K-TCAT MOUNTAIN 75(1)A 1 of 5

1975 EXPLORATION ON

B.C. COAL LICENCES 21 AND 22

(copy 2)

E.W. BERESFORD

FEBRUARY 1976

OPEN FILE

K-TENT MOUNTAIN 75(1)A
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B. C. REG. NO. - 436/75 -COAL ACT 1974

COLEMAN COLLIERIES LIMITED

1975 EXPLORATION ON B.C. COAL LICENCES 21 AND 22

N.T.S. MAP REF. 82G/10E

By: E.W. Beresford,C.E.T.

February,1976

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APPENDICES

FOR ANALYSIS DATA, REFER TO CONFIDENTIAL COAL ANALYSIS FILE.

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I N T R O D U C T I O N

1.0 Tent Mountain is situated in the South West part of Alberta and straddles the inter-provincial boundary into South East British Columbia. (see Index Map - Appendix 1)

The Company have coal leases and holdings on 3,796 acres in Alberta and 378 acres under licence in British Columbia, with an additional lease arrangement with Kaiser Resources Ltd. on 359 acres.

Surface mining of coal has been carried out since 1949 mainly in relatively small scale operations, in some 4 locations, on the mountain.

As a follow up on exploration carried out in 1973 and 1974 on theAlberta side of Tent Mountain, the program was extended to cover the B.C. Licences 21 and 22.

Exploration approval was given in June 1975 on the filed plan of operations as an extension of the #3 Pit Mine Permit #108, and the following documentation sets out the 1975 work in detail as required under the Coal Act Regulations.

G E O L O G Y

2.0 Two stratqgraphic units or formations are present on Tent Mountain, the Kootenay formation of the Lower Cretaceous period and the Fernie Formation of the Jurassic period. (see Geol. Map - Appendix 11)

The Kootenay formation consists of massive sandstones, siltstones and mudstones with numerous coal seams and exceeds 1,500 ft. in thickness, in this area but at no location is a complete section present.

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Geology - continued

The upper portion of the Kootenay formation is always missing either by erosion or faulting and no evidence of the overlying Blairmore Formation has been found.

Basically there are 5 coal seams at Tent Mountain considered mineable throughout the take, numbered 2,4,5,6 and 7 from the basal unit upwards.

The structure is quite complex with severe folding and thrust faulting from West to East of variable displacements, with repetitions of the coal seams and seam thickening.

The Fernie Formation underlies the Kootenay Formation and is generally of dark marine shales with a gradational zone from massive sandstone to shale over 100 ft. to 150 ft. in thickness.

The Fernie shales are a well recognisable unit approx. 2,000 ft. thick at Tent Mountain and weather easily at the surface, with worm burrows being abundant in the drill cores at depth.

2.1 SEAM DESCRIPTION

The major coal seams can be traced from the Alberta side of the border into the B.C. Licence area and shown on Map #1 (Appendix 111) and cross-sections Appendix 1V. The true dip of the seams, vary from 45^{o} to 70^{o} in an East/West monoclinal structure on a 350^{o} strike. The lowest seam in the Kootenay formation has been given the #2 designation, and varies from 20 ft. to 60 ft. in thickness with normally a shale split in the seam varying from 2 ft. to 9 ft. This seam is repeated to the South by the action of a thrust fault which causes some additional thinning and thickening especially near the surface. The seam has a sandstone roof with a sandstone, siltstone floor.

Approx. 200 ft. stratographically above the #2 seam is a coal and shale horizon known as the #3 Seam. On the Alberta side of the border the #3 horizon varies from 8 ft. of coal to a carbonaceous shale

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Seam Description continued

over a distance of 3,000 ft, and in the B.C. Licence area is present as a coaly shale approx. 5 ft. thick. This seam has been discounted in any reserve calculations. The #4 Seam lying 430 ft. stratographically above the #2 Seam is consistent throughout the property varying in true thickness from 14 ft. to 22 ft. and averaging 17 ft. thick.

This seam has a Siltstone/Mudstone roof with a similar floor, and the strata between the #4 and #2 Seams is of massive sandstone.

The #5 Seam horizon lying approx. 189 ft. above the #4 Seam varies from 30 ft. to 80 ft. in thickness with small shale bands present in the seam.

The strata between #5 and #4 seam is a mixture of sandstones, siltstones and dense mudstones, the seam having a hard silty mudstone roof and floor. The #5 Seam horizon has been interpreted as two seams to the North of the licence area, namely 5A and 5B with 5B thickening to the South and 5A thinning to a coaly shale approx. 40 ft. between the two seams.

In British Columbia the 5B seam is present, averaging 60 ft. and was mined from 1952 - 1955 in a trench cut known as #4 Pit South.

Towards the Southern limit of the licence area the #5B Seam is trenched at the surface and is 80 ft. thick, but some 300 ft. down dip is cut off by a thrust fault.

The #6 Seam is stratographically 150 ft. above the #5B Seam and has a variable thickness, from 8 ft. to 26 ft. in the South, and is affected by thrust-faulting and is cut off at depth.

Between #5B and #6 Seams, the strata is a mixture of siltstone and mudstones with carbonaceous shale.

The #7 Seam has generally been cut-off by the major thrust

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Seam Description - continued

fault which repeats the Fernie and Kootenay sequence on the East Flank of the mountain. The fault has a displacement in excess of 1,000 ft. and at surface takes most of the #7 Seam out.

The cross-sections drawn through the area show the geological sequence and are found in Appendix 1V.

3.0 EXPLORATION DETAILS

Prior to 1973 no diamond core drilling had been done at Tent Mountain, but during 1973 and 1974 some 33 holes were drilled comprising 38,471 ft. with extensive trenching of seams both in the Nos. 2,3 and 4 mining areas and over approx. 3,000 acres of land mainly on the Alberta side of the Border.

As a follow up to this exploration the 1975 drilling program was extended into the Company's B.C. Licence areas 21 and 22, with infill holes on the East Flank of the mountain, down to 2,000 ft. of cover.

During the past year a total of 9 holes comprising 8,456 ft. of HQ (2½") core drilling has been carried out in British Columbia with 4,800 ft. being in the licence area and 3,656 ft. in the adjacent Kaiser holdings. (See Appendix V1 - Drill Hole data).

A total of 1,870 yds. of new access road was made together with seam trenching by a D6 cat. bulldozer and by hand comprising 150 yds.

Detailed geological mapping of the surface has been carried out together with detailed logging of the drill core.

The coal core recovery overthe program averaged 93% and all the coal core was sent for independent analysis to Birtley Engineering and Warnock Hersey, Calgary. Each seam is analysed for Ash, F.S.I., Sulphur

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Exploration details continued

and yields at different specific gravities.

The diamond drilling was contracted out to the Tonto Drilling Co. Vancouver using a Longyear 44 Rig equipped with wireline.

The core is stored at theColeman Collieries Plant site at Coleman in 5 ft. X 1 ft. wooden boxes, clearly marked with Hole and Box number.

3.1 EXPLORATION 1976

Future exploration is planned during 1976 to trace the seams through to the Corbin road some 3,000 ft. past the Company's Southern licence boundary. Prior to submitting a further on-going drilling and exploration program, the Company is presently negotiating with both Kaiser Resources Ltd. and Crows Nest Industries for the Agreement to carry out this work.

A supplemental plan of operations will be submitted to the B.C. Government for approval when such an agreement is finalised.

4.0 RESERVE ESTIMATES AND QUALITY

From drilling and outcrop provings an in-situ coal reserve is estimated for the B.C. Licence area as 17.11 million short raw tons taken down to the 2,000 ft. cover line, using the sp. gr. of raw coal as 1.50.

Arithmetical mean values of the individual seam is given below based on core recovery, throughout the total area.

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SUMMARY OF BOREHOLE RESULTS (1975)

		RAW ANALYSIS			FLOATS AT 1.60 + 28 MESH			28m X 0 F.F. STAGE 1		
Seam No.	% Core Rec.	Wt.- 28m	Ash	F.S.I.	Wt. %	Ash	F.S.I.	Wt.	Ash	F.S.I.
2	89.8	15.2	31.6	-	56.1	13.3	4½	39.6	19.0	5½
4	92.8	16.1	33.3	-	59.0	14.5	3½	44.1	18.6	4
5B	96.0	11.9	25.6	-	70.3	10.0	5½	48.2	11.6	6½
6	94.4	15.2	17.4	-	78.6	6.2	6½	43.8	9.1	7

These results are comparable with the 1973/74 core analyses of the same seams on the Alberta side of the border and indicate the better quality metallurgical coals are seams #6 and 5B with seams #2 and #4 having to be washed at lower sp. gravities with corresponding low yields to meet present day metallurgical coal markets. The B.T.U. value of the coal is between 11,000 and 13,500 at a 1.60 float with 0.50% sulphur, and volatile matter from 24 - 28

5.0 SURVEY PROCEDURE

The area was mapped to a scale of 1" - 200' by photo grammetrical means, after survey control points were established by Burnett Resource Surveys Ltd. prior to flying.

The Universal Transverse Mercator grid, the Alberta Township Grid System and the #4 Pit Grid system are superimposed on the plans.

The British Columbia - Alberta inter-provincial boundary monuments established by R.W. Cautley D.L.S. in 1914 were used as the base lines for the Tent Mountain Surveys. From these base lines a network of stations were established by:

(a) triangulation

(b) Distomat and Tellurometer

(c) traverse surveys.

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Survey procedure - continued.

All drill holes, trenches and road systems were traversed by theodolite from base lines and points plotted by co-ordinates.

Mile Post 6 of the McLatchie meridian has been tied in to the above grid system and this meridian line forms the West Boundary line of Licences 21 and 22.

The local #4 Pit grid system is based on a grid North line of 7° 10' 00" West of Astro North with Monument 89F having co-ordinates of 1828.45 ft. East and 1751.02 ft. North with an elevation of 7,048.7 ft.

All cross-sections are drawn throughout the area on this #4 Pit Grid system at 500 ft. intervals.

The U.T.M. co-ords. for Monument 89F are 2,187,591.36 ft. East and 18,014,031.66 ft. North elevation 7,048.7 ft., with the U.T.M. North North Line being 1° 48' 00" East of Astro North.

6.0 STATEMENT OF QUALIFICATIONS

E. W. Beresford: Exploration Manager

Qualifications:

Certified as Engineering Technologist(Mining) in Alberta.
Qualified Mining Surveyor (1956) with Higher National Certificate (U.K.) Mining & Geology
City & Guilds Final in Surveying, Mining & Geology
Surface Coal Mine Managers Certificate(Alberta) pending.

Experience:

From 1951 - 1969 working for the National Coal Board in

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Statement of Qualifications continued

Experience continued

various capacities as a Mining Surveyor and Mine Planning Engineer with main experience in underground mining but with some open-pit experience.

From 1969 - 1976 employed in the coal industry in Western Canada for McIntyre Mines Ltd. and Coleman Collieries Ltd. in Planning, Geological and Exploration work, including Environmental aspects of mining.

Experience in the coal industry amounting to 25 years.

C. A. Brazzoni - Geologist

Degree in Geology from University of Calgary (1974) and employed as Geological Assistant with Coleman Collieries since March, 1975. Previous experience in coal exploration and open-pit work with Kaiser Resources Ltd.

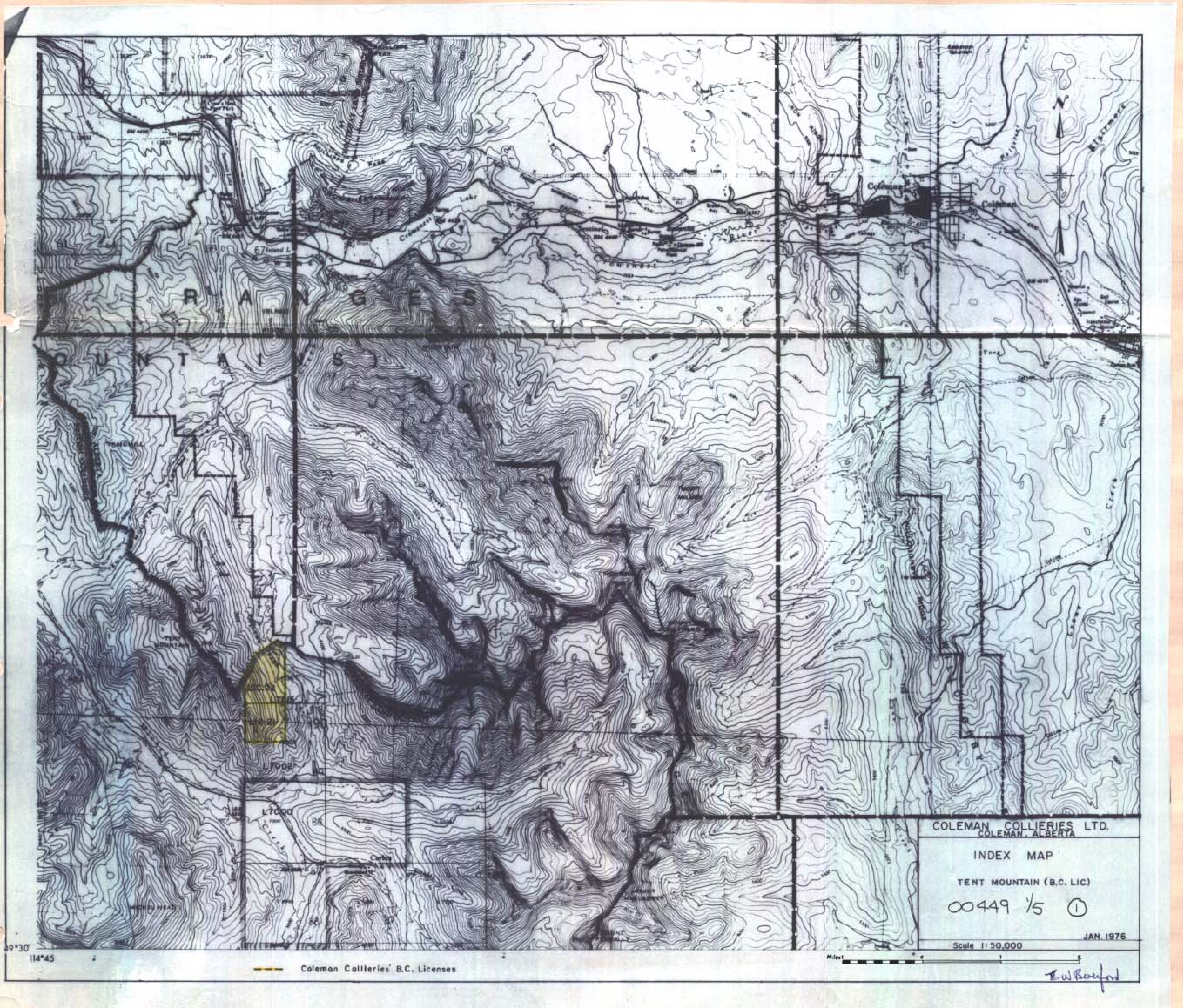
The compilation of this report including field and drilling supervision was carried out by Mr. E. W. Beresford with the assistance of Mr. C. Brazzoni.

The geological interpretation and final presentation was checked out and agreed by the Company's Geological Consultant Mr. P. Dyson.

Signed: E.W. Beresford.

E. W. Beresford, C.E.T.
Exploration Manager

Feb. 23/ 76


RANGES
COLEMAN COLLIERIES LTD.
COLEMAN, ALBERTA
INDEX MAP
TENT MOUNTAIN (B.C. LIC)
00449 1/5 ①
JAN. 1976
Scale 1:50,000
49°30'
114°45
Coleman Collieries' B.C. Licenses
Coleman
Crowsnest
River

R A N G E S

O U N T A I N S

Coleman

Coleman

COLEMAN COLLIERIES LTD.
COLEMAN, ALBERTA

GEOLOGICAL MAP

TENT MOUNTAIN (B.C. LIC.)

00449 1/5 (2)

JAN 1976

Scale 1:50,000

49°30'

114°45

LEGEND:

Cretaceous, Kootenay Fm. (K_{Kt})

Jurassic, Fernie Fm. (J_{Fe})

Thrust Fault

Coleman Collieries Licenses

40N Section Line

E.W. Bamford

APPENDIX V

DEPARTMENT OF MINES AND PETROLEUM RESOURCES

Coal Act (Sec. 19)

APPLICATION TO EXTEND TERM OF LICENCE

1. I, Eric W. Beresford (Name) agent for Coleman Collieries Limited (Name)

Box 118 (Address) Coleman (Address)

Coleman (Address) Alberta (Address)

Valid FMC No. (1976) 151368

hereby apply to the Minister to extend the term of Coal Licences No(s). 21 and 22

for a further period of one year.

2. I have performed, or caused to be performed, during the period January 25th, 1975 to January 25th, 19 76, work to the value of at least $ 192,272 on the location of coal licences as follows:

CATEGORY OF WORK	Licence No(s).	Apportioned Cost
Geological mapping		$ 4,500
Surveys: Geophysical	Combined	-
Geochemical	21 and 22	-
Other		4,000
Road construction		7,800
Surface work		4,700
Underground work		-
Drilling		92,640
Logging, sampling, and testing		21,442
Reclamation		850
Other work (specify)		56,360

3. I wish to apply $ 192,272 of this value of work on Coal Licence(s)* 21 and 22

4. I wish to pay cash in lieu of work in the amount of $ - on Coal Licence(s) No(s). -

5. I wish to apply $ - of this value of work to claim a refund of cash in lieu of work in the amount of $ - which was paid to extend the term of Coal Licence(s) No(s). - from - to - , 19 . Mining Receipt No. -

for prior payment of cash in lieu of work *is attached* for adjustment.

6. The work performed on the location(s) is detailed in the attached report entitled Forthcoming Exploration Program 1975 - B.C. Coal Licences 21 and 22 Tent Mountain

January 20th, 1976 (Date)

E.W. Beresford (Signature and position) Exploration Manager

* Applications to group licences may be filed to apportion costs on a maximum of 10 licences.

(FORMS TO BE SUBMITTED IN DUPLICATE)

FOR DEPARTMENTAL USE ONLY

Value of work reported $ Value of work applied on licences $

Value of work approved $ Value of credit remaining $

Work performed. Yes [X] No [ ]

The program of operations detailed hereunder was carried out during the period from Jan. 25th 1975 to January 25th, 1976. Total costs are $192,272, an average of $ 508.65 per acre.

GEOLOGICAL MAPPING Yes [X] No [ ] Cost $ 4,500

	Area (Acres)	Scale	Time
Reconnaissance	600 Ac.	1" = 200'	June-July, 1975
Detail: Surface	378 Ac.	1" = 200'	July - Sept. 1975
Underground	-	-	
Other (specify)	Kaiser/C.N.I. Holdings		

GEOPHYSICAL OR GEOCHEMICAL SURVEYS Yes [ ] No [X] Cost $ -

Method Line miles

OTHER SURVEYS Yes [X] No [ ] Cost $ 4,000

Grid Universal Transverse Mercator Topographic Photo Mapping Other Traverse Survey Crew (See (1)

ROAD CONSTRUCTION Yes [X] No [ ] Cost $ 7,800

Length: On Licences 800 Yards Access (off licences) 1,070 Yds.

SURFACE WORK Yes [X] No [ ] Cost $ 4,700

	Length	Licence Number(s)
Trenching	80 Yards	
Seam tracing	70 Yards	
Crosscutting	140 Yards	Grouped 21 and 22
Other	Moving Drill Rig	

UNDERGROUND WORK Yes [ ] No [X] Cost $

Test adits: Number Average length Total footage

Other workings: Area - Total footage

DRILLING Yes [X] No [ ] Cost $ 92,640

	Hole Size	Number of Holes	Total Footage
Core: Diamond [ ] Wireline [X]	HQ(2½")	5	4,800 ft.
Rotary: Conventional [ ]			
Reverse circulation [ ]			
Other			

Contractor Tonto Drilling Co. Where core stored Coleman, Alberta.

LOGGING, SAMPLING, AND TESTING (check) Yes [X] No [ ] Cost $ 7,284 (Logging) 14,158 (Testing)

Lithology: Drill samples [ ] Core samples [X] Bulk samples [ ]

Logs: Gamma-Neutron [X] Density [X] Other [ ]

Testing: Prox. analysis [X] FSI [X] Washability [ ]

Carbonization [ ] Petrographic [ ] Plasticity [ ] Other [ ]

OTHER WORK (specify details) See Items (1)(2)c.d.(6) & (7) Cost $ 56,360

REPORTS:

Reclamation work (Permit No. 108) Detail of work* Full report in course of preparation - Due on January 31st, 1976 to Mr. J. McDonald

Cost $ 3,250

OPERATIONS:

Work was supervised by E. W. Beresford C.E.T. Position Exploration Manager

Is this person a registered or licensed Professional Engineer in British Columbia? Yes [ ] No [X]

NOTE—Where the licensee intends to perform, during the extended term of his licence, work not set out in the plan of operations filed under section 15 (2) (c), a supplemental plan of operations is to be attached.

* If reclamation work reported in separate report give details of report identification.

VALUATION OF WORK: COST STATEMENT
(Sec. 27, B.C. Reg. 436/75)

ON-PROPERTY COSTS: For period from Jan. 25 1975 to Jan. 25th, 1976

1. OPERATOR'S FEES, SALARIES, AND WAGES:

	Average Number of Employees	Average Rate	Average Number of Days	Amount
Professional and technical	2	$105	120	$25,200
Machine operators and support	2	$ 80	128	20,480
Miners	—			
Other	—			

Total operator's costs $ 45,680

2. CONTRACTORS AND CONSULTANTS:

Name	Service	Contract Amount
W. Wenisch Contracting	D6 Dozer	12,500
Tonto Drilling Co.	Diam. Drilling	92,640
P. Dyson Consultants	Geology	7,000
Salloway Drafting	Drafting	2,500
Burnett Resource Surveys	Photogrammetry	4,000
Roke Oil Ltd.	Tonto	7,284

Total contractor and consultant costs $ 7,284

3. EQUIPMENT AND INSTRUMENTS USED: Owned ____ Rented ____

Type	Rented From	Amount
All survey equipment owned by Coleman Collieries - Other equipment expensed to Contractors		

Total equipment and instrument rentals $ —

4. FIELD CAMP COSTS:

	Amount
Food	
Accommodation	
Fuel	
Other	

Total field camp costs $

5. SAMPLING, ANALYSIS, AND TESTING:

Service	Performed by	Amount
Core analysis	Birtley Eng. Ltd.	2,578
Testing of Core Samples	Harnock Hersey	11,580

Totals, samplings, analysis, and testing $ 14,158

6. SUPPLIES AND MATERIALS COSTS:

	Amount
Process supplies (Core Boxes)	1,760
Operating and maintenance supplies	600
Office and technical supplies	1,500
Other supplies and materials	200

Total, supplies and materials $ 4,060

7. TRANSPORTATION COSTS (Ground transportation details):

Vehicles	Owner	Rental Rate	Amount
1 4 X 4 G.M. Truck	Coleman Collieries	$320/Month	$1,600

Air support details:

Aircraft Type	Owner	Charter

Total transportation costs $ .....

8. RECLAMATION WORK:

Drill sites - Initial levelling/seeding $ 850.00

9. TRAVEL EXPENDITURES (operator's costs only):

Number of Personnel	Number of Trips	Amount
2	Every day during program	

Total travel expenditures $ Included in (1)

Total costs $.....

(Secs. 28 and 29, B.C. Reg. 436/75)

OFF-PROPERTY COSTS: Period from June to December, 19 75

	Amount
(a) Logistics and field support	$
(b) Technical and feasibility studies	Still underway - not yet completed
(c) Preparation of reports	Still underway - not yet completed
(d) Supplies and services	
(e) Mobilization and demobilization of equipment	Included in drilling costs ($5,000)
(f) Travelling expenses (Itemize)	(Vancouver/Coleman & Return) with drill rig

Supporting Cost Statements Attached

Total $ Not yet known

Amount

Total supporting costs $.....

SUMMARY

On-property costs $ 192,272

Off-property costs $ Not yet known

Total costs $ 192,272

Statement of costs verified by E. W. Beresford - Exploration Manager
E. Walton - Controller

E W Beresford

January 20/76
(Date)

(Signature and position)

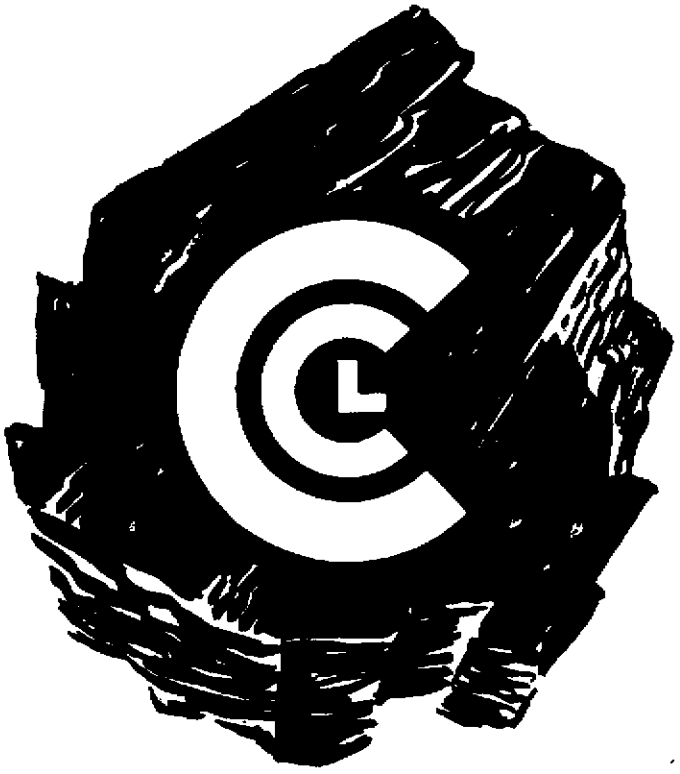
K-TENT MOUNTAIN 75(3)A 2 of 5

1975 DRILL HOLE LOGS

(Book 3-1) (copy 2)

E.W. BEDFORD FEBRUARY 1976

COLEMAN COLLIERIES LIMITED



K-TENT MOUNTAIN 75(3)A
(copy 2)

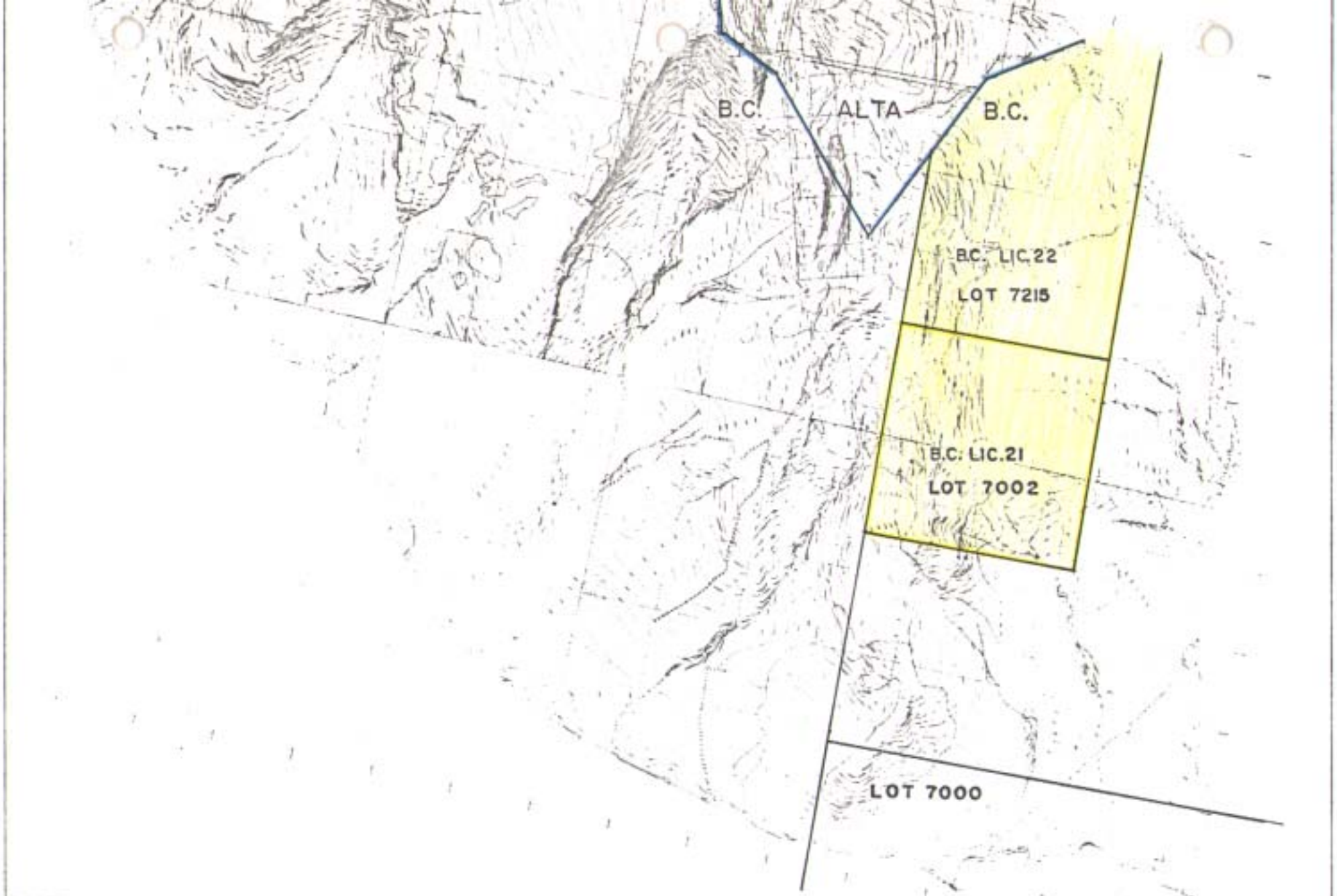
1975 DRILL HOLES

B. C. LICENCES Nos. 21 & 22

OPEN FILE

N.T.S. Map Reference 82G/10E

INDEX



COLEMAN COLLIERIES LTD.

B.C. LICENCES

Scale 1" = 1600'

1975 DRILLING PROGRAM

PEACE MOUNTAIN

LOCATION	COMPANY	HOLE No.	CO-ORDINATES				SEAM No.	COAL INTERVAL	POSSIBLE RECOVERY	ACTUAL RECOVERY	PERCENT RECOVERY	TOTAL DEPTH	COST $
			LATITUDE	DEPARTURE	ELEVATION	GRID							
B.C. Licences	Tonto Drilling Ltd.	TD-75-40 (90°)	872.09N	2325.88E	6812.5'	#4 Pit		5.3' - 71.6'	66.3'	59.8'	90.2%		
								160.0' - 201.4'	41.4'	37.9'	91.4%		
								207.0' - 241.4'	34.4'	27.8'	80.7%		
								303.0' - 325.6'	22.6'	21.5'	95.1%		
								390.2' - 476.3'	86.1'	81.9'	95.1%		
								764.6' - 885.0'	120.4'	115.7'	96.0%	933.0'	
		TD-75-43 (75°E)	648.22N	2284.38E	6768.4'	#4 Pit		45.0' - 68.0'	23.0'	20.4'	88.7%		
								189.8' - 240.5'	50.7'	47.85'	93.6%		
								496.5' - 612.1'	115.6'	108.25'	93.6%		
								790.2' - 812.8	22.6'	20.4'	90.3%		
								867.1' - 876.0'	8.9'	8.4'	94.4%	1,440.0'	
		TD-75-49 (80°E)	12464.5 N	87670.1E	6446.1'	U.T.M.		768.9' - 875.3'	106.4'	100.05'	94.0%		
								1,048.3' - 1,058.5'	10.2'	10.2'	100.0%	1,380.0'	
		TD-75-55 (75°E)	11903.3 N	87905.7E	6144.1'	U.T.M.		97.85' - 258.2'	160.35'	158.65'	98.9%		
								545.5' - 569.5'	24.0'	22.1'	92.1%	1,227.0'	
								627.5' - 635.5'	8.0'	7.5'	93.8%		
		TD-75-57 (90°)	11903.3N	87901.7E	6144.1	U.T.M.		228.5' - 306.0'	77.5'	74.7'	96.4%		
								337.5' - 361.3'	23.8'	23.8'	100.0%		
								373.5' - 414.0'	40.5'	39.0'	96.3%	850.0'	
								810.0' - 821.8'	11.8'	6.3'	53.4%		
		TD-75-60 (49.5°E)	10635.0N	88405.2E	6124.8'	U.T.M.		5.0' - 15.0'	10.0'	6.3'	63.0%		
								437.9' - 469.5'	31.6'	23.7'	74.3%	689.0'	
		TD-75-70 (61°E)	11081.1N	87740.2E	5927.1'	U.T.M.		469.5' - 489.5'	20.0'	17.4'	87.0%		
								567.0' - 579.0'	12.0'	10.8'	90.0%		
								938.0' - 945.5'	7.5'	1.9'	25.3%		
								949.0' - 957.0'	8.0'	6.0'	75.0%	980.0'	
		TD-75-74 (51°E)	-708.0N	2125.0E	6125.0'	#4 Pit		7.0' - 14.2'	7.2'	7.0'	97.2%		
								493.0' - 504.8'	11.8'	11.5'	97.5%		
								517.5' - 570.8'	53.3'	48.8'	91.6%	704.0'	
		TD-75-76 (65°E)	467.0N	2714.0E	6695.0'	#4 Pit		119.0' - 135.0'	16.0'	15.3'	95.6%	325.0'	

COLEMAN COLLIERIES LIMITED

TENT MOUNTAIN - TD-75-40

CORE LOG

July 16th, 1975.

0.0' - 5.3' No core - Casing

5.3' - 71.6' COAL ZONE

	Poss.	Act.	Description
5.3' - 7.5'	2.2'	1.9'	shattered broken claro-durain
7.5' - 8.2'	.7'	.7'	broken claro-durain
8.2' - 9.2'	1.0'	1.0'	broken claro-durain
9.2' - 11.0'	1.8'	0.0'	- - -
11.0' - 12.3'	1.3'	.9'	broken claro-durain
12.3' - 13.6'	1.3'	1.3'	broken claro-durain
13.6' - 15.2'	1.6'	.9'	broken claro-durain
15.2' - 16.5'	1.3'	1.2'	broken claro-durain
16.5' - 18.2'	1.7'	1.7'	mostly broken claro-durain, odd hard piece
18.2' - 20.0'	1.8'	1.8'	broken claro-durain
20.0' - 22.0'	2.0'	2.0'	broken claro-durain
22.0' - 26.0'	4.0'	4.0'	claro-durain, mostly hard pieces
26.0' - 30.0'	4.0'	3.8'	hard, broken pieces of claro-durain
30.0' - 33.0'	3.0'	3.0'	mostly hard, broken pieces of claro-durain, some shattered
33.0' - 36.0'	3.0'	3.0'	mostly hard, broken pieces of claro-durain, some shattered
36.0' - 40.0'	4.0'	3.3'	same as above
40.0' - 45.0'	5.0'	5.0'	hard broken claro-durain
45.0' - 50.0'	5.0'	5.0'	same as above, some hard pieces
50.0' - 57.0'	7.0'	5.4'	hard, broken claro-durain
57.0' - 62.0'	5.0'	4.4'	some very hard pieces of claro-durain
62.0' - 63.0'	1.0'	1.0'	hard claro-durain
63.0' - 65.0'	2.0'	1.9'	same as above
65.0' - 68.0'	3.0'	3.0'	same as above
68.0' - 70.0'	2.0'	2.0'	same as above
70.0' - 71.6'	1.6'	1.6'	same as above
	66.3'	59.8'	

Recovery 90.2%

71.6' - 160.0' Dark almost black mudstone/silstone with carb. partings, quite massive, odd slickensided fractures

80.0' - 84.0' - shaley zone contains carbonaceous material, broken

127.0' - 151.0' - laminae of fine grained sandstone appearing in mudstone/siltones showing some X-bedding

145.0' - B.C.A. 18°

151.0' - 153.0' - shattered mudstone/siltstone, a little iron staining

153.0' - 156.0' - broken mudstone/siltstone carbon partings and slickensided fractures

160.0' - 201.4' COAL ZONE

	Poss.	Act.	Description
160.0' - 165.0'	5.0'	4.7'	Claro-durain, some shattered, some blackjack
165.0' - 167.0'	2.0'	1.95'	Claro-durain, some shattered, some blackjack
167.0' - 170.0'	3.0'	3.0'	Same
170.0' - 174.0'	4.0'	4.0'	Same
174.0' - 175.0'	1.0'	1.0'	Same
175.0' - 180.0'	5.0'	5.0'	Hard Claro-durain
180.0' - 184.0'	4.0'	3.95'	Hard claro-durain
184.0' - 189.0'	5.0'	4.4'	Hard claro-durain
189.0' - 194.0'	5.0'	4.75'	Hard claro-durain, plus some blackjack
194.0' - 196.0'	2.0'	1.7'	Broken claro-durain
196.0' - 198.3'	2.3'	1.8'	Broken claro-durain
198.3' - 201.4'	3.1'	1.6'	Broken claro-durain
	41.4'	37.85'	

Recovery 91.4%

201.4' - 207.0' Dark, almost black mudstone

207.0' - 241.4' COAL ZONE

	Poss.	Act.	Description
207.0' - 210.0'	3.0'	2.25'	Broken, shattered claro-durain
210.0' - 214.0'	4.0'	3.9'	Broken, shattered claro-durain
214.0' - 216.5'	2.5'	2.2'	Broken claro-durain
216.5' - 220.0'	3.5'	1.6'	Broken claro-durain
220.0' - 223.0'	3.0'	2.2'	Mostly shattered
223.0' - 226.0'	3.0'	2.0'	Broken, shattered claro-durain odd hard piece
226.0' - 230.0'	4.0'	3.5'	Broken claro-durain some blackjack
230.0' - 232.0'	2.0'	2.0'	Broken claro-durain
232.0' - 235.0'	3.0'	2.4'	Broken, claro-durain, almost shattered, last six inches is shale
235.0' - 240.0'	5.0'	4.3'	First foot shale, remaining shattered claro-durain
240.0' - 241.4'	1.4'	1.4'	Slurry, coal and water
	34.4'	27.75'	

Recovery 80.7%

241.4' - 264.5' Dark carb. shale with numerous small coal stringers and/or partings, portions very broken.

264.5' - 303.0' Dark almost black mudstone/siltstone few small calcite stringers, odd slickensided fracture, few laminae of lighter fine grained sandstone.

286.5' - fractured zone - numberous calcite stringers
284.0' - B.C.A. 14°

303.0' - 325.6' COAL ZONE

	Poss.	Act.	Description
303.0' - 305.0'	2.0'	2.0'	Mostly broken claro-durain
305.0' - 309.5'	4.5'	4.4'	Broken claro-durain
309.5' - 314.0'	4.5'	3.9'	First 4 inches shale, rest broken claro-durain, almost shattered
314.0' - 317.5'	3.5'	3.3'	Some blackjack, mostly claro-durain
317.5' - 320.0'	2.5'	2.3'	Broken claro-durain
320.0' - 323.0'	3.0'	3.0'	Broken claro-durain
323.0' - 325.6'	2.6'	2.6'	Broken claro-durain
	22.6'	21.5'	

Recovery 95.1%

325.6' - 337.0' Dark almost black mudstone/siltstone

337.0' - 352.0' Medium grain sandstone with numerous calcite stringers as well as carbonaceous partings

352.0' - 355.0' Broken and recemented sandstone and siltstone, numerous calcite stringers infilling hairline fractures (brecciated type rock) clasts of sandstone, mudstone and siltstone

355.0' - 385.0' A dark grey v.fine grained sandstone/siltstone with many small calcite stringers, hairline fracturing

369.0' - Small carb. stringer with slickensided fractures
373.0' - Carb. parting 6"

385.0' - 389.5' Dark almost black mudstone, some carb. material, odd fractures showing slickensides

389.5' - 390.2' Med. grain sandstone, light gray colour

390.2' - 476.3' COAL ZONE

	Poss.	Act.	Description
390.2' - 392.0'	1.8'	1.8'	Broken claro-durain, odd hard piece
392.0' - 396.5'	4.5'	4.5'	Broken claro-durain, some shattered
396.5' - 399.0'	2.5'	2.5'	First 1.2 ft. shale, rest broken claro-durain
399.0' - 400.0'	1.0'	0.5'	- - -
400.0' - 404.0'	4.0'	2.8'	Broken claro-durain
404.0' - 405.5'	1.5'	1.35'	Broken claro-durain
405.5' - 410.0'	4.5'	4.2'	Broken claro-durain, last .4' shale
410.0' - 413.0'	3.0'	3.0'	Shale
413.0' - 417.0'	4.0'	3.2'	First .9' broken claro-durain, rest shale
417.0' - 420.0'	3.0'	2.9'	Broken, friable claro-durain, odd hard piece
420.0' - 422.0'	2.0'	1.85'	Claro-durain, hard pieces
422.0' - 425.5'	3.5'	3.4'	Broken shale and coal
425.5' - 427.0'	1.5'	1.5'	Hard claro-durain

	Poss.	Act.	Description
427.0' - 430.0'	3.0'	2.75'	Hard claro-durain, some vitrain
430.0' - 433.25'	3.25'	3.05'	Hard claro-durain, some shattered portions
433.25' - 437.25'	4.0'	3.95'	Hard claro-durain, some shattered portions
437.25' - 440.0'	2.75'	2.75'	Claro-durain
440.0' - 443.0'	3.0'	3.0'	Broken claro-durain, some shattered
443.0' - 446.0'	3.0'	3.0'	Broken claro-durain, hard pieces
446.0' - 450.0'	4.0'	4.0'	Broken claro-durain, hard pieces
450.0' - 453.0'	3.0'	3.0'	Broken claro-durain, hard pieces,
453.0' - 458.0'	5.0'	5.0'	Broken claro-durain, hard pieces
458.0' - 463.0'	5.0'	4.7'	Broken claro-durain, hard pieces
463.0' - 466.0'	3.0'	2.9'	Broken claro-durain, hard pieces
466.0' - 470.0'	4.0'	4.0'	Hard claro-durain
470.0' - 474.5'	4.5'	4.5'	Hard claro-durain, some vitrain
474.5' - 476.3'	1.8'	1.8'	Hard claro-durain
	86.1'	81.85'	

Recovery 95.1%

476.3' - 515.0' Dark almost black siltstone/mudstone with small stringers of carbonaceous material, slickensided fractures, blackjack within stringers;except for stringers quite massive.

Difficult for B.C.A. 485 Approx. 24°
Stringers contain much vitrain

510.0' - 514.0' - Shattered zone of carb. material and mudstone/siltstone

515.0' - 517.0' Light grey fine grained sandstone with small calcite stringers and hairline fractures

517.0' - 661.0' Dark siltstone/mudstone with zones containing carb. and shale, some slickensided fractures (some showing pyrite), carb. material abundant with vitrain, odd sandy zone

542.0' - B.C.A. approx. 26°
546.0' - 547.0' - Carb. and shale
550.0' - 552.0' - Carb. and shale
555.0' - Carb. stringer 2"
563.0' - (Dark) carb. stringer 2"

661.0' - 672.0' Interbedding mudstone and v. fine sandstone (light)

672.0' - 685.0' V. Dark grey silty mudstone, dense with no structure, Bedding numerous plant remains

685.0' - 725.0' Fractured, broken section for 2' - 0" length. Fine sandstone interbedded with siltstone - many calcite streaks, X-bedding in the sandstone, gradational to a med. grained sandstone at 725.0

B.C.A. 30°

725.0' - 749.0' Light grey med. grained sandstone some cross bedding evident, calcite streaks prevalent

749.0' - 752.0' Dense, dark grey/black mudstone, slickensided

752.0' - 759.8' Interbedded sandstone, fine grained with silty mudstone, X-bedded

759.8' - 763.6' Very dark grey-black mudstone, dense with coaly fragments - becoming true coal at 764.6

764.6' - 885.0' COAL ZONE

	Poss.	Act.	Description
764.6' - 767.6'	3.0'	3.0'	Hard durain - some vitrain
767.6' - 768.6'	1.0'	1.0'	Shale
768.6' - 770.0'	1.4'	1.4'	Durain - vitrain, hard coal
770.0' - 772.0'	2.0'	1.6'	Hard durain well defined vitrain and clarain
772.0' - 775.5'	3.5'	3.0'	Hard durain well defined vitrain and clarain
775.5' - 780.0'	4.5'	4.3'	Shale 8"
780.0' - 785.0'	5.0'	5.0'	B.C.A. in Coal 35°
785.0' - 790.0'	5.0'	5.0'	Hard durain - well defined vitrain
790.0' - 795.0'	5.0'	5.0'	Hard durain - well defined vitrain
795.0' - 799.0'	5.0'	2.1'	Very soft coal, vitrain pieces and coal slurry
799.0' - 803.75'	4.75'	4.75'	Very soft coal, vitrain pieces and coal slurry
803.75' - 807.0'	3.25'	3.25'	Some 2" shale bands evident
807.0' - 810.0'	3.0'	3.0'	Shale bands and coal
810.0' - 815.0'	5.0'	5.0'	Claro-durain, vitrain, hard coal pieces
815.0' - 820.0'	5.0'	5.0'	Shale
820.0' - 825.0'	5.0'	5.0'	Shale to 822' then regular coal
825.0' - 830.0'	5.0'	5.0'	Coal claro-durain - vitrain (hard)
830.0' - 835.0'	5.0'	5.0'	Coal claro-durain - vitrain (hard)
835.0' - 839.0'	4.0'	4.0'	Shale
839.0' - 843.0'	4.0'	4.0'	Shaley coal
843.0' - 848.0'	5.0'	5.0'	Hard regular coal
848.0' - 853.0'	5.0'	5.0'	Hard regular coal
853.0' - 858.0'	5.0'	5.0'	Hard regular coal
858.0' - 860.0'	2.0'	1.2'	Soft coal and coal slurry - some 1" shale bands
860.0' - 862.0'	2.0'	1.5'	All soft friable coal
862.0' - 865.0'	3.0'	2.6'	Soft coal, shaley at 864.5'
865.0' - 870.0'	5.0'	5.0'	Shaley 868.0' - 869.0'
870.0' - 880.0'	10.0'	10.0'	Hard coal durain - vitrain (B.C.A. in coal 35°)
880.0' - 885.0'	5.0'	5.0'	Shaley 882.0' - 884.0'
	120.4'	115.7'	

Recovery 96%

885.0' - 888.0' Predominant shale/mudstone with interbedded coal in 1" - ½" bands

888.0' - 925.0' Dark grey mudstone becoming silty, dense - broken section at 895'-897' No bedding apparent but core breaking at B.C.A. of 40°

925.0' - 927.0' Coal and shale mixed

927.0' - 930.0' Dark mudstone becoming silty at base

930.0' - 933.0' Fine grained sandstone - siltstone - apparent B.C.A. 45°

T.D. 933.0'

COLEMAN COLLIERIES LIMITED

TENT MOUNTAIN - TD-75-43 (75° E)

CORE LOG

July 31, 1975

Footage

0.0' - 11.0' No core. Casing

11.0' - 25.3' Very broken, light grey-fine grained sandstone with mudstone partings as well as carb. partings, few slickensided fractures, small calcite stringers associated with hairline fractures

25.3' - 30.0' COAL & SHALE ZONE

	Poss.	Act.	Description
25.3' - 30.0'	4.7'	4.5'	Carbonaceous zone containing claro-durain, shaley partings (blackjack)

30.0' - 40.0' Dark black carbonaceous shale with numerous slickensided fractures, heavily broken, some iron staining

40.0' - 45.0' Dark, almost black mudstone/siltstone, quite hard

45.0' - 68.0' COAL ZONE

	Poss.	Act.	Description
45.0' - 49.5'	4.5'	4.5'	Mostly slickensided shale (blackjack) with coaly partings
49.5' - 54.5'	5.0'	5.0'	First 4' very shaley with blackjack and durain, remaining 1' claro-durain
54.5' - 59.0'	4.5'	3.8'	Broken shattered claro-durain, some blackjack
59.0' - 63.0'	4.0'	2.0'	Broken claro-durain, very shaley
63.0' - 65.5'	2.5'	2.6'	Broken claro-durain, some vitrain
65.5' - 68.0'	2.5'	2.5'	Broken claro-durain
	23.0	20.4	

Recovery 88.7%

68.0' - 70.0' Dark, almost black mudstone

70.0' - 120.0' Light grey, fine grained sandstone, X-bedding as well as other flow type structures, generally heavily broken, few calcite stringers, few mudstone clasts

77.0' - coarse grained, heavily broken, some iron staining, carb. partings

90.0' - 98.0' - small conglomeretic partings within the sandstone, carb partings as well, pebbles of sandstone and mudstone poorly sorted, medium sand matrix

98.0' - medium grained

120.0' - 125.0' Hard, dark, mudstone/siltstone

125.0' - 128.0' Partings of light grey fine grained sandstone and dark mudstone/siltstone

128.0' - B. C. A. 47°

128.0' - 148.0' Hard dark, mudstone/siltstone, few laminae of lighter medium grained sandstone

148.0' - 151.5' Well bedded, light grey, medium grained sandstone X-bedded, few carb partings, iron staining on fractures

151.5' - 159.0' Dark Zone with medium grained sandstone partings as well as mudstone/siltstone

159.0' - 189.8' Light grey, medium — coarse grained sandstone with numerous carb. partings, X-bedding, few slickensided fractures

160.0' - B. C. A. 50°
178.0' - 180.0' - Iron staining

189.8' - 240.5' COAL ZONE

		Poss.	Act.	Description
	189.8' - 192.5'	2.7'	2.7'	Broken claro-durain
#6	192.5' - 195.3'	2.8'	2.7'	Broken claro-durain
	195.3' - 197.5'	2.2'	2.3'	Broken claro-durain, few hard pieces of durain
	197.5' - 200.0'	2.5'	2.5'	Same above
	200.0' - 204.5'	4.5'	4.3'	Claro-durain - hard pieces
	204.5' - 205.0'	.5'	.25'	Claro-durain
	205.0' - 210.0'	5.0'	4.6'	Mostly claro-durain, little vitrain odd hard piece of durain
	210.0' - 215.0'	5.0'	4.45'	Claro-durain, few hard pieces of durain, little vitrain
	215.0' - 218.5'	3.5'	3.35'	Claro-durain
	218.5' - 220.0'	1.5'	1.4'	Claro-durain
	220.0' - 223.5'	3.5'	3.4'	Claro-durain, hard pieces
	223.5' - 225.0'	3.5'	3.5'	Broken claro-durain
	227.0' - 230.0'	3.0'	2.9'	Claro-durain, little vitrain
	230.0' - 232.5'	2.5'	2.5'	Claro-durain, broken
	232.5' - 236.0'	3.5'	3.1'	Broken claro-durain
	236.0' - 240.5'	4.5'	3.5'	Broken claro-durain
		50.7'	47.85'	

Recovery 93.6%

240.5' - 269.5' Dark almost black mudstone/siltstone, latter 20' heavily broken, and contains numerous small carb. partings and slickensided fractures

269.5' - 281.0' Light grey, fine grained sandstone, slickensided fractures, hairline fractures calcite infilling

279.0' - B. C. A. 32°

281.0' - 434.0' Hard, dark almost black mudstone/siltstone upper portion has a few carb. partings, few laminae of lighter very fine grained sandstone hairline fractures infilled with calcite, X-bedding

335.0' - B. C. A. 34°

370.0' - 1' shattered zone

434.0' - 450.0' Interbedding of light grey very fine grained sandstone with dark mudstone/siltstone, X-bedding

450.0' - 473.0' Light grey fine grained sandstone, X-bedding, few laminae of dark mudstone/siltstone, odd calcite stringer

454.0' - B. C. A. 39°

460.0' - 3" fracture blocks of ss within calcite
462.0' - 3" same as above

473.0' - 485.0' Interbedding of light grey fine grained sandstone with dark mudstone, X-bedding as well as other flow type structures

482.0' - B. C. A. 40°

485.0' - 496.5' Dark, dense black mudstone, odd calcite stringer

496.5' - 612.1' COAL ZONE

	Pos.	Act.	Description
496.5' - 500.0'	3.5'	3.5'	Hard pieces of claro-durain as well as some shattered
500.0' - 503.5'	3.5'	3.3'	Claro-durain, hard pieces
503.5' - 506.5'	3.0'	2.7'	Mostly claro-durain, small 2" shale parting
506.5' - 510.0'	3.5'	3.5'	First 1.5' shattered claro-durain remainder hard pieces claro-durain
510.0' - 513.0'	3.0'	3.1'	Claro-durain, small 2" shale parting
513.0' - 517.0'	4.0'	3.8'	Claro-durain, few hard pieces
517.0' - 520.0'	3.0'	2.9'	Claro-durain, soft portions
520.0' - 525.0'	5.0'	4.6'	Claro-durain
525.0' - 528.0'	3.0'	2.8'	Claro-durain
528.0' - 533.0'	5.0'	5.0'	Hard pieces claro-durain
533.0' - 537.0'	4.0'	3.9'	Hard pieces claro-durain
537.0' - 540.0'	3.0'	2.1'	Claro-durain
540.0' - 543.5'	3.5'	3.3'	Claro-durain, odd hard piece
543.5' - 547.0'	3.5'	3.0'	Claro-durain, last 4" shale
547.0' - 549.0'	2.0'	2.0'	1.5' of shale, remaining claro-durain
549.0' - 552.0'	3.0'	2.8'	Mostly shale with carb. partings
552.0' - 556.0'	4.0'1	3.65'	Hard claro-durain
556.0' - 560.0'	4.0'	4.0'	Hard claro-durain
560.0' - 564.0'	4.0'	3.5'	Claro-durain, some shattered
564.0' - 567.0'	3.0'	2.6'	Claro-durain
567.0' - 570.0'	3.0'	2.4'	Broken claro-durain
570.0' - 577.0'	7.0'	6.4'	Mostly claro-durain, few shale partings 2"- 3"
577.0' - 583.0'	6.0'	5.5'	Claro-durain very shaley (first 3') some vitrain
583.0' - 587.0'	4.0'	3.6'	3 small 2" shale partings, rest claro-durain
587.0' - 590.0'	3.0'	2.9'	1' claro-durain shattered .5' shale remaining claro-durain
590.0' - 594.0'	4.0'	4.0'	Hard pieces claro-durain
594.0' - 597.5'	3.5'	3.4'	Hard pieces claro-durain some shattered
597.5' - 600.0'	2.5'	2.4'	Hard claro-durain
600.0' - 604.5'	4.5'	4.4'	Claro-durain
604.5' - 609.0'	4.5'	4.4'	Claro-durain, some (¼) soft portions otherwise hard pieces
609.0' - 612.1'	3.1'	2.8'	Partings of shale to coal alternately 4"- 5"
	115.6'	108.25'	

Recovery 93.6%

612.0' - 645.0' Dark mudstone/siltstone with the odd carbonaceous parting, few light grey sandstone laminae and odd calcite stringer (1/16")

637.0' - 639.0' - Very carbonaceous, numerous coal stringers largest .5'

645.0' - 650.0' Dark mudstone/siltstone with light grey fine grained sandstone laminae, X-bedded

649.0' - B. C. A. 43°

650.0' - 702.0' Dark mudstone/siltstone with calcite infilling hairline fractures, few laminae of light grey fine grained sandstone, carbonaceous partings; otherwise quite dense and massive

659.0' - 2" coal stringer
665.5' - 4" coal stringer
671.0' - 1" coal stringer

702.0' - 790.0' Light grey, mdeium grained sandstone, with odd laminae of mudstone, odd carb. parting, few clasts of mudstone

705.0' - B. C. A. 46°

728.0' - 729.0' - Shaley and coaly zone - dark
737.0' - 8" shale parting
740.0' - Conglomerate like - numerous mud clasts within sandstone (½" - 1½")
772.0' - 774.0' - Zone with numerous mud clasts, conglomerate like - various sizes (½" - 2")
780.0' - .5' shale band
781.5' - Sand coarse, numerous carb. partings

790.0' - 812.8' COAL ZONE

	Poss.	Act.	Description
790.2' - 795.0'	4.8'	4.8'	Generally hard durain, odd band of vitrain
795.0' - 797.0'	2.0'	2.0'	Hard durain, last .5' broken claro-durain
797.0' - 800.0'	3.0'	2.0'	Few shale partings small (1"-2") rest broken claro-durain
800.0' - 803.5'	3.5'	3.4'	First 4" shale remaining broken pieces of claro-durain, odd vitrain stringer
803.5' - 808.5'	5.0'	4.8'	Hard pieces claro-durain, little shattered
808.5' - 812.8'	4.3'	3.4'	Claro-durain
	22.6'	20.4'	

Recovery 90.3%

812.8' - 816.0' Dark shale, carbonaceous, few coaly partings (2" - 3")

816.0' - 867.1' Dark, mudstone/siltstone generally quite dense and massive except for odd coaly parting (usually vitrain)

867.1' - 876.0' COAL & SHALE ZONE

	Pos.	Act.	Description
867.1' - 869.0'	1.9'	1.6'	Claro-durain
869.0' - 872.0'	3.0'	3.0'	First 2.2' shale with coal partings (numerous) last .8' claro-durain
872.0' - 875.0'	3.0'	2.8'	Shattered as well as hard pieces claro-durain
875.0' - 876.0'	1.0'	1.0'	Claro-durain
	8.9'	8.4'	

Recovery 94.4%

876.0' - 914.0' Dark almost black mudstone/siltstone quite dense except for few laminae of fine grained, light grey sandstone

904.0' - B.C.A. 41°

914.0' - 926.0' Interbedding of light grey, fine grained sandstone with dark almost black mudstone/siltstone, X-bedding as well as other flow type structures, odd calcite stringer

921.0' - B.C.A. 56°

926.0' - 1,034.0' Light grey medium grained sandstone, upper 10' heavily X-bedding, odd laminae of mudstone/siltstone odd small carb. parting

950.0' - massive, no bedding
few mudstone clasts as well as odd partings 3"-4"

1,010.0' - B.C.A. 48°

1,012.0' - coarse grained

1,026.0' - 1,028.0' - numerous small carb. partings

1,029.0' - 1,030.5' - conglomerate parting - sandstone and mudstone pebbles, coarse sand matrix, pebble size 1/8" - 1/2"

1,034.0' - 1,053.0' Dark, almost black mudstone/siltstone, massive except for a few laminae of light grey fine grained sandstone

1,053.0' - 1,289.0' Light grey medium grained sandstone, heavily X-bedded, few mudstone partings (small), odd small carb. parting

1,060.0' - massive - no bedding

1,064.0' - coarse grained

1,072.0' - 1,081.0' - numerous small carb. partings

1,100.0' - medium grained
1,105.0' - 1,110.0' - fine grained, well bedded
1,110.0' - well bedded medium grained to coarse grained, odd 5' massive zone
1,160.0' - 1,169.0' - numerous carb. partings
1,169.0' - 1,170.0' - medium grey, mudstone parting
1,175.0' - 1,781.0' - numerous mudstone clasts, as well as numerous mudstone laminae
1,190.0' - 1,191.0' - medium grey mudstone parting
1,191.0' - 1,195.0' - numerous medium grey mudstone clasts
1,195.0' - 1,230.0' - coarse grained, portions almost granular with few small pebbles of sandstone, mudstone clasts and numerous carb. partings
1,215.0' - 4" conglomerate, ss. pebbles ¼ - ½", coarse sandstone matrix
1,230.0' - medium grained
1,282.0' - 1,283.0' - shaley parting, slickensided, some carb. material

1,289.0' - 1,297.9' Dark almost black mudstone, generally massive

1,297.9' - 1,303.5' COAL ZONE

	Poss.	Act.	Description
1,297.9' - 1,303.5'	5.6'	2.2'	Broken claro-durain, last foot shattered

Recovery 39.3%

1,303.5' - 1,393.0' Medium grey, medium grained sandstone, well bedded zones as well as massive zones, fine mudstone laminae increasing down section, few calcite stringers

1,329.0' - B.C.A. 58°

1,339.0' - fine grained, slightly darker color

1,393.0' - 1,409.0' Interbedding of fine, medium grey sandstone with dark mudstone, few hairline fractures infilled with calcite

1,408.0' - B.C.A. 33°

1,409.0' - 1,440.0' Interbedding of fine, medium grey sandstone with dark mudstone (same as above) however partings of dark mudstone now appearing, partings show flow type structures as well as blebs of sandstone (possible worm burrows), odd slickensided fracture, thickness and frequency of mudstone partings increasing down section. Fernie Formation.

TD 1,440.0'

COLEMAN COLLIERIES LIMITED

TENT MOUNTAIN - TD-75-49

CORE LOG

0.0' - 15.0'	No core (casing)
15.0' - 197.0'	Fernie formation, dark shale - well bedded, slickensided fractures, laminae of lighter fine grained sandstone, calcite stringers infilling hairline fractures, worm burrows, pyrite. Last 10' looks to be contorted badly.
197.0'	Fault Fe/Kt
197.0' - 247.0'	Light grey, medium grained sandstone, with fracturing almost paralleling core in upper 20', slickensided fracturers, few calcite stringers, generally quite massive, odd carb. parting.
247.0' - 254.0'	COAL Zone or parting - very soft friable coal - almost gouge like in character.
254.0' - 257.0'	Dark mudstone, slickensided fractures.
257.0' - 267.0'	Light grey, medium grained sandstone with shaley carb. partings (blackjack predominent) shaley carb. zones very broken almost shattered.
267.0' - 272.0'	Light grey medium grained sandstone, slickensided fractures.
272.0' - 277.0'	Dark carbonaceous shale (slickensided fractures - blackjack).
277.0' - 294.5'	Light grey, medium grained sandstone, slickensided fractures, odd carb. parting otherwise quite massive.
294.5' - 350.0'	Generally a medium grey very fine-fine-grained sandstone with bands of mudstone/siltstone, numerous slickensided fractures as well as hairline fractures with calcite infilling, some carb. material and blackjack. 335.0' - B.C.A. - 35°
350.0' - 353.0'	Light grey coarse-grained sandstone with carb. partings, few slickensided fractures with pyrite showing.
353.0' - 354.0'	Dark mudstone/siltstone calcite infilling fractures, some carb. material.
354.0' - 356.0'	Light grey fine-grained sandstone with numerous small calcite stringers.
356.0' - 357.5'	Carbonaceous zone - coal and slickensided shale (blackjack).
357.5' - 360.0'	Dark carbonaceous shale with numerous slickensided fractures (blackjack like).
360.0' - 411.0'	Dark mudstone/siltstone numerous slickensided fractures, calcite stringers, grains of lighter sandstone; massive.
411.0' - 416.0'	Light grey sandstone, fine grained, broken and recemented, small calcite stringers.

416.0' - 418.0' A dark mudstone/siltstone which has been broken and recemented (gouge like) numerous calcite stringers.

418.0' - 455.0' Dark mudstone/siltstone with numerous slickensided fractures and calcite stringers otherwise quite massive.

B.C.A. - impossible.

455.0' - 468.0' Dark carbonaceous shale, heavily slickensided (blackjack), odd stringer or parting of vitrain, heavily broken.

468.0' - 497.0' Dark mudstone/siltstone, few calcite stringers, slickensided fractures, few laminae of lighter very fine-grained sandstone.

480.0' - B.C.A. - 18°

497.0' - 501.0' COAL Stringer, soft friable, claro-durain, highly ground up.

501.0' - 529.0' Dark mudstone/siltstone, few slickensided fractures, odd calcite stringer, otherwise quite massive.

529.0' - 605.0' Light grey, very fine-grained sandstone, heavily X-bedded, few laminae of darker mudstone/siltstone, odd slickensided fracture as well as odd carb. parting (small), few partings mudstone siltstone 4"-5".

536.0' - fine grained
543.0' - B.C.A. - 46°
546.0' - medium grained
556.0' - fine grained
598.0' - 600.0' - medium grained

605.0' - 768.9' Dark mudstone/siltstone - laminae of lighter fine grained sandstone showing X-bedding, slickensided fractures, calcite infilling hairline fractures.

693.0' - B.C.A. - 43°
760.0' - B.C.A. - 40°

768.9' - 875.3' COAL SEAM #5

	Pos.	Act.	Description
768.9' - 772.1'	3.1'	3.1'	Broken claro-durain
772.0' - 775.0'	3.0'	3.0'	Hard pieces claro-durain
775.0' - 779.0'	4.0'	4.0'	776' - 2" shale parting otherwise claro-durain
779.0' - 781.5'	2.5'	2.3'	Dirty claro-durain, small shaley parting
781.5' - 785.0'	3.5'	3.5'	First 1.5' shale split, remaining claro-durain
785.0' - 794.5'	9.5'	9.4'	Hard pieces claro-durain with small vitrain partings
794.5' - 798.5'	4.0'	4.0'	Broken claro-durain, some vitrain
798.5' - 802.0'	3.5'	3.3'	Claro-durain, some soft portions
802.0' - 807.0'	5.0'	4.9'	Hard claro-durain
807.0' - 808.0'	1.0'	1.0'	Broken claro-durain
808.0' - 813.0'	5.0'	5.0'	Mainly shale with coal partings (15%)
813.0' - 817.0'	4.0'	3.6'	Upper portion quite shaley, otherwise broken claro-durain
817.0' - 820.0'	3.0'	3.0'	Claro-durain broken
820.0' - 824.0'	4.0'	4.0'	Broken claro-durain, little vitrain partings

824.0' - 827.0'	3.0'	2.95'	Claro-durain
827.0' - 830.0'	3.0'	3.0'	Shaley zone 70% -30% coal, claro-durain
830.0' - 832.0'	2.0'	2.0'	Mostly shale, coaly partings
832.0' - 835.0'	3.0'	3.0'	Mostly shale, coaly partings
835.0' - 844.0'	9.0'	8.7'	Mostly shale, coaly partings
844.0' - 849.0'	5.0'	4.9'	First .5' shale, remainder hard claro-durain, vitrain partings
849.0' - 851.5'	2.5'	2.4'	Claro-durain, few vitrain partings (small)
851.5' - 855.0'	3.5'	2.4'	Broken claro-durain
855.0' - 860.0'	5.0'	3.1'	Generally claro-durain, little blackjack
860.0' - 865.0'	5.0'	4.5'	Last 1.5' shale, rest broken claro-durai
865.0' - 870.0'	5.0'	3.7'	claro-durain
870.0' - 873.5'	3.5'	3.5'	Hard claro-durain
873.5' - 875.3'	1.8'	1.8'	Hard claro-durain
	106.4'	100.05'	Recovery 94.0%

875.3' - 999.0' Dark mudstone/siltstone generally quite massive except for few small coaly partings, calcite stringers, odd slickensided fracture.

894.0' - B.C.A. - 25°

979.0' - 989.0' - Heavily broken zone, numerous slickensided fractures

999.0' - 1004.0' Graditional zone, mudstone/siltstone to light grey medium grained sandstone, sandstone contains small carb. partings.

1000.0' - B.C.A. - 52°

1004.0' - 1009.0' Light grey, coarse grained, well sorted sandstone with small carbonaceous partings.

1009.0' - 1020.5' Dark mudstone/siltstone, massive except for odd coal parting, few carb. fossils.

1020.5' - 1022.5' Coal stringer, shaley otherwise broken claro-durain.

1022.5' - 1048.3' Dark mudstone/siltstone with an increasingly greater number of small carb. partings down section, few slickensided fractures, odd shattered section.

1048.3' - 1058.5' COAL Zone

	Pos.	Act.	Description
1048.3' - 1050.0'	1.7'	1.7'	Hard claro-durain
1050.0' - 1054.0'	4.0'	4.0'	Hard pieces claro-durain, first 2" shale
1054.0' - 1055.5'	1.5'	1.5'	Broken claro-durain, last 2" shale
1055.5' - 1058.5'	3.0'	3.0'	First .4' shale, rest claro-durain
	10.2'	10.2'	

1058.5' - 1062.0' Dark mudstone/siltstone with carb. partings and fossils.

1062.0' - 1070.0' Interbedding of light grey fine grained sandstone with dark mudstone/siltstone, calcite stringers hairline fracturing.

1066.5' - B.C.A. - 48°

1070.0' - 1076.0' Light grey, medium grained sandstone, massive with large mudstone clasts in upper 2.0'.

1076.0' - 1080.0' Dark mudstone/siltstone.

1080.0' - 1085.0' Medium grey, dirty fine grained sandstone, with hairline fracturing (some calcite infilling) some carb. material.

1085.0' - 1101.0' Light grey, fine grained sandstone, X-bedding, few laminae of darker mudstone/siltstone, odd carb. parting.

1090.0' - 6" zone with numerous pebbles, mudstone clasts
1096.0' - 1' zone same as above
1093.0' - B.C.A. - 54°

1101.0' - 1104.0' Dark mudstone/siltstone, few laminae of lighter fine grained sandstone.

1103.0' - 1118.0' Medium grained, light grey sandstone, well sorted small car. partings.

1114.0' - coarse grained

1118.0' - 1131.5' Dark, dense mudstone/siltstone, lower portion few small carb. partings and lighter sandstone laminae.

1131.5' - 1147.0' Medium grained, light grey sandstone with numerous small carb. partings, few fractures showing pyrite.

1141.0' - coarse grained, portions almost granular

1147.0' - 1153.0' Conglomeratic zone, poorly sorted, grains from granular to odd fist size boulder, mostly 1/4" - 1/2", few hairline fractures with some calcite infilling, grains are of fine sandstone.

1153.0' - 1171.0' Medium coarse grained sandstone with slickensided fractures and numerous small carbonaceous partings, few large clasts of mudstone.

1169.0' - 1170.0' - conglomerate, pebbles 1/4" - 3/8" few large clasts of mudstone, pebbles of mudstone and sandstone

1171.0' - 1175.5' Dark dense mudstone/siltstone, with odd slickensided fracture, few calcite stringers.

1175.5' - 1221.0' Light grey, fine grained well sorted sandstone, heavily X-bedded, few laminae of darker mudstone/siltstone, few calcite stringers.

1191.0' - medium grained
1195.0' - B.C.A. - 41°
1203.0' - coarse grained, numerous small carb. partings

1221.0' - 1233.0' Dark mudstone/siltstone, dense and hard.

1233.0' - 1304.0' Light grey, medium grained sandstone, numerous clasts of mudstone, few carb. partings.

1239.0' - coarse grained
1243.0' - medium grained

1304.0' - 1315.5' Interbedding of dark mudstone/siltstone with lighter fine grained sandstone, X-bedding, odd coaly parting.

1315.5' - 1380.0' Light grey, coarse grained sandstone, with mudstone clasts and small coal partings, odd .5' zone of mudstone/siltstone.

1338.0' - medium grained, heavily X-bedded, few laminae of darker mudstone/siltstone
1340.0' - coarse grained
1342.0' - fine grained
1365.0' - B.C.A. - 42°
1373.0' - medium grained.

TD - 1,380.0'

COLEMAN COLLIERIES LIMITED

TENT MOUNTAIN - TD-75-55

CORE LOG

0.0' - 9.0' No core (casing)

9.0' - 34.5' Mudstone/siltstone interbedded with fine grained light grey sandstone, heavily fractured and broken with iron staining, numerous calcite stringers, X-bedding as well as other flow type structures.

34.5' - 52.0' Dark mudstone/siltstone, hairline fracturing with calcite infilling, few laminae of lighter fine grained sandstone.

56.0' - B.C.A. - 43°

56.5' - 65.0' Interbedding of dark mudstone/siltstone with lighter fine grained sandstone, hairline fractures with calcite infilling.

63.0' - B.C.A. - 45°

65.0' - 97.85' Dark mudstone/siltstone, hairline fractures with calcite infilling, few laminae and bands of lighter fine grained sandstone.

97.85' - 258.2' COAL Zone

	Pos.	Act.	Description
97.85' - 99.0'	1.15'	1.15'	Claro-durain with blackjack
99.0' - 101.0'	2.0'	2.0'	Claro-durain, high portion of shale
101.0' - 103.0'	2.0'	2.0'	Hard claro-durain with some blackjack
103.0' - 106.0'	3.0'	3.0'	.8' shale, 1.0' claro-durain 1.2' shale
106.0' - 110.5'	4.5'	4.4'	Hard durain, with few partings of vitrain
110.5' - 115.0'	4.5'	4.5'	Hard claro-durain
115.0' - 120.0'	5.0'	5.0'	Hard claro-durain with few small vitrain partings
120.0' - 123.0'	3.0'	3.0'	Broken claro-durain
123.0' - 126.0'	3.0'	3.0'	Hard claro-durain, few small vitrain partings
126.0' - 130.0'	4.0'	4.0'	Mostly hard claro-durain with few partings of vitrain
130.0' - 135.0'	5.0'	5.0'	Hard claro-durain, few samll partings of vitrain
135.0' - 140.0'	5.0'	5.0'	Hard pieces claro-durain
140.0' - 143.0'	3.0'	3.0'	Hard claro-durain last 2" shale
143.0' - 147.0'	4.0'	4.0'	Hard broken claro-durain
147.0' - 150.0'	3.0'	3.0'	Hard broken pieces claro-durain
150.0' - 153.5'	3.5'	3.5'	Hard broken claro-durain
153.5' - 157.0'	3.5'	3.5'	First 1' shale, rest claro-durain, few small
157.0' - 160.0'	3.0'	3.0'	Claro-durain, last 1' carb. shale
160.0' - 165.0'	5.0'	5.0'	Claro-durain
165.0' - 169.0'	4.0'	4.0'	Broken (portions shattered) claro-durain
169.0' - 171.3'	2.3'	2.3'	Claro-durain with lower 1.5' containing shale and blackjack
171.3' - 180.0'	8.7'	8.7'	Shale split
180.0' - 185.0'	5.0'	5.0'	Hard pieces claro-durain
185.0' - 189.0'	4.0'	4.0'	Claro-durain at 3.0' - .5' shale

189.0' - 194.0'	5.0'	4.8'	First .5' shale, rest claro-durain except for last 3" of shale
194.0' - 198.5'	4.5'	4.5'	Shale split
198.5' - 203.0'	4.5'	4.0'	Broken almost shattered claro-durain
203.0' - 208.0'	5.0'	5.0'	First 1' shale, rest claro-durain
208.0' - 220.0'	12.0'	12.0'	First 4" claro-durain, rest shale split
220.0' - 223.0'	3.0'	3.0'	Hard claro-durain
223.0' - 227.0'	4.0'	4.0'	Hard claro-durain
227.0' - 230.0'	3.0'	3.0'	Hard claro-durain
230.0' - 234.5'	4.5'	4.4'	Hard claro-durain
234.5' - 240.0'	5.5'	5.4'	235.0' - 1' shale, rest claro-durain with some blackjack
240.0' - 244.5'	4.5'	4.5'	Claro-durain, quite friable.
244.5' - 248.5'	4.0'	4.0'	Hard claro-durain
248.5' - 252.0'	3.5'	3.1'	Broken claro-durain
252.0' - 255.0'	3.0'	2.9'	Broken claro-durain
255.0' - 258.2'	3.2'	3.0'	Claro-durain

98% Recovery

258.2' - 325.0' Dark mudstone/siltstone, few slickensided fractures, odd calcite stringer as well as odd laminae of lighter fine grained sandstone.

325.0' - 350.5' Light grey, fine grained sandstone, with laminae of darker mudstone, heavily X-bedded, odd slickensided fracture, few calcite stringers.

350.0' - B.C.A. - 32°

350.5' - 415.0' Dark mudstone/siltstone, few calcite stringers and slickensided fractures, zones with lighter fine grained sandstone laminae.

387.0' - 1' coal stringer

425.0' - 427.5' COAL Stringer.

417.5' - 441.0' Dark mudstone/siltstone, little carb. material.

441.0' - 526.0' Light grey, fine grained sandstone, X-bedding, odd calcite stringer, few dark shaley splits as well as few laminae bedded within the sandstone.

502.0' - medium grained
504.0' - B.C.A. - 42°
505.5' - medium - coarse grained, few small carb. partings as well as odd mud clast.
518.5' - 2"- 3" coal parting

526.0' - 536.0' Dark mudstone/siltstone with few partings and laminae of light grey very fine grained sandstone, few calcite stringers.

536.0' - 539.6' COAL

Pos.	Act.	Description
3.6'	3.6'	Generally hard claor-durain with odd vitrain parting

539.6' - 545.5' Dark carb. shale, odd vitrain parting.

877.5' - 880.0' Shaley Coal B.C.A. - 70°

880.0' - 886.0' Mudstone/siltstone, dense, dark grey.

886.0' - 1110.5' Sandstone, coarse grained, light grey, massive.

B.C.A. - 85°

Salt and pepper effect, some x-bedding.

960.0' - B.C.A. - 50°

950.0' - 1080.0' - Medium grained sandstone

1080.0' - 1106.0' - fine grained sandstone
B.C.A. - 45°

1108.0' - 1110.5' - shattered core and abrupt change to vertical splitting along core axis with mudstone/coaly laminations.

1110.5' - 1126.0' Siltstone, fine grained with calcite stringers, dark grey.

1126.0' - 1129.0' Mudstone, very dark grey/black, slickensided, badly broken and fractured zone.

1129.0' - 1145.0' Siltstone with mudstone and sandstone interbedded, vertical bedded to core.

1136.0' - 1140.0' - very badly broken.

B.C.A. - 5°

1145.0' - 1205.0' Fine grained sandstone becoming medium grained at 1165.0', X-bedded, few calcite stringers.

1180.0' - 1185.0' - mudstone band
B.C.A. - 40°/35°

1205.0' - 1215.0' Sandstone interbedded with mudstone laminae part of transitional beds to Fernie, light and dark grey, X-bedding.

B.C.A. 50°/30°

1215.0' - 1227.0' Fernie shale, interbedded sand/mudstone becoming darker in color.

1218.0' - 1220.0' - definite worm burrows.

T.D. 1,227.0'

545.5' - 569.5' COAL Seam

	Pos.	Act.	Description
545.5' - 547.0'	1.5'	0.9'	Hard claro-durain
547.0' - 550.0'	3.0'	3.0'	Claro-durain, odd vitrain parting
550.0' - 553.0'	3.0'	2.7'	Claro-durain
553.0' - 554.5'	1.5'	1.2'	Remaining carb. shale
554.5' - 558.5'	4.0'	3.9'	First 1.6' shale, rest hard claro-durain
558.5' - 561.0'	2.5'	2.5'	Claro-durain, few small shaley partings
561.0' - 563.5'	2.5'	2.0'	Claro-durain
563.5' - 566.0'	2.5'	2.4'	Claro-durain
566.0' - 569.5'	3.5'	3.5'	Claro-durain
	24.0'	22.1'	Recovery 92.1%

569.5' - 627.5' Dark mudstone with few small carb. partings becoming silty downsections.

627.5' - 635.5' COAL

	Pos.	Act.	Description
627.5' - 630.0'	2.5'	2.0'	Claro-durain, shaley
630.0' - 634.0'	4.0'	4.0'	Broken claro-durain, odd vitrain parting
634.0' - 635.5'	1.5'	1.5'	Claro-durain
	8.0'	7.5'	Recovery 93.8%

635.5' - 665.0' Dark mudstone/siltstone, upper few feet having odd small carb. parting, few very fine sandstone laminae.

639.0' - B.C.A. - 39°

665.0' - 738.0' Medium coarse grained sandstone, light grey, some X-bedding.

B.C.A. - 40°

719.0' - 720.0' - few mud pellets

730.0' - becoming silty

738.0' - 742.0' Mudstone, dark grey, dense.

742.0' - 769.0' Dark grey siltstone/mudstone.

B.C.A. - 45°

769.0' - 796.0' Mudstone, dense, very dark grey/black.

796.0' - 798.0' Sandstone, light grey, coarse, X-bedded.

798.0' - 800.0' Dark mudstone/siltstone.

B.C.A. - 47°

800.0' - 875.0' Light grey sandstone, very coarse grained, very hard, X-bedding.

825.0' - 835.0' - coaly laminae

840.0' - 845.0' - broken/shattered core

850.0' - 851.0' - mudstone pellets.

875.0' - 877.5' Mudstone/siltstone with calcite stringers.

875.0' - abrupt change

COLEMAN COLLIERIES LIMITED

TENT MOUNTAIN - TD-75-57

CORE LOG

0.0' - 10.0' No core.

10.0' - 14.0' Mudstone, very dark grey/black, dense.

14.0' - 51.0' Sandstone, medium to coarse grained with interbedded fine mudstone layers. Cross-bedding, light grey.

Average B.C.A. - 30°

51.0' - 71.0' Siltstone becoming mudstone/siltstone from 63.0' - 71.0'.

71.0' - 101.0' Sandstone, medium-fine grained, cross-bedded, hard, some calcite stringers.

101.0' - 170.0' Mudstone/siltstone, dark grey/black, interbedded sandstone layer from 155.0' - 167.0'.

Average B.C.A. - 30°

170.0' - 175.0' Mudstone, dense, dark grey/black.

175.0' - 205.0' Siltstone/mudstone, medium grey, fine grained, cross-bedded.

205.0' - 212.0' Mudstone, dense, dark grey/black.

212.0' - 227.5' Siltstone/sandstone, very fine grained, interbedded, medium grey.

227.5' - 228.5' Mudstone.

B.C.A. - 35°

228.5' - 306.0' COAL - #5 SEAM

	Pos.	Act.	Description
228.5' - 237.0'	8.5'	8.5'	
237.0' - 238.5'	1.5'	1.2'	
238.5' - 240.0'	1.5'	1.1'	Hard structured coal - vitrain
240.0' - 244.5'	4.5'	4.5'	claro-durain
244.5' - 249.5'	5.0'	5.0'	
249.5' - 254.5'	5.0'	5.0'	B.C.A. in the coal of 50°/45°
254.5' - 259.5'	5.0'	5.0'	
259.5' - 264.5'	5.0'	5.0'	
264.5' - 269.5'	5.0'	5.0'	
269.5' - 274.5'	5.0'	5.0'	COAL SEAM
274.5' - 279.0'	4.5'	4.3'	
279.0' - 285.5'	6.5'	6.5'	
285.5' - 289.3'	3.8'	3.7'	
289.3' - 299.6'	10.3'	10.3'	
299.6' - 304.0'	4.4'	3.0'	
304.0' - 305.0'	1.0'	0.6'	B.C.A. - 70°
305.0' - 306.0'	1.0'	1.0'	
Recovery 96.4%	77.5'	74.7'	

306.0' - 337.5' Mudstone, very dark grey/black, shale, dense.

337.5' - 361.3' COAL

	Pos.	Act.	Description
337.5' - 340.0'	2.5'	2.5'	
340.0' - 345.0'	5.0'	5.0'	Claro/durain - vitrain pieces
345.0' - 349.0'	4.0'	4.0'	
349.0' - 353.0'	4.0'	4.0'	COAL
353.0' - 357.0'	4.0'	4.0'	
347.0' - 361.3'	4.3'	4.3'	Medium hard coal
Recovery 100%	23.8'	23.8'	

361.3' - 373.5' Mudstone, dense, dark grey/black.

373.5' - 414.0' COAL

	Pos.	Act.	Description
373.5' - 376.5'	3.0'	3.0'	
376.5' - 380.0'	3.5'	3.3'	Hard durain, vitrain
380.0' - 385.0'	5.0'	5.0'	
385.0' - 390.0'	5.0'	5.0'	COAL
390.0' - 397.0'	7.0'	7.0'	
397.0' - 404.0'	7.0'	7.0'	So
404.0' - 411.5'	7.5'	7.2'	
411.5' - 414.0'	2.5'	1.5'	Soft coal - mainly vitrain
Recovery 96.3%	40.5'	39.0'	

414.0' - 432.0' Mudstone, dark grey/black, dense.

432.0' - 436.0' Sandstone, fine grained, light grey.
B.C.A. - 90°

436.0' - 456.0' Mudstone, dense, dark grey/black
B.C.A. - 40° at contact change.

456.0' - 508.2' Sandstone, coarse-medium grained, light grey, cross-bedding.
Average B.C.A. - 35°/40°

508.2' - 510.0' Shaley coal with interbedded sandstone. Vertical split to core.

510.0' - 580.0' Sandstone, medium-coarse grained, some calcite stringers, cross-bedding.
515.0' - 525.0' - siltstone interbedded.

580.0' - 580.6' Coaly shale, soft friable coaly material is slickensided and shiny.
B.C.A. - 30°

580.6' - 593.0' Siltsone/mudstone, interbedded, medium dark grey, fine grained.
B.C.A. - 45°

593.0' - 725.0' Sandstone, fine grained, light grey, som e silt, very hard, interbedded.

625.0' - calcite pieces
654.0' - 2" mud band
cross-bedding
700.0' - 723.0' - medium coarse grained
724.0' - 725.0' - mudstone pellet band

Average B.C.A. 30°

725.0' - 743.0' Siltstone/sandstone, fine grained, medium grey.

B.C.A. - 40°

743.0' - 750.0' Mudstone, dense.

750.0' - 755.5' Coaly shale and coal intermixed. Coal - mainly durain, dull and very dirty, some slickensided material in the shale.

755.5' - 759.0' Mudstone, very dark grey/black, with some coaly partings.

759.0' - 780.0' Siltstone/sandstone, very fine grained, medium grey.

B.C.A. 45°

780.0' - 809.0' Siltstone/mudstone, dark grey.

809.0' - 810.0' Mudstone.

810.0' - 821.8' COAL

	Pos.	Act.	Description
810.0' - 813.0'	3.0'	1.2'	Vitrain Coal
813.0' - 816.0'	3.0'	2.4'	
816.0' - 820.0'	4.0'	1.6'	Coaly & shale mixture
820.0' - 821.8'	1.8'	1.1'	
Recovery 53.4%	11.8%	6.3%	

821.8' - 846.0' Mudstone, dense, dark grey, becoming silty towards bottom.

846.0' - 850.0' Sandstone/siltstone, light grey, medium fine grained.

B.C.A. - 45°

T.D. 850.0'

COLEMAN COLLIERIES LIMITED

TENT MOUNTAIN - TD-75-60

CORE LOG

(49.5°E.)
Hole collared on #4 Seam.

0.0' - 5.0' No core.

5.0' - 15.0' COAL

	Poss.	Act.	Description
5.0' - 9.0'	4.0'	2.2'	Soft weathered
9.0' - 11.0'	2.0'	0.6'	Coal - vitrain pieces
11.0' - 15.0'	4.0'	3.5'	Some structural coal from 12.0' onwards
Recovery 63.0%	10.0'	6.3'	

15.0' - 79.0' Sandstone/siltstone (interbedded), broken core, weathered, iron stained, no piece greater than 2".

B.C.A. - 80°

79.0' - 90.0' Sandstone, coarse grained, massive, hard core.

90.0' - 110.0' Sandstone/siltstone, broken badly.

110.0' - 112.5' Coaly/shale.

112.5' - 159.0' Sandstone/siltstone, fine grained, broken, interbedded, iron stained.

159.0' - 229.0' Sandstone, coarse, cross-bedding.
B.C.A. - 70°
Broken/blocky, sandstone, iron staining still at 202'.
211.0' - 216.0' - Coaly interlacings

229.0' - 244.0' Siltstone/sandstone, fine grained, cross-bedding.
B.C.A. - 70°

244.0' - 269.0' Sandstone, fine grained, light grey.

269.0' - 367.0' Sandstone, coarse grained, massive, light grey, cross-bedded, salt & pepper effect.
B.C.A. - 45°
299.0' - 300.0' - Mud pellets
357.0' - 360.0' - Very badly broken, shattered, iron stained, weathered, some mudstone/coaly pieces intermixed.

367.0' - 430.0' Sandstone, coarse grained, salt and pepper effect, coaly/mudstone stringers, interbedded, cross-bedded
392.0' - 399.0' - shattering and fractured
399.0' - 430.0' - light grey medium grained sandstone with numerous small carb. partings
422.0' - B.C.A. - 70°

430.0' - 437.9' Dark carbonaceous shale, with small partings of coal, few slickensided fractures.

437.9' - 469.5' COAL ZONE - #2 Seam

	Poss.	Act.	Description
437.9' - 439.0'	1.1'	0.2'	
439.0' - 441.0'	2.0'	1.8'	Broken claro-durain, quite hard.
441.0' - 443.0'	2.0'	1.0'	Shattered claro-durain
443.0' - 447.0'	4.0'	2.2'	Only shale remaining
447.0' - 449.0'	2.0'	2.0'	First .7 shale, rest broken claro-durain
449.0' - 451.0'	2.0'	1.2'	Hard pieces claro-durain
451.0' - 455.0'	4.0'	2.6'	Broken claro-durain, odd piece of shale
455.0' - 459.0'	4.0'	2.9'	First 2.3' shale, rest claro-durain
459.0' - 464.0'	5.0'	4.8'	Broken claro-durain
464.0' - 469.0'	5.0'	4.6'	Broken claro-durain
469.0' - 469.5'	.5'	.4'	Shaley
Recovery 74.3%	31.6'	23.7'	

469.5' - 689.0' Sandstone, coarse grained, X-bedded, light grey. NQ core.

B.C.A. 55°

570.0' - becoming fine grained

601.0' - 603.0' - calcite stringers

604.0' - some interbedded siltstone/mudstone with vertical bedding to core

609.0' - split, broken core

Average B.C.A. 60° at 580'

630.0' - 689.0' - calcite stringers and pieces

Grading to Fernie

B.C.A. 45° at 680'

T.D. 689.0'

COLEMAN COLLIERIES LIMITED

TENT MOUNTAIN - TD-75-70

CORE LOG

0.0' - 15.0' No core.

15.0' - 183.0' Sandstone, light grey, coarse grained, weathered and broken up, iron stained, mudstone and coal laminae, cross-bedded, badly broken core to 35.0'
Salt & pepper effect, very hard.

B.C.A. from 20° to 60°

137.0' - 139.0' - badly broken core

183.0' - 215.0' Siltstone/sandstone, light grey, very fine grained, interbedded.

183.0' - 186.0' - badly broken core
185.0' - coaly mud band
Cross-bedded.

Average B.C.A. - 60°

Signs of small fault displacement in silt/sand core.

215.0' - 234.5' Sandstone/siltstone, interbedded, very fine grained, light grey.

234.5' - 283.0' Siltstone/mudstone, cross-bedded, occasional sandstone laminae, interbedded.

283.0' - 456.0' Sandstone, coarse grained, light grey

Average B.C.A. - 60°

Mudstone/coaly laminae from 310.0' onwards, broken core at 344.0' - 345.0' with large mud clasps.

Average B.C.A. 45° - 50°

Cross-bedded, salt and pepper effect 400'
Clean contact with coal at 456.0'

B.C.A. - 75°

456.0' - 459.0' Coal and shale mixed.

459.0' - 461.5' COAL, hard durain.

461.5' - 469.5' Mudstone, very dark grey, structureless.

469.5' - 489.5' COAL

	Poss.	Act.	Description
469.5' - 474.0'	4.5'	3.6'	
474.0' - 477.0'	3.0'	1.8'	
477.0' - 480.0'	3.0'	3.0'	COAL
480.0' - 483.0'	3.0'	2.7'	Hard durain, some vitrain pieces
483.0' - 485.5'	2.5'	2.3'	
485.5' - 488.5'	3.0'	3.0'	Shaley
488.5' - 489.5'	1.0'	1.0'	Shaley coal
Recovery 87%	20.0'	17.4'	

489.5' - 496.5' Siltstone, fine grained, medium grey, some fine sand interbedded, grading to mudstone/siltstone.

496.5' - 498.5' Mudstone/siltstone, no apparent bedding.

498.5' - 522.0' Mudstone with siltstone interbedded fine grained and dense, very dark grey/black.

522.0' - 524.5' Coaly shale.

524.5' - 528.3' Sandstone with interbedding, siltstone with mudstone clasps, light and dark grey, fine grained.

528.3' - 532.0' Coal and shale mixed, very dirty coal.

532.0' - 536.0' Mudstone, dense, black.

536.0' - 538.3' Coaly shale, slickensided mudstone/shale.

538.3' - 541.0' Mudstone.

541.0' - 542.0' COAL, hard durain.

542.0' - 547.0' Mudstone, dense, black, with silty laminae.

B.C.A. - 75°

547.0' - 555.0' Siltstone with mudstone laminae, calcite stringers.

555.0' - 567.0' Mudstone, very dark grey, dense, some coaly streaks.

B.C.A. - 40°

567.0' - 579.0' COAL

	Pos.	Act.	Description
567.0' - 570.0'	3.0'	3.0'	Coal
570.0' - 575.0'	5.0'	3.8'	Coal
575.0' - 579.0'	4.0'	4.0'	Coal
Recovery 90%	12.0'	10.8'	

579.0' - 582.0' Mudstone, very dark grey/black, structureless with a few coaly streaks.

582.0' - 590.0' Mudstone.

590.0' - 592.0' Coaly shale.

592.0' - 607.0' Mudstone.

607.0' - 715.0' Sandstone with interbedded silstone and mud bands to 640.0', light/dark grey.
607.0' - 625.0' - fine grained
625.0' - 655.0' - medium grained
grading to coarse grained, hard, sandstone at 655.0' onwards.
Thin coal and mudstone bands squeezed into sand, cross-bedded and very twisted from 675.0' - 680.0'

Average B.C.A. - 70°

4" coal at 695.0'

715.0' - 729.0' Siltstone/mudstone laminae and mud clasps, medium grey. Small displacements in core, calcite stringers.

729.0' - 839.5'. Sandstone, coarse grained, salt & pepper effect, cross-bedded, light grey.

729.0' - 839.5' Continued — 6" mud band at 742.0'

Average B.C.A. 50°

Coal and mudstone laminae zone between 795.0' - 810.0' with mud pellets.

B.C.A. - 65°

839.5' - 846.0' Mudstone, dense, sharp contact with sandstone at each end.

846.0' - 907.5' Sandstone, light grey, coarse grained, interbedded silt 860.0' - 870.0'. Salt & pepper effect.

B.C.A. - 70°

907.5' - 938.0' Mudstone, dark grey/black, dense, becoming silty from 920.0' - 930.0' then back to dense mudstone.

938.0' - 945.5' COAL Seam

	Poss.	Act.	Description
938.0' - 940.0'	2.0'	1.3'	very poor recovery
940.0' - 942.0'	2.0	0.0'	durain only
942.0' - 945.5'	3.5'	0.6'	recovered
	7.5'	1.9'	

Rec. 25.3%

945.5' - 949.0' Mudstone, dense, very dark grey/black

B.C.A. - 70°

949.0' - 957.0' COAL

	Poss.	Act.	Description
949.0' - 952.0'	3.0'	3.0'	Hard durain
952.0' - 957.0'	5.0'	3.0'	some vitrain
	8.0'	6.0'	

Rec. 75.0%

957.0' - 980.0' Sandstone, medium corase grained, clean contact with coal, cross-bedded, light grey.

B.C.A. - 75°

T.D. 980.0'

COLEMAN COLLIERIES LIMITED

TENT MOUNTAIN - TD-75-74

CORE LOG

Collared on #4 Seam outcrop

0.0' - 7.0' No core.

7.0' - 14.2' COAL

	Poss.	Act.	Description	
7.0' - 11.0'	4.0'	4.0'	Hard durain	#4 Seam
11.0' - 14.2'	3.2'	3.0'	some vitrain	
	7.2'	7.0'		

Rec. 97.2%

14.2' - 22.0' Mudstone, dense, broken weathered core, iron stained, dark grey/black.

22.0' - 54.0' Sandstone with interbedded silt to mudstone, fine grained, iron stained, cross-bedded to 54.0'.

54.0' - 75.5' Mudstone, with silty laminae, very dark grey.

75.5' - 77.0' Coal, dull, appears shaley.

77.0' - 79.0' Coal and mudstone, intermixed.

79.0' - 89.0' Mudstone with silty laminae, grading from 84.0' - 89.0' into siltstone. Very dark grey. Mud band at 83.5' - 84.0'

89.0' - 139.5' Siltstone, light grey, very fine grained, interbedded sand and mudstone.

B.C.A. appears 40°

139.5' - 219.0' Sandstone, coarse grained, light grey, salt & pepper effect, cross-bedded.

175.0' - 214.0' - coaly laminae

Average B.C.A. 45°

219.0' - 239.0' Siltstone with mudstone and sandstone interbedded, very fine grained.

239.0' - 250.0' Mudstone, dense, dark grey/black.

247.0' - 247.5' - coaly shale band

Apparent B.C.A. 40°

250.0' - 488.0' Sandstone with interbedded siltstone, light grey, very fine grained from 250.0' - 269.0', then becoming mainly coarse grained at 288.0'. Large mud pellets at 340.0' - 342.0' and 415.0' - 425.0' and 361.5' - 367.5'.

B.C.A. 75°

Coaly laminae from 366.0' - 400.0', cross-bedding, interbedded silt from 372.0' - 378.0' coarse grained sandstone.

488.0' - 493.0' Mudstone, dark grey, dense with coaly stringers.

493.0' - 570.8' COAL

	Poss.	Act.	Description
Rec 92.5% 493.0' - 504.8'	11.8	11.5	Hard durain, some vitrain
504.8' - 517.5'	12.7		Mudstone, dark grey with coaly stringers. B.C.A. 90°
Rec 91.6% 517.5' - 570.8'	53.3	48.8'	COAL 4" shale split at 528.5'. Hard durain, vitrain pieces. Shaley coal at footwall of seam.

570.8' - 571.5' Sandstone, clean break with seam footwall.

B.C.A. 80°

Coal stringers intermingling on bottom 3" of seam.

571.5' - 704.0' Sandstone, light grey, coarse grained from 571.5' to 614.0' then becoming medium fine grained, some silty laminae from 696.0' to end of hole.

B.C.A. 70°

TD 704.0'

COLEMAN COLLIERIES LIMITED

TENT MOUNTAIN - TD-75-76

CORE LOG

(65° E.)

9

0.0' - 24.0' No core.

24.0' - 43.0' Siltstone, medium grey, badly broken core. Weathered, iron stained, no piece larger than 4" core.

B.C.A. Average 70°

43.0' - 61.0' Sandstone, coarse grained, cross-bedded, some iron staining.

61.0' - 90.0' Siltstone with interbedded mudstone and sandstone layers. 6" mud band at 65'.

90.0' - 119.0' Sandstone, coarse grained, coaly laminae. Light grey. Sharp contact with coal.

119.0' - 135.0' COAL - #4 Seam

	Poss.	Act.	Description
119.0' - 125.0'	6.0'	6.0'	
125.0' - 129.0'	4.0'	3.5'	Hard durain
129.0' - 134.0'	5.0'	5.0'	Vitrain pieces
134.0' - 135.0'	1.0'	0.8'	very soft coal
	16.0'	15.3'	

Rec. 95.6 % B.C.A. 80°

135.0' - 145.0' Siltstone/mudstone interbedded.

145.0' - 185.0' Mudstone, dense, coaly partings, iron stained at 185.0'.

185.0' - 187.0' COAL - hard durain/vitrain.

187.0' - 189.0' Mudstone and coaly material.

189.0' - 193.0' COAL - Vitrain, shiny coal.

193.0' - 235.0' Siltstone with interbedded mudstone becoming more sandy at 220.0'. Light grey. Iron stained to 215.0'.

235.0' - 325.0' Sandstone, light grey, interbedded silt to 285.0'. cross-bedded. 6" coal parting at 258.5' - 259.0'. Core badly broken in small pieces from 258.5 to 269.0'. Coaly laminae throughout thin section. Coarse sandstone from 285.0' onwards.

B.C.A. 40°

Very weathered and broken core at 290.0' - 294.5'. Iron stained to end of hole.

T.D. 325.0'

K-EAST MOUNTAIN 15(4)A 3 of 5

ANALYSIS FOR
DRILL HOLE SAMPLES

E. W. BERESFORD

(copy 2)
FEBRUARY 1976

3 of 5

K-TENT MOUNTAIN 75(4)A
(copy 2)

TD-75-40

COLEMAN COLLIERIES !

RECOVERY 90.2%

August 26, 1975

SIZE AND RAW ANALYSIS Hole No. TD-75-40 Footage: 5.3'-71.6' LAB. NO. 3557

Size Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
1/4" x 28M	83.5	9.5	1 1/2	83.5	9.5
28M x 100M	11.2	6.9	2 1/2	94.7	9.2
100M x 0	5.3	8.6	2	100.0	9.2

HEAD RAW (1/4" x 0)

Ash %	R.M. %	V.M. %	F.C.	F.S.I.
9.1	3.1	26.4	61.4	1 1/2

Birtley Engineering

Subsidiary of Great West Steel Industries

COLEMAN COLLIERIES LTD.

August 26, 1975

LAB. NO. 3557

SINK-FLOAT ANALYSIS 1/4" x 28M

S.G. Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
- 1.30	34.0	1.9	7 1/2	34.0	1.9
1.30 - 1.35	24,3	3.9	1 1/2	58.3	2.7
1.35 - 1.40	14.9	6.1	1 1/2	73.2	3.4
1.40 - 1.45	9.9	9.7	1 1/2	83.1	4.2
1.45 - 1.50	3.7	16.3	1 1/2	86.8	4.7
1.50 - 1.60	3.5	25.5	1	90.3	5.5
1.60 - 1.70	3.4	41.8	1	93.7	6.8
1.70 - 1.80	2.5	53.1	1	96.2	8.0
1.80 - 1.90	2.0	59.0	1	98.2	9.1
+ 1.90	1.8	74.7	N.A.	100.0	10.2

COLEMAN COLLIERIES LTD.

August 26, 1975

FROTH FLOTATION TESTS 28M x 0

LAB. NO. 3557

F.F. Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
Stage I	34.0	5.4	2 1/2	34.0	5.4
Stage II	9.9	7.4	1 1/2	43.9	5.9
Tails	56.1	8.7	1 1/2	100.0	7.4

F.F. Parameters

Pulp Density	-	10%
Reagent Dosage	-	0.48 lb/tons Kerosene:MIBC
Conditioning Time	-	60 seconds
Stage I	-	first minute froth
Stage II	-	second minute froth

COLEMAN COLLIERIES LTD.

August 26, 1975

SINK-FLOAT ANALYSIS 28M x 100M

LAB. NO. 3557

S.G. Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
- 1.30	35.6	1.6	8 1/2	35.6	1.6
1.30 - 1.35	20.5	3.1	1 1/2	56.1	2.1
1.35 - 1.40	17.3	3.7	1 1/2	73.4	2.5
1.40 - 1.45	11.5	5.7	1	84.9	2.9
1.45 - 1.50	6.3	9.7	1	91.2	3.4
1.50 - 1.60	3.6	18.5	1	94.8	4.0
1.60 - 1.70	1.5	30.2	1	96.3	4.4
1.70 - 1.80	1.0	44.7	1	97.3	4.8
1.80 - 1.90	0.8	55.2	1	98.1	5.2
+ 1.90	1.9	69.7	1/2	100.0	6.4

Birtley Engineering
Subsidiary of Great West Steel Industries

COLEMAN COLLIERIES LTD.

August 26, 1975

FROTH FLOTATION TESTS 100M x 0

LAB. NO. 3557

F.F. Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
Stage I	34.0	5.4	2 1/2	34.0	5.4
Stage II	9.9	7.4	1 1/2	43.9	5.9
Tails	56.1	8.7	1 1/2	100.0	7.4

F.F. Parameters

Pulp Density	-	10%
Reagent Dosage	-	0.48 lb/ton Kerosene:MIBC
Conditioning	-	60 seconds
Stage I	-	first minute froth
Stage II	-	second minute froth

COLEMAN COLLIERIES LTD.

RECOVERY 91.4%

August 26, 1975

SIZE AND RAW ANALYSIS Hole No. TD-75-40 Footage 106.0' - 201.4' LAB. NO. 3558

Size Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
1/4" x 28M	86.3	34.6	3 1/2	86.3	34.6
28M x 100M	9.8	21.7	4 1/2	96.1	33.3
100M x 0	3.9	30.3	3	100.0	33.2

HEAD RAW (1/4" x 0)

Ash %	R.M. %	V.M. %	F.C. %	F.S.I.
33.4	1.3	22.0	43.3	3

Birtley Engineering
Subsidiary of Great West Steel Industries

COLEMAN COLLIERIES LTD

August 26, 1975

SINK-FLOAT ANALYSIS 1/4" x 28M

LAB. NO 3558

S.G. Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
- 1.30	42.1	3.6	8	42.1	3.6
1.30 - 1.35	16.1	9.3	2 1/2	58.2	5.2
1.35 - 1.40	2.4	10.9	1 1.2	60.6	5.4
1.40 - 1.45	2.3	16.0	1	62.9	5.8
1.45 - 1.50	2.0	22.1	1	64.9	6.3
1.50 - 1.60	2.4	28.4	1	67.3	7.1
1.60 - 1.70	2.1	36.2	1	69.4	8.0
1.70 - 1.80	1.4	45.1	1	70.8	8.7
1.80 - 1.90	1.0	52.7	1	71.8	9.3
+ 1.90	28.2	88.4	N.A.	100.0	31.6

COLEMAN COLLIERIES LTD

August 26, 1975

SINK-FLOAT ANALYSIS 28M x 100M

LAB. NO. 3558

S.G. Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
- 1.30	29.0	1.8	8	29.0	1.8
1.30 - 1.35	19.8	4.2	7	48.8	2.8
1.35 - 1.40	10.9	8.1	2	59.7	3.7
1.40 - 1.45	7.7	12.0	1 1/2	67.4	4.7
1.45 - 1.50	4.2	17.3	1	71.6	5.4
1.50 - 1.60	5.3	25.2	1	76.9	6.8
1.60 - 1.70	3.5	35.4	1	80.4	8.0
1.70 - 1.80	2.4	44.2	1/2	82.8	9.1
1.80 - 1.90	1.7	50.3	1/2	84.5	9.9
+ 1.90	15.5	82.4	N.A.	100.0	21.1

Birtley Engineering
Subsidiary of Great West Steel Industries

COLEMAN COLLIERIES LTD.

August 26, 1975

FROTH FLOTATION TESTS 28M x 0

LAB. NO. 3558

F.F. Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
Stage I	39.6	11.6	5	39.6	11.6
Stage II	5.5	21.8	3	45.1	12.8
Tails	54.9	33.2	2	100.0	24.0

F.F. Parameters

Pulp Density	-	10%
Reagent Dosage	-	0.48 lb/ton Kerosene:MIBC
Conditioning time	-	60 seconds
Stage I	-	first minute froth
Stage II	-	second minute froth

COLEMAN COLLIERIES LTD

August 26, 1975

FROTH FLOTATION TESTS

LAB. NO 3558

F.F. Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
Stage I	60.4	14.6	4	60.4	14.6
Stage II	7.4	30.2	1 1/2	67.8	16.3
Tails	32.2	60.2	1/2	100.0	30.4

F.F. Parameters 100M x 0

Pulp Density	-	10%
Reagent Dosage	-	0.48 lb/ton Kerosene:MIBC
Conditioning Time	-	60 seconds
Stage I	-	first minute froth
Stage II	-	second minute froth

COLEMAN COLLIERIES LTD.

RECOVERY 80.7%

August 26, 1975

SIZE AND RAW ANALYSIS Hole No. TD-75-40 Footage. 207.0' - 241.4' LAB. NO. 3559

Size Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
1/4" x 28M	86.1	55.7	2 1/2	86.1	55.7
28M x 100M	10.2	41.4	4 1/2	96.3	54.2
100M x 0	3.7	40.8	4 1/2	100.0	53.7

HEAD RAW (1/4" x 0)

Ash %	R.M. %	V.M. %	F.C. %	F.S.I.
52.9	0.8	17.5	28.8	3

Birtley Engineering

Subsidiary of Great West Steel Industries

COLEMAN COLLIERIES LTD

August 26, 1975

SINK-FLOAT 1/4" x 28M

LAB. NO. 3559

S.G. Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
- 1.30	20.5	4.7	8 1/2	20.5	4.7
1.30 - 1.35	5.2	12.7	7 1/2	25.7	6.3
1.35 - 1.40	2.4	19.7	5 1/2	28.1	7.5
1.40 - 1.45	1.1	22.9	5	29.2	8.0
1.45 - 1.50	2.1	29.4	4	31.3	9.5
1.50 - 1.60	3.1	35.6	2 1/2	34.4	11.8
1.60 - 1.70	4.3	42.3	1 1/2	38.7	15.2
1.70 - 1.80	4.9	50.3	1	43.6	19.2
1.80 - 1.90	5.9	59.5	1	49.5	24.0
+ 1.90	50.5	81.5	N.A.	100.0	53.0

COLEMAN COLLIERIES LTD

August 26, 1975

SINK-FLOAT ANALYSIS 28M x 100M

LAB. NO. 3559

S.G. Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
- 1.30	21.2	3.3	9	21.2	3.3
1.30 - 1.35	12.9	6.5	9	34.1	4.5
1.35 - 1.40	5.3	12.5	8	39.4	5.6
1.40 - 1.45	3.3	19.1	7 1/2	42.7	6.6
1.45 - 1.50	3.1	25.1	7	45.8	7.9
1.50 - 1.60	4.6	33.0	5 1/2	50.4	10.2
1.60 - 1.70	4.1	42.1	3	54.5	12.6
1.70 - 1.80	4.5	50.1	1 1/2	59.0	15.4
1.80 - 1.90	4.7	58.2	1	63.7	18.6
+ 1.90	36.3	77.3	1/2	100.0	39.9

COLEMAN COLLIERIES LTD.

August 26, 1975

FROTH FLOTATION TESTS 28M x 0

LAB. NO. 3559

F.F. Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
Stage I	34.4	20.2	8	34.4	20.2
Stage II	5.7	33.1	5 1/2	40.1	22.0
Tails	59.8	54.7	2	100.0	41.5

F.F. Parameters

Pulp Density	-	10%
Reagent Dosage	-	0.48 lb/ton Kerosene:MIBC
Conditioning Time	-	60 seconds
Stage I	-	first minute froth
Stage II	-	second minute froth

Birtley Engineering
Subsidiary of Great West Steel Industries

COLEMAN COLLIERIES LTD

August 26, 1975

FROTH FLOTATION TESTS 100M x 0

LAB. NO. 3559

F.F. Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
Stage I	48.0	22.4	7 1/2	48.0	22.4
Stage II	8.1	39.1	4	56.1	24.8
Tails	43.9	61.4	1	100.0	40.9

F.F. Parameters

Pulp Density	-	10%
Reagent Dosage	-	0.48 lb/ton Kerosene:MIBC
Conditioning Time	-	60 seconds
Stage I	-	first minute froth
Stage II	-	second minute froth

AM
#6

COLEMAN COLLIERIES LT

RECOVERY 95.1%

August 26, 1975

LAB. NO. 3560

SIZE AND RAW ANALYSIS Hole No. TD-75-40 Footage: 390.2'-476.3'

Size Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
1/4" x 28M	87.4	31.0	5	87.4	31.0
28M x 100M	8.9	20.3	6 1/2	96.3	30.0
100M x 0	3.7	26.8	4 1/2	100.0	29.9

HEAD RAW _ (1/4" x 0)

Ash %	R.M. %	V.M. %	F.C. %	F.S.I.
22.4	1.4	24.2	52.0	5 1/2

Birtley Engineering
Subsidiary of Great West Steel Industries

COLEMAN COLLIERIES LTD.

August 26, 1975

SINK-FLOAT ANALYSIS 1/4" x 28M

LAB. NO. 3560

S.G. Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
- 1.30	50.0	3.1	8	50.0	3.1
1.30 - 1.35	12.9	9.5	2 1/2	62.9	4.4
1.35 - 1.40	0.5	15.8	2	63.4	4.5
1.40 - 1.45	1.7	18.2	1 1/2	65.1	4.9
1.45 - 1.50	2.2	24.0	1 1/2	67.3	5.5
1.50 - 1.60	1.8	29.3	1	69.1	6.1
1.60 - 1.70	2.8	38.3	1	71.9	7.4
1.70 - 1.80	1.9	49.5	1	73.8	8.4
1.80 - 1.90	1.1	55.3	1	74.9	9.1
+ 1.90	25.1	89.7	N.A.	100.0	29.4

COLEMAN COLLIERIES LTD.

August 26, 1975

SINK-FLOAT ANALYSIS 28M x 100M

LAB. NO. 3560

S.G. Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
- 1.30	39.5	2.2	8 1/2	39.5	2.2
1.30 - 1.35	19.2	3.7	7	58.7	2.7
1.35 - 1.40	8.7	7.8	2	67.4	3.4
1.40 - 1.45	5.5	11.7	1	72.9	4.0
1.45 - 1.50	3.6	19.3	1	76.5	4.7
1.50 - 1.60	3.8	26.5	1	80.3	5.7
1.60 - 1.70	2.5	36.6	1	82.8	6.7
1.70 - 1.80	1.9	44.4	1	84.7	7.5
1.80 - 1.90	1.7	55.1	1	86.4	8.4
+ 1.90	13.6	83.3	N.A.	100.0	18.6

COLEMAN COLLIERIES LTD.

August 26, 1975

FROTH FLOTATION TESTS 28M x 0

LAB. NO. 3560

F.F. Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum Ash %
Stage I	48.2	10.2	7 1/2	48.2	10.2
Stage II	11.4	14.7	7	59.6	11.1
Tails	40.4	38.7	2 1/2	100.0	22.2

F.F. Parameters

Pulp Density	-	10%
Reagent Dosage	-	0.48 lb/ton Kerosene:MIBC
Conditioning Time	-	60 seconds
Stage I	-	first minute froth
Stage II	-	second minute froth

COLEMAN COLLIERIES LTD.

August 27, 1975

FROTH FLOTATION TESTS 100M x 0

LAB. NO. 3560

F.F. Fraction	Wt. %	Ash %	F.S.I.	Cum Wt. %	Cum ASh %
Stage I	58.1	14.8	7	58.1	14.8
Stage II	12.5	23.9	4	70.6	16.4
Tails	29.4	54.1	1	100.0	27.5

F.F. Parameters

Pulp Density	-	10%
Reagent Dosage	-	0.48 lb/ton Kerosene:MIBC
Conditioning Time	-	60 seconds
Stage I	-	first minute froth
Stage II	-	second minute froth

Warnock Hersey Professional Services Ltd.

CLIENT - Coleman Collieries Ltd.

HOLE No. - TD - 75 - 40

SEAM No. - 5

% CORE RECOVERY - 96.0

RAW COAL ASH % - 27.6

FOOTAGE - (coal) 764.6 - 814.0 44.4

816.0 - 822.0 (shale) 6.0

(coal) 822.0 - 835.0 13.0

835.0 - 839.0 (shale) 4.0

(coal) 839.0 - 888.0 49

CLEAN COAL COMPOSITES - ANALYSIS - % DRY BASIS

Size	Separation	Weight (yield)	Ash	Volatile	FSI	Sulphur	Btu.
3/4 x 28	1.50 Flt.	60.0	8.8	27.5	6½	0.41	13,802
28 x 0	1 min. froth						
3/4 x 28	1.70 Flt.	68.3	11.5	27.3	6	0.42	13,372
28 x 0	1 min. froth						

N.B. The above yield is exclusive of the shale parting. Inclusion of this shale during mining would result in lower recovery.

Warnock Hersey Professional Services Ltd.

CLIENT - Coleman Collieries Ltd.

LAB No. - 75-8001

HOLE No. - TD - 75 - 40

SEAM No. - 5

RAW COAL SIZE / ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained on	Wt. %	Ash %	Wt. %	Ash %
3/4	1/4	41.1	29.8	41.1	29.8
1/4	28 mesh	46.7	27.0	87.8	28.2
28 mesh	100 mesh	9.1	22.1	96.9	27.7
100 mesh	---	3.1	22.7	100.0	27.6
TOTAL -		100.0	27.6	-	-

Warnock Hersey Professional Services Ltd.

CLIENT - Coleman Collieries Ltd.

LAB No. - 75-8002

HOLE No. - TD - 75 - 40

SEAM No. - 5 - shale parting - 816.0 ' to 822.0 '

Sample crushed to - 3/4 "

SPEC. GRAVITY		ELEMENTARY			CUMULATIVE FL	
Sink	Float	Wt %	Ash %	FSI	Wt %	Ash %
--	1.60	7.5	10.1	9	7.5	10.1
1.60	1.90	5.6	43.6	4	13.1	24.4
1.90	--	86.9	81.0	--	100.0	73.6
TOTAL -		100.0	73.6	--		

Warnock Hersey Professional Services Ltd.

CLIENT - Coleman Collieries Ltd.

LAB No. - 75-8003

HOLE No. - TD - 75 - 40

SEAM No. - 5 - shale parting - 835.0 ' to 839.0 '

Sample crushed to minus 3/4 "

SPEC. GRAVITY		ELEMENTARY			CUMULATIVE FLOAT	
Sink	Float	Wt %	Ash %	FSI	Wt %	Ash %
--	1.40	23.6	6.7	9	23.6	6.7
1.40	1.60	7.9	22.6	6½	31.5	10.7
1.60	1.90	5.3	35.6	3½	36.8	14.2
1.90	--	63.2	86.5	--	100.0	59.9
TOTAL -		100.0	59.9			

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 40
Lab. No. (s): 75 - 8001
Size fraction: 3/4 x 1/4
Wt % of head sample: 41.1

Specific Gravity		FLOAT AND SINK ANALYSIS %							
		Elementary			Cumulative Float			Cumulative Sink	
Sink	Float	Weight	Ash	FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.30	18.6	3.8	9	18.6	3.8	167.4	100.0	29.8	
1.30	1.35	17.9	7.3	5½	36.5	5.5	98.45	81.4	35.7	
1.35	1.40	11.8	11.3	2	48.3	6.9	23.6	63.5	43.8	
1.40	1.45	7.1	17.5	1½	55.4	8.3	12.65	51.7	51.2	
1.45	1.50	3.0	21.8	1½	58.4	9.0	4.5	304.6 5.2157	44.6	56.5
1.50	1.60	5.4	26.6	1	63.8	10.5	5.4	310. 1.8587	41.6	59.0
1.60	1.70	4.7	35.1	1	68.5	12.2			36.2	63.9
1.70	1.80	4.1	45.4	1	72.6	14.0			31.5	68.2
1.80	1.90	3.7	52.8	1	76.3	15.9			27.4	71.6
1.90		23.7	74.5	ND	100.0	29.8			23.7	74.5
	TOTAL	100.0	29.8							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 40
Lab. No. (s): 75 - 8001
Size fraction: 1/4 x 28
Wt % of head sample: 46.7

Specific Gravity Sink	Specific Gravity Float	FLOAT AND SINK ANALYSIS % Elementary Weight	Elementary Ash	Elementary FSI	Cumulative Float Weight	Cumulative Float Ash	Cumulative Float Sulphur			Cumulative Sink Weight	Cumulative Sink Ash	Cumulative Sink Shulphur
	1.30	25.9	3.2	9	25.9	3.2	233.1			100.0	27.0	
1.30	1.35	16.0	7.2	5	41.9	4.7	80.0			74.1	35.4	
1.35	1.40	10.4	10.9	1½	52.3	6.0	15.6			58.1	43.1	
1.40	1.45	7.6	16.0	1	59.9	7.2	7.6			47.7	50.1	
1.45	1.50	2.8	20.9	1	62.7	7.8	2.8	339.1	5.4083	40.1	56.6	
1.50	1.60	5.7	27.6	1	68.4	9.5	5.7	334.8	5.0409	37.3	59.3	
1.60	1.70	3.3	36.3	1	71.7	10.7				31.6	65.0	
1.70	1.80	2.8	44.0	1	74.5	12.0				28.3	68.3	
1.80	1.90	4.7	49.9	0	79.2	14.2				25.5	71.0	
1.90		20.8	75.8	ND	100.0	27.0				20.8	75.8	
	TOTAL	100.0	27.0									

Womock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 40
Lab. No. (s): 75 - 8001
Size fraction: 28 x 100
Wt % of head sample: 9.1

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.30	36.7	2.6	8½	36.7	2.6		100.0	22.1	
1.30	1.35	15.4	6.1	5½	52.1	3.6		63.3	33.3	
1.35	1.40	9.7	9.8	1½	61.8	4.6		47.9	42.1	
1.40	1.45	3.6	17.3	1	65.4	5.3		38.2	50.3	
1.45	1.50	3.4	19.0	1	68.8	6.0		34.6	53.7	
1.50	1.60	5.2	25.6	1	74.0	7.4		31.2	57.5	
1.60	1.70	2.4	33.4	1	76.4	8.2		26.0	63.9	
1.70	1.80	1.4	40.1	1	77.8	8.7		23.6	67.0	
1.80	1.90	0.8	48.0	1	78.6	9.1		22.2	68.7	
1.90		21.4	69.5	ND	100.0	22.1		21.4	69.5	
	TOTAL	100.0								

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 40
Size fraction: 3/4 x 28 Composite
Lab. No. (s): 75 - 8001
Wt % of head sample: 87.8

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.30	22.6	3.4		22.6	3.4		100.0	28.2	
1.30	1.35	17.0	7.2		39.6	5.0		77.4	35.4	
1.35	1.40	11.1	11.1		50.7	6.4		60.4	43.3	
1.40	1.45	7.3	16.7		58.0	7.7		49.3	50.6	
1.45	1.50	2.9	21.3		60.9	8.3	5.32	42.0	56.5	
1.50	1.60	5.6	27.2		66.5	9.9		39.1	59.1	
1.60	1.70	3.9	35.6		70.4	11.3		33.5	64.4	
1.70	1.80	3.4	44.8		73.8	12.9		29.6	68.2	
1.80	1.90	4.2	51.1		78.0	14.9		26.2	71.2	
1.90		22.0	75.1		100.0	28.2		22.0	75.1	
	TOTAL	100.0								

WARNOCK HERSEY PROFESSIONAL SERVICES LTD.

FROTH FLOTATION TESTS

		28 x 0 Wt % Head - 12.2			100 x 0 Wt % Head - 3.1		
		Wt %	Ash %	FSI	Wt %	Ash %	FSI
Froth	1 min.	54.6	12.5	7	74.7	17.4	4½
Froth	2 min.	15.6	18.3	3½	14.9	27.7	1
Tailings		29.8	39.0	1	10.4	53.7	1
TOTAL		100.0	21.3		100.0	22.7	

Warnock Hersey Professional Services Ltd.

CLIENT - Coleman Collieries Ltd.

LAB No. - 75-8005

HOLE No. - TD - 75 - 43

SEAM No. - Not identified

#7 seam Rec 88.7%

RAW COAL SIZE / ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained on	Wt. %	Ash %	Wt. %	Ash %
3/4	1/4	--	--	--	--
1/4	28 mesh	73.9	58.1	73.9	58.1
28 mesh	100 mesh	17.7	50.7	91.6	56.7
100 mesh	---	8.4	51.4	100.0	56.2
TOTAL -		100.0	56.2	--	--

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 43
Size fraction: 1/4 x 28
Lab. No. (s): 75 - 8005
Wt % of head sample: 73.9

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.30	3.0	3.0	1	3.0	3.0		100.0	58.1	
1.30	1.35	8.9	4.6	1	11.9	4.2		97.0	59.8	
1.35	1.40	5.9	8.2	1	17.8	5.5		88.1	65.4	
1.40	1.45	3.0	20.6	1	20.8	7.7		82.2	69.5	
1.45	1.50	2.2	23.6	1	23.0	9.2		79.2	71.3	
1.50	1.60	5.2	27.9	1	28.2	12.7		77.0	72.7	
1.60	1.70	3.7	36.6	0	31.9	15.4		71.8	75.9	
1.70	1.80	1.5	44.9	0	33.4	26.8		68.1	78.0	
1.80	1.90	1.5	52.9	0	34.9	18.3		66.6	78.8	
1.90		65.1	29.4	ND	100.0	58.1		65.1	79.4	
	TOTAL	100.0								

Wamock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 43
Size fraction: 28 x 100
Lab. No. (s): 75 - 8005
Wt % of head sample: 17.7

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.30	4.0	2.7	1½	4.0	2.7		100.0		
1.30	1.35	12.6	4.2	1	16.6	3.8		96.0		
1.35	1.40	6.6	8.2	1	23.2	5.1		83.4		
1.40	1.45	6.0	12.1	1	29.2	6.5		76.8		
1.45	1.50	1.5	17.4	1	30.7	7.1		70.8		
1.50	1.60	5.8	23.7	0	36.5	9.7		69.3		
1.60	1.70	5.7	34.0	1	42.2	13.0		63.5		
1.70	1.80	1.8	40.4	1	44.0	14.1		57.8		
1.80	1.90	1.3	45.9	1	45.3	15.0		56.0		
1.90		54.7	80.2	ND	100.0	50.7		54.7		
	TOTAL	100.0								

WARNOCK HERSEY PROFESSIONAL SERVICES LTD.

FROTH FLOTATION TESTS

		28 x 0 Wt % Head - 26.1			100 x 0 Wt % Head - 8.4		
		Wt %	Ash %	FSI	Wt %	Ash %	FSI
Froth	1 min.	23.3	33.3	0	51.7	41.4	1½
Froth	2 min.	14.1	37.5	0	24.9	52.7	1½
Tailings		62.6	57.6	0	23.4	72.2	0
TOTAL		100.0	49.1		100.0	51.4	

Warnock Hersey Professional Services Ltd.

CLIENT - Coleman Collieries Ltd.

HOLE No. - TD - 75 - 43

SEAM No. - 6

% CORE RECOVERY - 93.6

RAW COAL ASH % - ~~12.5~~ 12.3

FOOTAGE - 189.8 - 240.5

CLEAN COAL COMPOSITES - ANALYSIS - % DRY BASIS

Size	Separation	Weight (yield)	Ash	Volatile	FSI	Sulphur	Btu.
3/4 x 28 1.60 Flt.		83.3	6.5	29.3	7	0.40	14,102
28 x 0	1 and 2 min. froth						

(weighted average).
Act. weights.
calc. back to size fraction.

Warnock Hersey Professional Services Ltd.

CLIENT - Coleman Collieries Ltd.

LAB No. - 75-8011

HOLE No. - TD - 75 - 43

SEAM No. - 6

RAW COAL SIZE / ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained on	Wt. %	Ash %	Wt. %	Ash %
3/4	1/4	35.0	15.3	35.0	15.3
1/4	28 mesh	47.3	10.7	82.3	12.7
28 mesh	100 mesh	12.0	9.9	94.3	12.3
100 mesh	---	5.7	12.9	100.0	12.3
TOTAL -		100.0	12.3	--	--

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 43 | Size fraction: 3/4 x 1/4

Lab. No. (s): 75 - 8011 | Wt % of head sample: 35.0

Specific Gravity		FLOAT AND SINK ANALYSIS %							
		Elementary			Cumulative Float			Cumulative Sink	
Sink	Float	Weight	Ash	FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.30	46.5	3.4	8½	46.5	3.4		100.0	15.3
1.30	1.35	20.0	6.3	2½	66.5	4.3		53.5	25.7
1.35	1.40	5.9	11.9	1½	72.4	4.9		33.5	37.2
1.40	1.45	2.9	17.0	1½	75.3	5.4		27.6	42.7
1.45	1.50	3.5	19.9	1½	78.8	6.0		24.7	45.7
1.50	1.60	5.3	24.8	1½	84.1	7.2		21.2	50.0
1.60	1.70	3.5	30.3	1	87.6	8.1		15.9	58.4
1.70	1.80	2.4	44.9	1	90.0	9.1		12.4	66.3
1.80	1.90	1.8	49.4	0	91.8	9.9		10.0	71.4
1.90		8.2	76.3	ND	100.0	15.3		8.2	76.3
	TOTAL	100.0	15.3						

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 43
Size fraction: 1/4 x 28
Lab. No. (s): 75 - 8011
Wt % of head sample: 47.3

Specific Gravity		FLOAT AND SINK ANALYSIS %							
		Elementary			Cumulative Float			Cumulative Sink	
Sink	Float	Weight	Ash	FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.30	56.9	2.3	9	56.9	2.3		100.0	10.7	
1.30	1.35	16.9	5.8	3	73.8	3.1		43.1	21.8	
1.35	1.40	7.8	11.0	1	81.6	3.9		26.2	32.1	
1.40	1.45	4.6	16.9	1	86.2	4.6		18.4	41.1	
1.45	1.50	1.5	21.2	1	87.7	4.8		13.8	49.1	
1.50	1.60	3.1	27.1	1	90.8	5.6		12.3	52.5	
1.60	1.70	1.5	35.5	1	92.3	6.1		9.2	61.1	
1.70	1.80	1.5	44.3	1	93.8	6.7		7.7	66.1	
1.80	1.90	0.8	52.7	1	94.6	7.1		6.2	71.3	
1.90		5.4	74.1	ND	100.0	10.7		5.4	74.1	
	TOTAL	100.0	10.7							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 43
Size fraction: 28 x 100
Lab. No. (s): 75 - 8011
Wt % of head sample: 12.0

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.30	49.8	2.1	8	49.8	2.1		100.0	9.9	
1.30	1.35	20.2	4.2	6½	70.0	2.7		50.2	17.5	
1.35	1.40	10.5	7.9	1½	80.5	3.4		30.0	26.5	
1.40	1.45	4.6	13.9	1	85.1	4.0		19.5	36.6	
1.45	1.50	1.7	17.3	1	86.8	4.2		14.9	43.5	
1.50	1.60	4.0	19.5	1	90.8	4.9		13.2	46.9	
1.60	1.70	1.5	32.4	1	92.3	5.3		9.2	58.8	
1.70	1.80	0.5	41.2	1	92.8	5.5		7.7	64.0	
1.80	1.90	0.4	43.3	1	93.2	5.7		7.2	65.6	
1.90		6.8	66.9	ND	100.0	9.9		6.8	66.9	
	TOTAL	100.0								

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 43
Size fraction: 3/4 x 28
Lab. No. (s): 75 - 8011
Wt % of head sample: 82.3

Specific Gravity Sink	Specific Gravity Float	FLOAT AND SINK ANALYSIS % Elementary Weight	Elementary Ash	FSI	Cumulative Float Weight	Cumulative Float Ash	Cumulative Float Sulphur	Cumulative Sink Weight	Cumulative Sink Ash	Cumulative Sink Shulphur
	1.30	52.5	2.7		52.5	2.7		100.0	12.7	
1.30	1.35	18.2	6.0		70.7	3.6		47.5	23.7	
1.35	1.40	7.0	11.3		77.7	4.3		29.3	34.7	
1.40	1.45	3.9	16.9		81.6	4.9		22.3	42.1	
1.45	1.50	2.3	20.4		83.9	5.3		18.4	47.4	
1.50	1.60	4.1	25.8		88.0	6.2		16.1	51.3	
1.60	1.70	2.3	32.2		90.3	6.9		12.0	60.0	
1.70	1.80	1.8	44.6		92.1	7.6		9.7	66.6	
1.80	1.90	1.2	50.7		93.3	8.2		7.9	71.6	
1.90		6.7	75.3		100.0	12.7		6.7	75.3	
	TOTAL	100.0								

3/4 - 1/4
1/4 - 28 M

WARNOCK HERSEY PROFESSIONAL SERVICES LTD.

FROTH FLOTATION TESTS

		28 x 0 Wt % Head - 17.7			100 x 0 Wt % Head - 5.7		
		Wt %	Ash %	FSI	Wt %	Ash %	FSI
Froth	1 min.	39.5	8.0	6	52.0	8.1	4½
Froth	2 min.	22.2	9.3	5½	21.7	10.8	3½
Tailings		38.3	16.8	5	26.3	24.0	1½
TOTAL		100.0	11.7		100.0	12.9	

Warnock Hersey Professional Services Ltd.

CLIENT - Coleman Collieries Ltd.

HOLE No. -	TD - 75 - 43
SEAM No. -	5
% CORE RECOVERY -	93.6
RAW COAL ASH % -	28.4
FOOTAGE -	494.0 - 610.0

CLEAN COAL COMPOSITES - ANALYSIS - % DRY BASIS

Size	Separation	Weight (yield)	Ash	Volatile	FSI	Sulphur	Btu.
3/4 x 28	1.50 Flt.	56.6	8.8	27.7	6½	0.43	13,829
28 x 0	1 and 2 min. froth						
3/4 x 28	1.70 Flt.	63.1	11.1	27.6	6	0.41	13,388
28 x 0	1 and 2 min. froth						

Warnock Hersey Professional Services Ltd.

CLIENT - Coleman Collieries Ltd.

LAB No. - 75-8006

HOLE No. - TD - 75 - 43

SEAM No. - 5

RAW COAL SIZE / ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained on	Wt. %	Ash %	Wt. %	Ash %
3/4	1/4	50.3	38.9	50.3	38.9
1/4	28 mesh	38.4	26.8	88.7	29.5
28 mesh	100 mesh	8.6	19.5	97.3	28.6
100 mesh	---	2.7	21.5	100.0	28.4
TOTAL -		100.0	28.4	--	--

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 43
Lab. No. (s): 75 - 8006
Size fraction: 3/4 x 1/4
Wt % of head sample: 50.3

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	FSI	Weight	Ash	Sulphur	Weight	Ash	Sulphur
	1.30	19.6	3.9	8½	19.6	3.9		100.0	38.9	
1.30	1.35	14.5	7.8	3	34.1	5.6		80.4	47.4	
1.35	1.40	8.0	12.0	1	42.1	6.8		65.9	56.1	
1.40	1.45	3.9	20.3	1	46.0	7.9		57.9	62.2	
1.45	1.50	3.6	21.5	1	49.6	8.9		54.0	65.2	
1.50	1.60	4.2	28.4	1	53.8	10.4		50.4	68.4	
1.60	1.70	3.3	35.7	1	57.1	11.9		46.2	72.0	
1.70	1.80	3.3	42.8	1	60.4	13.6		42.9	74.8	
1.80	1.90	4.2	51.0	1	64.6	16.0		39.6	77.5	
1.90		35.4	80.6	ND	100.0	38.9		35.4	80.6	
	TOTAL	100.0								

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 43
Lab. No. (s): 75 - 8006
Size fraction: 1/4 x 28
Wt % of head sample: 38.4

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.30	32.6	3.6	9	32.6	3.6		100.0	26.8	
1.30	1.35	15.3	7.5	6	47.9	4.8		67.4	38.0	
1.35	1.40	9.7	11.7	1½	57.6	6.0		52.1	47.0	
1.40	1.45	4.6	16.5	1	62.2	6.8		42.4	55.1	
1.45	1.50	3.6	21.2	1	65.8	7.6		37.8	59.8	
1.50	1.60	5.1	29.0	1	70.9	9.1		34.2	63.8	
1.60	1.70	2.0	37.4	1	72.9	9.9		29.1	69.9	
1.70	1.80	2.0	43.4	1	74.9	10.8		27.1	72.3	
1.80	1.90	3.6	53.2	0	78.5	12.7		25.1	74.6	
1.90		21.5	78.2	ND	100.0	26.8		21.5	78.2	
	TOTAL	100.0								

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 43 | Size fraction: 28 x 100
Lab. No. (s): 75 - 8006 | Wt % of head sample: 8.6

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.30	44.5	2.6	9	44.5	2.6		100.0	19.5	
1.30	1.35	12.7	6.8	5	57.2	3.5		55.5	33.0	
1.35	1.40	10.2	10.0	2	67.4	4.5		42.8	40.8	
1.40	1.45	4.6	14.4	1	72.0	5.1		32.6	50.4	
1.45	1.50	4.0	19.0	1	76.0	5.9		28.0	56.3	
1.50	1.60	2.7	26.7	1	78.7	6.6		24.0	62.5	
1.60	1.70	2.4	32.8	1	81.1	7.4		21.3	67.0	
1.70	1.80	1.3	40.7	1	82.4	7.9		18.9	71.4	
1.80	1.90	0.6	51.0	1	83.0	8.2		17.6	73.7	
1.90		17.0	74.5	ND	100.0	19.5		17.0	74.5	
	TOTAL	100.0								

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 43
Lab. No. (s): 75 - 8006
Size fraction: 3/4 x 28
Wt % of head sample: 88.7

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	FSI	Weight	Ash	Sulphur	Weight	Ash	Chulphur
	1.30	25.0	3.7		25.0	3.7		100.0	33.7	
1.30	1.35	14.9	7.7		39.9	5.2		75.0	43.8	
1.35	1.40	8.7	11.9		48.6	6.4		60.1	52.7	
1.40	1.45	4.3	18.5		52.9	7.4		51.4	59.6	
1.45	1.50	3.6	21.4		56.5	8.3		47.1	63.4	
1.50	1.60	4.5	28.7		61.0	9.8		43.5	66.8	
1.60	1.70	2.8	36.2		63.8	10.9		39.0	71.2	
1.70	1.80	2.8	43.0		66.6	12.3		36.2	73.9	
1.80	1.90	3.9	51.9		70.5	14.5		33.4	76.5	
1.90		29.5	79.8		100.0	33.7		29.5	79.8	
	TOTAL	100.0								

WARNOCK HERSEY PROFESSIONAL SERVICES LTD.

FROTH FLOTATION TESTS

		28 x 0 Wt % Head - 11.3			100 x 0 Wt % Head - 2.7		
		Wt %	Ash %	FSI	Wt %	Ash %	FSI
Froth	1 min.	45.8	10.8	7	69.8	13.9	6
Froth	2 min.	11.9	18.7	4	14.8	22.7	2
Tailings		42.3	30.4	3½	15.4	54.6	1
TOTAL		100.0	20.0		100.0	21.5	

Warnock Hersey Professional Services Ltd.

CLIENT - Coleman Collieries Ltd.

HOLE No. - TD - 75 - 43

SEAM No. - 4

% CORE RECOVERY - 90.3

RAW COAL ASH % - 28.0

FOOTAGE - 790.2 - 812.8

CLEAN COAL COMPOSITES - ANALYSIS - % DRY BASIS

Size	Separation	Weight (yield)	Ash	Volatile	FSI	Sulphur	Btu.
3/4 x 28	1.40 Flt.	35.4	9.5	26.6	5	0.57	13,730
28 x 0	not included						
3/4 x 28	1.45 Flt.	44.8	11.0	25.2	4	0.53	13,434
28 x 0	not included						

Warnock Hersey Professional Services Ltd.

CLIENT - Coleman Collieries Ltd.

LAB No. - 75-8007

HOLE No. - TD - 75 - 43

SEAM No. - 4

RAW COAL SIZE / ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained on	Wt. %	Ash %	Wt. %	Ash %
3/4	1/4	54.3	30.4	54.3	30.4
1/4	28 mesh	36.9	25.8	91.2	28.5
28 mesh	100 mesh	6.1	20.8	97.3	28.1
100 mesh	---	2.7	24.9	100.0	28.0
TOTAL -		100.0	28.0	--	--

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 43 | Size fraction: 3/4 x 1/4
Lab. No. (s): 75 - 8007 | Wt % of head sample: 54.3

Specific Gravity			FLOAT AND SINK ANALYSIS %								
			Elementary			Cumulative Float			Cumulative Sink		
Sink	Float		Weight	Ash	FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.30	9.0	1.0	6.3	9	1.0	6.3		100.0	30.4	
1.30	1.35	57.6	12.8	8.9	4½	13.8	8.7		99.0	30.7	
1.35	1.40	33.25	21.5	12.2	1½	35.3	10.8		86.2	33.9	
1.40	1.45	19.10	9.8	17.3	1½	45.1	12.2		64.7	41.1	
1.45	1.50	19.20 132.75	12.8	21.4	1½ 2.2927	57.9	14.3		54.9	45.4	
1.50	1.60	10.50 143.50	10.8	27.3	1 2.0875	68.7	16.3		42.1	52.6	
1.60	1.70		5.9	33.2	1	74.6	17.7		31.3	61.4	
1.70	1.80		4.9	43.8	1	79.5	19.3		25.4	67.9	
1.80	1.90		3.9	50.8	1	83.4	20.7		20.5	73.7	
1.90			16.6	79.1	ND	100.0	30.4		16.6	79.1	
	TOTAL		100.0	30.4							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 43
Lab. No. (s): 75 - 8007
Size fraction: 1/4 x 28
Wt % of head sample: 36.9

Specific Gravity Sink	Specific Gravity Float	FLOAT AND SINK ANALYSIS % — Elementary Weight	Elementary Ash	Elementary FSI	Cumulative Float Weight	Cumulative Float Ash	Cumulative Float Sulphur	Cumulative Sink Weight	Cumulative Sink Ash	Cumulative Sink Shulphur
	1.30	12.7	3.1	9	12.7	3.1		100.0	25.8	
1.30	1.35	14.3	7.9	7	27.0	5.6		87.3	29.1	
1.35	1.40	17.5	11.7	2	44.5	8.0		73.0	33.2	
1.40	1.45	11.1	16.0	1½	55.6	9.6		55.5	40.0	
1.45	1.50	7.9	20.5	1	63.5	11.0		44.4	46.0	
1.50	1.60	11.1	27.4	1	74.6	13.4		36.5	51.5	
1.60	1.70	4.8	35.7	1	79.4	14.8		25.4	62.1	
1.70	1.80	3.2	43.7	0	82.6	15.9		20.6	68.3	
1.80	1.90	3.2	51.2	0	85.8	17.2		17.4	72.8	
1.90		14.2	77.7	ND	100.0	25.8		14.2	77.7	
	TOTAL	100.0	25.8							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 43
Lab. No. (s): 75 - 8007
Size fraction: 28 x 100
Wt % of head sample: 6.1

FLOAT AND SINK ANALYSIS %

Specific Gravity Sink	Specific Gravity Float	Elementary Weight	Elementary Ash	FSI	Cumulative Float Weight	Cumulative Float Ash	Cumulative Float Sulphur	Cumulative Sink Weight	Cumulative Sink Ash	Cumulative Sink Shulphur
	1.30	29.6	3.8	9	29.6	3.8		100.0	20.8	
1.30	1.35	6.4	6.3	7½	36.0	4.2		70.4	27.9	
1.35	1.40	16.1	9.0	2	52.1	5.7		64.0	30.1	
1.40	1.45	12.1	13.3	1	64.2	7.1		47.9	37.1	
1.45	1.50	3.6	16.8	1	67.8	7.7		35.8	45.2	
1.50	1.60	7.9	22.3	1	75.7	9.2		32.2	48.4	
1.60	1.70	7.9	30.1	1	83.6	11.2		24.3	56.9	
1.70	1.80	0.9	40.8	1	84.5	11.5		16.4	69.7	
1.80	1.90	0.1	45.2	1	84.6	11.5		15.5	71.4	
1.90		15.4	71.6	ND	100.0	20.8		15.4	71.6	
	TOTAL	100.0								

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 43
Lab. No. (s): 75 - 8007
Size fraction: 3/4 x 28
Wt % of head sample: 91.2

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.30	5.7	3.4		5.7	3.4	2 FS)	100.0		
1.30	1.35	13.5	8.5		19.2	7.0		94.3		
1.35	1.40	19.6	12.0		38.8	9.5		80.8		
1.40	1.45	10.3	16.7		49.1	11.0		61.2		
1.45	1.50	10.9	21.1		60.0	12.9	3.22	50.9		
1.50	1.60	11.0	27.4		71.0	15.1	2.83	40.0		
1.60	1.70	5.5	34.1		76.5	16.5		29.0		
1.70	1.80	4.3	43.8		80.8	17.9		23.5		
1.80	1.90	3.6	51.0		84.4	19.3		19.2		
1.90		15.6	78.6		100.0	28.6		15.6	78.6	
	TOTAL	100.0								

WARNOCK HERSEY PROFESSIONAL SERVICES LTD.

FROTH FLOTATION TESTS

		28 x 0 Wt % Head - 8.8			100 x 0 Wt % Head - 2.7		
		Wt %	Ash %	FSI	Wt %	Ash %	FSI
Froth	1 min.	50.5	12.7	6	57.7	15.2	4½
Froth	2 min.	13.4	18.8	3½	21.1	23.1	1½
Tailings		36.1	37.6	1	21.2	53.1	1
TOTAL		100.0	22.5		100.0	24.9	

Warnock Hersey Professional Services Ltd.

CLIENT - Coleman Collieries Ltd.

HOLE No. - TD - 75 - 43

SEAM No. - 4

% CORE RECOVERY - 94.4

RAW COAL ASH % - 41.4

FOOTAGE - 867.0 - 876.0 Bottom split/section Not Throughout the Take.

CLEAN COAL COMPOSITES - ANALYSIS - % DRY BASIS

Size	Separation	Weight (yield)	Ash	Volatile	FSI	Sulphur	Btu.
¼ x 28	1.40 Flt.	32.6	10.9	25.5	5½	0.58	13,484
28 x 0	1 min. froth						

Warnock Hersey Professional Services Ltd.

CLIENT - Coleman Collieries Ltd.

LAB No. - 75-8008

HOLE No. - TD - 75 - 43

SEAM No. - 4

RAW COAL SIZE / ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained on	Wt. %	Ash %	Wt. %	Ash %
3/4	1/4	--	--	--	--
1/4	28 mesh	74.1	43.3	74.1	43.3
28 mesh	100 mesh	17.4	38.1	91.5	42.3
100 mesh	---	8.5	32.2	100.0	41.5
TOTAL -		100.0	41.5	--	--

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 43 | Size fraction: 1/4 x 28
Lab. No. (s): 75 - 8008 | Wt % of head sample: 74.1

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.30	6.9	3.0	9	6.9	3.0		100.0	43.3	
1.30	1.35	12.5	6.9	5½	19.4	5.5		93.1	46.2	
1.35	1.40	9.7	10.6	2	29.1	7.2		80.6	52.3	
1.40	1.45	6.9	15.8	1	36.0	8.9		70.9	58.0	
1.45	1.50	4.2	20.0	1	40.2	10.0		64.0	62.6	
1.50	1.60	5.6	26.8	1	45.8	12.1		59.8	65.6	
1.60	1.70	4.2	36.9	1	50.0	14.2		54.2	69.6	
1.70	1.80	4.2	46.4	1	54.2	16.7		50.0	72.3	
1.80	1.90	4.2	54.2	1	58.4	19.4		45.8	74.7	
1.90		41.6	76.8	ND	100.0	43.3		41.6	76.8	
	TOTAL	100.0								

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Hole # TD - 75 - 43
Lab. No. (s): 75 - 8008
Size fraction: 28 x 100
Wt % of head sample: 17.4

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.30	11.9	2.3	9	11.9	2.3		100.0	38.2	
1.30	1.35	15.9	5.3	7½	27.8	4.0		88.1	42.3	
1.35	1.40	10.5	9.3	2	38.3	5.5		72.2	51.2	
1.40	1.45	4.2	13.2	1½	42.5	6.2		61.7	58.3	
1.45	1.50	4.2	16.0	1	46.7	7.1		57.5	61.6	
1.50	1.60	7.9	23.2	1	54.6	9.4		53.3	65.2	
1.60	1.70	4.2	39.7	1	58.8	11.6		45.4	72.5	
1.70	1.80	2.0	35.0	1	60.8	12.4		41.2	75.9	
1.80	1.90	1.0	50.1	1	61.8	13.0		39.2	77.9	
1.90		38.2	78.7	ND	100.0	38.1		38.2	78.7	
	TOTAL	100.0								

WARNOCK HERSEY PROFESSIONAL SERVICES LTD.

FROTH FLOTATION TESTS

		28 x 0 Wt % Head - 25.9			100 x 0 Wt % Head - 8.5		
		Wt %	Ash %	FSI	Wt %	Ash %	FSI
Froth	1 min.	42.3	18.3	4	51.6	21.2	4
Froth	2 min.	12.5	20.5	4½	11.2	31.1	1
Tailings		45.2	52.9	1	37.2	47.9	1
TOTAL		100.0	34.2		100.0	32.2	

Warnock Hersey Professional Services Ltd.

COLEMAN COLLIERIES LTD.

Report of Analyses of;

Hole No.		–	TD – 75 – 49
Seam No.		–	5 (Upper Section)
% Core Recovery		–	94.0
% Raw Coal Ash		–	37.1
Footage	From	–	770.0
	To	–	831.0
Lab. No.		–	75 – 9034

CLEAN COAL COMPOSITES – Analysis – % Dry Basis

Size	Separation	Weight (yield)	Ash	Volatile	Sulphur	FSI	Btu
3/4" x 28	1.45 Flt						
28 x 0	1 Min. Froth	49.1	8.4	28.2	0.43	5½	13880
28 x 0	2 Min. Froth						
3/4" x 28	1.60 Flt						
28 x 0	1 Min. Froth	55.5	10.3	28.1	0.43	5	13547
28 x 0	2 Min. Froth						

N.B. The results for the upper and lower sections are exclusive of the shale split. Inclusion of this material would not affect the clean coal quality, but would depress the overall seam yield to 39.7 @ 1.45 Flt, and to 46.7 % @ 1.60 Flt. The total seam raw coal ash would be increased to 45.1 %.

Warnock Hersey Professional Services Ltd.

Coleman Collieries Ltd.

Hole No. - - TD - 75 - 49

Seam No. - 5 (Upper Section)

Lab. No. - 75 - 9024

RAW COAL SIZE/ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained On	Wt%	Ash%	Wt%	Ash%
-	28 mesh	89.2	39.0	89.2	39.0
28 mesh	100 mesh	8.3	19.7	97.5	37.4
100 mesh	-	2.5	25.2	100.0	37.1
TOTAL		100.0	37.1		

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries Ltd, Hole # TD-75-49 — Size fraction: 3/4" x 28

Lab. No. (s): 75-9024 — Wt % of head sample: 89.2

Specific Gravity		FLOAT AND SINK ANALYSIS %							
		Elementary			Cumulative Float			Cumulative Sink	
Sink	Float	Weight	Ash	Sulphur FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	34.3	5.0	8½	34.3	5.0		100.0	39.7	
1.35	1.40	8.0	14.4	3½	42.3	6.8		65.7	57.8	
1.40	1.45	4.4	18.4	3½	46.7	7.9		57.7	63.9	
1.45	1.50	3.8	23.8	2	50.5	9.1		53.3	67.6	
1.50	1.60	3.4	27.7	1½	53.9	10.2		49.5	71.0	
1.60	1.90	8.0	41.7	1	61.9	14.3		46.1	74.2	
1.90		38.1	81.0	n.d.	100.0	39.0		38.1	81.0	
Total		100.0	39.0							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N E Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification Coleman Collieries Ltd. Hole # TD-75-49 Size fraction 28 x 100 mesh

Lab. No. (s) 75-9024 Wt % of head sample 8.3

Specific Gravity		FLOAT AND SINK ANALYSIS %							
		Elementary			Cumulative Float			Cumulative Sink	
Sink	Float	Weight	Ash	Sulphur FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	55.5	3.9	8½	55.5	3.9		100.0	19.7	
1.35	1.40	8.0	9.4	5½	63.5	4.6		44.5	39.5	
1.40	1.45	8.1	11.4	3	71.6	5.4		36.5	46.1	
1.45	1.50	2.5	17.6	1	74.1	5.8		28.4	56.0	
1.50	1.60	3.4	24.4	1	77.5	6.6		25.9	59.7	
1.60	1.90	3.4	36.3	1	80.9	7.8		22.5	64.9	
1.90		19.1	70.1	n.d.	100.0	19.7		19.1	70.1	
Total		100.0	19.7							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel: 264-9120

Sample Identification : Coleman Collieries - Hole # TD-75-49

Lab. No (s). : 75-9024

Froth Flotation Tests

	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	51.0	10.0	9	40.9	19.1	5½
Froth 2 minutes	17.8	14.6	7½	6.4	22.1	3½
Tailings	31.2	44.3	1	52.7	30.4	3
Total	100.0	21.5		100.0	25.2	

Conditions

Solids Concentration	-	10%
Reagent Dosage	-	0.50 lb / ton 3:1 diesel fuel/MIBC
Conditioning	-	1 minute

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries Ltd. Hole # TD-75-49
Size fraction: 3/4" x 0 mesh (shale split)
Lab. No. (s): 75-9034
Wt % of head sample: 100.0

FLOAT AND SINK ANALYSIS %

Specific Gravity Sink	Specific Gravity Float	Elementary Weight	Elementary Ash	Elementary Sulphur	FSI	Cumulative Float Weight	Cumulative Float Ash	Cumulative Float Sulphur	Cumulative Sink Weight	Cumulative Sink Ash	Cumulative Sink Shulphur
	1.40	6.8	7.0		6	6.8	7.0				
1.40	1.60	2.5	22.0		3	9.3	11.0				
1.60	1.90	6.2	45.5		1	15.5	24.9				
1.90		84.9	87.0		n.d.	100.0	77.4				
Total		100.0	77.4								

Warnock Hersey Professional Services Ltd.

COLEMAN COLLIERIES LTD.

Report of Analyses of;

Hole No.		-	TD - 75 - 49
Seam No.		-	5 (Lower Section)
% Core Recovery		-	94.0
% Raw Coal Ash		-	37.8
Footage	From	-	847.0
	To	-	876.0
Lab. No.		-	75 - 9025

CLEAN COAL COMPOSITES - Analysis - % Dry Basis

Size	Separation	Weight (yield)	Ash	Volatile	Sulphur	FSI	Btu
3/4" x 28	1.50 Flt						
28 x 0	1 Min. Froth	46.2	9.0	26.5	0.46	6 ?	13788
28 x 0	2 Min. Froth						
3/4" x 28	1.60 Flt						
28 x 0	1 Min. Froth	50.4	10.6	26.1	0.50	3 ?	13530
28 x 0	2 Min. Froth						

Warnock Hersey Professional Services Ltd.

Coleman Collieries Ltd.

Hole No. – – TD – 75 – 49

Seam No. – 5 (Lower Section)

Lab. No. – 75 – 9025

RAW COAL SIZE/ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained On	Wt%	Ash%	Wt%	Ash%
–	28 mesh	86.8	39.6	86.8	39.6
28 mesh	100 mesh	9.7	25.5	96.5	38.2
100 mesh	–	3.5	27.6	100.0	37.8
TOTAL		100.0	37.8		

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel 264-9120

Sample Identification: Coleman Collieries Ltd. Hole # TD-75-49 — Size fraction: 3/4" x 28 mesh

Lab. No. (s): 75-9025 — Wt % of head sample: 86.8

Specific Gravity		FLOAT AND SINK ANALYSIS %							
		Elementary			Cumulative Float			Cumulative Sink	
Sink	Float	Weight	Ash	Sulphur FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	29.8	5.0	6 178.8	29.8	5.0		100.0	39.6	
1.35	1.40	9.3	11.0	1½ 13.95	39.1	6.4		70.2	54.2	
1.40	1.45	4.4	14.4	1 4.4 (4.27)	43.5	7.2		60.9	60.8	
1.45	1.50	3.4	21.7	1 3.4 200.51	46.9	8.3		56.5	64.4	
1.50	1.60	4.8	28.8	1 4.8 205.31	51.7	10.2		53.1	67.1	
1.60	1.90	10.7	41.1	1 (3.17)	62.4	15.5		48.3	71.0	
1.90		37.6	79.5	n.d.	100.0	39.6		37.6	79.5	
Total		100.0	39.6							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification Coleman Collieries Ltd. Hole # TD-75-49 Size fraction 28 x 100 mesh

Lab. No. (s) 75-9025 Wt % of head sample 9.7

Specific Gravity		FLOAT AND SINK ANALYSIS %							
		Elementary			Cumulative Float			Cumulative Sink	
Sink	Float	Weight	Ash	Sulphur FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	35.1	4.6	7½	35.1	4.6		100.0	25.5	
1.35	1.40	10.5	9.0	1	45.6	5.6		64.9	36.7	
1.40	1.45	6.4	12.6	1	52.0	6.5		54.4	42.1	
1.45	1.50	8.4	15.1	1	60.4	7.7		48.0	46.1	
1.50	1.60	5.9	21.5	1	66.3	8.9		39.6	52.6	
1.60	1.90	10.1	36.3	1	76.4	12.5		33.7	58.1	
1.90		23.6	67.4	n.d.	100.0	25.5		23.6	67.4	
Total		100.0	25.5							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel: 264-9120

Sample Identification : Coleman Collieries – Hole # TD-75-49

Lab. No (s). : 75-9025

Froth Flotation Tests

	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	33.3	13.4	4½	38.0	21.2	3½
Froth 2 minutes	8.5	18.3	3½	9.1	22.5	3
Tailings	58.2	35.7	1	52.9	33.0	1
Total	100.0	26.8		100.0	27.6	

Conditions –

Solids Concentration – 10%

Reagent Dosage – 0.50 lb / ton 3:1 diesel fuel/MIBC

Conditioning – 1 minute

Warnock Hersey Professional Services Ltd.

COLEMAN COLLIERIES LTD.

Report of Analyses of;

Hole No.		-	TD - 75 - 49
Seam No.		-	4
% Core Recovery		-	100.0
% Raw Coal Ash		-	29.4
Footage	From	-	1048.3
	To	-	1058.5
Lab. No.		-	75 -9066

CLEAN COAL COMPOSITES - Analysis - % Dry Basis

Size	Separation	Weight (yield)	Ash	Volatile	Sulphur	FSI	Btu
¼" x 28m	1.40 Flt						
28 x 100m	1 min. froth	35.0	10.2	25.8	0.59	4	13701
¼" x 28m	1.50 Flt.						
28 x 100m	1 min. froth	48.3	12.0	24.4	0.56	2	13314

Warnock Hersey Professional Services Ltd.

Coleman Collieries ltd.

Hole No. - - TD 75 - 49

Seam No. - 4

Lab. No. - 75 - 9066

RAW COAL SIZE/ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained On	Wt%	Ash%	Wt%	Ash%
-	28 mesh	75.2	31.2	75.2	31.2
28 mesh	100 mesh	17.7	23.8	92.9	29.8
100 mesh	-	7.1	23.8	100.0	29.4
TOTAL		100.0	29.4		

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries – Hole # TD-75-49 | Size fraction: ½" x 28 mesh

Lab. No. (s): 75 – 9066 | Wt % of head sample: 75.2

Specific Gravity		FLOAT AND SINK ANALYSIS %							
		Elementary			Cumulative Float			Cumulative Sink	
Sink	Float	Weight	Ash	~~Sulphur~~ FSI	Weight	Ash	~~Sulphur~~	Weight	Ash	~~Sulphur~~
	1.35	22.6	5.9	7½	22.6	5.9		100.0	31.2	
1.35	1.40	15.2	11.0	1	37.8	8.0		77.4	38.5	
1.40	1.45	11.6	15.2	1	49.4	9.6		62.2	45.3	
1.45	1.50	6.1	20.4	1	55.5	10.8		50.6	52.2	
1.50	1.60	6.8	27.8	1	62.3	12.7		44.5	56.5	
1.60	1.90	11.0	39.6	1	73.3	16.7		37.7	61.7	
1.90		26.7	70.8	nd	100.0	31.2		26.7	70.8	
Total		100.0	31.2							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries- Hole# TD-75-49 — Size fraction: 28 x 100 mesh

Lab. No. (s): 75 - 3066 — Wt % of head sample: 17.7

Specific Gravity		FLOAT AND SINK ANALYSIS %							
		Elementary			Cumulative Float			Cumulative Sink	
Sink	Float	Weight	Ash	~~Sulphur~~ FSI	Weight	Ash	~~Sulphur~~	Weight	Ash	~~Sulphur~~
	1.35	26.6	4.8	7½	26.6	4.8		100.0	23.8	
1.35	1.40	17.5	9.6	2	44.1	6.7		73.4	30.6	
1.40	1.45	10.4	12.1	1	54.5	7.7		55.9	37.2	
1.45	1.50	5.9	15.6	1	60.4	8.5		45.5	43.0	
1.50	1.60	7.4	19.5	1	67.8	9.7		39.6	47.0	
1.60	1.90	10.0	34.4	1	77.8	12.9		32.2	53.4	
1.90		22.2	61.9	nd	100.0	23.8		22.2	61.9	
Total		100.0	23.8							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel: 264-9120

Sample Identification : Coleman Collieries – Hole # TD-75-49

Lab. No (s). : 75-9066

Froth Flotation Tests

	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	26.8	19.8	2½	66.3	17.0	1½
Froth 2 minutes	11.9	22.7	1½	9.5	26.8	1
Tailings	61.3	29.1	1	24.2	41.3	1
Total	100.0	25.8		100.0	23.8	

Conditions -

Solids Concentration	–	10%
Reagent Dosage	–	0.50 lb / ton 3:1 diesel fuel/MIBC
Conditioning	–	1 minute

Warnock Hersey Professional Services Ltd.

COLEMAN COLLIERIES LTD.

Report of Analyses of;

Hole No.		–	TD – 75 – 55
Seam No.		–	5
% Core Recovery		–	98.0
% Raw Coal Ash		–	17.6
Footage	From	–	97.8
	To	–	258.2
Lab.No.		–	75 – 9030

CLEAN COAL COMPOSITES – Analysis – % Dry Basis

Size	Separation	Weight (yield)	Ash	Volatile	Sulphur	FSI	Btu
3/4" x 28	1.60 Flt	71.7	9.2	25.2	0.36	3½	13703
3/4"x 28	1.90 Flt	77.5	11.3	27.9	0.38	2	13243

N.B. The above results are exclusive of the three (3) shale splits. Inclusion of all of this material would not affect the clean coal quality, but would depress the yield at 1.60 s.g. to 57.7% , and at 1.90 s.g. to 62.7%. The total seam raw coal ash would be increased to 30.8%.

Warnock Hersey Professional Services Ltd.

Coleman Collieries Ltd.

Hole No. - - TD - 75 - 55

Seam No. - 5(Exclusive Of shale splits)

Lab. No. - 75 - 9030

RAW COAL SIZE/ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained On	Wt%	Ash%	Wt%	Ash%
-	28 mesh	85.2	16.8	85.2	16.8
28 mesh	100 mesh	10.5	19.0	95.7	17.0
100 mesh	-	4.3	22.4	100.0	17.3
TOTAL		100.0	17.3		

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries ltd. Hole # TD-75-55 — Size fraction: 3/4" x 28 mesh

Lab. No. (s): 75-9030 — Wt % of head sample: 85.2

Specific Gravity		FLOAT AND SINK ANALYSIS %							
		Elementary			Cumulative Float			Cumulative Sink	
Sink	Float	Weight	Ash	Sulphur FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	54.9	4.7	7½	54.9	4.7		100.0	16.8	
1.35	1.40	10.4	11.2	1	65.3	5.7		45.1	31.5	
1.40	1.45	7.3	16.6	1	72.6	6.8		34.7	37.6	
1.45	1.50	5.2	21.4	1	77.8	7.8		27.4	43.2	
1.50	1.60	6.3	25.9	1	84.1	9.2		22.2	48.3	
1.60	1.90	6.9	37.4	1	91.0	11.3		15.9	57.2	
1.90		9.0	72.4	n.d.	100.0	16.8		9.0	72.4	
Total		100.0	16.8							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries Ltd. Hole # TD-75-55 — Size fraction: 28 x 100 mesh

Lab. No. (s): 75-9030 — Wt % of head sample: 10.5

Specific Gravity		FLOAT AND SINK ANALYSIS %							
		Elementary			Cumulative Float			Cumulative Sink	
Sink	Float	Weight	Ash	Sulphur FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	47.3	3.6	8	47.3	3.6		100.0	18.9	
1.35	1.40	12.3	7.2	3	59.6	4.3		52.7	32.6	
1.40	1.45	6.5	10.9	1	66.1	5.0		40.4	40.4	
1.45	1.50	2.9	14.9	1	69.0	5.4		33.9	46.0	
1.50	1.60	5.9	21.1	1	74.9	6.6		31.0	48.9	
1.60	1.90	7.6	33.1	1	82.5	9.1		25.1	55.5	
1.90		17.5	65.2	n.d.	100.0	19.0		17.5	65.2	
Total		100.0	19.0							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel: 264-9120

Sample Identification : Coleman Collieries - Hole # TD-75-55

Lab. No (s). : 75-9030

Froth Flotation Tests

	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	41.3	13.5	6	61.5	18.7	2½
Froth 2 minutes	5.8	22.2	1½	5.2	22.1	2
Tailings	52.9	29.6	1	33.3	29.2	1
Total	100.0	22.5		100.0	22.4	

Conditions -

Solids Concentration	-	10%
Reagent Dosage	-	0.50 lb / ton 3:1 diesel fuel/MIBC
Conditioning	-	1 minute

Warnock Hersey Professional Services
1423 D 45th Avenue NE Calgary Alberta T2E 2P3 Tel 264-9120

Sample Identification Coleman Collieries Hole # TD-75-55 Size fraction 3/4" x 0 mesh (shale split)

Lab. No. (s) 75-9031 Wt % of head sample 100.0

Footage - 171.3 to 180.0

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	Sulphur FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.40	4.4	8.3	9	4.4	8.3				
1.40	1.60	2.8	25.5	7½	7.2	15.0				
1.60	1.90	2.5	39.5	1	9.7	21.3				
1.90		90.3	80.8		100.0	75.0				
Total		100.0	75.0							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N E Calgary Alberta T2E 2P3 Tel 264-9120

Sample identification Coleman Collieries Hole # TD-75-55 Size fraction 3/4" x 0 mesh (shale split)

Lab. No. (s) 75-9032 Wt % of head sample 100.0

Footage - 188.0 to 198.0

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	Sulphur FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.40	5.2	6.5	9	5.2	6.5				
1.40	1.60	2.0	21.8	6	7.2	10.8				
1.60	1.90	2.3	33.0	4½	9.5	16.1				
1.90		90.5	83.0	n.d.	100.0	81.2				
Total		100.0	81.2							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries Ltd. Hole # TD-75-55 — Size fraction: 3/4" x 0 mesh (shale split)

Lab. No. (s): 75-9033 — Wt % of head sample: 100.0

Footage - 207.0 to 216.0

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	Sulphur FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.40	7.0	7.7	9	7.0	7.7				
1.40	1.60	1.3	23.6	6	8.3	10.2				
1.60	1.90	1.5	41.5	1½	9.8	15.0				
1.90		90.2	84.6	n.d.	100.0	77.8				
Total		100.0	77.8							

B.C. Coal Ltd.

Warnock Hersey Professional Services Ltd.

COLEMAN COLLIERIES LTD.

Report of Analyses of;

Hole No. - TD - 75 - 55

Seam No. - 4

% Core Recovery - 92.1

% Raw Coal Ash - 32.8

Footage From - 545.4

To - 569.5

CLEAN COAL COMPOSITES - Analysis - % Dry Basis

Size	Separation	Weight (yield)	Ash	Volatile	Sulphur	FSI	Btu
3/4" x28m							
	1.60 Flt.	58.3	14.4	24.5	0.47	4½	12848
28m x100							

Warnock Hersey Professional Services Ltd.

Coleman Collieries Ltd.

Hole No. - - TD - 75 - 55

Seam No. - 4 (545.4 to 569.5)

Lab. No. - 75 - 1130

RAW COAL SIZE/ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained On	Wt%	Ash%	Wt%	Ash%
-	28 mesh	91.4	34.1	91.4	34.1
28 mesh	100 mesh	6.2	18.3	97.6	33.1
100 mesh	-	2.4	21.3	100.0	32.8
TOTAL		100.0	32.8		

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries – Hole # TD-75-55 | Size fraction: 3/4 " x 28 mesh

Lab. No. (s): 75 – 1130 | Wt % of head sample: 91.4

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	Solphor FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	17.4	7.0	8	17.4	7.0		100.0	34.1	
1.35	1.40	14.3	12.2	1½	31.7	9.3		82.6	39.8	
1.40	1.45	10.5	16.6	1½	42.2	11.2		68.3	45.6	
1.45	1.50	7.3	21.4	1	49.5	12.7		57.8	50.8	
1.50	1.60	9.3	27.1	1	58.8	14.9		50.5	55.1	
1.60	1.90	16.3	41.4	1	75.1	20.7		41.2	61.4	
1.90		24.9	74.5	n.d.	100.0	34.1		24.9	74.5	
Total		100.0	34.1							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries – Hole # TD – 75 – 55
Size fraction: 28 mesh x 100
Lab. No. (s): 75 – 1130
Wt % of head sample: 6.2

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	~~Sulphur~~ FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	39.8	5.1	8½	39.8	5.1		100.0	18.3	
1.35	1.40	13.0	9.2	4	52.8	6.1		60.2	27.0	
1.40	1.45	7.5	11.5	3	60.3	6.8		47.2	31.9	
1.45	1.50	4.2	15.2	1½	64.5	7.3		39.7	35.8	
1.50	1.60	9.5	17.3	1½	74.0	8.6		35.5	38.2	
1.60	1.90	10.9	30.1	1	84.9	11.4		26.0	45.8	
1.90		15.1	57.2	n.d.	100.0	18.3		15.1	57.2	
Total		100.0	18.3							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel: 264-9120

Sample Identification : Coleman Collieries - Hole # TD - 75 - 55 (545.4 to 569.5) Seam # 4

Lab. No (s). : 75 - 1130

Froth Flotation Tests

	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	40.8	16.6	4½	50.9	20.1	3½
Froth 2 minutes	13.4	19.4	3½	12.1	19.7	2
Tailings	45.8	25.5	1½	37.0	23.5	2
Total	100.0	21.0	-	100.0	21.3	-

Conditions

Solids Concentration	-	10%
Reagent Dosage	-	0.50 lb / ton 3:1 diesel fuel/MIBC
Conditioning	-	1 minute

B.C. licence Area

Warnock Hersey Professional Services Ltd.

COLEMAN COLLIERIES LTD.

Report of Analyses of;

Hole No. - TD - 75 - 57

Seam No. - 5

% Core Recovery - 96.4%

% Raw Coal Ash - 19.2

Footage From - 228.5

To - 306.0

CLEAN COAL COMPOSITES - Analysis - % Dry Basis

Size	Separation	Weight (yield)	Ash	Volatile	Sulphur	FSI	Btu
3/4" x28m 28m x100	1.60 Flt.	75.2	7.1	28.7	0.32	8	13903

Warnock Hersey Professional Services Ltd.

Coleman Collieries Ltd.

Hole No. - - TD - 75 - 57

Seam No. - 5 (228.5 to 306.0)

Lab. No. - 75 - 1131

RAW COAL SIZE/ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained On	Wt%	Ash%	Wt%	Ash%
-	28 mesh	85.2	20.1	85.2	20.1
28 mesh	100 mesh	10.7	13.4	95.9	19.4
100 mesh	-	4.1	16.0	100.0	19.2
TOTAL		100.0	19.2		

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries – Hole # TD – 75 – 57 | Size fraction: 3/4 " x 28 mesh

Lab. No. (s): 75 – 1131 | Wt % of head sample: 85.2

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	~~Sulphur~~ FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	59.3	4.1	7½	59.3	4.1		100.0	20.1	
1.35	1.40	6.5	12.6	2	65.8	4.9		40.7	43.4	
1.40	1.45	4.1	16.4	1½	69.9	5.6		34.2	49.3	
1.45	1.50	3.3	20.6	1½	73.2	6.3		30.1	53.8	
1.50	1.60	4.6	27.2	1½	77.8	7.5		26.8	57.8	
1.60	1.90	7.4	38.6	1	85.2	10.2		22.2	64.2	
1.90		14.8	77.0	n.d.	100.0	20.1		14.8	77.0	
		---	---							
Total		100.0	20.1							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification Coleman Collieries – Hole # TD – 75 – 57 Size fraction 28 mesh x 100

Lab. No. (s) 75 – 1131 Wt % of head sample 10.7

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	Sulphur ESI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	65.4	2.5	8½	65.4	2.5		100.0	13.4	
1.35	1.40	5.7	6.2	7	71.1	2.8		34.6	34.0	
1.40	1.45	4.9	9.2	4	76.0	3.2		28.9	39.5	
1.45	1.50	3.0	14.7	2	79.0	3.6		24.0	45.6	
1.50	1.60	4.1	18.9	1	83.1	4.4		21.0	50.1	
1.60	1.90	5.7	52.6	1	88.8	7.5		16.9	57.6	
1.90		11.2	60.2	n.d.	100.0	13.4		11.2	60.2	
Total		100.0	13.4							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel. 264-9120

Sample Identification : Coleman Collieries - Hole # TD - 75 - 57 (228.5 to 306.0) Seam # 5

Lab. No (s). : 75 - 1131

Froth Flotation Tests

	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	45.0	11.1	6	51.0	14.2	6½
Froth 2 minutes	14.8	15.2	6	12.6	16.2	6
Tailings	40.2	17.1	5½	36.4	18.5	5½
Total	100.0	14.1	-	100.0	16.0	-

Conditions

Solids Concentration	-	10%
Reagent Dosage	-	0.50 lb / ton 3:1 diesel fuel/MIBC
Conditioning	-	1 minute

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification Coleman Collieries - Hole # TD - 75 - 57 Size fraction 3/4 " x 0 (shale split - 306.0 to 337.5)

Lab. No. (s) 75 - 1135 Wt % of head sample 100.0

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	~~Sulphur~~ FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.40	2.6	5.0	9	2.6	5.0		100.0	84.2	
1.40	1.60	0.8	16.2	8	3.4	7.6		97.4	86.3	
1.60	1.90	1.1	41.1	3	4.5	15.8		96.6	86.9	
1.90		95.5	87.4	n.d.	100.0	84.2		95.5	87.4	
Total		100.0	84.2							

Warnock Hersey Professional Services Ltd.

COLEMAN COLLIERIES LTD.

Report of Analyses of;

Hole No. - TD - 75 - 57

Seam No. - 5

% Core Recovery - 100.0 %

% Raw Coal Ash - 22.7

Footage From - 337.5

To - 361.5

CLEAN COAL COMPOSITES - Analysis - % Dry Basis

Size	Separation	Weight (yield)	Ash	Volatile	Sulphur	FSI	Btu
3/4" x28m							
	1.60 Flt.	79.9	14.3	27.9	0.66	8	12891
28m x100							

Warnock Hersey Professional Services Ltd.

Coleman Collieries Ltd.

Hole No. - - TD - 75 - 57

Seam No. - 5 (337.5 to 361.5)

Lab. No. - 75 - 1132

RAW COAL SIZE/ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained On	Wt%	Ash%	Wt%	Ash%
-	28 mesh	91.0	23.3	91.0	23.3
28 mesh	100 mesh	6.8	15.7	97.8	22.8
100 mesh	-	2.2	20.5	100.0	22.7
TOTAL		100.0	22.7		

Wamock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries - Hole # TD - 75 - 57 | Size fraction: 3/4 " x 28 mesh

Lab. No. (s): 75 - 1132 | Wt % of head sample: 91.0

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	~~Sulphur~~ FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	41.5	4.5	8½	41.5	4.5		100.0	23.3	
1.35	1.40	6.8	15.9	7	48.3	6.1		58.5	36.7	
1.40	1.45	8.6	21.4	6½	56.9	8.4		51.7	39.4	
1.45	1.50	11.0	27.0	5	67.9	11.4		43.1	43.0	
1.50	1.60	14.0	31.3	3½	81.9	14.8		32.1	48.5	
1.60	1.90	8.9	46.0	1	90.8	17.9		18.1	61.8	
1.90		9.2	77.1	n.d.	100.0	23.3		9.2	77.1	
Total		100.0	23.3							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification Coleman Collieries - Hole # TD - 75 - 57 Size fraction 28 mesh x 100

Lab. No. (s) 75 - 1132 Wt % of head sample 6.8

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	Sulphur ESI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	51.9	3.6	8½	51.9	3.6		100.0	15.7	
1.35	1.40	8.1	7.3	8½	60.0	4.1		48.1	28.7	
1.40	1.45	5.6	12.0	7½	65.6	4.8		40.0	33.0	
1.45	1.50	4.9	18.6	5	70.5	5.7		34.4	36.5	
1.50	1.60	9.0	25.4	4	79.5	8.0		29.5	39.4	
1.60	1.90	10.9	37.7	1½	90.4	11.5		20.5	45.6	
1.90		9.6	54.6	n.d.	100.0	15.7		9.6	54.6	
Total		100.0	15.7							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel. 264-9120

Sample Identification : Coleman Collieries - Hole # TD - 75 - 57 (337.5 to 361.5) Seam # 5

Lab. No (s). : 75 - 1132

Froth Flotation Tests

	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	56.1	12.3	8½	53.8	18.3	7½
Froth 2 minutes	9.9	19.8	7	14.5	17.7	7
Tailings	34.0	26.1	5½	31.7	25.6	6½
Total	100.0	17.7	-	100.0	20.5	-

Conditions

Solids Concentration	-	10%
Reagent Dosage	-	0.50 lb / ton 3:1 diesel fuel/MIBC
Conditioning	-	1 minute

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries - Hole # TD - 75 - 57 — Size fraction: 3/4 " x 0 (shale split - 361.5 to 373.5)

Lab. No. (s): 75 - 1136 — Wt % of head sample: 100.0

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	~~Sulphur~~ FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.40	0.0	-	-	-	-		100.0	91.6	
1.40	1.60	0.2	16.2	4½	0.2	16.2		100.0	91.6	
1.60	1.90	> 0.1	20.4	2½	0.2	21.3		99.8	91.7	
1.90		99.8	91.7	n.d.	100.0	91.6		99.8	91.7	

Total		100.0	91.6							

Warnock Hersey Professional Services Ltd.

COLEMAN COLLIERIES LTD.

Report of Analyses of;

Hole No. – TD – 75 – 57

Seam No. – 5

% Core Recovery – 96.3%

% Raw Coal Ash – 14.1

Footage From – 373.5

To – 414

CLEAN COAL COMPOSITES – Analysis – % Dry Basis

Size	Separation	Weight (yield)	Ash	Volatile	Sulphur	FSI	Btu
3/4" x28m							
	1.60 Flt.	83.8	8.3	25.9	0.42	3	13812
28m x100							

Warnock Hersey Professional Services Ltd.

Coleman Collieries Ltd.

Hole No. - - TD - 75 - 57

Seam No. - 5 (373.5 to 414)

Lab. No. - 75 - 1133

RAW COAL SIZE/ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained On	Wt%	Ash%	Wt%	Ash%
-	28 mesh	91.2	14.2	91.2	14.2
28 mesh	100 mesh	6.4	12.2	97.6	14.1
100 mesh	-	2.4	16.8	100.0	14.1
TOTAL		100.0	14.1		

Warnock Hersey Professional Services Ltd.
1423 D 45ih Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification Coleman Collieries - Hole # TD - 75 - 57 Size fraction 3/4 " x 28 mesh

Lab. No. (s) 75 - 1133 Wt % of head sample 91.2

Specific Gravity		FLOAT AND SINK ANALYSIS %							
		Elementary			Cumulative Float			Cumulative Sink	
Sink	Float	Weight	Ash	Sulphur ~~XRX~~ ESI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	62.6	5.7	4½	62.6	5.7		100.0	14.2	
1.35	1.40	10.5	11.8	1½	73.1	6.6		37.4	28.4	
1.40	1.45	6.7	14.7	1	79.8	7.2		26.9	34.8	
1.45	1.50	2.6	20.5	1	82.4	7.7		20.2	41.5	
1.50	1.60	3.5	25.0	1	85.9	8.4		17.6	44.6	
1.60	1.90	6.1	34.7	1	92.0	10.1		14.1	49.4	
1.90		8.0	60.7	n.d.	100.0	14.2		8.0	60.7	

Total		100.0	14.2							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification Coleman Collieries – Hole # TD – 75 – 57 Size fraction 28 mesh x 100

Lab. No. (s) 75 – 1133 Wt % of head sample 6.4

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	Sulphur ~~XXXX~~ FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	57.9	5.0	7	57.9	5.0		100.0	12.2	
1.35	1.40	11.1	7.3	2	69.0	5.4		42.1	22.2	
1.40	1.45	6.1	10.5	1½	75.1	5.8		31.0	27.5	
1.45	1.50	5.6	14.1	1	80.7	6.4		24.9	31.6	
1.50	1.60	5.8	18.4	1	86.5	7.2		19.3	36.7	
1.60	1.90	4.3	31.5	1	90.8	8.3		13.5	44.6	
1.90		9.2	50.7	n.d.	100.0	12.2		9.2	50.7	
Total		100.0	12.2							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel: 264-9120

Sample Identification : Coleman Collieries - Hole # TD - 75 - 57 (373.5 to 414) Seam # 5

Lab. No (s). : 75 - 1133

Froth Flotation Tests

	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	58.6	9.4	4½	68.6	14.1	2
Froth 2 minutes	13.9	15.3	2	9.1	16.4	1½
Tailings	27.5	22.4	1½	22.3	25.4	1
Total	100.0	13.8	-	100.0	16.8	-

Conditions

Solids Concentration - 10%

Reagent Dosage - 0.50 lb / ton 3:1 diesel fuel/MIBC

Conditioning - 1 minute

DATE November 20, 1975

HOLE No. TD-75-60

SEAM No. #4

SAMPLE TYPE Core (at surface) RECOVERY 63.0%

FOOTAGE: 0' - 15'

SAMPLER: Driller ANALYSIST: C.C.L. - A. Truitt

FLOAT 81% at 1.60 S.G.

ASH 13.5

F.S.I. 0

SULPHUR .38

MOISTURE .70

Notes: Volatile Matter 37.3
Fixed Carbon 48.5

Warnock Hersey Professional Services Ltd.

COLEMAN COLLIERIES LTD.

Report of Analyses of;

Hole No.	-	TD - 75-60
Seam No.	-	2
% Core Recovery	-	77.3
% Raw Coal Ash	-	30.6
Footage From	-	437.9
To	-	469.5
		443.0 - 447.2 (Shale Split)*
Lab. No.	-	75 - 9062

CLEAN COAL COMPOSITES - Analysis - % Dry Basis

Size	Separation	Weight (yield)	Ash	Volatile	Sulphur	FSI	Btu
3/4"x28m	1.45 Flt.	40.6	10.4	28.1	0.59	5½	13602
28 x 100m	1.50 Flt						

N.B. *The above analysis is exclusive of the 4.2' shale split. Inclusion of this material would not affect the quality of the clean coal, but would depress the yield to 34.9 % , and increase the raw coal ash to 37.8 %.

Warnock Hersey Professional Services Ltd.

Coleman Collieries Ltd.

Hole No. - - TD - 75 - 60

Seam No. - 2

Lab. No. - 75 - 9062

RAW COAL SIZE/ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained On	Wt%	Ash%	Wt%	Ash%
-	28 mesh	87.2	30.7	87.2	30.7
28 mesh	100 mesh	8.2	30.4	95.4	30.7
100 mesh	-	4.6	28.1	100.0	30.6
TOTAL		100.0	30.6		

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries – Hole # TD-75-60 | Size fraction: 3/4" x 28 mesh

Lab. No. (s): 75 – 9062 | Wt % of head sample: 87.2

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	Sulphur FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	18.4	6.6	6	18.4	6.6		100.0	30.7	
1.35	1.40	13.5	11.3	4	31.9	8.6		81.6	36.1	
1.40	1.45	9.8	16.7	1½	41.7	10.5		68.1	41.1	
1.45	1.50	7.4	21.1	1	49.1	12.1		58.3	45.2	
1.50	1.60	9.8	23.6	1	58.9	14.0		50.9	48.7	
1.60	1.90	16.4	39.9	1	75.3	19.6		41.1	54.6	
1.90		24.7	64.4	nd	100.0	30.7		24.7	64.4	
Total		100.0	30.7							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel 264-9120

Sample Identification: Coleman Collieries - Hole # TD-75-60
Size fraction: 28 x 100 mesh
Lab. No. (s): 75 - 9062
Wt % of head sample: 8.2

FLOAT AND SINK ANALYSIS %

Specific Gravity		Elementary			Cumulative Float			Cumulative Sink	
Sink	Float	Weight	Ash	Sulphur FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	23.3	4.8	6	23.3	4.8		100.0	30.4	
1.35	1.40	12.4	9.7	5	35.7	6.5		76.7	38.1	
1.40	1.45	8.8	13.4	4½	44.5	7.9		64.3	43.6	
1.45	1.50	6.6	17.9	2½	51.1	9.2		55.5	48.4	
1.50	1.60	8.8	19.1	2	59.9	10.6		48.9	52.5	
1.60	1.90	12.2	32.4	1	72.1	14.3		40.1	59.9	
1.90		27.9	71.9	nd	100.0	30.4		27.9	71.9	
Total		100.0	30.4							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel: 264-9120

Sample Identification : Coleman Collieries - Hole # TD-75-60

Lab. No (s). : 75-9062

Froth Flotation Tests

	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	30.7	21.5	5	69.1	21.8	4½
Froth 2 minutes	9.7	21.2	4½	9.8	35.1	1
Tailings	59.6	34.5	2	21.1	45.4	1
Total	100.0	29.2		100.0	28.1	

Conditions -

Solids Concentration	-	10%
Reagent Dosage	-	0.50 lb / ton 3:1 diesel fuel/MIBC
Conditioning	-	1 minute

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries – Hole # TD-75-60
Size fraction: 3/4" x 0 (Shale Split)
Lab. No. (s): 75 – 9063
Wt % of head sample: 100.0

Specific Gravity		FLOAT AND SINK ANALYSIS %							
		Elementary			Cumulative Float			Cumulative Sink	
Sink	Float	Weight	Ash	Sulphur FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.40	7.2	9.0	4	7.2	9.0		100.0	73.5	
1.40	1.60	6.4	24.2	2½	13.6	16.2		92.8	78.6	
1.60	1.90	8.0	46.2	1	21.6	27.3		86.4	82.6	
1.90		78.4	86.3	nd	100.0	73.5		78.4	86.3	
Total		100.0	73.5							

Warnock Hersey Professional Services Ltd.

COLEMAN COLLIERIES LTD.

Report of Analyses of;

Hole No. - TD - 75 -70

Seam No. - 2 #4

% Core Recovery - 87.0%

% Raw Coal Ash - 43.4

Footage From - 469.5

To - 489.5

CLEAN COAL COMPOSITES - Analysis - % Dry Basis

Size	Separation	Weight (yield)	Ash	Volatile	Sulphur	FSI	Btu
3/4"x28m	1.40Flt	17.6	9.0	29.4	0.60	7½	13848
28m x 100	1.40Flt						
3/4"x28m	1.45Flt	24.7	11.5	28.1	0.56	6½	13492
28m x 100	1.45Flt						

Warnock Hersey Professional Services Ltd.

Coleman Collieries Ltd.

Hole No. -- TD - 75 - 70

Seam No. - 2

Lab. No. - 75 - 9106

RAW COAL SIZE/ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained On	Wt%	Ash%	Wt%	Ash%
-	28 mesh	91.4	43.6	91.4	43.6
28 mesh	100 mesh	5.8	39.7	97.2	43.4
100 mesh	-	2.8	41.6	100.0	43.3
TOTAL		100.0	43.3		

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries - Hole # TD-75-70 | Size fraction: 3/4 x 28 mesh

Lab. No. (s): 75-9106 | Wt % of head sample: 91.4

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	Sulphur FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	11.1	6.6	9	11.1	6.6		100.0	43.6	
1.35	1.40	6.7	13.1	4	17.8	9.0		88.9	43.2	
1.40	1.45	7.5	17.6	1½	25.3	11.6		82.2	51.1	
1.45	1.50	6.6	22.7	1	31.9	13.9		74.7	54.5	
1.50	1.60	7.5	29.6	1	39.4	16.9		68.1	57.5	
1.60	1.90	23.1	45.6	1	62.5	27.5		60.6	61.0	
1.90		37.5	70.5	n.d.	100.0	43.6		37.5	70.5	
Total		100.0	43.6							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries - Hole # TD-75-70
Size fraction: 28 x 100 mesh
Lab. No. (s): 75-9106
Wt % of head sample: 5.8

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	Sulphur ESI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	11.5	5.8	9	11.5	5.8		100.0	39.7	
1.35	1.40	11.3	11.4	7	22.8	8.6		88.5	44.1	
1.40	1.45	5.0	16.9	4	27.8	10.1		77.2	43.9	
1.45	1.50	6.3	19.1	2½	34.1	11.7		72.2	51.1	
1.50	1.60	5.5	22.3	2	39.6	13.2		65.9	54.2	
1.60	1.90	18.9	37.4	1	58.5	21.0		60.4	57.1	
1.90		41.5	66.1	n.d.	100.0	39.7		41.5	66.1	
Total										
		100.0	39.7							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel: 264-9120

Sample Identification : Coleman Collieries - Hole # TD - 75 - 70 Seam # 2

Lab. No (s). : 75 - 9106

Froth Flotation Tests

	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	32.0	27.6	¼	83.9	39.8	1
Froth 2 minutes	6.9	31.4	1½	6.7	41.3	1
Tailings	61.1	49.2	1	9.4	57.5	1
Total	100.0	41.0	-	100.0	41.6	-

Conditions -

Solids Concentration	-	10%
Reagent Dosage	-	0.50 lb / ton 3:1 diesel fuel/MIBC
Conditioning	-	1 minute

Warnock Hersey Professional Services Ltd.

COLEMAN COLLIERIES LTD.

Report of Analyses of;

Hole No. - TD - 75 - 70

Seam No. - 2 4 spl.T

% Core Recovery - 90 0%

% Raw Coal Ash - 28.9

Footage From - 567

To - 579

CLEAN COAL COMPOSITES - Analysis - % Dry Basis

Size	Separation	Weight (yield)	Ash	Volatile	Sulphur	FSI	Btu
¼" x 28m	1.40Flt	32.0	8.5	28.5	0.53	7	13938
28m x 100	1.40Flt						
¼" x 28m	1.45Flt	44.3	10.2	26.9	0.48	6	13653
28m x 100	1.45Flt						

Warnock Hersey Professional Services Ltd.

Coleman Collieries Ltd.

Hole No. - - TD - 75 - 70

Seam No. - 2

Lab. No. - 75 - 9107

RAW COAL SIZE/ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained On	Wt%	Ash%	Wt%	Ash%
-	28 mesh	77.9	29.7	77.9	29.7
28 mesh	100 mesh	16.7	26.0	94.6	29.0
100 mesh	-	5.4	25.1	100.0	28.8
TOTAL		100.0	28.8		

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries - Hole # TD-75-70 | Size fraction: 1/4 x 28 mesh

Lab. No. (s): 75-9107 | Wt % of head sample: 77.9

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	Sulphur ESI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	16.8	6.6	8½	16.8	6.6		100.0	29.7	
1.35	1.40	16.6	11.3	4	33.4	8.9		83.2	34.3	
1.40	1.45	13.6	15.5	1	47.0	10.8		66.6	40.1	
1.45	1.50	8.5	19.6	1	55.5	12.2		53.0	46.4	
1.50	1.60	13.0	25.6	1	68.5	14.7		44.5	51.5	
1.60	1.90	12.2	40.3	1	80.7	18.6		31.5	62.2	
1.90		19.3	76.1	n.d.	100.0	29.7		19.3	76.1	
Total		100.0	29.7							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries - Hole # TD-75-70
Size fraction: 28 x 100 mesh
Lab. No. (s): 75-9107
Wt % of head sample: 16.7

FLOAT AND SINK ANALYSIS %

Specific Gravity		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	Sulphur	Weight	Ash	Sulphur	Weight	Ash	Shulphur
				ESI						
	1.35	21.0	5.2	8	21.0	5.2		100.0	26.0	
1.35	1.40	14.9	8.4	5	35.9	6.5		79.0	31.6	
1.40	1.45	10.0	11.6	2	45.9	7.6		64.1	37.0	
1.45	1.50	10.1	15.5	1	56.0	9.0		54.1	41.6	
1.50	1.60	9.2	19.9	1	65.2	10.6		44.0	47.7	
1.60	1.90	10.6	31.7	1	75.8	13.5		34.8	55.0	
1.90		24.2	65.2	n.d.	100.0	26.0		24.2	65.2	
Total		100.0	26.0							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel: 264-9120

Sample Identification : Coleman Collieries - Hole # TD - 75 - 70 Seam #2

Lab. No (s). : 75 - 9107

Froth Flotation Tests

	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	56.4	16.5	5½	87.4	22.6	3
Froth 2 minutes	16.6	21.9	3	6.3	31.1	1½
Tailings	27.0	48.4	1	6.3	53.6	1
Total	100.0	26.0	-	100.0	25.1	-

Conditions -

Solids Concentration	-	10%
Reagent Dosage	-	0.50 lb / ton 3:1 diesel fuel/MIBC
Conditioning	-	1 minute

Warnock Hersey Professional Services Ltd.

COLEMAN COLLIERIES LTD.

Report of Analyses of;

Hole No.		-	TD - 75 - 74
Seam No.		-	2
% Core Recovery		-	100.0
% Raw Coal Ash		-	34.6
Footage	From	-	493.0
	To	-	504.8

CLEAN COAL COMPOSITES - Analysis - % Dry Basis

Size	Separation	Weight (yield)	Ash	Volatile	Sulphur	FSI	Btu
¼" x 28m	1.50 Flt.	40.0	9.6	26.3	0.55	6	13754
28 x 100m	1.50 Flt.						

One composite only.

Warnock Hersey Professional Services Ltd.

Coleman Collieries Ltd.

Hole No. - - TD - 75-74

Seam No. - 2 (493.0 to 504.8')

Lab. No. - 75 - 9102

RAW COAL SIZE/ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained On	Wt%	Ash%	Wt%	Ash%
-	28 mesh	77.6	36.0	77.6	36.0
28 mesh	100 mesh	16.2	29.3	93.8	34.8
100 mesh	-	6.2	30.7	100.0	34.6
TOTAL		100.0	34.6		

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E Calgary Alberta T2E 2P3 Tel 264-9120

Sample Identification Coleman Collieries - Hole # TD-75-74 Size fraction 1/4 x 28 mesh

Lab. No. (s) 75-9102 Wt % of head sample 77.6

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	Sulphur FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	15.0	5.1	8½	15.0	5.1		100.0	36.0	
1.35	1.40	11.6	10.0	3½	26.6	7.2		85.0	41.4	
1.40	1.45	8.8	13.9	1½	35.4	8.9		73.4	46.4	
1.45	1.50	5.4	17.8	1	40.8	10.1		64.6	50.8	
1.50	1.60	7.5	25.0	1	48.3	12.4		59.2	53.9	
1.60	1.90	21.5	39.6	1	69.8	20.8		51.7	58.1	
1.90		30.2	71.2	n.d.	100.0	36.0		30.2	71.2	
Total		100.0	36.0							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries - Hole # TD-75-74 | Size fraction: 28 x 100 mesh

Lab. No. (s): 75-9102 | Wt % of head sample: 16.2

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	Sulphur FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	18.0	4.0	8	18.0	4.0		100.0	29.3	
1.35	1.40	20.2	7.3	5½	38.2	5.8		82.0	34.8	
1.40	1.45	5.2	11.1	4	43.4	6.4		61.8	43.8	
1.45	1.50	8.1	14.1	1½	51.5	7.6		56.6	46.8	
1.50	1.60	6.6	21.5	1	58.1	9.2		48.5	52.3	
1.60	1.90	10.7	35.3	1	68.8	13.2		41.9	57.1	
1.90		31.2	64.6	n.d.	100.0	29.3		31.2	64.6	
Total		100.0	29.3							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel: 264-9120

Sample Identification : Coleman Collieries - Hole # TD - 75 - 74 (493.0 to 504.8') Seam # 2

Lab. No (s). : 75 - 9102

Froth Flotation Tests

	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	49.5	17.5	6	72.9	23.7	4½
Froth 2 minutes	10.0	29.0	3	6.3	29.1	2
Tailings	40.5	43.7	1	20.8	55.8	1
Total	100.0	29.3	-	100.0	30.7	-

Conditions -

Solids Concentration	-	10%
Reagent Dosage	-	0.50 lb / ton 3:1 diesel fuel/MIBC
Conditioning	-	1 minute

Warnock Hersey Professional Services Ltd.

COLEMAN COLLIERIES LTD.

Report of Analyses of;

Hole No. - TD - 75 - 74

Seam No. - 2

% Core Recovery - 92.0

% Raw Coal Ash - 29.7

Footage From - 517.5

To - 570.8

CLEAN COAL COMPOSITES - Analysis - % Dry Basis

Size	Separation	Weight (yield)	Ash	Volatile	Sulphur	FSI	Btu
3/4" x 28m	1.40 Flt	36.7	9.1	28.5	0.55	6½	13910
28m x 100	1.40 Flt						
3/4" x 28m	1.45 Flt	47.7	10.9	27.9	0.53	6½	13618
28m x 100	1.45 Flt						

Warnock Hersey Professional Services Ltd.

Coleman Collieries Ltd.

Hole No. - - TD - 75 - 74

Seam No. - 2 (517.5 to 570.8)

Lab. No. - 75 - 9103

RAW COAL SIZE/ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained On	Wt%	Ash%	Wt%	Ash%
-	28 mesh	89.7	30.3	89.7	30.3
28 mesh	100 mesh	7.1	23.0	96.8	29.8
100 mesh	-	3.2	26.4	100.0	29.7
TOTAL		100.0	29.7		

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries - Hole # TD-75-74
Size fraction: 3/4 x 28 mesh
Lab. No. (s): 75-9103
Wt % of head sample: 89.7

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	Sulphur FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	20.5	6.8	8½	20.5	6.8		100.0	30.3	
1.35	1.40	17.1	12.5	5½	37.6	9.4		79.5	36.4	
1.40	1.45	11.6	17.0	3	49.2	11.2		62.4	43.0	
1.45	1.50	7.8	21.0	2	57.0	12.5		50.0	48.9	
1.50	1.60	4.1	26.9	1	61.1	13.5		43.0	53.9	
1.60	1.90	18.4	40.5	1	79.5	19.7		38.9	56.8	
1.90		20.5	71.4	n.d.	100.0	30.3		20.5	71.4	
Total		100.0	30.3							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N E Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries - Hole # TD-75-74
Size fraction: 28 x 100 mesh
Lab. No. (s): 75-9103
Wt % of head sample: 7.1

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	Sulphur ESI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	28.0	4.9	9	28.0	4.9		100.0	23.0	
1.35	1.40	14.0	9.2	6	42.0	6.3		72.0	30.0	
1.40	1.45	8.3	12.4	5½	50.3	7.3		58.0	35.0	
1.45	1.50	6.9	16.0	2½	57.2	8.4		49.7	38.8	
1.50	1.60	10.3	20.2	1½	67.5	10.2		42.8	42.5	
1.60	1.90	13.7	33.3	1	81.2	14.1		32.5	49.6	
1.90		18.8	61.4	n.d.	100.0	23.0		18.8	61.4	
Total		100.0	23.0							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel: 264-9120

Sample Identification : Coleman Collieries - Hole # TD - 75 - 74 (517.5 to 570.8') Seam # 2

Lab. No (s). : 75 - 9103

Froth Flotation Tests

Size Fraction	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	38.6	18.1	5½	48.4	19.9	5
Froth 2 minutes	10.4	23.0	4	9.9	24.4	3½
Tailings	51.0	31.2	2½	41.7	34.3	1
Total	100.0	25.3	-	100.0	26.4	-

Conditions -

Solids Concentration	-	10%
Reagent Dosage	-	0.50 lb / ton 3:1 diesel fuel/MIBC
Conditioning	-	1 minute

B.C. Yellow Sheet

Warnock Hersey Professional Services Ltd.

COLEMAN COLLIERIES LTD.

Report of Analyses of;

Hole No. - TD - 75 - 76

Seam No. - 4

% Core Recovery - 95.6%

% Raw Coal Ash - 29.3

Footage From - 119.0

To - 135.0

CLEAN COAL COMPOSITES - Analysis - % Dry Basis

Size	Separation	Weight (yield)	Ash	Volatile	Sulphur	FSI	Btu
3/4" x28m	1.60Flt.	64.4	14.5	24.9	0.44	3	12873
28m x100							

Warnock Hersey Professional Services Ltd.

Coleman Collieries Ltd.

Hole No. - TD - 75 - 76

Seam No. - 4 (119.0 to 135.0)

Lab. No. - 75 - 1134

RAW COAL SIZE/ASH DISTRIBUTION

Size		Elementary		Cumulative	
Passing	Retained On	Wt%	Ash%	Wt%	Ash%
-	28 mesh	85.9	30.0	85.9	30.0
28 mesh	100 mesh	10.1	24.3	96.0	29.4
100 mesh	-	4.0	26.8	100.0	29.3
TOTAL		100.0	29.3		

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification Coleman Collieries - Hole # TD - 75 - 76 Size fraction 3/4 " x 28 mesh

Lab. No. (s) 75 - 1134 Wt % of head sample 85.9

Specific Gravity		FLOAT AND SINK ANALYSIS %							
		Elementary			Cumulative Float			Cumulative Sink	
Sink	Float	Weight	Ash	~~Sulphur~~ ESI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	24.4	8.3	7	24.4	8.3		100.0	30.0	
1.35	1.40	16.4	13.0	1½	40.8	10.2		75.6	37.0	
1.40	1.45	10.5	17.5	1½	51.3	11.7		59.2	43.6	
1.45	1.50	6.1	22.0	1	57.4	12.8		48.7	49.3	
1.50	1.60	9.7	28.4	1	67.1	15.0		42.6	53.2	
1.60	1.90	13.6	41.9	1	80.7	19.6		32.9	60.5	
1.90		19.3	73.6	n.d.	100.0	30.0		19.3	73.6	
Total		100.0	30.0							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification Coleman Collieries - Hole # TD - 75 - 76 Size fraction 28 mesh x 100

Lab. No. (s) 75 - 1134 Wt % of head sample 10.1

Specific Gravity		FLOAT AND SINK ANALYSIS %								
		Elementary			Cumulative Float			Cumulative Sink		
Sink	Float	Weight	Ash	~~Solubs~~ FSI	Weight	Ash	Sulphur	Weight	Ash	Shulphur
	1.35	27.6	6.3	8	27.6	6.3		100.0	24.3	
1.35	1.40	13.3	8.7	6	40.9	7.1		72.4	31.2	
1.40	1.45	10.0	11.9	1½	50.9	8.0		59.1	36.3	
1.45	1.50	8.3	14.8	1	59.2	9.0		49.1	41.2	
1.50	1.60	7.7	20.7	1	66.9	10.3		40.8	46.6	
1.60	1.90	11.3	32.5	1	78.2	13.5		33.1	52.6	
1.90		21.8	63.1	n.d.	100.0	24.3		21.8	63.1	
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Total		100.0	24.3							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel. 264-9120

Sample Identification : Coleman Collieries – Hole # TD – 75 – 76 (119.0 to 135.0) Seam # 4

Lab. No (s). : 75 – 1134

Froth Flotation Tests

	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	59.8	18.6	2	57.1	22.0	1½
Froth 2 minutes	8.8	25.3	1½	13.9	25.6	1½
Tailings	31.4	38.6	1	29.0	37.0	1
Total	100.0	25.5	–	100.0	26.8	–

Conditions

Solids Concentration	–	10%
Reagent Dosage	–	0.50 lb / ton 3-1 diesel fuel/MIBC
Conditioning	–	1 minute