PROSPECTUS REPORT

020307

ON

WHITEHORSE COAL PROPERTY

WHITEHORSE MINING DISTRICT, YUKON

NTS 105 D/6 & 11

Latitude 60° 29' N; Longitude 135° 14' W

FOR

WHITEHORSE COAL CORPORATION

BY

LARRY W. CARLYLE, F.G.A.C., P. Geol.

Whitehorse, Yukon

May, 1987

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LARRY W. CARLYLE, F.G.A.C., P. Geol.

Whitehorse, Yukon May, 1989

Carlyle Geological Services Ltd.
74 Tamarack Drive
Whitehorse, Yukon
Y1A 4Y6

Phone: (403) 633-3910

May 24, 1989

Mr. Chuck Morgan
Vice President
Whitehorse Coal Corporation
P.O. Box 5478
Whitehorse, Yukon
Y1A 5H4

Dear Mr. Morgan:

Please find enclosed my report entitled "Prospectus Report, Whitehorse Coal Corporation, Whitehorse Mining District, Yukon".

This report was prepared to fulfill the requirements of a qualifying report for submission to the British Columbia Securities Commission. I have given my permission for the report to be used for this purpose.

I respectfully submit the report for your review and comment.

Yours sincerely,

Larry W. Carlyle

Larry W. Carlyle, F.G.A.C.

GEOLOGICAL ASSOCIATION OF CANADA
L. W. CARLYLE
FELLOW

EXECUTIVE SUMMARY

Coal was first discovered on the southwest side of Mt. Granger in 1899. The area has seen sporadic activity since that time. The most lengthy and concerted work has been performed since the formation of the Whitehorse Coal Corporation in 1982.

The directors of Whitehorse Coal have been taking progressive steps in advancing the property from a raw prospect to a property with proven reserves and with some quality and utilization analyses completed. The property contains a drill-indicated reserve of 200,837 tons (182,579 tonnes). A major program of test mining and bulk sampling performed in 1986 resulted in 3627 tons (3290 tonnes) being mined and stockpiled. In addition to this tonnage, a 15.5 ton (14 tonne) bulk sample was taken and shipped to Birtley Coal and Minerals Testing for analyses. In-situ reserves of 2370 tons (2150 tonnes) of "product" coal and 4024 tons (3650 tonnes) of oxidized coal remain in the test pit area.

Coal from this property has potential uses for:

- mineral concentrate drying
- building heating
- thermal power generation
- foreign export

Utilization of this coal is strongly favoured because of its very low sulphur content (0.25 % to 0.35 %). Elevated ash contents can be very effectively combatted with the use of fluidized-bed combustion units, with blending of selectively mined lower ash coal with bulk mined coal and with washing the coal.

The executive and shareholders of Whitehorse Coal Corporation would like to see their property explored over the next three years with an aggressive and comprehensive program. To accomplish this objective, the property has been divided into three areas with the following exploration priorities:

1. East Hill-West Hill-Fisher Creek (EWF)
2. Coal Ridge-Double Mountain (CRDM)
3. Fisher Creek West (FCW)

The proposed exploration program will result in production at the earliest possible date and in the whole property having been explored for additional coal reserves. Emphasis being placed on the location and delineation of open-pitable reserves. This exploration is expected to require surveying, geological mapping, surface geophysics, trenching and road construction, rotary-percussion and diamond drilling, geophysical hole logging, mine and abandonment planning and plant construction. A budget exceeding 3 million dollars is proposed for this three year exploration program.

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WHITEHORSE COAL PROSPECTUS REPORT

INTRODUCTION

The executive and shareholders of Whitehorse Coal Corporation see their property as being significant to the Yukon and Western Canada. These people see the property as having the potential to produce coal for:

- concentrate drying at Curragh Resources and other mines
- domestic and institutional heating
- thermal power generation
- coal export

To realize this potential, the property requires an aggressive and comprehensive three year exploration program. To this end, the executive of Whitehorse Coal has obtained the services of Carlyle Geological Services Ltd. to formulate such a program. The choice of Carlyle Geological Services Ltd. to provide this service was based on two facts:

1. Carlyle is a long-time Yukon resident familiar with the area (directed and reported on the 1985 Whitehorse Coal Drill Program).

2. Carlyle's base in Whitehorse makes directing work on the property easily accomplished.

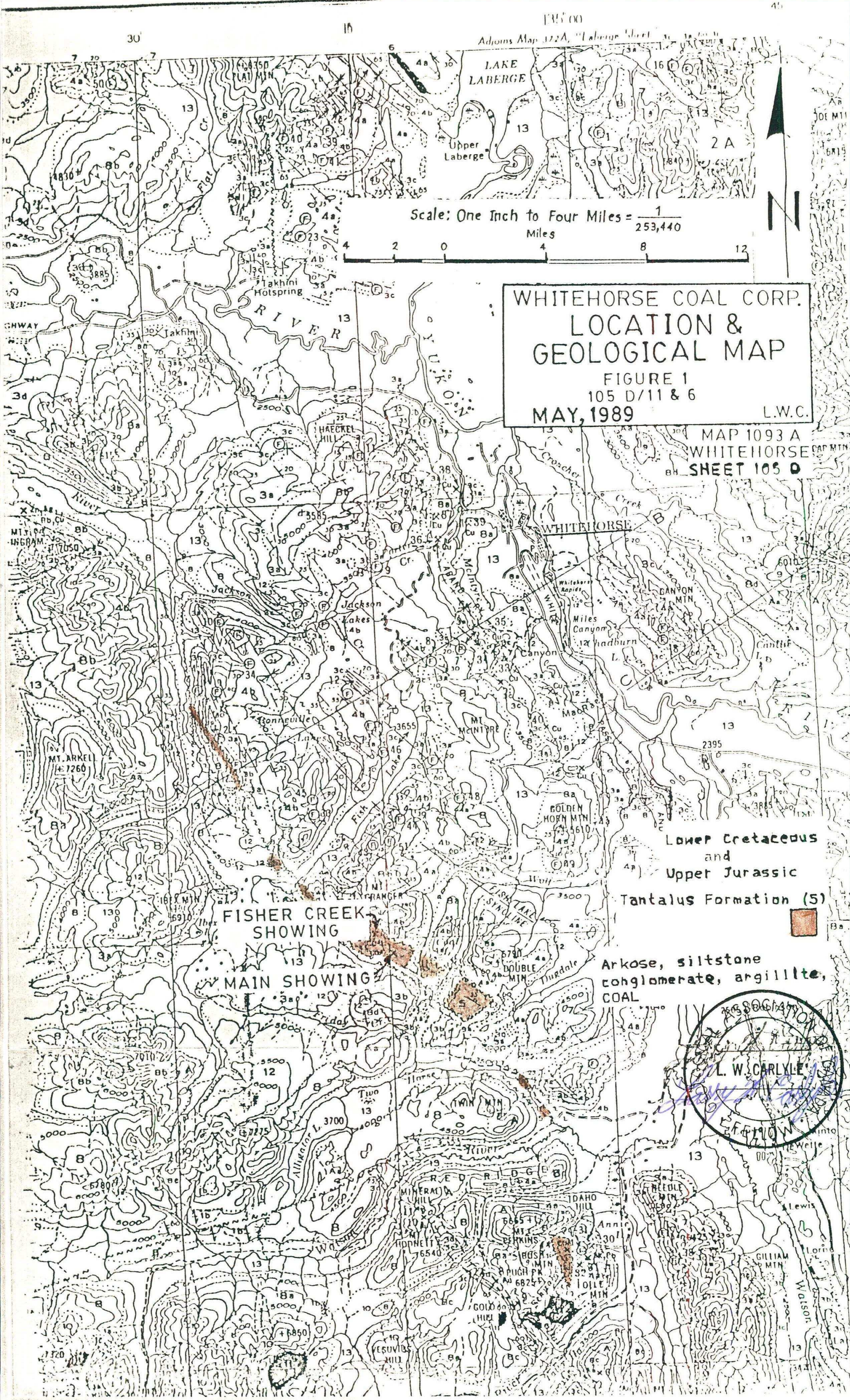
Whitehorse Coal directors wish the program to be headed by a consulting coal geologist with Carlyle providing day-to-day supervision on the project. The selection of a consulting coal geologist has not, as yet, been finalized.

PROPERTY LOCATION, ACCESS AND LOCAL RESOURCES

The Whitehorse Coal Property is located in south-central Yukon between latitudes 60° 22' and 60° 32' N and longitudes 135° 00' and 135° 19' W (See Location Map). The property consists of three coal leases (No. 2989 - 2991) and one coal exploration licence (No. Y 415). Each of the coal leases cover an area of 640 acres and the coal exploration licence covers an area of 37,402 acres. The whole property covers 39,322 acres (15,913 hectares) within NTS Map Sheets 105 D/6 & 11.

Vehicle access to the property is presently through the Whitehorse Copper Mines Ltd. mine site. A former Whitehorse Copper haulage road is followed for 3 miles (5 km.) south of the mine site. A 4-wheel drive road approximately 14 miles (23.4 km.) long provides access to the portion of the property containing the most developed coal showings, the Main Showing (containing the 1986 test pit) and the Fisher Creek Showing (See Location Map). For the present, other areas of the property are only accessible by helicopter.

The known coal occurrences on the property exist from 4500 to 6000 feet (1385 to 1830 metres) above sea level. The showings are largely above timberline on moderate to steeply sloping grass and shrub covered hills and valleys. Much of the property is covered with glacial till with bedrock exposures being, for the most part, confined to stream cuts and steep hillsides.



WHITEHORSE COAL CORP.
LOCATION & GEOLOGICAL MAP
FIGURE 1
105 D/11 & 6
MAY, 1989
L.W.C.
MAP 1093 A
WHITEHORSE
SHEET 105 D
Scale: One Inch to Four Miles = 1/253,440
Miles
4 2 0 4 8 12
N
LAKE LABERGE
Upper Laberge
Takhini Hotspring
Takhini
RIVER
YUKON
HAECKEL HILL
WHITEHORSE
Whitehorse Rapids
Miles Canyon
Schwatka L.
MT. ARKELL
MT. MCINTYRE
GOLDEN HORN MTN
CANYON MTN
MT. GRANGER
FISHER CREEK SHOWING
MAIN SHOWING
DOUBLE MTN
TWIN MTN
RED RIDGE
MINERAL HILL
MT. SKUKUM
GOLD HILL
VESUVIUS HILL
GILLIAM MTN
Lower Cretaceous and Upper Jurassic
Tantalus Formation (5)
Arkose, siltstone conglomerate, argillite, COAL
L. W. CARLYLE
FELLOW

The proximity of the property to Whitehorse (~ 30 miles, 50 km.) will greatly facilitate labour recruitment, workforce housing and supply acquisition. This proximity to Whitehorse, the Yukon capital, will allow Whitehorse Coal to supply the coal for local building heating and thermal power.

CLAIM INFORMATION

The writer checked records pertaining to the coal leases and coal exploration licence covered by this report at the Mining Recorder's office in Whitehorse on May 24, 1989. The data gathered are as follows:

Grant Number	Owner	Expiry Date
Coal Lease 2989	Whitehorse Coal Corp.	Feb. 4, 1990
Coal Lease 2990	Whitehorse Coal Corp.	Feb. 4, 1990
Coal Lease 2991	Whitehorse Coal Corp.	May 3, 1990
Exploration Licence Y415	Whitehorse Coal Corp.	June 25, 1990

HISTORY

Coal was first discovered on Mt. Granger in 1899. R.G. McConnell of the Geological Survey of Canada reported on it in 1901. By the 1908 report by D.D. Cairnes, coal occurrences had been traced for a strike length of 12 miles (20 km.). Several trenches and a 60 foot (18 metre) adit had been excavated on the uppermost of three coal seams exposed on Fisher Creek, located on the southwest side of Mt. Granger. Four samples, three from outcrop and one from the adit face, taken and reported by Cairnes gave results showing the coal to be of semi-anthracite grade with an average of 36 % ash content.

In 1942, the U.S. Army Corps of Engineers examined the coal. A small tonnage was taken to Whitehorse for camp heating that winter.

The next work in the area was done in 1969 by Luscar Ltd. when they acquired three coal exploration licences. R.S. Taylor and Associates Ltd. performed reconnaissance geological mapping, hand trenching and sampling for Luscar. This work traced one of the three coal seams for a strike length of 6 miles (10 km.). Taylor and Associates estimated more than 2,630,703 tons (2,386,125 tonnes) of recoverable coal existed above the valley floor.

In 1975, B. Savage acquired two coal exploration licences and did some prospecting in the area. J. Hughes reviewed available data.

Paul Poggenburg and others staked a coal mining lease and acquired a coal exploration licence southeast of it in 1981. Two additional mining leases were added in 1982 and Whitehorse Coal Corporation was formed. Whitehorse Coal started construction on an access road to the Fisher Creek and West Hill areas from Wolf Creek later in 1982. Three trenches were excavated and a geological reconnaissance was made by Rod Hill, a geologist with the Government of Yukon.

The access road was completed and a further six trenches were excavated in 1983. Mr. John Perry, principal of Coal-Ex Consulting Ltd., undertook three days of geological reconnaissance. From this work, he estimated in situ coal reserves at 93,712,500 tons (85 million tonnes). To make this

estimate the following assumptions were made: coal thickness of 9.9 feet (3.05 metres), a strike length of 6 miles (10 km.) and a down dip extent of 1625 feet (500 metres).

1982 and 1984 - Hill Summary Reports for Government of Yukon

Mr. Hill reviewed the work done by McConnell, Cairnes and R.S. Taylor on the property. Calling on his experience with Tantalus Formation coal measures in the Carmacks area, he suggested an exploration program consisting of geological mapping, geophysics, trenching, drilling and sample analysis. Mr. Hill also developed three alternative exploration programs which reflected quantities of work achievable with certain levels of funding. Combustion tests done on three samples taken by Mr. Hill indicated the coal is a meta-anthracite with an average 3.5 % moisture, 38.2 % ash and 8521 BTU/lb. (19,765 Kj/Kg) heating value.

1985 - Carlyle Drilling Report

The 1985 exploration program consisted of six vertical reverse-circulation rotary-percussion holes totalling 902 feet (277.5 metres) along 1100 feet (338.5 metres) of the coal strike exposed in the Main Showing. Two short bulldozer trenches totalling 130 lineal feet (40 metres) were also excavated. A preliminary drill-indicated reserve of 200,837 tons (182,579 tonnes) was calculated for the drilled area. Not all of the samples taken during the drill program have yet been analysed. Some of the samples which were analysed returned as little as 15 % ash (See Appendix C). This indicates that the 33 % ash content used in

making the above reserve calculation and the 45.4 % ash content obtained from the 1986 bulk sample can be reduced by selective mining or washing the coal.

1986 - Perry Test Mining and Bulk Sampling

In 1986, a major program of test mining and bulk sampling was done under the supervision of John Perry. Mining occurred in the center of the area drilled in 1985. 3627 tons (3290 tonnes) were mined and stockpiled. A 15.5 ton (14 tonne) "bulk" sample was also taken and shipped to Calgary for testing at Birtley Coal and Minerals Testing (available results included as Appendix A). In-situ reserves of 2370 tons (2150 tonnes) of "product" coal and 4024 tons (3650 tonnes) of oxidized coal remain in the pit area. The 60° headwall slope of the 1986 test pit indicates that it is possible to reduce the waste to ore ratio anticipated during the 1985 work. The test mining demonstrated that the coal seams experience changes in dip due to the presence of igneous intrusions. Zones of permafrost also create mining and increased ash problems. In future, such areas must be located more precisely to aid mining.

1987 - Bremner Geological Mapping (See Appendix B)

In 1987, Trevor Bremner, a staff geologist with the federal government, spent 6 days doing geological mapping in the Fisher Creek - test pit area. This work has given some insight into the structures which control the coal seams and provides clues to how exploration should proceed on this property (Bremner Report - Appendix B).

Mr. Bremner has mapped the two main seams found in the area. He indicates the upper seam (Perry's Coal Seam A) is 5.9 feet (1.8 metres) thick and is exposed by pits and trenches over a 1.2 mile (2 km.) strike length from Fisher Creek to East Hill. This seam is directly overlain by conglomerate or separated from it by less than 3.3 feet (1 metre) of mudstone. Bremner has located seams of similar thickness and stratigraphic location on Coal Ridge and Double Mountain. If these seams correlate their strike length would exceed 5 miles (8.4 km.).

The lower seam (Perry's Coal Zone B) is a minimum of 10.7 feet (3.3 metres) thick and Mr. Bremner's mapping indicates it to be continuous over a 0.6 mile (1 km.) strike length with no decrease in thickness. This lower seam is overlain by 19.5 feet (6 metres) of siltstone, mudstone and fine-grained sand.

Mr. Bremner's mapping has shown the Tantalus Formation to be deformed by large open upright folds which plunge northward. The pervasive north-south cleavage is probably axial planar to these folds. The coal appears to be thickened in the axis of the anticline exposed in the test pit.

Fisher Creek follows the trace of a sinuous north-south strike-slip fault. The upper coal seam has been displaced approximately 325 feet (100 metres) south when it is traced from the east to the west side of Fisher Creek. Mr. Bremner indicates that the 224 feet (69 metres) of floodplain sediments on the west side of Fisher Creek contain at least four other coal seams.

Whitehorse Coal performed no work in either 1987 or 1988.

PROPERTY GEOLOGY

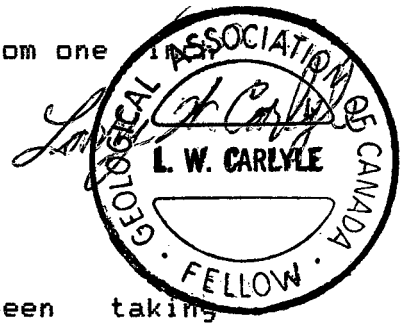
Coal is only found within the non-marine sediments of the Tantalus Formation on the Whitehorse Coal Corporation property (See Location & Geological Map). The Tantalus Formation is of Upper Jurassic and Lower Cretaceous age and occupies a graben between Upper Triassic Lewes River Group sediments on the southwest and Lower and Middle Jurassic Laberge Group sediments on the northeast (J.O. Wheeler, 1961). These sediments have been intruded by Cretaceous Coast Intrusions, possibly resulting in the upgrading of the coal from bituminous to anthracite.

TABLE 1

STRATIGRAPHY OF THE WHITEHORSE COAL PROPERTY

Period	Group or Formation	Rock Types
Cretaceous	Coast Intrusion (8)	Granodiorite, granite, quartz monzonite, quartz diorite and allied rocks
Lower Cretaceous and Upper Jurassic	Tantalus Formation (5)	Arkose, siltstone, conglomerate, argillite, COAL
Lower Jurassic and Later	Laberge Group (4)	Greywacke, arkose, quartzite, conglomerate, siltstone, argillite
Upper Triassic	Lewes River Group (3)	Greywacke, siltstone argillite, limestone, conglomerate, limestone breccia, andesite, basalt flows and associated pyroclastic rocks

The Tantalus Formation consists of clastic sediments composed mainly of conglomerate, arkoses and sandstones with some thin horizons of siltstone, shale and coal. The rounded pebbles which form the conglomerate are cherty and range in size from one inch (2.54 cm.) to two inches (5.1 cm.).



CONCLUSIONS

1. The directors of Whitehorse Coal have been taking progressive steps in advancing the property from a raw prospect to a property with proven reserves and with some quality and utilization analyses completed.

2. Future work on the Whitehorse Coal Property should have two objectives; both of which can proceed simultaneously:

   - the completion of exploration and comprehensive analyses needed to see production from the East Hill-West Hill-Fisher Creek area.

   - the exploration of the remainder of the Tantalus Formation on the property. During this work, prime importance should be given to the location of additional open-pitable coal reserves.

3. The very low sulphur content (0.25 % to 0.35 %) of coal from the Whitehorse Coal Property strongly favours its utilization.

4. Utilization of this coal in fluidized-bed combustion units which can burn higher ash content coals is an important development.

   - blending selectively mined lower ash coal with bulk mined coal will produce a lower ash "product" coal from this property.

- blending coal from the lower seam (Perry's Coal Zone B) with coal from the upper seam (Perry's Coal Zone A) will possibly result in a lower ash content "product" coal. The lower seam was not excavated during the test mining. This seam is the thicker seam with drill data indicating ash contents as low as 15 %.

RECOMMENDATIONS

To accomplish these objectives, I view the property divided into three areas with the following priorities for exploration:

1. East Hill-West Hill-Fisher Creek (EWF)
2. Coal Ridge-Double Mountain (CRDM)
3. Fisher Creek West (FCW)

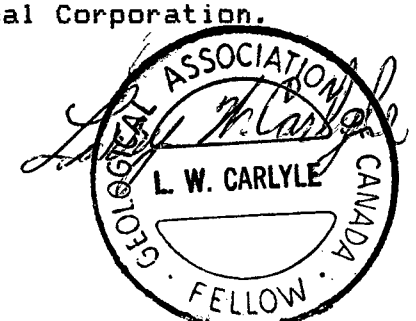
Within the large Whitehorse Coal Property, it is necessary to precisely locate the Tantalus Formation which contains the coal. To assist this geological mapping, orthophotography and other survey control should first be established on the property.

East Hill-West Hill-Fisher Creek Area (EWF)

It is necessary to build on the excellent work done to date in this area - the result being production at the earliest possible date.

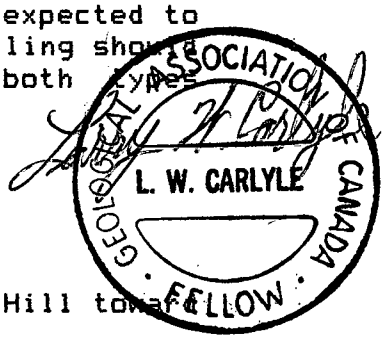
To achieve production:

1. all samples which have not been examined should be tested.
2. the bulk sample and other interesting samples should receive comprehensive analyses to determine washability characteristics and to determine if selective and/or bulk mining should be performed. Tied to this are the coal utilization and user identification studies being done by D.W. Thompson Ltd. on behalf of Whitehorse Coal Corporation.



3. The Bremner mapping in this area and the previous trenching have located the coal seams fairly well. Only modest amounts of trenching and additional drilling need be done. Drilling should be done using a truck-mounted reverse-circulation rotary-percussion drill. Use of this drill will confirm additional reserves and provide data for preliminary mine planning quickly and cheaply. Drilling should be performed from the test pit toward East Hill then toward Fisher Creek. Overburden is expected to get thicker in the direction of Fisher Creek.

4. areas where folding, faulting or permafrost are expected to create mining problems, HQ wireline diamond drilling should be used to obtain more detailed data. Holes of both types should receive geophysical logging.



Coal Ridge-Double Mountain (CRDM)

1. Geological mapping should be performed from East Hill toward Coal Ridge and Double Mountain.

   - known coal occurrences on Coal Ridge and Double Mountain and the geology will aid the location of areas where coal suitable for open pit mining can be developed.

   - geology will locate intrusives which will give clues to areas of folding and faulting.

2. Mr. Hill has indicated that side-looking dipole-dipole resistivity worked well in locating overburden covered coal seams in the Tantalus Formation at Carmacks. This method is expected to work well on the Whitehorse Coal property.

   - geophysics will most likely be of most use in valleys in this area.

3. Trenching is expected to be the most valuable tool in extending the known showings in this area.

   - a bulldozer can be used in areas of thin overburden but a backhoe will be required in areas of thicker overburden.

   - road construction and maintenance will be necessary to allow machinery access.

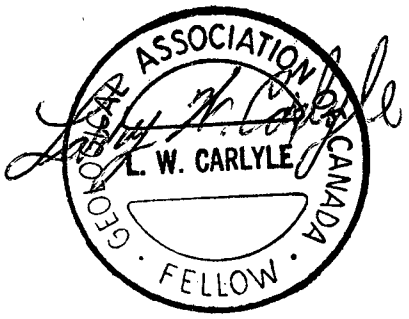
4. Rotary-percussion reverse-circulation drilling will permit preliminary ore reserve calculations and preliminary mine planning to be accomplished quickly and cheaply. Geophysical hole logging will be necessary to demonstrate coal seam continuity between holes.

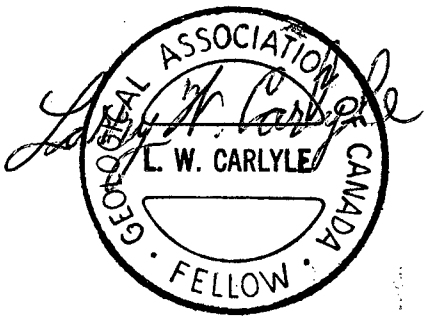
5. HQ diamond drilling may prove necessary in areas of folding, faulting and permafrost. Such drilling will also permit more precise ore reserve calculations and mine planning. Geophysical logging of these holes will also be necessary.

Fisher Creek West (FCW)

Mr. Bremner's work indicates that west of Fisher Creek overburden cover becomes quite thick but that four coal seams may exist within the Tantalus Formation here.

1. Geological mapping should be performed on the area. Outcrop is expected to be limited due to the overburden thickness.
2. The overburden will make the dipole-dipole resistivity geophysical technique important in this area.
3. Road building and trenching will be necessary in this area. Backhoe trenching will probably be most effective.
4. Rotary percussion drilling, diamond drilling and geophysical hole logging will play an even more significant role in this area than it will in the other areas.





PROPOSED BUDGET

	Year 1	Year 2	Year 3
Orthophotography	$ 20,000.	$ 5,000.	$ 5,000.
Coal User & Utilization Study	$ 24,500.		
Camp Construction	$ 15,000.	$ 10,000.	
Room & Board	$ 25,000.	$ 25,000.	$ 25,000.
Geological Mapping		$ 5,000.	$ 5,000.
Geophysics		$ 4,000.	$ 8,000.
Trenching	$ 15,000.	$ 25,000.	$ 20,000.
Road Construction & Maintenance	$ 10,000.	$ 20,000.	$ 10,000.
Rotary Drilling	$200,000.	$600,000.	$600,000.
HQ Diamond Drilling		$ 85,000.	$385,000.
Geophysical Hole Logging	$ 60,000.	$180,000.	$120,000.
Analyses	$ 75,000.	$ 75,000.	$ 50,000.
Geological Personnel	$ 12,000.	$ 29,000.	$ 22,000.
Wages and Benefits	$ 16,000.	$ 24,000.	$ 24,000.
Executive Salaries	$ 50,000.	$ 50,000.	$ 50,000.
Equipment Rental	$ 4,000.	$ 4,000.	$ 4,000.
Mine & Abandonment Planning		$ 25,000.	$ 25,000.
Cleaning Plant Planning		$ 25,000.	
Cleaning Plant Construction			$ 20,000.
Production Road		$ 45,000.	$ 45,000.
Contingencies	$ 53,000.	$120,000.	$140,000.
Total	$579,500.	$1,356,000	$1,558,000.

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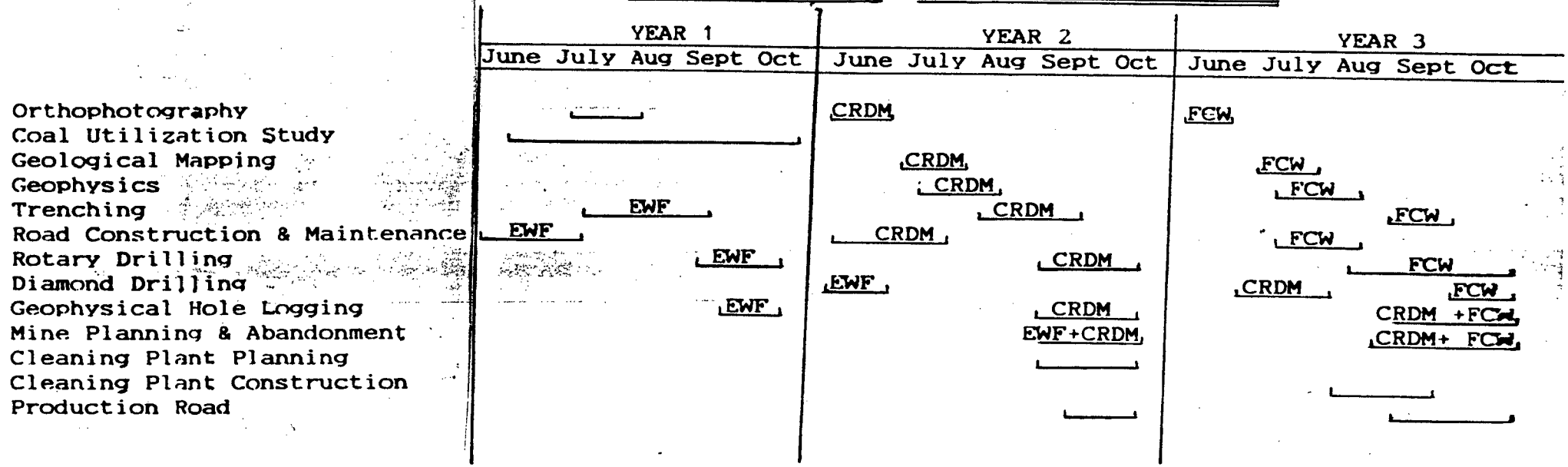
2. Bostock, H.S., Reports of the G.S.C. 1898 to 1933 "Yukon Territory" Selected Field Reports of the G.S.C. 1898 to 1933 Memoir 284

3. Bremner, T.J., 1987 "Geology of the Whitehorse Coal Deposit" Report to Whitehorse Coal Corporation

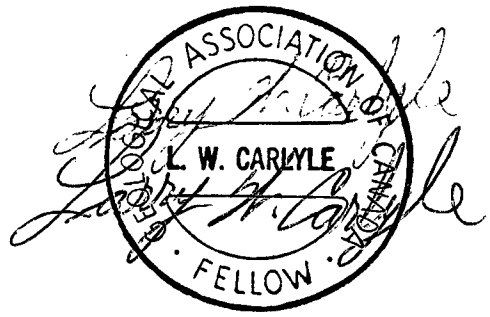
4. Carlyle, L.W., 1985 "Report on the 1985 Drill Program Whitehorse Coal Property, Whitehorse Mining District, Yukon" Report to Whitehorse Coal Corp.

5. Hill, R.P., 1984 Summary Report and three potential budgets. Report to Government of Yukon and Whitehorse Coal Corp.

PROPOSED SCHEDULE - WHITEHORSE COAL PROPERTY



EWF = East Hill - West Hill - Fisher Creek
CRDM = Coal Ridge - Double Mountain
FCW = Fisher Creek West



6. Kalugin, S.A., 1985 — Report to Whitehorse Coal Corp. on electrical hole logging of holes in 1985 Program

7. Perry, J.H., 1987 — "Summary Report on the 1986 Test Pit - Bulk Sampling Program" Report to Whitehorse Coal Corp.

8. Wheeler, J.O., 1961 — "Whitehorse Map-Area, Yukon Territory" G.S.C. Memoir 312

STATEMENT OF QUALIFICATIONS

I, LARRY W. CARLYLE, do certify:

1. That I am a professional geologist operating a business registered as CARLYLE GEOLOGICAL SERVICES LTD. with an office at 74 Tamarack Drive, Whitehorse, Yukon Y1A 4Y6.

2. That I hold a B. Sc. degree in geology from the University of British Columbia (1970).

3. That I am a Fellow of the Geological Association of Canada (F - 4355).

4. That I am a Registered Professional Geologist in the Association of Professional Engineers, Geologists and Geophysicists of the Province of Alberta (41097).

5. That I am a Member of the Canadian Institute of Mining and Metallurgy.

6. That I have practiced my profession as a mine and exploration geologist for fifteen years.

7. That I have visited the property. The conclusions and recommendations in the attached report are based on work done on the property by myself and a review of all available private and public reports on the property.

8. That I hold no interest in the property or in the shares of Whitehorse Coal Corporation.

9. That I have given my permission for this report to form part of a qualifying report on the Whitehorse Coal Corporation property.

DATED at Whitehorse, Yukon, this 24th day of May, 1989.

GEOLOGICAL ASSOCIATION OF CANADA
L. W. CARLYLE
FELLOW

APPENDIX A

BULK SAMPLE RESULTS

BIRTLEY COAL AND MINERALS TESTING

CLIENT: WHITEHORSE COAL LIMITED
PROJECT: BULK SAMPLE RECEIVED NOV. 20, 1986
LAB NO: 2694
DATE: JANUARY 8, 1986

ANALYSIS OF COAL

LAB NO:	SAMPLE ID:	MOIST%	ASH%	VOL%	F.C.%	S%	CV CAL/GM	BASIS
2694	1.80 COMP.	1.90	22.70	8.30	67.10	0.54	5522	adb
	CC #1		23.14	8.46	68.40	0.55	5629	db
2694	1.90 COMP.	2.00	27.00	8.30	62.70	0.47	5172	adb
	CC #2		27.55	8.47	63.98	0.48	5278	db

ASH FUSION TEMPERATURES (DEG. F)

		REDUCING			
LAB NO.	SAMPLE ID:	IDT	ST	HT	FT
2694	CC #1	2960	2710	2800	2800+
2694	CC #2	2540	2790	2800+	—

Birtley Coal
& Minerals Testing

CLIENT: WHITEHORSE COAL CORPORATION
PROJECT: BULK SAMPLE RECEIVED NOV. 20, 1986
LAB NO: 2694
DATE: DECEMBER 1, 1986

HEAD RAW ANALYSIS, air dried basis

ADM%	MOIST%	ASH%	VOL%	F.C.%	S%	CV CAL/GM	BASIS
11.80	1.90	45.40	8.40	44.30	0.36	3186	adb
	13.48	40.09	7.41	39.07	0.32	2810	arb
		46.28	8.56	45.16	0.37	3248	db

SIZE AND RAW ANALYSIS, air dried basis

SIZE FRACTION	WT%	RM%	ASH%	VOL%	FC%	S%	CV CAL/GM	CUMULATIVE WT%	CUMULATIVE ASH%
4" X 2"	6.20	1.10	42.50	6.40	50.00	0.38	3820	6.20	42.50
2" X 1"	11.10	1.60	47.30	7.10	44.00	0.34	3088	17.30	45.58
1" X 3/4"	7.30	1.80	45.70	7.10	45.40	0.33	3396	24.60	45.62
3/4" X 1/2"	12.60	1.30	46.70	7.80	44.20	0.34	2936	37.20	45.98
1/2" X 1/4"	19.70	1.80	45.80	7.80	44.60	0.33	3256	56.90	45.92
1/4" X 1/8"	12.90	1.70	46.80	8.30	43.20	0.34	2933	69.80	46.08
1/8" X 1/16	12.00	1.80	45.40	8.60	44.20	0.35	3064	81.80	45.98
1/16"X 28M	10.40	11.50	44.70	9.50	34.30	0.35	3369	92.20	45.84
28M X 0	7.80	13.20	45.10	10.80	30.90	0.35	3353	100.00	45.78

Birtley Coal
& Minerals Testing

CLIENT: WHITEHORSE COAL CORPORATION
PROJECT: BULK SAMPLE RECEIVED NOV. 20, 1986
HEAD RAW - SIZE & RAW ANALYSIS
LAB NO: 2694
DATE: DECEMBER 4, 1986

HEAD RAW ANALYSIS, air dried basis

ADM%	MOIST%	ASH%	VOL%	F.C.%	S%	CV CAL/GM (USUAL)	CV CAL/GM (BENZOIC)	BASIS
11.80	1.90	45.40	8.40	44.30	0.36	3186	3836	adb
	13.48	40.04	7.41	39.07	0.32	2810	3383	arb
		46.28	8.56	45.16	0.37	3248	3910	db

SIZE AND RAW ANALYSIS

SIZE FRACTION	AIR DRIED BASIS CV CAL/GM (USUAL) RUN #1	AIR DRIED BASIS CV CAL/GM (BENZOIC) RUN #2	DRY BASIS CV CAL/GM (USUAL) RUN #1	DRY BASIS CV CAL/GM (BENZOIC) RUN #2
4" X 2"	3820	4339	3862	4387
2" X 1"	3088	3798	3138	3860
1" X 3/4"	3396	3934	3458	4006
3/4" X 1/2"	2936	3791	2975	3841
1/2" X 1/4"	3256	3736	3316	3804
1/4" X 1/8"	2933	3736	2984	3801
1/8" X 1/16	3064	3709	3121	3777
1/16 X 28M	3369	3813	3807	4314
28M X 0	3353	3735	3863	4303

NOTE: RUN #1 - USUAL METHOD
RUN #2 - BENZOIC ACID ADDITIVE METHOD

Birtley Coal
& Minerals Testing

CLIENT: WHITEHORSE COAL CORPORATION
PROJECT: BULK SAMPLE RECEIVED NOVEMBER 20, 1986
LAB NO: 2694
DATE: DECEMBER 10, 1986

FLOAT-SINK ANALYSIS, air dried basis: 4" X 1" (WT% = 17.3)

S.G. FRACTION	WT%	RM%	ASH%	CUMULATIVE WT%	CUMULATIVE ASH%
FLOAT - 1.50	0.10	0.90	5.40	0.10	5.40
1.50 - 1.60	6.40	1.70	13.00	6.50	12.88
1.60 - 1.70	20.60	2.10	22.70	27.10	20.35
1.70 - 1.80	16.00	2.30	32.30	43.10	24.78
1.80 - 1.90	16.10	2.00	41.30	59.20	29.28
1.90 - SINK	40.80	1.60	69.60	100.00	45.73

FLOAT-SINK ANALYSIS, air dried basis: 1" X 1/4" (WT% = 39.6)

S.G. FRACTION	WT%	RM%	ASH%	CUMULATIVE WT%	CUMULATIVE ASH%
FLOAT - 1.50	0.50	0.50	7.90	0.50	7.90
1.50 - 1.60	7.60	0.90	12.70	8.10	12.40
1.60 - 1.70	16.50	1.40	21.40	24.60	18.44
1.70 - 1.80	14.90	1.60	31.00	39.50	23.18
1.80 - 1.90	12.30	1.70	39.00	51.80	26.93
1.90 - SINK	48.20	1.10	68.70	100.00	47.07

FLOAT-SINK ANALYSIS, air dried basis: 1/4" X 28 MESH (WT% = 35.3)

S.G. FRACTION	WT%	RM%	ASH%	CUMULATIVE WT%	CUMULATIVE ASH%
FLOAT - 1.50	0.70	0.80	5.50	0.70	5.50
1.50 - 1.60	7.50	0.80	10.80	8.20	10.35
1.60 - 1.70	14.00	1.50	19.50	22.20	16.12
1.70 - 1.80	15.40	2.20	28.30	37.60	21.11
1.80 - 1.90	15.70	2.10	37.90	53.30	26.05
1.90 - SINK	46.70	1.40	68.70	100.00	45.97

Birtley Coal
& Minerals Testing
A DIVISION OF GREAT WEST STEEL [illegible]

CLIENT: WHITEHORSE COAL CORPORATION
PROJECT: BULK SAMPLE RECEIVED NOVEMBER 20, 1986
LAB NO: 2694
DATE: DECEMBER 10, 1986

FROTH FLOTATION TEST, air dried basis: 28 MESH X 0 (WT% = 7.8)

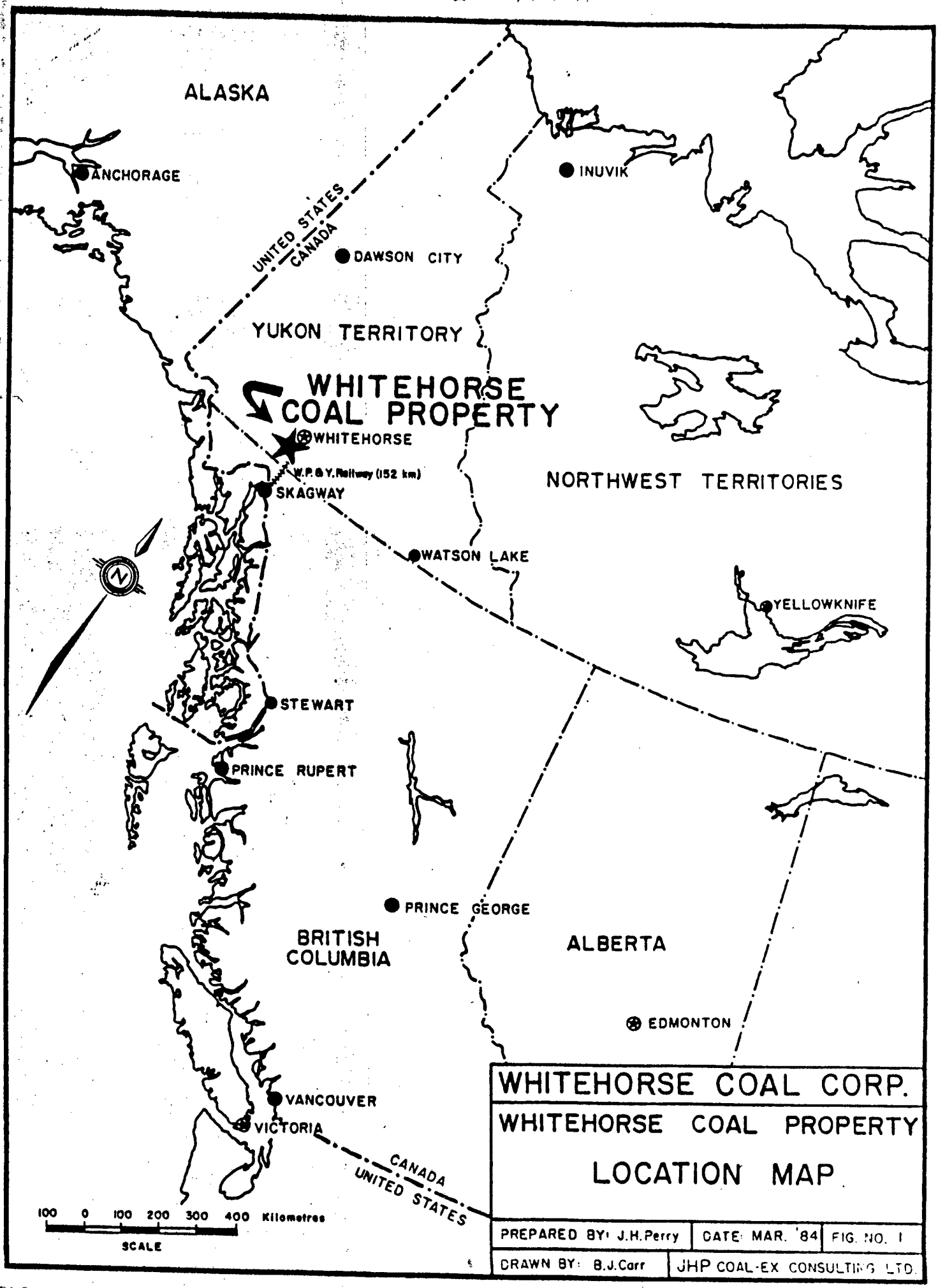
PRODUCT	WT%	RM%	ASH%	CUMULATIVE WT%	CUMULATIVE ASH%
STAGE I	7.80	2.30	34.30	7.80	34.30
STAGE II	8.40	2.60	41.80	16.20	38.19
TAILINGS	83.80	2.00	46.50	100.00	45.15

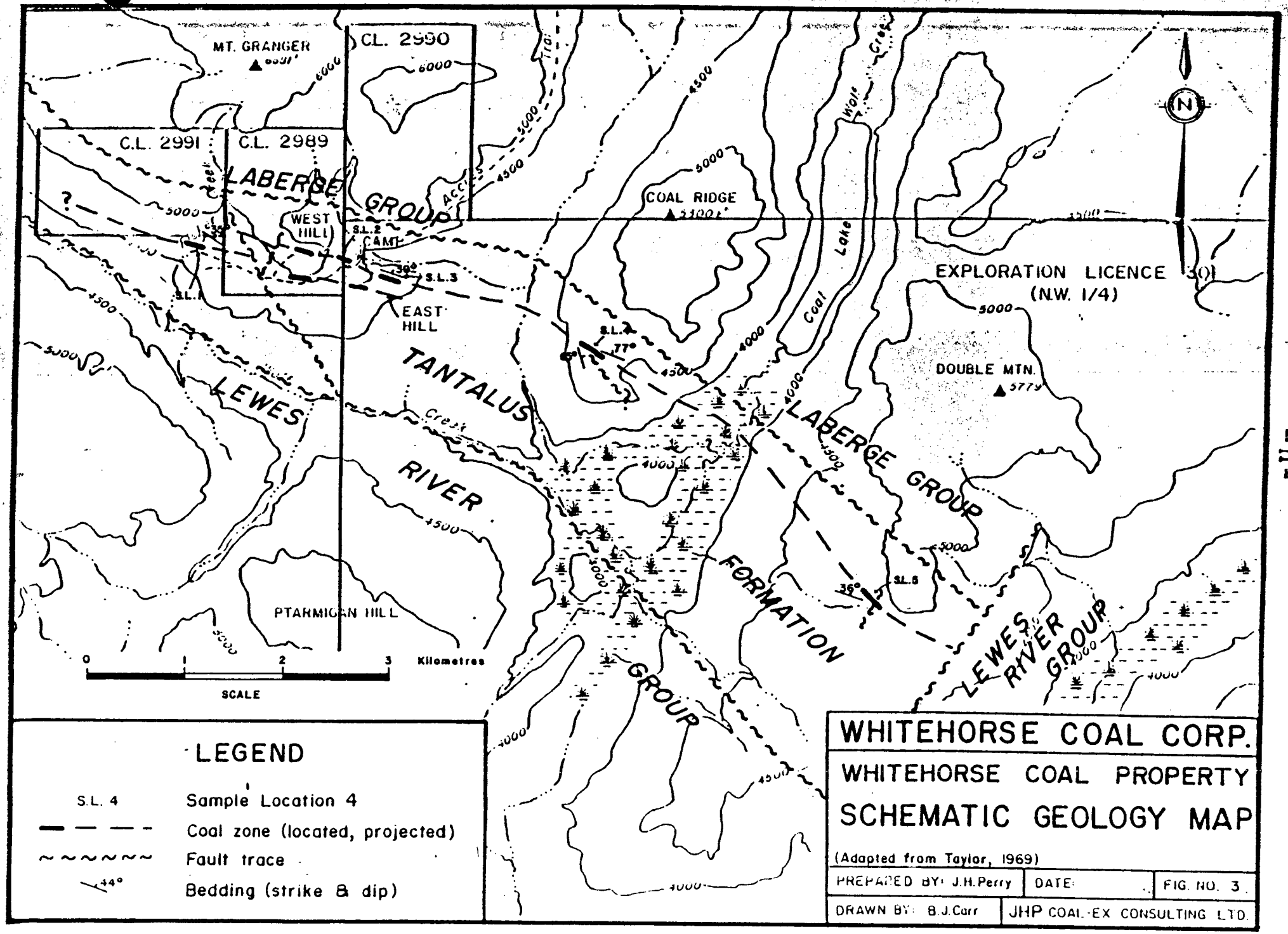
PULP DENSITY = 10%
REAGENT = 4:1 = KEROSENE:MIBC
DOSAGE = 0.5 LBS/TONNE
CONDITIONING = 60 SECONDS
STAGE I = FIRST MINUTE FROTH
STAGE II = SECOND MINUTE FROTH

Birtley Coal
& Minerals Testing
A DIVISION OF GREAT WEST STEEL [illegible]

APPENDIX B

BREMNER REPORT


ALASKA
ANCHORAGE
INUVIK
UNITED STATES
CANADA
DAWSON CITY
YUKON TERRITORY
WHITEHORSE
COAL PROPERTY
WHITEHORSE
W.P.&Y. Railway (152 km)
SKAGWAY
NORTHWEST TERRITORIES
WATSON LAKE
YELLOWKNIFE
STEWART
PRINCE RUPERT
PRINCE GEORGE
BRITISH
COLUMBIA
ALBERTA
EDMONTON
VANCOUVER
VICTORIA
CANADA
UNITED STATES
100 0 100 200 300 400 Kilometres
SCALE
WHITEHORSE COAL CORP.
WHITEHORSE COAL PROPERTY
LOCATION MAP
PREPARED BY: J.H.Perry
DATE: MAR. '84
FIG. NO. 1
DRAWN BY: B.J.Carr
JHP COAL-EX CONSULTING LTD.



LEGEND

S.L. 4	Sample Location 4
— — — —	Coal zone (located, projected)
~~	Fault trace
44°	Bedding (strike & dip)

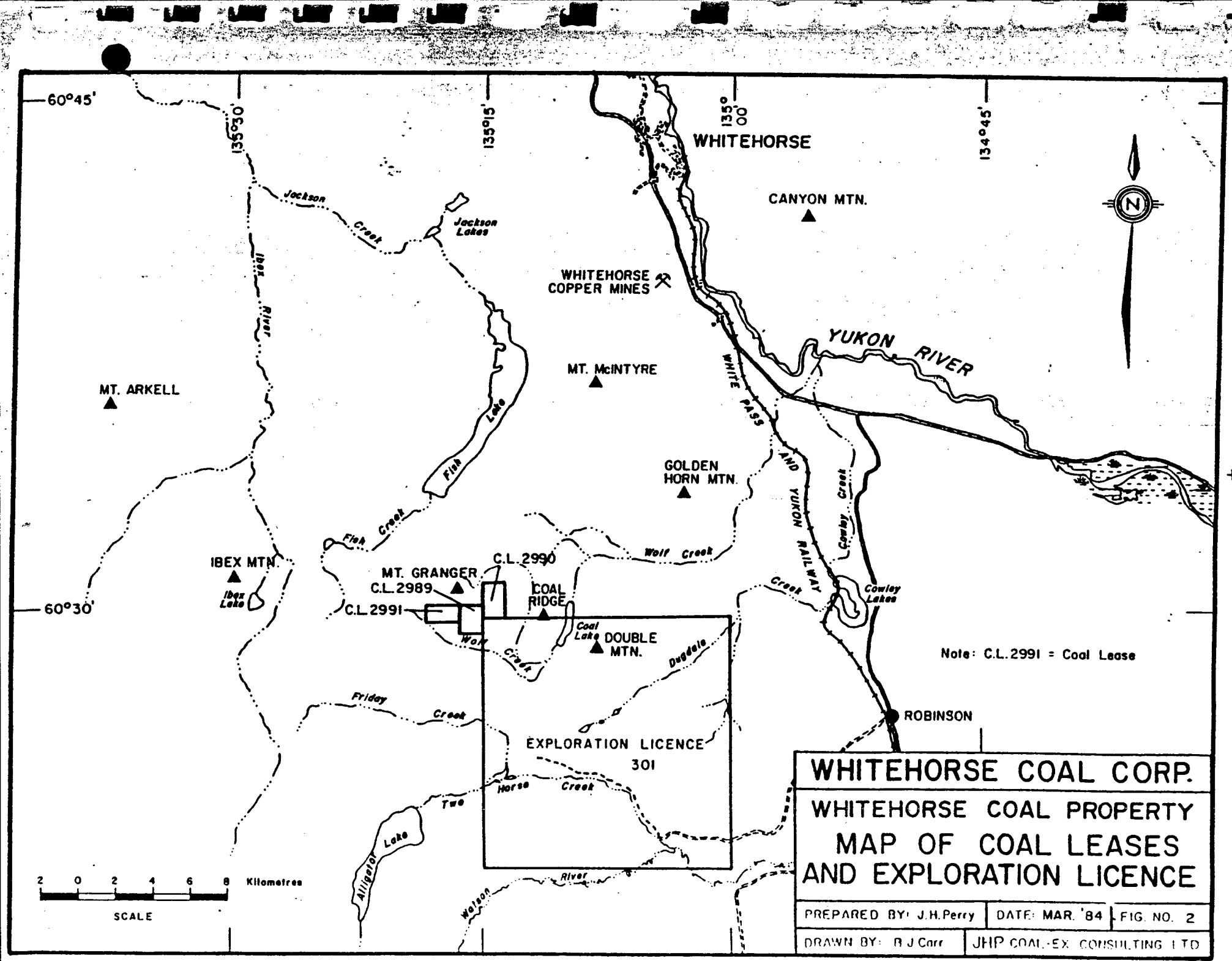
WHITEHORSE COAL CORP.

WHITEHORSE COAL PROPERTY

SCHEMATIC GEOLOGY MAP

(Adapted from Taylor, 1969)

PREPARED BY: J.H.Perry	DATE:	FIG. NO. 3
DRAWN BY: B.J.Carr	JHP COAL-EX CONSULTING LTD.	


60°45'
135°30'
135°15'
135° 00'
134°45'
WHITEHORSE
CANYON MTN.
N
Jackson Creek
Jackson Lakes
WHITEHORSE COPPER MINES
YUKON RIVER
MT. McINTYRE
WHITE PASS AND YUKON RAILWAY
MT. ARKELL
Fish Lake
Fish Creek
GOLDEN HORN MTN.
Cowley Creek
Cowley Lakes
IBEX MTN.
Ibex Lake
MT. GRANGER
C.L. 2989
C.L. 2990
C.L. 2991
COAL RIDGE
Wolf Creek
Coal Lake
DOUBLE MTN.
60°30'
Duggale Creek
Friday Creek
ROBINSON
EXPLORATION LICENCE 301
Horse Creek
Two Alligator Lake
Watson River
Note: C.L. 2991 = Coal Lease
2 0 2 4 6 8 Kilometres
SCALE
WHITEHORSE COAL CORP.
WHITEHORSE COAL PROPERTY
MAP OF COAL LEASES AND EXPLORATION LICENCE
PREPARED BY: J.H. Perry
DATE: MAR. '84
FIG. NO. 2
DRAWN BY: B.J. Carr
JHP COAL-EX CONSULTING LTD

GEOLOGY OF THE WHITEHORSE COAL DEPOSIT

Trevor Bremner
Exploration and Geological Services Division
Indian and Northern Affairs Canada
Whitehorse, Yukon

SUMMARY

Anthracite in floodplain deposits of the Cretaceous Tantalus Formation is preserved in a west-trending graben on the south side of Mt. Granger, 24 km southwest of Whitehorse. The graben extends from Fish Lake to Double Mountain, a distance of 20 km. Two main seams are exposed by bulldozer trenches across the central part of the Mt Granger property. The upper seam is about 1.8 m thick at surface and has been traced almost continuously over a strike length of 2 km. The lower seam is at least 3.3 m thick at surface and can be traced for more than 1 km. The seams dip at about 30°-50° to the north. Rotary drilling in 1985 on the central showing penetrated up to 22.25 m of coal. The best continuous coal intersection was 13.1 m in WC-85-6. Open pittable reserves were calculated at 180 033 tonnes over a 335 m strike length.

Six days of mapping in 1987 confirmed the continuity of the two main coal seams which are deformed by gentle north-plunging folds. A north-trending fault along Fisher Creek cuts off massive conglomerate channel deposits interbedded with the coal in the main showing area against recessive floodplain deposits to the west, where up to five coal-bearing horizons occur in a thick shale sequence. Additional reserves may lie beneath the low-lying overburden-covered area west of the Fisher Creek Fault.

HISTORY

Coal was first discovered on Mt. Granger in 1899 and reported by McConnell in 1901. By 1906 coal occurrences had been traced over a 20 km strike length and between 1906 and 1908 several trenches and an 18 metre adit were excavated into the uppermost of three coal seams exposed in Fisher Creek on the southwest side of Mt. Granger. In 1908, Cairnes reported the results of four analyses, one from the face of the adit and three from outcrop. The results indicated semi-anthracite coal with an average 36% ash content.

In 1942, the U.S. Army Corps of Engineers briefly examined the coal deposit and shipped a small tonnage for use in Whitehorse that winter.

Luscar Ltd acquired three coal exploration licences in the area in 1969. Consultants R.S. Taylor and Associates ltd undertook reconnaissance geological mapping, hand trenching and sampling on Luscar's behalf. One to three seams up to 1.83 m thick were described within a coal-bearing section which was traceable over a strike length of 10 km. More than 2 386 125 tonnes of recoverable coal were estimated to lie above the level of the valley floor.

In 1975, B. Savage acquired two coal exploration licences and prospected the area. J. Hughes reviewed available data.

P. Poggenburg et al. staked a coal mining lease in 1981 and acquired a coal exploration licence on an area to the southeast. Two additional mining leases were added in 1982 and Whitehorse Coal Corporation was formed. Construction began on an access road from Wolf Creek. Three trenches were excavated in the Fisher Creek and West Hill areas and a geological reconnaissance was made by R. Hill. Combustion tests on three samples taken by Mr. Hill indicated the samples were meta-anthracites with an average 3.5% moisture, 38.2% ash and 19 765 kj/kg heating value.

A further six trenches were excavated in 1983, the access road was completed and J. Perry undertook three days of geological reconnaissance.Perry estimated in situ coal reserves of 85 million tonnes assuming a thickness of 3.05 metres, a strike length of 10 km and a downdip extent of 500 metres.

In 1985 two short bulldozer trenches were excavated and six vertical rotary holes totalling 275 m were drilled along the slope above the main showing along a 335 m strike length. Gamma-neutron, density, resistivity and caliper logs were run. The logs showed good correlation between five of the six drillholes. Drill cuttings were logged by L. Carlyle. Coal intersections up to 13.1 m were encountered. In WC-85-4 a total of 22.25 m coal was penetrated in 8 layers interbedded with conglomerated and shale. The best single intersection in this drillhole was 8.5 m. Some of the cleaner coal bands contained as little as 15% ash. Carlyle calculated drill-indicated reserves of 180 033 tonnes within the drilled area.

In 1986 the main pit was surveyed and enlarged, with a headwall slope of 60°. The volume of the main pit was estimated at 15 297 cubic metres.

WEST

EAST

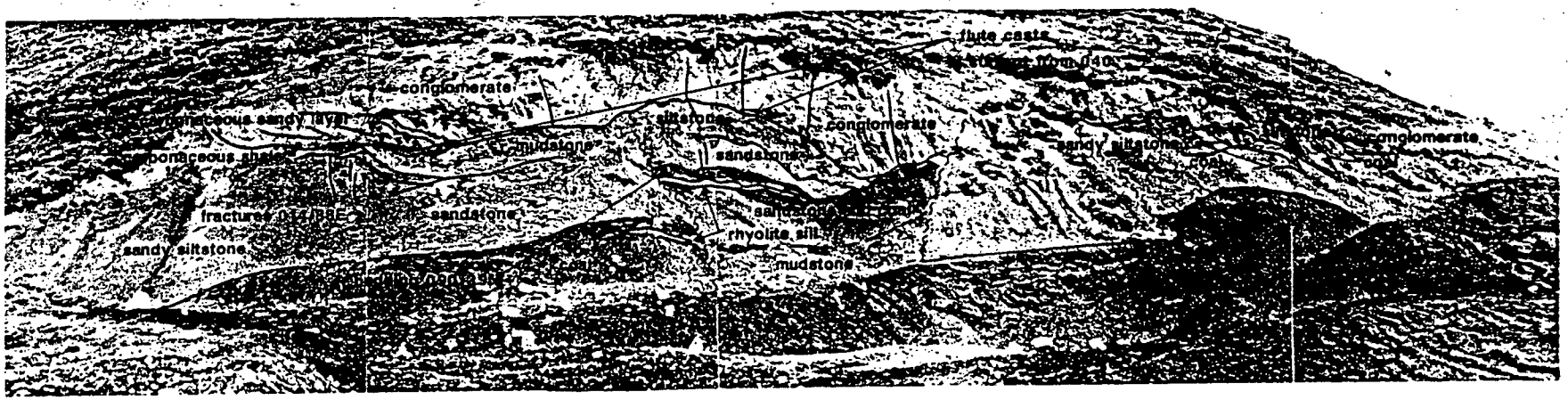


Figure 10

Synsedimentary faulting of coal and mudstone layers at east end of main pit.

Figure 7

Baked margins of lower coal seam which has been cut by a thin rhyolite sill. Coal shows columnar jointing for about 8 cm either side of the sill.

STRATIGRAPHY

The Whitehorse coal deposits lie within non-marine strata of the Early Cretaceous Tantalus Formation which occupy a graben 1.7 km long extending from Double Mountain which lies 10 km east of Mt Granger to Fish Lake 10 km northwest of Mt Granger. Figure 1 shows the central part of the graben which is bounded on the north side by coarse submarine fan conglomerates and deep basinal shale and greywacke of the Jurassic Laberge Group (J. Dickie, personal communication), and on the south side by pyroclastic rocks and siltstone of the Triassic Lewes River Group.

The Tantalus Formation in the Mt. Granger area is approximately 670 m thick and consists of braided river or alluvial fan conglomerate and sandstone interlayered with fine-grained siltstone, mudstone and coal. More than nine major channels can be mapped near the Mt. Granger area. Individual channels up to 2 km wide are flat-bottomed and lenticular in cross-section and appear to have a width to depth ratio of more than 16:1. Paleocurrent indicators show the main flow was from a northwest to northeast direction. Floodplain deposits are laterally extensive and well preserved due to the lack of downcutting by the aggrading channels above.

Channel-fill deposits range from clast-supported pebble conglomerate to matrix-supported conglomerate, coarse grit and pebbly sand. The coarser channel fills (Figure 2) have rounded 1-4 cm pebbles of dark grey chert and minor white quartz in a matrix of fine well-sorted sand. Lag deposits may contain pebbles up to 8 cm. The channels show scoured bases, with flute casts commonly preserved on the underside (Figure 3). The finer channel deposits are commonly cross-stratified with beds 5-30 cm thick. Both coarsening and fining-upward trends are seen and some depositional units show reversals.

Floodplain deposits consist of crossbedded silty sandstone, siltstone, mudstone, carbonaceous shale and coal (Figure 4). Mudstone bands up to 15 cm thick and shale partings in the coal seams caused by frequent overbank flooding are reflected in the high ash content of some samples.

Two main coal seams have been reported in the area (Figures 5 and 6). The lower seam, exposed in trenches at the base of West and East Hills ("Coal Zone B" of Perry, 1984) is a minimum of 3.3 m thick and is overlain by up to 6 metres of siltstone, mudstone and fine-grained crevasse-splay sands. Mapping strongly suggests the lower seam is continuous over a strike length of at least 1 km with no decrease in thickness. In the main pit at the base of West Hill a 15 cm thick rhyolite sill intrudes the coal seam. For 8 cm either side of the dyke the coal has been baked to a porous coke-like material showing columnar jointing (Figure 7). Coal sampled in the main pit may be of higher rank than coal elsewhere on the property due to the local heating.

The upper seam (Perry's "Coal Zone A") is 1.8 m thick and is exposed almost continuously in trenches and pits between Fisher Creek and East Hill, a strike length of 2 km. The coal layer is overlain directly by massive channel-fill conglomerate, or separated from it by less than 1 metre of mudstone.Coal seams of similar thickness and stratigraphic position outcrop on Coal Ridge and Double Mountain. If these seams are correlative the total strike length would exceed 8.4 km.

WEST

EAST

Figure 4

Conglomerate channel scoured into silty and fine sandy floodplain deposits exposed in main pit. A 3.4 m coal seam (coal zone "B") is exposed at the base of the section.

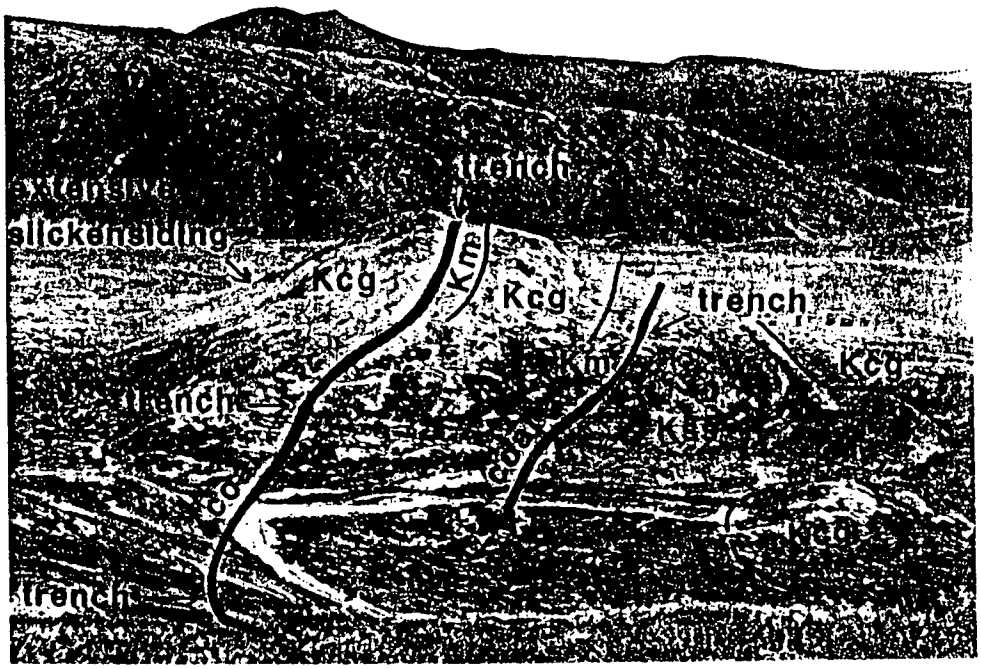


Figure 5

East Hill from the summit of West Hill. Upper and lower coal seams dip 30–50 degrees N between layers of channel–fill conglomerate.

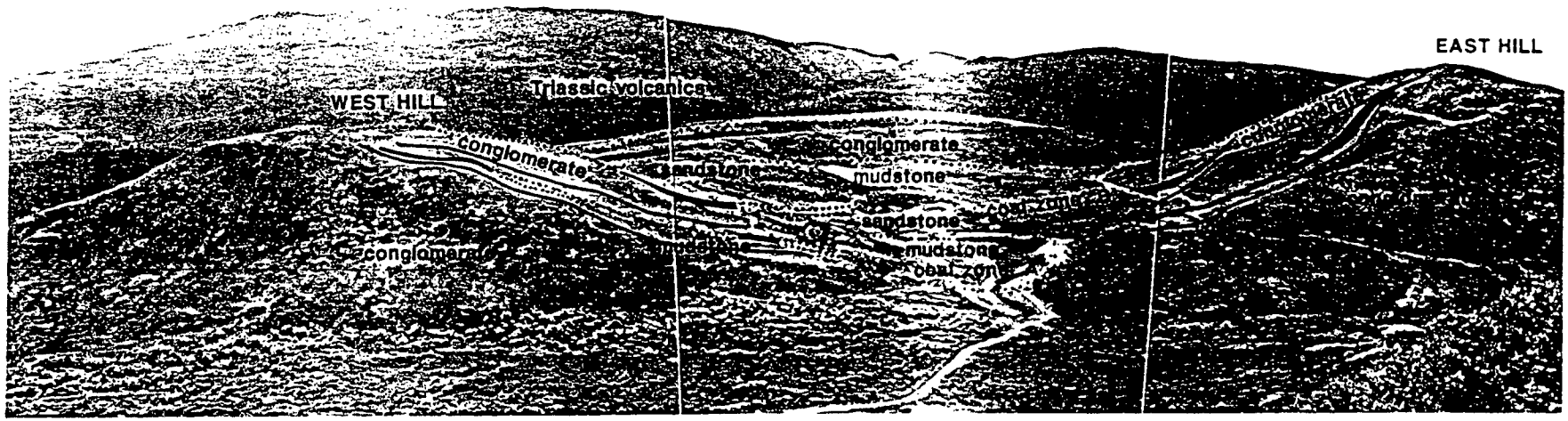


Figure 6

Whitehorse Coal property looking south, showing location of upper and lower coal seams.

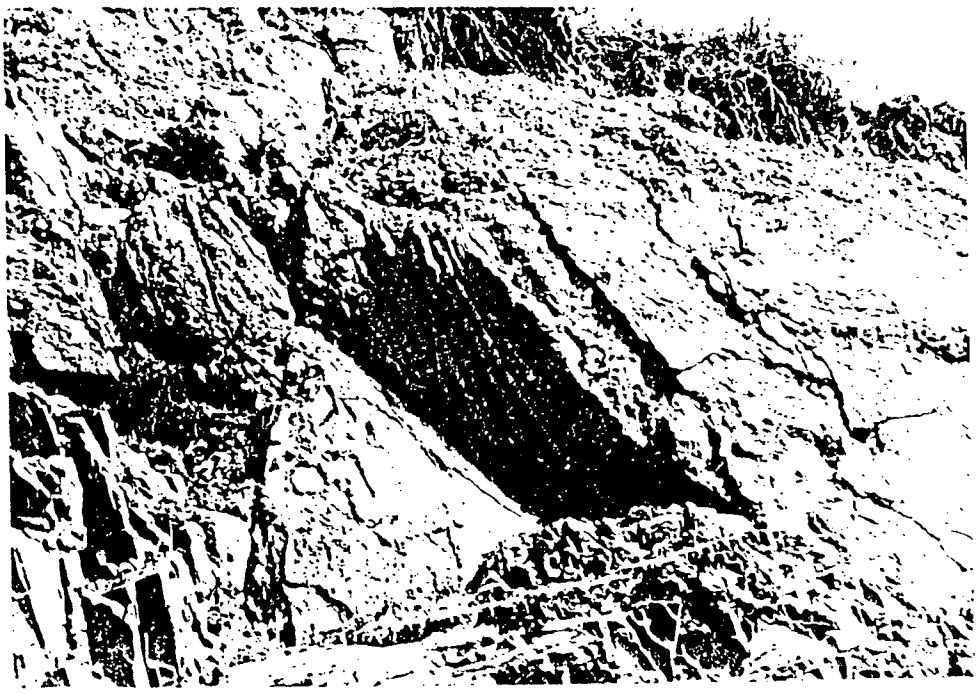


Figure 3

Flute casts at the base of the channel which overlies the lower coal seam.

Figure 2

Channel-fill deposit: massive

chert-pebble conglomerate

The upper coal seam is also exposed on the west side of Fisher Creek where it was penetrated by an adit prior to 1906. However, it appears to have been displaced across a north-trending fault which follows the lower part of the creek. On the west bank of the creek the fine-grained floodplain deposits underlying the upper coal seam are at least 69 metres thick and contain at least four other coal seams including the middle and lower seams reported by Cairnes (1906), Taylor (1969) and Hill (1982). A greater thickness of recessive floodplain sediments on the west side would explain the lack of outcrop west of the fault.

STRUCTURE

Figure 8 shows discordant bedding attitudes across the bounding faults of the graben. Within the graben the Tantalus Formation is deformed by large open upright folds which plunge northward. Pervasive north-south cleavage is probably axial planar to these folds (Figure 9).

Figure 10 shows channel-fill conglomerate at the east end of the main pit on West Hill folded into an open anticline. The coal intersected in drillholes above the main pit appears to be thickened in the axis of this anticline. Several small faults with about 2 metres displacement have offset the underlying coal and mudstone layers only, suggesting soft-sediment deformation.

Fisher Creek appears to follow the trace of a sinuous strike-slip fault. Slickensides along the creek plunge consistently northward at low angles. Approximately 100 metres of sinistral movement would account for the displacement of Coal Zone A across the creek.

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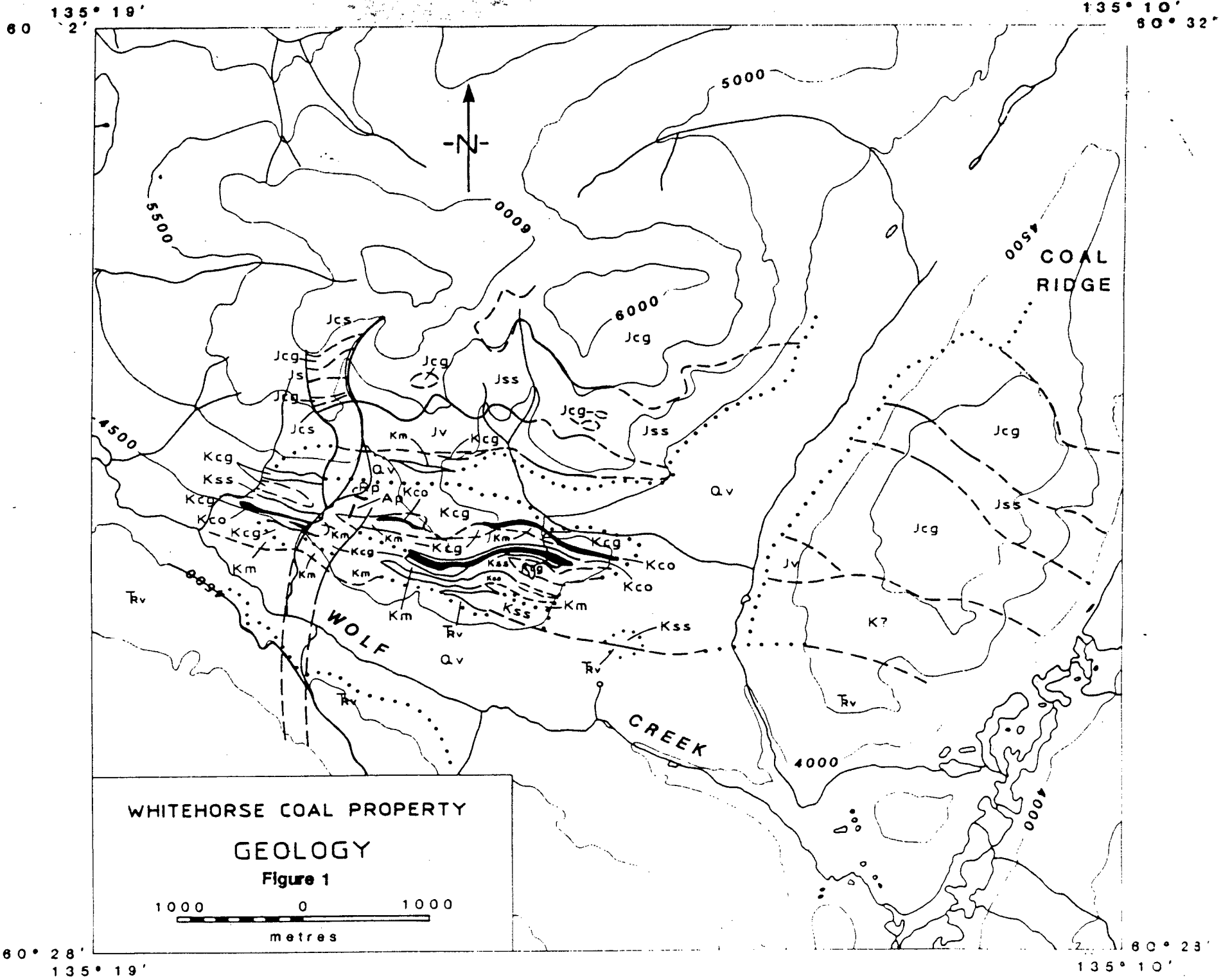
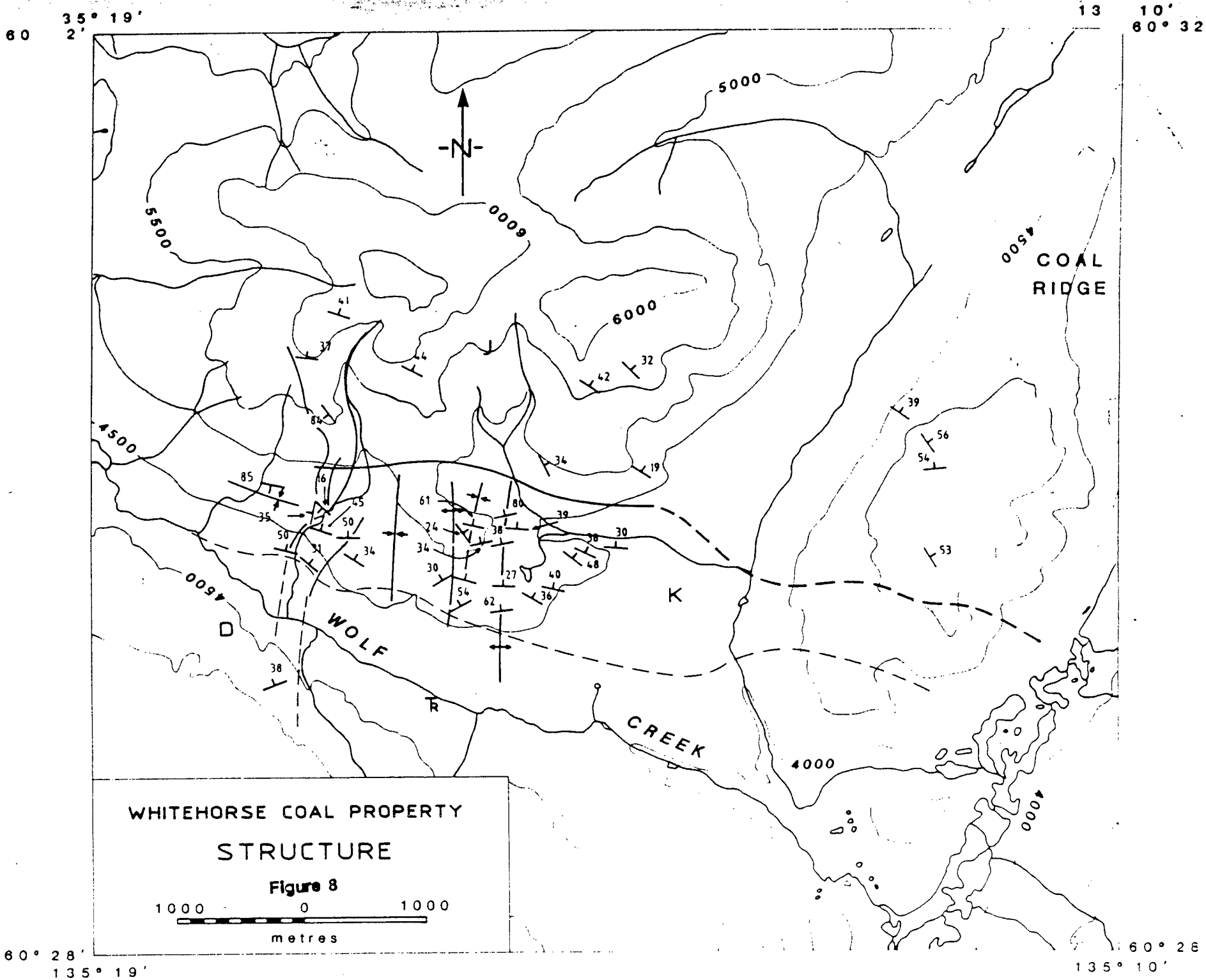
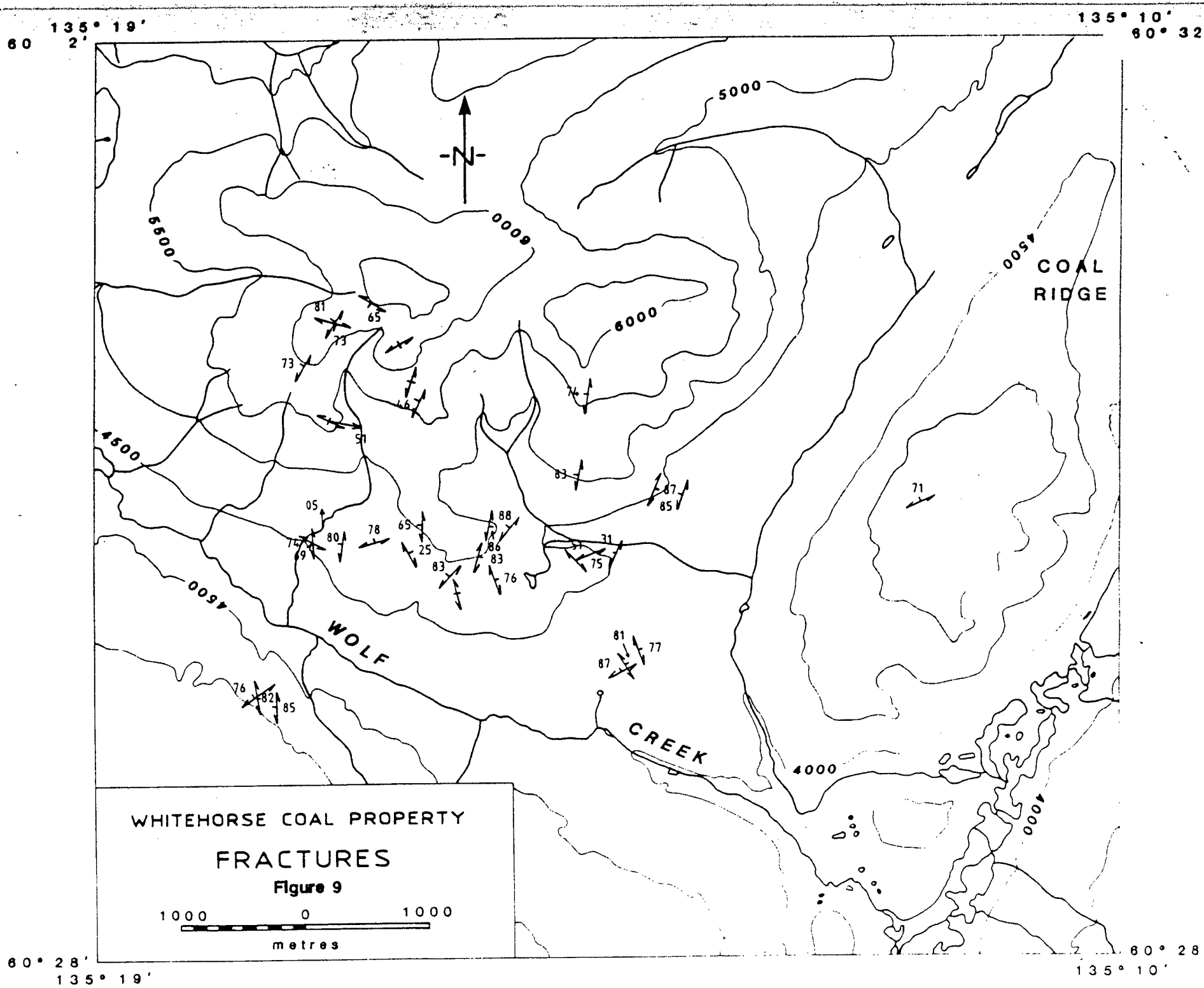

135° 19'
135° 10'
60° 32'
60° 28'
60° 23'
135° 19'
135° 10'
-N-
5000
5500
6000
4500
4000
COAL
RIDGE
WOLF
CREEK
Jcs
Jcg
Js
Jss
Jv
Km
Kcg
Kss
Kco
Qv
Ap
Trv
K?
WHITEHORSE COAL PROPERTY
GEOLOGY
Figure 1
1000 0 1000
metres


135° 19'
60 2'
13 10'
60° 32'
-N-
5000
5500
6000
4500
4000
COAL
RIDGE
K
D
WOLF
CREEK
WHITEHORSE COAL PROPERTY
STRUCTURE
Figure 8
1000 0 1000
metres
60° 28'
135° 19'
60° 26'
135° 10'


135° 19'
60 2'
135° 10'
60° 32'
-N-
5000
5500
6000
4500
4000
COAL
RIDGE
WOLF
CREEK
WHITEHORSE COAL PROPERTY
FRACTURES
Figure 9
1000 0 1000
metres
60° 28'
135° 19'
60° 28'
135° 10'

LEGEND

QUATERNARY

Qv alluvium, glacial deposits.

EOCENE?

Rp rhyolite-porphyry dykes.

EARLY CRETACEOUS

Tantalus Formation (non-marine floodplain deposits).

Kcg conglomerate: generally clast-supported. Well-rounded chert pebbles in sandstone matrix.

Kss sandstone, commonly coarse-grained, pebbly to gritty, displays trough cross bedding.

Km mudstone, commonly carbonaceous grading to coal. Associated fine dark silty sandstone and siltstone.

Kco coal, with variable shale partings and thin mudstone bands.

JURASSIC

Laberge Group (submarine fan and basinal deposits).

Jcg conglomerate, massive, weathers pinkish: matrix-supported with well-rounded cobbles 15-20 cm dia. of augite porphyry, green and white speckled crystal tuff and lesser granodiorite in a dark muddy matrix.

Jss sandstone, feldspathic, weathers pinkish. Grades to greenish crystal tuff.

Js argillite: dark grey with minor very fine silt and sand laminations.

Jcs chert, banded, and siliceous hornfels.

TRIASSIC

Lewes River Group (island arc volcanics).

Trv tuff, green and white speckled lithic tuff with feldspar crystals

Tra argillite, dark grey, weathers brown.

APPENDIX C

1985 DRILL HOLE ANALYSES

BY

COMMERCIAL TESTING & ENGINEERING CO.

COMMERCIAL TESTING & ENGINEERING CO.
1707 FRANKLIN STREET, VANCOUVER, B.C. V5L1P6 • TEL. (604) 255-2688, TELEX 04 508763

DIVISION OF
C & E TESTING CORPORATION

SINCE 1908

WHITEHORSE COAL CO.

1.8 Float Analysis

DRY BASIS

Sample	% Yield Float	% Ash	% V.M.	% F.C.	% S.	Btu/Lb
1 (46-48)	17.5	22.05	6.82	71.13	0.62	10695
1 (58-60)	8.0	22.88	7.85	69.27	0.62	10450
1 (82-84)	11.9	22.13	8.40	69.47	0.59	10693
2 (14-16)	11.9	23.60	8.07	68.33	0.62	10773
2 (54-56)	20.5	20.68	9.61	69.71	0.67	11196
3 (70-72)	23.6	23.52	7.11	69.37	0.57	10673
3 (78-80)	45.5	21.40	7.60	71.00	0.62	11096
3 (126-128)	0.6	16.66	6.28	77.06	0.68	12005
4 (96-98)	42.8	24.67	6.93	68.40	0.64	10496
4 (102-104)	55.6	25.96	7.05	66.99	0.52	10471
4 (116-118)	10.2	25.21	6.24	68.56	0.43	10412
4 (183-184)	1.5	21.75	5.00	73.25	0.63	11042
5 (120-122)	25.6	20.78	7.29	71.93	0.56	11070
5 (128-130)	24.5	19.68	5.85	74.47	0.55	11203
5 (136-138)	58.6	24.61	7.70	67.70	0.47	10537
6 (138-140)	23.0	23.64	6.17	70.19	0.42	10629
6 (142-144)	45.2	22.93	7.73	69.34	0.54	10678