FE2O3	CAO		GRIND
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
38U	266.3	273.1	29.04	39.47	31.49	17275					.53												
39U	273.1	278.2	23.58	37.50	38.92	21652					.80												
40U	278.2	281.9	22.98	38.83	38.19	21771					.94												
41U	281.9	288.0	29.36	33.96	36.68	19489					.82												
42U	288.0	294.1	33.20	33.65	33.15	18547					.73												

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*****																								
SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS							
LENGTH												OXYGEN	ID-R	ST-R	HT-R	FL-R	SI02	AL2O3	TIO2	FE2O3	CAO		GRIND	
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX	
*****																								
2001U	0.6	29.5																						
1U	29.5	45.1	62.24	23.78	13.98	6652					.62													
1001C	33.5	96.6	52.92	29.61	17.47	9997	28.13	2.45	.64	.01	.79	15.06	1257	1259	1262	1265	44.96	28.03	.80	8.53	7.63		75	
													1298	1312	1326	1332	4.27	.36	.70	.25	2.52	+ 1.95		
2U	45.1	49.6	39.05	31.66	29.29	16082					.79													
3U	49.6	59.7	50.72	29.67	19.61	11834					.88													
4U	59.7	70.2	53.87	35.44	10.69	7064					.67													
5U	70.2	78.3	65.72	24.07	10.21	6440					.70													
6U	78.3	84.4	45.51	28.83	25.66	14230					1.04													
7U	84.4	90.5	43.84	30.40	25.76	14356					1.10													
8U	90.5	96.6	40.44	30.58	28.98	15665					.96													
2002U	96.6	100.7																						
9U	100.7	107.5	44.86	28.77	26.37	14474					.59													
1002C	100.7	124.0	42.60	29.59	27.81	14823	38.04	3.23	.99	.05	.54	14.55	+1482	+1482	+1482	+1482	51.61	33.64	.99	6.79	2.32		53	
													+1482	+1482	+1482	+1482	1.51	.53	.71	.18	1.22	+ .50		
10U	107.5	114.9	40.74	33.23	26.03	13916					.75													
11U	114.9	124.0	37.34	30.19	32.47	16793					.75													
2003U	124.0	127.1																						
12U	127.1	136.2	58.61	24.30	17.09	9194					.41													
1101C	127.1	136.2	42.60	29.59	27.81	14823	38.04	3.23	.99	.05	.54	14.55	+1482	+1482	+1482	+1482	51.61	33.64	.99	6.79	2.32		53	
													+1482	+1482	+1482	+1482	1.51	.53	.71	.18	1.22	+ .50		
2004U	136.2	143.2																						
13U	143.2	145.9	49.57	25.97	24.46	12700					.48													
1102C	143.2	145.9	42.60	29.59	27.81	14823	38.04	3.23	.99	.05	.54	14.55	+1482	+1482	+1482	+1482	51.61	33.64	.99	6.79	2.32		53	
													+1482	+1482	+1482	+1482	1.51	.53	.71	.18	1.22	+ .50		
2005U	145.9	151.4																						
14U	151.4	166.7	27.48	34.84	37.68	19964					.73													
1103C	151.4	166.7	42.60	29.59	27.81	14823	38.04	3.23	.99	.05	.54	14.55	+1482	+1482	+1482	+1482	51.61	33.64	.99	6.79	2.32		53	
													+1482	+1482	+1482	+1482	1.51	.53	.71	.18	1.22	+ .50		
15U	166.7	172.8	78.36																					
16U	172.8	176.6	50.72	28.15	21.13	12004					.64													
1003C	172.8	194.7	48.23	26.93	24.84	13165	33.95	2.93	1.00	.01	.54	13.34	+1482	+1482	+1482	+1482	53.09	34.52	1.05	5.92	1.55		57	
													+1482	+1482	+1482	+1482	1.27	.84	.80	.13	.66	+ .17		
17U	176.6	188.3	42.29	29.76	27.95	15142					.53													
18U	188.3	194.7	68.45	19.25	12.30	6566					.33													
19U	194.7	197.2	80.55																					
20U	197.2	206.3	57.63	23.76	18.61	9980					.59													
1104C	197.2	235.3	48.23	26.93	24.84	13165	33.95	2.93	1.00	.01	.54	13.34	+1482	+1482	+1482	+1482	53.09	34.52	1.05	5.92	1.55		57	
													+1482	+1482	+1482	+1482	1.27	.84	.80	.13	.66	+ .17		
21U	206.3	213.8	29.87	33.44	36.69	18982					.77													
22U	213.8	218.0	67.06	19.75	13.19	6940					.31													
23U	218.0	225.5	31.05	33.48	35.47	18903					.85													
24U	225.5	235.3	43.53	28.08	28.39	14700					.70													
2006U	235.3	246.2																						
25U	246.2	259.6	38.32	29.77	31.91	16654					.74													
1004C	246.2	305.7	45.73	28.95	25.32	14111	36.39	3.05	.81	.03	.53	13.46	+1482	+1482	+1482	+1482	51.62	29.13	1.02	8.32	2.14		53	
													+1482	+1482	+1482	+1482	1.70	1.63	1.01	.30	1.33	+ 1.80		
26U	259.6	270.8	37.37	32.63	30.00	17014					.64													
27U	270.8	273.8	60.16	22.60	17.24	9373					.28													

DDH 75-0092

*****																							
SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS						
	LENGTH											OXYGEN	ID-R	ST-R	HT-R	FL-R	SI02	AL203	TIO2	FE2O3	CAO		GRIND
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	BY DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
28U	273.8	279.6	73.32	18.21	8.47	4749					.22												
29U	279.6	288.6	47.56	30.03	22.41	12900					.38												
30U	288.6	299.3	32.10	35.45	32.45	18587					.78												
31U	299.3	305.7	44.73	28.93	26.34	14218					.46												
32U	305.7	317.6	28.71	33.68	37.61	19943					.61												
1005C	305.7	364.8	46.12	28.93	24.95	13504	35.79	2.94	.80	.00	.58	13.77	1412	1415	1418	1421	50.89	29.36	.99	7.60	5.00		56
													1448	1465	+1482	+1482	1.75	1.07	.95	.20	1.86	+	.33
33U	317.6	323.5	40.59	37.43	21.98	13023					.45												
34U	323.5	326.7	58.60	25.95	15.45	9034					.51												
35U	326.7	334.9	73.79	18.89	7.32	4005					.24												
36U	334.9	341.3	54.07	24.92	21.01	11350					.60												
37U	341.3	349.4	44.15	28.35	27.50	14870					.71												
38U	349.4	364.8	33.21	32.37	34.42	18277					.74												
39U	364.8	380.0	44.91	28.05	27.04	14211					.59												
1006C	364.8	421.6	45.79	28.31	25.90	13883	36.28	3.03	.78	.02	.64	13.46	+1482	+1482	+1482	+1482	52.13	31.68	.88	7.61	2.88		60
													+1482	+1482	+1482	+1482	1.35	.92	.75	.18	1.36	+	.26
40U	380.0	395.0	41.09	30.50	28.41	15688					.75												
41U	395.0	398.6	65.89	21.44	12.67	7531					.41												
42U	398.6	407.5	31.69	32.82	35.49	19136					.73												
43U	407.5	416.2	41.41	32.13	26.46	14586					.66												
44U	416.2	421.6	63.81	23.02	13.17	8148					.44												
2007U	421.6	431.5																					
45U	431.5	436.1	54.31	28.64	17.05	9871					.54												
1007C	431.5	444.7	59.64	24.29	16.07	8720	24.68	2.11	.75	.04	.72	12.06	1304	1321	1337	1354	51.74	26.49	.89	9.88	3.83		64
													1365	1384	1390	1398	2.28	1.12	.98	.18	2.19	+	.42
46U	436.1	444.7	55.08	23.69	21.23	11204					.76												
2008U	444.7	452.4																					
47U	452.4	455.5	61.44	20.88	17.68	9452					.65												
1105C	452.4	463.2	59.64	24.29	16.07	8720	24.68	2.11	.75	.04	.72	12.06	1304	1321	1337	1354	51.74	26.49	.89	9.88	3.83		64
													1365	1384	1390	1398	2.28	1.12	.98	.18	2.19	+	.42
48U	455.5	459.9	64.05	30.47	5.48	5770					.42												
49U	459.9	463.2	51.98	24.21	23.81	12127					.63												
2009U	463.2	478.5																					
50U	478.5	485.5	55.76	27.57	16.67	10132					1.46												
1106C	478.5	490.7	59.64	24.29	16.07	8720	24.68	2.11	.75	.04	.72	12.06	1304	1321	1337	1354	51.74	26.49	.89	9.88	3.83		64
													1365	1384	1390	1398	2.28	1.12	.98	.18	2.19	+	.42
51U	485.5	490.7	66.75	20.18	13.07	7447					.68												
2010U	490.7	493.4																					
52U	493.4	499.8	66.34	22.64	11.02	6666					.57												
1107C	493.4	508.1	59.64	24.29	16.07	8720	24.68	2.11	.75	.04	.72	12.06	1304	1321	1337	1354	51.74	26.49	.89	9.88	3.83		64
													1365	1384	1390	1398	2.28	1.12	.98	.18	2.19	+	.42
53U	499.8	508.1	61.40	24.39	14.21	8443					.75												
2011U	508.1	514.1																					
54U	514.1	517.8	55.01	21.90	23.09	11620					.61												
1108C	514.1	517.8	59.64	24.29	16.07	8720	24.68	2.11	.75	.04	.72	12.06	1304	1321	1337	1354	51.74	26.49	.89	9.88	3.83		64
													1365	1384	1390	1398	2.28	1.12	.98	.18	2.19	+	.42
2012U	517.8	558.3																					

HAT CREEK COAL DEVELOPMENT - SAMPLE DATA: DRY BASIS

COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0093

[illegible][illegible]



HAT CREEK COAL DEVELOPMENT - SAMPLE DATA: DRY BASIS

COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0095

[illegible]

SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS						
	LENGTH											OXYGEN BY	ID-R	ST-R	HT-R	FL-R	SiO2	AL2O3	TiO2	FE2O3	CAO		GRIND
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
33U	340.3	353.2	32.54	30.46	37.00	18214					.68												
34U	353.2	359.2	70.55	18.76	10.69	4807					.58												
35U	359.2	365.1	30.30	31.57	38.13	19566					.64												
36U	365.1	370.4	45.79	27.06	27.15	14177					.91												
1007C	365.1	415.1	49.41	27.74	22.85	12609	33.23	3.22	.83	.00	.88	12.43	+1448	+1448	+1448	+1448	55.90	26.46	1.16	7.86	1.43		60
													+1448	+1448	+1448	+1448	2.03	1.08	.99	.21	1.34	+ 1.54	
37U	370.4	375.5	45.11	26.90	27.99	14418					.89												
38U	375.5	384.0	26.24	33.44	40.32	20599					.73												
39U	384.0	388.9	33.96	29.44	36.60	18101					.99												
40U	388.9	394.5	60.43	21.34	18.23	8910					.70												
41U	394.5	400.2	69.96	21.40	8.64	4244					1.05												
42U	400.2	409.3	64.57	22.30	13.13	6871					.61												
43U	409.3	415.1	44.23	26.98	28.79	14728					.97												
2004U	415.1	422.7																					
44U	422.7	428.2	61.33	20.84	17.83	8550					.51												
1008C	422.7	459.3	49.95	27.46	22.59	12574	32.82	3.19	.71	.00	.40	12.93	+1448	+1448	+1448	+1448	58.72	28.92	1.18	5.00	.59		58
													+1448	+1448	+1448	+1448	1.51	1.01	.87	.18	.84	+ 1.18	
45U	428.2	436.4	42.32	28.03	29.65	15658					.44												
46U	436.4	440.1	47.97	27.05	24.98	13423					.43												
47U	440.1	449.8	57.24	23.99	18.77	9706					.30												
48U	449.8	453.3	34.24	31.79	33.97	17963					.36												
49U	453.3	459.3	47.34	25.43	27.23	13558					.29												

## COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0097

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SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS							
	LENGTH											OXYGEN BY	ID-R	ST-R	HT-R	FL-R	SIO2	AL2O3	TIO2	FE2O3	CAO		GRIND	
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX	
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
2001U	0.0	86.8									.85													
2002U	86.8	134.4																						
1U	134.4	144.4	27.35	35.63	37.02	20338																		
1001C	134.4	188.0	30.09	34.37	35.54	18887	46.30	4.12	.99	.04	.56	17.90	+1482	+1482	+1482	+1482	50.39	33.73	.91	6.42	2.77		45	
														+1482	+1482	+1482	+1482	1.67	.92	.89	.40	1.49 +	.41	
2U	144.4	154.5	22.06	36.71	41.23	21629					.46													
3U	154.5	157.8	29.15	35.08	35.77	19273					.78													
4U	157.8	173.1	26.72	34.28	39.00	20554					.50													
5U	173.1	188.0	37.92	31.89	30.19	16530					.48													
6U	188.0	192.9	76.75																					
7U	192.9	197.5	25.98	36.31	37.71	20375					.49													
1002C	192.9	222.6	51.20	25.44	23.36	11978	31.92	2.74	1.21	.08	.50	12.35	+1482	+1482	+1482	+1482	51.41	33.13	.94	7.79	2.10		56	
														+1482	+1482	+1482	+1482	1.43	.66	.80	.23	1.10 +	.41	
8U	197.5	201.7	47.21	26.94	25.85	13572					.67													
9U	201.7	206.6	67.30	20.28	12.42	6738					.32													
10U	206.6	214.1	60.43	22.94	16.63	8575					.37													
11U	214.1	222.6	47.11	27.31	25.58	13723					.58													
2003U	222.6	225.2																						
12U	225.2	234.0	41.06	30.49	28.45	15574					.49													
1003C	225.2	243.3	41.32	30.99	27.69	15214	39.22	3.23	1.27	.06	.58	14.32	+1482	+1482	+1482	+1482	51.12	30.73	.95	8.32	2.38		50	
														+1482	+1482	+1482	+1482	1.71	.86	.91	.21	1.10 +	1.71	
13U	234.0	243.3	33.68	33.33	32.99	18319					.58													
2004U	243.3	245.3																						
14U	245.3	249.9	53.25	25.49	21.26	11306					.70													
1101C	245.3	267.6	41.32	30.99	27.69	15214	39.22	3.23	1.27	.06	.58	14.32	+1482	+1482	+1482	+1482	51.12	30.73	.95	8.32	2.38		50	
														+1482	+1482	+1482	+1482	1.71	.86	.91	.21	1.10 +	1.71	
15U	249.9	258.4	40.74	30.90	28.36	15814					.50													
16U	258.4	267.6	38.03	31.63	30.34	16589					.58													
17U	267.6	276.7	56.95	24.37	18.68	10357					.48													
1004C	267.6	320.0	54.05	25.83	20.12	10946	30.09	2.40	.72	.03	.50	12.21	1446	1451	1457	1462	52.10	28.83	.87	8.70	2.24		56	
														+1482	+1482	+1482	+1482	1.86	.93	1.05	.18	1.28 +	1.96	
18U	276.7	287.7	52.93	26.97	20.10	11434					.52													
19U	287.7	298.7	46.98	27.68	25.34	13497					.47													
20U	298.7	304.4	47.12	26.48	26.40	13737					.58													
21U	304.4	310.1	47.40	26.63	25.97	13418					.68													
22U	310.1	314.5	55.07	24.69	20.24	11118					.39													
23U	314.5	320.0	68.23	19.33	12.44	6736					.45													
2005U	320.0	325.3																						
24U	325.3	331.9	55.92	23.79	20.29	10511					.42													
1005C	325.3	331.9	61.72	22.11	16.17	8555	23.80	2.24	.65	.02	.37	11.20	+1482	+1482	+1482	+1482	55.23	28.99	.94	6.07	2.58		58	
														+1482	+1482	+1482	+1482	1.61	.93	1.05	.21	.69 +	1.70	
2006U	331.9	334.5																						
25U	334.5	337.8	74.42	17.02	8.56	4605					.41													
1102C	334.5	357.8	61.72	22.11	16.17	8555	23.80	2.24	.65	.02	.37	11.20	+1482	+1482	+1482	+1482	55.23	28.99	.94	6.07	2.58		58	
														+1482	+1482	+1482	+1482	1.61	.93	1.05	.21	.69 +	1.70	
26U	337.8	343.5	71.50	17.91	10.59	5552					.26													
27U	343.5	354.1	55.31	24.13	20.56	10967					.49													
28U	354.1	357.8	61.24	26.23	12.53	7731					.42													
2007U	357.8	359.6																						

## COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0097

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COMPOSITE AND FIELD SAMPLES - DEPOSIT 2  
DDH 75-0101

[illegible]

COMPOSITE AND FIELD SAMPLES - DEPOSIT 2  
DDH 75-0101

*****																									
SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS								
	LENGTH											OXYGEN BY	ID-R	ST-R	HT-R	FL-R	SiO2	AL2O3	TiO2	FE2O3	CAO		GRIND		
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX		
*****																									
25U	380.3	387.0	74.69	16.93	8.38	3819					.24														
2008U	387.0	389.5																							
26U	389.5	398.6	51.46	25.53	23.01	12476					.37														
1105C	389.5	408.7	59.50	24.64	15.86	9134	25.24	2.58	.73	.01	.37	11.57	1229	1276	1304	1440	54.30	24.57	1.38	8.22	4.20		60		
													1357	1384	1412	1446	1.78	1.35	1.25	.16	1.00	+ 1.79			
27U	398.6	408.7	53.26	29.33	17.41	9478					.28														
28U	408.7	420.0	36.13	32.58	31.29	17561					.46														
1006C	408.7	429.1	37.12	33.17	29.71	17119	43.42	3.73	1.03	.00	.51	14.19	+1448	+1448	+1448	+1448	52.74	27.79	1.69	9.65	.70		48		
													+1448	+1448	+1448	+1448	1.70	1.55	.76	.21	1.47	+ 1.74			
29U	420.0	429.1	29.76	34.96	35.28	19324					.44														
2009U	429.1	432.2																							
30U	432.2	443.1	32.07	32.90	35.03	18726					.56														
1106C	432.2	459.6	37.12	33.17	29.71	17119	43.42	3.73	1.03	.00	.51	14.19	+1448	+1448	+1448	+1448	52.74	27.79	1.69	9.65	.70		48		
													+1448	+1448	+1448	+1448	1.70	1.55	.76	.21	1.47	+ 1.74			
31U	443.1	450.7	46.09	29.17	24.74	13602					.54														
32U	450.7	459.6	45.39	29.39	25.22	14165					.48														

## COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0102

SAMPLE		PROXIMATE ANALYSIS					ULTIMATE ANALYSIS					FUSION ANALYSIS				MINERAL ANALYSIS							
LENGTH												OXYGEN	ID-R	ST-R	HT-R	FL-R	SI02	AL203	TIO2	FE203	CAO	GRIND	
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX
2001U	0.3	74.9																					
2002U	74.9	93.5																					
1U	93.5	104.2	22.03	37.51	40.46	21952					.44												
1001C	93.5	145.9	22.98	37.05	39.97	21110	54.27	4.04	1.29	.07	.47	16.88	1415	1421	1426	1437	44.21	32.00	.91	11.68	3.91		40
													1465	1482	+1482	+1482	1.68	1.20	.81	.45	2.67	+	.48
2U	104.2	111.8	18.62	38.63	42.75	23099					.69												
3U	111.8	116.4	23.14	35.67	41.19	21434					.60												
4U	116.4	126.4	24.86	37.34	37.80	20401					.42												
5U	126.4	133.8	20.04	38.69	41.27	22204					.46												
6U	133.8	145.9	25.92	34.61	39.47	20694					.57												
7U	145.9	158.1	26.09	35.58	38.33	20252					.38												
1002C	145.9	203.6	32.22	34.37	33.41	18005	46.78	3.64	1.22	.05	.58	15.51	1476	+1482	+1482	+1482	46.85	32.16	1.03	10.13	3.59		49
													+1482	+1482	+1482	+1482	1.21	1.35	.46	.18	2.52	+	.52
8U	158.1	169.7	27.23	34.54	38.23	19859					.45												
9U	169.7	181.9	37.33	31.46	31.21	16961					.57												
10U	181.9	191.4	37.58	34.54	27.88	16412					.70												
11U	191.4	203.6	36.52	31.46	32.02	17247					.72												
12U	203.6	215.7	23.95	36.99	39.06	21441					1.00												
1003C	203.6	263.6	26.75	35.20	38.05	20122	51.28	3.94	1.17	.03	.66	16.17	1471	1476	+1482	+1482	46.38	32.47	.86	10.89	3.55		46
													+1482	+1482	+1482	+1482	1.12	1.47	.75	.29	1.79	+	.43
13U	215.7	227.9	28.16	35.10	36.74	19957					.54												
14U	227.9	240.1	21.44	35.57	42.99	22236					.34												
15U	240.1	251.7	32.01	35.08	32.91	18863					.80												
16U	251.7	256.0	31.94	33.60	34.46	18847					.61												
17U	256.0	263.6	30.45	32.15	37.40	19394					.45												
18U	263.6	268.2	36.01	32.03	31.91	17477					.46												
1004C	263.6	317.9	30.43	32.79	36.78	19184	48.92	3.69	1.16	.06	.53	15.21	+1482	+1482	+1482	+1482	50.80	32.96	1.05	6.24	2.47		50
													+1482	+1482	+1482	+1482	1.05	1.62	.76	.31	1.04	+	1.70
19U	268.2	280.4	28.21	32.92	38.87	20101					.53												
20U	280.4	293.5	31.68	32.32	36.00	19001					.37												
21U	293.5	305.7	31.91	32.63	35.46	18894					.50												
22U	305.7	317.9	28.98	33.70	37.32	19861					.62												
23U	317.9	330.0	26.72	35.49	37.79	20450					.53												
1005C	317.9	376.4	27.34	34.04	38.62	20240	51.46	3.94	1.20	.06	.48	15.52	+1482	+1482	+1482	+1482	50.04	33.68	.98	5.91	2.58		50
													+1482	+1482	+1482	+1482	1.29	1.62	.57	.39	1.31	+	1.63
24U	330.0	342.2	22.92	35.46	41.62	21810					.54												
25U	342.2	354.4	22.74	35.06	42.20	22099					.35												
26U	354.4	366.6	32.26	30.47	37.27	19138					.27												
27U	366.6	376.4	33.98	29.78	36.24	18380					.36												
28U	376.4	388.6	24.51	35.12	40.37	21617					.46												
1006C	376.4	427.3	30.21	34.55	35.24	19340	49.01	3.84	1.04	.05	.62	15.23	1451	1454	1457	1459	45.79	32.16	.94	11.66	2.92		55
													+1482	+1482	+1482	+1482	1.53	1.28	.70	.29	2.20	+	.53
29U	388.6	396.2	32.06	34.64	33.30	18354					.63												
30U	396.2	406.6	33.93	34.78	31.29	18456					.51												
31U	406.6	418.1	26.75	33.30	39.95	21045					.67												
32U	418.1	427.3	35.95	33.22	30.83	17296					.66												
33U	427.3	439.5	29.46	35.30	35.24	19878					.52												
1007C	427.3	479.1	30.34	34.71	34.95	19033	49.08	3.72	.97	.01	.53	15.35	1329	1332	1334	1337	44.51	30.16	.73	12.54	6.36		54
													1376	1382	1387	1396	1.28	1.27	.31	.27	2.52	+	.05

## COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0102

[illegible][illegible]

COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0109

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SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS							FUSION ANALYSIS				MINERAL ANALYSIS						
NO.	LENGTH		ASH	VM	F.C.	HHV	C	H	N	CL	S	OXYGEN	ID-R	ST-R	HT-R	FL-R	SI02	AL203	TIO2	FE2O3	CAO	GRIND		
	FROM	TO										BY	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3		UND+ER	INDEX
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****		
2001U	0.0	83.5																						
2002U	83.5	254.5																						
1U	254.5	259.9	39.44	30.24	30.32	16191					.61													
1001C	254.5	282.5	41.83	27.48	30.69	15414	38.95	3.57	1.14	.03	.59	13.89	+1482	+1482	+1482	+1482	53.98	30.43	.91	6.87	2.13	58		
													+1482	+1482	+1482	+1482	1.21	1.48	1.29	.36	1.19 + .15			
2U	259.9	268.2	47.46	25.21	27.33	13716					.51													
3U	268.2	272.7	34.37	30.42	35.21	18315					.50													
4U	272.7	276.1	40.55	29.60	29.85	15898					.45													
5U	276.1	282.5	33.04	30.48	36.48	18524					.74													
2003U	282.5	288.6																						
6U	288.6	291.6	61.86	18.56	19.58	9401					.83													
1101C	288.6	291.6	41.83	27.48	30.69	15414	38.95	3.57	1.14	.03	.59	13.89	+1482	+1482	+1482	+1482	53.98	30.43	.91	6.87	2.13	58		
													+1482	+1482	+1482	+1482	1.21	1.48	1.29	.36	1.19 + .15			
2004U	291.6	301.9																						
7U	301.9	309.6	78.61																					
8U	309.6	312.1	43.03	27.53	29.44	14660					.56													
1002C	309.6	357.5	43.21	28.82	27.97	14665	38.21	3.14	1.14	.07	.65	13.58	1387	1393	1398	1404	49.35	29.71	.84	9.86	3.59	52		
													1418	1423	1434	1443	1.69	1.08	.81	.30	2.17 + .60			
9U	312.1	315.7	46.32	28.36	25.32	13255					.53													
10U	315.7	326.4	34.99	32.48	32.53	17272					.76													
11U	326.4	336.8	42.16	29.01	28.83	15135					.65													
12U	336.8	343.2	34.43	30.12	35.45	18277					.64													
13U	343.2	345.9	68.27	18.90	12.83	6133					.48													
14U	345.9	357.5	43.11	29.42	27.47	14286					.63													
15U	357.5	360.5	77.47																					
16U	360.5	363.9	68.14	18.65	13.21	6177					.41													
1102C	360.5	363.9	43.21	28.82	27.97	14665	38.21	3.14	1.14	.07	.65	13.58	1387	1393	1398	1404	49.35	29.71	.84	9.86	3.59	52		
													1418	1423	1434	1443	1.69	1.08	.81	.30	2.17 + .60			
2005U	363.9	368.5																						
17U	368.5	377.9	52.89	24.56	22.55	11744					.50													
1003C	368.5	410.8	47.91	27.44	24.65	12990	34.49	3.02	1.12	.04	.53	12.89	1426	1437	1443	1448	49.35	29.89	.81	11.54	2.65	56		
													1471	+1482	+1482	+1482	1.66	.97	.69	.23	1.80 + .41			
18U	377.9	388.3	54.60	26.46	18.94	10643					.45													
19U	388.3	399.5	53.37	28.08	18.55	10943					.54													
20U	399.5	410.8	35.00	31.66	33.34	17321					.69													
2006U	410.8	417.2																						
21U	417.2	422.3	51.65	25.20	23.15	11925					.56													
1004C	417.2	427.3	50.10	24.82	25.08	12816	32.94	2.78	.90	.05	.71	12.52	+1482	+1482	+1482	+1482	56.55	29.88	.95	6.42	1.67	67		
													+1482	+1482	+1482	+1482	1.28	1.07	.84	.23	1.07 + .04			
22U	422.3	427.3	49.77	24.08	26.15	12820					.98													
2007U	427.3	440.4																						
23U	440.4	451.7	49.42	24.42	26.16	13032					.71													
1103C	440.4	451.7	50.10	24.82	25.08	12816	32.94	2.78	.90	.05	.71	12.52	+1482	+1482	+1482	+1482	56.55	29.88	.95	6.42	1.67	67		
													+1482	+1482	+1482	+1482	1.28	1.07	.84	.23	1.07 + .04			

## COMPOSITE AND FIELD SAMPLES - DEPOSIT 2

DDH 75-0110

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SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS						
	LENGTH											OXYGEN	ID-R	ST-R	HT-R	FL-R	SiO2	AL2O3	TiO2	FE2O3	CAO	GRIND	
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
2001U	0.0	13.4																					
2002U	13.4	307.8																					
1U	307.8	317.6	34.64	39.61	25.75	18021					.58												
1001C	307.8	359.6	24.63	37.70	37.67	20754	52.57	4.38	1.19	.03	.63	16.57	1209	1337	+1415	+1415	46.32	29.29	1.15	12.94	2.63		30
														1298	1382	1432	+1504	1.34	.40	.99	.54	2.37 + 2.03	
2U	317.6	328.2	20.86	37.41	41.73	22497					.60												
3U	328.2	332.2	26.33	35.27	38.40	20771					.76												
4U	332.2	344.4	20.03	38.03	41.94	22873					.67												
5U	344.4	355.3	24.23	35.87	39.90	21229					.62												
6U	355.3	359.6	23.50	38.72	37.78	21599					.60												
7U	359.6	368.8	30.35	34.29	35.36	19236					.77												
1002C	359.6	413.6	29.22	35.35	35.43	19550	49.65	4.24	.94	.03	.62	15.30	+1421	+1421	+1421	+1421	50.24	31.78	1.09	9.08	2.08		37
														+1487	+1487	+1487	+1487	1.06	.35	.90	.40	2.40 + .62	
8U	368.8	375.2	33.98	32.19	33.83	17982					.56												
9U	375.2	378.2	50.85	30.83	18.32	10669					.53												
10U	378.2	390.4	29.70	33.88	36.42	19673					.66												
11U	390.4	401.4	23.22	36.03	40.75	21680					.70												
12U	401.4	413.6	24.10	37.76	38.14	21264					.61												
13U	413.6	425.8	30.18	34.04	35.78	19608					.71												
1003C	413.6	459.3	30.46	33.99	35.55	19145	49.27	4.16	.98	.03	.71	14.39	+1421	+1421	+1421	+1421	53.36	33.56	1.09	5.17	.88		38
														+1526	+1526	+1526	+1526	.83	.45	.90	.40	1.71 + 1.65	
14U	425.8	437.9	27.86	34.17	37.97	20324					.72												
15U	437.9	448.6	29.53	34.35	36.12	19838					.78												
16U	448.6	459.3	36.04	33.19	30.77	17640					.74												

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## DDH 76-0111

[illegible]



COMPOSITE AND FIELD SAMPLES - DEPOSIT 2  
DDH 76-0113

[illegible]

DDH 76-0115

*****																							
SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS						
	LENGTH											OXYGEN	ID-R	ST-R	HT-R	FL-R	SI02	AL2O3	TIO2	FE2O3	CAO		GRIND
												BY	----	----	----	----	----	----	----	----	----	----	
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
2001U	0.0	32.0																					
2002U	32.0	94.3																					
1U	94.3	106.6	23.92	39.52	36.56	20559					.49												
1001C	94.3	139.2	32.97	36.59	30.44	17540	45.74	3.83	.99	.00	.43	16.04	+1448	+1448	+1448	+1448	50.08	31.26	1.23	9.77	2.73		51
													+1448	+1448	+1448	+1448	1.32	.78	.49	.27	2.07 +	.00	
2U	106.6	119.4	30.13	37.00	32.87	18461					.45												
3U	119.4	128.4	40.83	35.81	23.36	14128					.40												
4U	128.4	139.2	37.56	34.68	27.76	16298					.46												
5U	139.2	151.4	23.87	39.04	37.09	20382					.45												
1002C	139.2	200.2	25.24	39.87	34.89	19961	51.42	3.82	1.11	.00	.48	17.93	+1448	+1448	+1448	+1448	51.38	32.79	1.30	7.36	1.78		50
													+1448	+1448	+1448	+1448	1.49	1.11	.56	.29	1.88 +	.06	
6U	151.4	163.6	26.86	37.92	35.22	19345					.57												
7U	163.6	175.8	24.04	38.60	37.36	20036					.48												
8U	175.8	188.0	25.85	38.61	35.54	20580					.50												
9U	188.0	200.2	26.01	37.81	36.18	20199					.50												
10U	200.2	211.2	31.81	33.80	34.39	17786					.63												
1003C	200.2	252.0	28.95	36.17	34.88	18733	48.29	3.80	1.11	.00	.57	17.28	+1448	+1448	+1448	+1448	54.24	30.77	1.24	5.29	1.50		50
													+1448	+1448	+1448	+1448	1.49	1.11	.52	.45	1.93 +	1.46	
11U	211.2	223.4	28.55	36.54	34.91	18836					.58												
12U	223.4	230.5	36.22	35.20	28.58	17156					.56												
13U	230.5	242.9	23.50	39.33	37.17	21515					.69												
14U	242.9	252.0	31.11	35.33	33.56	17384					.58												
15U	252.0	263.0	27.46	35.87	36.67	19494					.66												
1004C	252.0	306.9	26.19	38.23	35.58	19968	50.60	3.85	1.18	.00	.54	17.64	+1448	+1448	+1448	+1448	50.60	29.39	1.24	8.86	2.06		46
													+1448	+1448	+1448	+1448	1.58	1.08	.46	.32	2.66 +	1.75	
16U	263.0	275.2	27.29	38.62	34.09	20029					.61												
17U	275.2	286.5	29.24	36.64	34.12	19331					.46												
18U	286.5	298.7	21.66	39.79	38.55	20708					.49												
19U	298.7	306.9	21.01	38.18	40.81	21585					.50												





DDH 76-0119

*****																							
SAMPLE			PROXIMATE ANALYSIS				ULTIMATE ANALYSIS						FUSION ANALYSIS				MINERAL ANALYSIS						
	LENGTH											OXYGEN	ID-R	ST-R	HT-R	FL-R	SiO2	AL2O3	TiO2	FE2O3	CAO		GRIND
NO.	FROM	TO	ASH	VM	F.C.	HHV	C	H	N	CL	S	DIFF.	ID-O	ST-O	HT-O	FL-O	MGO	NA2O	K2O	P2O5	SO3	UND+ER	INDEX
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
2001U	0.6	42.6																					
2002U	42.6	145.8																					
1U	145.8	160.7	25.09	40.19	34.72	21062					1.41												
1001C	148.5	160.7	34.46	35.09	30.45	17428	44.66	3.63	1.41	.00	.75	15.09	1434	1448	+1448	+1448	54.02	26.08	1.21	7.98	2.94		49
													+1448	+1448	+1448	+1448	1.41	.92	.80	.41	2.76	+ 1.47	
2003U	160.7	163.8																					
2U	163.8	168.7	41.21	31.98	26.81	15179					.78												
1101C	163.8	206.3	34.46	35.09	30.45	17428	44.66	3.63	1.41	.00	.75	15.09	1434	1448	+1448	+1448	54.02	26.08	1.21	7.98	2.94		49
													+1448	+1448	+1448	+1448	1.41	.92	.80	.41	2.76	+ 1.47	
3U	168.7	178.9	33.98	34.16	31.86	17203					.57												
4U	178.9	190.8	36.47	35.87	27.66	16398					.44												
5U	190.8	195.0	33.89	37.98	28.13	17584					.45												
6U	195.0	206.3	43.00	31.14	25.86	14702					.44												
7U	206.3	215.4	32.34	35.34	32.32	17617					.65												
1002C	206.3	262.1	33.37	36.30	30.33	17807	45.23	3.85	1.41	.00	.63	15.51	+1448	+1448	+1448	+1448	51.24	29.39	1.21	9.98	1.82		54
													+1448	+1448	+1448	+1448	1.53	1.13	.76	.39	2.41	+ .14	
8U	215.4	227.6	41.87	32.26	25.87	15207					.54												
9U	227.6	239.8	21.33	40.72	37.95	22085					.52												
10U	239.8	252.0	33.30	36.91	29.79	17798					.57												
11U	252.0	262.1	38.07	32.18	29.75	16530					.71												
12U	262.1	269.4	38.42	33.03	28.55	16219					.78												
1003C	262.1	306.9	42.05	32.69	25.26	14681	38.36	3.34	1.18	.00	.73	14.34	1326	1362	1379	1418	49.62	24.57	1.21	13.93	3.57		59
													1443	+1448	+1448	+1448	1.87	1.06	.63	.25	2.83	+ .46	
13U	269.4	279.5	39.53	32.21	28.26	16342					.84												
14U	279.5	286.3	37.93	34.09	27.98	16505					1.13												
15U	286.3	294.7	57.81	27.60	14.59	9308					.45												
16U	294.7	306.9	34.71	36.67	28.62	17079					.51												

APPENDIX IIIB

Statistical Summaries for Proximate,  
Heating Value, Etc.

22 MAY 80

## HAT CREEK COAL DEVELOPMENT - STATISTICAL ANALYSIS OF TEST DATA

## COMBINED DRILL HOLES - EXCLUDING DEPOSIT 1

LAB COMPOSITE SAMPLES - ASH &lt; 60%

## PROXIMATE, MOISTURE AND OTHER SUMMARY

	HHV	%	%	%	%	AS	%	%	%	%	%	%	%	%
	(KJ/KG)	ASH	F.C.	V.M.	S	RECVD.	DRY	RES-	EQUIL.	CO2	AS	WALK.	WATER	SOLUBLE
MAXIMUM	23069	59.64	41.51	41.64	1.40			21.72	30.60			1.29		
MINIMUM	8720	19.06	15.86	22.96	.18			.65	24.20			.06		
RANGE	14349	40.58	25.65	18.68	1.22			21.07	6.40			1.23		
WEIGHTED MEAN	16189	38.78	29.54	31.68	.64			8.79	26.35			.54		
SAMPLE COUNTS	193	193	193	193	193			193	15			193		
SAMPLE CORE LENGTHS	7920	7920	7920	7920	7920			7920	862			7920		
ARITHMETIC MEAN	15410	41.10	28.25	30.64	.63			8.57	26.47			.58		
SAMPLE COUNTS	193	193	193	193	193			193	15			193		
SAMPLE CORE LENGTHS	7920	7920	7920	7920	7920			7920	862			7920		
STANDARD DEVIATION	3596	10.51	6.41	4.48	.18			4.94	2.10			.27		
COEFF. OF VARIATION %	23.33	25.57	22.69	14.63	28.47			57.68	7.93			46.63		

## ULTIMATE SUMMARY

	%	%	%	%	%	%	%	%	%	%
	C	H	N	CL	S	ASH	OXY	UNDET	OXY	
								+ERR	(DIFF)	
MAXIMUM	57.66	5.58	1.48	2.67	1.40	59.64			17.93	
MINIMUM	24.68	2.11	.18	.00	.18	19.06			10.38	
RANGE	32.98	3.47	1.30	2.67	1.22	40.58			7.55	
WEIGHTED MEAN	41.75	3.69	.93	.06	.64	38.78			14.14	
SAMPLE COUNTS	193	193	193	193	193	193			193	
SAMPLE CORE LENGTHS	7920	7920	7920	7920	7920	7920			7920	
ARITHMETIC MEAN	39.90	3.54	.91	.04	.63	41.10			13.84	
SAMPLE COUNTS	193	193	193	193	193	193			193	
SAMPLE CORE LENGTHS	7920	7920	7920	7920	7920	7920			7920	
STANDARD DEVIATION	8.41	.69	.22	.20	.18	10.51			1.55	
COEFF. OF VARIATION %	21.09	19.70	24.54	30.97	28.47	25.57			11.21	

22 MAY 80

## HAT CREEK COAL DEVELOPMENT - STATISTICAL ANALYSIS OF TEST DATA

## COMBINED DRILL HOLES - EXCLUDING DEPOSIT 1

LAB COMPOSITE SAMPLES - ASH &lt; 60%

## FUSION SUMMARY - CELSIUS

	REDUCING				OXIDIZING			
	INIT. DEFORM	H=W	H=.5W	FLUID	INIT. DEFORM	H=W	H=.5W	FLUID
	*****	*****	*****	*****	*****	*****	*****	*****
MAXIMUM	1482	1482	1482	1482	1526	1526	1526	1526
MINIMUM	1171	1198	1209	1221	1243	1287	1309	1326
RANGE	311	284	273	261	283	239	217	200
WEIGHTED MEAN	1415	1427	1434	1439	1445	1452	1456	1461
SAMPLE COUNTS	193	193	193	193	193	193	193	193
SAMPLE CORE LENGTHS	7920	7920	7920	7920	7920	7920	7920	7920
ARITHMETIC MEAN	1416	1431	1437	1442	1448	1453	1457	1461
SAMPLE COUNTS	193	193	193	193	193	193	193	193
SAMPLE CORE LENGTHS	7920	7920	7920	7920	7920	7920	7920	7920
STANDARD DEVIATION	74	59	53	48	45	37	31	27
COEFF. OF VARIATION %	5.23	4.18	3.70	3.33	3.16	2.55	2.14	1.89
SAMPLE COUNTS OF + DATA								
SAMPLE CORE LENGTHS OF + DATA								

\*\*\*\*\*



HAT CREEK COAL DEVELOPMENT - STATISTICAL ANALYSIS OF TEST DATA

LAB COMPOSITE SAMPLES - ASH < 60%

%	%	%	%	%	%	%	%	%	%	%	%	%	%
SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	Mn3O4	V2O5	P2O5	SO3	+ERR	
58.72	37.83	2.12	14.94	8.89	4.27	2.26	1.34			.94	3.74	3.01	
44.08	23.56	.70	2.78	.32	.50	.15	.03			.11	.28	.00	
14.64	14.27	1.42	12.16	8.57	3.77	2.11	1.31			.83	3.46	3.01	
51.37	30.34	1.16	8.19	2.80	1.45	.95	.70			.30	1.79	.95	
193	193	193	193	193	193	193	193			193	193	193	
7920	7920	7920	7920	7920	7920	7920	7920			7920	7920	7920	
51.90	30.05	1.15	8.17	2.59	1.49	.95	.73			.28	1.71	.91	
193	193	193	193	193	193	193	193			193	193	193	
7920	7920	7920	7920	7920	7920	7920	7920			7920	7920	7920	
2.86	2.69	.30	2.06	1.40	.51	.42	.33			.11	.62	.68	
5.52	8.95	26.55	25.25	54.01	34.42	44.82	45.31			39.93	36.52	74.90	

%	%	%	%	%	%	%	%	%	%	%	%	%
SiO2	Al2O3	TiO2	Fe2O3	CaO	MgO	Na2O	K2O	Mn3O4	V2O5	P2O5	SO3	
70.20	27.10	1.99	7.30	11.37	7.70	2.66	1.06			.49	3.42	
54.43	16.99	.64	1.27	.42	.95	.19	.02			.06	.26	
15.77	10.11	1.35	6.03	10.95	6.75	2.47	1.04			.43	3.16	
63.24	22.03	1.08	3.80	3.69	2.66	1.14	.55			.15	1.66	
193	193	193	193	193	193	193	193			193	193	
7920	7920	7920	7920	7920	7920	7920	7920			7920	7920	
63.76	21.77	1.07	3.78	3.41	2.72	1.13	.57			.14	1.58	
193	193	193	193	193	193	193	193			193	193	
7920	7920	7920	7920	7920	7920	7920	7920			7920	7920	
3.02	2.07	.29	.99	1.83	.92	.50	.25			.05	.58	
4.73	9.50	27.11	26.28	53.59	33.89	44.78	45.03			40.44	36.79	

APPENDIX IIIC

Ash-Heating Value Regression  
on Moisture Free Basis

SAMPLE TYPE	TOTAL LENGTH	COUNT	*****	
SERIES 1- 899	7270.9	811	%	M.
			FREE	
			ASH	KJ/KG
			*****	*****
	MAXIMUM		59.97	25939
	MINIMUM		12.27	1495
	RANGE		47.70	24414
	WEIGHTED MEAN		36.57	17013
	SAMPLE COUNTS	811		
	WGTD STANDARD DEVIATION		10.60	3710
	WGTD COEFF. OF VARIATION %		28.98	21.61
			*****	*****

WEIGHTED REGRESSION EQUATIONS

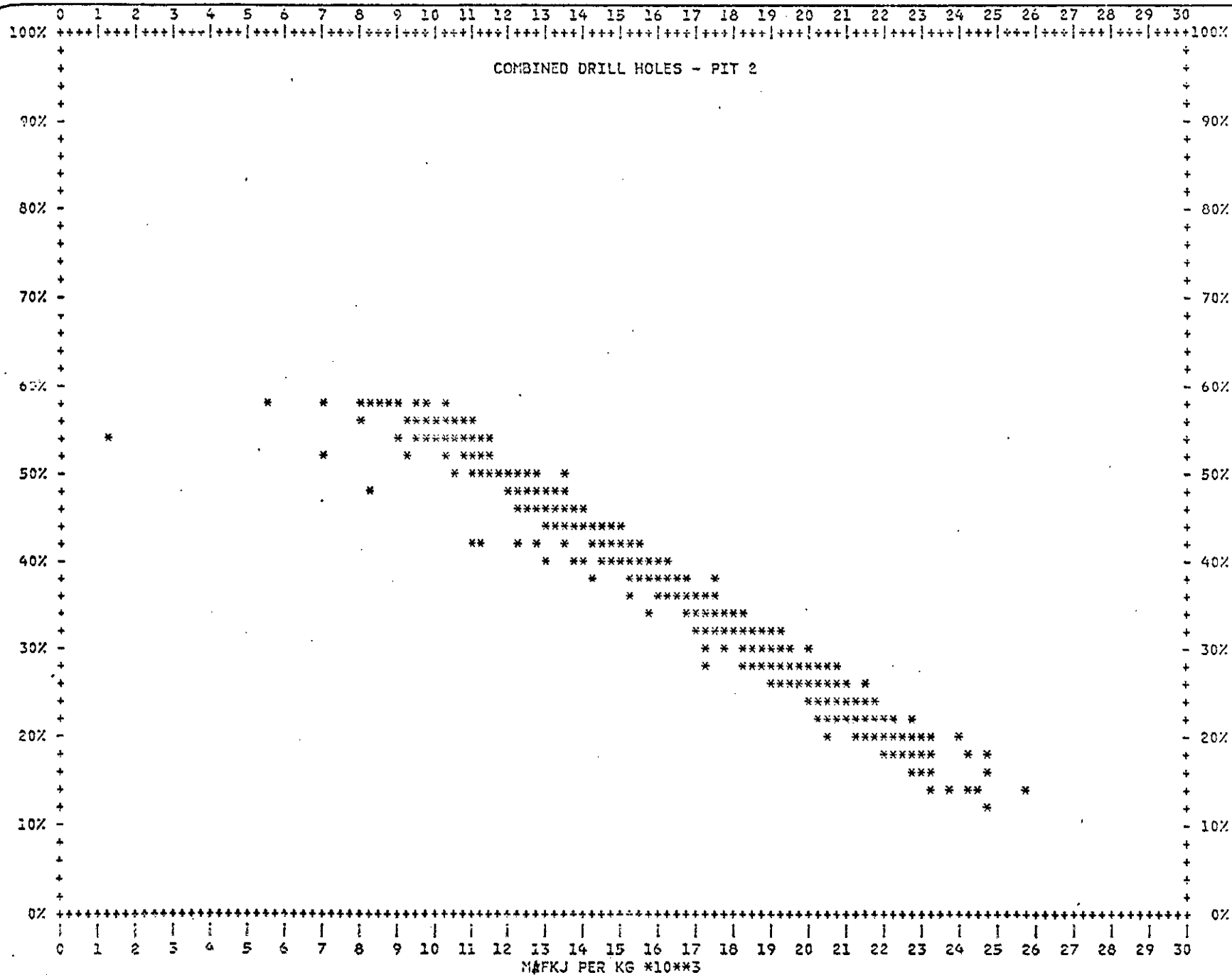
$$Y = 8.45909E+01 + -2.82283E-03 X$$

$$X = 2.99667E+04 + -3.54254E+02 Y$$

WHERE Y = PERCENTAGE OF ASH,  
 X = KJ/KG

WGTD LINEAR CORRELATION COEFFICIENT = -0.9882 R\*\*2 = 0.976539

WGTD STANDARD ERROR OF ESTIMATION = 1.6234 SE\*\*2 = 2.635416



Y SCALE = 2.0% DRY ASH  
X SCALE = 250 KJ

Y INTERCEPT = +084.59  
X INTERCEPT = +029966

APPENDIX IIID

Ash-Heating Value Regression  
on Dry Ash Free Basis

SAMPLE TYPE	TOTAL LENGTH	COUNT	*****
SERIES 1- 899	7270.9	811	MOIST
			% ASH-
			FREE
			ASH KJ/KG
			*****
	MAXIMUM		59.97 30545
	MINIMUM		12.27 3306
	RANGE		47.70 27239
	WEIGHTED MEAN		36.57 26570
	SAMPLE COUNTS	811	
	WGTD STANDARD DEVIATION		10.60 1836
	WGTD COEFF. OF VARIATION %		28.98 6.91
			*****

WEIGHTED REGRESSION EQUATIONS

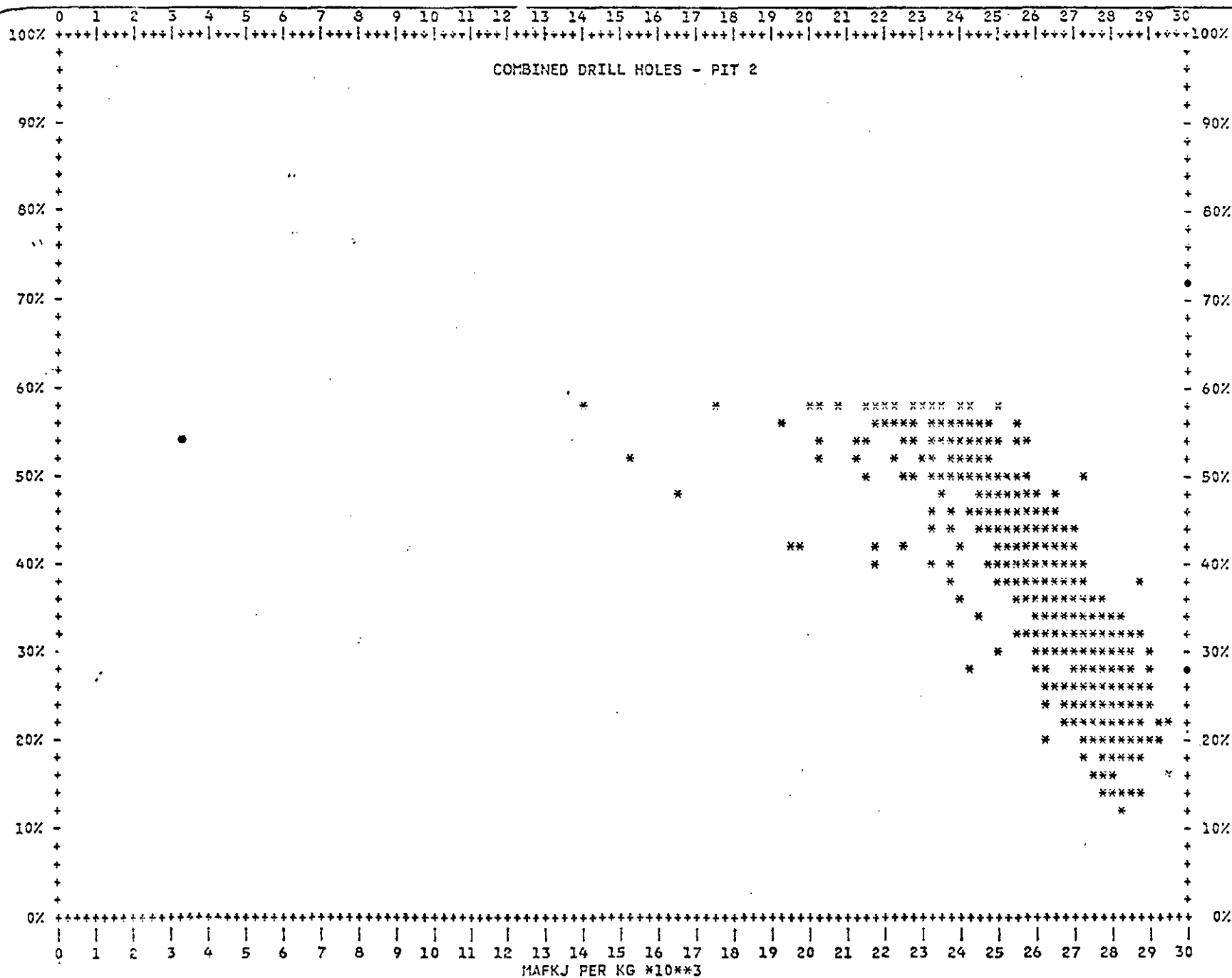
$$Y = 1.60815E+02 + -4.67604E-03 X$$

$$X = 3.43914E+04 + -2.13856E+02 Y$$

WHERE Y = PERCENTAGE OF ASH,  
 X = MOISTURE-ASH FREE KJ/KG

WGTD LINEAR CORRELATION COEFFICIENT = -0.8099 R\*\*2 = 0.655938

WGTD STANDARD ERROR OF ESTIMATION = 6.2166 SE\*\*2 = 38.645500



Y SCALE = 2.0% DRY ASH  
 X SCALE = 250 MOIST-ASH FREE KJ

Y INTERCEPT = +160.81  
 X INTERCEPT = +034391  
 Y INTERCEPT AT 30000 KJ = 20.53  
 Y INTERCEPT AT 100% ASH = 13005.7 # SAMPLES EXCEEDING GRAPH BOUNDRIES = 4