PR- BURNT RIVER 78 (1)A.

REPORT ON THE 1978 EXPLORATION PROGRAM ON THE BURNT RIVER PROPERTY (Coal Lic. 3061-3088 Inclusive) SUKUNKA RIVER AREA, B. C. (93 P/5W)

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FOR
TECK CORPORATION
AND
BRAMEDA RESOURCES LTD.

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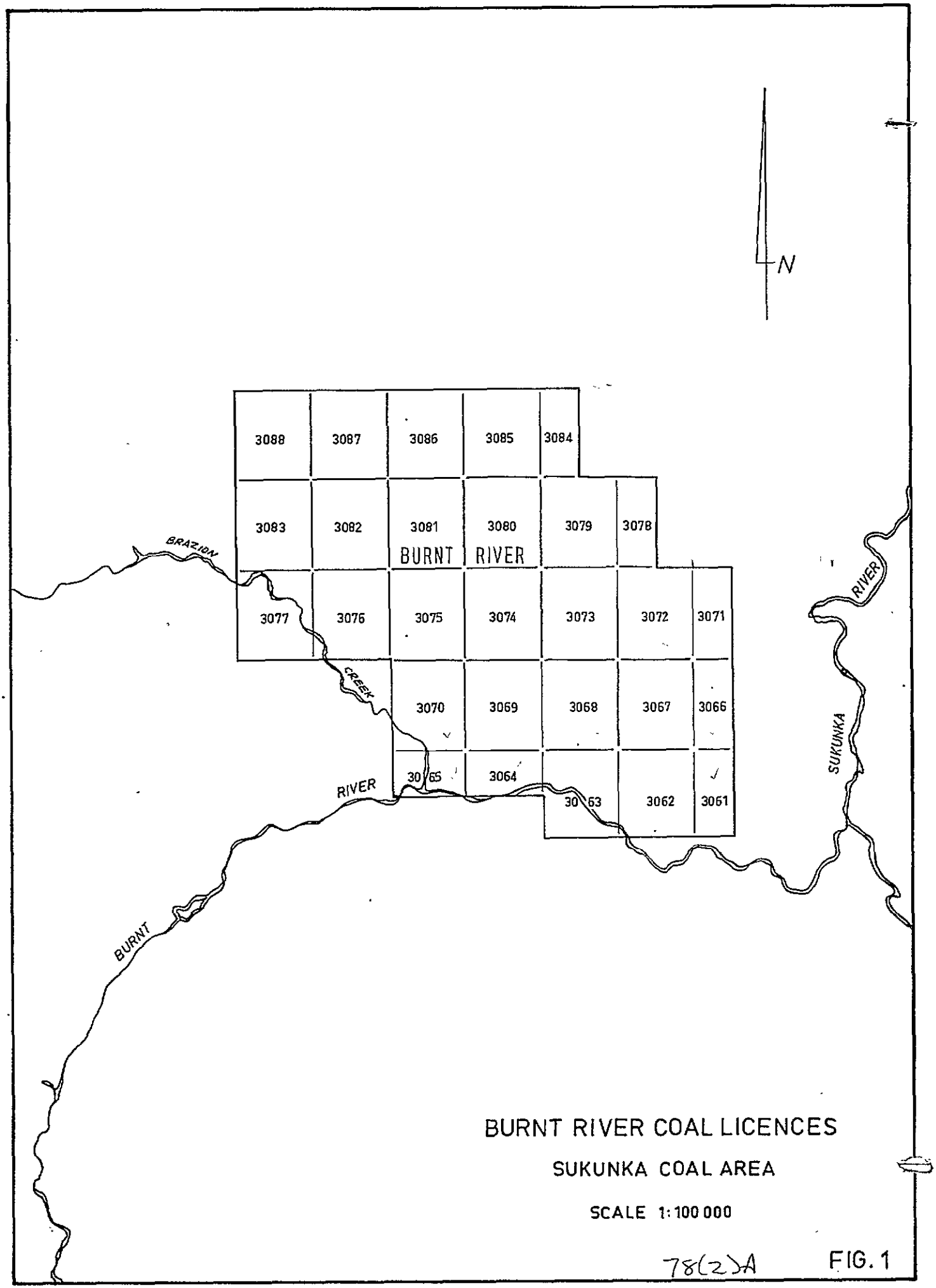

BURNT RIVER COAL LICENCES

SUKUNKA COAL AREA

SCALE 1:100 000

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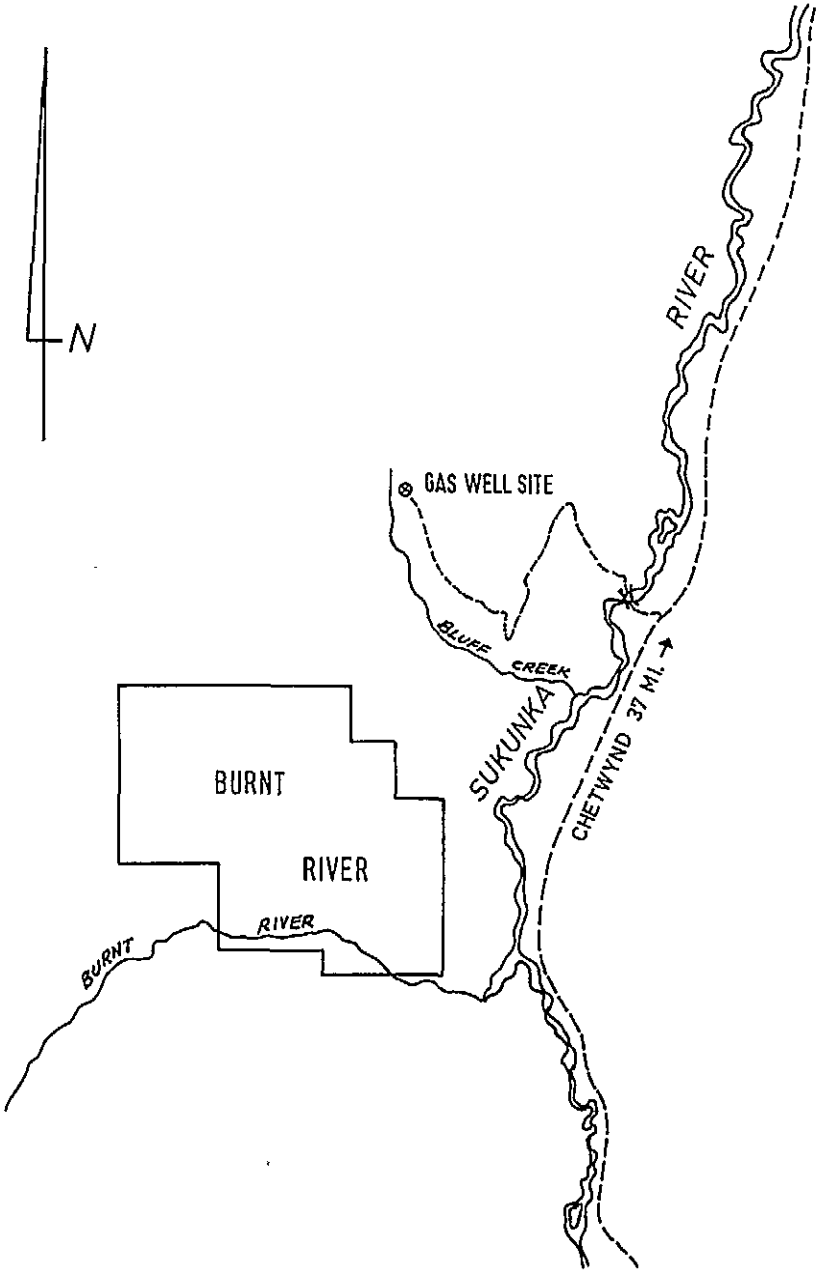
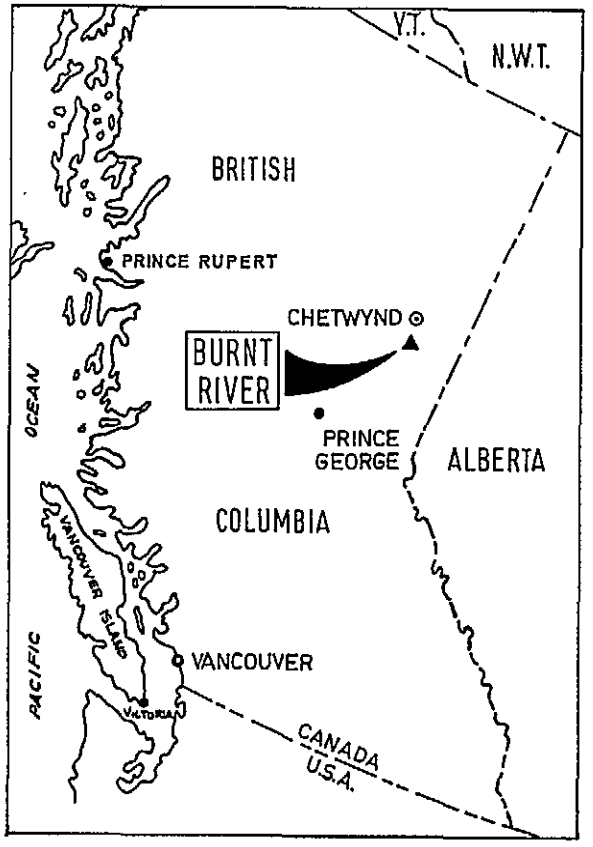
FIG. 1





PROPERTY LOCATION MAP

FIG. 2

INTRODUCTION

During the period June 1, 1978 to November 15, 1978 an exploration program was carried out by Teck Corporation on the Burnt River property held by Brameda Resources in the Sukunka coal area. The programme mainly consisted of geological mapping, seam trenching by hand, diamond drilling and road building for access.

It was designed to increase our knowledge of the stratigraphy and structures of the area as well as test the extent and quality of the coal seams outlined in the 1977 programme.

A tent camp designed for 10 men was established June 1 and work began shortly thereafter. During the period June 1 to August 15 the project was confined to geological mapping, hand trenching and prospecting using a portable Winkie drill. In August a road was built from the West Coast Transmission gas line to the Teck base camp (6.5 kilometres). Diamond drilling began August 28th and was completed November 12.

Full time technical staff included two geologists and one surveyor plus an average work force of seven men. The drilling company had a separate camp 1.5 kilometres west in an area closer to the main drill targets.

Information contained in this report may repeat some of that found in earlier reports but greater detail is provided as a result of this year's programme. The geologic maps are a compilation of data from earlier reports as well as from mapping done this year.

Reclamation and forest hazard abatement measures were carried out and were coordinated with the Reclamation Branch of the B. C. Ministry of Mines and the local forestry office. A detailed report on reclamation will be forthcoming in early February, 1979.

PROPERTY, LOCATION, ACCESS

The Burnt River property comprises 28 coal licences wholly owned by Brameda Resources Ltd. (Figure 1).

The property is located 38 kilometres south-southeast of Chetwynd, B. C. in the Liard Mining Division (Figure 2).

Access to the property from June 1 to August 15 was confined to helicopter or by foot. Early in August Teck undertook to build a road from the West Coast Transmission Pipeline. Access to the pipeline was accomplished by crossing the Sukunka River at mile 23 over a Bailey Bridge installed by Pacific Petroleum Ltd., following the road to the gas-well, and then along the access road put in by Majestic Wiley while constructing the new pipeline. On October 12th Pacific Petroleum elected to remove the bridge cutting off access to the Teck camp as well as to the pipeline. Majestic built a gravel crossing 700 metres downstream from the bridge site and Teck reverted back to helicopter support.

All drill roads were constructed for access with tracked vehicles or motor bikes. The diamond drill was track-mounted. Maximum use was made of pre-existing seismic trails.

PREVIOUS WORK

Work done during and prior to 1977 has been outlined in the 1977 report. Mapping was carried out in 1971, 1975 and 1977. During the 1977 programme four helicopter holes were drilled (583 metres) to test surface exposures of coal, test for coal quality, and to add to the known stratigraphy of the area.

SUMMARY AND CONCLUSIONS

Detailed mapping and diamond drilling done during the 1978 exploration programme verified the very complex nature of the Gething Formation in this area. The objectives of the 1978 work were to determine the overall surface mining potential and to prove up reserves of mineable coal. Due to the complex nature and the large area of the property a shift in emphasis was given to detailed work on specific targets in the latter stages of the programme.

From the reconnaissance mapping on the ten new licences it appears that the area is underlain mainly by rocks of the Commotion Formation which contain thin seams of dirty coal. Most or all of these licences should be allowed to lapse.

The quality of the coal was consistent with what was indicated last year. The coals contain very low ash, are high in calorific value, and low in volatile matter. The free swelling indexes are low but petrographic studies have shown that these coals have high reflectance and high strength characteristics. Coal classification is low volatile bituminous.

The 1978 exploration programme outlined the stratigraphy of the area and gave a basic view of the structural geology. This programme was far more detailed but essentially confirmed the geologic interpretations of the previous work.

A total estimate of coal reserves is very difficult to make until further drilling is carried out. However, reserves for Seam 60 and the BR-1 seam would be in the order of 12.9 million metric tonnes in place.

The 1978 work programme was stopped due to the very low temperatures and snow cover. More drilling is needed in several areas, particularly to the northwest of the base camp.

With the unnecessary removal of the bridge at Mile 23 access options are now very limited. If helicopters are used the cost of exploration will increase considerably.

SURVEYING

A two-man survey crew was used during the programme to tie in seam exposures, drill holes and roads (Figure 3). Bringing in outside control was found to be excessively difficult; hence a local grid was established. However, the information gathered this year will make it very easy to convert to U.T.M. at a later date when this grid is tied in to the regional network.

DIAMOND DRILLING

In order to aid the 1978 programme Teck purchased a portable Winkie drill and trained a drill crew under the supervision of J.K.Smit and Sons Ltd. of Vancouver, B. C. The drill was used mainly for prospecting but was also used to complete a drill grid outlined in the later stage of the project. Size of core produced was AX and a total of 31 holes were drilled for a total of 886 metres (2,906'). Core recovery was extremely good in most cases, with average depth of hole being 28.6 metres (93.7'). The equipment initially was moved between drill sites using a Jet Ranger 206B; after the access road was completed movement was by bombardier.

A diamond drilling contract was awarded to Connors Drilling Ltd. of Vancouver for 5,000 feet of NQ drilling. Equipment consisted of one Nodwell-mounted Longyear HC 150 drill. Connors supplied a crew of four drillers for two 10-hour shifts, seven days a week. Drilling commenced August 28 and was terminated November 12. Drilling averaged 12 metres per ten-hour shift including

moves. Down-time increased towards the end of the project due to equipment failure and frozen water lines but was not significant. A total of twenty holes were drilled, including the deepening of one hole (BR-2) from the 1977 programme, for a total of 1,794 metres (5,883'). Spacing of drill holes varied from 600 metres to 200 metres. Figure 4 shows the location of drill holes. Stratigraphic logs for each hole are attached under separate cover.

GEOPHYSICAL LOGGING

Geophysical logging of boreholes was carried out by B.P.B. Industries of Calgary, Alberta. The logging unit was brought into the property twice during the project and mounted on a Jimmy Skidder (bombardier) for access to drill locations.

Radiation logging consisted of gamma-ray, neutron-neutron and sidewall density. Detail density (LSD and BRD) were used in detailing coal seams. Holes were left cased until after logging, and only one was not logged due to poor hole conditions. Four holes were not attempted and two were logged to partial depth only.

Logging of Winkie drill holes was quite successful considering the number that were accessible. On these logging consisted of gamma-ray neutron-neutron and open-sidewall density using smaller diameter tools than those used in the NQ holes, i.e. multisonde. Copies of geophysical logs are attached under separate cover with this report.

CORE LOGGING AND SAMPLING

All drill cores were logged in detail and stratigraphic logs were prepared on a scale of 1:200. Coal seams were described in detail and those considered potentially mineable were sampled. Some seam intersections were sampled in plies to give a better breakdown of seam characteristics. Overall core recoveries were very good, averaging 81%. Coal cores were shipped to Cyclone Engineering for proximate analysis. Results of core analysis are shown in Appendix 1. Stratigraphic logs are under separate cover.

GEOLOGY

GENERAL

The objective of the first stage of the 1978 programme was two-fold:

1. To carry out detailed mapping on the Burnt River licences to supplement that done previously by Brameda geologists.
2. To prospect and extend the limits of previously known coal seams by Winkie drilling and hand trenching as well as to test coal quality in the Gething Formation.

Mapping on the Burnt River licences has always been difficult due to the fact that outcrop amounts to less than 5% of the area and possibly lower . The outcrops located were of very limited extent save for some exposures of Cadomin conglomerates. One of the main problems was the lack of consistent and reliable marker beds. The only reliable unit was the Cadomin formation. However it appears to wedge out and possibly intertongue with the overlying Gething in several areas.

Hand trenching or pitting as a means of seam tracing worked quite well as depth of overburden was limited to less than two metres in most areas. However, hand pitting became ineffective once overburden increased beyond about 2 metres in depth. This type of prospecting was meant as a guide for subsequent Winkie drilling. The prospecting program was generally successful and the Winkie drill proved itself invaluable throughout the program.

GEOLOGIC SETTING

The regional geology of the Burnt River property as described in the 1977 report has undergone some changes, notably in the eastern portion near the new licences granted in 1978. The formations present were previously interpreted as entirely Cadomin and Gething but the younger Moosebar and Commotion formations have been identified east of a major thrust fualt (Figures 5 and 6). The Gething and Cadomin formations and the Minnes group are believed to underlie about 90% of the property. There are no exposed contacts of the Gething formation and the overlying Moosebar formation.

The Lower Cretaceous sediments in the Burnt River area lie along a prominent northwesterly structural trend. They are tightly folded and, for the most part, heavily faulted.

The Chamberlain--Burnt River thrust that crosses the southwest edge of the property appears to have several faults branching off and crossing the western half of the property trending northwest. These are believed to be high angle thrust faults that have only locally been observed in the field.

The geologic setting here is very similar to that reported on the ground to the north held by Pan Ocean Oil, although the Moosebar is very well exposed in contact with the Gething in that area.

STRATIGRAPHY

By means of airphoto interpretation a breakdown of Gething into an upper unit consisting mainly of massive sandstone and a lower mudstone, coal, siltstone, sandstone unit was achieved for a good portion of the property. This aided the prospecting team as most of the thick coal seams were found in the upper part of the lower unit. However, the upper sandstone unit was exposed intermittently and did not prove to be a distinct mappable unit. Channelling of sands was observed in several locations as well as features such as cross bedding and slumping. Thickness of partings between coal seams varied considerably over short distances as did the thickness of the units above and below the seams. The ratio of sand matrix to phenoclasts in the conglomeratic horizons varied greatly but such features are not uncommon for conglomerates in the Sukunka area.

For mapping purposes it was decided to split the Boulder Creek Member in an upper and lower unit, the lower unit being the conglomerate with the upper units comprising mostly sandstone, shales and the coal seams.

From the data on hand it is very difficult to completely resolve the stratigraphy on the property and it is strongly suspected that several facies changes occur in the area. The general stratigraphy is similar to that reported earlier (R.S.Verzosa, 1975 and 1977).

STRUCTURE

Faults--The only type of faulting observed to date is thrust faulting and is believed to be of a high angle nature. Displacement by faulting is hard to calculate due to a lack of marker units. Faulting in coal seams has shown little displacement; however some of the faults must have appreciable displacement in order to explain the changes in stratigraphy.

Many outcrops had high dips, shearing, slickensides as well as features related to drag. The drag may be related to ductile deformation which preceded thrust faulting.

Due to the large number of northwest trending thrust faults (thrust sheets) it is believed that the Gething has been thrust or stacked on itself several times. It is quite possible that by exposing each of these thrust sheets or plates one would find repetitions of the thick coal seams already documented. Much more drilling is needed in order to resolve the structural setting and further define the magnitude of the faults.

Folding--The folding on the property tends to be tight and asymmetrical in nature. Some areas are less disturbed than others but further drilling may demonstrate folding not observed to date.

All coal seams drilled in the west-central portion of the property exhibited extreme thickening and thinning over relatively short distances down dip as well as along strike. (See cross sections F-F' and H-H'). One can only speculate that the seams have somehow undergone some type of "squeezing" process, possibly related to local faulting or to ductile deformation that preceded faulting.

COAL SEAMS

Several coal seams of appreciable thickness occur in the Gething Formation on the Burnt River property. All surface exposures found to date are plotted on the geologic map with their descriptions tabulated on the following pages. Coal seams observed in the Minnes Group were thin and generally dirty and are considered to have no economic importance. Coal also occurs in the Gates Member but the limited thickness and tight structure make them of little importance.

Of the 19 seams located in 1977 only three were tested during the 1978 programme (12, 14, and 9). Seam 14 was re-named the "Big Seam", seam 12 the "Lower Seam" and seam 9 the "BR-1 Seam" (upper and lower splits). Fifteen of the nineteen seams are in the Gething Formation.

During the 1978 field programme fifty-six coal outcrops were uncovered in the Gething Formation and were tested by hand trenching and/or Winkie drilling. Several of these are the same seams or extensions of seams found in 1977. From the information at hand it can be said that no more than 32 seams have been found to date in the Gething. However, it is very likely that several of these seams correlate across the property. Of the thirty-two seams, twenty-seven are greater than one metre in thickness, and due to steep dips or complex structure only five could be considered to have potential economic significance (BR-1 seam, 60, Upper Seam, Middle Seam, Big Seam). Out of these five only two are presently considered economic (Seam 60, BR-1 seam).

All of the above seams are now believed to lie in the middle to lower Gething. No drill hole intersected all five seams mentioned above. Drilling indicated a stratigraphic interval between Seam 60 and the BR-1 seam as 90 metres inclusive and from the Upper Seam to the Lower Seam approximately 180 metres inclusive. The BR-1 seam is approximately 135 metres above the Cadomin, putting seam 60 some 225 metres above the Cadomin. The Lower Seam is at least 100 metres above the Cadomin but due to several thrust faults the stratigraphic level of the Upper Seam is not known. The Gething Formation on the B.P. property (18 km to the southeast) is believed to be at least 300 metres thick. The total thickness of the Gething could not be determined locally since the top of the unit has not been identified in outcrop or in the drilling.

The petrographic work done by Cascade Coal Petrography Ltd. in 1977 was not successful in correlating surface coal occurrences. This was most likely due to the fact that most samples were from outcrop and therefore highly oxidized. No further reflectance work has been done since 1977, however, some is planned in the near future.

COAL QUALITY

Generally, all the seams drilled on the property had similar quality characteristics. They are low volatile bituminous coals with low ash and high calorific values. Sulphur content is low ($<$ .60%) with F.S.I.'s also low or non-existent (0-3.5). These coals are generally hard and bright, although friable sections were encountered. Rock partings are very minor in most seams. The proximate analyses for the drill intersections are appended with this report.

The main seams of interest with respect to potential mineability are Seam 60 and BR-1 Seam. The proximate analyses of these coals as well as a summary of ranges and averages are shown (pages 14 and 15).

These seams are low volatile, have a higher than average free swelling index relative to the other seams on the property, and are low ash. From petrographic work performed it is noted that the reflectance is high, which would indicate a "high strength" coal. Contrary to earlier reports it is unreasonable to classify these coals as non-metallurgical at this time.

Seam No.	True Thickness (metres)	Dip	Floor	Roof	Rock Bands	Enclosing Formation	Comments
21	.30		-	shale	none	Minnes	
22	<.60		shale	shale	none	Minnes	
23	<.60		-	-	none	Minnes	
24 (BW-5)	5.12	20°	mudstone	mudstone	none	Gething	Middle Seam
25	1.30	20°	-	mudstone	none	Gething	Big Seam
26 (BW-6)	2.02	20°	mudstone, silty	mudstone	-	Gething	Lower Seam
27 (BW-10)	8.70	50°	mudstone	mudstone	-	Gething	Big Seam; faulted.
28 (BW-13)	6.15	20°	mudstone	sandstone	-	Gething	Upper Seam
29	1.30	55°	possible mudstone	possible sandstone	-	Gething	Big Seam
30	>.90	50°	sandstone	overburden	-	Gething	
31	.90-1.60		-	-	-	Gething	Structurally complicated
32	.45	20°	mudstone	sandstone	-	Gething	
33	2.74	27°	mudstone	siltstone	.43 m	Gething	
34	COAL SPOIL						
35	COAL SPOIL						
36	3.20	23°	mudstone	mudstone	-	Gething	Middle Seam; several shale partings.
37	3.66	12°	sandstone	mudstone	-	Gething	
38	13.12	30°	-	sandstone	.60 near top	Gething	Middle Seam
39 (BR-9)	4.58	20°	mudstone	mudstone	-	Gething	Middle Seam
40 (BR-9)	.86	20°	mudstone	mudstone	-	Gething	
41	>1.60	5°	-	mudstone	-	Gething	Big Seam
42 (BW-17)	5.74	25°	mudstone	mudstone	-	Gething	Big Seam
43 (BW-19)	3.26	13°	mudstone	mudstone	.24 near top	Gething	Upper Seam
44 (BW-16)	4.67	30°	mudstone	mudstone	.15 near middle	Gething	Big Seam; faulted
45 (BW-14)	5.85	45°	mudstone	siltstone	-	Gething	Big Seam
46 (BW-18)	5.73	25°	mudstone	mudstone	-	Gething	
47	>1.50		-	sandstone	-	Gething	Dirty coal
48	>1.50		-	sandstone	-	Gething	Same as 48?
49 (BW-22)	12.34	20°	mudstone	sandstone	.62 near middle	Gething	Upper Seam ?
50	>3.0	5°	-	mudstone	-	Gething	
51	>3.0	5°	mudstone	mudstone	-	Gething	

Seam No.	True Thickness (metres)	Dip	Floor	Roof	Rock Bands	Enclosing Formation	Comments
52	1.0		mudstone	-	-	Gething	
53	1.0	10°	mudstone	mudstone	-	Gething	
54	2.0	25°	sandstone	overburden	-	Gething	
55	6.70	Vert.	siltstone	mudstone	-	Gething	Dirty, faulted, Big Seam
56	6.0	20°	siltstone	mudstone	-	Gething	Big Seam
57	COAL AND SHALE MIXED IN FAULT ZONE						
58	2.0	15°	-	mudstone	-	Gething	
59	5.0	10°	-	mudstone	-	Gething	Seam 60
60 (BW-26)	5.92	5°	mudstone	mudstone	.16 @ top .16 @ middle	Gething	Seam 60
61	1.50	Varies	sandstone	sandstone	-	Gething	Drag folded
62	1.30	Vert.	siltstone	siltstone	-	Gething	
63	1.50	55°	mudstone	mudstone	several	Gething	
64	1.80	50-70°	mudstone	mudstone	-	Gething	
65	COAL SPOIL IN HEAVY OVERBURDEN						
66	1.0	30°	sandstone	-	-	Gething	Middle Seam; faulted on sandstone
67	1.68	35°	mudstone	mudstone	-	Gething	
68	1.0	30°	mudstone	mudstone	-	Gething	
69	±6.0	25°	mudstone	mudstone	-	Gething	Upper Seam ?
70	1.0	30°	mudstone	mudstone	-	Gething	
71	3.81	20°	mudstone	mudstone	-	Gething	Middle Seam
72 (BR-10)	5.04	15°	mudstone	sandstone	-	Gething	Fault repeat; Middle Seam
73	.76	15°	sandstone	mudstone	-	Gething	
74	1.0	30°	siltstone	mudstone	-	Gething	
75 A & B	2.59	25°	mudstone	sandstone	1.0 near middle	Gething	Upper Seam ?
76	5.0	65°	mudstone	siltstone	-	Gething	Syncline seam (west limb)
77	1.0	40°	sandstone	mudstone	-	Gething	West limb
78	2.0	45°	sandstone	mudstone	-	Gething	west limb
79	3.66	80°	-	mudstone	-	Gething	
80	30.0	80°	sandstone	mudstone	several	Gething	Dillion Seam
81	1.0	85°	sandstone	mudstone	-	Gething	

COAL QUALITY

D.D.H. NO.	SEAM	DEPTH INTERVAL (meters)	THICKNESS (meters)	RAW COAL ASH	V.M.	F.C.	S	F.S.I.	B.T.U./lb.
BW-1	BR-1 Upper	36.44-39.32	2.88	6.02	13.83	78.76	.46	.5	14,400
	BR-1 Lower	46.73-49.22	2.49	3.87	13.88	81.02	.58	2.0	14,930
BW-26	60	11.56-17.48	5.92	10.74	17.14	70.80	.26	2.0	13,810
BW-28	BR-1 Upper	45.12-48.12	3.0	3.26	13.47	82.57	.47	n/a	14,800
	BR-1 Lower	52.80-?	-	3.55	15.78	80.03	.48	n/a	14,900
BW-29	BR-1 Upper	22.66-25.40	2.72	5.62	13.50	80.21	.52	.5	14,600
	BR-1 Lower	34.60-37.19	2.92	6.73	13.33	79.39	.65	.5	14,630
BR-1	BR-1 Upper	9.67-13.17	3.50	5.41	17.31	76.12	.50	½	14,740
	BR-1 Lower	16.14-18.73	2.59	4.72	14.34	79.83	.40	½	14,730
BR-16	60	36.42-43.48	6.77	11.46 9.60	15.58 16.72	72.36 73.08	.32 .27	1.5 2.5	13,370 14,010
	BR-1 Upper	103.40-107.18	3.78	7.28	13.41	78.44	.42	.5	14,350
	BR-1 Lower	118.08-121.0	2.92	11.05	13.51	74.63	.49	.5	13,660
BR-17	60	29.90-37.57	7.66	7.22 24.26	16.23 15.18	75.95 59.92	.29 .22	1.0 1.5	14,380 11,850
	BR-1 Upper	109.29-112.04	2.74	6.34	12.76	80.32	.47	n/a	14,320
	BR-1 Lower	117.43-121.49	4.05	10.82	12.70	75.92	.35	n/a	13,690
BR-18	BR-1 Upper	38.56-41.95	3.38	4.74	13.52	81.16	.41	½	14,650
	BR-1 Lower	46.12-48.69	2.03	10.55	13.0	75.70	.63	½	13,740
BR-20	BR-1 Upper	10.62-14.26	3.64	4.57	12.96	81.62	.44	½	14,720
	BR-1 Lower	15.42-19.50	2.20	8.27	12.57	78.44	.55	½	14,040
BR-21	BR-1 Upper	50.74-53.88	3.14	3.64	12.70	82.97	.41	n/a	14,840
	BR-1 Lower	65.64-70.88	4.16	8.09	12.71	78.40	.35	½	14,110
BR-22	BR-1 Upper	80.60-83.78	3.18	7.43	12.94	78.90	.46	n/a	13,740
	BR-1 Lower	97.20-101.43	4.23	4.60	13.95	80.73	.38	½	14,620
BR-23	BR-1 Upper	78.54 82.52	3.98	5.11	13.81	80.35	.38	½	14,800
	BR-1 Lower	96.0-102.80	4.80	6.15	13.40	79.65	.37	n/a	14,470

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COAL QUALITY: RANGES & AVERAGES

	THICKNESS	ASH	V.M.	F.C.	S	F.S.I.	B.T.U./lb
SEAM 60							
Ranges	5.92-7.66	10.22-14.03	15.81-16.72	69.54-73.08	.26-.28	1.0-2.0	13,368-13,810
Averages	6.78	11.66	16.29	71.82	.27	1.5	13,658
BR-1 UPPER							
Ranges	2.72-3.98	3.26-7.43	12.70-19.50	74.0-82.97	.38-.52	n/a-½	13,740-14,840
Averages	3.27	5.20	14.21	79.73	.45	-	14,520
BR-1 LOWER							
Ranges	2.03-4.80	3.55-10.82	12.57-17.70	75.70-81.02	.30-.65	n/a-2	13,690-14,930
Averages	3.24	6.56	13.95	78.62	.46	-	14,360

OVERBURDEN RATIOS

The procedure for calculating overburden ratios involved calculating total waste by isopaching. A high wall sloping at 45^{o} was taken for the open pit. Total waste was calculated at 82,130,186 m^3 to yield a strip ratio of 6.3 cubic metres waste per metric tonne of coal or 15.1 metric tonnes of waste per metric tonne of coal.

RECOMMENDATIONS

Further drilling is needed for two reasons:

1. To extend reserves to the northwest on the BR-1 Seam and locate a possible extension of Seam 60.

2. To complete shallow drilling that was planned near the subcrob of the BR-1 Seam.

Hand trenching in this area is impractical due to excessive overburden.

Mapping and prospecting is needed in outlying areas of the property not fully covered by previous programmes.

A proposed plan of operations has been enclosed (Figure 10).

Respectfully submitted,

Bruce I. McClymont

Bruce I. McClymont, P.Geol.

COAL RESERVES

There are several very thick coal seams but the tonnages amenable to open pit mining are limited due to structural complexity over most of the explored ground. The property is still at an early exploration stage, therefore future work programmes may change the present reserves picture drastically.

The area of main importance, and the only one for which a coal reserve has been calculated, is the area containing Seam 60 and the BR-1 seam. Dips are shallow, structural disturbance is minimal and topography is gentle.

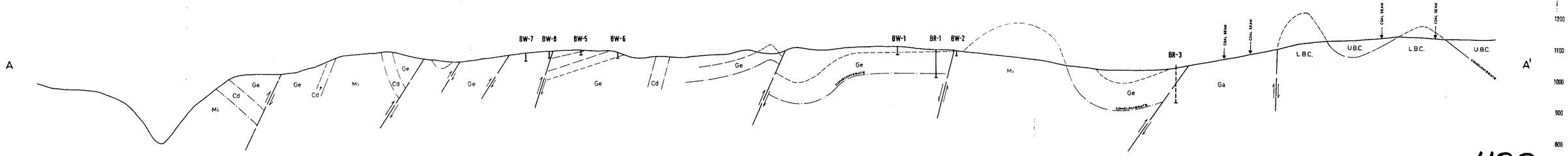
Reserves were calculated from isopach maps with the use of a planimeter. Due to the gentle dips, reserve blocks were not deemed necessary. The placement of boundaries for reserves was governed by overburden ratios, faults, dips of beds, and extent of drilling. Calculations were based on a specific gravity of 1.35 for coal and seam thicknesses were derived from bed-resolution density (B.R.D.) logs.

The reserves calculated are surface mineable and no reference has been made to underground potential. A summary of reserve calculation and tonnages are shown in Table I.

TABLE 1: RESERVE SUMMARY OF COAL IN PLACE

	Drill Indicated (metric tonnes)	Inferred (metric tonnes)	Total (Metric tonnes)
BR-1 Seam (upper & lower splits)	8,876,589	780,469	9,657,058
Seam 60	2,113,425	1,209,600	3,323,025
TOTAL	10,990,014	1,990,069	12,980,083

The above reserves are mineable at an overall strip ratio of 6.3:1 (m^3/MT)



488

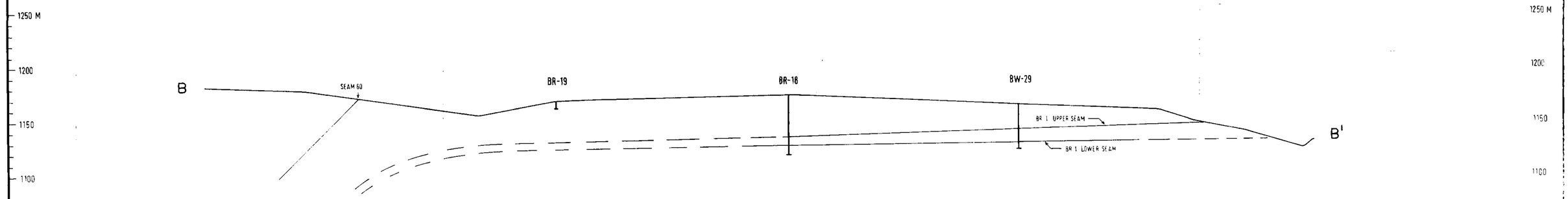
BURNT RIVER AREA

STRUCTURAL SECTION ALONG A-A'

(SEISMIC LINE)

SCALE 1:10000

R. Burnt River 7/12/74.

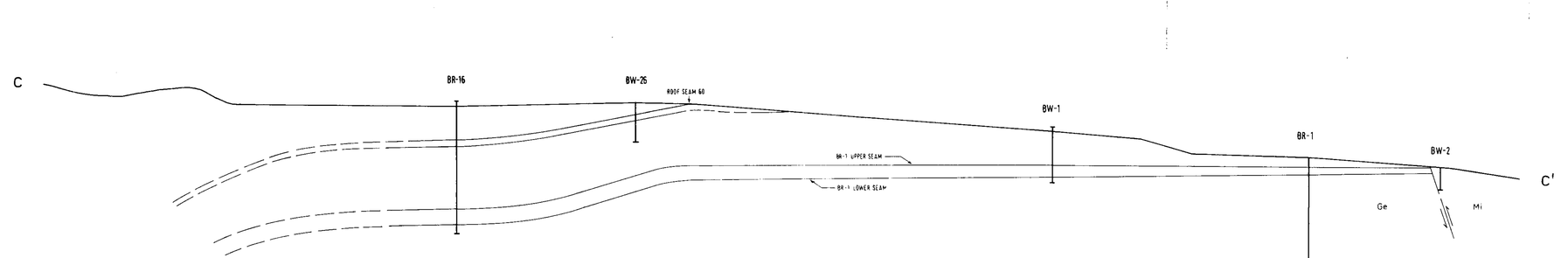


SECTION B-B'

SCALE 1:2000

488

Re - Current River 7k (2)A.

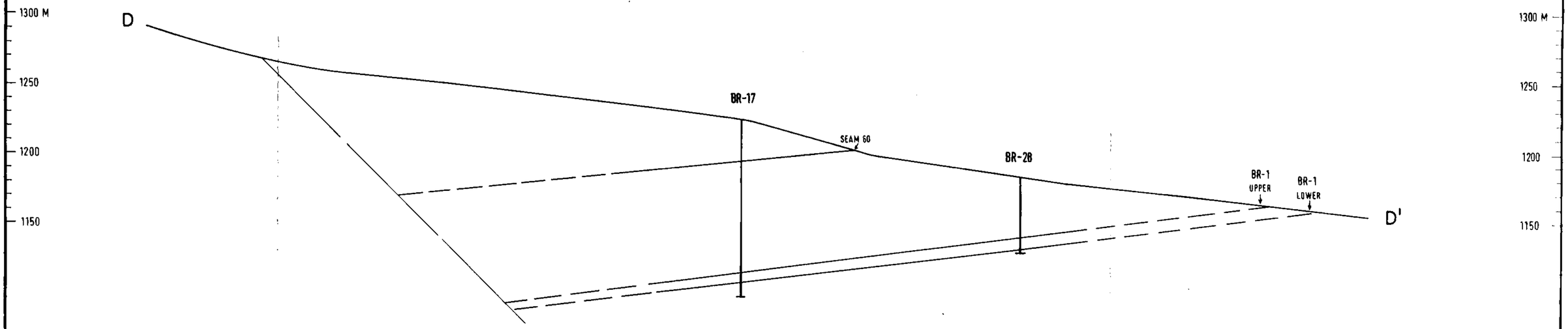


SECTION C-C'

SCALE 1:2000

488

RE- BURNT RIVER 78(2)A.

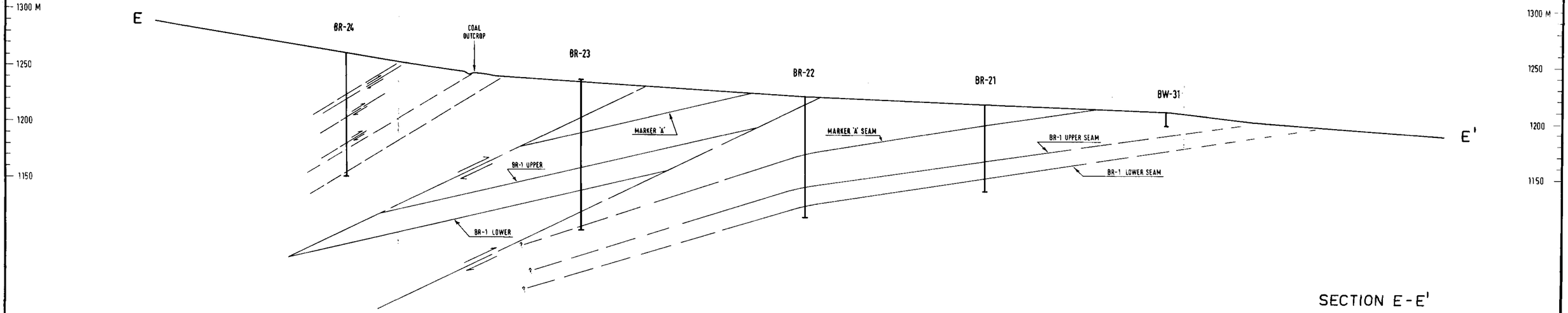


SECTION D-D'

SCALE 1:2000

488

RE. BURNT RIVER 78(2)A.

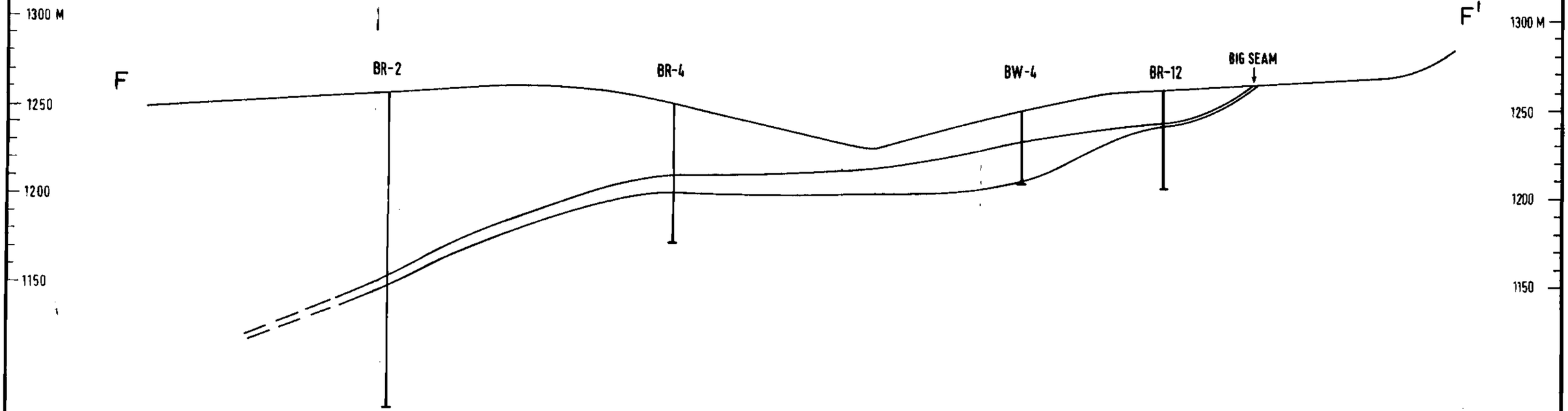


SECTION E-E'

SCALE 1:2000

488

Re- Burnt River 78 (2)4.

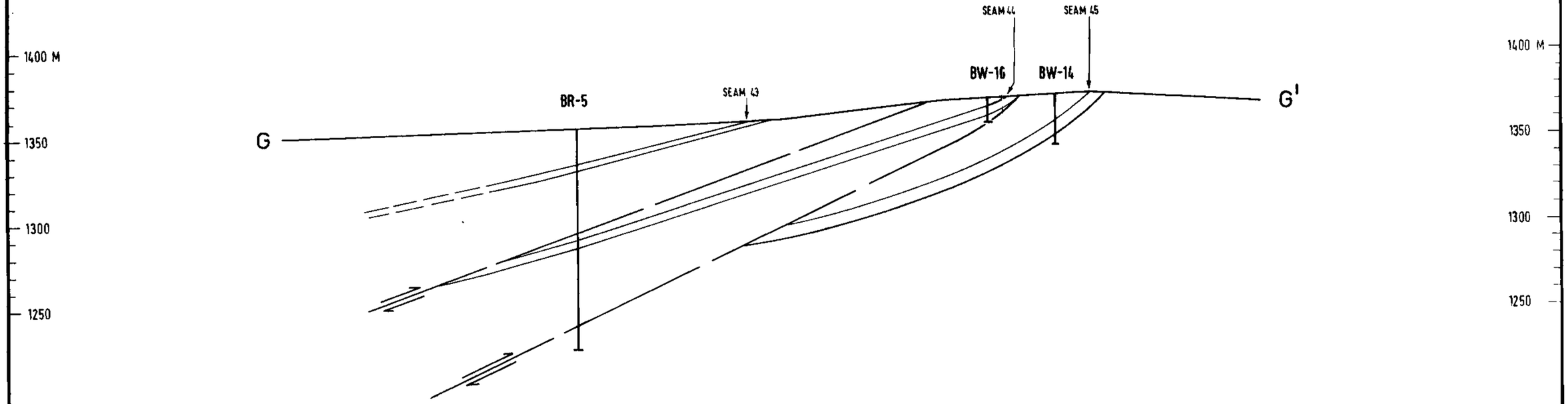


SECTION F-F'

SCALE 1:2000

488

PR-BURNT RIVER 7W (2)A.

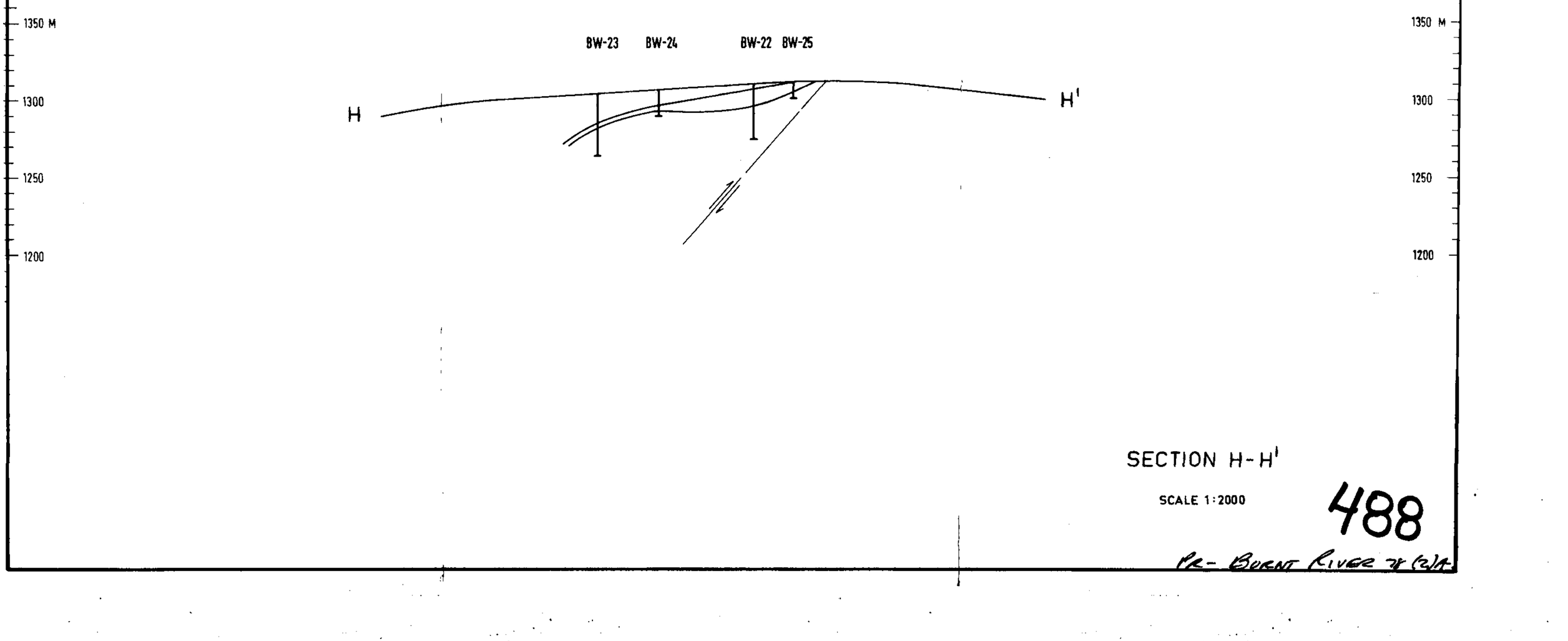


SECTION G-G'

SCALE 1:2000

488

PR-BURNT RIVER 78(2)A.



SECTION H-H'

SCALE 1:2000

488

Pg- Burnt River 7 (2)A

488 FIG. 4

Re: Burnt River 71(2)4.

BRAMEDA RESOURCES LIMITED
VANCOUVER, B.C.

BURNT RIVER PROPERTY

DRILL HOLE LOCATION MAP

SUKUNKA RIVER AREA
LIARD MINING DISTRICT

SCALE 1: 10,000

NTS 94P/5

488
FIG. 5

Ile- Burnt River Tie (e)

BRAMEDA RESOURCES LIMITED
VANCOUVER, B.C.

GEOLOGY
OF THE BOUNDARY RIVER PROPERTY
SOKONAS RIVER AREA
LAT. 49° 30' N.
SCALE 1:5000

LEGEND

LOWER CRETACEOUS
FORT ST. JOHN GROUP
DOMINION FORMATION
BC BOULDER CREEK MEMBER
HL HULCROSS MEMBER
GS GATES MEMBER
MBF MOOSEBAR FORMATION
BULKLEY GROUP
Gd GETHING FORMATION
Cd CADOMIN FORMATION
UNCONFORMITY
HAZELTON GROUP
M1 M1 NINES UNDIVIDED
DRILL HOLE
BR-18
COAL SEAM OUTCROP
BEDDING (HORIZONTAL, INCLINED, VERTICAL, OVERTURNED)
ANTICLINE, SHOWING DIRECTION OF PLUNGE
SYNCLINE
FAULT
FORMATION BOUNDARIES
APPROXIMATE POSITION OF CADOMIN HORIZON
SEISMIC LINES AND TRAILS

N

76000 N
80000 N
82000 N
84000 N
86000 N

488

Re- Burnt River 72(2)9.

FIG. 3

BRAMEDA RESOURCES LIMITED

VANCOUVER, B.C.

BURNT RIVER PROPERTY

SURVEY MAP

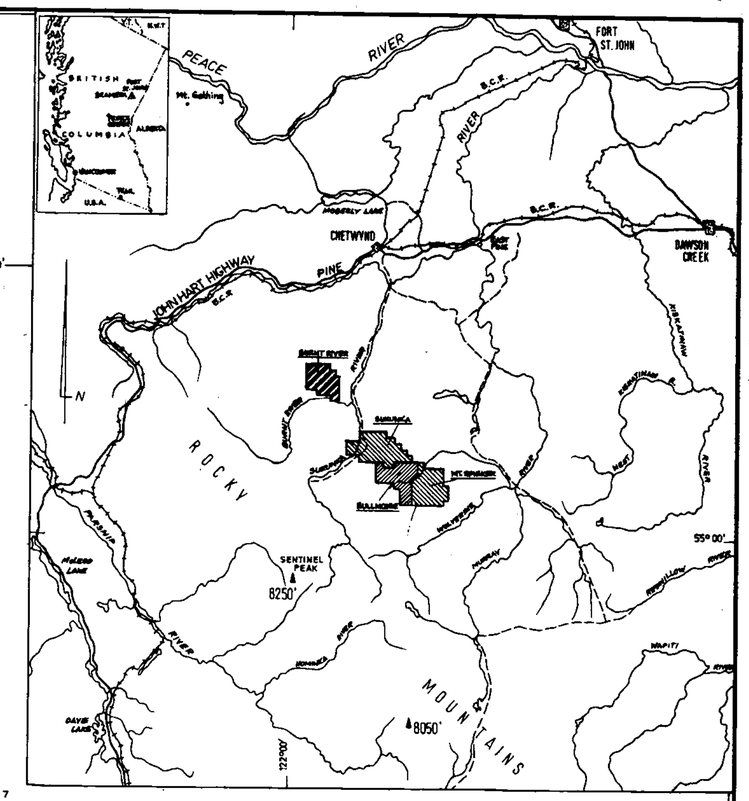
SUKUNKA RIVER AREA

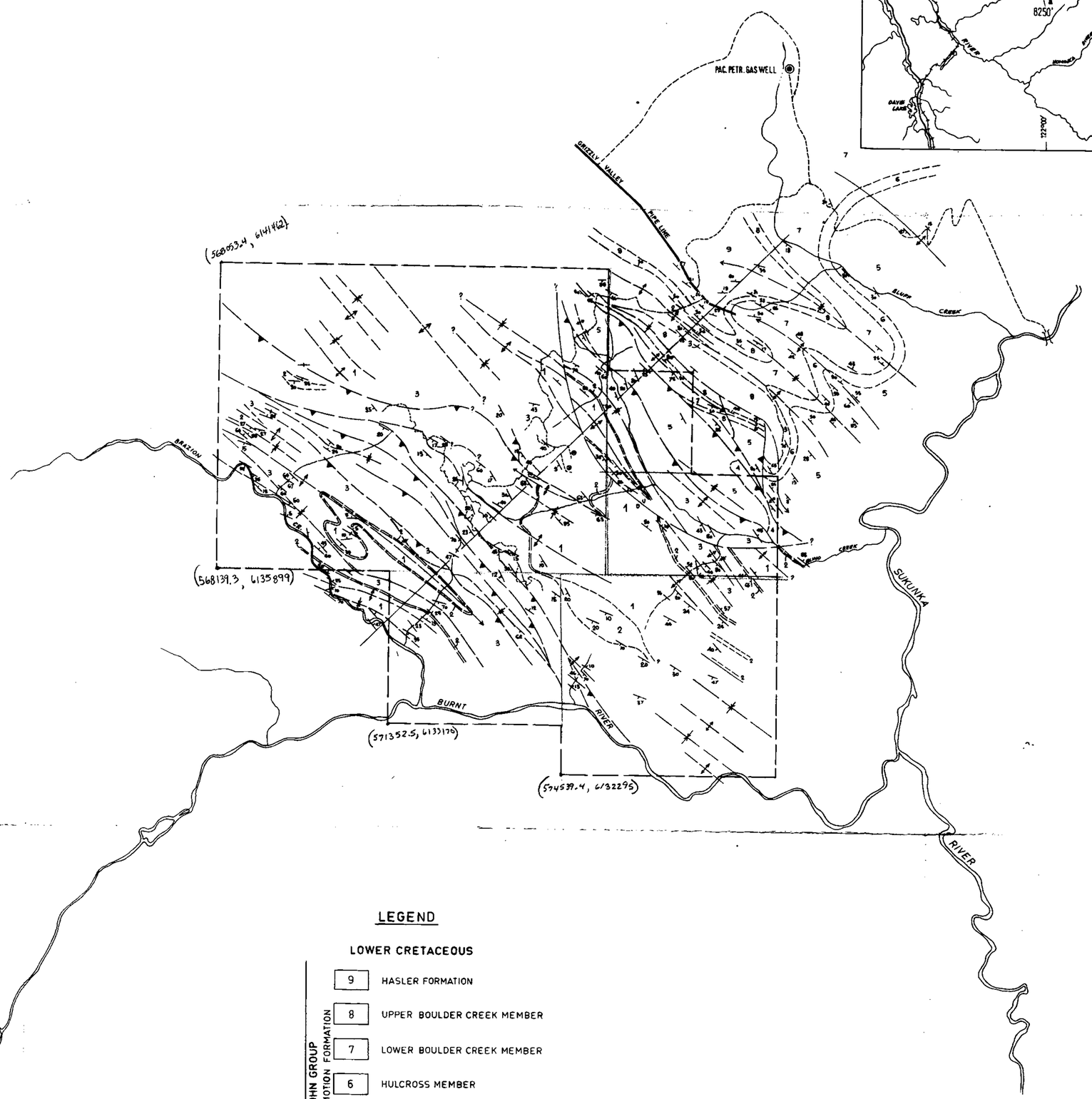
LIARD MINING DISTRICT

DIGITIZE

SCALE 1: 10000

NTS 93-P-5





LEGEND

LOWER CRETACEOUS

- FORT ST. JOHN GROUP — COMMOTION FORMATION
  - 9 HASLER FORMATION
  - 8 UPPER BOULDER CREEK MEMBER
  - 7 LOWER BOULDER CREEK MEMBER
  - 6 HULCROSS MEMBER
  - 5 GATES MEMBER
  - 4 MOOSEBAR FORMATION
- BULLHEAD GROUP
  - 3 GETHING FORMATION
  - 2 CADOMIN FORMATION
- MINNES GROUP
  - 1 MINNES (UNDIVIDED)

25 BEDDING
ANTICLINE
SYNCLINE
COAL LICENCE BOUNDARY
THRUST FAULT

BASE MAP CONSTRUCTED FROM NTS 93P/5E AND 93P/4W

488

Re- Burnt River 21 (2) a.

FIG. 6

TECK CORPORATION LIMITED
VANCOUVER, B.C.

GEOLOGY OF THE BURNT RIVER AREA
COAL LICENSES OF BRAMEDA RESOURCES LTD.
SUKUNKA RIVER AREA, B.C.
LIARD M.D., B.C.

DRAWN BY:	COMPILED BY:	DATE:	DRAWING Nº
P.V.	B. McCLYMONT	DEC. 1978	

SCALE 1:50000

488

FIG. 7

PR - BURNT RIVER 78(2)4.

BRAMEDA RESOURCES LIMITED
VANCOUVER, B.C.

GEOLOGY AND SEAM TRACES
OF THE BURNT RIVER PROPERTY
SUKUNKA RIVER AREA
LIARD M.D., B.C.

488
Re-Burnt River #(s).

FIG. 8

BRAMEDA RESOURCES LIMITED
VANCOUVER, BC.

BURNT RIVER PROPERTY

ISOPACH OF SEAM 60

SUKUNKA RIVER AREA
LIARD MINING DISTRICT

SCALE 1:10000

NTS 93-P-9

488

Re: Burnt River 72 G/3 A.

FIG. 9

BRAMEDA RESOURCES LIMITED

VANCOUVER, B.C.

BURNT RIVER PROPERTY

ISOPACH OF BR-1 SEAM

SUKUNKA RIVER AREA

OMINECA MINING DISTRICT

SCALE 1" 1000'

N

488

Re: Burnt River Nickel

FIG. 10

BRAMEDA RESOURCES LIMITED
VANCOUVER, B.C.

BURNT RIVER PROPERTY

STRUCTURE CONTOUR

FLOOR BR-1 SEAMS

SUKUNKA RIVER AREA

LIARD MINING DISTRICT

SCALE 1: 10000

NTS 93-O-5

488

FIG. 11

Re- Burnt River 74(2)A.

BRAMEDA RESOURCES LIMITED
VANCOUVER, B.C.

BURNT RIVER PROPERTY

PROPOSED PLAN OF OPERATIONS FOR 1979

SUKUNKA RIVER AREA
LIARD MINING DISTRICT

SCALE 1:10000

PR- BURNT RIVER 78(4)A:

APPENDIX I

COAL ANALYSES

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-1

Footage: 36.27 - 39.45

S1-273
CES # 92

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	6.02	6.10
Residual Moisture %	1.39	--
Volatile Matter %	13.83	14.03
Fixed Carbon %	78.76	79.87
CALORIFIC VALUE BTU/lb.	14,440	14,640
Cal/gm.	8,020	8,130
SULPHUR %	0.46	0.47
FREE SWELLING INDEX	1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-1

Footage: 47.10 - 49.69

SI-273
CES #93

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	3.87	3.92
Residual Moisture %	1.23	--
Volatile Matter %	13.88	14.05
Fixed Carbon %	81.02	82.03
CALORIFIC VALUE BTU/lb.	14,930	15,120
Cal/gm.	8,290	8,390
SULPHUR %	0.58	0.59
FREE SWELLING INDEX	2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

SI-273
CES #64

Hole No.: BW-4

Footage: ~~58.5 - 68.0~~
17.8 - 20.7

Air Dry Weight: 2290 gm.

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS			
Ash %		6.98	7.07
Residual Moisture %		1.34	--
Volatile Matter %		14.57	14.77
Fixed Carbon %		77.11	78.16
CALORIFIC VALUE	BTU/lb.	14,360	14,550
	Cal/gm.	7,980	8,090
SULPHUR %		0.38	0.39
FREE SWELLING INDEX		N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole: BW-4

Footage: ~~69.9~~ - ~~125.5~~
21.3 - 38.2

S1-273
CES #65

Air Dry Weight: 11,410 gm

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSES			
Ash %		8.32	8.44
Residual Moisture %		1.44	--
Volatile Matter %		15.19	15.41
Fixed Carbon %		75.05	76.15
CALORIFIC VALUE	BTU/lb.	14,200	14,410
	Cal/gm.	7,890	8,000
SULPHUR %		0.29	0.29
FREE SWELLING INDEX		N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

S1-273
CES #66

Hole No.: BW-5

Footage: ~~19.5~~ - ~~32.5~~
5.94 - 9.9

Air Dry Weight: 3930 gm.

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS			
Ash %		3.19	3.23
Residual Moisture %		1.28	--
Volatile Matter %		15.55	15.76
Fixed Carbon %		79.98	81.01
CALORIFIC VALUE	BTU/lb.	14,920	15,110
	Cal/gm.	8,290	8,400
SULPHUR %		0.32	0.32
FREE SWELLING INDEX		N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

S1-273
CES #67

Hole No.: BW-6

Footage: 92.6 - 99.2
28.2 - 30.2

Air Dry Weight: 1630 gm.

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS			
Ash %		51.42	51.88
Residual Moisture %		0.89	--
Volatile Matter %		12.05	12.16
Fixed Carbon %		35.64	35.96
CALORIFIC VALUE	BTU/lb.	8,570	8,650
	Cal/gm.	4,760	4,800
SULPHUR %		0.29	0.29
FREE SWELLING INDEX		1	

CYCLONE ENGINEERING SALES LTD.

BR 16 17 18 20 21 22 23 24
BW 10, 28, 29,

TECK CORPORATION

Project: Burnt River

SI-273

Hole No.: BW 10

CES #98

Footage: ~~6' - 11'~~
1.83 - 3.35

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		12.44	12.75
Residual Moisture %		2.42	--
Volatile Matter %		20.08	20.58
Fixed Carbon %		65.06	66.67
CALORIFIC VALUE	BTU/lb.	12,210	12,510
	Cal/gm.	6,780	6,950
SULPHUR %		0.60	0.61
FREE SWELLING INDEX		N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-10

Footage: ~~14 - 51.5~~ 4.2 - 15.7

SI-273
CES #69

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	4.58	4.64
Residual Moisture %	1.25	--
Volatile Matter %	18.05	18.28
Fixed Carbon %	76.12	77.08
CALORIFIC VALUE BTU/lb.	14,400	14,580
Cal/gm.	8,000	8,100
SULPHUR %	0.33	0.33
FREE SWELLING INDEX	N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-13

Footage: 7.62 - 12.50 ✓

SI-273
CES #70

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	23.12	23.32
Residual Moisture %	0.84	--
Volatile Matter %	15.38	15.51
Fixed Carbon %	60.66	61.17
CALORIFIC VALUE BTU/lb.	11,820	11,920
Cal/gm.	6,570	6,630
SULPHUR %	0.36	0.36
FREE SWELLING INDEX	1	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-14

Footage: 14.02 - 19.08

S1-273
CES #71

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		8.70	8.76
Residual Moisture %		0.75	--
Volatile Matter %		19.37	19.52
Fixed Carbon %		71.18	71.72
CALORIFIC VALUE	BTU/lb.	14,150	14,260
	Cal/gm.	7,860	7,920
SULPHUR %		0.39	0.39
FREE SWELLING INDEX		3 1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-14

Footage: 19.08 - 19.99

SI-273
CES #72

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	70.10	71.08
Residual Moisture %	1.38	--
Volatile Matter %	9.49	9.62
Fixed Carbon %	19.03	19.30
CALORIFIC VALUE BTU/lb.	3,610	3,660
Cal/gm.	2,000	2,030
SULPHUR %	0.16	0.16
FREE SWELLING INDEX	1	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-14

Footage: 19.99 - 22.10

SI-273
CES # 73

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	14.45	14.59
Residual Moisture %	0.93	--
Volatile Matter %	19.59	19.77
Fixed Carbon %	65.03	65.64
CALORIFIC VALUE BTU/lb.	13,270	13,390
Cal/gm.	7,370	7,440
SULPHUR %	0.40	0.40
FREE SWELLING INDEX	2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-16

Footage: 3.96 - 5.94

S1-273
CES #74

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	8.53	8.62
Residual Moisture %	0.99	--
Volatile Matter %	18.51	18.69
Fixed Carbon %	71.97	72.69
CALORIFIC VALUE BTU/lb	13,950	14,090
Cal/gm.	7,750	7,830
SULPHUR %	0.46	0.46
FREE SWELLING INDEX	1	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-17

Footage: 5.33 - 10.82

SI-273
CES #75

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	12.41	12.51
Residual Moisture %	0.78	--
Volatile Matter %	17.11	17.24
Fixed Carbon %	69.70	70.25
CALORIFIC VALUE BTU/lb.	13,540	13,650
Cal/gm.	7,520	7,590
SULPHUR %	0.37	0.37
FREE SWELLING INDEX	1 1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-18

Footage: 4.27 - 5.18

SI-273
CES #76

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		2.10	2.13
Residual Moisture %		1.36	--
Volatile Matter %		16.47	16.70
Fixed Carbon %		80.07	81.17
CALORIFIC VALUE	BTU/lb.	14,920	15,130
	Cal/gm.	8,290	8,400
SULPHUR %		0.43	0.44
FREE SWELLING INDEX		N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-18

Footage: 6.46 - 12.19

SI-273
CES #77

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		2.86	2.91
Residual Moisture %		1.66	--
Volatile Matter %		16.49	16.77
Fixed Carbon %		78.99	80.32
CALORIFIC VALUE	BTU/lb.	14,860	15,110
	Cal/gm.	8,260	8,400
SULPHUR %		0.26	0.26
FREE SWELLING INDEX		N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-23

Footage: 19.35 - 22.56

S1-273
CES #88

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	2.22	2.24
Residual Moisture %	0.91	--
Volatile Matter %	15.90	16.05
Fixed Carbon %	80.97	81.71
CALORIFIC VALUE BTU/lb.	15,150	15,290
Cal/gm.	8,420	8,500
SULPHUR %	0.44	0.44
FREE SWELLING INDEX	1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-24

Footage: 9.66 - 13.56

S1-273
CES #89

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	3.70	3.74
Residual Moisture %	1.00	--
Volatile Matter %	15.95	16.11
Fixed Carbon %	79.35	80.15
CALORIFIC VALUE BTU/lb.	14,800	14,950
Cal/gm.	8,220	8,300
SULPHUR %	0.41	0.41
FREE SWELLING INDEX	1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-25

Footage: 0 - 6.25

SI-273
CES # 78

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		12.65	12.73
Residual Moisture %		0.63	--
Volatile Matter %		17.70	17.81
Fixed Carbon %		69.02	69.46
CALORIFIC VALUE	BTU/lb.	13,430	13,510
	Cal/gm.	7,460	7,510
SULPHUR %		0.37	0.37
FREE SWELLING INDEX		1	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-26

Footage: 11.58 - 15.24

SI-273
CES #90

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	8.75	8.84
Residual Moisture %	1.03	--
Volatile Matter %	16.85	17.03
Fixed Carbon %	73.37	74.13
CALORIFIC VALUE BTU/lb.	14,130	14,280
Cal/gm.	7,850	7,930
SULPHUR %	0.30	0.30
FREE SWELLING INDEX	2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-26

Footage: 15.24 - 17.22

SI-273
CES #91

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		13.42	13.55
Residual Moisture %		0.92	--
Volatile Matter %		17.43	17.59
Fixed Carbon %		68.23	68.86
CALORIFIC VALUE	BTU/lb.	13,340	13,460
	Cal/gm.	7,410	7,480
SULPHUR %		0.22	0.22
FREE SWELLING INDEX		2	

30.60
20.80

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BW 28

Footage: 45.05 - 47.76

SI-273

CES #99

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		3.26	3.28
Residual Moisture %		0.70	--
Volatile Matter %		13.47	13.57
Fixed Carbon %		82.57	83.15
CALORIFIC VALUE	BTU/lb.	14,800	14,900
	Cal/gm.	8,220	8,280
SULPHUR %		0.47	0.47
FREE SWELLING INDEX		N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BW 28

Footage: 52.43 - 53.34

S1-273

CES #100

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		3.55	3.58
Residual Moisture %		0.64	--
Volatile Matter %		15.78	15.88
Fixed Carbon %		80.03	80.54
CALORIFIC VALUE	BTU/lb.	14,900	14,990
	Cal/gm.	8,280	8,330
SULPHUR %		0.48	0.48
FREE SWELLING INDEX		N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BW 29

Footage: 22.56 - 25.09

S1-273

CES #101

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		5.62	5.66
Residual Moisture %		0.67	--
Volatile Matter %		13.50	13.59
Fixed Carbon %		80.21	80.75
CALORIFIC VALUE	BTU/lb.	14,600	14,700
	Cal/gm.	8,110	8,160
SULPHUR %		0.52	0.52
FREE SWELLING INDEX		1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BW 29

Footage: 34.81 - 37.19

S1-273

CES #102

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		6.73	6.77
Residual Moisture %		0.55	--
Volatile Matter %		13.33	13.40
Fixed Carbon %		79.39	79.83
CALORIFIC VALUE	BTU/lb.	14,630	14,710
	Cal/gm.	8,130	8,170
SULPHUR %		0.65	0.65
FREE SWELLING INDEX		1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BW-22

Footage: 2.59 - 6.40 } 2 bags
6.68 - 14.72 }

SI-273
CES # 87

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	3.01	3.04
Residual Moisture %	1.04	--
Volatile Matter %	15.58	15.74
Fixed Carbon %	80.37	81.22
CALORIFIC VALUE BTU/lb.	14,760	14,910
Cal/gm.	8,200	8,290
SULPHUR %	0.40	0.40
FREE SWELLING INDEX	N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BR-2

Footage: ~~339.8 - 352.5~~ 103.6 ~ 107.4

SI-273
CES #68

PROXIMATE ANALYSIS:	Air Dry Basis	Dry Basis
Ash %	6.04	6.09
Residual Moisture %	0.88	--
Volatile Matter %	16.31	16.46
Fixed Carbon %	76.77	77.45
CALORIFIC VALUE BTU/lb.	14,320	14,450
Cal/gm.	7,960	8,030
SULPHUR %	0.29	0.29
FREE SWELLING INDEX	N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BR-5

Footage: 20.44 - 22.12

S1-273
CES #79

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		4.53	4.57
Residual Moisture %		0.91	--
Volatile Matter %		16.57	16.72
Fixed Carbon %		77.99	78.71
CALORIFIC VALUE	BTU/lb.	14,610	14,740
	Cal/gm.	8,120	8,190
SULPHUR %		0.37	0.37
FREE SWELLING INDEX		1	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BR-5

Footage: 64.12 - 67.50

S1-273
CES #80

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	2.07	2.13
Residual Moisture %	2.64	--
Volatile Matter %	18.95	19.46
Fixed Carbon %	76.34	78.41
CALORIFIC VALUE BTU/lb.	13,900	14,280
Cal/gm.	7,720	7,930
SULPHUR %	0.32	0.33
FREE SWELLING INDEX	N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BR-6

Footage: 19.12 - 23.72

SI-273
CES #81

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	10.53	10.60
Residual Moisture %	0.67	--
Volatile Matter %	17.85	17.97
Fixed Carbon %	70.95	71.43
CALORIFIC VALUE BTU/lb.	13,690	13,780
Cal/gm.	7,610	7,660
SULPHUR %	0.47	0.47
FREE SWELLING INDEX	3	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BR-7

Footage: 38.0 - 41.20

SI-273
CES #82.

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		14.28	14.40
Residual Moisture %		0.80	--
Volatile Matter %		20.06	20.22
Fixed Carbon %		64.86	65.38
CALORIFIC VALUE	BTU/lb.	12,500	12,600
	Cal/gm.	6,950	7,010
SULPHUR %		0.20	0.20
FREE SWELLING INDEX		N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BR-8

Footage: 10.20 - 11.30

S1-273
CES #83

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		17.57	17.70
Residual Moisture %		0.74	--
Volatile Matter %		17.44	17.57
Fixed Carbon %		64.25	64.73
CALORIFIC VALUE	BTU/lb.	12,570	12,660
	Cal/gm.	6,980	7,030
SULPHUR %		0.53	0.53
FREE SWELLING INDEX		3	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BR-8

Footage: 140.70 - 142.68

SI-273
CES # 84

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		24.28	24.49
Residual Moisture %		0.86	--
Volatile Matter %		19.80	19.97
Fixed Carbon %		55.06	55.54
CALORIFIC VALUE	BTU/lb.	10,770	10,860
	Cal/gm.	5,980	6,030
SULPHUR %		0.41	0.41
FREE SWELLING INDEX		1½	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

SI-273
CES # 86

Hole No.: BR-9

Footage: 76.52 - 81.10

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		6.24	6.29
Residual Moisture %		0.80	--
Volatile Matter %		17.02	17.16
Fixed Carbon %		75.94	76.55
CALORIFIC VALUE	BTU/lb.	14,500	14,620
	Cal/gm.	8,060	8,120
SULPHUR %		0.40	0.40
FREE SWELLING INDEX		1 1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BR-10

Footage: 37.72 - 42.76

S1-273
CES # 95

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	5.13	5.18
Residual Moisture %	0.97 1.0	--
Volatile Matter %	16.74	16.90
Fixed Carbon %	77.16	77.92
CALORIFIC VALUE BTU/lb.	14,770	14,910
Cal/gm.	8,200	8,280
SULPHUR %	0.35	0.35
FREE SWELLING INDEX	1 1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BR-11

Footage: 52.44 - 55.58

SI-273
CES #85

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		4.42	4.45
Residual Moisture %		0.74	--
Volatile Matter %		15.11	15.22
Fixed Carbon %		79.73	80.33
CALORIFIC VALUE	BTU/lb.	14,770	14,880
	Cal/gm.	8,210	8,270
SULPHUR %		0.34	0.34
FREE SWELLING INDEX		N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR 16

Footage: 36.42 - 38.70

S1-273

CES #103

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		11.46	11.53
Residual Moisture %		0.60	--
Volatile Matter %		15.58	15.67
Fixed Carbon %		72.36	72.80
CALORIFIC VALUE	BTU/lb.	13,370	13,450
	Cal/gm.	7,430	7,470
SULPHUR %		0.32	0.32
FREE SWELLING INDEX		1-1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR 16

Footage: 38.70 - 43.48

S1-273

CES #104

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	9.60	9.66
Residual Moisture %	0.60	--
Volatile Matter %	16.72	16.82
Fixed Carbon %	73.08	73.52
CALORIFIC VALUE BTU/lb.	14,010	14,090
Cal/gm.	7,780	7,830
SULPHUR %	0.27	0.27
FREE SWELLING INDEX	2-1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BR-16

Footage: 102.72 - 106.44

S1-273
CES #96

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	7.28	7.34
Residual Moisture %	0.87	--
Volatile Matter %	13.41	13.53
Fixed Carbon %	78.44	79.13
CALORIFIC VALUE BTU/lb.	14,350	14,480
Cal/gm.	7,970	8,040
SULPHUR %	0.42	0.42
FREE SWELLING INDEX	1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION LIMITED

Project: Burnt River

Hole No.: BR-16

Footage: 117.74 - 120.36

SI-273
CES #97

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	11.05	11.14
Residual Moisture %	0.81	--
Volatile Matter %	13.51	13.62
Fixed Carbon %	74.63	75.24
CALORIFIC VALUE BTU/lb.	13,860	13,970
Cal/gm.	7,700	7,760
SULPHUR %	0.49	0.49
FREE SWELLING INDEX	1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR 17

Footage: 29.90 - 34.53

S1-273

CES #105

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		7.22	7.26
Residual Moisture %		0.60	--
Volatile Matter %		16.23	16.33
Fixed Carbon %		75.95	76.41
CALORIFIC VALUE	BTU/lb.	14,290	14,380
	Cal/gm.	7,940	7,990
SULPHUR %		0.29	0.29
FREE SWELLING INDEX		1	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR 17

Footage: 34.53 - 37.56

S1-273

CES #106

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	24.26	24.42
Residual Moisture %	0.64	--
Volatile Matter %	15.18	15.28
Fixed Carbon %	59.92	60.30
CALORIFIC VALUE BTU/lb.	11,780	11,850
Cal/gm.	6,540	6,580
SULPHUR %	0.22	0.22
FREE SWELLING INDEX	1-1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR 17

Footage: 109.29 - 112.04
3

S1-273
CES #107

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		6.34	6.38
Residual Moisture %		0.58	--
Volatile Matter %		12.76	12.83
Fixed Carbon %		80.32	80.79
CALORIFIC VALUE	BTU/lb.	14,320	14,400
	Cal/gm.	7,960	8,010
SULPHUR %		0.47	0.47
FREE SWELLING INDEX		N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR 17

Footage: 117.43 - 121.49

S1-273

CES #108

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		10.82	10.88
Residual Moisture %		0.56	--
Volatile Matter %		12.70	12.77
Fixed Carbon %		75.92	76.35
CALORIFIC VALUE	BTU/lb.	13,690	13,770
	Cal/gm.	7,580	7,620
SULPHUR %		0.35	0.35
FREE SWELLING INDEX		N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR.18

Footage: 38.71 - 41.89

S1-273

CES #109

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		4.74	4.77
Residual Moisture %		0.58	--
Volatile Matter %		13.52	13.60
Fixed Carbon %		81.16	81.63
CALORIFIC VALUE	BTU/lb.	14,650	14,730
	Cal/gm.	8,140	8,190
SULPHUR %		0.41	0.41
FREE SWELLING INDEX		1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

SI-273

Hole No.: BR 18

CES #110

Footage: 46.17 - 46.95
47.42 - 48.65

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		10.55	10.63
Residual Moisture %		0.75	--
Volatile Matter %		13.00	13.10
Fixed Carbon %		75.70	76.27
CALORIFIC VALUE	BTU/lb.	13,740	13,840
	Cal/gm.	7,630	7,690
SULPHUR %		0.63	0.63
FREE SWELLING INDEX		1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR 20

Footage: 10.62 - 14.26

S1-273

CES #111

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		4.57	4.61
Residual Moisture %		0.85	--
Volatile Matter %		12.96	13.07
Fixed Carbon %		81.62	82.32
CALORIFIC VALUE	BTU/lb.	14,720	14,850
	Cal/gm.	8,180	8,250
SULPHUR %		0.44	0.44
FREE SWELLING INDEX		1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR 20

Footage: 15.42 - 16.72

S1-273

CES #112

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		10.71	10.79
Residual Moisture %		0.76	--
Volatile Matter %		12.54	12.64
Fixed Carbon %		75.99	76.57
CALORIFIC VALUE	BTU/lb.	13,450	13,550
	Cal/gm.	7,470	7,530
SULPHUR %		0.56	0.56
FREE SWELLING INDEX		1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR 20

Footage: 18.60 - 19.50

S1-273

CES #113

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		5.83	5.87
Residual Moisture %		0.70	--
Volatile Matter %		12.59	12.69
Fixed Carbon %		80.88	81.44
CALORIFIC VALUE	BTU/lb.	14,630	14,730
	Cal/gm.	8,130	8,190
SULPHUR %		0.54	0.54
FREE SWELLING INDEX		N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR 21

Footage: 50.74 - 53.88

S1-273

CES #114

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		3.64	3.67
Residual Moisture %		0.69	--
Volatile Matter %		12.70	12.79
Fixed Carbon %		82.97	83.54
CALORIFIC VALUE	BTU/lb.	14,840	14,940
	Cal/gm.	8,240	8,300
SULPHUR %		0.41	0.41
FREE SWELLING INDEX		N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR 21

Footage: 65.64 - 69.80

S1-273

CES #115

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		8.09	8.16
Residual Moisture %		0.80	--
Volatile Matter %		12.71	12.81
Fixed Carbon %		78.40	79.03
CALORIFIC VALUE	BTU/lb.	14,110	14,220
	Cal/gm.	7,840	7,910
SULPHUR %		0.35	0.35
FREE SWELLING INDEX		1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR 21

Footage: 69.80 - 70.88

S1-273

CES #116

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		29.40	29.66
Residual Moisture %		0.88	--
Volatile Matter %		12.69	12.80
Fixed Carbon %		57.03	57.54
CALORIFIC VALUE	BTU/lb.	10,640	10,740
	Cal/gm.	5,910	5,960
SULPHUR %		0.36	0.36
FREE SWELLING INDEX		N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR 22

Footage: 80.60 - 83.78

S1-273

CES #117

	Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:		
Ash %	7.43	7.48
Residual Moisture %	0.73	--
Volatile Matter %	12.94	13.04
Fixed Carbon %	78.90	79.48
CALORIFIC VALUE BTU/lb.	13,740	13,840
Cal/gm.	7,630	7,690
SULPHUR %	0.46	0.46
FREE SWELLING INDEX	N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

SI-273

Hole No.: BR 22

CES #118

Footage: 97.20 - 101.43

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		4.60	4.63
Residual Moisture %		0.72	--
Volatile Matter %		13.95 14.0	14.05
Fixed Carbon %		80.73	81.32
CALORIFIC VALUE	BTU/lb.	14,620	14,730
	Cal/gm.	8,120	8,180
SULPHUR %		0.38	0.38
FREE SWELLING INDEX		1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR 23

Footage: 78.54 - 82.52

S1-273

CES #119

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		5.11	5.15
Residual Moisture %		0.73	--
Volatile Matter %		13.81	13.91
Fixed Carbon %		80.35	80.94
CALORIFIC VALUE	BTU/lb.	14,800	14,810
	Cal/gm.	8,220	8,280
SULPHUR %		0.38	0.38
FREE SWELLING INDEX		1/2	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR 23

Footage: 98.0 - 102.80

S1-273

CES #120

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		6.15	6.20
Residual Moisture %		0.80	--
Volatile Matter %		13.40	13.51
Fixed Carbon %		79.65	80.29
CALORIFIC VALUE	BTU/lb.	14,470	14,590
	Cal/gm.	8,040	8,100
SULPHUR %		0.37	0.37
FREE SWELLING INDEX		N/A	

CYCLONE ENGINEERING SALES LTD.

TECK CORPORATION

Project: Burnt River

Hole No.: BR 24

Footage: ~~346.5~~ - ~~351.70~~
105.6 - 107.2

S1-273
CES #121

		Air Dry Basis	Dry Basis
PROXIMATE ANALYSIS:			
Ash %		4.83	4.86
Residual Moisture %		0.62	--
Volatile Matter %		19.14	19.26
Fixed Carbon %		75.41	75.88
CALORIFIC VALUE	BTU/lb.	15,010	15,100
	Cal/gm.	8,340	8,390
SULPHUR %		0.60	0.60
FREE SWELLING INDEX		6	

CYCLONE ENGINEERING SALES LTD.