

CONFIDENTIAL
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THE 1979 'EXPLORATION REPORT

ON THE

BULLMOOSE COAL PROPERTY

SUKUNKA RIVER AREA (93 P/4E, 93 P/3W)

COAL LICENSES #3022 - 3024, 3029
3033, 3038, 3043
3048, . 3558

by

B. I. McClymont, P. Geol.
and
J. H. Wright
for
Teck Corporation'

Vancouver, B.C.

December 1979
GEOLOGICAL BRANCH
ASSESSMENT REPORT

00 481

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INTRODUCTION

The on-property exploration program was conducted August 22 to November 26, 1979. A four-man camp was re-established at the site of the 1977 exploration camp along Bullmoose Creek.

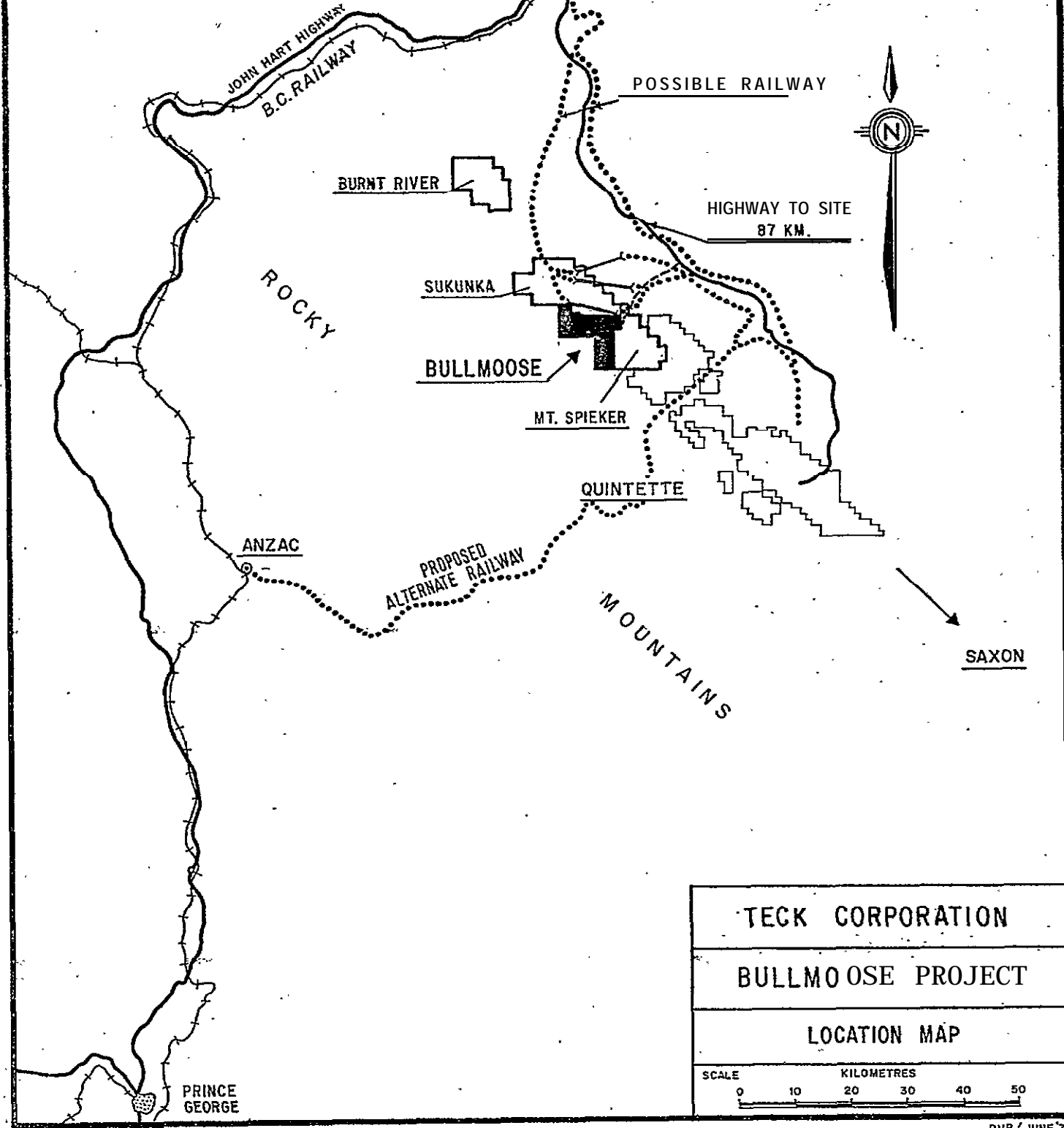
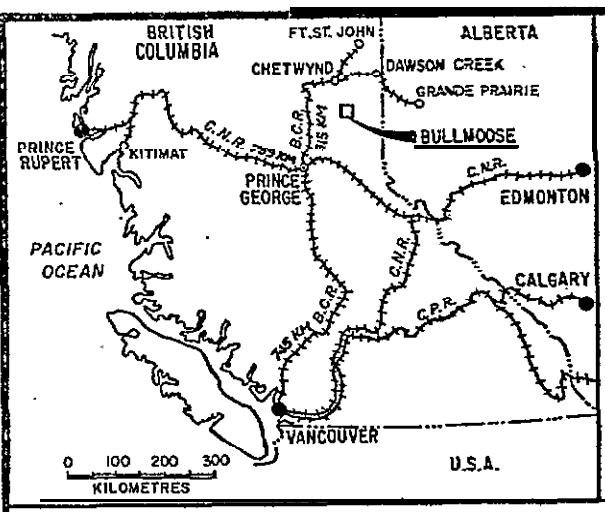
During the 1977 program an adit was driven along the "A" seam on the South Fork Property and a bulk sample was taken. The sample results were considered poor and non-representative of the "A" seam. The coal had been partially oxidized and upon close inspection fractures containing clay and sand were observed:

The purpose of the 1979 program was two-fold:

1. Locate an area where the "A" seam exhibited representative quality in order to take a bulk sample for coking
t e s t s .
2. To delimit the area where supergene enrichment of clay-sand has penetrated the "A" seam, and thus partially oxidized the coal.

No cat work was done until the adit program began and no new roads were built. Reclamation and forest hazard abatement measures continued throughout the program and were coordinated by the Reclamation Branch and District Coal Inspector.





FIG. 1

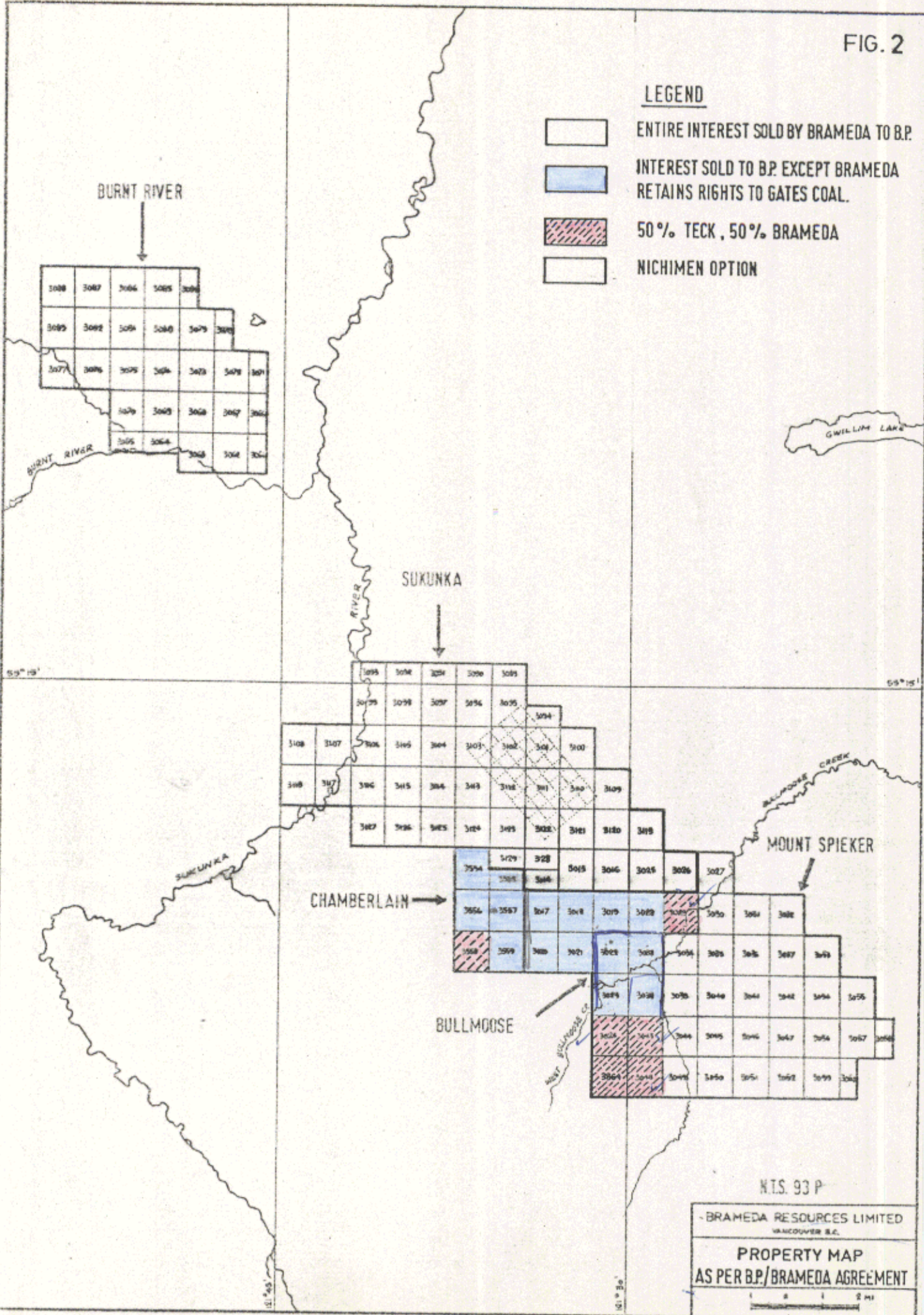


TECK CORPORATION	
BULLMOOSE PROJECT	
LOCATION MAP	
SCALE	KILOMETRES
0 10 20 30 40 50	

FIG. 2

LEGEND

-  ENTIRE INTEREST SOLD BY BRAMEDA TO B.P.
-  INTEREST SOLD TO B.P. EXCEPT BRAMEDA RETAINS RIGHTS TO GATES COAL.
-  50% TECK, 50% BRAMEDA
-  NICHIMEN OPTION



N.T.S. 93 P

- BRAMEDA RESOURCES LIMITED
VANCOUVER B.C.

PROPERTY MAP
AS PER B.P./BRAMEDA AGREEMENT

1 2 3 4 5 6 MI

PROPERTY, LOCATION, ACCESS

The Bullmoose coal property is located approximately 60 kilometres **south of** Chetwynd, B.C. (Figure 1).

The **property is** composed of six wholly-owned coal licenses **and Teck** retains the right to mine Gates coal on a **further 14.5 licences.** (Figure 2). Access to **the property is by** gravel road via the Gwillim Lake Road from **Chetwynd.**

SUMMARY AND CONCLUSIONS

A two phase exploration program was conducted on "A" Seam South Fork, Bullmoose Property in 1979. A diamond drill program was initiated to define the extent of supergene clay in the "A" Seam N.W. corner and resultant oxidation of the coal. This program was extended to determine a rough division between oxidized and non-oxidized coal to assist in the mining plan and coal quality projections.

The drill program also located a new site for an "A" Seam adit which was driven by ramping down from the existing "B" Seam adit.

The drill program indicated that 15 metre coverage was insufficient as a general rule for oxidation. The presence of clay in coal-seams greatly deteriorates the swelling characteristics of the coal.

Pilot plant results justified the projected quality of "A" Seam coal as a strong hard coking coal and coupled with the drill, program defined the area of "A" Seam coal unsuitable for processing.

Washability tests indicated that increased coal ash liberation results in higher yields at set ash values in static tests.

DIAMOND- DRILLING

A total of twelve winkle drill holes were put down during the program (Figure 3). The first series of drill holes were in line of the previous "A" seam adit (1977) to test it for its possible extension;- Core holes were then drilled along the northern edge of the deposit testing for a "new" adit location and the extent of the clay-sand in fractures. Diamond hole SFW 79-7 was drilled to test the concept of taking a bulk sample.05 the "A" seam by re-entering the "B" seam adit and ramping down to the "A" seam :

All twelve holes were AX diamond holes for a total of 334.7 metres (1,098'). Core recovery was greater than 95% and all seams intersected were sampled and sent to Cyclone Engineering- for proximate analysis and testing of F.S.I. Stratigraphic logs on a scale of 1:200 were drafted, and are appended to this report.

GEOLOGY

Due to the information available from previous reports, regional geology will-not be re-iterated. (Figure 4).

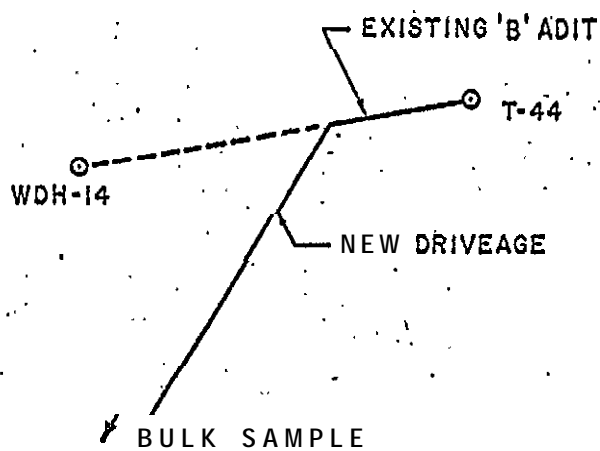
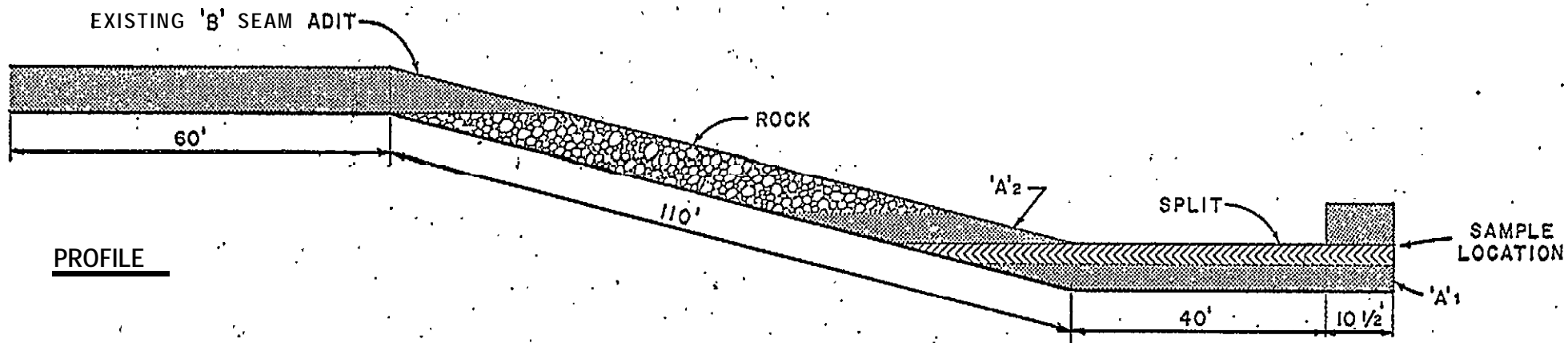
Changes involving the local geology of the South Fork area' were minimal and related only to the extent of oxidized coal.

ADIT CONSTRUCTION AND LOCATION

The 1979 "A" seam adit South Fork was constructed by entering the existing "B" seam adit for 18.3 metres (60 feet), and then heading in a direction $212^{\circ}A$ towards drill hole SW 79-7 (Figure 6). The entrance to the "B" adit was re-opened, followed by cleaning and retimbering for 18.3 metres (60 feet). At this point a ramp was begun from the "B" seam to reach the bottom of the "A" seam. The ramp averaged a 25% slope when mining slope and seam updip were taken into consideration. The ramp extended for 33.5 metres (110 feet) at which point drivage along the lower part (A_1) of the "A" seam was conducted. Actual coal drivage amounted to 12.2 metres (40 feet) prior to bulk sampling. Channel sampling was conducted and tests at site for FSI values to determine consistency of coal quality. Sampling over the coal drivage indicated constant swelling quality and a bulk sample was taken.

The adit was opened up to full height to include the A_2 seam. The face was cleaned up and plastic laid down followed by plywood to prevent extraneous material from entering the sample. The upper half of the "A" seam (A_2) sample was taken first by blasting followed by machine picking of the face. The coal was loaded into barrels at the face and removed from the adit. The rock split was sampled next by blasting and then cleaned to prevent contamination of the A_1 seam. The A_1 or lower half was sampled by the same method as the A_2 and removed from the adit. The samples were freighted to Birtley Engineering, Calgary, for testwork.

AD-IT DRIVEAGE SCHEMATIC



TOP VIEW (see map)

FIGURE 6

○ SW-7 ○

COAL QUALITY

The purpose of the exploration program was to determine the extent of clay in the "A" seam and resultant oxidation, and to locate the site for a second "A" seam bulk adit.

The location of the 12 drill holes was determined in conjunction with previous drill holes which defined the oxidized zone. All drilling was conducted at the north end of the property.

The results of the drilling indicated both the extent of clay in the N.W. corner of the South Fork, and also the fact that in certain areas the oxidation zone of coal is present even after 15 metre coverage. The resultant new oxidation zone reduced the geological reserves of "A" seam South Fork by 0.3 million tons, or 2.5%. Table 1 gives the coal-quality data from the drill program. All drill holes except SFW 79-7 were for oxidation determination, while SFW 79-7 was the pilot hole for the new "A" seam adit. SFW 79-1, although it cleaned sufficiently, indicated clay in the bottom 0.4 metres of the A₁. SFW 79-2 indicated only traces of clay, however, the coal, was oxidized. SFW 79-3 showed a clay band in the lower part of the A₁ seam approximately 1 foot thick. The largest portion of the A₁ was oxidized as a result. SFW 79-4 had coking properties although clay-coal partings were

Cont...

COAL QUALITY - cont..

found in the A₂ seam. SFW 79-5 showed clay traces on partings, however the coal was completely oxidized. SFW 79-6 showed vertical clay bands along the coal cleats in the A₂ seam as well as the coal being sheared and friable. The A₁ seam also had vertical clay fractures as well as clay present at the contact. The coal was oxidized as shown by FSI testing. SFW 79-7 was the pilot hole for the new "A" seam adit. NO clay was visible in the drill hole, however, vertical fractures were apparent in the A₁ portion of the seam. The sample cleaned readily to a low ash value with a 6½ FSI. SFW 79-8 showed reasonable quality although there were traces of clay on vertical fractures in the A₁. SFW 79-9 showed acceptable quality although clay was evident at the contacts. SFW 79-10 showed minor clay at the A₁ floor contact, but otherwise excellent quality. SFW 79-11 showed no visible clay, however, the coal seam tests indicated oxidation. SFW 79-12 showed no visible clay, as well as no oxidation.

ADIT QUALITY

Initial adit testing was done by channel sampling, with consistent values appearing between on-site testing and testing done by Cyclone Engineering, Edmonton. Recoveries in excess of 80% on clean coal fractions with FSI values of 6½ - 7 were prevalent for both the A₁ and A₂ seams.

Cont...

ADIT QUALITY - cont.

The bulk sample was subjected to washability tests, attrition tests and a pilot plant test. Bulk washability studies predicted a yield which increased approximately 2% for the same ash level. The pilot plant test overcleand the coal, however, a yield of 67.4% at 6.7 ash was found. Washability test results for the bulk adit in a before and after attrition sample are tabulated in Table 2. Figure 7 gives the pilot plant flow-sheet balance for the test conducted. The proximate analysis of raw coal and saleable coal are as follows:

	<u>Ash</u>	<u>VM</u>	<u>FC</u>	<u>s</u>	<u>FSI</u>	<u>Fluidity</u> <u>DDPM</u>	<u>Max.</u> <u>Dilation</u>
Raw Coal	15.0	23.3	61.7	0.56		6	. .

RECOMMENDATIONS

1. A winkie drill program to be conducted during pre-stripping operations to determine the oxidized zone for "A" seam for the whole of South Fork.

2. A drill program to investigate the areas on "A" and "B" seams that showed poor swelling characteristics during the 1976 and 1977 drill programs."

3. In the future conduct pilot plant tests on an "as is" bulk sample, and an attrited bulk sample to determine if increased yield for finer sizes holds true in actual plant cleaning equipment.

Respectfully submitted


B. McClymont

J. Wright

TABLE I

DDH No.	Seam	Depth. Interval	Thickness (m)	Raw Coal	
				Ash	FSI
SFW 79-1 ✓	A2	10.5 - 11.95	1.45	12.08	4)
SFW 79-1 ✓	A1	12.25 - 13.71	1.46	8.72	5)
SFW 79-2 ✓	A2	14.08 - 14.94	.86	10.5	4
SFW 79-2 ✓	A1	15.45 - 16.73	1.28	7.4	3½
SFW 79-3 ✓	A2	23.59 - 23.99	.4	13.1	5
SFW 79-3 ✓	A1	24.29 - 25.45 25.75 - 26.18	1.59	8.6	4
SFW 79-4 ✓	A2	19.52 - 20.33	.81	9.95	4½
SFW 79-4 ✓	A1	20.71 - 22.11	1.40	7.13	5½
SFW 79-5 ✓	A2	24.4 - 25.31	.91	9.64	1½
SFW 79-5 ✓	A1	26.08 - 27.60	1.52	6.91	2½
SFW 79-6 ✓	A2	30.45 - 31.26	.81	9.85	2
SFW 79-6 ✓	A1	32.21 - 33.70	1.49	7.66	3
SFW 79-7 ✓	A2	34.14 - 35.08	.94	11.18	5)
SFW 79-7 ✓	A1	35.54 - 37.15	1.61	6.69	5½)
SFW 79-8 ✓	A2	16.85 - 17.22	.37	6.28	4½
SFW 79-8 ✓	A1	17.87 - 19.22	1.35	6.91	5½
SFW 79-9 ✓	A2	22.88 - 23.73	.85	8.97	5
SFW 79-9 ✓	A1	24.40 - 25.93	1.53	8.19	5
SFW 79-10 ✓	A2	30.56 - 31.48	.92	9.99	6
SFW 79-10 ✓	A1	32.09 - 33.55	1.46	6.96	6½
SFW 79-11 ✓	A 2	24.71 - 25.65	.94	10.60	2
SFW 79-11 ✓	A1	27.27 - 28.70	1.43	6.22	3
SFW 79-12 ✓	A 2	30.11 - 31.09	.98	11.32	4½
SFW 79-12 ✓	A1	32.67 - 34.17	1.50	5.66	6



SEPARATION OF BULK MATERIALS

Date	SEP 24 1979
File No.	

Manufacturing, Engineering, Testing Services

9751 - 51 Avenue
Edmonton, Alberta T6E 4Z5
Telephone: (403) 436-1385

Cable Address:
Cyclone, Edmonton
Tel ex: 0375793

Ref: SI-273

September 19, 1979

Teck Corporation Limited
1199 West Hastings Street
Vancouver, B.C. V6E 2K5

Attention: Mr. John Wright

Dear Sir:

The following confirms our telex of September 5, 1979 on ash determinations on air dried basis and FSI determinations for samples from your Bullmoose Project.

Hole No.	Seam	Footage	CES No.	Ash %	FSI
SFW 79-1 ✓	A1	12.25 - 12.86	1	7.00	6 ✓✓
SFW 79-1 ✓	A1	12.86 - 13.41	2	6.74	5 ✓✓
SFW 79-1 ✓	A1	13.41 - 13.71	3	15.86	3-1/2 ✓✓
SFW 79-1	A2	Upper	4	12.23'	4-1/2 ✓
SFW 79-1	A2	Lower	5	11.93	3-1/2 ✓
SFW 79-2;	A1	15.45 - 15.85	6	7.58	3-1/2 ✓
SFW 79-2 ✓	A1	15.85 - 16.30	7	6.93	3-1/2 ✓
SFW 79-2 ✓	A1	16.30 - 16.73	8	7.61	4 ✓
SFW 79-3 ✓	A1	24.29 - 25.45	9	8.96	3-1/2 ✓
SFW 79-2	A2	Upper	10	11.45	3 ✓
SFW 79-2	A2	Lower	11	9.55	5 ✓
SFW 79-2 ✓	B	2.74 - 4.27	12	13.70	1-1/2 ✓
SFW 79-2'	B	4.27 - 5.79	13	6.50	6 ✓
SFW 79-2 ✓	B	5.79 - 6.52	14	5.05	7-1/2 ✓
SFW 79-23 ✗	B	13.87 - 14.94	15	6.10	4-1/2 ✓

Continued

September 19, 1979

- 2 -

<u>Hole No.</u>	<u>Seam</u>	<u>Footage</u>	<u>CES No.</u>	<u>Ash %</u>	<u>FSI</u>
SFW 79-3 ✓	A1 ✓	25.75 ~ 26.18	16	7.72	5 ✓
SFW 79-3 ✓	A2 ✓	23.59 ~ 23.99	17	13.70	5 ✓
SFW 79-3 ✓	B ✓	70.97 ~ 73.87	78	74.72	3-1/2 ✓
SFW 79-3 ✓	B ✓	74.94 ~ 75.82	79	6.89	6-1/2

I trust **this** is satisfactory.

Yours truly,

CYCLONE ENGINEERING SALES LTD.

Per: B. Y. H. Wong

B. Y. H. Wong

BYHW/ejr



Date	OCT 15 1979
File Code	

SEPARATION OF BULK MATERIALS

Manufacturing, Engineering, Testing Services

9751 - 51 Avenue
Edmonton, Alberta T6E 4Z5
Telephone: (403) 436-1385

Cable Address:
Cyclone, Edmonton
Tel ex: 037-3793

October 10, 1979

Ref: ST - 273

Teck Corporation Ltd.
1199 West Hastings Street
Vancouver, B. C. V6E 2K5

Attention: Mr. John Wright

Dear Sir:

This is to confirm results of analysis on the following samples.

i.	Hole No.	Seam	Depth	Ash %	FSI	CES #
	SFW79-4 ✓	A1	20.71 - 22.11	7.13	5-1/2	20 ✓
	SFW79-4 ✓	A2 ✓	19.52 - 20.33	9.95	4-1/2	21 J
	SFW79-4 ✓	B	7.92 - 10.22	15.34	3-1/2	22 ✓
	SFW79-4 ✓	B	10.22 - 12.81	6.60	3	23 ✓
	SFW79-5 ✓	A1	26.08 - 27.6	6.91	2-1/2	24"
	SFW79-5 ✓	A2	24.40 - 25.31	9.64	1-1/2	25 ✓
	SFW79-5 ✓	B	0.00 - 11.18	8.78	5	26 ✓
	SFW79-5 ✓	B	13.12 - 14.95	17.82	3	27 ✓
	SFW79-5 ✓	B	16.78 - 17.69	7.69	6'	28 ✓
	SFW79-6 ✓	A1	32.21 - 33.70	7.66	3	29 ✓
	SFW79-6 ✓	A2	30.45 - 37.21	9.85	2	30 ✓
	SFW79-6 ✓	B	21.35 - 23.54	15.09	3-1/2	31 ✓
	SFW79-6 ✓	B	23.54 - 25.93	7.77	4-1/2	32 ✓



NOV 8 1979

SEPARATION OF BULK MATERIALS

Manufacturing, Engineering, Testing Services

9751 • 51 Avenue
Edmonton, Alberta T6E 4Z5
Telephone: (403) 436-1385
Cable Address!
Cyclone, Edmonton
Telex: 037-3793

Ref: SI-273

November 6, 1979

Mr. John Wright
Teck Corporation Ltd.
1199 West Hastings Street
Vancouver, B.C.
V6E 2K5

Dear Sir:

Listed below are results of analysis on raw coal of the following samples from SFW 79-10.

Our	Ho.	Seam	Footage	Ash %	FSI
44 ✓	A1		32.09 - 33.55	6.90	6-1/2 ✓
45 ✓	A2		30.56 - 31.48	9.99	6 ✓
46 ✓	B		21.29 - 23.33	16.76	3-1/2 ✓
47 ✓	B		23.33 - 25.93	5.51	4-1/2 ✓

Please let us know if you wish to perform any float-sinking on the above samples.

Yours very truly,

CYCLONE ENGINEERING SALES LTD.

Per:
B. Y. H. Wong

BYHW/ejr



SEPARATION OF BULK MATERIALS

Manufacturing Engineering, Testing Services

9751 - 51 Avenue
Edmonton, Alberta T6E 4Z5
Telephone: (403) 436-1385

Cable Address:
Cyclone, Edmonton
Telex: 037-3793

Ref: SI-273

November 14, 1979

Mr. John Wright
Teck Corporation Ltd.
1199 West Hastings Street
Vancouver, B.C.
V6E 2K5

Dear Sir:

We are pleased to enclose results of analysis on the following samples from Hole SFW-79-11.

<u>CES No.</u>	<u>Seam</u>	<u>Footage</u>	<u>Ash %</u>	<u>FSI</u>
48 ✓	A1	27.27 - 28.70	6.22	3-1/2 ✓
49 ✓	A2	24.71 - 25.65	10.60	2 ✓
50 ✓	B	17.00 - 18.91	16.33	4 ✓
51 ✓	B	18.91 - 21.41	7.61	5-1/2

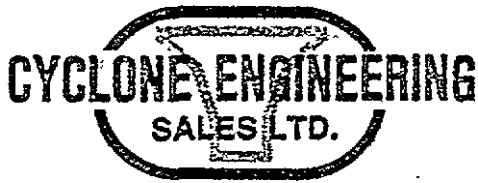
I trust this is satisfactory.

Yours very truly,

CYCLONE ENGINEERING SALES LTD.

Per: B. Y. H. Wong
B. Y. H. Wong

BYHW/ejr



SEPARATION OF BULK MATERIALS

Manufacturing, Engineering, Testing Services

Date	12/4/79
File Code	
SFS	
CYS	
JP	

9751 -51 Avenue
Edmonton, Alberta T6E 4Z5
Telephone: (403) 436-1385

Cable Address:
Cyclone, Edmonton
Telex: 037-3793

December 4, 1979

Ref: S1-273

Mr. John Wright
Teck Corporation Ltd.
1199 West Hastings Street
Vancouver, B.C.
V6E 2K5

Dear Sir:

Listed below are results of the following raw samples from SFW-79-12.

<u>CES No.</u>	<u>Identification</u>	<u>Ash</u>	<u>FSI</u>
55 ✓	B 21.82 - 23.65	21.91	3-1/2 ✓
56 ✓	B 23.65 - 26.18	6.08	7 ✓
57 ✓	A2 30.17 - 31.09	11.32	4-1/2 ✓
58 ✓	A1 32.67 - 34.17	5.66.	6 ✓

I trust this is satisfactory.

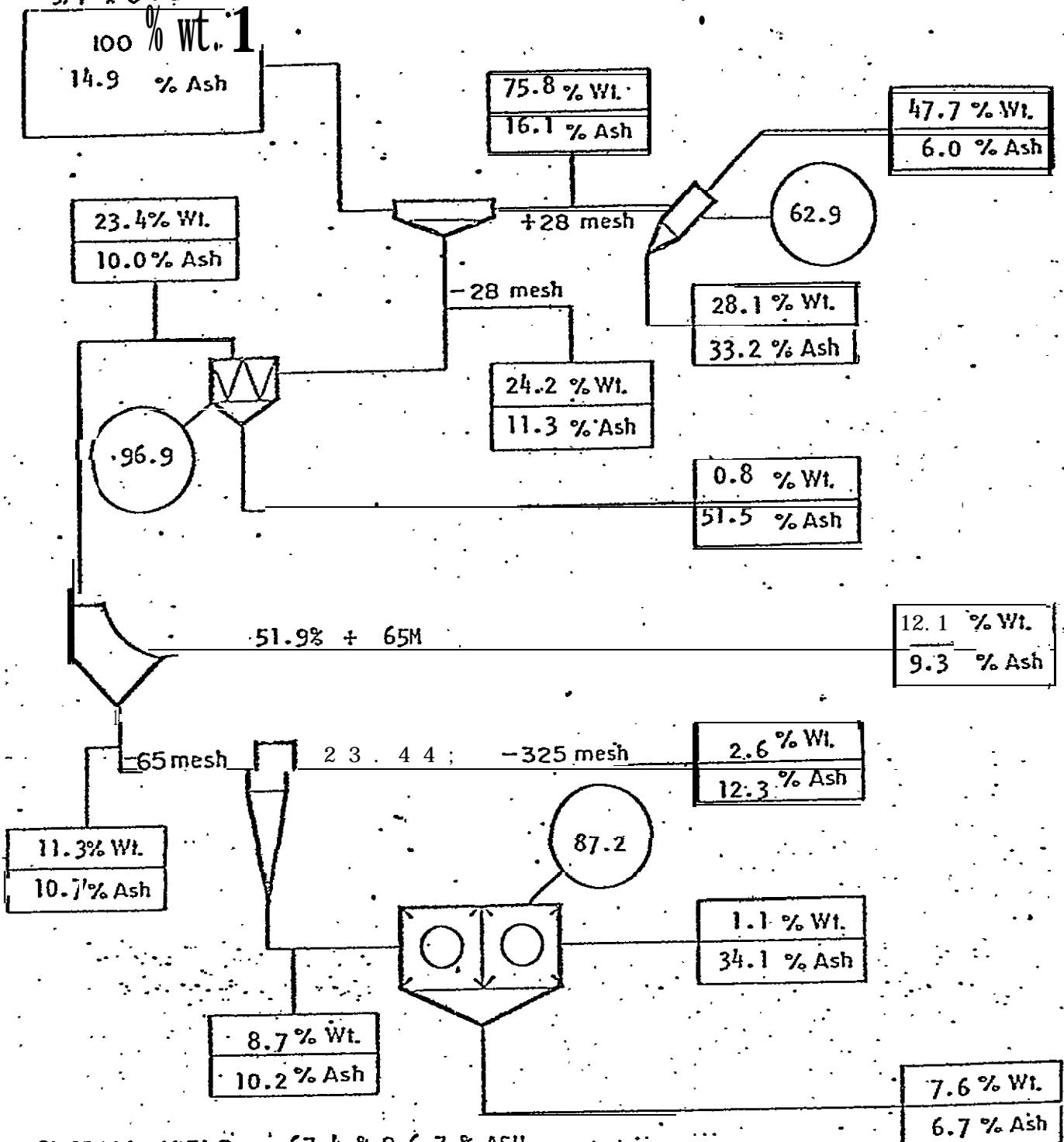
Yours very truly,

CYCLONE ENGINEERING SALES LTD.

Per: B. Y. H. Wong
B. Y. H. Wong

BYHW/ejr

-3/4" x 0 Row C 0 0 1



OVERALL YIELD = 67.4 % @ 6.7 % ASH

LEGEND:

○ CIRCUIT YIELD %

Wt. WEIGHT %

Ash ASH CONTENT (AIR DRIED)



BIRTLEY COAL & MINERALS TESTING

PLANT BALANCE FLOW SHEET
TECK MINING CORP.
EJLK SAMPLE: BLEND OF A-1 (55%) & A-2 (45%)
LAB. NO. 4280

FIG. 7

Date
NOVEMBER 1979

Drawn

TECK CORPORATION
STRATIGRAPHIC LOG
OF
DH. SFW 79-10

VERTICAL SCALE 1 : 200

PROJECT SOUTH FORK LOCATION BULLMOOSE
HOLE NO SFW 79-10 CORE SIZE Ax DATUM G.L.
CO-ORDINATES N E DATE STARTED _____
COLLAR ELEVATION _____ METRES DATE FINISHED _____
HOLE ANGLE -90° TOTAL DEPTH 35.08 M. LOGGED BY B.I.M.

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION	
LOWER CRETACEOUS	COMMOTION	GATES	0		MAINLY SANDSTONE, SILTY PHASES, MEDIUM TO COARSE GRAINED	
			4.73		BASICALLY MUDSTONE, SILTY PHASES, CARBONACEOUS 15% INTERBEDDED SANDSTONE	
			9.30		SANDSTONE, CLEAN, MEDIUM GRAINED, 10% THINLY INTERBEDDED MUDSTONE 85% COAL MUDSTONE 9.60 - 9.90	
			12.20		MUDSTONE, CARBONACEOUS TO VERY CARBONACEOUS SANDSTONE 18.91 - 19.36	
			15			
		B' SEAM A ₂ A ₁ SUKUNK A		21.29		COAL, CLEAN, BRIGHT, BLOCKY MINOR ASH VISIBLE 21.29 - 23.18 A.76 / 4.76
			25.93		MUDSTONE, SILTY	
			26.26		SANDSTONE, SILTSTONE, MUDSTONE. THINLY INTERBEDDED, CONVOLUTED 60-20-20	
			29.03		MUDSTONE, SILTSTONE, MINOR SANDSTONE MUDSTONE, CARBONACEOUS, COAL PARTINGS COAL, CLEAN, BRIGHT AND BLOCKY .92 / .92	
			30.76 30.56 31.48 32.09		MUDSTONE TO SILTY SANDSTONE TO MUDSTONE COAL, CLEAN, BRIGHT AND BLOCKY, VERTICAL FRACTURES BUT ONLY VISIBLE 2.5CM 1.46 / 1.46 CLAY AT COAL / SANDSTONE CONTACT AT FLOOR.	
		33.55		SANDSTONE, COARSE GRAINED, MASSIVE		
		35 35.08		T.D.		
		40				

PR-BULLMOOSE 79(3)A*

*(1)

481

TECK CORPORATION
STRATIGRAPHIC LOG
OF
DH SFW 79-11

VERTICAL SCALE 1 200

PROJECT SOUTH FORK LOCATION BULLMOOSE
HOLE NO: SFW 79-10 CORE SIZE AX DATUM GL
CO-ORDINATES _____ N _____ E DATE STARTED _____
COLLAR ELEVATION _____ METRES DATE FINISHED _____
HOLE ANGLE 90° TOTAL DEPTH 30.20 M LOGGED BY B.I.M.

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION
LOWER CRETACEOUS	COMOTION	GATES	0		SANDSTONE, FINE GRAINED, SILTY 90° CORE
			1.83		MAINLY MUDSTONE, SILTY PHASES, CARBONACEOUS
			5		
			5.89		SANDSTONE, FINE TO MEDIUM GRAINED, MAINLY CLEAN, CONVOLUTED SILTS 6.65-7.47
			7.47		
			10		MUDSTONE, CARBONACEOUS TO VERY CARBONACEOUS
					SANDSTONE 14.50 - 14.95
					BONE COAL 16.92 - 16.97
			15		
			17.00		
		'B' SEAM	COAL, CLEAN, BRIGHT AND BLOCKY, NO VISIBLE CLAY, MINOR VISIBLE ASH		
20			BONE COAL AT 18.15-18.25 4.41 / 4.41		
21.41			MUDDY SILTSTONE		
21.65					
			MAINLY SANDSTONE (MUD TO SILT PHASES) MEDIUM INTERBEDDED WITH MUDSTONE-SILTSTONE.		
24.03			VERY CARBONACEOUS MUDSTONE, BONE COAL 30%		
24.71					
25			COAL, CLEAN, BRIGHT AND BLOCKY .94 / .94		
25.65			MUDSTONE, CARBONACEOUS, SILTY		
25.80			SANDSTONE, MEDIUM TO COARSE GRAINED, SILTY 25.80-26.13; CLEAN COAL PARTINGS AT 26.70		
27.27			COAL, CLEAN, BRIGHT AND BLOCKY, VERTICAL FRACTURE BUT NO VISIBLE CLAY		
28.70			1.43 / 1.43 MINOR STAINING NOTED		
30			SANDSTONE, COARSE GRAINED, MASSIVE		
30.20			TD		
			35		

AL-BULLMOOSE 79(3)A
* (1)

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TECK CORPORATION
STRATIGRAPHIC LOG
OF
DH. SFW 79-12

VERTICAL SCALE 1 : 200

PROJECT SOUTH FORK LOCATION BULLMOOSE
HOLE NO SFW 79-12 CORE SIZE AX DATUM GL
CO-ORDINATES N _____ E _____ DATE STARTED _____
COLLAR ELEVATION _____ METRES DATE FINISHED _____
HOLE ANGLE 90° TOTAL DEPTH 35.20 M. LOGGED BY B.I.M.

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION
LOWER CRETACEOUS	COMMOTION	GATES	0		
			5		SANDSTONE, SILTSTONE, MUDSTONE, THINLY INTERBEDDED (60-30-10) SANDSTONE: CLEAN TO SILTY, FINE GRAINED
			7.32		MUDSTONE, SILTSTONE, MEDIUM INTERBEDDED
			10		
			10.82		SANDSTONE, IRON STAINED MEDIUM TO COARSE GRAINED, MINOR SILTY PHASES
			12.95		
			15		MUDSTONE, CARBONACEOUS TO VERY CARBONACEOUS SANDSTONE PHASE 19.50-19.95 BONE COAL 21.52-21.82
			20		
			21.82		
			25		COAL, BRIGHT, BLOCKY HIGH-ASH BANDS 21.82-23.65 4.35/4.02
			26.18		MUDSTONE, LIGHT GREY, SILTY
			27.95		SANDSTONE, CLEAN, S+P, MEDIUM GRAINED
			28.95		MUDSTONE, SILTY
			29.87		MUDSTONE, CARBONACEOUS TO BONE, CLEAN COAL PARTINGS
			30		COAL, CLEAN, BRIGHT AND BLOCKY .98/1.28
30.11					
31.09		MUDSTONE 31.09-31.24			
32.67		SANDSTONE, COARSE GRAINED			
34.17		COAL, CLEAN, BRIGHT, BLOCKY, 1.50/1.50			
35		SANDSTONE, MASSIVE, COARSE GRAINED			
35.20		T.D.			
		'B' SEAM			
		'A' ₂			
		'A' ₁			
		SUKUNK A			

SAMPLES:

'B' SEAM 21.82 - 23.65
23.65 - 26.18
'A'₂ " 30.11 - 31.09
'A'₁ " 32.67 - 34.17

Re-Bullmoose 79(B)A

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TECK CORPORATION
STRATIGRAPHIC LOG

OF
DH. SFW-9

VERTICAL SCALE 1:200

PROJECT SOUTH FORK LOCATION BULLMOOSE
 HOLE NO SFW 79-9 CORE SIZE 4x DATUM GL
 CO-ORDINATES N E DATE STARTED _____
 COLLAR ELEVATION _____ METRES DATE FINISHED _____
 HOLE ANGLE 90° TOTAL DEPTH 27.43 M LOGGED BY B.M.

SERIES	FORMATION	MEMBER	DISTANCE FROM DATUM	COLUMNAR SECTION	LITHOLOGIC DESCRIPTION
			0	0	OVERBURDEN
			2.44	2.44	SANDSTONE, MEDIUM TO COARSE GRAINED, SILTY 85% / COAL
			5	5	MUDSTONE, VERY CARBONACEOUS
			10	10	BANDY BROKEN WITH CLAY 10.51 - 10.81 SANDSTONE 8.38 - 8.83
			15	15	COAL, CLEAN, BRIGHT, BLOCKY 4.57 / 4.43
			15.40	15.40	CLAY & COAL MIXED 13.0 / 13.5
			16.45	16.45	MINOR CLAY VISIBLE 13.15 - 15.40
			20	20	SILTSTONE, SANDY, MUDSTONE 15.40 - 15.50
			21.53	21.53	BASICALLY SANDSTONE, SILTY TO CLEAN THINLY INTERBEDDED MUDSTONE 15.96
			22.88	22.88	90% / COAL CONTAIRED IN PART
			25.73	25.73	MUDSTONE, CARBONACEOUS, SILTSTONE - SANDSTONE PHASE AT 22.10
			26.93	26.93	COAL, CLEAN, BRIGHT AND BLOCKY 85% / B
			28.93	28.93	SILTSTONE - MUDSTONE SPILT
			29.43	29.43	COAL, CLEAN, BRIGHT, BLOCKY 1.53 / 1.53, VERY MINOR CLAY AN GRITNESS, 3 CM CLAY AT 24.40; COAL AT FLARE CONTACT
			30	30	SANDSTONE, COARSE GRAINED, MASSIVE TD.

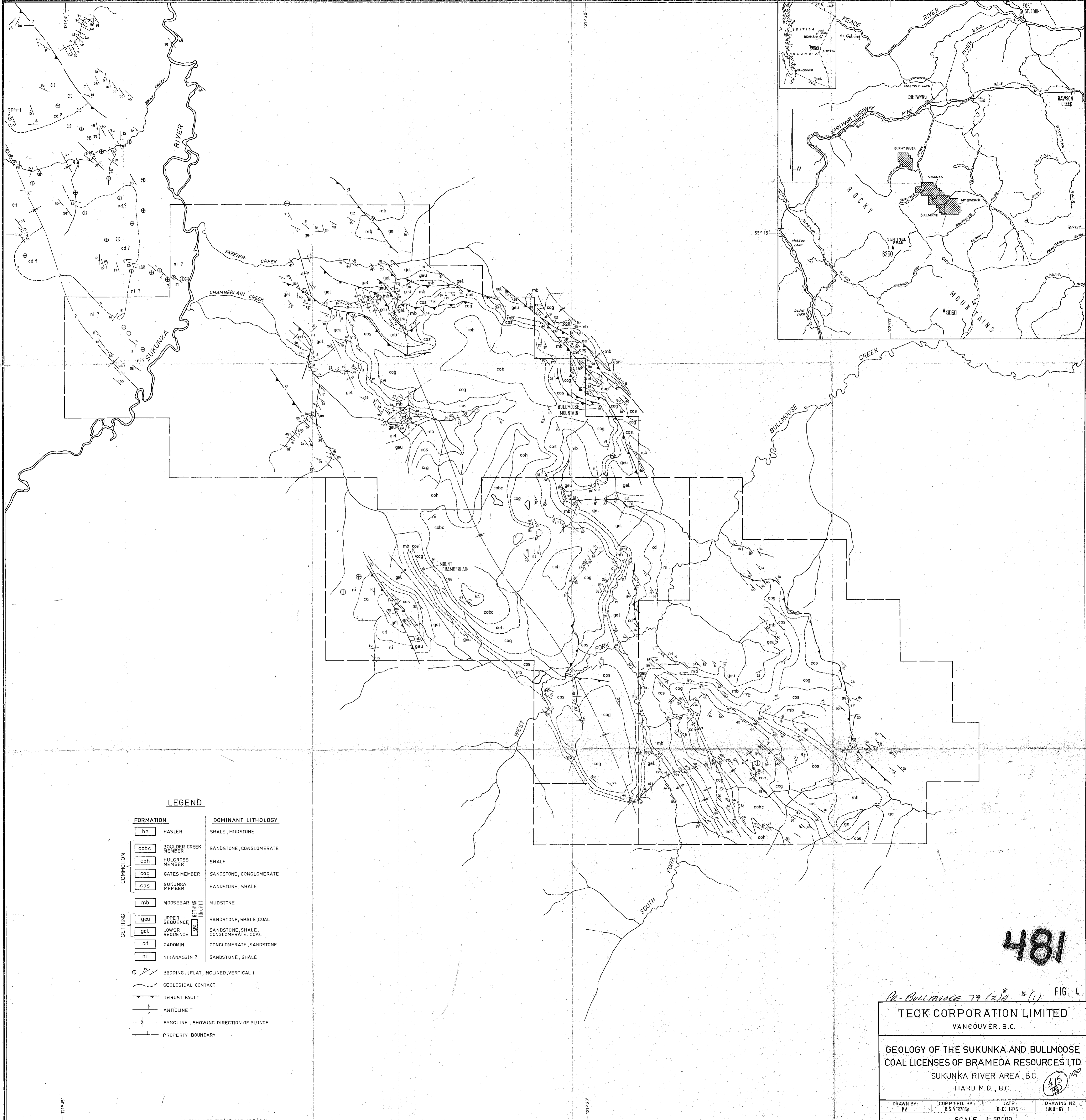
LOWER CRETACEOUS

COMMOTION

GATES

B' SEAM

A2
A1



LEGEND

FORMATION		DOMINANT LITHOLOGY	
ha	HASLER	SHALE, MUDSTONE	
COMBINATION	cabc	BOULDER CREEK MEMBER	SANDSTONE, CONGLOMERATE
	coh	HULCROSS MEMBER	SHALE
	cog	GATES MEMBER	SANDSTONE, CONGLOMERATE
	cos	SUKUNKA MEMBER	SANDSTONE, SHALE
mb	MOOSEBAR	MUDSTONE	
GETHING	geu	UPPER SEQUENCE	SANDSTONE, SHALE, COAL
	gel	LOWER SEQUENCE	SANDSTONE, SHALE, CONGLOMERATE, COAL
	cd	CADOMIN	CONGLOMERATE, SANDSTONE
	ni	NIKANASSIN ?	SANDSTONE, SHALE
	⊕	BEDDING, (FLAT, INCLINED, VERTICAL)	
—	GEOLOGICAL CONTACT		
—	THRUST FAULT		
—	ANTICLINE		
—	SYNCLINE, SHOWING DIRECTION OF PLUNGE		
—	PROPERTY BOUNDARY		

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PA-BULLMOOSE 79 (2)A * (1) FIG. 4

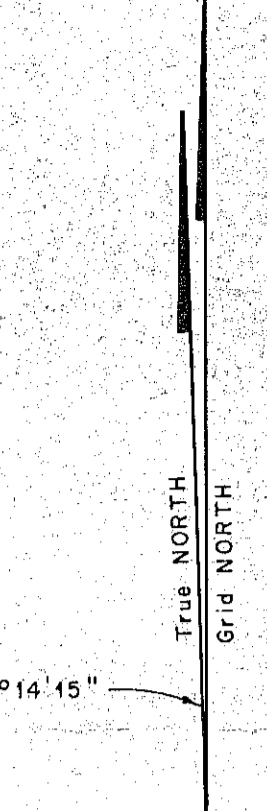
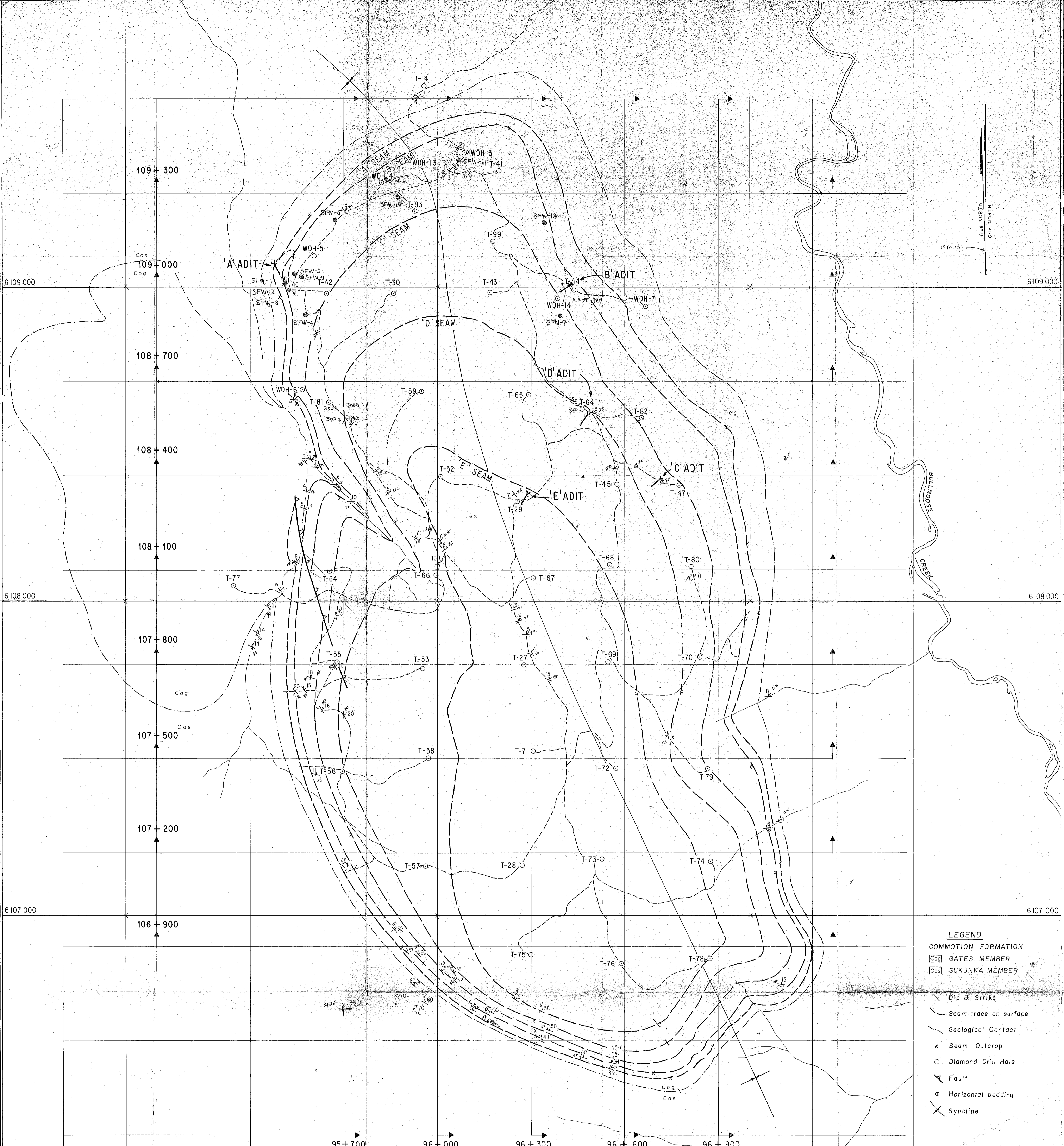
TECK CORPORATION LIMITED
VANCOUVER, B.C.

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

DRAWN BY: PV COMPILED BY: R.S. VERZOSA DATE: DEC. 1976 DRAWING NO: 1000-67-1

SCALE 1:50000

BASE MAP CONSTRUCTED FROM NTS 93P/4E AND 93P/3W



- LEGEND**
- COMMOTION FORMATION
 - [Cog] GATES MEMBER
 - [Cos] SUKUNKA MEMBER
 - Dip & Strike
 - Seam trace on surface
 - Geological Contact
 - x Seam Outcrop
 - o Diamond Drill Hole
 - Fault
 - o Horizontal bedding
 - Syncline

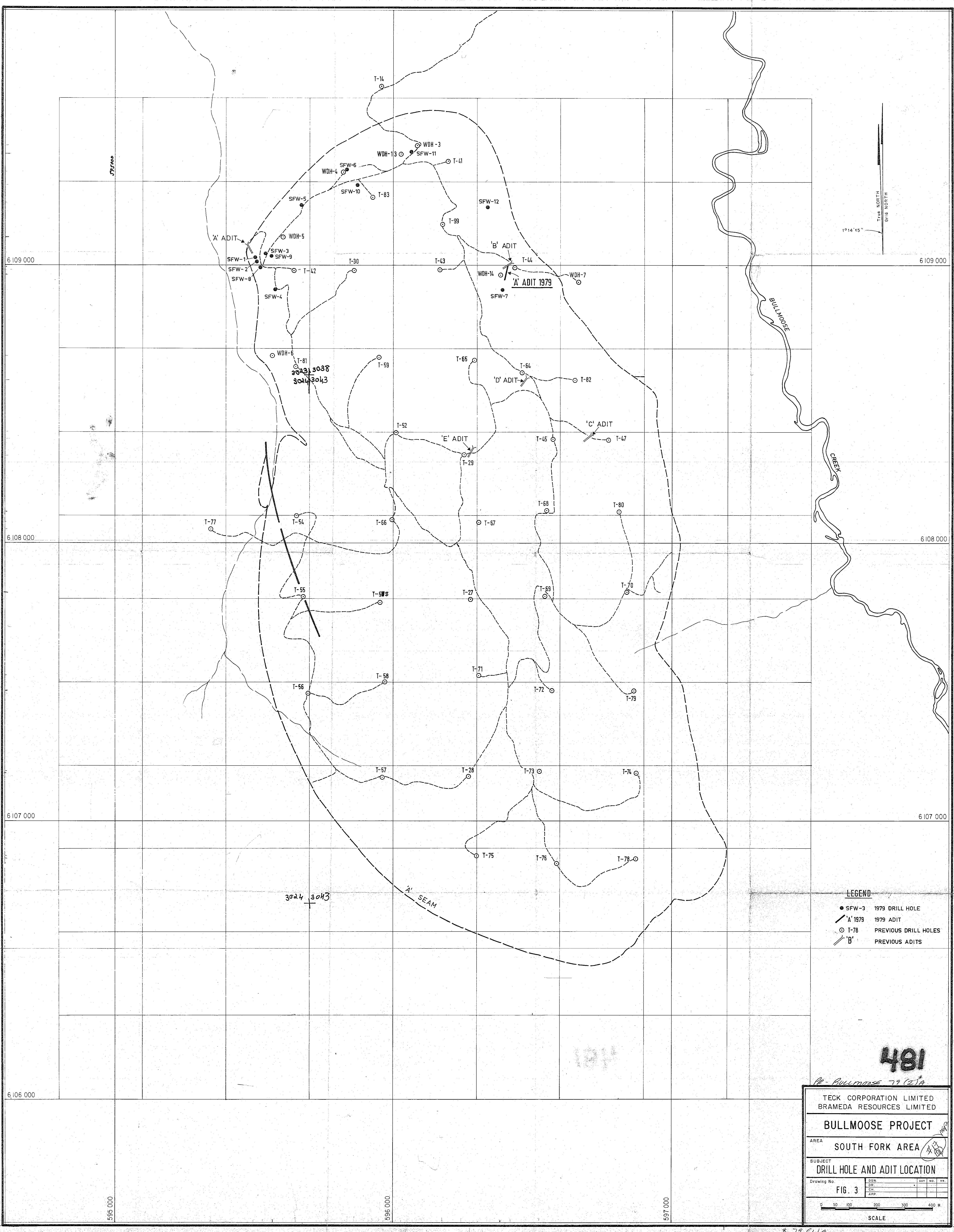
481

R- Bullmoose 79 (2)A

TECK CORPORATION LIMITED BRAMEDA RESOURCES LIMITED	
BULLMOOSE PROJECT	
AREA SOUTH FORK AREA	
SUBJECT GEOLOGY	
Drawing No. FIG. 5	DESIGNED BY: [Signature] CHECKED BY: [Signature] APP. BY: [Signature]
0 50 100 200 300 400 M. SCALE	

184

595 000 596 000 597 000



- LEGEND**
- SFW-3 1979 DRILL HOLE
 - 'A' 1979 1979 ADIT
 - T-78 PREVIOUS DRILL HOLES
 - 'B' PREVIOUS ADITS

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TECK CORPORATION LIMITED
BRAMEDA RESOURCES LIMITED

BULLMOOSE PROJECT

AREA SOUTH FORK AREA

SUBJECT DRILL HOLE AND ADIT LOCATION

Drawing No. **FIG. 3**

0 50 100 200 300 400 M.
SCALE

OCT 29 1979



SEPARATION OF BULK MATERIALS

Manufacturing, Engineering, T&sting Services

9751 • 51 Avenue
Edmonton, Alberta T6E 425
Telephone: (403) 436-1365
Cable Address:
Cyclone, Edmonton
Telex: 037-3793

Ref: S1-273

October 24, 1979

CONFIDENTIAL

Mr. John Wright
Teck Corporation Ltd.
1199 West Hastings Street
Vancouver, B.C.
V6E 2K5

'Dear 'Sir:

Listed below is confirmation on results of analysis of the following samples.

I. Hole No: SWF 79-7

Our No.	Seam	Footage	Head		-1.45! Floats		
			Ash %	FSI	Rec. %	Ash %	FSI
33	A T		6.69	5-1/2			
34	A2		11.18	5	77.0	5.68	7-1/2
35	B	Upper	15.23	4-1/2	66.3	7.65	5-1/2
36	B Lower		6.59	6			

Composite

Continued

*of 33, 34 (clean) @ 69/31 = 6 1/2
ash = 6.5*

October 24, 1979

- 2 -

II. Hole No: SFW 79-8

<u>Our No.</u>	<u>Seam</u>	<u>Footage</u>	<u>Head</u>		<u>- 1.45 Floats</u>		
			<u>Ash %</u>	<u>FSI</u>	<u>Rec. %</u>	<u>Ash %</u>	<u>FSI</u>
37 ✓	A1		6.28	4-1/2			
38 ✓	A1	17.87-19.22	6.91	5-1/2 ✓			

III. Hole No: SFW 79-9

<u>Our. No;</u>	<u>Seam</u>	<u>Footage</u>	<u>Head</u>			<u>- 1.45 Floats</u>		
			<u>Ash %</u>	<u>F</u>	<u>S</u>	<u>Rec. %</u>	<u>Ash %</u>	<u>FSI</u>
39 ✓	A	24.40-25.93	8.19	5	✓			
40 ✓	A2	22.88-23.73	8.97	5	✓			
41 ,	B	10.83-12.66	19.44	4	✓			
42 ✓	B	12.66-14.18	8.53	4-1/2	-			
43 ✓	B	14.18-15.40	4.91	4J				

I trust this is satisfactory.

Yours very truly,

CYCLONE ENGINEERING SALES LTD.

Per: B. Y. H. Wong

B. Y. H. Wong

BYHW/ejr

1 2 December 1979

CLIENT: TECK CORP.

SAMPLE: BULK SAMPLE: BLEND OF A-1 (55%) & A-2 (45%)

LAB.NO.: 4280 * RAW COAL CRUSHED TO PASS 3/4"

H E A D . RAW ANALYSIS .							
ADM.% M	O I S T.	ASH%	VM.%	F.C.%	s . 4	F.S. I.	
2.9	0.5	14.9	-23.2	61.4	0.56	6	adb
	3.4	14.5	22.5	59.6	0.54	-	arb
		15.0	23.3	61.7	0.56	-	db

SIZE & RAW ANALYSES, a.d.b.									
SIZE FRACTION	WT.%	RM.%	ASH%	V.M.%	F.C.	% S.%	F.S.I.	CUM WT.%	CUM ASH%
3/4" x 28M	80.3	0.5	16.9	22.5	60.1	0.47	5 1/2	80.3	16.9
28M x 100M	-12.5	...	9.1	24.9	65.6	0.60	8	92.8	15.8
100M x 0	7.2	0.4	9.9	24.8	64.9	0.59	8 1/2	100.0	15.4

WT.% + 3/4" = 24.4 = Crushed to pass 3/4" and included in above size analysis.

SINK-FLOAT ANALYSES, a.d.b.										
S.G. FRACTION	3/4" x 28M					28M x 100M				
	WT.%	ASH%	F.S.I.	CUMULATIVE		WT%	ASH%	F.S.I.	CUMULATIVE	
				WT.	ASH%				WT.%	ASH.%
-1.30	33.0	3.3	9	33.0	3.3	71.7	3.9	9	71.7	3.9
1.30-1.35	24.5	6.2	4 1/2	57.5	4.5	5.7	6.4	7 1/2	77.4	4.1
1.35-1.40	10.2	11.5	2 1/2	67.7	5.6	7.3	8.9	5	84.7	4.5
1.40-1.45	5.3	16.1	1 1/2	73.0	6.3	4.4	12.0	1 1/2	89.1	4.9
1.45-1.50	6.3	20.3	1	79.3	7.5	2.4	18.6	1	91.5	5.2
1.50-1.60	5.8	26.7	1	85.1	8.8	2.3	29.1	1	93.8	5.8
1.60-1.70	2.7	35.0	1	87.8	9.6	1.4	37.6	1	95.2	6.3
1.70-1.80	1.9	43.7	1	89.7	10.3	0.8	46.4	1	96.0	6.6
1.80-1.90	1.5	50.9	1	91.2	11.0	1.2	58.3	1	97.2	7.3
+1.90	8.8	76.7	N.A.	100.0	16.8	2.8	74.5	N.A.	100.0	9.1

12 December 1979

CLIENT: TECK MINING CORP.
 SAMPLE: BULK SAMPLE: BLEND OF A-I (55% & A-Z (45%)
 LAB.NO.: 4230 - RAW COAL CRUSHED TO PASS 3/4"

FROTH FLOTATION TEST, a.d.b.					
PRODUCT	WT.%	ASH%	F.S.I.	CUM WT.%	CUM ASH%
STAGE I	37.8	6.1	1/2	37.3	6.1
STAGE 11	6.3	16.6	5 1/2	94.1	6.8
TAILINGS	5.9	52.7	1	100.0	9.5

F.F. PARAMETERS: P.D.= 10%

REAGENT = 4:1 = KEROSENE:M.L.B.C.

DOSAGE = 0.48 lb/T

CONDITIONING TIME = 60 SEC.

STAGE I = 1st Min. Froth

STAGE 11 = 2nd Min. Froth

CLIENT: TECK MINING CORP.

SAMPLE: BULK SAMPLE: BLEND OF A-1 (55%) & A-2 (45%)

LAB-ND.: 4281 AFTER ATTRITION

SIZE & RAW ANALYSIS, a.d.b.									
SIZE FRACTION	WT.%	RM.%	ASH%	V.M.%	F.C.%	S.%	F.S.I.	CUMULATIVE	
								WT.%	ASH%
+1 1/2"	0.7							0.7	-
1 1/2" x 3/4"	3.4							4.1	-
3/4" x 3/8"	8.8	0.7	34.3				1 1/2	12.9	34.3
3/8" x 28M	53.1	0.4	14.6				5 1/2	66.0	18.5
28M x 100M	20.9	0.5	9.0				8	86.9	16.2
100M x 0	12.1	0.6	10.0				8	100.0	15.4

SINK-FLOAT ANALYSIS, a.d.b.: + 3/8: (WT.%=12.9)					
S.G. FRACTION	WT.%	ASH%	F.S.I.	CUM WT.%	CUM ASH%
-1.30	0.8	3.5	8	0.8	3.5
1.30-1.35	21.8	5.6	4	22.6	5.5
1.35-1.40	11.1	11.3	2	33.7	7.4
1.40-1.45	7.4	15.7	1	41.1	8.9
1.45-1.50	10.3	20.0	1	51.4	11.1
1.50-1.60	10.9	25.4	1	62.3	13.6
1.60-1.70	5.4	33.5	1	67.7	15.2
1.70-1.80	3.1	42.9	1	70.8	16.4
1.80-1.90	3.3	50.8	1	74.1	18.0
+1.90	25.9	79.3	N.A.	100.0	33.8

12 December 1979

CLIENT: TECK MINING CORP
 SAMPLE: BULK SAMPLE : BLEND OF A-1 (55%) & A-2 (45%)
 LAB.NO.: 4281

SINK - FLOAT ANALYSIS, a.d.b.: 3/8" x 28M (WT.%=53.1)					
S.G. FRACTION	WT.%	ASH%	F.S.I.	CUM WT.%	CUM ASH%
1.30	33.5	2.9	9	33.5	2.9
1.30-1.35	29.7	6.2	7	63.2	4.5
1.35-1.40	8.3	11.9	3 1/2	71.5	5.3
1.40-1.45	6.0	16.4	2	77.5	6.2
1.45-1.50	5.2	20.9	1 1/2	82.7	7.1
1.50-1.60	5.6	26.9	1	88.3	8.4
1.60-1.70	2.6	35.8	1	90.9	9.1
1.70-1.80	1.8	44.0	1	92.7	9.8
1.80-1.90	1.3	53.3	N.A.	94.0	10.4
+1.90	6.0	75.6	N.A.	100.0	14.3

SINK - FLOAT ANALYSIS, a.d.b.: 28Mx100M (WT.%= 20.9)					
S.G. FRACTION	WT.%	ASH%	F.S.I.	CUM WT.%	CUM ASH%
1.30	46.8	2.2	9	46.8	2.2
1.30-1.35	27.2	4.7	4 1/2	74.0	3.1
1.35-1.40	9.2	8.9	3	83.2	3.8
1.40-1.45	4.6	14.6	1	87.9	4.3
1.45-1.50	2.9	19.3	1	90.7	4.8
1.50-1.60	2.6	27.0	1	93.3	5.4
1.60-1.70	1.7	37.0	1	95.0	6.0
1.70-1.80	1.0	46.2	1	96.0	6.4
1.80-1.90	0.7	53.7	1	96.7	6.8
+1.90	3.3	71.5	N.A.	100.0	8.9

12 December 1979

CLIENT: TECK MINING CORP.
SAMPLE: BULK SAMPLE : BLEND OF A-1 (55%) & 'A-2 (45%)
LAB.NO.: 4281 AFTER ATTRITION

FROTH - FLOTATION TEST, a.d.b.: 100M x 0 (WT.% = 13.1)					
PRODUCT	w r . %	ASH%	F.S.I.	CUM WT.%	CUM ASH%
STAGE I	79.6	5.9	8	79.6	
STAGE II	10.3	11.1	7	89.9	6.5
TAILINGS	10.1	38.6	1 1/2	100.0	9.7

5.9

F.F. PARAMETERS: P.D. = 10%.

REAGENT = 4:1 = KEROSENE: M.L.B.C.

DOSAGE = 0.48 l/b/T

CONDITIONING TIME = 60 sec.

STAGE I = 1st Min. Froth.

STAGE II = 2nd Min. Froth.

ATTRITION PARAMETERS: 17Kg. sample batches tumbled for 20 minutes at 40 rpm.
using the ASTM Coke Drum.

Birtley Coal
& Minerals Testing

A DIVISION OF GREAT WESTERN INDUSTRIES LTD

WASHABILITY CURVES

SEAM : 'A' Adit 1979

SIZE : 3/4" X 28 Mesh

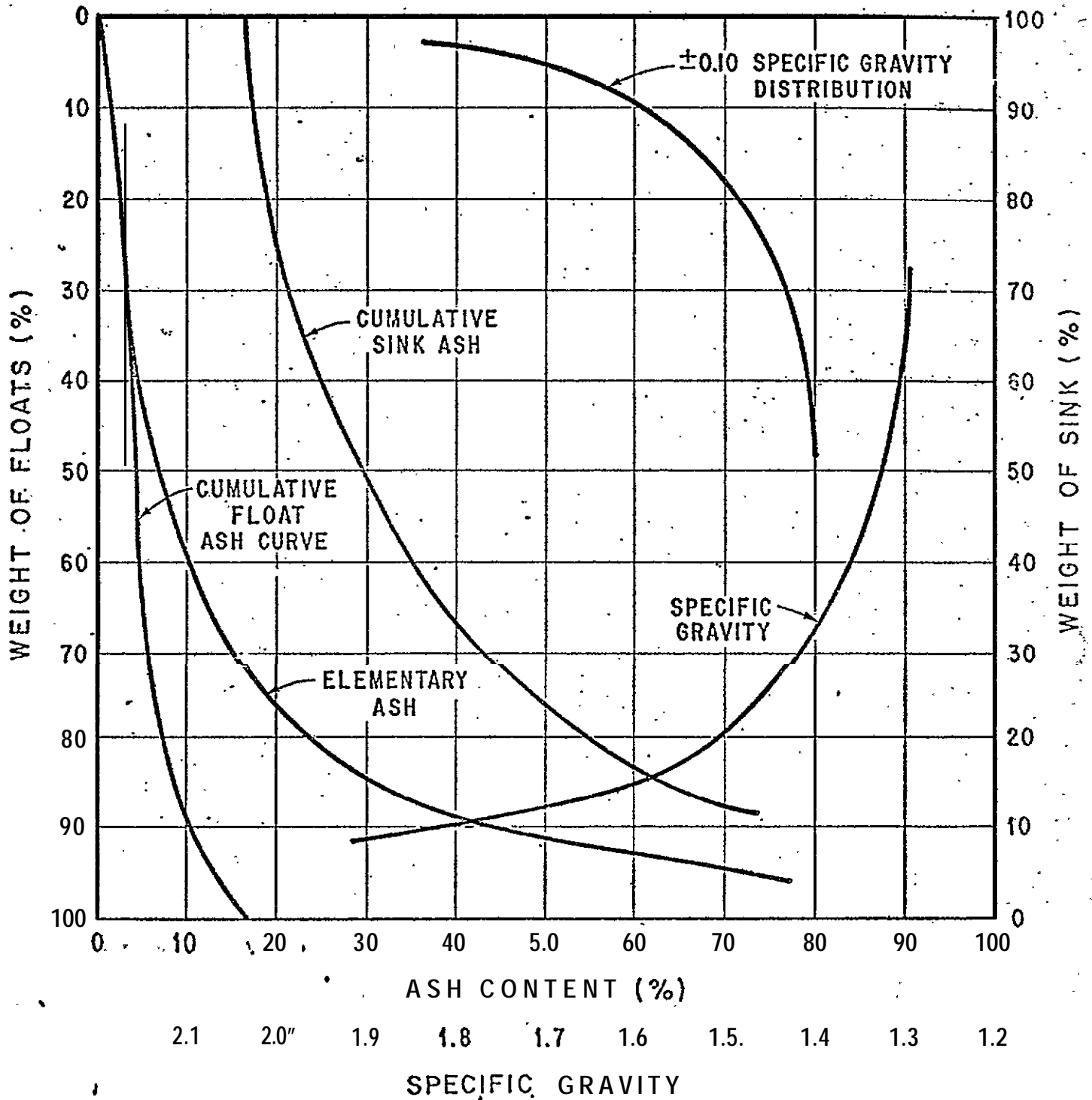


TABLE II

WASHABILITY CURVES

SEAM : 'A' Adit 1979

SIZE : 28 Mesh X 100 Mesh

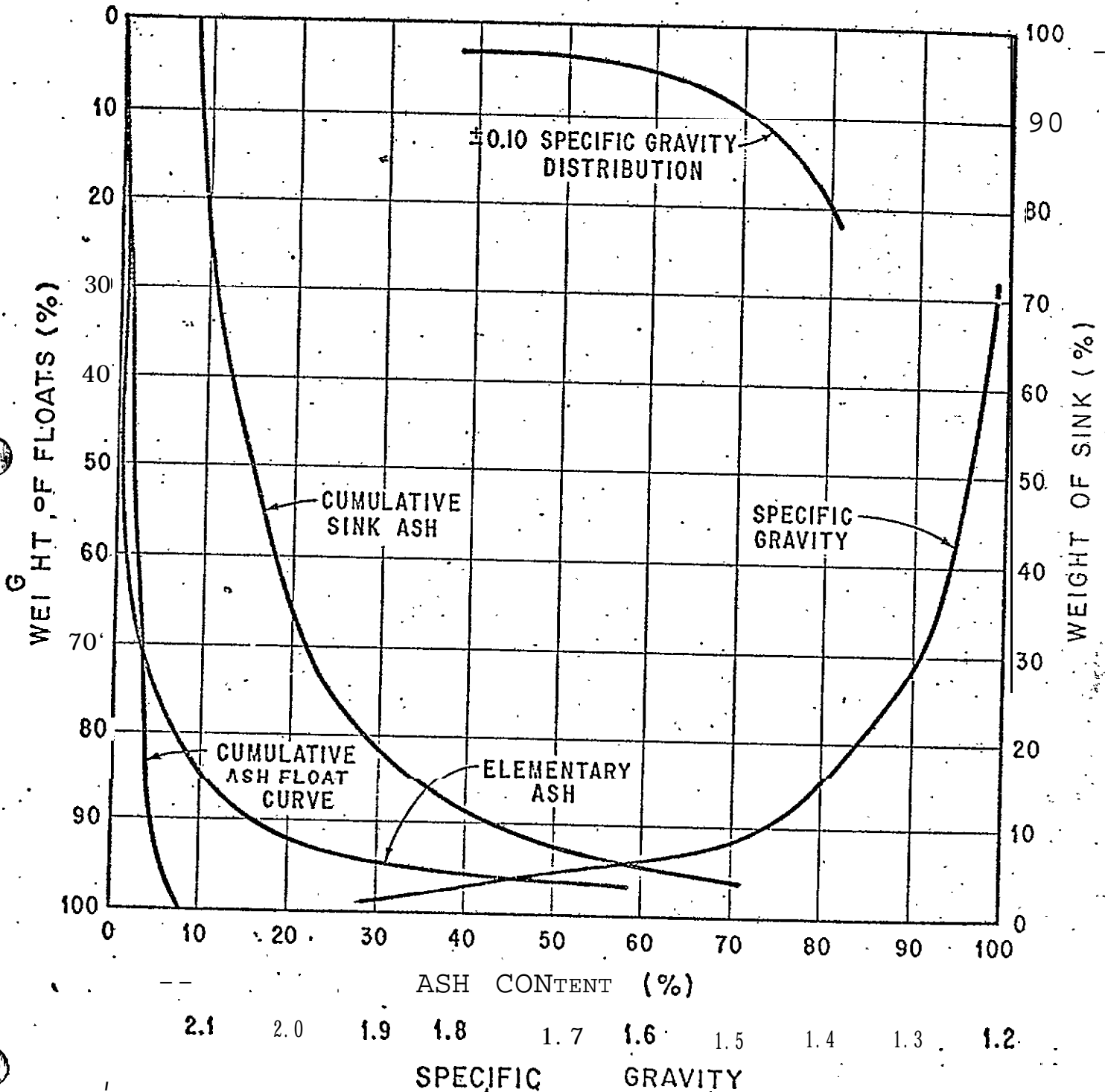


TABLE I

DDH No.	Seam	Depth. Interval	Thickness (m)	Raw Coal		Clean Coal		
				Ash	FSI	Ash	FSI	Yield
SFW 79-1 ✓	A2	10.5 - 11.95	1.45	12.08	4)	7.06	5½	
SFW 79-1 ✓	A1	12.25 - 13.71	1.46	8.72	5)			
SFW 79-2 ✓	A2	14.08 - 14.94	.86	10.5	4			
SFW 79-2 ✓	A1	15.45 - 16.73	-1.28	7.4	3½			
SFW 79-3 ✓	A2	23.59 - 23.99	.4	13.1	5			
SFW 79-3 ✓	A1	24.29 - 25.45 25.75 - 26.18	1.59	8.6	4 ✓			
SFW 79-4 ✓	A2	19.52 - 20.33	.81	9.95	4½	6.93	4½	83.65
SFW 79-4 ✓	A1	20.71 - 22.11	1.40	7.13	5½			
SFW 79-5 ✓	A2	24.4 - 25.31	.91	9.64	1½			
SFW 79-5 ✓	A1	26.08 - 27.60	1.52	6.91	2½			
SFW 79-6 ✓	A2	30.45 - 31.26	.81	9.85	2			
SFW 79-6 ✓	A1	32.21 - 33.70	1.49	7.66	3			
SFW 79-7 ✓	A2	34.14 - 35.08	.94	11.18	5)	6.4	6½	Sulphur 138
SFW 79-7 ✓	A1	35.51 - 37.15	1.61	6.69	5½)			
SFW 79-8 ✓	A2	16.85 - 17.22	.37	6.28	4½			
SFW 79-8 ✓	A1	17.87 - 19.22	1.35	6.91	5½			
SFW 79-9 ✓	A2	22.88 - 23.73	.85	8.97	5			
SFW 79-9 ✓	A1	24.40 - 25.93	1.53	8.19	5			
SFW 79-10 ✓	A2	30.56 - 31.48	.92	9.99	6			
SFW 79-10 ✓	A1	32.09 - 33.55	1.46	6.90	6½			
SFW 79-11 ✓	A2	24.71 - 25.65	.94	10.60	2			
SFW 79-11 ✓	A1	27.27 - 28.70	1.43	6.22	3			
SFW 79-12 ✓	A2	30.11 - 31.09	.98	11.32	4½			
SFW 79-12 ✓	A1	32.67 - 34.17	1.50	5.66	6			

ADIT QUALITY - cont.

The bulk sample was subjected to washability tests, attrition tests and a pilot plant test. Bulk washability studies predicted a yield which increased approximately 2% for the same ash level. The pilot plant test overcleand the do-al, however, a yield of 67.4% at 6.7 ash was found. Washability test results for the bulk adit in a before and after attrition sample are tabulated in Table 2. Figure. 7 gives the pilot plant flow-sheet balance for the test conducted. The proximate analysis of raw coal and saleable coal are as follows:

	<u>Ash</u>	<u>VM</u>	<u>FC</u>	<u>S</u>	FSI	<u>Fluidity</u> <u>DDPM</u>	<u>Max.</u> <u>Dilation</u>
Raw Coal	15.0	23.3	61.7	0.56	6		
Clean Coal	6.8	24.6	68.1	0.60	7	490	84.

OPEN FILE

BULLMOOSE PROJECT

APPLICATION TO EXTEND
TERM OF LICENCE

DOCUMENTATION

GEOLOGICAL BRANCH
ASSESSMENT REPORT

00 481

BULLMOOSE PROJECT

REPORTS

1. Site Work (i.e. Diamond Drilling and **Adit**) and Coal Quality analysis detailed in "The 1979 Exploration Report on the **Bullmoose** Coal Property **Sukunka** River Area Coal **Licences**" submitted to the Geological Branch of the Department of Mines and Petroleum Resources February 29, 1980.
2. Guidelines for Coal Development Stage I **Report: seventy-five** copies of the Report "Bullmoose Coal Project Stage I Report August 1979" have been submitted to the Environment and Land Use Secretariat **for** distribution to various government departments including Department of Mines and Petroleum Resources (i.e. H.J. Dennis, Senior Inspector of Mines - Coal).
3. Water Quality Analysis: Summary of laboratory analysis on water samples from streams on the **Bullmoose** Property enclosed.

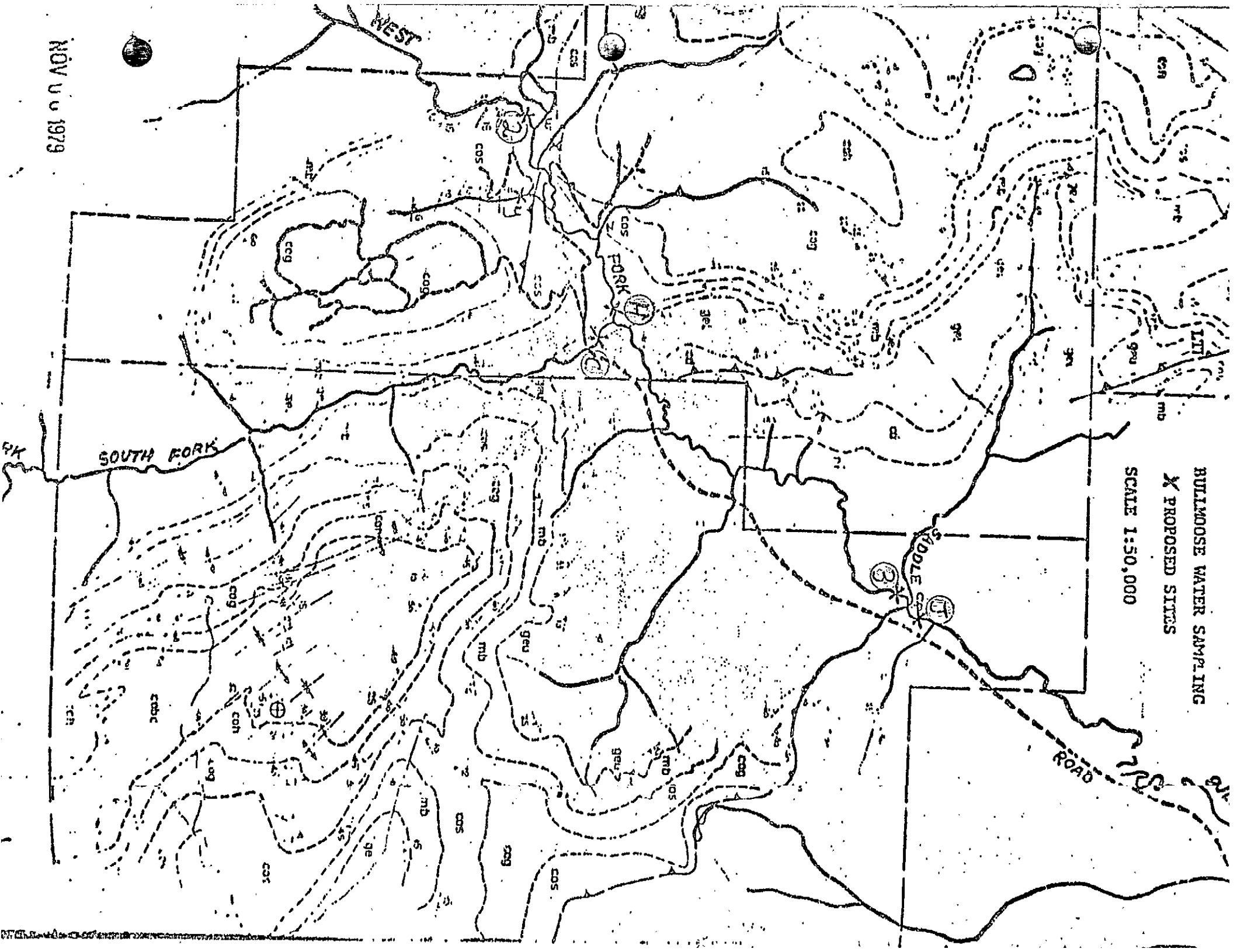
BULLMOOSE PROJECT

ENVIRONMENTAL SAMPLING OF STREAMS ADJACENT
TO THE BULLMOOSE COAL PROPERTY

Note on Simple Handling

All samples were filtered and preserved soon after collection, and shipped the next day to Cantest Labs. Physical parameters were recorded in the field.

NOV 10 1979



BULLMOOSE WATER SAMPLING
X PROPOSED SITES
SCALE 1:50,000

WEST

SOUTH FORK

SOUTH FORK

MIDDLE FORK

ROAD

LTI

mb

SCALE 1:50,000

BULLMOOSE WATER SAMPLING
X PROPOSED SITES

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Analysis	3	J	C	H	2
	Oct. 16/79	Oct. 16/79	Oct. 16/79	Oct. 16/79	Oct. 16/79
Physical Parameters					
Conductivity (umho/cm)	7.3 278	7.2 318	7.2 260	7.35 238	7.3 278
Turbidity (JTU)	2.8	1.6	0.3	0.2	2.8
Total Suspended Solids ppm	7	2	1	1	1
Total Solids ppm	176	172	138	142	168
Total Dissolved Solids ppm	169	170	137	141	167
Temperature (°C)	0.5	0.5	2.5	7.0	6.5
Dissolved Oxygen ppm	10.6	11.2	11.2	10.0	10.4
Major Dissolved Components					
Hardness CaCO ₃ (ppm)	135	131	117	112	126
Calcium Ca (ppm)	35.4	34.6	31.5	30.2	33.9
Magnesium Mg (ppm)	11.3	10.9	9.4	9.0	10.1
Sulphate SO ₄ (ppm)	21	21	8	7	2
Sodium Na (ppm)	5.5	5.3	2.9	3.3	4.5
Potassium K (ppm)	4.6	0.6	0.4	0.4	1.0
Fluoride F (ppm)	0.08	0.07	0.06	0.07	0.10
Dissolved Metals					
Copper CU (ppm)	9.008	0.006	LO.002	Lb.002	0.002
Lead Pb (ppm)	LO.001	LO.001	0.002	LO.001	LO.001
Zinc Zn (ppm)	LO.001	LO.001	LO.001	LO.001	LO.001
Iron Fe (ppm)	0.02	LO.01	LO.01	0.01	0.23
Cadmium Cd (ppm)	LO.001	LO.001	LO.001	LO.001	LO.001
Nickel Ni (ppm)	LO.001	LO.001	LO.001	LO.001	LO.001
Chromium Cr (ppm)	LO.005	LO.005	LO.005	LO.005	LO.005
Manganese Mn (ppm)	LO.002	LO.002	LO.002	LO.002	LO.002
Molybdenum Mo (ppm)	LO.001	LO.001	LO.001	LO.001	LO.001
Total Metals					
Aluminium Al (ppm)	0.20	0.01	0.01	0.06	0.03
Arsenic As (ppm)	LO.005	LO.005	LO.005	LO.005	LO.005
Cadmium Cd (ppm)	LO.001	LO.001	LO.001	LO.001	LO.001
Chromium Cr (ppm)	LO.005	LO.005	LO.005	Lb.005	LO.005
Copper CU (ppm)					
Lead Pb (ppm)	0.008	0.001	0.005	0.005	LO.001
Iron Fe (ppm)	0.23	LO.01	LO.01	0.05	0.45
Manganese Mn (ppm)	0.010	LO.002	LO.002	LO.002	0.018
Mercury Hg (ppb)*	LO.05	LO.05	LO.05	LO.05	LO.05
Molybdenum Mo (ppm)	LO.001	LO.001	LO.001	LO.001	LO.001
Nickel Ni (ppm)	LO.001	LO.001	LO.001	LO.001	LO.001
Phosphorous P (ppm)					
Vanadium V (ppm)	LO.005	LO.005	LO.005	LO.005	LO.005
Other Parameters					
Oil and Grease					
Total Alkalinity	124	124	119	118	142
Dissolved Aluminum Al	LO.01	LO.01	0.01	0.01	LO.01
Total Zinc Zn	LO.001	0.002	L.001	LO.001	LO.001
Bacteriological - Coliform					
Total mg/L					
Fecal mg/L					
Gas pH	8.20	8.11	8.25	8.17	4.34
Total phenolics as phenol	0.001	0.001	0.001	0.002	0.004
Total Organic Carbon	L2.	L2.	L2.	L2.	L2.
	7.01	3.12	3.00	3.39	2.36

Analysis	Date				
	3 Sept. 18/79	J Sept. 18/79	C Sept. 18/79	H Sept. 18/79	2 Sept. 18/79
Physical Parameters					
pH	7.3	7.5	7.7	7.3	7.6
Conductivity (umhod/cm)	250.	247.	211.	217.	224.
Turbidity JTU	0.4	1.7	0.3	0.3	0.7
Total Suspended Solids ppm	Li.	2.	Li.	Li.	3
Total Solids ppm	146.	142.	124.	150.	128.
Total Dissolved Solids ppm	146.	140.	124.	150.	125.
Temp o. c	11.0	11.0	11.0	11.0	11.0
Dissolved Oxygen ppm	9.0	9.1	9.0	9.3	9.4
Major Dissolved Components					
Hardness CaCO ₃ (ppm)	131.	125.	112.	111.	120.
Calcium Ca (ppm)	36.3	33.3	30.3	29.6	32.4
Magnesium Mg (ppm)	9.9	10.1	8.8	8.9	9.4
Sulphate SO ₄ (ppm)	6.3	13.8	6.9	7.3	3.8
Na	2.2	3.0	2.6	3.0	3.9
K	0.5	0.5	0.5	0.4	0.4
F	0.06	0.05	0.06	0.05	0.05
Dissolved Metals					
copper CU (ppm)	LO.001	0.001	0.001	LO.001	LO.001
Lead P b (ppm)	LO.001	LO.001	LO.001	LO.001	LO.001
Zinc Zn (ppm)	LO.001	LO.001	LO.001	LO.001	LO.001
Iron Fe (ppm)	0.008	0.003	LO.001	LO.001	0.003
-Cadmium Cd (ppm)	LO.001	LO.001	LO.001	LO.001	LO.001
Mo	0.001	0.001	LO.001	0.001	0.001
Cr	LO.005	LO.005	LO.005	LO.005	LO.005
Ni	LO.001	0.002	LO.001	LO.001	0.001
Total Metals					
Aluminium A l (ppm)	0.04	0.02	0.04	0.06	0.02
Arsenic As (ppm)	LO.005	LO.005	LO.005	LO.005	LO.005
Cadmium C d (ppm)	LO.001	LO.001	LO.001	LO.001	LO.001
Chromium Cr (ppm)	LO.005	LO.005	LO.005	LO.005	LO.005
copper Cu (ppm)	LO.001	0.007	0.011	0.009	LO.001
Lead Pb (ppm)	0.005	0.001	0.002	0.001	0.004
Iron Fe (ppm)	0.007	0.007	0.045	0.052	0.058
Manganese Mn (ppm)	0.004	0.002	LO.001	LO.001	LO.001
Mercury Hg (ppb)*	LO.05	LO.05	LO.05	LO.05	LO.05
Molybdenum Mo (ppm)	0.001	0.001	0.002	0.001	0.001
Nickel Ni (ppm)	LO.001	0.001	0.001	0.001	0.001
Phosphorous P (ppm)	-	-	-	-	-
Vanadium V (ppm)	-	-	-	-	-
Zinc Zn (ppm)	0.001	0.001	LO.001	0.001	0.001
Other Parameters					
Oil and Grease	-	-	-	-	-
Total Alkalinity	134.	121.	114.	114.	125.
Lab pH	8.00	8.27	8.36	8.19	8.37
Dissolved Mn	0.003	LO.001	LO.001	LO.001	LO.001
Dissolved Al	LO.01	LO.01	LO.01	LO.01	LO.01
Total Phenolics as phenol	LO.001	LO.001	LO.001	LO.001	LO.001
Total Organic Carbon TOC	L2.	L2.	L2.	L2.	L2.
Dissolved Silica	3.6	3.2	3.0	3.2	2.8
Phenolphthalein Alkalinity	-	-	0.5	-	0.5

Analysis	I AUG. 14/79	J AUG. 16/79	C AUG. 16/79	H AUG. 16/79	2 AUG. 14/79
Physical Parameters					
Conductivity ($\mu\text{mhos/cm}$)	7.4 249.	7.8 235	7.3 207.	7.9 200.	8.1 207.
Turbidity (JTU)	0.5	2.0	0.4	0.7	0.5
Total Suspended Solids (ppm)	2.	5	1.	2.	1
Total Solids (ppm)	132	126.	98.	102.	102
Total Dissolved Solids (ppm)	130	121.	97.	100.	101
Temperature ($^{\circ}\text{C}$)	16.0	16.0	16.0	16.0.	16.0
Dissolved Oxygen (ppm)					
Major Dissolved Components					
Hardness CaCO_3 (ppm)	122.	110.	93.2	96.3	102.
Calcium Ca (ppm)	33.4	28.4	26.0	25.2	26.9
Magnesium Mg (ppm)	9.4	9.4	7.6	8.1	8.4
Sulphate SO_4 (ppm)	6.7	8.6	6.0	6.1	3.0
Sodium Na (ppm)	2.3	2.4	1.9	2.6	2.7
Potassium (ppm)	0.4	0.4	0.4	0.4	0.3
Fluoride I? (ppm)	0.06	0.05	0.07	0.07	0.05
Dissolved Metals					
Copper Cu (ppm)	0.002	0.005	LO.001	0.002	0.002
Lead Pb (ppm)	LO.001	IA.001	LO.001	IA.001	LO.001
Zinc Zn (ppm)	LO.001	IA.001	LO.001	LO.001	LO.001
Iron Fe (ppm)	0.004	0.008	0.001	0.003	0.002
Cadmium Cd (ppm)	LO.001	la.001	LO.001	LO.001	LO.001
Manganese Mn (ppm)	0.001	0.003	LO.001	Lo.001	LO.001
Nickel Ni (ppm)	LO.001	LO.001	LO.001	IA.001	LO.001
Chromium Cr (ppm)	IA.035	LO.005	LO.005	LO.005	LO.005
Total Metals					
Aluminium Al (ppm)	0.05	0.11	0.06	0.09	0.06
Arsenic As (ppm)	LO.005	LO.005	LO.005	Lo.005	LO.05
Cadmium Cd (ppm)	Lo.001	Lo.001	LO.001	Lo.001	LO.001
Chromium Cr (ppm)	Lo.005	LO.005	M.005	M.005	LO.005
Copper CU (ppm)	0.00s	0.015	0.004	0.010	0.0%
Lead Pb (ppm)	0.005	0.010	0.002	0.002	0.010
Iron Fe (ppm)	0.16	0.38	0.45	0.06	0.070
Manganese Mn (ppm)	0.001	0.002	Lo.001	0.001	0.002
Mercury Hg (ppb)*	LO.05	Lo.05	IA.05	LO.05	LO.05
Molybdenum Mo (ppm)	LO.001	IA.001	IA.001	IQ.001	LO.001
Nickel Ni (ppm)	Lo.001	LO.031	LO.001	Lo.001	IA.001
Phosphorous P (ppm)					
Vanadium V (ppm)					
Other Parameters					
Oil and Grease					
Total Alkalinity	126.	119	100.	101	113.
Dissolved Aluminum	IA.01	Lo.01	IA.01	IA.01	0.06
pH	8.04	8.14	8.36	8.23	8.39
Alkalinity phenol phtalei			IA.5		10.5
Total phenolics as Phenol (mg/l)	LO.001	LO.001	LO.001	LO.001	ID.091
Total Organic Carbon (mg/l)	L2.	L2.	L2.	L2.	L2.
Dissolved Silic (mg/l)	3.2	3.5	2.6	2.6	3.0

Analysis	I 17 JULY/79	J 17 JULY/79	C 17 JULY/79	H 17 JULY/79	2 17 JULY/79
Physical Parameters					
Conductivity (μ mhos/cm)	106	7.9 182	7.90 149.	8.0 165.	8.0 202.
Turbidity (JTU)	1.3	4.4	1.2	1.7	0.4
Total Suspended Solids (ppm)	5.	7	1.	1.	11.
Total Solids (ppm)	112	128	94.	106.	102.
Total Dissolved Solids (ppm)	107	121	93	105.	102.
Temperature ($^{\circ}$ C)	32.0	12.0	11.5	11.5	11.0
Dissolved Oxygen (ppm)	11.4	11.4	11.5	11.4	10.6
Major Dissolved Components					
Hardness CaCO_3 (ppm)	86.3	82.0	68.6	75.7	78.5.
Calcium Ca (ppm)	24.0	22.3	18.9	20.6	21.2
Magnesium Mg (ppm)	6.4	6.4	5.2	5.9	6.2
Sulphate SO_4 (ppm)	4.9	5.5	3.5	4.5	2.5
Sodium Na (ppm)	1.5	1.4	0.8	1.7	1.3
Potassium (ppm)	0.4	0.4	0.4	0.4	0.3
Fluoride F (ppm)	0.06	0.06	0.05	0.06	0.05
(Dissolved Metals)					
Copper CU (ppm)	0.001	0.003	0.002	0.003	0.003
Lead Pb (ppm)	Lo.001	Lo.001	Lo.001	Lo.001	0.001
Zinc Zn (ppm)	Lo.001	Lo.001	I.D.001	I.D.001	Lo.001
Iron Fe (ppm)	0.025	0.015	0.001	0.040	0.004
Cadmium Cd (ppm)	Lo.001	Lo.001	Lo.001	Lo.001	Lo.001
Manganese Mn (ppm)	0.001	0.001	Lo.001	Lo.001	Lo.001
Nickel Ni (ppm)	0.001	0.002	0.001	0.001	0.001
Chromium Cr (ppm)	Lo.005	Lo.005	Lo.005	Lo.005	Lo.005
Total Metals					
Aluminium Al (ppm)	0.08	0.17	0.05	0.06	0.03
Arsenic As (ppm)	Lo.005	ID.005	Lo.005	Lo.005	Lo.005
Cadmium Cd (ppm)	ID.001	Lo.001	Lo.001	Lo.001	Lo.001
Chromium Cr (ppm)	Lo.005	Lo.005	M.005	Lo.005	Lo.005
Copper CU (ppm)	0.005	0.005	0.002	0.003	0.003
Lead Pb (ppm)	Lo.001	0.003	0.002	0.003	Lo.001
Iron Fe (ppm)	0.138	0.190	0.044	0.125	0.14
Manganese Mn (ppm)	0.003	0.004	0.001	0.002	Lo.001
Mercury Hg (ppb)*	Lo.05	Lo.05	Lo.05	I.D.05	ID.05
Molybdenum Mo (ppm)	Lo.001	Lo.001	Lo.001	Lo.001	Lo.001
Nickel Ni (ppm)		0.002	Lo.001	Lo.001	Lo.001
Phosphorous P (ppm)					
Vanadium V (ppm)	Lo.005	Lo.005	Lo.005	Lo.005	Lo.005
Zinc Zn (ppm)	0.001	0.002	Lo.001	0.001	0.001
Other Parameters					
Oil and Grease					
Total Alkalinity	85.5	82.4	69.7	77.8	82.8
Dissolved Aluminum	0.01	0.01	I.D.01	0.01	Lo.01
pH	8.18	8.22	8.29	6.24	8.25
Total phenol as phenol (mg/l)					
Total phenol as phenol (mg/l)	0.004	0.004	0.002	0.003	0.093
Total Organic Carbon (mg/l)	3.	2.	12.	12.	12.
Dissolved Silicates (mg/l)	2.87.	2.87	2.61	3.01	2.71

Analysis	3	J	C	H	2
	June 19/79	June 19/79	June 19/79	June 19/79	June 19/79
Physical Parameters					
pH	a . 1	8.2	7.9	8.0	7.8
Conductivity (umhos/cm)	140.	145.	121.	127.	137.
Turbidity (JTU)	9 . 0	17.	5.7	5.6	2.5
Total Suspended Solids (ppm)	20.	30.	11.	12.	9.
Total Solids (ppm)	118.	210.	94.	80.	80.
Total Dissolved Solids (ppm)	98.	180.	83.	68.	71.
Temperature (°C)	6.0	6.0	6.0	6.0	5.5
Dissolved Oxygen (ppm)	11.4	11.6	11.8	11.4	10.6
Major Dissolved Components					
Hardness CaCO ₃ (ppm)	62.0	-	62.4	55.6	57.7
Calcium Ca ³ (ppm)	16 . 6	17.1	17.1	15.0	15.7
Magnesium Mg (ppm)	5.0	4.9	4.8	4 . 4	4.5
Sulphate SO ₄ (ppm)	4.4	4.0	4.3	4.4	2.6
Sodium Na ⁴ (ppm)	0.8	0.7	0.4	0.8	0 . 7
Potassium K (ppm)	0.4	0.4	0.3	0.4	0.3
Fluoride F (ppm)	0.04	0.04	0.04	0.05	LO.04
Dissolved Metals					
Copper CU (ppm)	0.002	LO.001	0.001	0.001	0.002
Lead Pb (ppm)	LO.002	0.002	LO.002	LO.002	LO.002
Zinc Zn (ppm)	-	LO.002	0.003	-	-
Iron Fe (ppm)	0.017	0.017	0.009	0.023	0.011
Cadmium Cd (ppm)	LO.001	LO.001	LO.001	LO.001	LO.001
Manganese Mn (ppm)	0.001	0.001	0.003	0.001	LO.001
Nickel Ni (ppm)	LO.001	LO.001	LO.001	LO.001	LO.001
Chromium Cr (ppm)	LO.002	LO.002	LO.002	LO.002	LO.002
Total Metals					
Aluminium Al (ppm)	0.30	0.17	0 . 2 . 5	0.35	0.07
Arsenic As (ppm)	LO.005	LO.005	LO.005	LO.005	LO.002
Cadmium Cd (ppm)	LO.001	LO.001	LO.001	LO.001	LO.001
Chromium Cr (ppm)	LO.002	LO.002	LO.002	LO.002	LO.002
Copper CU (ppm)	0.011	0.006	0.009	0.051	0.005
Lead Pb (ppm)	0.004	0.006	0.004	0.007	0.007
Iron Fe (ppm)	0.54	0.29	0.36	0.036	0.15
Manganese Mn (ppm)	0.009	0.009	0.006	0.003	0.064
Mercury Hg (ppb)*	LO.05	LO.05	LO.05	LO.05	LO.05
Molybdenum Mo (ppm)	LO.001	LO.001	LO.001	LO.001	LO.001
Nickel Ni (ppm)	LO.001	0.002	0.001	LO.001	LO.001
Phosphorous P (ppm)	-	-	-	-	-
Vanadium V (ppm)	LO.002	LO.002	LO.002	LO.002	LO.002
Other Parameters					
Oil and Grease					
Total Alkalinity	63.0	63.0	53.5	45.3	57.5
Dissolved Vanadium	LO.002	LO.002	LO.002	LO.002	LO.002
Dissolved Aluminium	0.03	0 . 0 1	0.02	0.01	LO.01
pH	8.01	8.02	8.02	7.98	8.07
Total Phenolics as Phenol (mg/L)					
Total Phenolics as Phenol (mg/L)	0.002	0.0047	0.0023	0.0037	0.002
Total Organic Carbon (mg/L)	12.	2.	12.	12.	12.
Dissolved Silica (mg/L)	2.62	2.61.	2.31	2.50	2.29

BULLOCK WATERSHED SAMPLING

Analysis	3	J	H	C
	15 May 79	15 May 79	15 May 79	15 May 79
Physical Parameters				
pH	8.2	8.0	8.1	8.3
Conductivity (umhos/cm)	271.	276	210.	229.
Turbidity (JTU)	6.7	2.8	1.7	0.8
Total Suspended Solids (ppm)	170.	157	131.	140.
Total Solids (ppm)	178.	160.	132.	3.44.
Total Dissolved Solids (ppm)	8.	3.	1.	4.
Temperature (°C)	2.0	2.0	1.0	2.0
Dissolved Oxygen (ppm)	11.8	10.3	11.7	11.2
Major Dissolved Components				
Hardness CaCO ₃ (ppm)	121.	133.	101.	107.
Calcium Ca (ppm)	29.7	35.2	28.8	23.1
Magnesium Mg (ppm)	11.3	11.0	2	8.9
Sulphate SO ₄ (ppm)	15.7	10.2	8.4.	8.7
Sodium Na (ppm)	3.7	2.9	3.5	3.6
Potassium K (ppm)	0.6	0.6	0.5	0.4
Fluoride F (ppm)	0.08	0.07	0.07	0.07
Dissolved Metals				
Copper CU (ppm)	0.003	0.001	0.905	0.006
Lead Pb (ppm)	LO.001	LO.001	0.001	LO.001
Zinc Zn (ppm)	0.001	0.005	0.005	0.006
Iron Fe (ppm)	0.013	0.002	0.105	0.003
Cadmium Cd (ppm)	LO.001	LO.001	LO.001	LO.001
Molybdenum Mo (ppm)	LO.001	LO.001	LO.001	LO.001
Aluminium Al (ppm)	0.030	0.025	0.017	0.017
Total Metals				
Aluminium Al (ppm)				
Arsenic As (ppm)	LO.005	LO.005	LO.005	LO.005
Cadmium Cd (ppm)	LO.001	LO.001	LO.001	LO.001
Chromium Cr (ppm)	LO.001	LO.001	LO.001	LO.001
Copper cu (ppm)	0.004	0.002	0.005	0.007
Lead Pb (ppm)	0.017	-0.003	0.001	0.002
Iron Fe (ppm)	0.295	0.105	0.200	0.035
Manganese Mn (ppm)	0.002	0.002	0.004	0.001:
Mercury Hg (ppb)*	LO.05	LO.05	LO.05	LO.05
Molybdenum Mo (ppm)	LO.001	LO.001	LO.001	LO.001
Nickel Ni (ppm)	LO.001	LO.001	LO.001	LO.601
Phosphorous P (ppm)				
Vanadium V (ppm)				
Other Parameters				
Oil and Grease				
Total Alkalinity				
Eq. pH	8.32	8.11	8.18	8.27
Total Phenolics as Phenol				
Total Phenolics as Phenol	0.063.	0.002	0.002	0.007
Total Organic Carbon c	5.	17.	24.	22.
Dissolved Silica SiO ₂	3.4	3.47	3.10	2.31

BULLMOOSE PROJECT

SUPPORTING COST STATEMENTS

1. Invoices
2. Computer Printout
3. Itemized Cost Statement

BULLMOOSE PROJECT

I N V O I C E S

1. Target: Tunnelling
2. Portage Mtn. Construction
3. w/J Contracting
- 4 . Robert Barnes
5. Cyclone Engineering Ltd.
6. Birtley Coal Testing
7. Stage I Report



10303 SACRAMENTO DR. S.W.
CALGARY, ALBERTA

DEC 3 1979

T2W 047

~~BOC 238~~
~~SACRAMENTO, ALBERTA T2W 047~~

TO: **TECK MINING GROUP LTD.**
199 WEST HASTINGS STREET
VANCOUVER B.C. V6E 2K5

SHIPPED TO: **BULLMOOSE ADIT**
ATTN: MR JOHN WRIGHT
PROJECT MANAGER

INVOICE DATE DEC. 1/79	SALESMAN	YOUR ORDER NO.	OUR ORDER NO.	DATE SHIPPED	F.O.B.	PPD. <input type="checkbox"/>	COLL. <input type="checkbox"/>
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QUANTITY ORDERED	DESCRIPTION	QTY. SHIPPED	PRICE	AMOUNT
	MOBILIZATION			2,500.00
	DEMOBILIZATION			1,500.00
	HOURLY WORK AND TRAVELLING TIME 45 PER DAILY TIME SHEETS			17,886.00
	ROCK DRIVAGE = 96 FT x \$150.00 PLF.			14,400.00
	SOAL DRIVAGE = 47 FT x \$100.00 P.L.F.			4,700.00
	TRANSPORTATION = 21 DAYS x 100.00 PER DAY			2,100.00
	FOOD + BOARD = 150 MAN DAYS x \$35 PER MAN DAY			5,250.00
	EQUIPMENT RENTAL = 8 DAYS x 225 PER DAY			1,800.00
TOTAL				50,136.00

John Wright
Project Manager
See [Signature]

SALES TAX LIC. NO.	PROV. SALES TAX LIC. NO.	TERMS:	TAX
--------------------	--------------------------	--------	-----

19953

INVOICE

00783

Portage Mountain Enterprises Ltd.

DEC 10 1979

P.O. BOX 207 - PHONE 783-5396

HUDSON HOPE. B.C.

November 26, 1979

Teck Corporation Ltd.
1199 W Hastings Street,
Vancouver, B.C.

D6C

Work for mining project at 28 mile Gwillim Road

Cat time	^{97,} 100 hours @ \$49.00-----	\$4,900.00	4,753.00
Truck Rental	12 days @ \$45.00-----	540.00	
Travel time	36 hours @ \$15.00-----	540.00	
Room & Board	\$ 35.00 per day----- x 12-----	420.00	
Moving cat to job and back		790.00	
		<u>7,190.00</u>	<u>+</u>

TOTAL INVOICE

~~\$ 7,190.00~~ \$ 7,043.00
Revised

time slips encl:
P.M.E./cg

OK
Bim

APPROVED FOR	
JOB#	117-36-01004
	7043.00
<i>M. J. Brandt</i>	

Chetwynd. B.C. VOC 1J0
Phone 788-2645

0006

Teck Corp

Job

Date December 13, 1979

ATT: BRUCE M^CCLYMONT

DATE	Time Report Unit #		
Nov 12	0251- 6 hrs		
13	52- 6		
14	53- 6		
15	54 - 6		
16	55- 6		
17	56- 6	117-36-01000	5167.00
18	57- 6	MFB	
19	58- 6		
20	59 - 6		
21	60 - 6	OK	
22	61- 6	M	
23	6 2 - 6		
24	63- 6		
26	64- 6		
	84 HRS @ 45.00		3780.00
	Travelling time 14 DAYS @ 30.00 per day		420.00
	Truck Rental 16,20,22,23,24, 40.00 per day		200.00
Sept 11	Haul D-6C from Teck'camp 5.5 Hrs @ 45.00		247.50
Nov 10	Haul From Chetwynd to Bullmouse Pumping statio:		
	5.5 Hrs @ 49.00		269.50
Nov 29	Haul From Teck camp to Chetwynd		
	5 Hrs @ 50.00		250.00
			5167.00

INVOICE

W. & J. Schilling

Box 325
 Chetwynd, B.C. VOC 1J0
 Phone 788-2645

0004

TECK CORPORATION,
1199 WEST HASTINGS,
VANCOUVER, B. C.

Job SOUTH FORK # 1000
 Date _____

DATE			
	D6C		
Aug 21	Time Report- Unit # -571 - 8 HRS		
23	72 - 2		
	10 HRS @ 50.00	500.00	
	ATT: BRUCE M ^C Clymont		
	<i>001669.</i>		
	<i>O.T. for payment</i>		
	<i>B. R. McClymont</i>		500.00
	<i>932 01</i>		
	<i>1000 RVE 50000</i>		
	<i>[Signature]</i>		

December 12, 1979

ROBERT BARNES
General Delivery,
Chetwynd, B. C.
VOC 1JO

IN ACCOUNT WITH:

Teck Corporation
1199 West Hastings Street,
Vancouver, B. C.

TO: Engineering Services Rendered
re your Job 1000

November 7, 9, 10, 13-16, 18-23, 1979

13 days @ \$150.00/day

\$1,950.00

APPROVED FOR	
JOB: _____	AMT: _____
117-19-01000	1979
<i>M. J. Brant</i>	
10390	

Contract wages -- Please expedite
payment. R. Barnes would like
his payment before Dec 31/79 for
tax reasons. mjh

CYCLONE ENGINEERING SALES LTD.

CYCLONE ENGINEERING SALES LTD.
9751-51 AVENUE
EDMONTON, ALBERTA T6E 4Z5
TELEPHONE (403) 436-1385

SHIPPED TO:

Teck Corporation Ltd.
1199 West Hastings Street
Vancouver, B.C. V6E 2K5

Attention: Mr. John Wright

*To Dick
Diogel for
approval*

DATE OF INVOICE:	OUR INVOICE NO.:	CUST. ORDER NO.:	CUST. REQ. NO.:	DATE SHIPPED:	HOW SHIPPED:
Dec. 17/79	" 2281				

QUANTITY	DESCRIPTION	WEIGHT	UNIT PRICE	AMOUNT
----------	-------------	--------	------------	--------

RE: BULLMOOSE PROJECT.

Submitted: Oct. 24 & 26 & 29.
Nov. 6; 14, 19, & 26
Dec. 4 & 6

*00403
117-54-01000
Bullmoose*

Ash & FSI determinations:

25 samples @ \$15.00 ea. \$ 375.00

Ash & FSI determinations on - 1.45 floats:

4 samples @ \$18.00 ea. 72.00

FSI determination of composite:

1 sample 7.00

Sulphur determination of composite:

1 sample 7.00

Nov. 19: Sample #1 - 1979-A-2: 5½ hrs. @ \$20.00/hr. 110.00

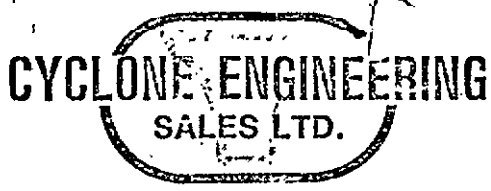
PLUS: Delivery charges as per attached PWA freight bills 16.25

TOTAL \$ 587.25

[Signature]

MANUFACTURING ENGINEERING TESTING SERVICE

TERMS NET CASH - INTEREST CHARGED ON OVERDUE ACCOUNTS AT CURRENT BANK RATES - PAYABLE AT PA" IN EDMONTON



IN ICE

CYCLONE ENGINEERING SALES LTD.
9751 -51 AVENUE
EDMONTON, ALBERTA T6E 4Z5
TELEPHONE (403) 436-1385

r
Teck Corporation Ltd.
1199 West Hastings Street
Vancouver, B.C. V6E 2K5

7

SHIPPED TO:

TRD

L Attention: M r JohnWright
J

DATE OF INVOICE: 2261 Oct.11/79	OUR INVOICE NO.: 2261	CUST. ORDER NO.:	CUST. REQ. NO.:	DATE SHIPPED:	HOW SHIPPED:
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QUANTITY	DESCRIPTION	WEIGHT	UNIT PRICE	AMOUNT
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RE: Bullmoose Project.

Submitted: October 10/79:

Ash & FSI determinations:

13 samples \$ 15.00 ea. \$ 195.00

Ash & FSI determinations on -1.45 floats:

1 sample 18.00

FSI determination of composite:

1 sample 7.00

Pick up samples at airport: 2 hrs. @ \$20.00/hr. 40.00
43 miles @ \$0.25/mi. 10.75

TOTAL INVOICE \$ 270.75

*00403
117-79-01000*

*John Wright
ap'd [Signature]
re: Bullmoose*

SI - 273

MANUFACTURING ENGINEERING TESTING SERVICE

CYCLONE ENGINEERING SALES LTD.

COPIES 58 26
CYCLONE ENGINEERING SALES LTD.
9751 *51 AVENUE
EDMONTON, ALBERTA T6E 425
TELEPHONE (403) 436-1385

SHIPPED TO:

Teck Corporation Ltd.
1199 West Hastings Street
Vancouver, B.C. V6E 2K5

Attention: Mr. John Wright

DATE OF INVOICE:	OUR INVOICE NO.:	CUST. ORDER NO.:	CUST. REQ. NO.:	DATE SHIPPED:	HOW SHIPPED:
Sep. 24/79	2250				

QUANTITY	DESCRIPTION	WEIGHT	UNIT PRICE	AMOUNT
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RE: Bullmoose Project.

Submitted: Sep. 5/79: Ash & FSI determinations:

19 samples @ \$15.00 ea. \$ 285.00

Sep. 7/79: Ash & FSI determinations on -1.45 floats:

3 samples @ \$18.00 ea. 54.00

Sep. 11/79: Ash & FSI determination on composite:

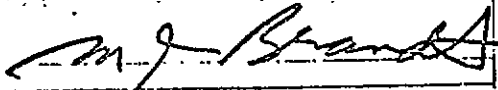
1 sample 1.2.00

Sep. 20/79: Ash & FSI determinations:

15 samples @ \$15.00 ea. 225.00

FSI determinations on -1.45 floats:

7 samples @ \$13.00 ea. 91.00

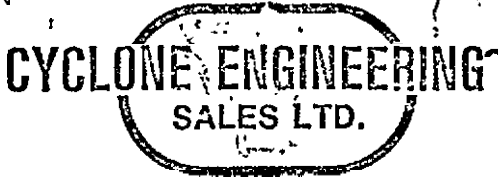
APPROVED FOR PAYMENT	TOTAL INVOICE	\$ 667.00
JOB# 1000	ANAL AMT	667.00
		

00403-

S1-273

MANUFACTURING ENGINEERING TESTING SERVICE

TERMS NET CASH — INTEREST CHARGED ON OVERDUE ACCOUNTS AT CURRENT BANK RATES — PAYABLE AT PAR IN EDMONTON



INVO :
CYCLONE ENGINEERING SALES LTD.
9751 -51 AVENUE
EDMONTON, ALBERTA T6E 425
TELEPHONE (403) 436-1385

TELEPHONE

1

SHIPPED TO:

Teck Corporation Limited
1199 West Hastings Street
Vancouver, B. C. V6E 2K5

Attention: Mr. J. Wright

L

DATE OF INVOICE: Feb. 28/79	OUR INVOICE NO.: 2201	CJST. ORDER NO.:	CUST. REQ. NO.:	DATE SHIPPED:	HOW SHIPPED:
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QUANTITY	DESCRIPTION	WEIGHT	UNIT PRICE	AMOUNT
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Report January 19, 1979: Preparation and shipping of splits of Raw Coal of Sample No. 96, 97, 103, 104, 109, 110 to Cascade by air for petrography analysis (Freight collect). \$80.00

Report February 6, 1979: Preparation of float-sink fractions and analysis, shipping of clean coal to Cascade by air for petrography analysis
3 samples (F97, 109 - 1.45/-1.40) @ \$35.50 ea. 106.50

Shipping Jan 30/79: preparation freight 40.00
17.50

Shipping Feb. 2/79: preparation freight 40.00
15.00

TOTAL INVOICE \$ 299.00

60483.
9320107000

MANUFACTURING ENGINEERING TESTING SERVICE

Birtley Coal & Minerals Testing

A DIVISION OF GREAT WEST STEEL INDUSTRIES LTD.



Page 1 of 3

INVOICE

Invoice No.
Date
P.O. No.
Job No.

1316

December 19, 1979

BC-119

Teck Mining Group Limited
1199 West Hastings Street
Vancouver, B.C.
V6E 2K5

Attention: Mr. J. Wright

Costs related to the Seam "A" South Fork bulk sample tests -
BULLMOOSE PROJECT, November 1979

A. Shipping of 50 empty 45 gal. drums to Chetwynd, Nov. 7, 1979

a) loading - 1 manhour @ 17.50/hour	17.50	
b) 50 drums @ 10.50 each	525.00	
c) Canadian Freightways #110-886733 220.00 + 10%	242.30	784.50

B. Washability and Attrition

a) Receiving, weighing, homogenizing, extraction of required reserve coals of A-1 & A-2, homogenizing A-1 & A-2, head sample, washability sample and attrition sample extraction & processing for head raw analysis.		
• Frontend loader 8 hours @ 30.00/hour	240.00	
• 10 manhours @ 17.50/hour	175.00	415.00
b) Short washability		
1) Screening at 3/4", crushing oversize to pass, and screening at 28M and 100 mesh. 6 manhours @ 17.50/hour	105.00	
2) Float-sink of 3/4" x 28M and 28M x 100 a) 9 gravities - 18 separations @ 15.00 each	270.00	
3) Froth Flotation test on 100M x 0	40.00	
4) Analytical Head raw and 3 screen sizes, 4 prox., S, fsi, @24.50/set	98.00	

Please Remit To:

505. 50th Avenue S.E.,
P.O. Box 5488, Station "A",
Calgary, Alberta T2H 1X9
Telephone (403) 253-8273

Birtley Coal & Minerals Testing

A DIVISION OF GREAT WEST STEEL INDUSTRIES LTD.



Page 2 of 3

INVOICE

Invoice No.	1316
Date	December 19, 1979
P.O. No.	
Job No.	BC-119

Teck Mining Group Limited
1199 West Hastings Street
Vancouver, B.C.
V6E 2K5

Attention: Mr. J. Wright

5) specific gravity & froth fractions - .23 = ash, fsi @ 8.50/set	195.50	708.50
c) Attrition:		
1) Attriting 3 barrels coal in ASTM drum 16 hours @ 17.50/hour	280.00	
2) Screening of attrited product 8 manhours @ 17.50/hour	140.00	
3) Float-sink (includes preparation of fractions for analysis) of +3/8", 9 separations 835.00 each	315.00	
4) Float-sink of 3/8" x 28M, 28M x 100 18 separations @ 15.00 each	270.00	
5) Froth floatation test on 100M x 0	40.00	
6) Analytical:		
a) 4 size fractions - prox., S, fsi, @ 24.50/set		
b) 33 gravity & froth fractions for ash, fsi, @ 8.50/set	378.50	1423.50
C. Pilbt Plant Washing:		
a) three circuit pilot plant wash of 6.7 metric tons coal	6500.00	
b) Drying, homogenizing of heavy media clean coal and filte cake, extracting representative sample for analysis and packaging in 26 poly-lined barrels, stenciling ready for shipment @ 12.50/barrel	325.00	
c) Extra Analysts:		
1) 13 fsi @ 4.00 each		\$ 52.00

Please Remit To:

505 - 50th Avenue S.E.,
P.O. Box 5488, Station "A",
Calgary, Alberta T2H 1X9
Telephone (403) 253.8273

Birtley Coal & Minerals Testing

A DIVISION OF GREAT WEST STEEL INDUSTRIES LTD.



Page 3 of 3

INVOICE

Invoice No.	1316
Date	December 19, 1979
P.O. No.	
Job No.	BC-119

Teck Mining Group Limited
 1199 West Hastings Street
 Vancouver, B.C.
 V6E 2K5

Attention: Hr. J. Wright

2) Clean Coal analysis for ADM, prox, S(2), fsi, dilatation, fluidity(2) \$246.00

298.00

d) Shipping & Misc.

1) 26 liners & gaskets @ 2.30 / set

59.80

2) Stencil

7.50

3) Shipping of 16 barrels clean coal to Japan

 - frontend loader 1 hour @ 30.00/hour 30.00

 - 1 manhour @ 17.50/hour 17.50

47.50

4) Freight charges' Millar & Brown #105-977684

 251.16 + 10%

276.28

7514.08

SUB - TOTAL

10845,58

Storage Charges:

1. 117 barrels clean coal for November and December/ 1979 @ 2.00/bbl/month

468.00

2. Lab pulps for November & December/1979 @ 50.00/month

100.00

568.00

TOTAL

11413.58

I will take care of

123
 117-79-@1000.

Please Remit To:

505 - 50th Avenue S.E.,
 P.O. Box 5488, Station "A",
 Calgary, Alberta T2H 1X9
 Telephone (403) 253-8273

Birtley Coal & Minerals Testing

A DIVISION OF GREAT WEST STEEL INDUSTRIES LTD.



INVOICE

ROGER

Invoice No. 1282
Date October '31, 1979
P.O. No.
Job No. BC-119

Teck Mining Group Ltd.
1199 West Hastings Street
Vancouver, B.C.
V6E 2K5

Attention: Mr. J. Wright

1. Storage of 117 barrels clean coal for October, 1979 @ \$2.00/bbl/month.	234.00
2. Storage of lab. pulps for October, 1979.	<u>50.00</u>
TOTAL	<u><u>\$284.00</u></u>

(Paul Bullmore)

TERMS: Net 30 days.

*CO123.
117-63-01000.*

Please Remit To:

505 - 50th Avenue S.E.,
P.O. Box 5488, Station "A".
Calgary, Alberta T2H 1X9
Telephone (403) 253-8273

Birtley Coal & Minerals Testing

A DIVISION OF GREAT WEST STEEL INDUSTRIES LTD.

OCT 4 1979



*To Dick
Droz*

INVOICE

Invoice No. 1254
Date September 28, 1979
P.O. No.
Job No. BC-119

Teck Mining Group Ltd.
1199 West Hastings Street
Vancouver, B.C.
V6E 2K5

Attention: Mr. J. Wright

1. Storage of 117 barrels clean coal for September, 1979 @ \$2.00/bbl/month.

\$234.00

2. Storage of lab. pulps for August, 1979.

50.00

T O T A L

\$284.00

TERMS: net 30 days.

*ap
Bullman*

Please Remit To:

505 - 50th Avenue S.E.,
P.O. Box 5488, Station "A"
Calgary, Alberta T2H 1X9
Telephone (403) 2534273

Birtley Coal. & Minerals Testing

A DIVISION OF GREAT WEST STEEL INDUSTRIES LTD.



*TO
D.R. D. 57-61
will show money
what can I return?
for use as i
paid A credit*

INVOICE

Invoice No. 1243
Date August 31, 1979
P.O. No.
Job No. BC-119

Teck Mining Group Ltd.
1199 West Hastings Street
Vancouver, B.C.
V6E 2K5

Attention: Mr. J. Wright

1. Storage of 117 barrels clean coal for August, 1979 @ \$2.00/bbl/month.	\$234.00
2. Storage of lab. pulps for August, 1979.	<u>50.00</u>
TOTAL	<u>\$234.00</u>

INVOICE APPROVALS		PROV. TAX	
PURCH		LIABILITY	
SITE		ACCUE	
ENG			

*David
Bullman*

TERMS: Net 30 days.

Please Remit To:
505 - 50th Avenue S.E.,
P.O. Box 5488, Station "A",
Calgary, Alberta T2H 1X9
Telephone (403) 2538273

Birtley Coal & Minerals Testing

A DIVISION OF GREAT WEST STEEL INDUSTRIES LTD

AUG 7 1979



John
→ should we do something about this storage cost! YES what?

INVOICE

Invoice No. 1226
Date July 31, 1979
P.O. No.
Job No. BC-119

To Acc't

Teck Mining Group Ltd.
1199 West Hastings Street
Vancouver, B.C.
V6E 2K5

Attention: Mr. J. Wright

- 1. Storage of 117 barrels clean coal for July, 1979 @ 2.00/bbl/month.
- 2. Storage of lab. pulps for July, 1979.

\$234.00

50.00

TOTAL THIS INVOICE

\$284.00

TERMS: Net 30 days.

*00123
932-01-01232
(Bullmore)*

Use Remit To:

505 - 50th Avenue S.E.,
P.O. Box 5488, Station "A".
Calgary, Alberta T2H 1X9
Telephone (403) 253.8273

JUL 6 1979

Birtley Coal & Minerals Testing

A DIVISION OF GREAT WEST STEEL INDUSTRIES LTD.



Dick Droz

INVOICE

Invoice No. 1212
 Date June 29, 1979
 P.O. No.
 Job No. BC-119

Teck Mining Group Ltd.
 1199 West Hastings Street
 Vancouver, B.C.
 V6E 2K5

Attention: Mr. J. Wright

1. Storage of 117 barrels clean coal for June, 1979 @ 2.00/bbl/month.
2. Storage of lab. pulps for June, 1979.

234.00

50.00

TOTAL

\$284.00

TERMS: Net 30 days.

Droz
Bull
Done

Please Remit To:

505 - 50th Avenue S.E.,
 P.O. Box 5488, Station "A".
 Calgary, Alberta T2H 1X9
 Telephone (403) 253-8273

Birtley Coal & Minerals Testing

A DIVISION OF GREAT WEST STEEL INDUSTRIES LTD.

JUN 4 1979



CRT

I N V O I C E

Invoice No. 1191
Date May 31, 1979
P.O. No.
Job No. BC-119

Teck Mining Group Ltd.
1199 West Hastings Street
Vancouver, B. C.
V6E 2K5

Attention: Mr. John Wright

1. Storage of clean coals for May, 1979: 117 barrels @ \$2.00/bbl/month.	\$234.00
2. Storage of lab. pulps for May, 1979.	<u>50.00</u>
TOTAL	<u>\$284.00</u>

TERMS: Net 30 days.

*01123
Birtley*

*Birtley
Moose*

Please Remit To:

505, 50th Avenue S.E.,
P.O. Box 5488, Station "A",
Calgary, Alberta T2H 1X9
Telephone (403) 253.8273

Birtley Coal & Minerals Testing

A DIVISION OF GREAT WEST STEEL INDUSTRIES LTD.



TO R.D.

INVOICE

Invoice No. 1176
Date April 30, 1979
P.O. No.
Job No. BC-119

Teck Mining Group Ltd.
1199 West Hastings Street
Vancouver, B.C.
V6E 2K5

Attention: Mr. John Wright

1. Storage charges re clean coal for April, 1979 - 117 barrels @ \$2.00/bbl/month.	\$ 234.00	
Storage of lab. pulps for April, 1979.	<u>50.00</u>	\$284.00
2. a) Recovering from storage, homogenizing and sampling of "A" seam, West Fork and "A" seam, South Fork samples: 3 hours @ \$15.00/hr.	45.00	
b) 2 analysis for FSI @ \$4.00 each.	<u>8.00</u>	<u>.53.00</u>
TOTAL		<u>\$337.00</u>

(Signature)
(Buckmaster)

TERMS: Net 30 days.

Use Remit To:

505 - 50th Avenue S.E.,
P.O. Box 5488, Station "A",
Calgary, Alberta T2H 1X9
Telephone (403) 253.8273

C.P.D.

Birtley Coal & Minerals Testing

A DIVISION OF GREAT WEST STEEL INDUSTRIES LTD.



INVOICE

Invoice No. 1154
 Date March 30, 1979
 P.O. No.
 Job No. BC-119

Teck Mining Group Ltd.
 1199 West Hastings Street
 Vancouver, B.C.
 V6E 2K5

Attention: Mr. John Wright

1. Storage charges re clean coal for March, 1979: 117 barrels @ \$2.00/bbl/month.	234.00	
2. Storage charges for Lab. pulps for March, 1979.	<u>50.00</u>	
TOTAL		<u>\$284.00</u>

00123

(Bull...)

TERMS ; Net 30 days.

Please Remit To:
 505 - 50th Avenue S.E.,
 P.O. Box 5488, Station "A",
 Calgary, Alberta T2H 1X9
 Telephone (403) 253.8273

Birtley Coal & Minerals Testing

A DIVISION OF GREAT WEST STEEL INDUSTRIES LTD.



0

INVOICE

Invoice No. 1143
 Date February 28, 1979
 P.O. No.
 Job No. BC-119

Teck Mining Group Ltd.
 1199 West Hastings Street
 Vancouver, B.C.
 V6E 2K5

Attention: Mr. J. Wright

1	Report dated February 6, 1979:		
	a) Make up of composite - 1 hour @ \$15.00/hr.	\$15.00	
	b) Analysis for PROX., S. FSI @ \$24.15/set.	<u>24.15</u>	\$ 39.15
2.	Storage of clean coal for February, 1979 - 117 barrels @ \$2.00/bbl/month.		234.00
3.	Storage charges for lab, pulps for February, 1979.		<u>50.00</u>
	TOTAL		<u>\$323.15</u>

TERMS: Net 30 days.

00123
22/01/1000

Wright
Bullman

Please Remit To:

50S . 50th Avenue S.E.
 P.O. Box 5488, Station "A".
 Calgary, Alberta T2H 1X9
 Telephone (403) 253-8273

Birtley Coal & Minerals Testing

A DIVISION OF GREAT WEST STEEL INDUSTRIES LTD.



INVOICE

Invoice No. 0127
 Date January 31, 1979
 P.O. No.
 Job No. B C - 1 1 9

Teck Mining Group Ltd.
 1199 West Hastings Street
 Vancouver, B.C.
 V6E 2K5

Attention: Mr. John Wright

1. Storage charges for January, 1979 for 117 barrels clean coal @ \$2.00/bbl/month.		\$234.00
2. Storage charges for lab. pulps for January, 1979.		50.00
3. Report dated January 12, 1979:		
a) 2 float-sink analyses @ \$13.00 each.	26.00	
b) 7 ash, S. @ \$11.00/set.	77.00	
c) 5 FSI @ \$6.00 each.	<u>30.00</u>	<u>133.00</u>
	TOTAL	<u><u>\$417.00</u></u>

TERMS: Net 30 days.

Please Remit To:

505. 50th Avenue S.E.
 P.O. Box 5488. Station "A",
 Calgary, Alberta T2H 1X9
 Telephone (403) 253-8273

0127
922610700

Bullmoose

STAGE I REPORT

1979 EXPENSES

1. Consultant - IEC \$1,946.40

2. Teck Personnel:

B.H. Connolly
J.S. Thomson
J.H. Wright
J. Robertson
S. England

\$4,566.17

3. Secretarial Support

\$1,091.96

4. Expenses - J. Robertson

\$400.00

5. Paper & Reproduction \$268
Map Reproduction \$1474

\$1,742.00

\$9,746.53

COMPANY: .Teck Mining Group Limited

INTER-OFFICE LETTER DATE: Feb. 18 1980

COPIES TO:

TO: Sheryl England

FROM: Chris Funk

WHEN FEASIBLE, CONFINE LETTER
TO ONE SUBJECT

RE: Teck personnel working on Stage 1 Report-BULLMOOSE PROPERTY

The total wages in dollars for:

Brian Connolly

J. S. Thomson

John Wright

Jim Robertson

Sheryl England

TOTAL: \$ 4566.17

FREELANCE INVOICE

COMPANY NAME TECK MINING GROUP LIMITED

CONTACT LIZ CARNEY

ADDRESS 1199 W. HASTINGS ST., VANCOUVER

TELEPHONE 681-1392

<u>B A T E</u>	<u>B A Y</u>	<u>A</u>	<u>M</u>	<u>P.M.</u>	<u>DAILY TOTAL</u>
	MONDAY				
	TUESDAY				
	WEDNESDAY				
Oct. 11/79	THURSDAY	8:30 - 12:30		1:00 - 4:30	7½ hrs
Oct. 12/79	FRI DAY		8:30 - 3:30		7 hrs (no lunch)
				<u>TOTAL HOURS</u>	<u>14½</u>
<u>TOTAL HOURS</u>	<u>14½</u>	@	6.50	/hr.	<u>TOTAL INVOICE</u> <u>94.25</u>

NAME OF FREELANCER Bonda L. Bitzer

SIGNATURE OF FREELANCER Bonda L. Bitzer, B A T Oct. 12/79

CORPORATE AUTHORIZED SIGNATURE L. Carney CHARGE Lang. admin

FREELANCE AGENTS: Livore CHCESMAN PHONE 681-7221

18599

DATE	INVOICE NO.	REFERENCE	GROSS AMOUNT	DEDUCTIONS	NET AMOUNT
Sept. 10 1979		Administrative Project #01000 Sept. 7:	\$273.00		\$273.00

REV. 1/73.

ACH BEFORE DEPOSITING



TECK MINING GROUP LIMITED
VANCOUVER, B.C.

5684

PAY TO THE ORDER OF

Judy Hayass

DATE

September 10, 1979

CHEQUE NO.

5684

CHEQUE AMOUNT

\$ 273.00*****

*****273 DOLLARS***00 CENTS

TECK MINING GROUP LIMITED

BANK OF MONTREAL
FIRST BANK TOWER
595 BARRARD STREET
VANCOUVER, B.C. V7X 1L7

GENERAL ACCOUNT

NOT NEGOTIABLE

TECK MINING GROUP LTD CONTACT LIZ GARNEY
1199 W. HASTINGS ST TELEPHONE 681-1392
VANCOUVER B.C.

DATE 1979	DAY	A.M.	P.M.	DAILY TOTAL
	MONDAY	T 0	TO	HRS.
	TUESDAY	TO	TO	HRS.
SEP 5	WEDNESDAY	7:30 TO 12:00	2:00 TO 3:30	7 HRS.
6	THURSDAY	11:30 TO 12:00	TO 3:30	2 HRS.
7	F R I D A Y	7:30 TO 12:00	1:00 TO 3:30	7 HRS.
	SATURDAY	TO	TO	HRS.
	SUNDAY	TO	TO	HRS.
TOTAL HOURS				

TOTAL HOURS 21 @ \$6.50 PER HOUR TOTAL INVOICE \$ 136.50

NAME OF FREELANCER JUDY HAYNES
SIGNATURE OF FREELANCER [Signature] DATE Sept 7/79
CORPORATE AUTHORIZED SIGNATURE [Signature]
FREELANCE AGENTS: LENORE CHEESMAN PERSONNEL LTD. 681-7221
PROJECT # 01000 - BULLMOOSE

BANK OF MONTREAL
FIRST BANK TOWER
595 BARRARD STREET
VANCOUVER, B.C. V7X 1L7

GENERAL
ACCOUNT

NOT NEGOTIABLE

FREELANCE INVOICE

0.00 *
 136.50 +
 136.50 +
 273.00 *

YUKON MINING GROUP LTD CONTACT 612 CARNEY
199 W. HASTINGS ST TELEPHONE: 681-1392
VANCOUVER BC.

DAY	A.M.	P.M.	DAILY TOT-AL.
1979			
MONDAY	TO	TO	HRS.
TUESDAY	8.30 TO 1.00	2.00 TO 4.30	7 HRS.
WEDNESDAY	7.30 TO 1.00	2.00 TO 3.30	7 HRS.
THURSDAY	7.30 TO 12.00	1.00 TO 3.30	7 HRS.
FRIDAY	TO	TO	HRS.
SATURDAY	TO	TO	HRS.
SUNDAY	TO	TO	HRS.
TOTAL HOURS			

TOTAL HOURS 31 @ \$ 6.50 PER HOUR TOTAL INVOICE \$ 136.50 J

NAM OF FREELANCER JUDY HAYNES
 SIGNATURE OF FREELANCER J. Haynes DATE Aug 30/79
 CORPORATE AUTHORIZED SIGNATURE Shirley Longland
 FREELANCE AGENTS: LENORE CHEESMAN PERSONNEL LTD. 681-7221

PROJECT # 01000 - BULLMOOSE

BANK OF MONTREAL
 FIRST BANK TOWER
 140 BARRARD STREET
 VANCOUVER, B.C. V7X 1L7

GENERAL ACCOUNT

NOT NEGOTIATED

SEP 9

DOCKET APPROVED

PAYMENT APPROVED

For Temporary services rendered to Teck Corporation.

June 19 8:15 - 9:45 p. m. 1½ hours:

1½ hours at \$6.50 per hour \$9.75 total invoice.

Mona Gibson,
7620 Blundell Rd.,
Richmond, B. C.,
V6Y 1J4

Signature *Mona Gibson*

Authorizing Signature *David England - Charge (Business)*



PAY TO THE ORDER OF

Mona Gibson

DATE

June 20 1979

CHEQUE NO.

5095

CHEQUE AMOUNT

\$ 9.75*****

\$ *****9 DOLLARS **75 CENTS

TECK MINING GROUP LIMITED

BANK OF MONTREAL
FIRST BANK TOWER
595 BARRARD STREET
VANCOUVER, B.C. V7X 1L7

G E N E R A L
ACCOUNT

NOT NEGOTIABLE

Invoice for services rendered Teck Corporation,

June 18th ^{a.m.} 9:00 - 12:00 ^{p.m.} 1:00 - 4:30 6½ hours total

6½ hours @ \$6.50 per hour

TOTAL INVOICE \$42.25

Name of Freelance Mona Gibson Date June 18th, 1979

Signature of Freelance *Mona Gibson*

Authorized Signature *Sheyl England*

*Chg. Admin. - Engineer
K. Carlson*

PAY TO THE ORDER OF

Mona Gibson

DATE

June 18, 1979

CHEQUE NO.

5090

CHEQUE AMOUNT

\$ ****42.25****

\$ *****42** DOLLARS**25*CENTS

TECK MINING GROUP LIMITED

BANK OF MONTREAL
FIRST BANK TOWER
505 BARRARD STREET
VANCOUVER, B.C. V7X 1L7

GENERAL
ACCOUNT

NOT NEGOTIABLE

FREELANCE INVOICE

MG

COMPANY NAME TECK CORPORATION

CONTACT Sheryl Englund

ADDRESS _____

TELEPHONE _____

DATE	DAY	A. M.	P. M.	DAILY TOTAL
June 11	MONDAY	8:30 TO 12:00	1:00 TO 4:30	7 HRS.
June 12	TUESDAY	9:00 TO 12:00	1:00 TO 4:30	6½ HRS.
June 13	WEDNESDAY	8:30 TO 12:00	12:30 TO 4:00	7 HRS.
June 14	THURSDAY	8:30 TO 12:00	1:00 TO 4:30	7 HRS.
June 15	FRIDAY	8:30 TO 12:00	1:00 TO 4:30	7 HRS.
	SATURDAY	TO	TO	HRS.
	SUNDAY	1-0	0	HRS.
TOTAL HOURS				<u>34½</u>

TOTAL HOURS 34½ @ \$ 6.50 PER HOUR

TOTAL INVOICE \$ 224.25 ✓

NAME OF FREELANCER Mona Gibson

SIGNATURE OF FREELANCER *Mona Gibson*

DATE June 15/79.

CORPORATE AUTHORIZED SIGNATURE *Sheryl Englund*

L. Carney, Ch. Ad. Highton

FREELANCE AGENTS: LENORE CHEESMAN PERSONNEL LTD.

681-7221

TECK MINING GROUP LIMITED

BANK OF MONTREAL
FIRST BANK TOWER
595 BARRARD STREET
VANCOUVER, B.C. V7X 1L7

GENERAL
ACCOUNT

NOT NEGOTIABLE

For temporary services rendered **Teck Corporation**,
1199 West Hastings street, Vancouver, B.C. V6E 2K5.

<u>Date</u>	<u>A.M.</u>	<u>P.M.</u>	<u>HOURS</u>
May 22, 1979.	8:30 to 12:00	1:00 to 4:00	6½
May 23, 1979.	8:30 to 12:00	1:00 to 4:30	7
May 24, 1979.	9:00 to 12:00	1:00 to 4:30	6½
May 25, 1979.	8:30 to 12:00	1:00 to 4:30	7
	TOTAL	HOURS	<u>27</u> ✓

Hours 27 @ \$6.50 per hour

TOTAL INVOICE \$175.50 ✓

Name of Freelance' Mona Gibson

Date May 25, 1979.

Signature of Freelance

Mona Gibson

Corporate Authorized Signature

Sheryl England

A. Cairney aty. Admin
replacing Sue Kneckerbocker - Engineering



International Environmental Consultants Ltd.

SEP 11 1979

6600 Cedarbridge Way
Suite 202
Richmond/British Columbia
V6X 2A7
(604) 273-0151

Mr. Jim. Thompson, 2. Eng.

Teck Corp
1199 West Hastings Street
Vancouver, B. C.

Date 7 Sept. 1979
Invoice no. V79-1174
Contract no. 3028.1
Purchase Order no.

Invoice for Professional Services

net 30 da)

Professional services for the period ending 31 August 1979 for completion of Stage I - Assessment of Bullmoose Coal Property:

PROFESSIONAL TIME: \$1,721.40

DISBURSEMENTS: - NIL

TOTAL \$1,721.40

APPROVED

David Jones
Dr. D.J. Jones

00209
932-01 01232
Dr Bullmoose
Appt for payment
[Signature]

AUG - 2 1979



International Environmental Consultants Ltd.

5600 Cedarbridge Way
Suite 202
Richmond/British Columbia
V6X 2A7
(604) 273-0151

6-40-10

Mr. Jim Thompson, P. Eng.

Date 1 August 1979

TMG
~~Teck Corp~~

Invoice no. V79-1154

Contract no. 3028.1

1199 West Hastings Street
Vancouver, B.C.

Purchase Order no.

Invoice for Professional Services

net 30 days

Professional services for the period ending 27 July 1979 for completion of Stage I - Assessment of Bullmoose Coal Property:

PROFESSIONAL TIME: \$225.00

DISBURSEMENTS: NIL

TOTAL \$225.00

APPROVED:

[Signature]
Dr. D.J. Jones

933-01-01000
JOB 1000

[Signature]
Dr. Bullmoose

TECK EXPLORATIONS

BULLMOOSE PROJECT

1979 EXPENSES

1.	Diamond drilling	\$17,021.69
2.	Transportation	7,815.37
3.	Expenses - B. McClymont	2,175.32
4.	Field Camp Costs	
	Food	1,319.28
	Accommodation	110.88
	Fuel	1,868.21
	Supplies (incl. freight)	1,550.86
	Transportation	3,186.66
		<hr/>
		\$35,048.27

PROJECT - 01000 - BULLMOOSE PROJ SUKUNKAR I V BC				C O S T		MARK-UP	REVENUE	J 6 . P .
SUB ACCT	DESCRIPTION	SUPPL DATE	REFERENCE	%	CURR ENT	MONTH		
02	GEOLOGY SALARIES	00000 12/31/79	J12/021	2,064.46	125.00	2,580.57	4,645.03	
02	TOTAL			2,064.46 *		2,580.57 *	4,645.03 *	5 5 . 5 5
19	ENGR-SERV	10390 12/12/79		1,930.00	125.00	2,437.50	4,387.50	
19	TOTAL			1,930.00 *		2,437.50 *	4,387.50 *	35.55
36	FIELD SERV NOV 15-30, 1979	10311 12/03/79		990.00	10.00	90.00	990.00	
36	TIMER E P UNIT#NOV12-26/79	10410 12/13/79		5,167.70	10.00	516.70	5,683.70	
36	TOTAL			5,057.00 *		606.70 *	6,673.70 *	9.00
51	TRUCK RENTAL#13717-VISA OCT/79	10335 10/25/79		532.73	10	.00	53.27	586.00
5	GAS-CHEVYND MOTOR-OCT-NOV/79	10333 11/30/79		924.82	10.00		92.48	1,017.30
5	TRUCK RENTAL#13940-VISA OCT/79	10335 10/25/79		132.95	13.00		13.29	146.24
5	TRUCK RENTAL#13719-VISA NOV/79	10335 11/09/79		1,047.52	10	.00	104.75	1,152.27
51	HADI INGC O A I T O ALTA-DONKREIY	10411 12/09/79		1,136.10	10.30		136.00	1,496.90
51	HAUL COAL TO BULLMOOSE-NOV/79	10412 11/19/79		270.00	10	.00	26.00	220.00
52	3/4 TRUCK RENTAL-NOV/79-VISA	10335 11/20/79	TX1943	548.77	10	.00	54.87	603.55
51	CON FREIGHTWAYS-CORE/COVERS	10339 07/30/79		19.40	1"	.00	1.94	21.34
51	TOTAL			5,046.33 *		504.61 *	5,550.94 *	9.09
52	MISC/SUPPLIES-TANSHALL HOLD/79	10393 11/25/79		29.5	10	.00	2.96	32.64
52	MISCY SICR#1611023125 NOV/79	10413 11/05/79		459.63	10	.00	45.96	505.59
52	CHEVYND MISC/SUPPLY SEP/79	10413 09/25/79		21.37	10	.00	2.13	23.50
52	FLARE/BITS-DEAKIN-JAN/80	10330 01/17/80	TX4096	65.46	10	.00	6.54	71.10
52	TOTAL			577.14 *		57.69 *	634.83 *	9.08
53	9 C TEL 69064 JAN/80	10341 01/02/80		.19	10	.00	.01	.19
53	TOTAL			.19 *		.01 *	.19 *	5.26
05	DRAFTING SUPPLIES-VANCAL DEC79	10350 12/14/79	030037	7.02	10.00	.70	7.72	
05	TOTAL			7.02 *		.70 *	7.72 *	9.06
PROJECT TOTAL				15,711.77 *		6,137.76 *	21,899.53 *	

PROJECT - 01000 - BULLMOOSE PROJ SUKUNKAR I V S C

----- CURRENT MONTH ----->

SUB ACCT	DESCRIPTION	SUPL	DATE	REFERENCE	C O S T	%	MARK-UP	REVENUE	SG.P.
02	GEOLGY SALARIES	00000	11/30/79	JV 11/025	17031.25	125.00	17289.06	27320.31	
02	TOTAL				1,031.25 *		X8289.06	2,320.31	55.59
05	DIAMOND DRILLING SALARIES	00000	11/30/79	JV 111025	123.00	125.00	156.25	281.25	
05	TOTAL				123.00 *		156.25 *	281.25	55.55
35	FIELD SERV NOV 1-15/79	10012	11/15/79		900.00	10.00	90.00	990.00	
35	FIELD SERV NOV 1-10 & 13-15/79	10034	11/05/79	PO3016	650.00	10.00	65.00	715.00	
35					195.08	10.00	19.50	214.58	
34	YK-20 CLUTCH DRUM	10334	11/05/79	TX3033	102.34	10.00	10.23	112.57	
35	TOTAL				1,647.42 *		184.73	2,032.15	9.09
53	D. NIKIRK EXP. ACCT. NOV/79	00000	11/30/79	JV 11/016	111.00	13.00	11.10	122.10	
53	GROCERIES	10390	11/29/79		277.11	10.00	27.71	304.82	
53	TOTAL				388.11 *		38.81 *	426.92 *	9.89
51	D. NIKIRK EXP. A C C T . NOV/79	00003	11/30/79	JV 11/016	61.74	10.00	6.17	67.91	
51	HEAVY RENTALS	10347	11/30/79		32.10	10.00	63.20	695.20	
51	SHIPPING CHARGES	10334	10/31/79		24.80	10.00	2.38	31.66	
51	HAUL COAL SAMPLES	10397	11/24/79		440.00	10.00	44.50	484.00	
51	TOTAL				1,162.54 *		116.25	1,278.79 *	9.09
52	ESSO HEATING OIL	10104	11/07/79		31.73	10.00	3.17	34.90	
52	ESSO HEATING OIL	10104	11/07/79		31.73	10.00	3.17	34.90	
52	IMPERIAL OIL	10104	11/20/79		77.02	10.00	7.75	84.72	
52	IMPERIAL OIL	10104	11/23/79		72.08	10.00	7.20	79.28	
52	FIELD EXPLORATION EXPENSES	10393	11/01/79		95.25	10.00	4.52	49.77	
52	IMPERIAL OIL	10104	11/24/79		37.17	10.00	5.71	40.88	
52	FIELD EXPLORATION EXPENSES	10397	11/05/79		12.03	10.00	1.20	13.23	
52	HEATING OIL & STEEL DRUM	10105	11/16/79		144.14	10.00	14.41	158.55	
52	CR 3/4" BLK PIPE	10322	10/15/79		19.31	10.00	1.93	21.79	
52	LUMBER	10343	10/25/79		11.43	10.00	1.14	12.52	
52	HEATING OIL	10105	11/16/79		31.73	10.00	3.17	34.90	
52	TOTAL				474.55 *		47.41 *	521.96 *	9.09
53	THE MOB. SR173 DAWSON CR. NOV.79	11341	11/01/79		7.15	10.00	.71	7.89	
53	TOTAL				7.15 *		.71 *	7.69 *	8.99

PROJECT - 01000 - BULLMOOSE PROJ SUKUNKA RIV SC

CURR ENT MONTH

SUS ACCT	DESCRIPTION	SUPPL	DATE	REFERENCE	c o s . T	a	MARK-UP	REVENUE	% P.
03	HO PAYROLL	00000	10/31/79	JV 10/024	1-800.00	125.00	2,250.00	4-050.00	
03	TOTAL				1,800.00 *		21250.00 *	4,050.00 *	55.55
36	ER:VANCOUVER-CHEWYND	1b365	10/23/79		12.10	10.00	1.21	13.31	
36	TRAN OF CORE BX	10336	09/26/79		7.90	10.00	.79	9.69	
35	12 AXT CORE RX					10.00	5.17	56.96	
36	24 AXT CORE BOXES	10331	09/28/79		151.79	10.00	10.35	113.93	
36	BFS ENG REPAIRED	10334	10/01/79		5.56	10.00	.55	6.11	
36	CV15 SHAFT VK-203 KEY	10334	09/25/79		96.70	10.00	4.67	51.37	
36	B&S ENG REPAIRED	10334	10/01/79		144.00	10.00	14.40	153.40	
36	CR ON INV 59-9-79 SEP 12 1979	10339	10/10/79		186.70	10.00	18.67	205.37	
36	CASING STEEL DRILL ROD W/COUPL	10334	10/12/79		247.60	10.00	24.76	272.36	
36	FILD SE? 12 DAYS	10311	10/29/79		720.00	10.00	72.00	792.00	
36	FILD SERV 12 DAYS	10312	10/29/79		600.00	10.00	60.00	660.00	
36	DRILL EXPMT	10339	10/15/79		333.78	10.00	35.07	385.95	
36	DRILL SUPPLIES	10322	10/09/79		60.12	10.00	6.01	66.13	
36	DRILLING SUPPLIES	10322	10/17/79		15.04	10.00	1.50	16.54	
36	DRILLING SUPPLIES	13322	10/25/79		35.28	10.00	3.52	39.80	
36	16 AXT CORE BXS W/COVERS	10331	10/26/79		94.85	10.00	9.48	104.33	
36	D HYKIKK	00000	10/31/79	JV 10,030	700.00	10.00	73.30	853.00	
36	K HYKIKK	00000	10/31/79	JV 10,030	353.00	10.00	35.30	388.30	
36	L HUTSCH	00003	10/31/79	JV 10,030	250.00	10.00	25.03	275.00	
36	TOTAL				3,633.60 *		368.81 *	4,057.41 *	9.08
50	GROCERIES	10338	10/29/79		553.12	10.00	56.31	619.43	
50	CAMP SUPPLIES	10338	09/28/79		146.09	10.00	14.60	160.69	
50	CAMP SUPPLIES	10337	10/31/79		306.77	10.00	30.87	337.64	
50	ROOM AUG 17, 18 & 19	10337	10/31/79		100.80	10.00	10.08	110.88	
50	TOTAL				1,116.78 *		111.86 *	1,230.64 *	9.08
51	GASOLINE:OCT,1979	10333	10/31/79		514.02	10.00	51.40	565.42	
51	TRUCK RENTALS	10335	10/31/79		1,180.51	10.00	119.05	1,298.56	
51	PICK-UP CHARGES	10371	10/31/79		31.40	10.00	3.14	34.54	
51	GAS CAR HTN & PROPANE	10333	09/30/79		169.45	10.00	16.94	186.39	
51	TRUCK RENT CHEWYND	10335	09/11/79		113.20	10.00	11.32	124.52	
51	TRUCK RENT CHEWYND	10335	09/14/79		94.43	10.00	9.44	103.97	
51	1 SET TIRE CHAINS	10323	10/25/79		97.74	10.00	9.77	107.51	
51	RENT 4VH DRIVE TRUCK	10347	09/30/79		632.00	10.00	63.20	695.20	
51	FR VAN-CHEWYND:PUMP ENGINE	10339	09/21/79		12.10	10.00	1.21	13.31	
51	TOTAL				2,844.95 *		284.47 *	3,129.32 *	9.09
52	L PL KUTWELL 45	10105	10/24/79		14.56	10.00	1.45	16.01	

PROJECT - 01000 - SULLHOUSE PROJ SUXUNKA RIVER

<----- CURRENT MONTH ----->

SUB ACCT	DESCRIPTION	SUPL	DATE	REFERENCE	C O S T	%	MARK-UP	REVENUE	SG.P.
5 2 2	PL KUTVELL 4 5	10104	09/11/79		27.07	10.00	2.78	35.65	
5 2	ESSOLUBE HDX+30	10105	10/03/79		19.97	10.00	1.99	21.96	
5 2	ESSO HEATING OIL	10105	10/03/79		31.73	10.00	3.17	34.90	
5 2	ESSO DIESEL FUEL	10105	10/09/79		36.66	10.00	3.66	\$3.311	
5 2	PLYWOOD STAPLERS 2X2X8 F I R	10340	08/21/79		29.93	10.00	2.99	32.92	
5 2	PIPES, CLAMPS, ROPE, COUPLNG, ETC	10322	09/26/79		300.04	10.00	30.00	330.04	
5 2	KITCHEN UTENSILS E T C	10337	09/30/79		145.35	10.00	14.58	160.43	
5 7	FIELD SUPPLIES	10356	10/11/79	TX 1965	40.31	10.00	4.03	44.34	
5 2	TOTAL				646.94 *		69.65 *	711.59	
5 3	CANADA RESC MOBILE 50173	10341	10/01/79						
5 3	TOTAL				7.15 *		.71 *		3.99
5 7	MISCL CAMP EQPMT	10322	09/11/79		50.89	10.00	5.08	55.97	
5 7	TOTAL				50.89 *		5.08 *	55.91 *	9.07
5 8	CARGILL GRAINC O LTD	10366	10/17/79		4.23	10.00	.42	4.65	
5 8	TOTAL				4.23 *		.42 *	4.65 *	9.03
PROJECT TOTAL					10,161.47 *		3,086.00 *	13,247.47 *	23.29

JOURNAL

MONTH	GROUP	ITEM	SUBGROUP	SUBITEM	REMARKS	INCOME	COSTS	BALANCE	MARKUP	CARD
SEP	21	LIVE			HIP - EXPENSE ACCOUNT		273.40			1443
SEP	21	TRAN			REDHAWK RENTALS LTD.		301.60			1446
SEP	21	TRAN			INCENTIVE TRAVEL		607.06			1447
SEP	21	TRAN			KODIAK RESOURCES LTD.		128.56			1448
SEP	21	MIS			SUPERIOR REPRODUCTIONS + PRINTING		13.00			1449
SEP	21	THAN			W. MEYER - EXPENSE ACCOUNT		382.67			1450
SEP	21	LIVE			W. MEYER - EXPENSE ACCOUNT		245.13			1451
SEP	21	TELE			TMG - B.C. TELEPHONE CO.		-314.59			1452
SEP	21	THAN			TMG - C.P. AIR		478.00			1453
SEP	21	TELE			TMG - CP/CN TELECOMMUNICATIONS		6.00			1454
SEP	21	DRF			TMG - PAYROLL		260.52			1455
SEP	21	CL-AL			TMG - PAYROLL		1916.67			1456
SEP	21	LIVE			AIY - EXPENSES		77.55			1457
					AIB - EXPENSES		293.19			1458
SEP	22	TELE			TMG - H.C. TELEPHONE CO.		19.91			1459
SEP	23	TKAN			W. MEYER - EXPENSE ACCOUNT		36.90			1460
SEP	23	LIVE			W. MEYER - EXPENSE ACCOUNT		139.37			1461
SEP	23	TELE			TMG - B.C. TELEPHONE CO.		1a.79			1462
SEP	23	FILO			FHEORICK GOERTZ LTD.		60.08			1463
SEP	23	MIS			W. MEYER - EXPENSE ACCOUNT		44.27			1464
SEP	23	ADMN			TMG - PAYROLL		1916.66			1465
SEP	23	OVH			C.P. AIR		1.6	0 0		1466
SEP	26	LAND			TMG - PAYROLL		2504.69			1467
SEP	27	BOOK			TMG - PUBLICATIONS		1379.23			1468
SEP	27	BOOK			TMG - PAYROLL		2150.00			1469
SEP	1000	DDH			J.K. SMIT + SONS DIAMOND PRODUCTS		201.39			1470
SEP	1000	FILD			MSA CANADA		306.49			1471
SEP	1000	FILD			COASTAL PROPANE LTD.		45.48			1472
SEP	1000	FILD			NORTHERN METALIC SALES LTD.		3.07			1473
SEP	1000	TRAN			MEL'S U-DRIVE (1978) LTD.		73.44			1474
SEP	1000	ANAL			CYCLONE ENGINEERING SALES LTD.		667.00			1475
SEP	1000	LIVE			WESTGATE'S SUPERMARKET LTD.		234.34			1476
SEP	1000	TRAN			VISA TRUCK RENTALS "1976" LTD.		615.60			1477
SEP	1000	TRAN			CHETWYND MOTORS 1970 LTD.		120.11			1478
SEP	1000	AIR			MAPLE LEAF HELICOPTERS LTD.		269.16			1479
SEP	1000	TRAN			BIM - EXPENSES		216.60			1480
SEP	1000	LIVE			TMG - JST EXPENSE		72.80			1481
SEP	1000	TRAN			TMG - AIR CANADA		339.50			1482
X =	1000	TELE			TMG - B.C. TELEPHONE CO.					1483
SEP	1000	ANAL			TMG - AFTON MINES		3843.70			1484
SEP	1000	TRAN			TMG - C.P. AIR					1485
SEP	1000	ADMN			TMG - J. HAYNES		273.00			1486
SEP	1000	MIS			TMG - PETTY CASH					1487
SEP	1000	FILD			BIM - EXPENSE ACCOUNT		3.9	0 2		1488
SEP	1000	TRAN			BIM - EXPENSL ACCOUNT		111.10			1489
SEP	1000	LIVE			BIM - EXPENSE ACCOUNT		396.57			1490
SEP	1000	MIS			BIM - EXPENSE ACCOUNT		1.7	5 0		1491
SEP	1000	LIVE			BIM - EXPENSL ACCOUNT		370.65			1492
SEP	1000	TRAN			BIM - EXPENSE ACCOUNT		190.90			1493
SEP	1000	WAGE			TMG - ENGINEERS PAYROL		3601.97			1494
SEP	1000	ADMN			TMG - TECK-CORP		4785.00			1495
SEP	1000	LIVE			TMG - JST EXPENSES		65.00			1496
SEP	1000	ENG			TMG - WRIGHT ENGINEERING		718.40			1497
SEP	1000	LIVE			TMG - RD EXPENSES		2697.36			1498

#1000 only

MONTH	GROUP	ITEM	SUBGROUP	SUBITEM	REMARKS	INCOME	COSTS	BALANCE	MARKUP	CARD
AUG	21	FILD			BORDER BROKERAGE CO. INC.		33.11			1231
AUG	21	ASS			BONDAR-CLEGG + CO. LTD.		571.00			1232
AUG	21	FILD			UEAKIN EQUIPMENT LTD.		49.66			1233
AUG	21	LIVE			PETER FOLK * EXPENSES		71.67			1234
AUG	21	ASS			BONDAR-CLEGG + CO. LTD.		144.00			1235
AUG	21	ASS			LTD.		172.50			1236
AUG	21	EXP			BK WIKAS AIR EXPRESS		54.00			1237
AUG	21	GEO			PETER FOLK		1250.00			1238
AUG	21	SUP			TECK EXPLORATIONS LTD.	3894.82				1239
AUG	2 1	GEO			TECK EXPLORATIONS LTD.	2107.71				1240
AUG	21	MIS			TECK EXPLORATIONS LTD.	612.72				1241
AUG	21	LIVE			TECK EXPLORATIONS LTD.	275.61				1242
AUG	21	FILD			NEVILLE CROSBY INC.	2.29				1243
AUG	21	41S			WRB - EXPENSE ACCOUNT	14.35				1244
AUG	21	TRAN			WRB - EXPENSE ACCOUNT	13.50				1245
AUG	21	LIVE			WRB * EXPENSE ACCOUNT	126.95				1246
AUG	21	THAN			GL - EXPENSE ACCOUNT	12.00				1247
AUG	21	TRAN			AIB * EXPENSE ACCOUNT	33.65				1248
AUG	21	LIVE			AIB - EXPENSE ACCOUNT	204.80				1249
AUG	21	FILD			AIM * EXPENSE ACCOUNT	17.45				1250
AUG	21	THAN			P. FOLK * EXPENSE ACCOUNT	160.14				1251
AUG	21	LIVE			P. FOLK * EXPENSE ACCOUNT	73.95				1252
AUG	21	LIVE			W. MEYER * EXPENSE ACCOUNT	21.60				1253
AUG	21	THAN			W. SFILSBURY - EXPENSE ACCOUNT	62.50				1254
AUG	20	DRF			TMG * CAKTIGKAPH	249.52				1255
AUG	21	THAN			TMG * AIR CANADA	290.16				1256
AUG	21	TELE			TMG * B.C. TELEPHONE CO.	237.99				1257
AUG	21	ORF			TMG * PAYROLL	225.00		1051 DRF		1258
AUG	2 1	WAGE			TMG * L. BILHUMIN PAYROLL	1366.47				1259
AUG	22	TRAN			TMG * C-P.1 AIR	221.75				1260
AUG	25	OVH			KLONDIKE T N N	78.00				1261
AUG	25	LIVE			WRB * EXPENSE ACCOUNT	46.85				1262
AUG	23	TRAN			WRB * EXPENSE ACCOUNT	21.00				1263
AUG	23	ADMN			WRB * EXPENSE ACCOUNT	90.00				1264
AUG	23	TELE			TMG * B.C. TELEPHONE CO.	5.62				1265
AUG	23	LIVE			TMG * BILHUMIN EXPENSES	55.00				1266
AUG	25	WAGE			TMG * PAYROLL	914.78				1267
AUG	26	LAND			TMG * PAYROLL	2617.54				1268
AUG	27	BOOK			TMG * PAYROLL	1888.45				1269
AUG	27	BOOK				981.72				1270
AUG	1000	DDH			E.G. WHALLEY + SON LTD.	141.93				1271
AUG	1000	RUE			W. L. J. SCHILLING	500.00		1255 DDH		1272
PUG	1000	EXP			J. K. SMIT + SONS DIAMOND PRODUCTS	15.75				1273
AUG	1000	DDH			TECK EXPLORATIONS LTD.	735.00				1279
AUG	1000	GEO			TECK EXPLORATIONS LTD.	4050.00				1277
AUG	1000	AIR			NORTH CARIBOO FLYING SERVICE LTD.	105.00				1276
AUG	1000	TRAN			REDHAWK RENTALS LTD.	158.00				1277
AUG	1000	EV			YIPS RESTAURANT	161.00				1278
AUG	1000	ADIT			DOUG NYKIRK	540.00				1279
AUG	1000	TELE			TMG * B.C. TELEPHONE CO.	49.57				1280
AUG	1000	TRAN			TMG * C.P. AIR	340.00				1281
AUG	1000	ENV			TMG * I.E.C.	1721.40				1282
AUG	1000	WAGE			TMG * ENGINEERING-PAYROLL	1363.66				1283

#1000 only

MAY	23	ADVN	TMG - PAYROLL	1045.46	845
MAY	25	AUMN	WRB - EXPENSE ACCOUNT	35.50	846
MAY	25	LIVE	WRB - EXPENSE ACCOUNT	20.00	847
MAY	25	CONV	TMG - PAYROLL	1929.61	848
MAY	27	LAND	TMG - PUBLICATIONS	2445.18	849
MAY	27	BOOK	TMG - PAYROLL	1586.36	850
MAY	1000	ROK	BIM - EXPENSE ACCOUNT	16.20	851
MAY	1000	TELE	TMG - PAYROLL	653.74	852
MAY	1000	SUP	BIM - EXPENSE ACCOUNT	18.00	853
MAY	1000	LIVE	TMG - PAYROLL	30.68	854
MAY	1000	SUP			

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MONTH	GRUP	ITEM	SUBGROUP	SUBITEM	REMARKS	INCOME	COSTS	BALANCE	MARKUP	CARD
MAY	1000	WAGE			ENGINEERING		855.77			855
MAY	1000	WAGE			TMG - ENGINEERING		954.56			856
MAY	1000	TELE			TMG - B.C. TELEPHONE CO.		40.19			857
MAY	1000	TRAN			TMG - AIR CANADA					858
MAY	1051	TELE			B.C. TELEPHONE CO.		1 1 7 . 7 3			859
MAY	1051	FILD			"EAKIN EQUIPMENT LTD.		26.80			860
MAY	1051	RUE			THIRDLAKE LOGGING		4058.50			861
MAY	1051	DOH			CONNORS DRILLING		21390.84			862
MAY	1051	DOH			CONNORS DRILLING		33073.72			863
MAY	1051	ASS			BONDAR-CLEGG + CO. LTD.		360.00			864
MAY	1051	ASS			BONDAR-CLEGG + CO. LTD.		384.00			865
MAY	1051	AIR			"KANAGAN HELICOPTERS LTD.		1935.20			866
MAY	1051	AIR			ISLAND AIR		190.45			867
MAY	1051	AIR			AIDA AIR LTD.		360.00			868
MAY	1051	ORF			TECK EXPLORATIONS LTD.		150.00			869
MAY	1051	GEO			TECK EXPLORATIONS LTD.		6020.00			870
MAY	1051	DOH			TECK EXPLORATIONS LTD.		4390.00			871
MAY	1051	HAUL			ISLAND AIRLINES LTD.		449.64			872
MAY	1051	HAUL			COAST FERRIES LTD.		26.56			873
MAY	1051	ANAL			MIN-EN LAB. LTD.		150.00			874
MAY	1051	ASS			BONDAR-CLEGG + CO. LTD.		600.00			875
MAY	1091	AIR			OKANAGAN HELICOPTERS LTD.		1112.60			876
MAY	1051	ASS			BONDAR-CLEGG + CO. LTD.		240.00			877
MAY	1051	FILD			"EAKIN EQUIPMENT LTD.		202.28			878
MAY	1051	AIR			ISLAND AIR		51.00			879
MAY	1051	TRAN			REDHAWK RENTALS LTD.		301.60			880
MAY	1051	TRAN			REDHAWK RENTALS LTD.		300.91			881
MAY	1051	EQUIP			THIRD LAKE LOGGING LTD.		1840.50			882
MAY	1051	GOVT			MINISTRY OF MINES		1580.00			883
MAY	1051	FILO			TRANSCOMILLS LTD.		110.99			884
MAY	1051	STK			NEVILLE CROSBY INC.		41.07			885
MAY	1051	AIR			"KANAGAN HELICOPTERS LTD.		2153.00			886
MAY	1051	ANAL			BONDAR-CLEGG + CO. LTD.		270.00			887
MAY	1051	TELE			TMG - B.C. TELEPHONE CO.		556.98			888
MAY	1051	PHOT			TMG - CUSTOM COLOR		14.46			889
MAY	1051	SUP			TMG - WAGES		653.42			890
MAY	1051	TRAN			AIB - EXPENSE ACCOUNT		56.18			891
MAY	1051	LIVE			AIB - EXPENSE ACCOUNT		868.67			892
MAY	1051	THAN			GL - EXPENSE ACCOUNT		26.73			893
MAY	1051	LIVE			GL - EXPENSE ACCOUNT		379.76			894
MAY	1051	FILD			GL - EXPENSE ACCOUNT		60.48			895
MAY	1051	FILO			ATR - EXPENSE ACCOUNT		154.53			896

MONTH	GROUP	ITEM	SUBGROUP	SUBITEM	REMARKS	INCOME	COSTS	SALANCE	MARKUP	CARD
SEP	1000	LIVE			TMG - JW EXPENSES		09			1459
SEP	1000	LIVE	E		BIM - EXPENSES		895.48			1500
SEP	1000	DDH			TECK EXPLORATIONS LTD.		3 275.00			1501
SEP	1051	CHM			HON SCHNEIDER		1260.00			1502
SEP	1051	CHM			UONDAR-CLEGG + CO. LTD.		52.25			1503
SEP	1051	A	S	S	BONDAR-CLEGG + CO. LTD.		1022.70			1504
SEP	1051	AIR			ISLAND AIR		61.18			1505
SEP	1051	ASS			BONDAR-CLEGG + CO. LTD.		240.00			1506
SEP	1051	n	S	S	BONDAR-CLEGG + CO. LTD.		120.00			1507
SEP	1051	LIVE			SUPER VALU STORE 125		179.48			1508
S E P	1051	-AIR			OKANAGAN HELICOPTERS LTD.		187.50			1509
SEP	1051	ASS			BONDAR-CLEGG + CO. LTD.		1070.70			1510
SEP	1051	TELE			B.C. TELEPHONE CO.		119.83			1511
SEP	1051	AIR			Haida AIR LTD.		253.00			1512
SEP	1051	AIR			OKANAGAN HELICOPTERS LTD.		224.60			1513
SEP	1051	DKF			TECK EXPLORATIONS LTD.		330.00		1257 6 0 V T	1514
SEP	1051	T	E	L	E	TMG - B.C. TELEPHONE CO.		13.65		1515
S E P	1051	CHM			TECK EXPLORATIONS LTD.		1720.00			1516
SEP	1051	GEO			TECK EXPLORATIONS LTD.		145.00		1257 GEO	1517
SEP	1051	AIR			ISLAND AIR		17.00			x518
SEP	1051	AIR			ISLAND AIRLINES LTD.		51.90			1519
SEP	1051	LIVE			SUPER VALU STORE 125		87.46			1320
SEP	1068	ANAL			VANCOUVER PETROGRAPHICS LTD.		115.25			1521
S E P	1068	LEGL			PEREZ, BUSTAMANTE Y PEREZ		1200.00			1522
SEP	1240	TELE			TMG - B.C. TELEPHONE CO.		27.10			1 5 2 3
SEP	1240	THAN			W. MEYER - EXPENSE ACCOUNT		15.00		1243 AIR	1524
SEP	1240	LIVE			W. MEYER - EXPENSE ACCOUNT		33.00			1525
SEP	1240	TRAN			TMG AIR CANADA		212.07			1526
SEP	1241	LIVE			W. MEYER - EXPENSE ACCOUNT		18.00			1527
SEP	1243	ASS			BONDAR-CLEGG + CO. LTD.		77.00			1528
SEP	1243	TELE			B.C. TELEPHONE CO.		7.18			1529
SEP	1243	TELE			TMG - B.C. TELEPHONE CO.		10.13			1530
S E P	1243	GEO			TECK EXPLORATIONS LTD.		980.00			1531
SEP	1243	LIVE			TERRACE CO-OPERATIVE ASSOC.		309.87			1532
SEP	1245	ODH			ARCHER, CATHHO + ASSOC. LTD.		4481.70			1533
S E P	1245	LIVE			ARCHER, CATHRO + ASSOC. LTD.		160.20			1534
S E P	1245	ASS			ARCHER, CATHRO + ASSOC. LTD.		638.50			1535
SEP	1245	AIR			ARCHER, CATHHO + ASSOC. LTD.		15.00		1247 LIVE	1536
S E P	1245	TELE			ARCHER, CATHHO + ASSOC. LTD.		3.00			1537
SEP	1245	THAN			TECK EXPLORATIONS LTD.		19.82			1538
SEP	1246	GEO	1246	THAN	TECK EXPLORATIONS LTD.		253.95			1539
SEP	1247	THAN			TECK EXPLORATIONS LTD.		2805.00			1540
SEP	1247	THAN			HOW MAC TRUCK RENTALS		432.85			1541
S E P	1247	AIR			NORTHERN THUNDERBIRD AIR LTD.		2622.00			1592
S E P	1247	CHM			BONDAR-CLEGG + CO. LTD.		15.19			1543
SEP	1247	AIR			NORTHERN MOUNTAIN HELICOPTERS INC.		11865.00			1544
SEP	1247	TELE			CANADIAN MARCONIC O.		165.00			1545
SEP	1247	DDH			DOUG NYKIRK		780.00			1546
SEP	1247	CHM			BONDAR-CLEGG + CO. LTD.		25.00			1547
SEP	1247	DDH			E.G. WHALLEY + SON LTD.		82.16			1548
SEP	1247	FILD			DEAKIN EQUIPMENT LTD.		555.60			1549
SEP	1247	FILD			DEAKIN EQUIPMENT LTD.		143.81			1550
SEP	1247	TELE			TMG - B.C. TELEPHONE CO.		64.5	3		1551
SEP	1247	THAN			TMG - P.W.A.		75.00			1552

BULLMOOSE COAL PROJECT

SUMMARY OF 1979 ANALYSIS COSTS

1. Afton Lab Costs

	<u>No. of Samples</u>	<u>Cost/Sample</u>		
May	4	143.05	\$	512.20
J u n e	5	143.05		715.25
July	5	143.05		715.25
August	5	143.05		715.25
September	5	143.05		715.25
October.	5	143.05		715.25
				<u>\$ 4,148.45</u>

2. contest Lab costs

May	148.00	
J u n e	205.00	
July	157.25	
August	237.25	
S e p t e m b e r	157.25	
October	<u>1,192.50</u>	
	2,097.25	(billed below)

3. Engineering, Travel Costs, Analysis by Contest,
Expense Reports.

13,000.00

4. Projected Fish Analysis

1,500.00

\$18,648.45