

937-14-2a

937-14  
X-121

5 CABIN Cr. (5 holes)  
 BABCOCK EXPLORATION RESULTS  
 COMPTONVILLE  
 OILFIELD, PITCOAL LIMITED  
 REFERENCE NUMBERS  
 1303 TO 2477 INCL AND 2607 TO 2644 INCL  
 JANUARY 31, 1972 TO AUGUST 31, 1972  
 12-QUINTETTE 72(1)A.

600

93I 14I  
xref - 93 I 14H

CONFIDENTIAL  
CONFIDENTIAL

EXPLORATION RESULTS: QUINTETTE COAL LIMITED  
LICENCE NUMBERS 1303 to 1427 INCL. AND 2607 to 2644 INCL.  
JANUARY 31, 1972 TO AUGUST 31, 1972

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

00 600

Submitted ON BEHALF OF  
QUINTETTE COAL LIMITED by:

Alan A. Johnson  
Chief Geologist (Coal)  
Denison Mines Limited.

October 16, 1972.



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QNTT - 72 - 0226 - R09 ✓	Babcock Mountain Geology
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QNTT - 72 - 204B - R05 ✓	Babcock Correlation Chart B
QNTT - 72 - 0353 - R01 ✓	✓ Plan view of Adit
QNTT - 72 - 0337 - R02 ✓	Structure Contour, D Seam
" " - 0339 - R02 ✓	" " E Seam
" " - 0334 - R02	" " F Seam
" " - 0335 - R02	" " J Seam

Analytical Files

Quintette	Babcock	Drill Holes	1971/72 Series	Seam D
Quintette	"	"	"	Seam E
"	"	"	"	Seams F, G, I.
"	"	"	"	Seams J,K.
Quintette	Adit Wash and	Cleaning reports		Seams D,E.
"	"	"	"	Seams F,G,J.

## INTRODUCTION

---

This report sets out the work done and the results obtained in a program of continuing exploration on The Quintette Coal Limited property which is located, generally, between the Murray River and Kinuseo Creek in the Peace River land district of British Columbia. The work done in this phase of the program is to be applied, for the most part, to renewal of licences 1303 to 1427 inclusive and 2607 to 2644 inclusive.

The exploration work consisted of 21 diamond drill holes (HQ and NQ), 43 percussion drill holes, 1 water well, 9 adits, and trenching. All of the adits were bulk sampled and each significant coal intersection found in the drill core was also analyzed in detail to provide data on washability and coking quality of a potential product.

This phase of the program was conducted in two main areas within the property, Five Cabin and Babcock. Costs per unit of work were generally lower in the Babcock area as the main camp had already been established and all access roads constructed. A separate sub-camp had to be established at Five Cabin and over 20 miles of access road were constructed before drilling could start. As only 4 holes were drilled in this area, the unit cost is significantly greater than that in the Babcock area.

DIAMOND DRILLING

The diamond drilling was carried out under contract by Canadian Longyear Limited. The holes were completed to the following depths:

	<u>Hole No.</u>	<u>Depth</u>
Babcock	7201	792
	7202	1182
	7203	928
	7204	647
	7205A	346
	7205B	453
	7205C	845
	7206	153
	7206A	514
	7207	721
	7208	1057
	7209	1271
	7212	1501
	<del>7213</del>	237
	7216	1135
	7217	1404
7218	555	
7219	1231	
W. Well	339	
	<hr/>	
	Total	15,311
<u>Five Cabin</u>	<u>7220</u>	1238
	7221	76
	7222	187
	7223	376
	Total	<hr/> 1,877

### DIAMOND DRILLING (cont'd)

The holes in the Babcock area (except 7207, 7209, 7213) have been either surveyed on the ground<sup>or</sup> by Airphoto triangulation and they have been plotted on maps QNTT-72-0226-R09 and QNTT-72-0270-R02 which accompany this report. All core, except for coal intersections, has been retained at the Babcock and Five Cabin camp sites.

### GEOPHYSICAL LOGS

BPB Instruments (Canada) Limited was contracted to log each hole with gamma, density and HRD probes. This has been done for all holes except 2 at Five Cabin which did not intersect the favourable stratigraphic horizons. The data for the Babcock area are shown on drawings QNTT-72-204A-R05 and QNTT-72-204B-R05 which accompany this report. Copies of the original strip logs are included for the holes logged at Log Cabin.

### ANALYTICAL WORK

All coal seams which were considered significant have been sampled and the samples sent to Cyclone Engineering in Edmonton for testing according to a flow sheet established by Denison Mines Limited. The Adits were bulk sampled with usually one sample being taken over each potential mining height. These samples were also sent to Cyclone Engineering for more comprehensive testing of washability characteristics and coking quality. Once the cleaning characteristics had been established,

### ANALYTICAL WORK (Cont'd)

a 5 ton sample from each sample was washed and the product was sent to The Energy Mines and Resources Reduction centre in Ottawa for more detailed analysis of coking properties.

All of the analytical data from Cyclone Engineering are documented in the files which accompany this report. To date, the reports from Ottawa have not been received.

### ADITS

Nine adits were completed in the phase of work covered by this report. The plan of each adit and its surveyed location are shown in drawing QNTT-72-0353-R01 accompanying this report. Adit J-7 is not shown as it was abandoned due to oxidation. The location of all adits including J-7 are also shown on map QNTT-72-0270-R02.

Adit drive age was contracted to A & B Contractors Limited of Canmore, Alberta.

### PERCUSSION DRILLING

The percussion drill was used on the northwest flank of Babcock Mountain to test the continuity of seam D when stripping with a tractor proved too expensive. Each hole was drilled just until it intersected seam D. The location of each hole is documented on plan QNTT-72-0337-R02 (Structure Contour D Seam). A total of 43 percussion holes were drilled to an

PERCUSSION DRILLING (Cont'd)

average depth of about 50 feet. The holes were surveyed and the depth to D seam calculated in each case.

GEOLOGY

Detailed descriptions of the stratigraphy and structure of both the Babcock and Five Cabin areas have been given in earlier reports prepared by the Denison Staff. The present drilling has not resulted in significant changes to this information and therefore minor corrections have been plotted on the Geology maps for these areas. (See maps QNTT-72-0351-R01 and QNTT-72-226-R09).

In addition, sufficient data has now been made available in the Babcock area to prepare seam contour maps of the major seams with mining potential. These plans accompany this report and are designated as follows:

QNTT-72-0337-R02	-	Structure Contour	Seam D
QNTT-72-0339-R02	-	"	" Seam E
QNTT-72-0334-R02	-	"	" Seam F
QNTT-72-0335-R02	-	"	" Seam J

For structural and stratigraphic detail, reference is made to The Quintette Project, Babcock Area report dated 21 Dec. 1971 and the Quintette Project, Interim Regional Report dated 15 March 1972 which have been sent to The Department of Mines and Petroleum Resources.

EXPENDITURES

Project expenditures were last reported as of January 31, 1972. At that time the costs had not been coded therefore precise comparisons with present coded costs are not possible. In the following cost analysis certain costs have been estimated, however the total as of January 31 remains the same as that previously reported. Although the increase by cost code may err in minor detail, the total cost difference between January 31, 1972 and August 31, 1972 is correct.



EXPENDITURES

7

<u>Code</u>	<u>Description</u>	<u>Estimated Cost as of Jan.31/72</u>	<u>Cost as of Aug.31/72</u>	<u>1972 Expenditure</u>
1300	Ground Examination (Supervision, etc.)	91,200	158,696	67,496
1500	Stripping - Percussion Drilling	9,100	42,184	33,084
1900	Land Survey	25,400	57,555	32,155
2000	Diamond Drilling (20% site preparation)	180,501	560,848	380,347
2100	Rotary Drilling	89,330	98,728	9,398
2200	Logging	3,802	26,340	22,538
2300	Adits	62,000	225,953	163,953
2400	Roads (Main access and Maintenance)	91,000	167,017	76,017
2500	Field Laboratory	4,800	9,906	5,106
2600	Camp Costs	95,059	179,747	84,688
2900	Reclamation	11	8,165	8,154
3000	General Field Expense	195,000	487,352	292,352
	Expenditures previously reported	\$847,203	2,022,491	
	New expenditures to Aug.31, 1972			\$1,175,288

The work outlined and the results obtained which are documented in the report entitled Exploration Results Quintette Coal Limited dated 13 October 1972) and its attachments are, to the best of my knowledge, correct and complete. The work described was done between January 31, 1972 and August 31, 1972.

The statement of expenditures has been prepared from data duplied by the accounting department of Denison Mines Limited and it represents actual costs incurred in obtaining, processing, and evaluating the data. No executive salaries are included.

QUINETTE COAL LIMITED

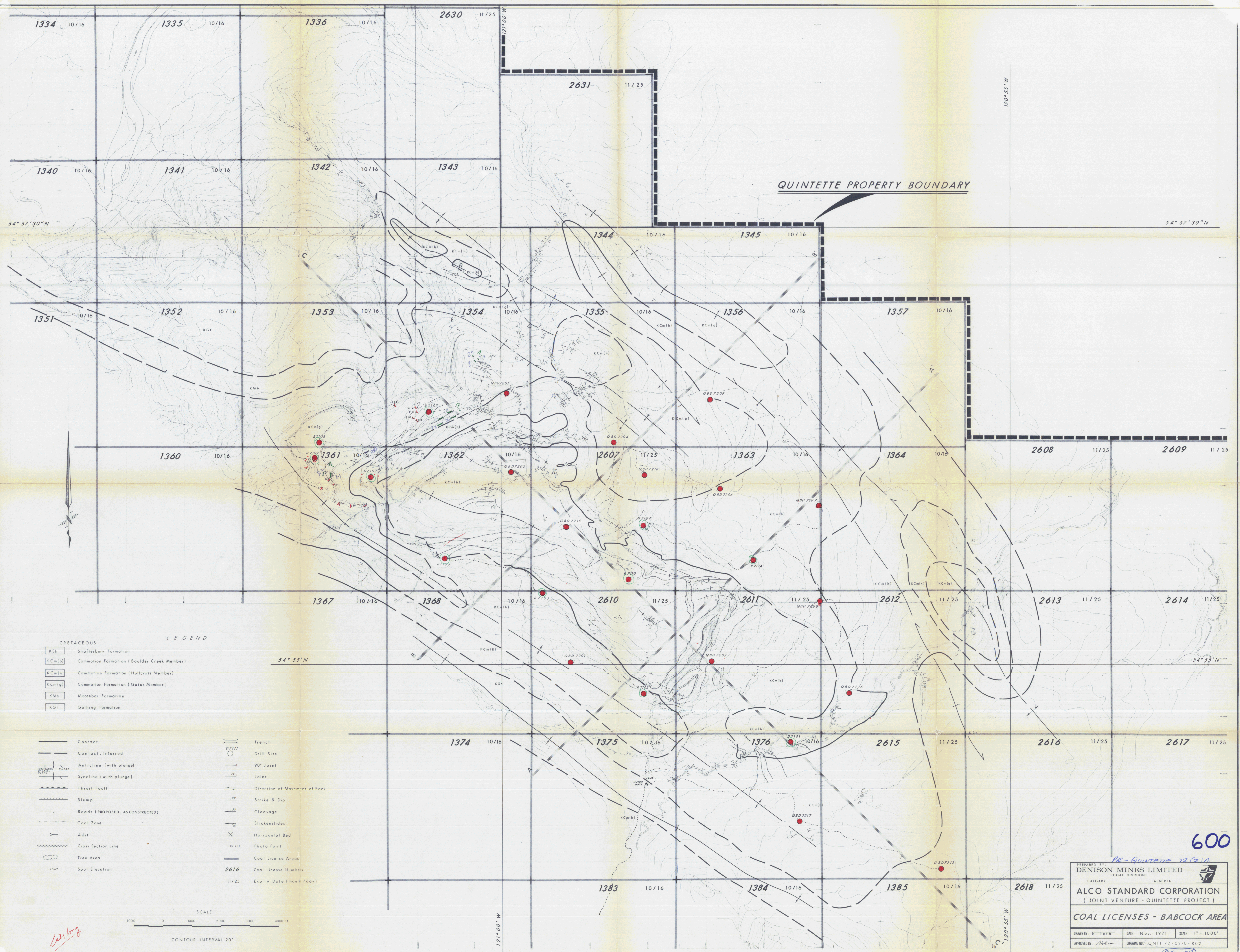


ALAN A. JOHNSON  
CHIEF GEOLOGIST (COAL)  
DENISON MINES LIMITED



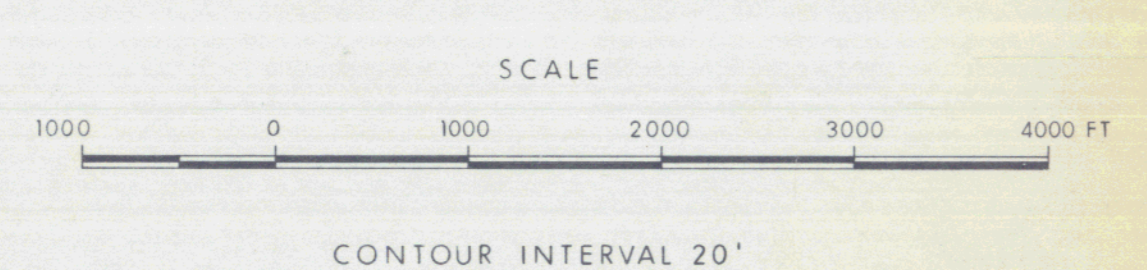
G. P. GORMLEY, P.Geol.





LEGEND

- |            |   |
|------------|---|
| CRETACEOUS |   |
| KSh        | Shofesbury Formation                    |
| KCm(b)     | Comman Formation (Boulder Creek Member) |
| KCm(h)     | Comman Formation (Hullcross Member)     |
| KCm(g)     | Comman Formation (Gates Member)         |
| KMb        | Moosebar Formation                      |
| KGf        | Gething Formation                       |
- 
- |       |                                  |   |                               |
|-------|----------------------------------|---|-------------------------------|
| —     | Contact                          | — | Trench                        |
| - - - | Contact, Inferred                | ○ | Drill Site                    |
| ⌒     | Anticline (with plunge)          | ⊥ | 90° Joint                     |
| ∪     | Syncline (with plunge)           | — | Joint                         |
| ⌒     | Thrust Fault                     | → | Direction of Movement of Rock |
| ⌒     | Slump                            | — | Strike & Dip                  |
| —     | Roads (PROPOSED, AS CONSTRUCTED) | — | Cleavage                      |
| —     | Coal Zone                        | — | Slickensides                  |
| —     | Adit                             | ⊗ | Horizontal Bed                |
| —     | Cross Section Line               | ⊙ | Photo Point                   |
| —     | Tree Area                        | — | Coal License Areas            |
| —     | Spot Elevation                   | — | Coal License Numbers          |
|       |                                  | — | 11/25 Expiry Date (month/day) |



PREPARED BY: *KE-QUINETTE 72(2)A*  
**DENISON MINES LIMITED**  
 (COAL DIVISION)  
 CALGARY ALBERTA

**ALCO STANDARD CORPORATION**  
 (JOINT VENTURE - QUINETTE PROJECT)

**COAL LICENSES - BABCOCK AREA**

DRAWN BY: E. TOTR DATE: Nov. 1971 SCALE: 1" = 1000'  
 APPROVED BY: *[Signature]* DRAWING NO.: QNTT 72-0270-R02

*600*  
*Map # 3*

PR-Quintette 72(2)A





WOLVERINE NORTH

WOLVERINE SOUTH

BABCOCK

FIVE CABIN  
SYNCLINE

QUINETTE

- CONTACT Kmb & Kcm(g)
  - 1500' ISOPACH (DEPTH OF COVER)
  - LENGTH OF CALCULATION INFLUENCE  
CROSS-SECTION & CALCULATION NUMBER  
COAL TONNAGE IN PLACE
  - IA COAL CLASS
- REFER TO ECONOMIC GEOLOGY IN  
REPORT, FOR EXPLANATION

L E G E N D

- |   |  |   |
|---|--|---|
| <p>CRETACEOUS</p> <ul style="list-style-type: none"> <li> Shaftesbury formation</li> <li> Compton formation (Boulder Creek member)</li> <li> Compton formation (Hullcross member)</li> <li> Compton formation (Gates member)</li> <li> Moosebar formation</li> <li> Gething formation</li> <li> Cadomin formation</li> <li> Nikanassin formation</li> </ul> | <ul style="list-style-type: none"> <li> Existing drillhole</li> <li> Proposed drillhole</li> <li> Adit</li> <li> Coal outcrop</li> <li> Coal seam observed</li> <li> Coal seam projected on basis of floor and recessive weathering</li> <li> Coal seam, estimated position of zone</li> <li> Road, trail</li> <li> Cross-section lines</li> </ul> | <ul style="list-style-type: none"> <li> Property boundary, Denison Mines staked 1970</li> <li> Property boundary, Denison Mines staked 1971</li> <li> Faults: unknown, reverse, normal</li> <li> Strike &amp; dip, top known</li> <li> Strike &amp; dip, top known, overturned</li> <li> Strike &amp; dip, top unknown</li> <li> Vertical bedding</li> <li> Horizontal bedding</li> <li> Slaty cleavage w/dip</li> <li> Slickensides, trace and plunge</li> <li> Overturned anticline</li> <li> Overturned syncline</li> <li> Syncline</li> <li> Anticline</li> <li> Fish scales and teeth</li> <li> Fish scales</li> <li> Fish scales</li> </ul> |
|---|--|---|

600

PREPARED BY  
**DENISON MINES LIMITED**  
(CALGARY ALBERTA)

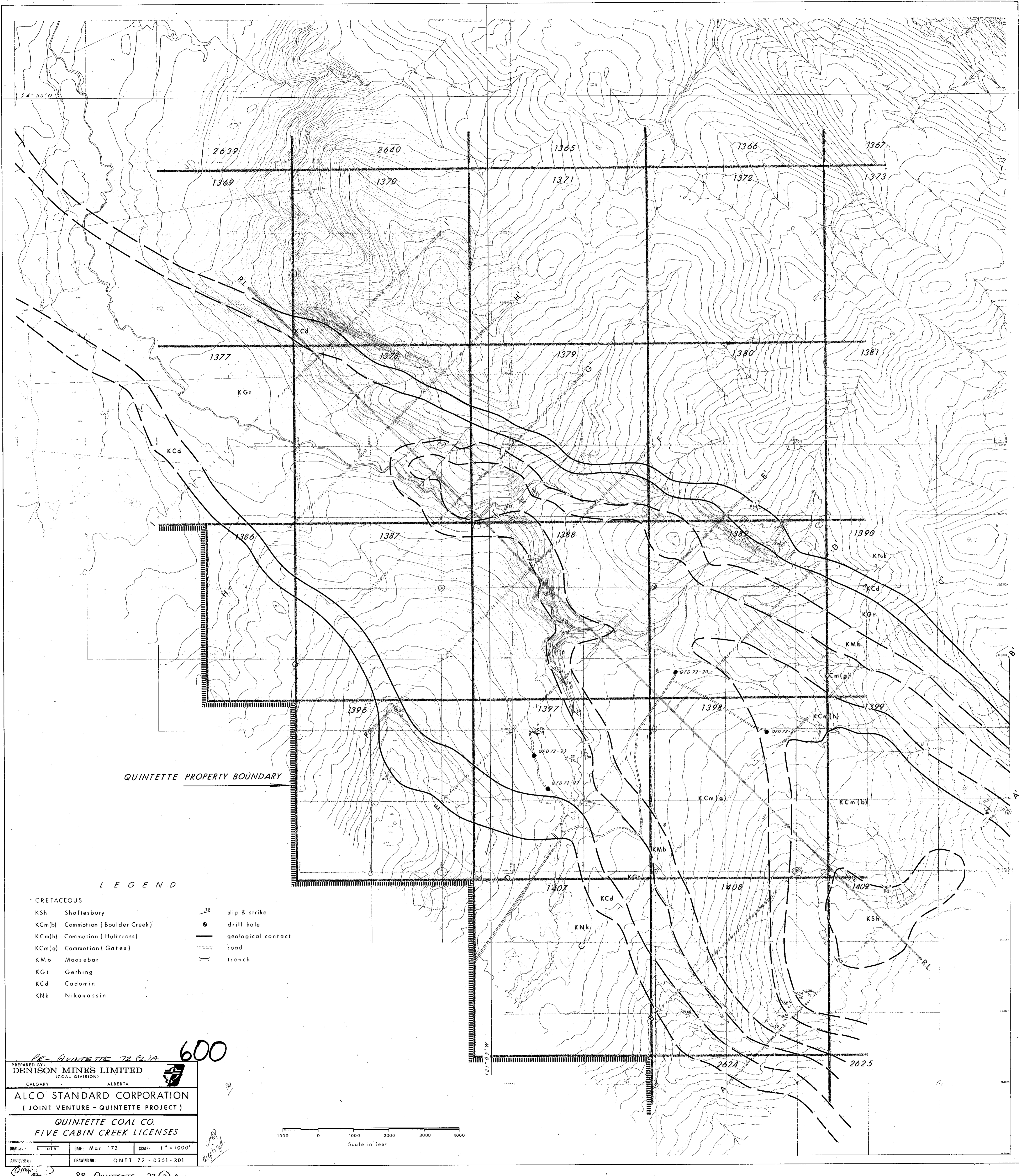
**ALCO STANDARD CORPORATION**  
(JOINT VENTURE - QUINETTE PROJECT)

**QUINETTE GEOLOGY**  
COAL IN PLACE - GATES MEMBER

Drawn by: E. J. W. R. Date: Oct. '71 Scale: 1:50,000  
Approved by: [Signature] Drawing No. QNTT 71-0203-R01

PLATE V





QUINETTE PROPERTY BOUNDARY

LEGEND

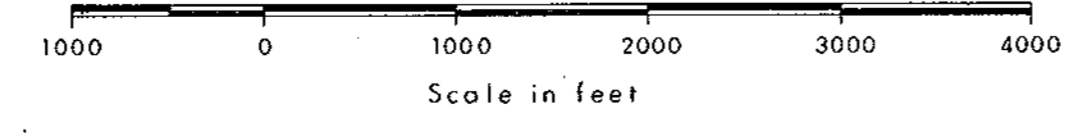
- |            |                          |
|------------|--------------------------|
| CRETACEOUS |                          |
| KSh        | Shaftesbury              |
| KCm(b)     | Comotion (Boulder Creek) |
| KCm(h)     | Comotion (Hullcross)     |
| KCm(g)     | Comotion (Gates)         |
| KMb        | Moosebar                 |
| KGt        | Gething                  |
| KCd        | Cadomin                  |
| KNk        | Nikanassin               |
|            | dip & strike             |
|            | drill hole               |
|            | geological contact       |
|            | road                     |
|            | trench                   |

PREPARED BY  
**DENISON MINES LIMITED**  
 (COAL DIVISION)  
 CALGARY ALBERTA

**ALCO STANDARD CORPORATION**  
 (JOINT VENTURE - QUINETTE PROJECT)

**QUINETTE COAL CO.**  
**FIVE CABIN CREEK LICENCES**

DATE: Mar. '72 SCALE: 1" = 1000'  
 DRAWING NO: QNTT 72-0351-R01

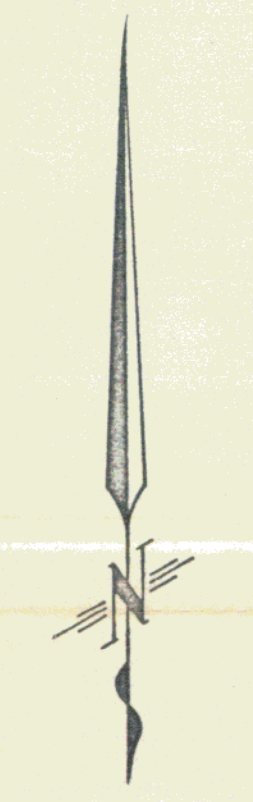
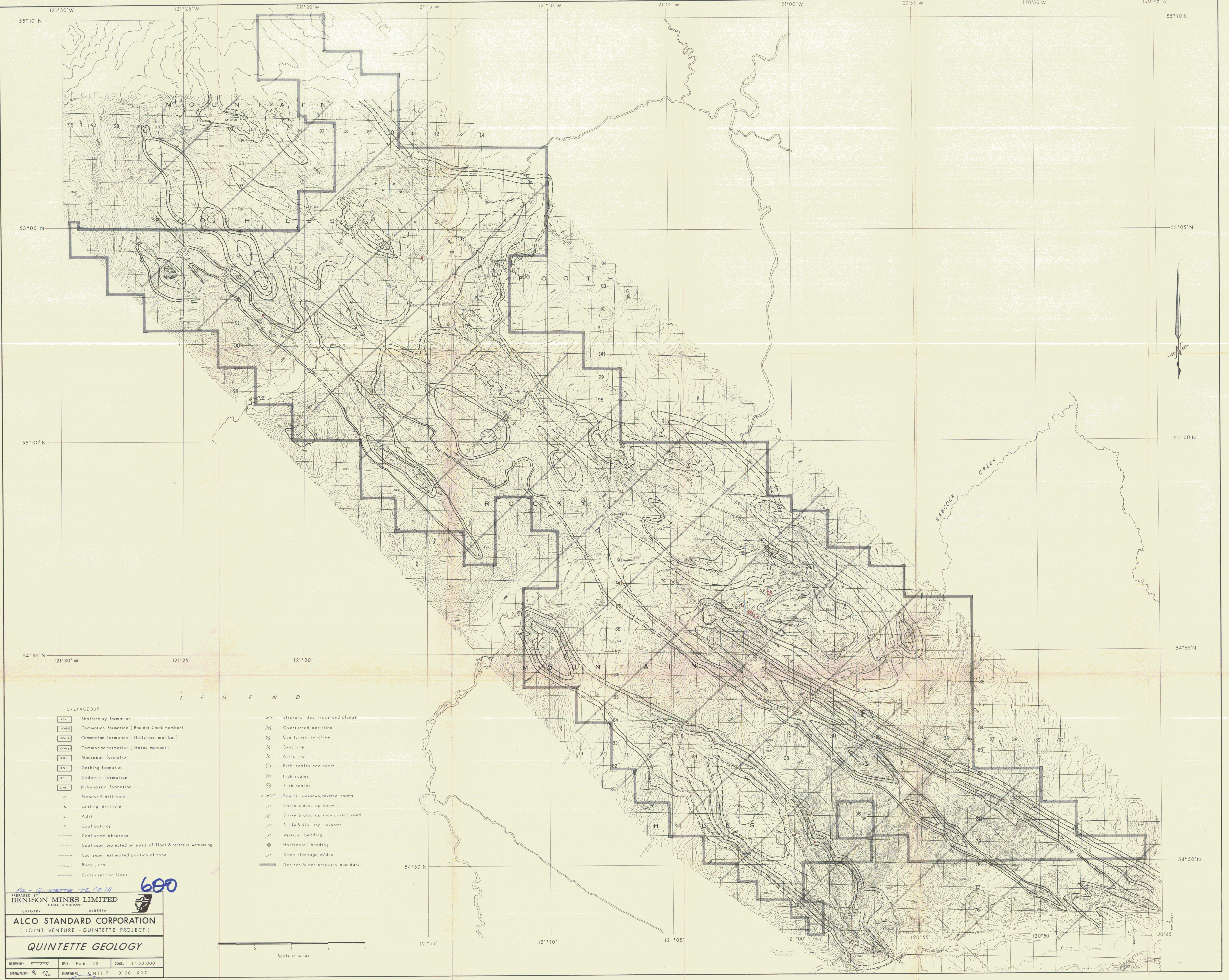


PR. QUINETTE 72(2) A.

600

*Handwritten initials/signature*





**L E G E N D**

<b>CRETACEOUS</b>	
KSH	Shoafesbury formation
KCH(B)	Commation formation (Boulder Creek member)
KCH(H)	Commation formation (Hullcross member)
KCH(G)	Commation formation (Gates member)
KMB	Moosebar formation
KGI	Gething formation
KCA	Cadamin formation
KNA	Nikanassin formation
o	Proposed drillhole
o	Existing drillhole
x	Adit
x	Coal outcrop
—	Coal seam observed
---	Coal seam projected on basis of float & recessive weathering
---	Coal seam, estimated position of zone
---	Road, trail
---	Cross-section lines
—/—	Slickensides, trace and plunge
X	Overturned anticline
X	Overturned syncline
X	Syncline
X	Anticline
⊙	Fish scales and teeth
⊙	Fish scales
⊙	Fish scales
—/—	Faults: unknown, reverse, normal
—/—	Strike & dip, top known
—/—	Strike & dip, top known, overturned
—/—	Strike & dip, top unknown
—/—	Vertical bedding
⊙	Horizontal bedding
—/—	Slaty cleavage w/dip
—	Denison Mines property boundary

600

PREPARED BY  
**DENISON MINES LIMITED**  
(COAL DIVISION)

CALGARY ALBERTA

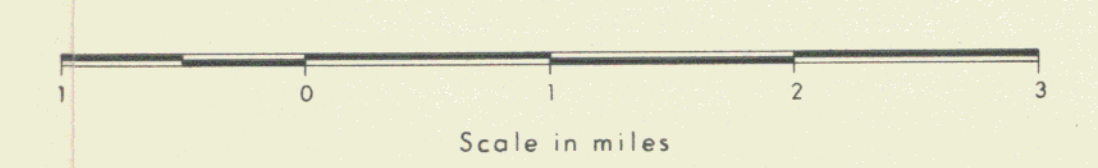
**ALCO STANDARD CORPORATION**  
(JOINT VENTURE - QUINTETTE PROJECT)

**QUINTETTE GEOLOGY**

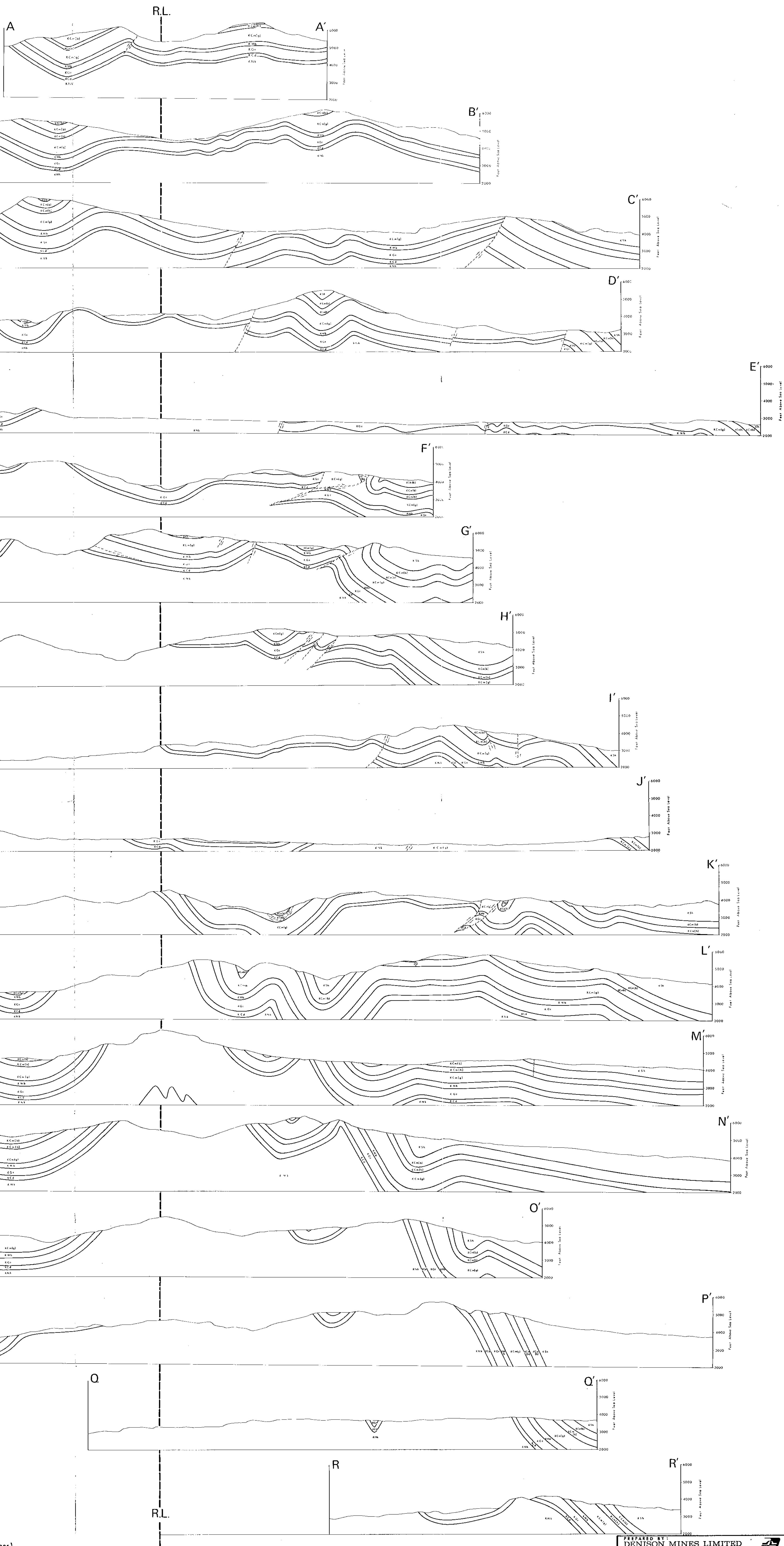
DRAWN BY: E.TOTR    DATE: Feb. '72    SCALE: 1:50,000

APPROVED BY: *PS*    DRAWING NO: QNTT 71-0100-R07

Map #10







- KSh SHAFTESBURY FORMATION
- KCM(b) COMMOTION FORMATION (Boulder Creek Member)
- KCM(h) COMMOTION FORMATION (Hullcross Member)
- KCM(g) COMMOTION FORMATION (Gates Member)
- KMB MOOSEBAR FORMATION
- KGr GETHING FORMATION
- KcD CADOMIN FORMATION

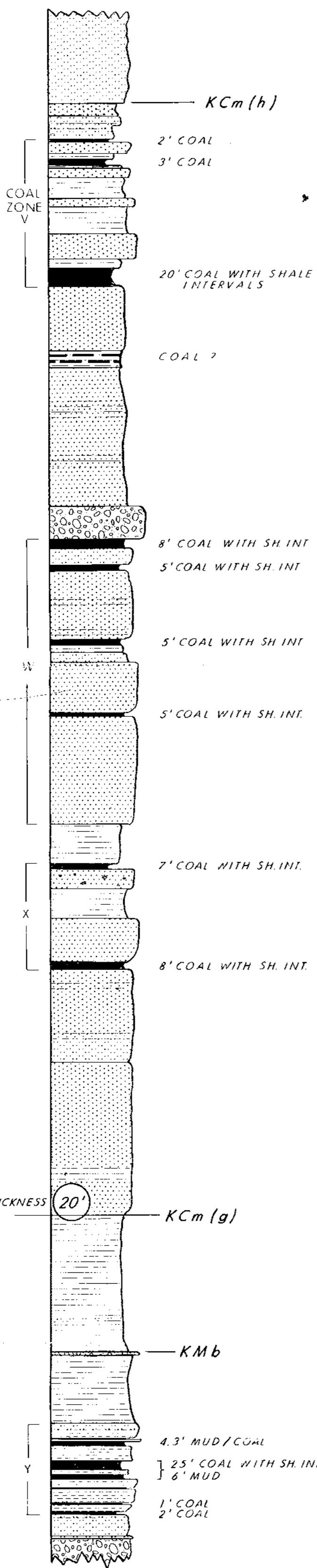
600

PR-QUINTETTE 17 (2) A

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CALGARY <small>ALBERTA</small>	<b>ALCO STANDARD CORPORATION</b> (JOINT VENTURE - QUINTETTE PROJECT)	
<b>GEOLOGICAL CROSS-SECTIONS</b>		
DRAWN BY: E.TOTE	DATE: Oct. '71	SCALE: 2" = 1 mile
APPROVED BY: R.J.	DRAWING NO: QNTI 71-0203-RO1	

AREA 2

WOLVERINE NORTH & SOUTH WESTERN HALF NORTH OF WOLVERINE RIVER 4 MILES S.E. OF MT. REASOR

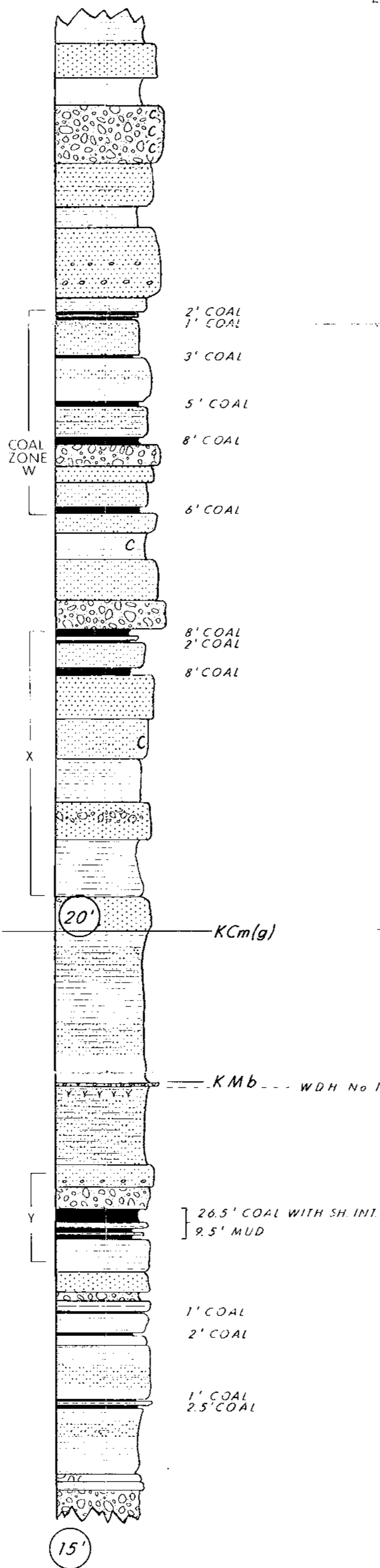


ASSUMED COAL THICKNESS FOR GATES FOR 1500' CUTOFF.

ASSUMED COAL THICKNESS FOR GETHING FOR 1500' CUTOFF.

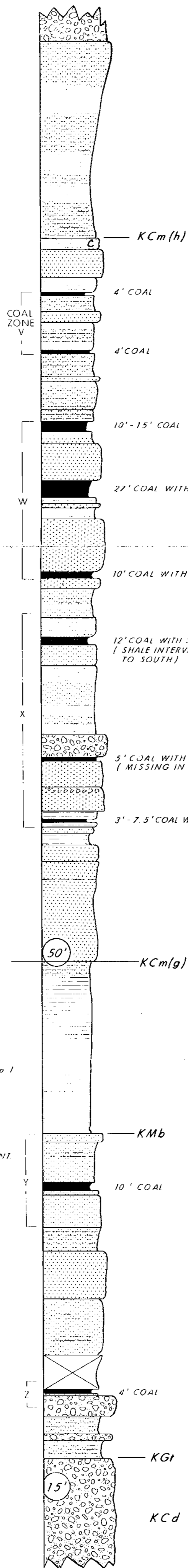
AREA 1

WOLVERINE NORTH, SECTION ALONG PERRY CREEK PLUS WDH No 1



AREA 5

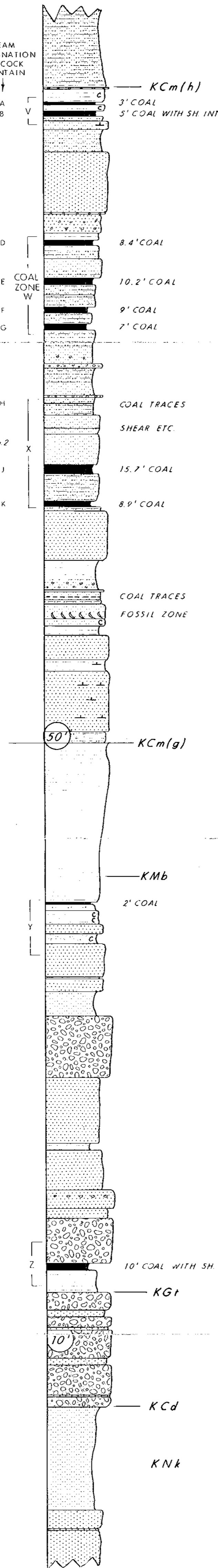
FIVE CABIN SYNCLINE, FIRST RIDGE NORTH OF FIVE CABIN CK, ON EASTERN LIMB OF SYNCLINE



SEAM DESIGNATION BABCOCK MOUNTAIN  
A  
B  
V  
D  
E  
F  
G  
H  
J  
K  
X  
Y  
Z

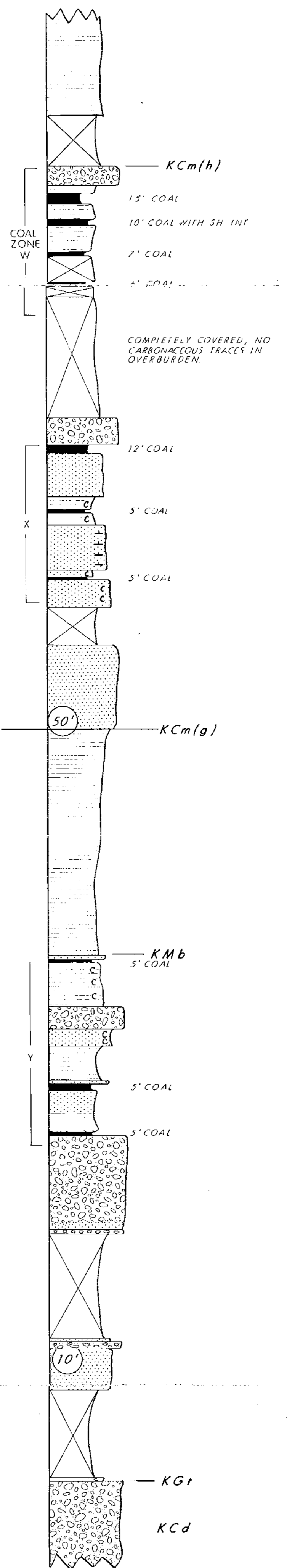
AREA 3

BABCOCK, SECTION WESTERN SPUR OF BABCOCK MOUNTAIN, SOUTH OF MURRAY RIVER



AREA 4

QUINTETTE, FIRST RIDGE SOUTH AND WEST OF BABCOCK CREEK



LEGEND

CRETACEOUS	
	SANDSTONE
	SILTSTONE
	SHALE
	SILTY, SANDY SHALE
	CONGLOMERATE
	COAL
	CARBONIFEROUS SHALE
	MUDSTONE
KCM(h)	Commotion Formation (Hullcross member)
KCM(g)	Commotion Formation (Gates member)
KMB	Moosebar Formation
KGI	Gething Formation
KCD	Cadomin Formation
KNK	Nikanassin Formation

600

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(COAL DIVISION)  
CALGARY ALBERTA

ALCO STANDARD CORPORATION  
(JOINT VENTURE - QUINTETTE PROJECT)

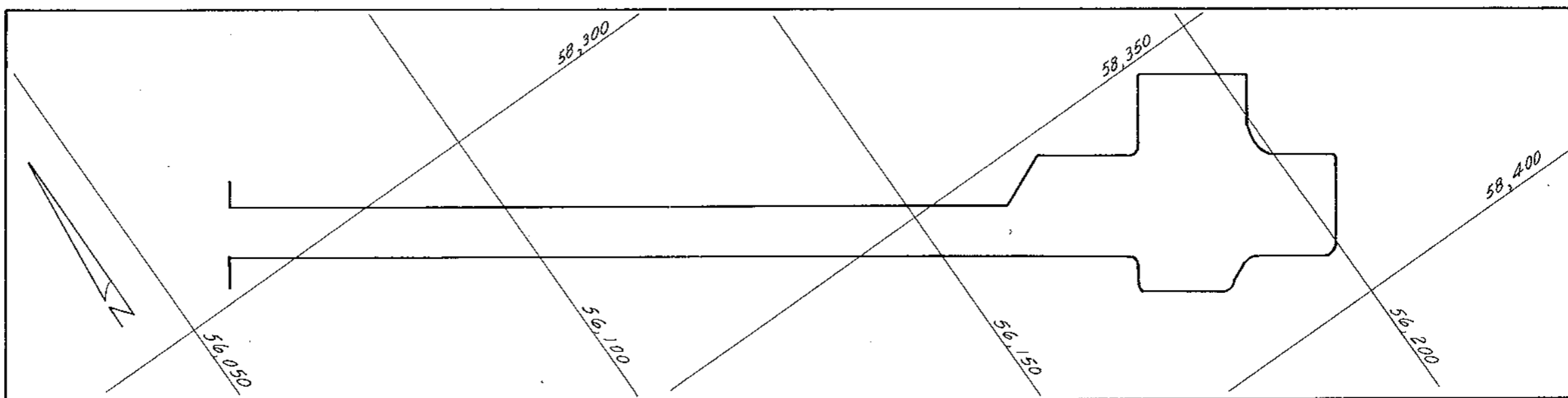
QUINTETTE  
STRATIGRAPHIC SECTIONS

DRAWN BY: E. Toth DATE: Jan. '72 SCALE: 1" = 100'  
APPROVED BY: DRAWING NO: QNTT 72-0267-R02

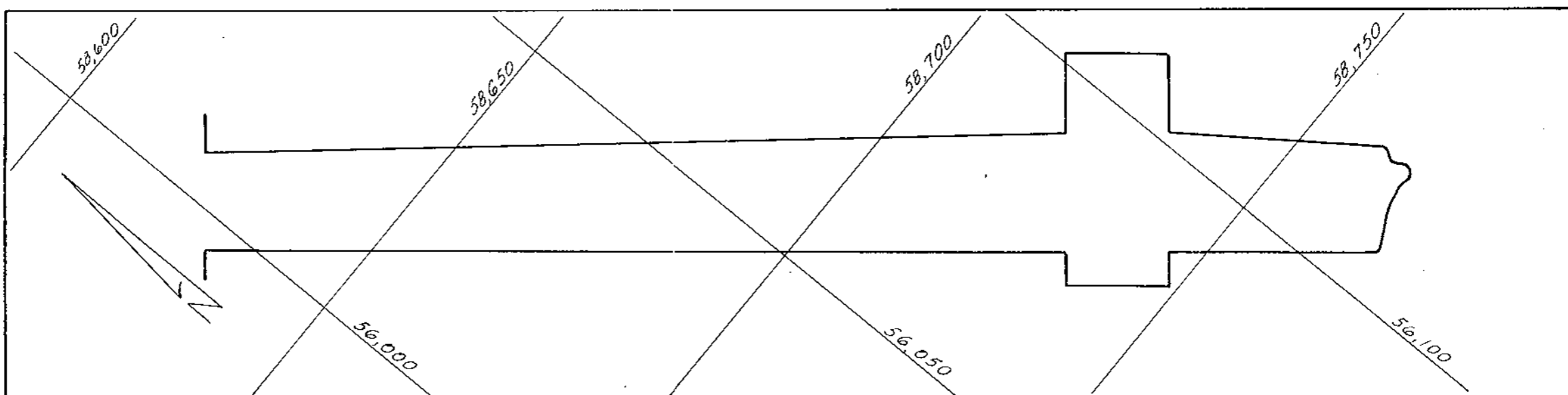


ADIT No

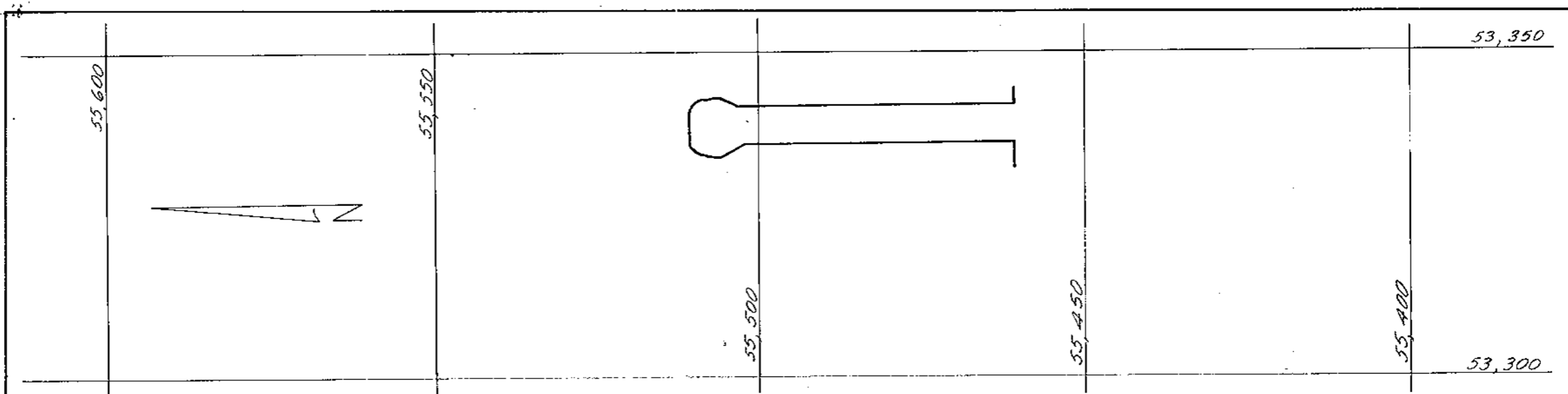
D9



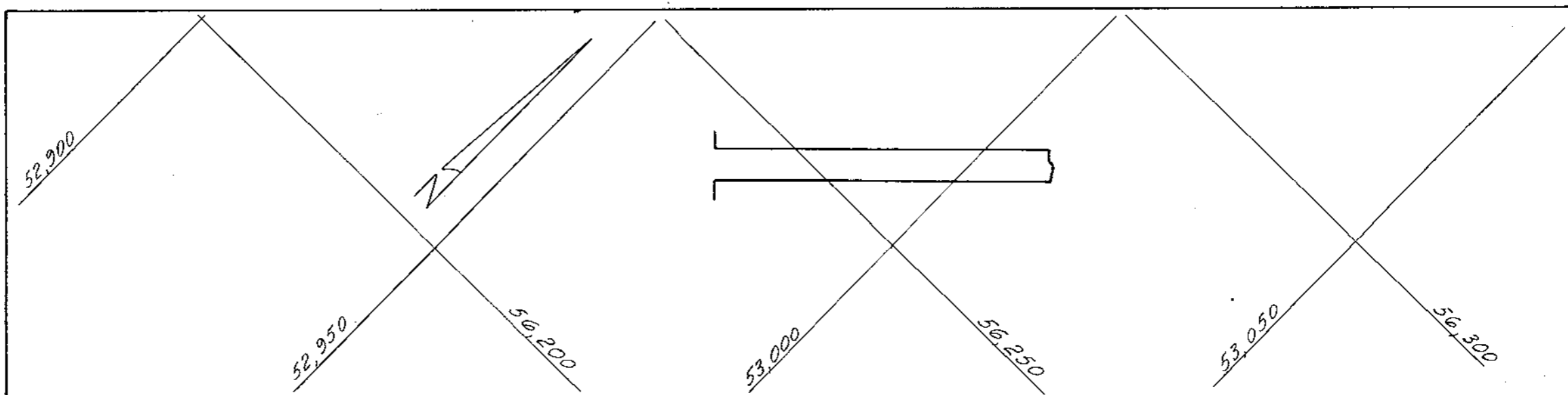
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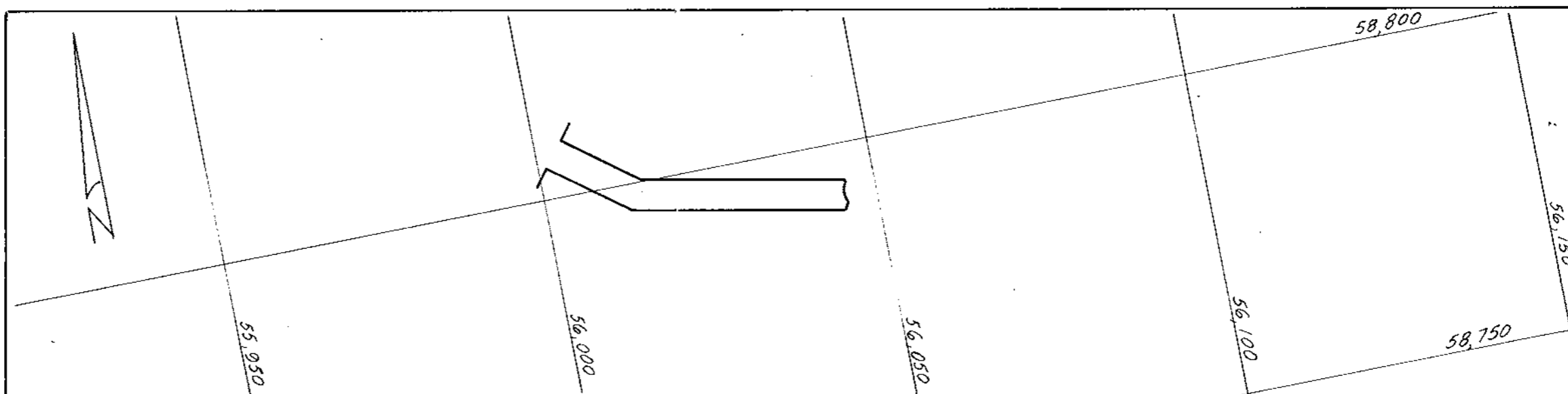
F 6



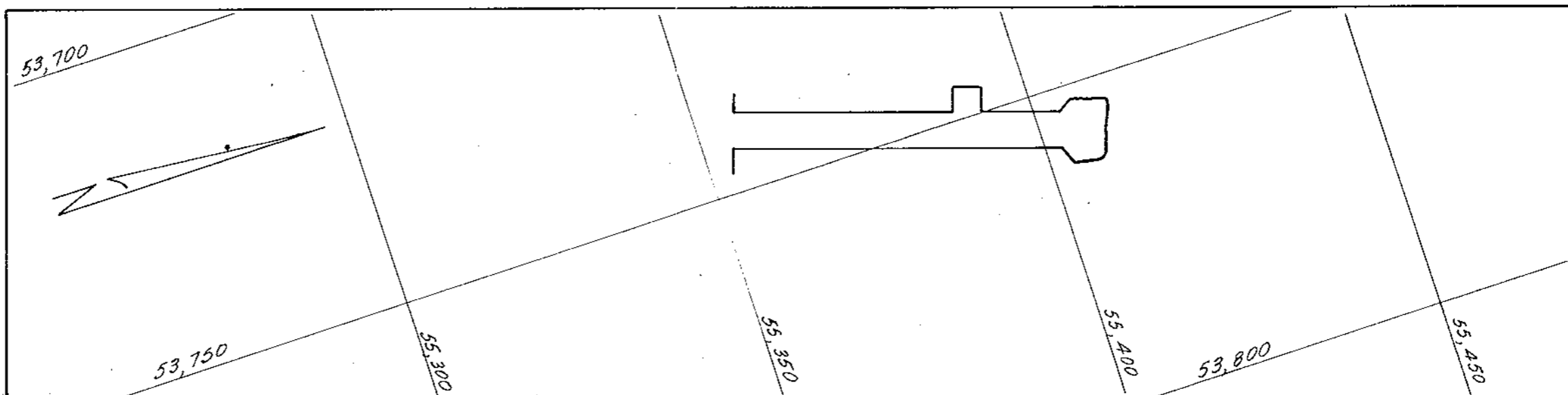
G 5



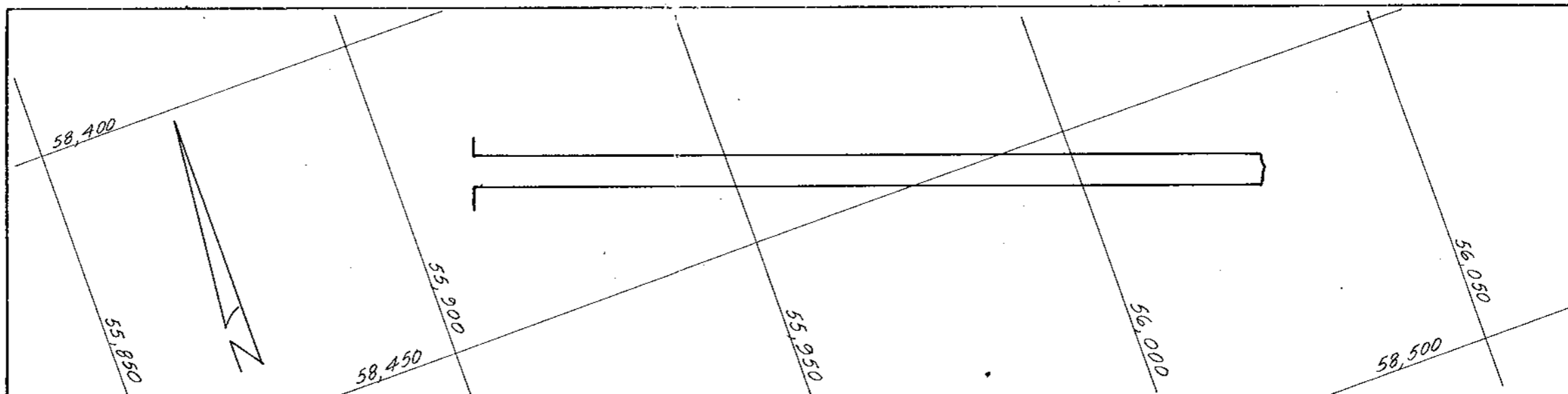
G 12



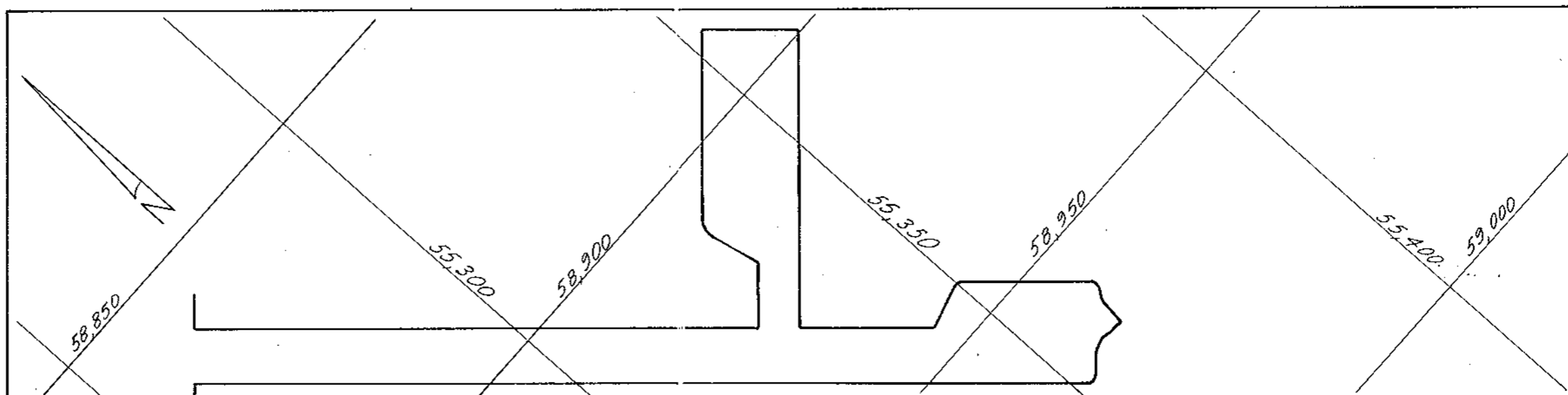
E 8



E 10



J 14



600

PREPARED BY:  
**DENISON MINES LIMITED**  
 (COAL DIVISION)  
 CALGARY ALBERTA

**ALCO STANDARD CORPORATION**  
 ( JOINT VENTURE - QUINTETTE PROJECT )

**PLAN VIEW OF ADITS**

DRAWN BY: E Toth	DATE: Oct. '72	SCALE: 1" = 20'
APPROVED BY:	DRAWING NO: QNTT 72-0353 - R 01	

P2-QUINTETTE 72(3)A



GAMMA RAY, HRD, NEUTRON NEUTRON

COMPANY DENISON MINES LIMITED

BOREHOLE QUINTETTE QFD 7221

STATE B.C. COUNTRY CANADA

Permanent Datum : Elev. \_\_\_ Ft.

Log measured from G.L. \_\_\_ Ft. above P.D.

Drilling measured from \_\_\_ Ft. above P.D.

Run No. Depth Scale 20-1'

Date 20-4-72

First Reading 376

Last Reading 0

Interval Measured 376

Casing BPS 61'

Casing Driller 61'

Depth Reached 376-5

Bottom Driller 375

Mud Nature WATER

S.G. Viscosity

Bit Size 1 H O G.L. to ID to to

Casing Size 2 to to to

Operating Time 2 HRS

Track No. 5

Recorded By G.S.S. J.P.S.C.

Witness G. GORMLEY

600

fold here

HOLE DATA

Customer DENISON  
 Contractor LONGYEAR  
 Date Logged 20-4-72  
 Date Drilled 12-4-72  
 Borehole QFD 7221

TOOL DATA

Sonde 8  
 Normaliser 0  
 Logging speed 30  
 Time constant  
 Spacing

PANEL DATA

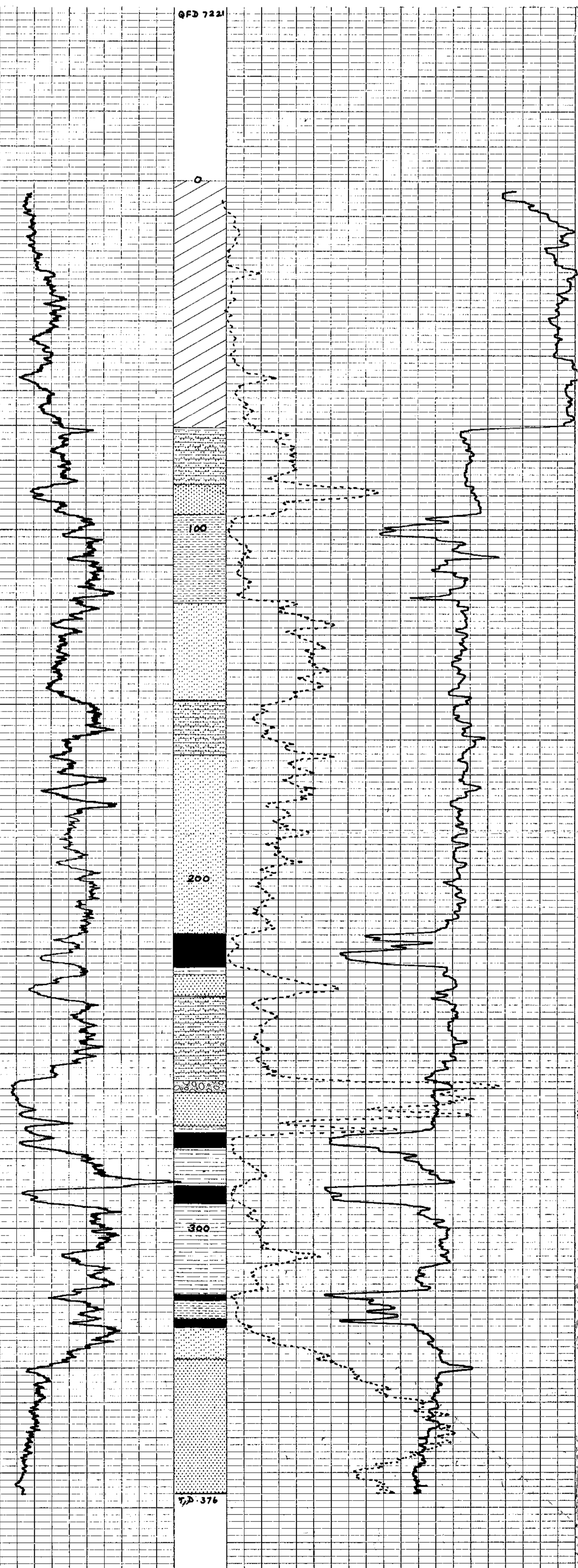
Ratemeter

Source type  
 Source strength

COMMENTS

CALIBRATION AND SCALES

Track 1	Depth (Scale)	Track 2	Track 3
		25	625
		NEUTRON NEUTRON S40 T.C.1	
GAMMA RAY S25 T.C.2	20'-1"	5500	3000
		HRD S30 T.C.1	



PR-Q 72(3)A



GAMMA RAY, HRD, NEUTRON NEUTRON

COMPANY DENISON MINES LIMITED  
 BOREHOLE QUINLETTE QFD 7221  
 STATE B.C. COUNTRY CANADA

Permanent Datum : Elev. \_\_\_ Ft.  
 Log measured from G.L. \_\_\_ Ft. above P.D.  
 Drilling measured from \_\_\_ Ft. above P.D.

Run No. Depth Scale 20-1  
 Date 20-4-72  
 First Reading 376  
 Last Reading 0  
 Interval Measured 376  
 Casing BPB 61  
 Casing Driller 61  
 Depth Reached 376.5  
 Bottom Driller  
 Mud Nature WATER  
 S.G. Viscosity  
 Bit Size 1 H Q G.L. to TD. to to to  
 Casing Size 2 to to to to  
 Operating Time 2 HRS  
 Truck No. 5

Recorded By G.S.S. / ASC  
 Witness G. GORLEY  
 600

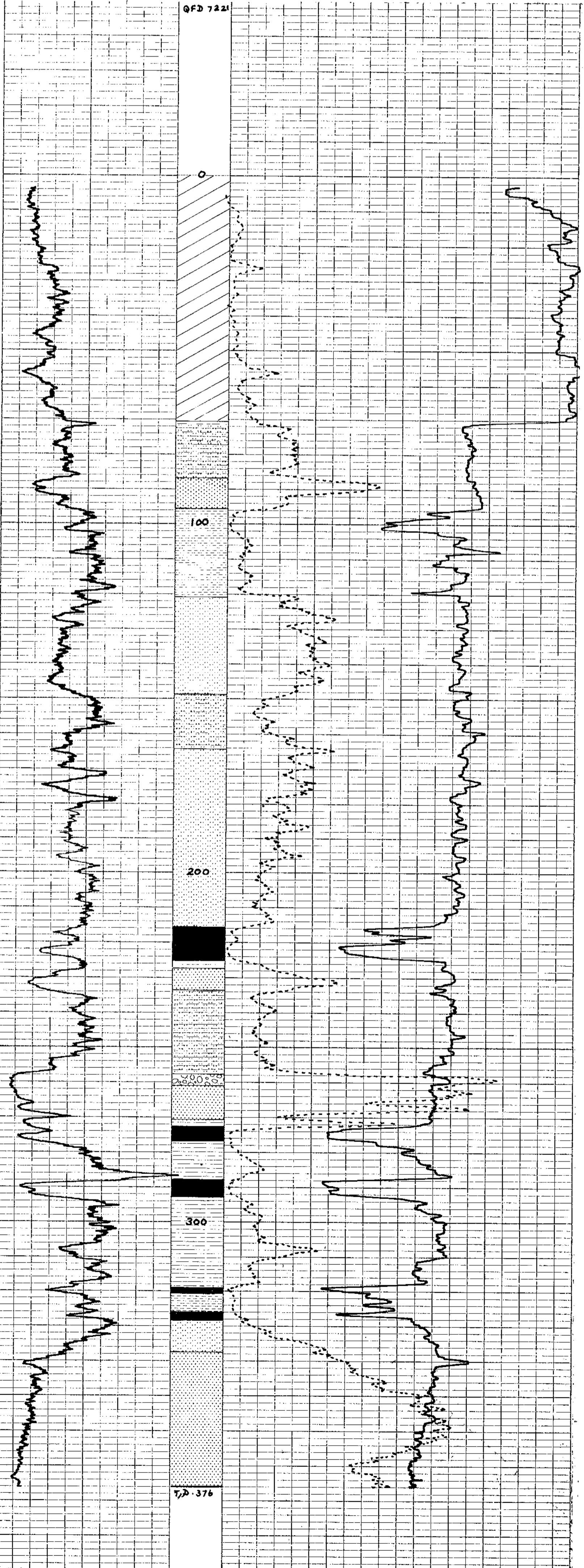
fold here

HOLE DATA	TOOL DATA	PANEL DATA
Customer DENISON	Sonde 8	Rate meter
Contractor LONGYEAR	Normaliser 0	
Date Logged 20-4-72	Logging speed 30	
Date Drilled 12-4-72	Time constant	
Borehole QFD 7221	Spacing	
	Source type	
	Source strength	

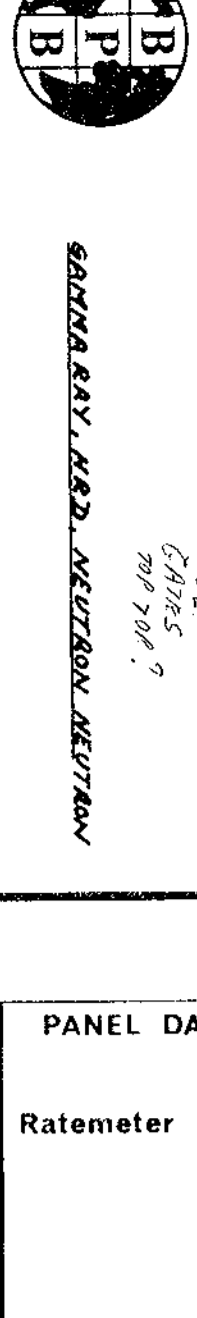
COMMENTS

CALIBRATION AND SCALES

Track 1	Depth (Scale)	Track 2	Track 3
GAMMA RAY S25 T.C.2	20'-1"	25 --- NEUTRON NEUTRON S40 T.C.1	625
0	125	5500 HRD S30 T.C.1	3000







SARASWATY, K.S.B., NEUTRON NEUTRON

COMPANY DENISON MINES LIMITED  
 BOREHOLE QUINLETTE 72202  
 STATE B.C. COUNTRY CANADA

Permanent Datum : Elev. \_\_\_ Ft.  
 Log measured from : 6800/2 LEVEL  
 Ft. above P.D. \_\_\_\_\_

Drilling measured from \_\_\_\_\_  
 Ft. above P.D. \_\_\_\_\_

Run No. Depth Scale 7- 20'-1" 5-5' 20'-1"  
 Core \_\_\_\_\_  
 First Reading 0 1/75'  
 Last Reading 0 1/75'  
 Interval Measured 1/75'  
 Casting PB 164  
 Casting Driver 1/75'  
 Depth Reached 1/75'

Bottom Driver 1/82' Logged Elev. of 1/75' to 1/75'  
 Mud Nature WATER  
 S.G. Viscosity  
 Bit Size 1 N4

Casing Size 2  
 Drilling Time 24 1/2 Hrs. 7074  
 Track No. 5

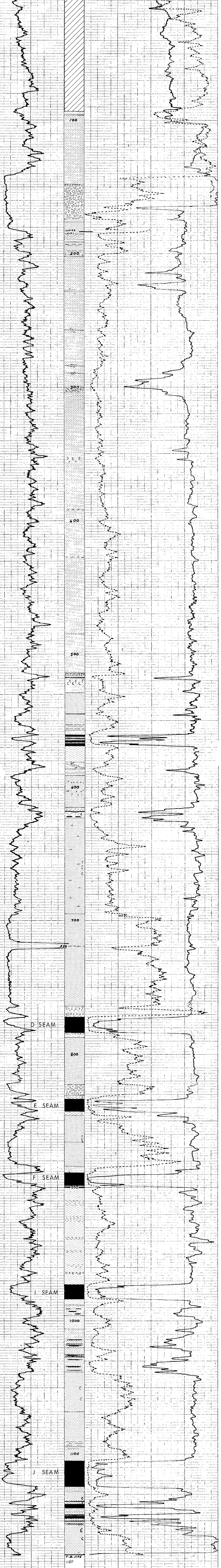
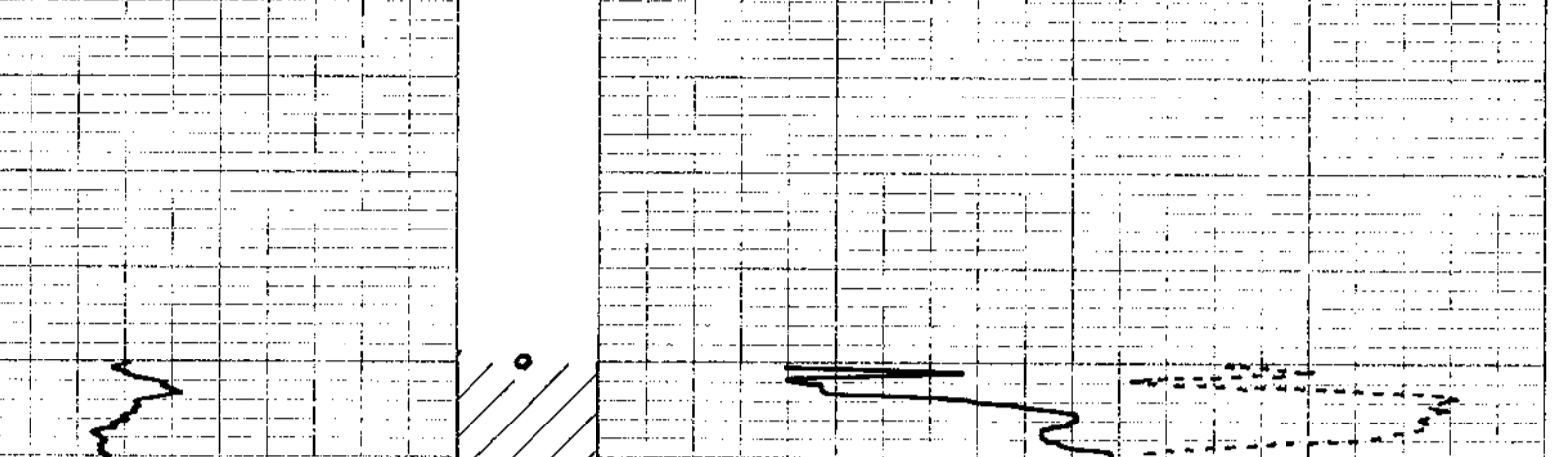
Recorded by A.S.C.-C.K.  
 Witness T. RIVINE

600

HOLE DATA	TOOL DATA	PANEL DATA
Customer DENISON MINES	Sonde 5.18	Source type AmBe, Cs137
Contractor CANADIAN LONGYEAR	Normaliser 0	Source strength
Date Logged 10.4.72	Logging speed	Rate meter
Date Drilled 9.4.72	Time constant	
Borehole D7202	Spacing Long Start N-N	

COMMENTS

CALIBRATION AND SCALES



LEGEND:

- COAL
- MUDSTONE
- SANDSTONE
- SILTSTONE
- SILTY MUDSTONE
- CONGLOMERATE

DENISON MINES (B.C.) LIMITED  
 CALGARY (CORP. DIVISION) ALBERTA

TYPE SECTION FOR N-1 MINE  
 FROM Q8D7202

DRAWN BY J.W.K. DATE NOV. 75. SCALE 1" = 20'  
 CHECKED BY B.C.K. DATE NOV. 75. SCALE 1" = 20'



DEQUETTE 7263A  
 6-27-72 - 6-17-75 - 7-25-74



GAMMA RAY, HQ, NEUTRON-NEUTRON

COMPANY DENISON MINES LIMITED  
 BOREHOLE QFD 7220

STATE B.C. COUNTRY CANADA

Permanent Datum : Elev. Ft. \_\_\_\_\_  
 Log measured from G.L. \_\_\_\_\_ Ft. above P.D.  
 Drilling measured from \_\_\_\_\_ Ft. above P.D.

Run No. Depth Scale 20 - 1'

Date 20.4.72  
 East Reading 1235  
 Last Reading 0  
 Interval measured 1235

Counting Rate 61

Depth Reached 1238  
 Bottom Driller 1235  
 Mud Nature WATER

Bit Size 1 HQ

Counting Rate 2

Operating Time 5 HRS

Track No. 5

Recorded by G.S. F. J. S. C.

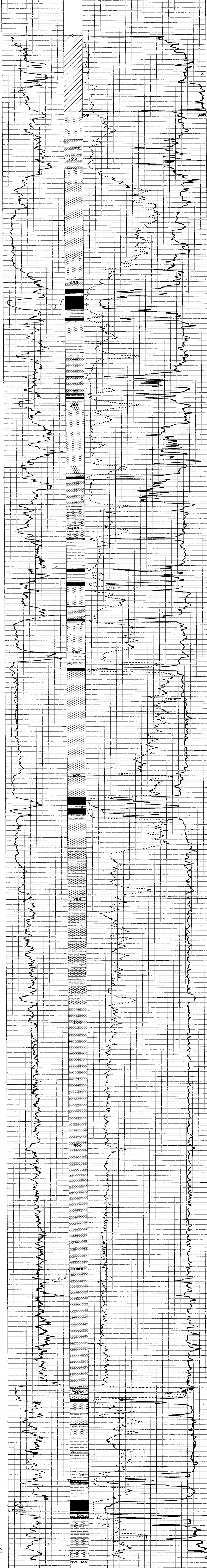
Witness G.S. F. J. S. C.

600

HOLE DATA		TOOL DATA		PANEL DATA
Customer	DENISON	Sonde	5	Rate meter
Contractor	LONG YEAR	Normaliser	0	
Date Logged	20.4.72	Logging speed		
Date Drilled	8.4.72	Time constant		
Borehole	QFD 7220	Spacing		

COMMENTS

CALIBRATION AND SCALES			
Track 1	Depth (Scale)	Track 2	Track 3
GAMMA RAY	0	NEUTRON NEUTRON	600
0	150	8000	4000



Q 7263A

PR-Q 7263A





GAMMA-HRD, NEUTRON-NEUTRON

COMPANY DENISON MINES  
 BOREHOLE QUINTETTE D7219  
 STATE B.C. COUNTRY CANADA

Permanent Datum : Elev. — Ft.  
 Log measured from Ground Level Ft. above P.D.  
 Drilling measured from — Ft. above P.D.  
 Run No. Depth Scale 20'-1" 29 Feb 72

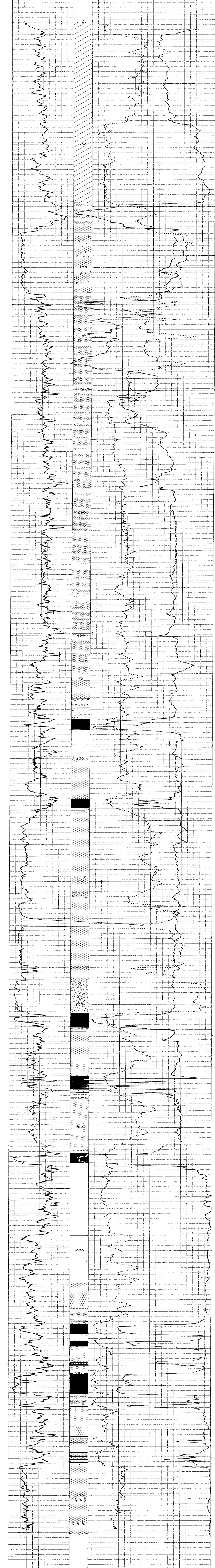
Date  
 First Reading  
 Interval Measured  
 Logging Rate  
 Logging Drive  
 Logging Drive  
 Depth Reached 1227'  
 Bottom Driller  
 Mud Nature  
 SG Viscosity  
 Bit Size 1 1/4" to 7 D.

Casing Size  
 Opening Time  
 Track No.  
 8 Hrs  
 5  
 S.S.S. / S.C.  
 G.G.F.  
 600

HOLE DATA		TOOL DATA		PANEL DATA
Customer	DENISON MINES	Sonde	8, 18	Source type Cs137, AmBe
Contractor	CANADIAN LONGYEAR	Normaliser	0	Source strength
Date Logged	28.3.72	Logging speed	30	
Date Drilled	28.3.72	Time constant	1	
Borehole	QUINTETTE D7219	Spacing		

COMMENTS  
 Logged through drill rods

CALIBRATION AND SCALES			
Track 1	Depth (Scale)	Track 2	Track 3
GAMMA RAY	20'-1"	4560 H.R.D.	2/60
0 c.p.s. 125		Q NEUTRON NEUTRON	850



PR - QUINTETTE 72(4)A-3

QUINTETTE

BABCOCK DRILL HOLES  
1971/72 SERIES  
SEAMS F, G, H & I  
**CONFIDENTIAL**

File to Accompany report  
Exploration Results  
Quintette Coal Limited Licence Numbers  
1303 to 1427 incl. and 2607 to 2644 incl.  
January 31, 1972 to August 31, 1972

3 of 6

72 (4)A

600

93 I 14 I

CONFIDENTIAL

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

00 600



BABCOCK ANALYSIS

Drill Hole #      Footage      Ash %      Phosphorous      Phosphorous in Coal  
Clean Coal      Pentoxide % of Ash      Product at Stated Ash

CONFIDENTIAL

SEAM F

D-7101	439.6'-447.5'	7.08	2.11	.0652
D-7102 (Up F)	455.2'-462.7'	7.07	3.65	.1126
R-7103	700'-716'	6.64	1.33	.0385
D7104	451.0'-457.7'	6.93	.82	.0248
R-7106	588'-596'	6.96	6.77	.2056
R-7107	96'-105'	6.85	.97	.0289
R-7110	897'-905'	6.57	.91	.0260
R-7114	540'-548'	7.36	2.20	.0706

SEAM F

PRODUCT QUALITY

The results from one adit sample are enclosed. The seam was tested for a mining height of 5 feet 11 inches and 9 feet 2 inches. The results indicate an ash of 6.7%, a volatile content of 23% at a total moisture of 5%. The F.S.I. is 8.

Four rotary samples tested for full seam thickness suggest a moderately consistent product from this seam. The product is likely to have analyses in the following range.

<u>ASH</u>	<u>VOL.</u>	<u>TOTAL MOISTURE</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.7	22.3 - 26.5	5.0	64 - 66	0.27-0.32	7 - 8½

RESERVE CALCULATION

SEAM F

Borehole No.	Area of Influence Sq.Ft. x 10 <sup>6</sup>	Thickness Feet	L. Tons in Place x 10 <sup>6</sup>	Geol. & Mining Recovery 40% L. Tons Mined x 10 <sup>6</sup>	Estimated Wash Plant Recovery %	Net Product L. Tons x 10 <sup>6</sup>
7101	32.80	7.9	9.001	3.841	75	2.880
7102	6.66	7.5	1.851	0.740	65	0.481
7103	9.73	15.0	5.408	2.162	80	1.731
7104	14.10	6.7	3.500	1.400	75	1.050
7105	7.45	8.0	2.208	0.883	65	0.574
7106	7.31	7.4	2.004	0.801	75	0.601
7107	16.92	9.9	6.207	2.483	70	1.728
7108		N O T	D R I	L L E D		
7110	17.02	7.9	4.982	1.993	80	1.594
7114	15.25	9.8	5.538	2.215	70	1.551
TOTAL	127.24		41.299			12.201

Coal is assumed to weigh 83 lbs. per solid cubic foot.

DENISON MINES LIMITED

Drill Hole #D-7101, Composite F  
Footage: 439.6' - 447.5' (21 - 23)

SEAM F

The sample represents a full seam height of 7.9 feet.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.51%	23.19%	5.0%	65.3%	0.28%	7 <sup>1</sup> / <sub>2</sub>

\* Assuming 5% total moisture and  
7% Ash (air dried basis)

DENISON MINES LTD.

Drill Hole #D-7101, Composite F  
Footage: 439.6' - 447.5' (21 - 23)

T A B L E 1: Raw Sample Analysis

Ash	11.12%
Volatile Matter	23.79%
Residual Moisture	0.93%
Fixed Carbon	64.16%
F.S.I.	7½
B.T.U./lb.	13,110
Sulphur	0.40%

January 4, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #D-7101, Composite F  
Footage: 439.6' - 447.5' (21 - 23)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+28 Mesh	75.29
28 x 100 Mesh	19.68
- 100 mesh	<u>5.03</u>
Total	<u>100.00</u>

DENISON MINES LTD.

Drill Hole #D-7101, Composite F  
Footage: 439.6' - 447.5' (21 - 23)

T A B L E 3: Head Analysis of +28 Mesh

Ash	11.66%
Volatile Matter	23.44%
Residual Moisture:	0.91%
Fixed Carbon	63.99%
F.S.I.	8

January 4, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #D-7101, Composite F  
Footage: 439.6' - 447.5' (21 - 23)

T A B L E 4: Weight % and Proximate Analyses of Specific Gravity Fractions: +28 Mesh

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.%
- 1.30	62.12	1.95	25.93	0.24	71.88
1.30 - 1.35	15.62	4.51	24.04	0.27	71.18
1.35 - 1.40	3.03	9.81	22.13	0.26	67.80
1.40 - 1.45	1.48	12.28	21.00	0.30	66.42
1.45 - 1.50	1.10	16.50	19.86	0.31	63.33
1.50 - 1.60	2.89	23.74	19.53	0.31	56.42
1.60 - 1.70	1.26	33.30	17.55	0.29	48.86
1.70 - 1.80	1.15	42.17	16.43	0.27	41.13
+ 1.80	11.35	66.03	12.80	0.35	20.82
Total	100.00	11.66	23.48	0.26	64.59



DENISON MINES LTD.

Drill Hole #D-7101, Composite F  
 Footage: 439.6' - 447.5' (21 - 23)

T A B L E 5: Weight %, Proximate Analyses and Free Swelling  
 Index of Cumulative Floats: +28 Mesh

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I.
- 1.30	62.12	1.95	25.93	0.24	71.88	8½
- 1.35	77.74	2.46	25.55	0.25	71.74	8
- 1.40	80.77	2.74	25.42	0.25	71.59	8
- 1.45	82.25	2.91	25.34	0.25	71.50	8
- 1.50	83.35	3.09	25.27	0.25	71.39	8
- 1.60	86.24	3.78	25.08	0.25	70.89	8
- 1.70	87.50	4.21	24.97	0.25	70.57	8
- 1.80	88.65	4.70	24.86	0.25	70.19	8
Total	100.00	11.66	23.49	0.26	64.59	8

January 4, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #D-7101, Composite F  
Footage: 439.6' - 447.5' (21 - 23)

T A B L E 6: Washability Data: +28 Mesh

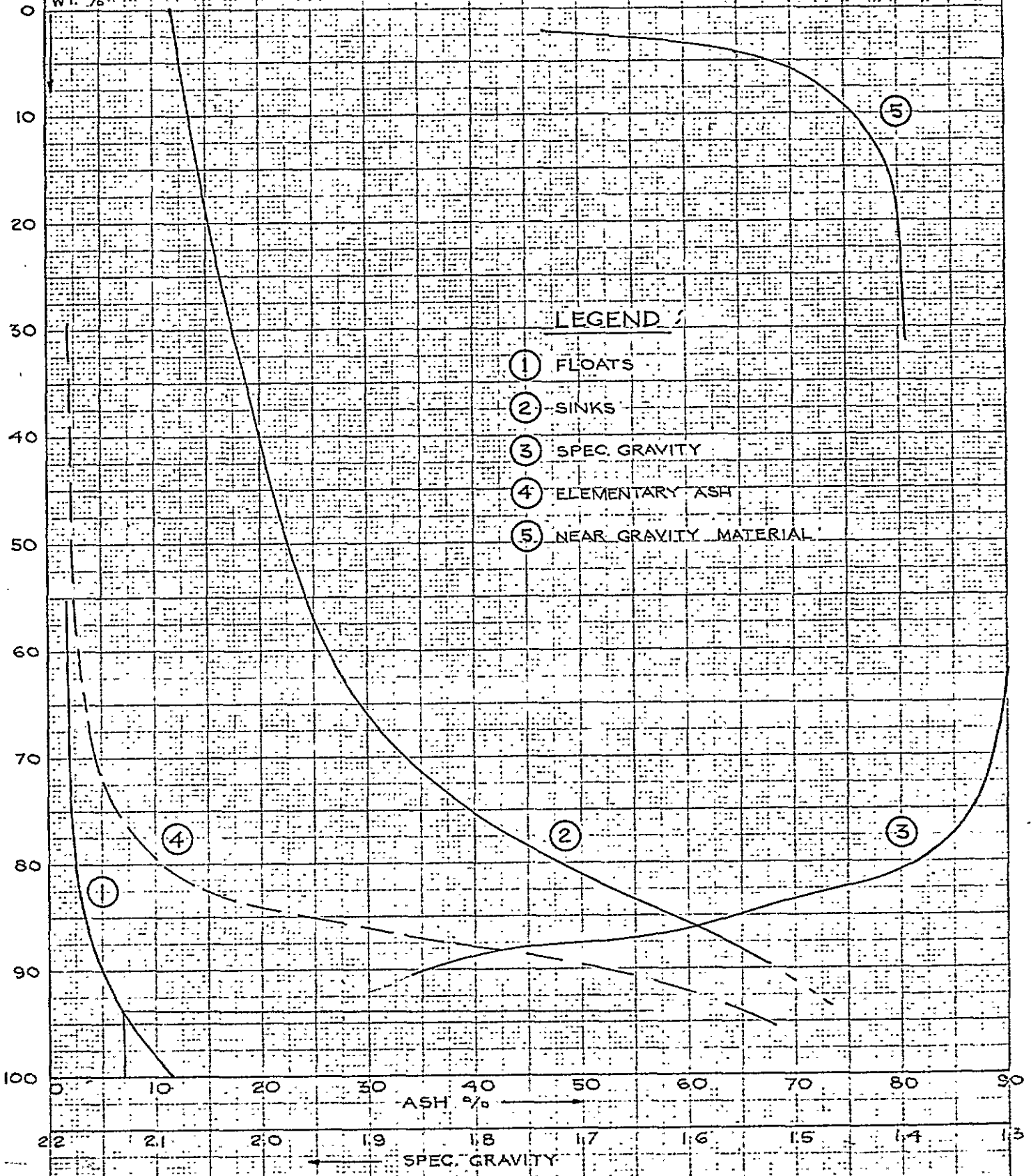
Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt.%	Ash%	Floats		Sinks		Wt.%	Ash%
			Wt.%	Ash%	Wt.%	Ash %		
- 1.30	62.12	1.95	62.12	1.95	100.00	11.66	31.06	1.95
1.30 - 1.35	15.62	4.51	77.74	2.46	37.88	27.59	69.93	4.51
1.35 - 1.40	3.03	9.81	80.77	2.74	22.26	43.78	79.25	9.81
1.40 - 1.45	1.48	12.28	82.25	2.91	19.23	49.13	81.51	12.28
1.45 - 1.50	1.10	16.50	83.35	3.09	17.75	52.21	82.80	16.50
1.50 - 1.60	2.89	23.74	86.24	3.78	16.65	54.56	84.80	23.74
1.60 - 1.70	1.26	33.30	87.50	4.21	13.76	61.04	86.87	33.30
1.70 - 1.80	1.15	42.17	88.65	4.70	12.50	63.83	88.07	42.17
+ 1.80	11.35	66.03	100.00	11.66	11.35	66.03	94.33	66.03
Total	100.00	11.66						

# DENISON MINES LTD.

DRILL HOLE # D-7107 COMPOSITE F  
FOOTAGE 439.6' - 447.5' (21 - 23)


CUM.  
WT. %

## WASHABILITY CURVES



### LEGEND

- ① FLOATS
- ② SINKS
- ③ SPEC. GRAVITY
- ④ ELEMENTARY ASH
- ⑤ NEAR GRAVITY MATERIAL


 10 X 10 TO THE CENTIMETER 46 1512  
 MADE IN U.S.A.  
 KEUFFEL & ESSER CO.

DENISON MINES LTD.

Drill Hole #D-7101, Composite F,  
Footage: 439.6' - 447.5' (21 - 23)

T A B L E 7: Head Analysis of -28 Mesh

Ash	9.09%
Volatile Matter	23.90%
Residual Moisture	0.94%
Fixed Carbon	66.07%
F.S.I.	7½

January 4, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #D-7101, Composite F  
Footage: 439.6' - 447.5' (21 - 23)

T A B L E 8: Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions

Sp. Gr.	Wt. %	Ash %	V.M. %	F.C. %	Cum. Wt. % Floats	Cum. Ash	Cum. F.S.I.
-1.40	86.87	2.21	25.05	72.74	86.87	2.21	9
1.40 - 1.60	5.82	16.53	19.56	63.91	92.69	3.11	8½
1.60 - 1.80	2.17	35.70	17.02	47.28	94.86	3.85	8
+ 1.80	5.14	65.14	14.84	20.02	100.00	7.00	
Total	100.00	7.00	24.03	68.97			

January 4, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #D-7101, Composite F  
Footage: 439.6' - 447.5' (21 - 23)

T A B L E 9: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	88.83%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	6.25	31.71
Volatile Matter, %	24.69	
Residual Moisture, %	0.91	
Fixed Carbon, %	68.15	
F.S.I.1	7½	
Sulphur, %	0.33	

January 4, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #D-7101, Composite F  
Footage: 439.6' - 447.5' (21 - 23)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for +28 Mesh	1.93
Yield	94.0%
Weight % of Floats at 1.55 in the Composite Clean Coal	76.32
Weight % of Flotation Concentrate in Composite Clean Coal	23.68

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	6.83%	6.51
Volatile Matter	24.31%	23.19
Residual Moisture	0.41%	5.00
Fixed Carbon	68.45%	65.30
F.S.I.	7½	
Sulphur	0.29%	

DENISON MINES LIMITED

Drill Hole #D-7102, Composite Upper F  
Footage: 455.2' - 462.7'

SEAM F - Upper Section

The sample represents a full height of 7 feet above a 1 foot shale parting near the floor. The shale parting will probably form a competent floor. Roof contact is quite gradational from shale to coal.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.96%	22.77%	5.00%	65.26%	0.26%	8 <sup>1</sup> / <sub>2</sub>
			65.21		

\* Assuming 5% total moisture and  
7% Ash (air dried basis)



DENISON MINES LTD.

Drill Hole #D-7102, Composite Upper F  
Footage: 455.2' - 462.7'

T A B L E 1. Raw Sample Analyses

Ash	24.23%
Volatile Matter	19.64%
Residual Moisture	0.38%
Fixed Carbon	55.75%
F.S.I.	6½
B.T.U./lb.	10,900
Sulphur	0.35%

December 20, 1971

CYCLONE ENGINEERING SALES LTD.  
EDMONTON, ALBERTA, CANADA

DENISON MINES LTD.

Drill Hole #D-7102, Composite Upper F  
Footage: 455.2' - 462.7'

T A B L E 2. Size Consist of Head Sample

	<u>Weight %</u>
+ 28 mesh	84.11
28 x 100 mesh	11.78
- 100 mesh	<u>4.11</u>
Total	100.00

December 20, 1971.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON, ALBERTA, CANADA

DENISON MINES LTD.

Drill Hole #D-7102, Composite Upper F  
Footage: 455.2' - 462.7'

T A B L E 3. Head Analysis of + 28 Mesh

Ash	28.94%
Volatile Matter	19.38%
Fixed Carbon	52.38
F.S.I.	6

December 20, 1971.

CYCLONE ENGINEERING SAEES LTD.  
EDMONTON, ALBERTA, CANADA

DENISON MINES LTD.

Drill Hole #D-7102, Composite Upper F  
Footage: 455.2' - 462.7'

T A B L E 4: Weight % and Proximate Analyses of Specific Gravity Fractions: + 28 Mesh.

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.%
- 1.30	37.88	2.30	25.30	0.42	71.98
1.30 - 1.35	12.60	5.39	22.03	0.48	72.10
1.35 - 1.40	6.22	10.12	20.44	0.51	68.93
1.40 - 1.45	2.96	13.99	20.86	0.49	64.66
1.45 - 1.50	1.41	18.47	20.54	0.47	60.52
1.50 - 1.60	2.73	26.81	19.08	0.38	53.73
1.60 - 1.70	3.02	35.76	16.90	0.34	47.00
1.70 - 1.80	2.77	43.23	15.34	0.32	41.11
+ 1.80	30.41	73.14	9.89	0.49	16.48
<b>Total</b>	<b>100.00</b>	<b>28.19</b>	<b>19.00</b>	<b>0.45</b>	<b>52.36</b>

December 20, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #D-7102, Composite Upper F  
Footage: 455.2' - 462.7'

T A B L E 5: Weight %, Proximate Analyses and Free Swelling  
Index of Cumulative Floats: +28 Mesh

Sp. Gr.	Wt. %	Ash %	V.M.%	R.M.%	F.C.%	F.S.I.
- 1.30	37.88	2.30	25.30	0.42	71.98	9+
- 1.35	50.48	3.07	24.48	0.43	72.02	9
- 1.40	56.70	3.84	24.04	0.44	71.68	9
- 1.45	59.66	4.35	23.88	0.45	71.32	8½
- 1.50	61.07	4.67	23.81	0.45	71.07	8½
- 1.60	63.80	5.62	23.60	0.44	70.34	8
- 1.70	66.82	6.98	23.30	0.44	69.28	8
- 1.80	69.59	8.43	22.98	0.43	68.16	7
Total	100.00	28.19	19.00	0.45	52.36	6

December 20, 1971..

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #D-7102, Composite Upper F  
Footage: 455.2' - 462.7'

T A B L E 6. Washability Data: + 28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	37.88	2.30	37.88	2.30	100.00	28.19	18.94	2.30
1.30 - 1.35	12.60	5.39	50.48	3.07	62.12	43.84	44.18	5.39
1.35 - 1.40	6.22	10.12	56.70	3.84	49.52	53.63	53.59	10.12
1.40 - 1.45	2.96	13.99	59.66	4.35	43.30	59.87	58.18	13.99
1.45 - 1.50	1.41	18.47	61.07	4.67	40.34	63.24	60.36	18.47
1.50 - 1.60	2.73	26.81	63.80	5.62	38.93	64.86	62.44	26.81
1.60 - 1.70	3.02	35.76	66.82	6.98	36.20	67.73	65.31	35.76
1.70 - 1.80	2.77	43.23	69.59	8.43	33.18	70.64	68.20	43.23
+ 1.80	30.41	73.14	100.00	28.11	30.41	73.14	84.79	73.14
Total	100.00	28.19						

December 20, 1971

CYCLONE ENGINEERING SALES LTD.  
EDMONTON, ALBERTA, CANADA

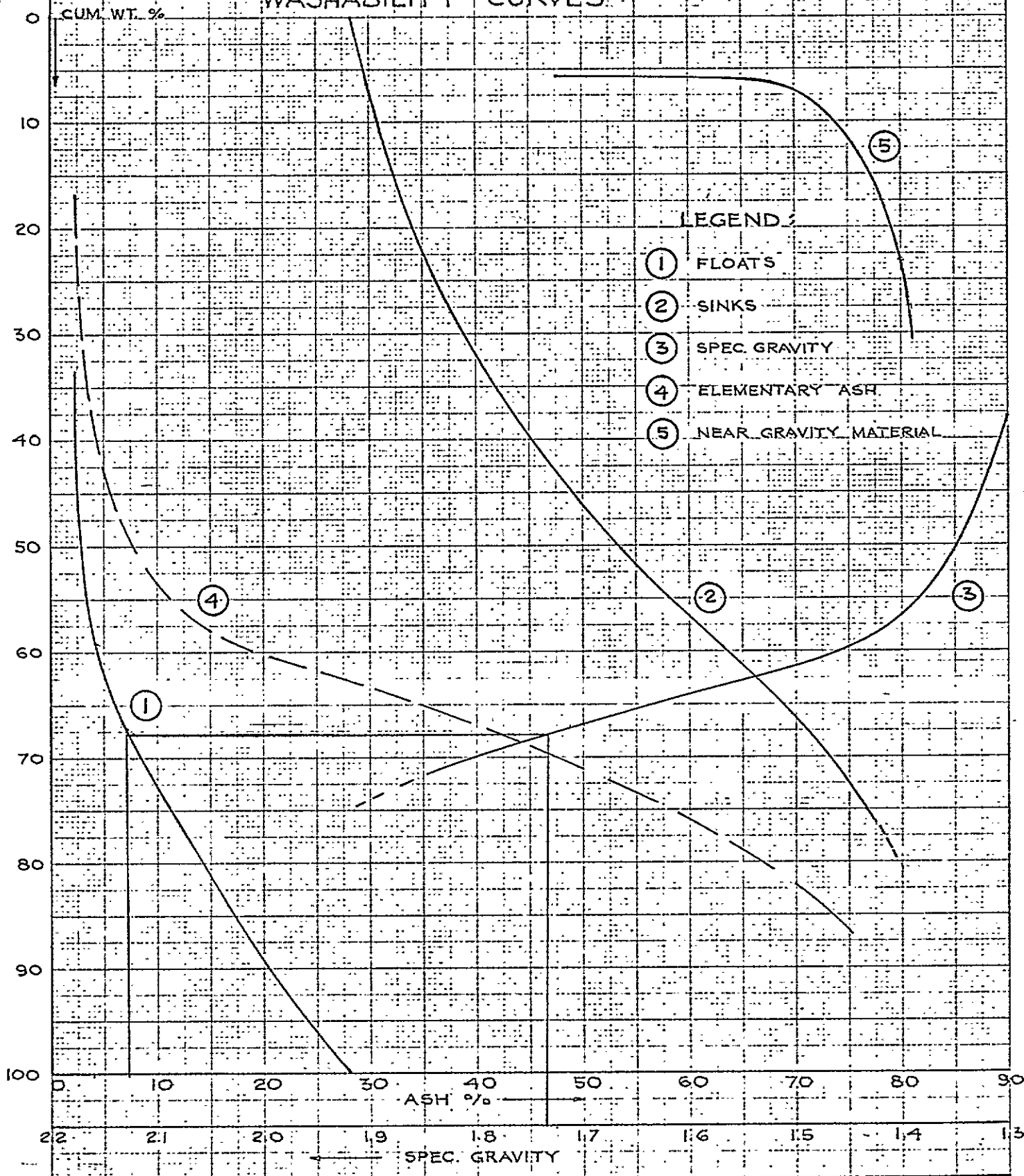
# DENISON MINES LTD.

DRILL HOLE # D-7102

COMPOSITE UPPER F

FOOTAGE 455.2' - 462.7'

## WASHABILITY CURVES



KE 10 X 10 TO THE CENTIMETER 46 1512  
 MADE IN U.S.A.  
 KEUFFEL & ESSER CO.

DENISON MINES LTD.

Drill Hole #D-7102, Composite Upper F  
Footage: 455.2' - 462.7'

T A B L E 7: Head Analysis of -28 Mesh

Ash	16.22%
Volatile Matter	21.43%
Fixed Carbon	62.35%
F.S.I.	7½

December 20, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



Denison Mines Ltd.

Drill Hole #D-7102, Composite Upper F  
Footage: 455.2' - 462.7'

T A B L E 8. Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions.

Sp. Gr.	Wt. %	Ash %	V.M.%	F.C.%	Cum. Wt. % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	75.35	3.75	24.85	71.40	75.36	3.75	9
1.40 - 1.60	6.71	16.40	20.26	63.34	82.07	4.78	9
1.60 - 1.80	3.75	37.07	16.75	46.18	85.82	6.20	8½
+ 1.80	14.18	71.92	11.69	16.39	100.00	15.51	8

December 20, 1971

CYCLONE ENGINEERING SALES LTD.  
EDMONTON, ALBERTA, CANADA

DENISON MINES LTD.

Drill Hole #D-7102, Composite Upper F  
Footage: 455.2' - 462.7'

T A B L E 9: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	85.84%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	8.19	59.21
Volatile Matter, %	23.60	
Fixed Carbon, %	68.21	
F.S.I.	8	

December 20, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #D-7102, Composite Upper F  
Footage: 455.2' - 462.7'

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for + 28 Mesh	1.44
Yield	61.50%
Weight of Floats at 1.44 in the Composite Clean Coal	79.13%
Weight of Flotation Concentrate in Composite Clean Coal	20.87%

T A B L E 10. Proximate Analysis of Clean Coal Composite

Ash	7.30%
Volatile Matter	23.87%
Residual Moisture	0.41%
Fixed Carbon	68.42%
F.S.I.	8½
Sulphur	0.27%

DENISON MINES LIMITED

Drill Hole #R7103, Composite F Seam

Footage: 700' - 716'

SEAM F - FULL SECTION

A complete seam section has been composited representing a height of 19 feet. Both the roof and floor are gradational from coal to shale. The roof contact grades to shale over a distance of 4.5 feet while the floor grades to shale in 1.5 feet.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL</u>	<u>MOIST</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.82%	22.84%	5.0%	65.34%	0.54%	8

\* Assuming 5% total moisture  
and 7% ash (air dried basis)

DENISON MINES LTD.

Drill Hole #R-7103, Composite F  
Footage: 700' - 716'

T A B L E 1: Raw Sample Analyses

Ash	7.11%
Volatile Matter	23.81%
Residual Moisture	0.97%
Fixed Carbon	68.11%
Free Swelling Index	8
B.T.U./lb.	14,340
Sulphur	0.56%

January 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7103, Composite F  
Footage: 700' - 716'

T A B L E 2: Weight % and Proximate Analyses of Specific Gravity Fractions

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.%
- 1.30	49.17	1.69	25.45	0.94	71.92
1.30 - 1.35	22.99	2.84	24.20	0.95	72.01
1.35 - 1.40	13.02	4.44	23.78	0.94	70.84
1.40 - 1.45	5.14	7.13	22.56	0.96	69.35
1.45 - 1.50	1.42	15.48	21.92	0.94	61.66
1.50 - 1.60	1.50	20.91	20.62	0.93	57.54
1.60 - 1.70	1.33	32.14	19.98	0.91	46.97
1.70 - 1.80	0.75	43.16	19.18	0.91	36.75
+ 1.80	4.68	71.11	10.26	0.80	17.83
Total	100.00	7.04	23.84	0.94	68.18

January 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7103, Composite F  
Footage: 700' - 716'

T A B L E 3: Weight %, Proximate Analyses and Free Swelling Index of Cumulative Floats

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I. *
- 1.30	49.17	1.69	25.45	0.94	71.92	9+
- 1.35	72.16	2.06	25.04	0.94	71.96	9
- 1.40	85.18	2.42	24.86	0.94	71.78	9
- 1.45	90.32	2.69	24.73	0.94	71.64	8½
- 1.50	91.74	2.89	24.68	0.94	71.49	8½
- 1.60	93.24	3.18	24.62	0.94	71.26	8½
- 1.70	94.57	3.58	24.55	0.94	70.93	8½
- 1.80	95.32	3.90	24.51	0.94	70.65	8½
Total	100.00	7.04	23.84	0.94	68.18	8

\* F.S.I. by actual determination.

January 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

## DENISON MINES LTD.

Drill Hole #R-7103, Composite F  
Footage: 700' - 716'

T A B L E 4: Washability Data

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
-1.30	49.17	1.69	49.17	1.69	100.00	7.04	24.58	1.69
1.30 - 1.35	22.99	2.84	72.16	2.06	50.83	12.22	60.67	2.84
1.35 - 1.40	13.02	4.44	85.18	2.42	27.84	19.96	78.67	4.44
1.40 - 1.45	5.14	7.13	90.32	2.69	14.82	33.60	87.75	7.13
1.45 - 1.50	1.42	15.48	91.74	2.89	9.68	47.65	91.03	15.48
1.50 - 1.60	1.50	20.91	93.24	3.18	8.26	53.18	92.49	20.91
1.60 - 1.70	1.33	32.14	94.57	3.58	6.76	60.34	93.91	32.14
1.70 - 1.80	0.75	43.16	95.32	3.90	5.43	67.25	94.94	43.16
+ 1.80	4.68	71.11	100.00	7.04	4.68	71.11	97.66	71.11
Total	100.00	7.04						

January 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



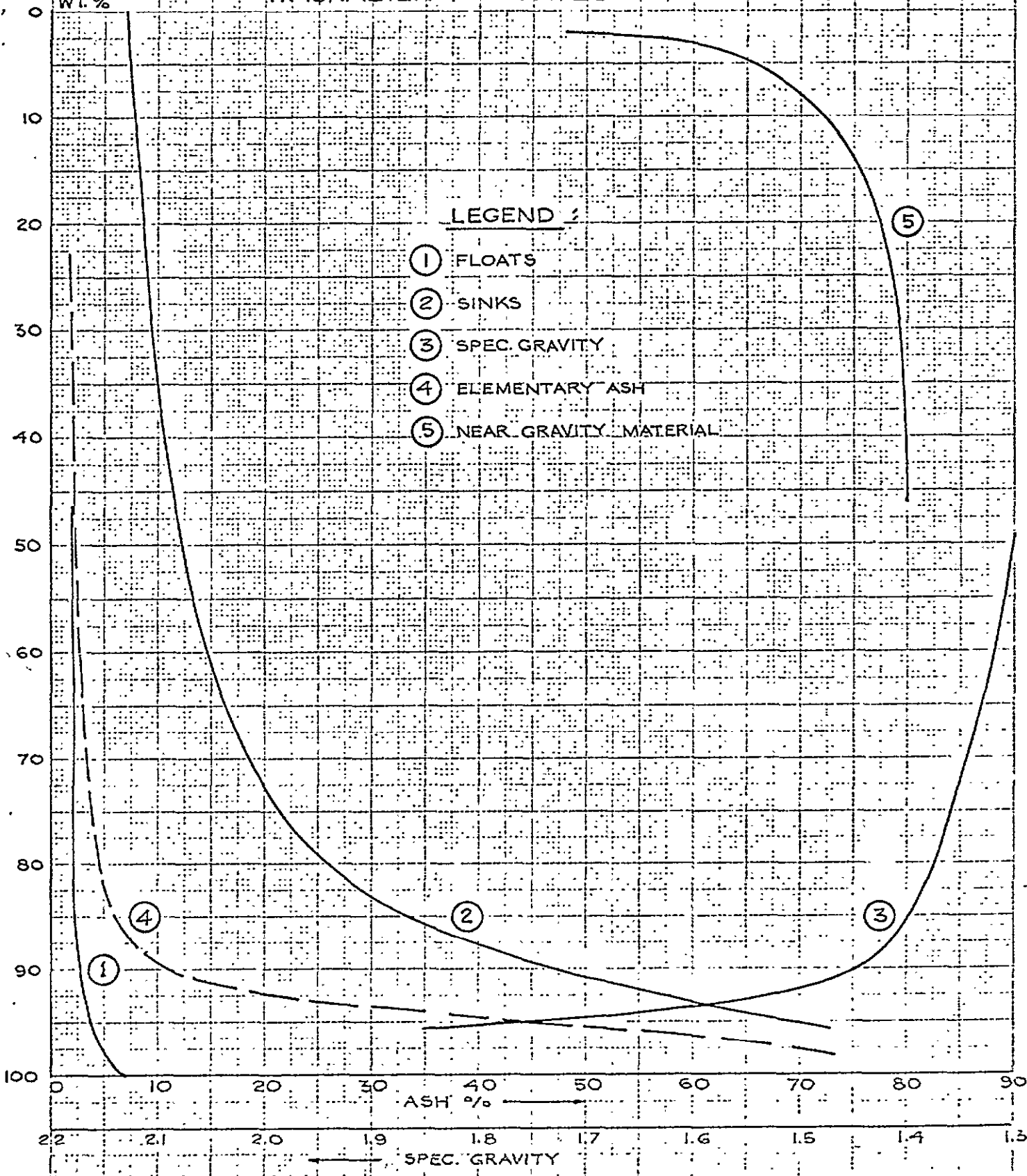
# DENISON MINES LTD.

DRILL HOLE # R-7103 COMPOSITE F

FOOTAGE 700' - 716'

## WASHABILITY CURVES

CUM.  
WT. %



MADE IN U.S.A.  
 KEUFFEL & ESSER CO.  
 1 1/2 X 2 1/2 IN.  
 46 1512  
 10 X 10 TO THE CENTIMETER

CYCLONE ENGINEERING SALES LTD.  
 EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole #R-7103, Composite F  
Footage: 700' - 716'

T A B L E 5: Analysis of Clean Coal at 7% Ash

Ash	7.11%
Volatile Matter	23.81%
Residual Moisture	0.97%
Fixed Carbon	68.11%
Free Swelling Index	8
B.T.U./lb.	14,340
Sulphur	0.56%

Note: Same as Table 1

January 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7103, Composite F  
Footage: 700' - 716'

T A B L E 6: Screen Analyses at 28 Mesh

	<u>Weight %</u>
+ 28 Mesh	43.63%
- 28 Mesh	<u>56.37%</u>
Total	<u>100.00</u>

T A B L E 7: Head Analyses of Minus 28 Mesh

Ash	6.78%
Volatile Matter	23.90%
Residual Moisture	0.95%
Fixed Carbon	68.37%
Free Swelling Index	8
Sulphur	0.68%

January 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.,

Drill Hole #R-7103, Composite F  
Footage: 700' - 716'

T A B L E 8: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	91.46%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Floats</u>	<u>Tailings</u>
Ash, %	3.94%	34.03%
Volatile Matter, %	24.05	
Residual Moisture, %	0.95	
Fixed Carbon, %	71.06	
Free Swelling Index	8½	
Sulphur, %	0.56	

January 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LIMITED

Drill Hole #D7104, Composite F Seam  
Footage: 451.0 - 457.7 (210 - 212)

SEAM F - FULL SECTION

The composite represents a full seam height of 6.5 feet. Roof and floor contacts are slightly gradational but this will not pose any mining problems. Roof and floor are competent shale units.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL</u>	<u>MOIST</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.39%	22.60%	5.0%	66.0%	0.26%	8

\* Assuming 5% total moisture and  
7% ash (air dried basis)

DENISON MINES LTD.

Drill Hole #D-7104, Composite F  
Footage: 451.0' - 457.7' (210 - 212)

T A B L E 1: Raw Sample Analysis

Ash	11.80%
Volatile Matter	23.25%
Residual Moisture	1.20%
Fixed Carbon	63.75%
F.S.I.	7½
B.T.U./lb.	13,430
Sulphur	0.32%

January 26, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #D-7104, Composite F  
Footage: 451.0' - 457.7' (210 - 212)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+28 Mesh	69.50
28 x 100 Mesh	21.71
-100 Mesh	<u>8.79</u>
Total	<u>100.00</u>

January 26, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #D-7104, Composite F  
Footage: 451.0' - 457.7' (210 - 212)

T A B L E 3: Head Analysis of +28 Mesh

Ash	11.91%
Volatile Matter	23.09%
Residual Moisture	1.12%
Fixed Carbon	63.88%
F.S.I.	7½

January 26, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole #D-7104, Composite F  
Footage: 451.0' - 457.7' (210 - 212)

T A B L E 4: Weight % and Proximate Analyses of Specific Gravity Fractions: +28 Mesh

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.%
- 1.30	65.38	1.97	25.38	1.12	71.53
1.30 - 1.35	13.20	4.31	22.39	1.04	72.26
1.35 - 1.40	3.44	7.89	21.69	1.09	69.33
1.40 - 1.45	1.31	12.19	20.90	1.21	65.70
1.45 - 1.50	0.52	17.93	20.42	1.16	60.49
1.50 - 1.60	0.70	21.79	20.09	1.07	57.05
1.60 - 1.70	0.49	28.10	19.76	1.11	51.03
1.70 - 1.80	0.46	37.63	19.34	1.17	41.86
+ 1.80	14.50	65.93	11.63	1.21	21.23
<b>Total</b>	<b>100.00</b>	<b>12.40</b>	<b>22.69</b>	<b>1.12</b>	<b>63.79</b>

DENISON MINES LTD.

Drill Hole #D-7104, Composite F  
 Footage: 451.0' - 457.7' (210 - 212)

T A B L E 5: Weight %, Proximate Analyses and Free Swelling Index of Cumulative Floats: +28 Mesh

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I.
- 1.30	65.38	1.97	25.38	1.12	71.53	9+
- 1.35	78.58	2.36	24.88	1.11	71.65	9
- 1.40	82.02	2.59	24.74	1.11	71.56	8½
- 1.45	83.33	2.75	24.68	1.11	71.46	8½
- 1.50	83.85	2.84	24.66	1.11	71.39	8
- 1.60	84.55	3.00	24.62	1.11	71.27	8
- 1.70	85.04	3.14	24.59	1.11	71.16	8
- 1.80	85.50	3.33	24.56	1.11	71.00	8
Total	100.00	12.40	22.69	1.12	63.79	7½

DENISON MINES LTD.

Drill Hole #D-7104, Composite F  
Footage: 451.0' - 457.7' (210 - 212)

T A B L E 6: Washability Data: +28 Mesh

Sp. Gr.	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	65.38	1.97	65.38	1.97	100.00	12.40	32.69	1.97
1.30 - 1.35	13.20	4.31	78.58	2.36	34.62	32.10	71.98	4.31
1.35 - 1.40	3.44	7.89	82.02	2.59	21.42	49.23	80.30	7.89
1.40 - 1.45	1.31	12.19	83.33	2.75	17.98	57.15	82.68	12.19
1.45 - 1.50	0.52	17.93	83.85	2.84	16.67	60.68	83.59	17.93
1.50 - 1.60	0.70	21.79	84.55	3.00	16.15	62.06	84.20	21.79
1.60 - 1.70	0.49	28.10	85.04	3.14	15.45	63.88	84.79	28.10
1.70 - 1.80	0.46	37.63	85.50	3.33	14.96	65.05	85.27	37.63
+ 1.80	14.50	65.93	100.00	12.40	14.50	65.93	90.75	65.93
Total	100.00	12.40						

FIGURE

COMPANY : Denison Mines Ltd.

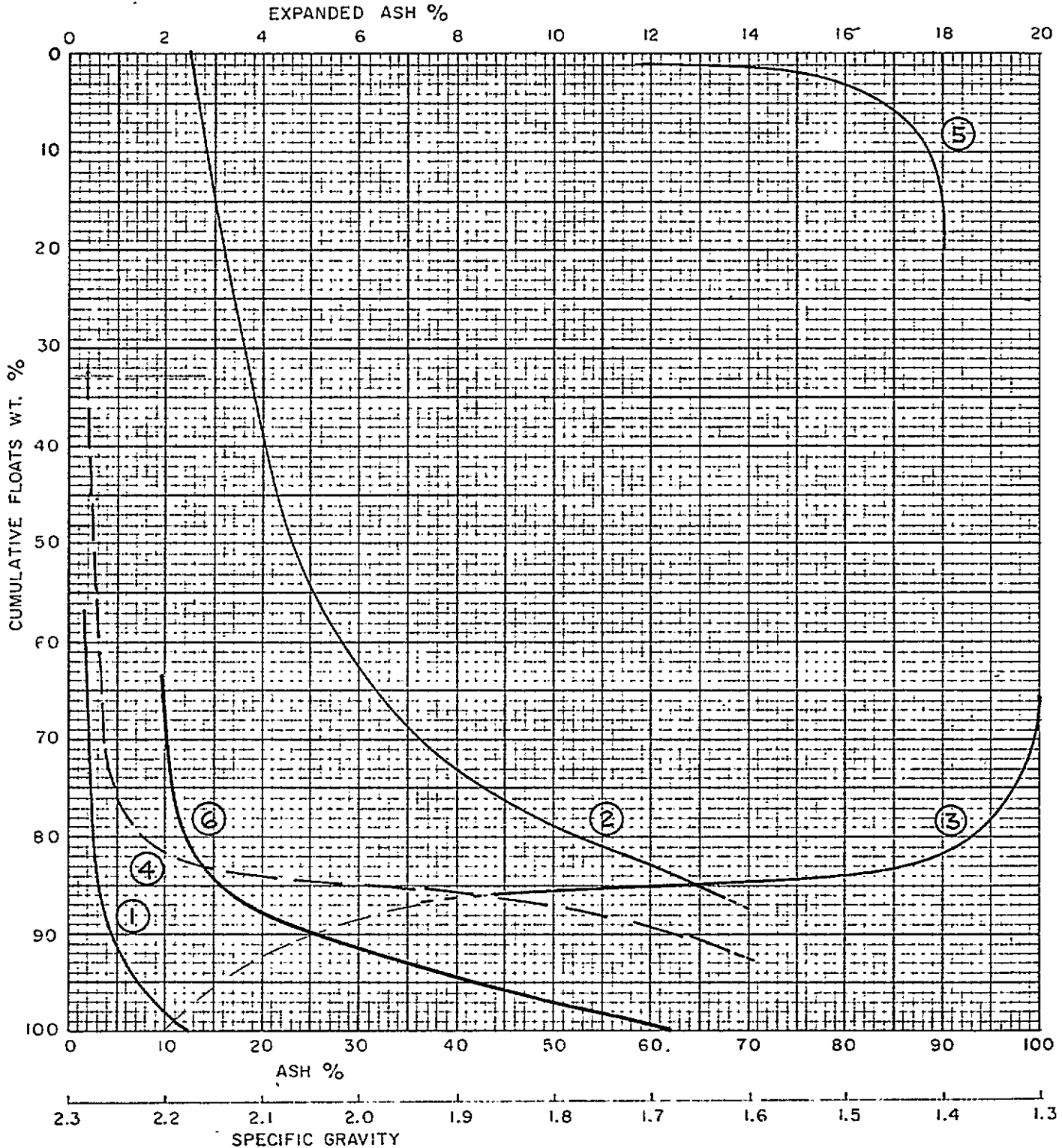
DRILL HOLE # D-7104, Seam F

FOOTAGE : 451.0' - 457.7' (210 - 212)

WASHABILITY CURVES +28 Mesh

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS



DATE : January 26, 1972.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole #D-7104, Composite F  
Footage: 451.0' - 457.7' (210 - 212)

T A B L E 7: Head Analysis of -28 Mesh

Ash	10.05%
Volatile Matter	23.19%
Residual Moisture	1.56%
Fixed Carbon	65.20%
F.S.I.	8½

January 26, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #D-7104, Composite F  
 Footage: 451.0' - 457.7' (210 - 212)

T A B L E 8: Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions

Sp. Gr.	Wt. %	Ash %	V.M. %	F.C. %	Cum. Wt. % Floats	Cum. Ash	Cum. F.S.I.
- 1.40	86.67	1.96	25.32	72.72	86.67	1.96	9+
1.40 - 1.60	3.08	14.09	19.31	66.60	89.75	2.37	9
1.60 - 1.80	0.93	35.97	17.15	46.88	90.68	2.72	8½
+ 1.80	9.32	64.12	12.27	23.61	100.00	8.44	8½
Total	100.00	8.44	23.84	67.72			

DENISON MINES LTD.

Drill Hole #D-7104, Composite F  
Footage: 451.0' - 457.7' (210 - 212)

T A B L E 9: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	93.10%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	5.96	56.33
Residual Moisture, %	1.32	
Volatile Matter, %	24.68	
Fixed Carbon, %	68.04	
F.S.I.	8½	
Sulphur, %	0.38	

January 26, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #D-7104, Composite F  
Footage: 451.0' - 457.7' (210 - 212)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for +28 Mesh	2.11
Yield	92.50%
Weight % of Floats at 2.11 in the Composite Clean Coal	69.50%
Weight % of Flotation Concentrate in Composite Clean Coal	30.50%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	6.65%
Volatile Matter	23.51%
Residual Moisture	1.19%
Fixed Carbon	68.65%
F.S.I.	8
Sulphur	0.27%



DENISON MINES LIMITED

Drill Hole #R7105, Composite F  
Footage: 600' - 607'

SEAM F - FULL SECTION

Full seam composite totalling 6.4 feet. Roof is a shale unit with a sharp coal to rock contact. Floor is a 1.2 foot shale parting.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>MOIST.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.70%	23.09%	5.0%	65.21%	0.32%	2

\* Assuming 5% total moisture and 7% ash (air dried basis).

DENISON MINES LTD.

Drill Hole #R-7105, Composite F  
Footage: 600' - 607'

T A B L E 1: Raw Sample Analyses

Ash	31.63%
Volatile Matter	18.72%
Residual Moisture	0.80%
Fixed Carbon	48.85%
F.S.I.	1
B.T.U./lb.	10,490
Sulphur.	0.47%

February 10, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7105, Composite F  
Footage: 600' - 607'

T A B L E 2: Weight % and Proximate Analyses of Specific Gravity Fractions

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.%
- 1.30	12.11	1.93	25.30	0.82	71.95
1.30 - 1.35	9.46	2.98	24.74	0.71	71.57
1.35 - 1.40	6.00	5.55	24.20	0.76	69.49
1.40 - 1.45	8.45	7.48	23.78	0.76	67.98
1.45 - 1.50	6.59	12.48	23.24	0.75	63.53
1.50 - 1.55	4.93	15.02	22.92	0.73	61.33
1.55 - 1.60	2.19	23.89	21.04	0.79	54.28
1.60 - 1.70	7.69	28.75	19.93	0.78	50.54
1.70 - 1.80	14.33	39.45	19.48	0.82	40.25
v + 1.80	28.25	74.39	12.54	0.85	12.22
Total	100.00	32.45	19.85	0.80	46.90

February 10, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7105, Composite F  
Footage: 600' - 607'

T A B L E 3: Weight %, Proximate Analyses and Free Swelling Index of Cumulative Floats

Sp. Gr.	Weight %	Ash %	VM.%	R.M.%	F.C.%	F.S.I.*
- 1.30	12.11	1.93	25.30	0.82	71.95	9+
- 1.35	21.57	2.39	25.05	0.77	71.79	9
- 1.40	27.57	3.08	24.87	0.77	71.28	8
- 1.45	36.02	4.11	24.61	0.77	70.51	6
- 1.50	42.61	5.41	24.40	0.76	69.43	3½
- 1.55	47.54	6.40	24.25	0.76	68.59	3
- 1.60	49.73	7.17	24.11	0.76	67.96	2
- 1.70	57.42	10.06	23.55	0.76	65.63	1½
- 1.80	71.75	15.93	22.73	0.78	60.56	1
Total	100.00	32.45	19.85	0.80	46.90	1

\* F.S.I. by actual determination.

DENISON MINES LTD.

Drill Hole #R-7105, Composite F  
Footage: 600' - 607'

T A B L E 4: Washability Data

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	12.11	1.93	12.11	1.93	100.00	32.45	6.05	1.93
1.30 - 1.35	9.46	2.98	21.57	2.39	87.89	36.65	16.84	2.98
1.35 - 1.40	6.00	5.55	27.57	3.08	78.43	40.71	24.57	5.55
1.40 - 1.45	8.45	7.48	36.02	4.11	72.43	43.62	31.80	7.48
1.45 - 1.50	6.59	12.48	42.61	5.41	63.98	48.40	39.32	12.48
1.50 - 1.55	4.93	15.02	47.54	6.40	57.39	52.52	45.07	15.02
1.55 - 1.60	2.19	23.89	49.73	7.17	52.46	56.05	48.64	23.89
1.60 - 1.70	7.69	28.75	57.42	10.06	50.27	57.45	53.57	28.75
1.70 - 1.80	14.33	39.45	71.75	15.93	42.58	62.63	64.58	39.45
+ 1.80	28.25	74.39	100.00	32.45	28.25	74.39	85.88	74.39
<b>Total</b>	<b>100.00</b>	<b>32.45</b>						

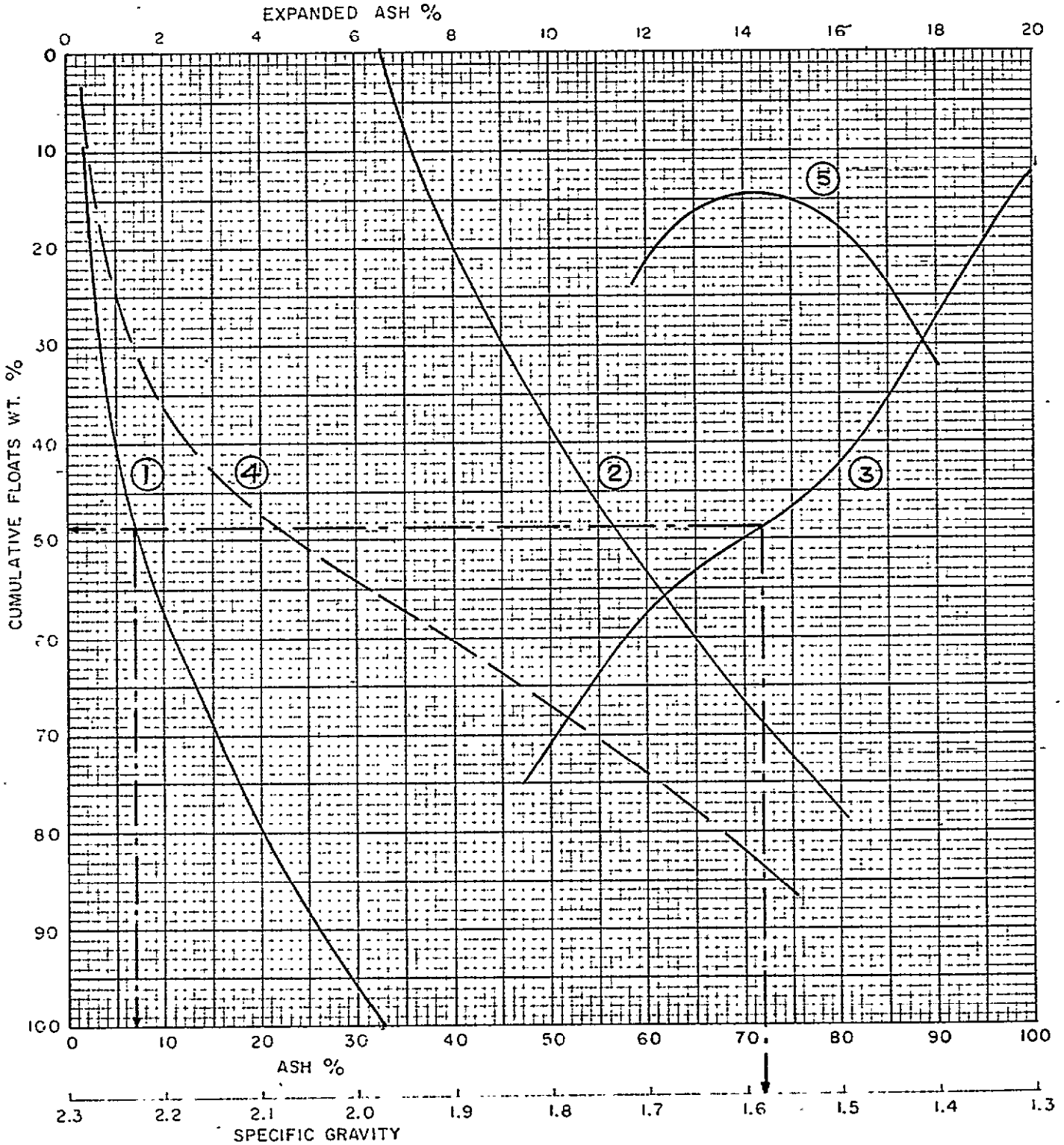
FIGURE

COMPANY Denison Mines Ltd.  
DRILL HOLE # R-7105, Composite F  
FOOTAGE 600' - 607'

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE : February 14, 1972.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole #R-7105, Composite F  
Footage: 600' - 607'

T A B L E 5: Analysis of Clean Coal at 7% Ash

Yield	48.50%
Floats Gravity	1.59
Ash	7.00%
Volatile Matter	24.12%
Residual Moisture	0.76%
Fixed Carbon	68.12%
F.S.I.	2
Sulphur	0.34%

February 14, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7105, Composite F  
Footage: 600' -607'

T A B L E 6: Screen Analysis at 28 Mesh

	<u>Weight %</u>
+ 28 Mesh	45.13
- 28 Mesh	<u>54.87</u>
Total	<u>100.00</u>

T A B L E 7: Head Analyses of Minus 28 Mesh

Ash	30.81%
Volatile Matter	19.02%
Residual Moisture	0.62%
Fixed Carbon	49.55%
F.S.I.	1½
Sulphur	0.48%



DENISON MINES LTD.

Drill Hole #R-7105, Composite F  
Footage: 600' - 607'

T A B L E 8: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	0 1.5 minutes
Flotation Recovery	57.63%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Floats</u>	<u>Tailings</u>
Ash, %	11.07	55.73
Volatile Matter, %	22.35	
Residual Moisture, %	0.71	
Fixed Carbon, %	65.87	
F.S.I.	4½	
Sulphur, %	0.54	

February 10, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LIMITED

Drill Hole #R - 7106, Composite B  
Footage - 588' - 596' (350 - 357)

SEAM F - UPPER SECTION

The composite represents the top 7.4 feet of the seam. The roof is a gradational contact. The bottom of the composite was chosen at the top of a 12' shale parting which is 2.5 feet up from the floor.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL</u>	<u>MOIST</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.70%	22.37%	5%	65.92%	0.32%	8½

\* Assuming 5% total moisture and  
7% ash (air dried basis)

DENISON MINES LTD.

Drill Hole #R-7106, Composite B  
Footage - 588' - 596' (350 - 357 )

T A B L E 1: Raw Sample Analyses

Ash	16.65%
Volatile Matter	21.23%
Residual Moisture	0.65%
Fixed Carbon	61.47%
Free Swelling Index	6
B.T.U./lb.	12,680
Sulphur	0.34%

October 28, 1971

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #R-7106, Composite B  
Footage - 588' - 596' (350 - 357 )

T A B L E 2: Weight % and Proximate Analyses of Specific Gravity Fractions.

Sp.Gr.	Weight %	Ash %	V.M. %	R.M. %	F.C. %
- 1.30	32.82	1.98	26.58	0.65	70.79
1.30 - 1.35	29.48	3.29	23.10	0.62	72.99
1.35 - 1.40	10.87	7.26	22.12	0.73	69.89
1.40 - 1.45	6.18	11.73	20.66	0.75	66.86
1.45 - 1.50	3.61	17.19	19.75	0.60	62.46
1.50 - 1.60	2.93	24.18	18.29	0.65	56.88
1.60 - 1.70	1.60	33.45	16.70	0.69	49.16
1.70 - 1.80	1.87	42.92	16.05	0.63	40.40
+ 1.80	15.64	69.47	12.95	0.68	16.90
Total	100.00	16.50	21.90	0.66	60.94

October 28, 1971

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #R-7106, Composite B  
Footage - 588' - 596' (350 - 357 )

T A B L E 3: Weight %, Proximate Analyses and Free Swelling Index of Cumulative Floats.

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I.*
- 1.30	32.82	1.98	26.58	0.65	70.79	9+
- 1.35	57.30	2.54	25.09	0.64	71.73	9
- 1.40	68.17	3.29	24.62	0.65	71.44	8½
- 1.45	74.35	3.99	24.29	0.66	71.06	8½
- 1.50	77.96	4.60	24.08	0.66	70.66	8½
-1.60	80.89	5.31	23.87	0.66	70.16	8½
- 1.70	82.49	5.86	23.73	0.66	69.75	8½
- 1.80	84.36	6.68	23.56	0.66	69.10	8½
Sample	100.00	16.50	21.90	0.66	60.94	6

\* by actual determination.

October 28, 1971

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #R-7106, Composite B  
Footage: 588' - 596' (350 - 357 )

T A B L E 4. Washability Data.

Sp. Gr.	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	32.82	1.98	32.82	1.98	100.00	16.50	16.41	1.98
1.30 - 1.35	24.48	3.29	57.30	2.54	67.18	23.60	45.06	3.29
1.35 - 1.40	10.87	7.26	68.17	3.29	42.70	35.24	62.73	7.26
1.40 - 1.45	6.18	11.73	74.35	3.99	31.83	44.79	71.26	11.73
1.45 - 1.50	3.61	17.19	77.96	4.60	25.65	52.76	76.15	17.19
1.50 - 1.60	2.93	24.18	80.89	5.31	22.04	58.58	79.42	24.18
1.60 - 1.70	1.60	33.45	82.49	5.86	19.11	63.86	81.69	33.45
1.70 - 1.80	1.87	42.92	84.36	6.68	17.51	66.63	83.42	42.92
+ 1.80	15.64	69.47	100.00	16.50	15.64	69.47	92.18	69.47
Total	100.00	16.50						

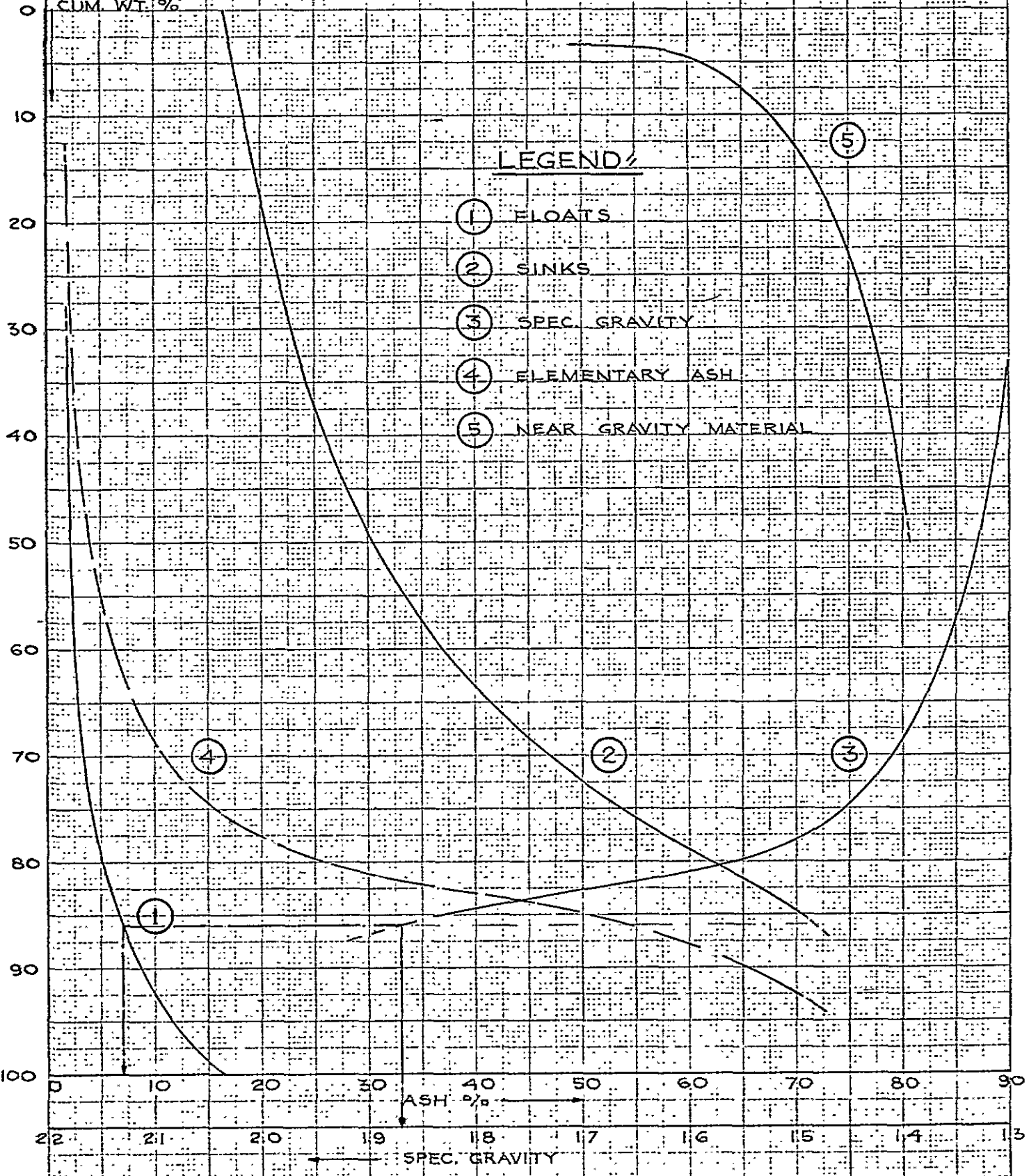
October 28, 1971

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

# DENISON MINES LTD.

DRILL HOLE # R-706 COMPOSITE - B  
FOOTAGE 588' - 596' (350 - 357')

## WASHABILITY CURVES



KE 10 X 10 TO THE CENTIMETER 46 1512  
 MADE IN U.S.A.  
 KEUFFEL & ESSER CO.

DENISON MINES LTD.

Drill Hole #R-7106, Composite B  
Footage - 588' - 596' (350 - 357)

T A B L E 5: Analysis of Clean Coal at 7% Ash

Yield	86 %
Floats Gravity	1.87%
Ash	7.0 %
Volatile Matter	23.4%
Residual Moisture	0.66%
Fixed Carbon	68.94%
F.S.I.	8½
Sulphur	0.32%

October 28, 1971

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada



DENISON MINES LTD.

Drill Hole #R-7106, Composite B  
Footage - 588' - 596' (350 - 357 )

T A B L E 6: Screen Analyses at 28 Mesh.

	<u>Weight %</u>
+ 28 mesh	39.49
- 28 mesh	60.51
Total	100.00

T A B L E 7: Head Analyses of Minus 28 Mesh.

Ash	11.92%
Volatile Matter	22.74%
Residual Moisture	0.65%
Fixed Carbon	64.69%
Free Swelling Index	7½

October 28, 1971

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #R-7106, Composite B  
Footage - 588' - 596' (350 - 357)

T A B L E 8: Froth Flotation Test on Minus 28 Mesh.

Solids by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	80.91%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Floats</u>	<u>Tailings</u>
Ash, %	4.91	41.51
Volatile Matter, %	24.21	
Residual Moisture, %	0.65	
Fixed Carbon, %	70.23	
Sulphur, %	0.32	
F.S.I.	8	

October 28, 1971 .

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LIMITED

Drill Hole R-7106, Composite C  
Footage: 596' - 599' (358 - 360)

SEAM F

This sample represents 2.3 feet in the bottom section of Seam F. The 1 ft. shale parting included here may form a possible floor.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.71%	23.05%	5%	65.24%	0.26%	9+

\*Assuming 5% moisture  
and 7% ash (dry basis)

DENISON MINES LTD.

Drill Hole #R-7106, Composite C  
Footage: 596' - 599' (358 - 360)

T A B L E 1: Raw Sample Analyses

Ash	64.04%
Volatile Matter	12.03%
Residual Moisture	0.90%
Fixed Carbon	23.03%
Free Swelling Index	1
B.T.U./lb.	4,390
Sulphur	0.33%

November 22, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7106, Composite C  
Footage: 596' - 599' (358 - 360)

T A B L E 2: Weight % and Proximate Analyses of Specific Gravity Fractions

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.%
- 1.30	10.81	1.60	25.62	0.93	71.85
1.30 - 1.35	5.38	4.47	24.02	0.87	70.64
1.35 - 1.40	2.78	10.47	23.15	1.01	65.37
1.40 - 1.45	1.61	18.18	21.53	1.07	59.22
1.45 - 1.50	2.00	20.78	20.74	0.98	57.50
1.50 - 1.60	2.33	27.83	19.01	0.91	52.25
1.60 - 1.70	1.30	31.98	17.83	0.83	49.36
1.70 - 1.80	0.78	44.05	16.46	0.90	38.59
+ 1.80	73.01	86.00	7.54	0.92	5.54
Total	100.00	65.61	11.77	0.92	21.70

November 22, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7106, Composite C  
Footage: 596' - 599' (358 - 360)

T A B L E 3: Weight %, Proximate Analyses and Free Swelling Index of Cumulative Floats

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I. *
- 1.30	10.81	1.60	25.62	0.93	71.85	9+
-1.35	16.19	2.55	25.09	0.91	71.45	9+
-1.40	18.97	3.71	24.80	0.92	70.57	9+
- 1.45	20.58	4.85	24.55	0.94	69.66	9+
- 1.50	22.58	6.26	24.21	0.94	68.59	9+
= 1.60	24.91	8.27	23.72	0.94	67.07	9+
- 1.70	26.21	9.45	23.43	0.93	66.19	9+
- 1.80	26.99	10.45	23.23	0.93	65.39	9
Total	100.00	65.61	11.77	0.92	21.70	1

\* F.S.I. by actual determination.

November 22, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7106, Composite C  
Footage: 596' - 599' (358 - 360)

T A B L E 4: Washability Data

Sp. Gr.	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	10.81	1.60	10.81	1.60	100.00	65.61	5.40	1.60
1.30 - 1.35	5.38	4.47	16.19	2.55	89.19	73.37	13.50	4.47
1.35 - 1.40	2.78	10.47	18.97	3.71	83.81	77.79	17.58	10.47
1.40 - 1.45	1.61	18.18	20.58	4.85	81.03	80.10	19.77	18.18
1.45 - 1.50	2.00	20.78	22.58	6.26	79.42	81.35	21.58	20.78
1.50 - 1.60	2.33	27.83	24.91	8.27	77.42	82.92	23.65	27.83
1.60 - 1.70	1.30	31.98	26.21	9.45	75.09	84.63	26.56	31.98
1.70 - 1.80	0.78	44.05	26.99	10.45	73.79	85.56	26.60	44.05
+ 1.80	73.01	86.00	100.00	65.61	73.01	86.00	63.49	86.00
Total	100.00	65.61						

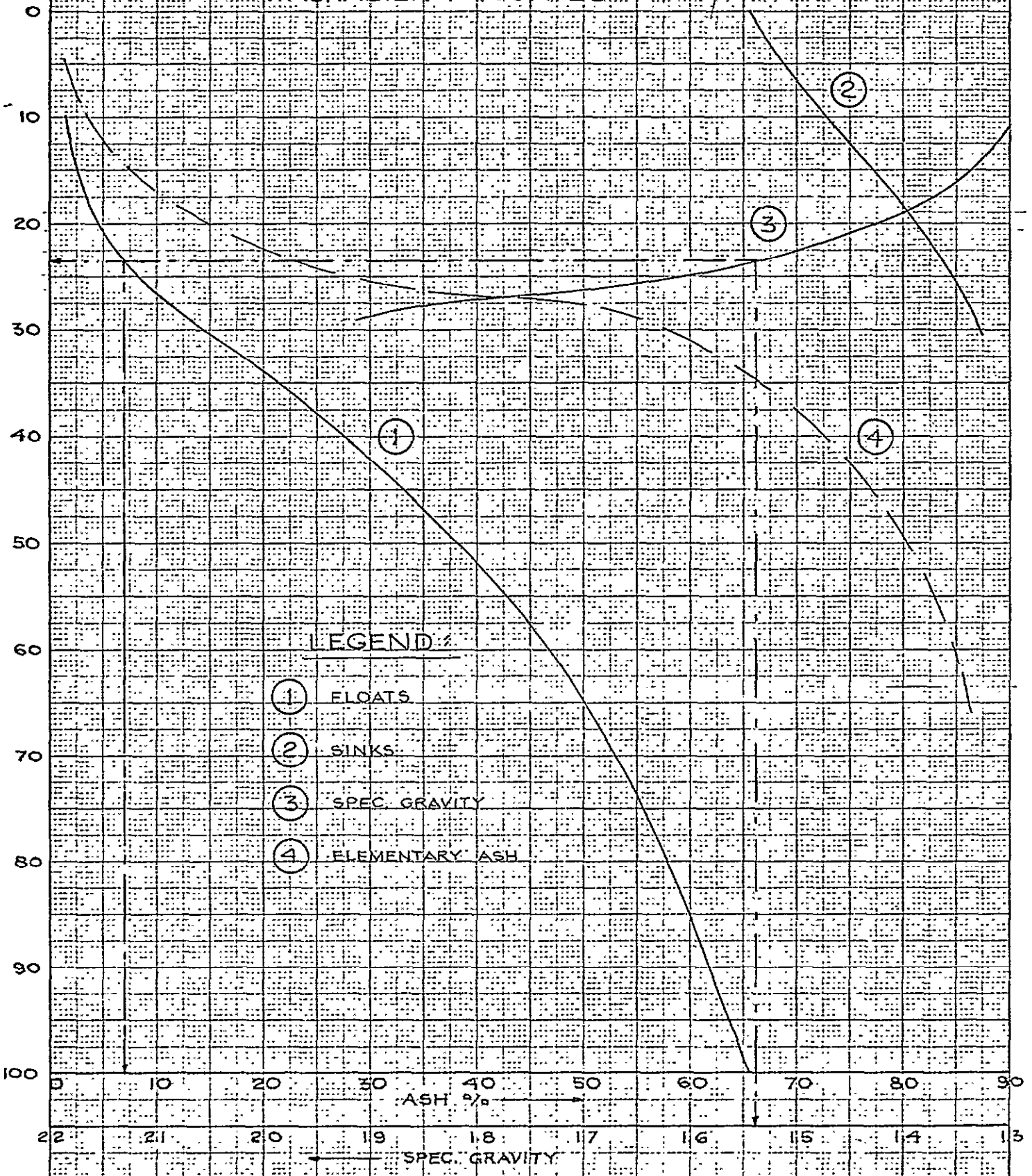
November 22, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

# DENISON MINES LTD.

DRILL HOLE # R-7106 COMPOSITE C  
FOOTAGE 596' - 599' (358 - 360)

## WASHABILITY CURVES



### LEGEND:

- ① FLOATS
- ② SINKS
- ③ SPEC. GRAVITY
- ④ ELEMENTARY ASH

KE 10 X 10 TO THE CENTIMETER 46 1512  
MADE IN U.S.A.  
 KLUFFEL & ESSER CO.



DENISON MINES LTD.

Drill Hole #R-7106, Composite C  
Footage: 596' - 599' (358 - 360)

T A B L E 5: Analysis of Clean Coal at 7% Ash

Yield	23.5%
Floats Gravity	1.54%
Ash	7.0%
Volatile Matter	24.03%
Residual Moisture	0.94%
Fixed Carbon	68.03%
Free Swelling Index	9+
Sulphur	0.26%

November 22, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7106; Composite C  
Footage: 596' - 599' (358 - 360)

T A B L E 6:      Screen Analyses at 28 Mesh

	<u>Weight %</u>
+ 28 Mesh	47.25
- 28 Mesh	<u>52.48</u>
Total	<u>100.00</u>

T A B L E 7:      Head Analyses of Minus 28 Mesh

Ash	53.54%
Volatile Matter	14.28%
Residual Moisture	0.71%
Fixed Carbon	31.47%
Free Swelling Index	4

DENISON MINES LTD.

Drill Hole #R-7106, Composite C  
Footage: 596' - 599' (358 - 360)

T A B L E 8: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	44.29%
Reagents	MIBC & Kerosene

ANALYSES OF THE PRODUCTS

	<u>Floats</u>	<u>Tailings</u>
Ash %	24.43	75.56
Volatile Matter %	19.24	
Residual Moisture %	0.71	
Fixed Carbon %	55.62	
Free Swelling Index	8	
Sulphur %	0.54	

November 22, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LIMITED

Drill Hole #R 7107, Composite A  
Footage: 96' - 105' (501 - 509)

SEAM F

The sample sections composited represent a complete seam including a 12" shale parting 24" up from the floor. The shale floor is a relatively sharp boundary between rock and coal. The roof shows a graded boundary with a 10" coal parting riding above the main seam section. Total seam thickness composited was 9.8 feet.

AS RECEIVED \* PRODUCT

<u>ASH</u>	<u>VOL</u>	<u>MOIST</u>	<u>F.L.</u>	<u>S.</u>	<u>F.S.I.</u>
6.7%	22.97%	5%	65.36%	.27%	8½

\* Assuming 5% total moisture and  
7% ash (air dried basis)

DENISON MINES LTD.

Drill Hole #R-7107, Composite A  
Footage: 96' - 105' (501 - 509)

T A B L E 1: Raw Sample Analyses

Ash	20.38%
Volatile Matter	22.05%
Residual Moisture	0.70%
Fixed Carbon	56.87%
Free Swelling Index	7½
B.T.U./lb.	12,150
Sulphur	0.40%

November 4, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7107, Composite A  
Footage: 96' - 105' (501 - 509)

T A B L E 2: Weight % and Proximate Analyses of Specific Gravity Fractions

Sp. Gr.	Weight %	Ash %	V.M. %	R.M.%	F.C.%
- 1.30	38.92	2.31	25.96	0.60	71.13
1.30 - 1.35	26.83	4.00	24.41	0.68	70.91
1.35 - 1.40	9.83	8.23	23.62	0.71	67.44
1.40 - 1.45	1.54	14.35	21.64	0.53	63.48
1.45 - 1.50	1.46	18.63	21.58	0.62	59.17
1.50 - 1.60	2.08	23.77	21.47	0.83	53.93
1.60 - 1.70	0.77	31.49	21.27	0.70	46.54
1.70 - 1.80	0.49	40.13	19.53	0.68	39.66
+ 1.80	18.08	85.84	7.90	0.85	5.41
Total	100.00	19.73	21.76	0.68	57.83

DENISON MINES LTD.

DRILL Hole #R-7107, Composite A  
Footage: 96' - 105' (501 - 509)

T A B L E 3: Weight %, Proximate Analyses and Free Swelling Index of Cumulative Floats

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M.%	F.C.%	F.S.I.
- 1.30	38.92	2.31	25.96	0.60	71.13	9+
- 1.35	65.75	3.00	25.33	0.63	71.04	9+
- 1.40	75.58	3.68	25.11	0.64	70.57	9
- 1.45	77.12	3.89	25.04	0.64	70.43	9
- 1.50	78.58	4.17	24.97	0.64	70.22	9
- 1.60	80.66	4.67	24.88	0.64	69.81	9
- 1.70	81.43	4.93	24.85	0.65	69.57	9
- 1.80	81.92	5.14	24.82	0.65	69.39	8½
Total	100.00	19.73	21.76	0.68	57.83	7½

November 4, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7107, Composite A  
Footage: 96' - 105' (501 - 509)

T A B L E 4: Washability Data

Sp. Gr.	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	38.92	2.31	38.92	2.31	100.00	19.74	19.46	2.31
1.30 - 1.35	26.83	4.00	65.75	3.00	61.08	30.83	52.35	4.00
1.35 - 1.40	9.83	8.23	75.58	3.68	34.25	51.84	70.67	8.23
1.40 - 1.45	1.54	14.35	77.12	3.89	24.42	69.40	76.35	14.35
1.45 - 1.50	1.46	18.63	78.58	4.17	22.88	73.10	77.85	18.63
1.50 - 1.60	2.08	23.77	80.66	4.67	21.42	76.81	79.62	23.77
1.60 - 1.70	0.77	31.49	81.43	4.93	19.34	82.52	81.04	31.49
1.70 - 1.80	0.49	40.13	81.92	5.14	18.57	84.63	81.67	40.13
+ 1.80	18.08	85.84	100.00	19.74	18.08	85.84	90.96	85.84
Total	100.00	19.74						

November 4, 1971.

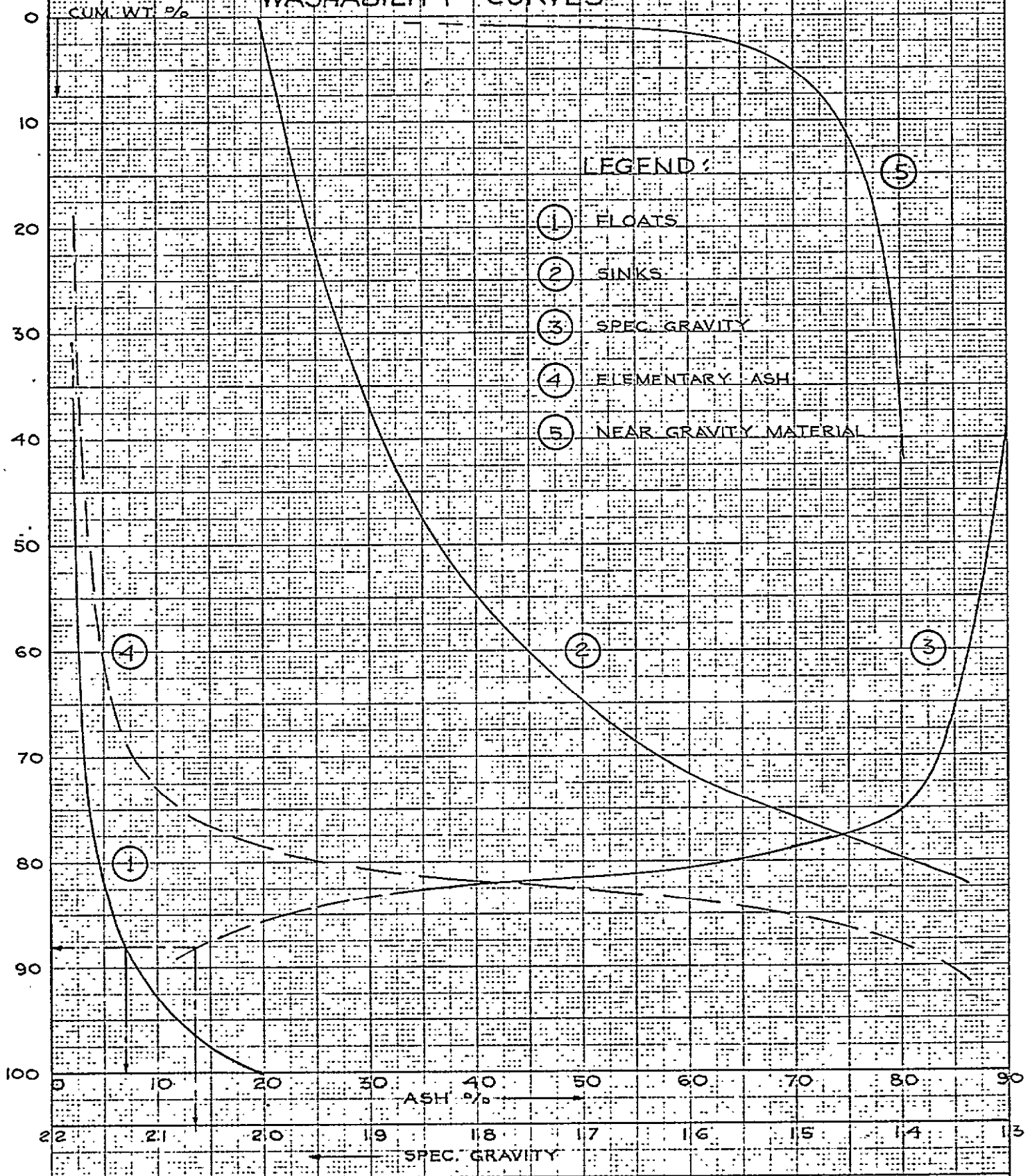
CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



# DENISON MINES LTD.

DRILL HOLE # R-7107 COMPOSITE 'A'  
FOOTAGE 96'-105' (501-509)

## WASHABILITY CURVES



KEUFFEL & ESSER CO.  
 MADE IN U.S.A.  
 10 X 25 CM  
 46 1512  
 10 X 10 TO THE CENTIMETER

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole #R-7107, Composite A  
Footage: 96' - 105' (501 - 509)

T A B L E 5: Analysis of Clean Coal at 7% Ash

Yield	88%
Floats Gravity	2.06%
Ash	7.0%
Volatile Matter	24.0%
Residual Moisture	0.7%
Fixed Carbon	68.30%
F.S.I.	8½
Sulphur	0.28%

November 4, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7107, Composite A  
Footage: 96' - 105' (501 - 509)

T A B L E 6: Screen Analyses at 28 Mesh

	<u>Weight %</u>
+ 28 Mesh	52.71
- 28 Mesh	<u>47.29</u>
Total	<u>100.00</u>

T A B L E 7: Head Analyses of Minus 28 Mesh

Ash	10.55%
Volatile Matter	24.04%
Residual Moisture	0.67%
Fixed Carbon	64.74%
Free Swelling Index	8

November 4, 1971

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7107, Composite A  
Footage: 96' - 105' (501 - 509)

T A B L E 8: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	85.30%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Floats</u>	<u>Tailings</u>
Ash, %	5.42	37.41
Volatile Matter, %	24.77	
Residual Moisture, %	0.67	
Fixed Carbon, %	69.14	
Sulphur, %	0.44	
F.S.I.	8	

November 4, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7217 - Composite I  
Footage: 1263.2' - 1275.7' (D1257 to D1262)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for +28 Mesh	1.47
Yield of Floats at 7% Ash in+28 Mesh	58.60%
Weight of Floats at 1.47 in Composite Clean Coal	73.10%
Weight % of Flotation Concentrate in Composite Clean Coal	26.90%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	7.70%
Volatile Matter	22.35%
Residual Moisture	1.09%
Fixed Carbon	68.86%
F.S.I.	8
Sulphur	0.32%

May 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7110, Composite D  
Footage: 897' - 905' (655 - 662)

T A B L E 1: Raw Sample Analyses

Ash	22.30%
Volatile Matter	19.77%
Residual Moisture	0.91%
Fixed Carbon	57.02%
Free Swelling Index	6½
B.T.U./lb.	11,630
Sulphur	0.38%

November 16, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7110, Composite D  
Footage: 897' - 905' (655 - 662)

T A B L E 2: Weight % and Proximate Analyses of Specific Gravity Fractions

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.%
- 1.30	51.23	1.31	25.55	0.79	72.35
1.30 - 1.35	10.81	3.61	23.89	0.97	71.53
1.35 - 1.40	4.68	6.54	22.54	1.03	69.89
1.40 - 1.45	2.06	11.00	22.03	0.98	65.99
1.45 - 1.50	3.93	15.71	21.67	1.07	61.55
1.50 - 1.60	3.85	20.10	20.94	1.05	57.91
1.60 - 1.70	0.79	31.88	18.01	0.84	49.27
1.70 - 1.80	0.35	40.09	17.65	0.89	41.37
+ 1.80	22.30	87.27	7.23	0.95	4.55
Total	100.00	22.84	20.65	0.88	55.63

DENISON MINES LTD.

Drill Hole #R-7110, Composite D  
 Footage: 897' - 905' (655 - 662)

T A B L E 3: Weight %, Proximate Analyses and Free Swelling Index of Cumulative Floats

Sp. Gr.	Wt. %	Ash %	V.M.%	R.M.%	F.C.%	F.S.I.*
- 1.30	51.23	1.31	25.55	0.79	72.35	9+
- 1.35	62.04	1.71	25.26	0.82	72.21	9
- 1.40	66.72	2.05	25.07	0.84	72.04	8½
- 1.45	68.78	2.32	24.98	0.84	71.86	8½
- 1.50	72.71	3.04	24.80	0.85	71.31	8½
- 1.60	76.56	3.90	24.61	0.86	70.63	8½
- 1.70	77.35	4.19	24.54	0.86	70.41	8½
- 1.80	77.70	4.35	24.51	0.86	70.28	8
Total	100.00	22.84	20.65	0.88	55.63	6½

\* F.S.I. by actual determination.

November 16, 1971.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole #R-7110, Composite D  
Footage: 897' - 905' (655 - 662)

T A B L E 4: Washability Data

Sp. Gr.	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	51.23	1.31	51.23	1.31	100.00	22.84	25.61	1.31
1.30 - 1.35	10.81	3.61	62.04	1.71	48.77	45.45	56.63	3.61
1.35 - 1.40	4.68	6.54	66.72	2.05	37.96	57.37	64.38	6.54
1.40 - 1.45	2.06	11.00	68.78	2.32	33.28	64.52	67.75	11.00
1.45 - 1.50	3.93	15.71	72.71	3.04	31.22	68.05	70.75	15.71
1.50 - 1.60	3.85	20.10	76.56	3.90	27.29	75.59	74.63	20.10
1.60 - 1.70	0.79	31.88	77.35	4.19	23.44	84.70	76.96	31.88
1.70 - 1.80	0.35	40.09	77.70	4.35	22.65	86.54	77.52	40.09
+ 1.80	22.30	87.27	100.00	22.84	22.30	87.27	88.85	87.27
Total	100.00	22.84						

November 16, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

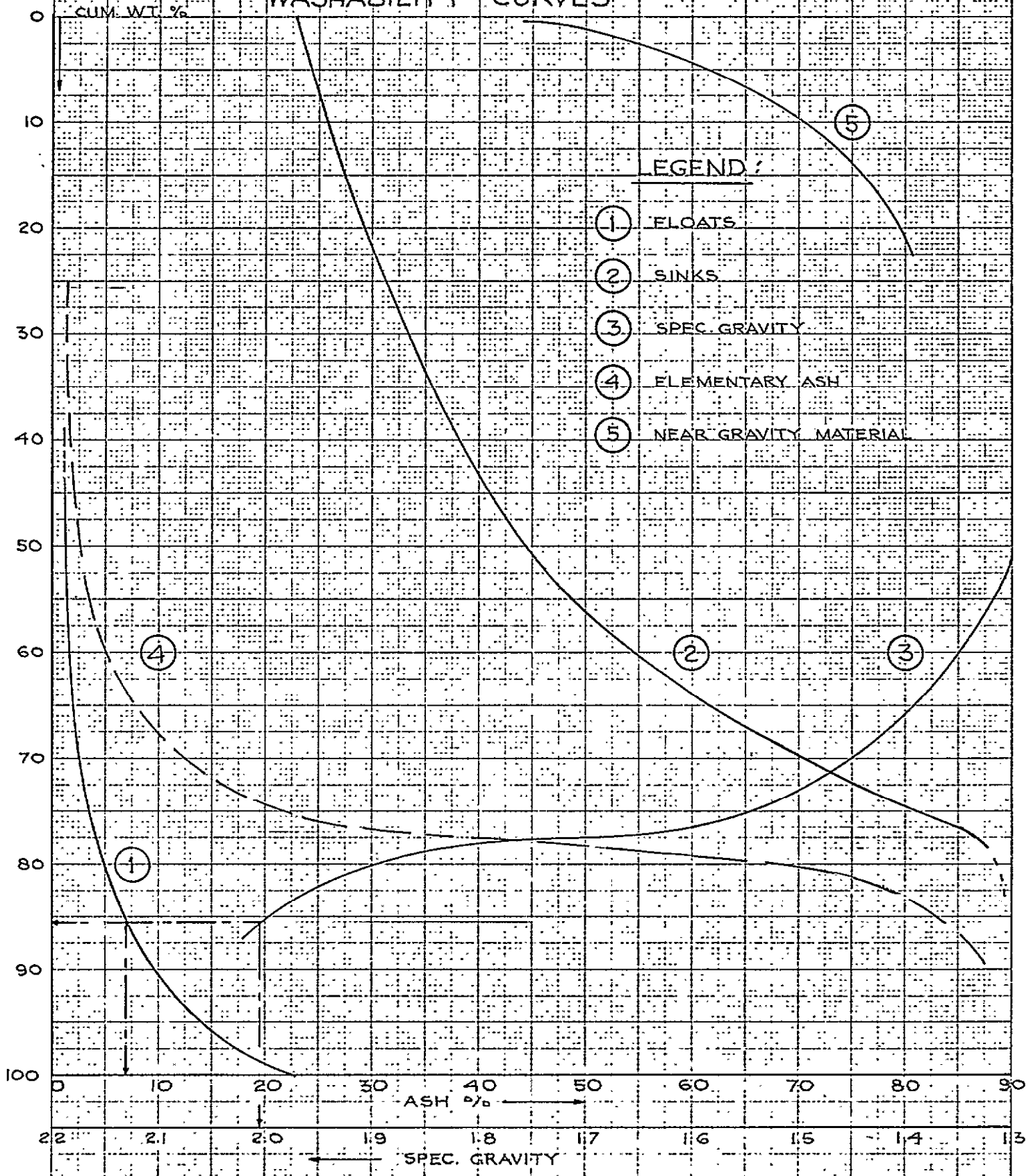
# DENISON MINES LTD.

DRILL HOLE # R-7110

COMPOSITE - D

FOOTAGE 897 - 905 (655 - 662)

## WASHABILITY CURVES



K&E 10 X 10 TO THE CENTIMETER 46 1512  
 MADE IN U.S.A.  
 NEUFFEL & ESSER CO.

DENISON MINES LTD.

Drill Hole #R-7110, Composite D  
Footage: 897' - 905' (655 - 662)

T A B L E 5: Analysis of clean coal at 7% Ash

Yield	85.5%
Floats Gravity	2.00
Ash	7.0
Volatile Matter	23.9
Residual Moisture	0.87
Fixed Carbon	68.23
F.S.I.	7
Sulphur	0.28

November 16, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7110, Composite D  
Footage: 897' - 905' (655 - 662)

T A B L E 6: Screen Analyses at 28 Mesh

	<u>Weight %</u>
+ 28 Mesh	36.19
- 28 Mesh	<u>63.81</u>
Total	<u>100.00</u>

T A B L E 7: Head Analyses of Minus 28 Mesh

Ash	18.83%
Volatile Matter	20.61%
Residual Moisture	0.76%
Fixed Carbon	59.80%
F.S.I.	7

November 16, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7110, Composite D  
Footage: 897' - 905' (655 - 662)

T A B L E 8: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	78.72%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Floats</u>	<u>Tailings</u>
Ash %	8.71	53.12
Volatile Matter %	23.30	
Residual Moisture %	0.60	
Fixed Carbon %	67.39%	
Sulphur %	0.57%	
F.S.I.	7½	

November 16, 1971.

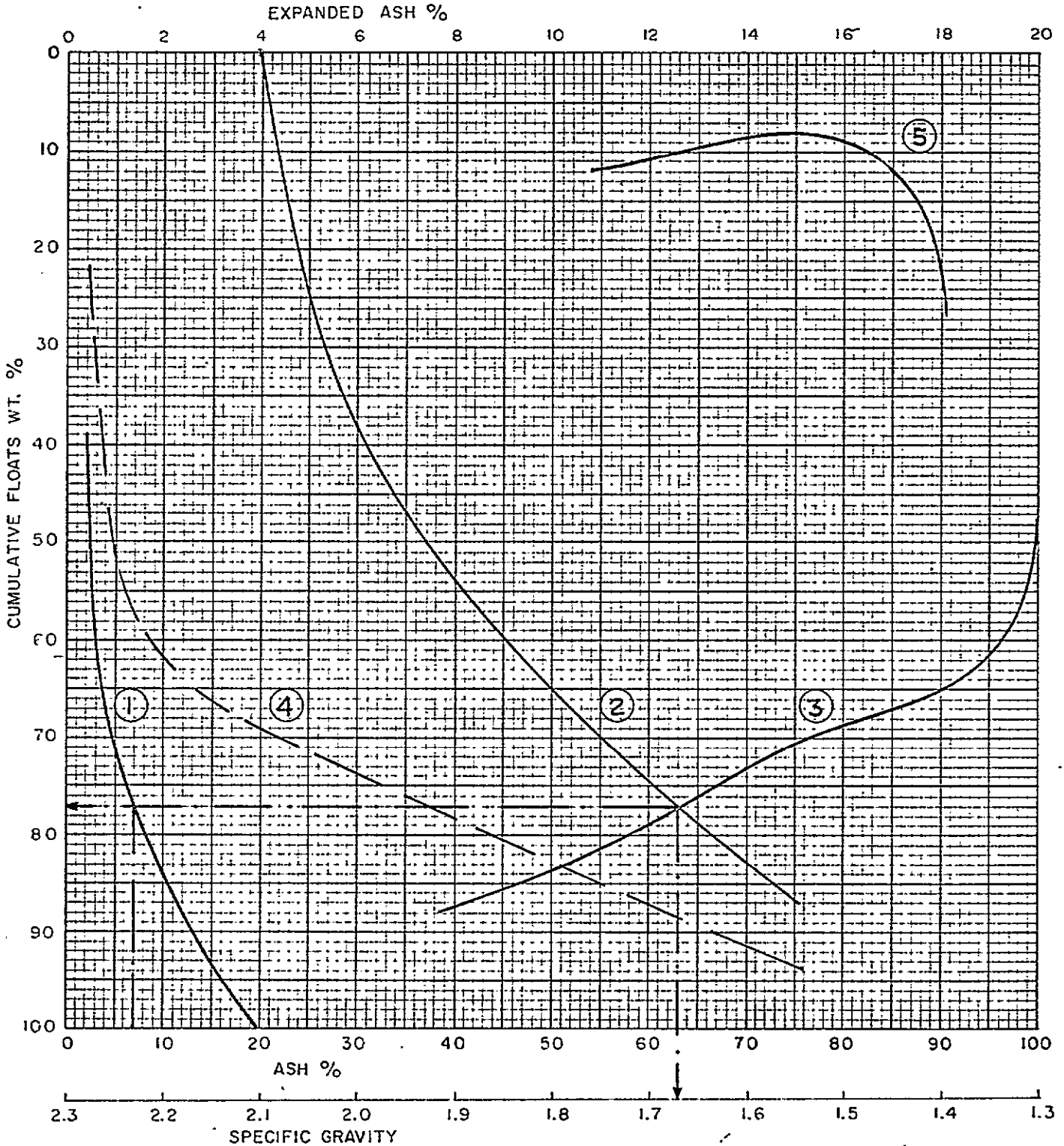
CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

FIGURE

COMPANY DENISON MINES LTD.  
DRILL HOLE # QBD-7208, Composite F  
FOOTAGE 788.2' - 798.5' (D1140 - D1147)

- CURVE LEGEND
- 1 FLOATS
  - 2 SINKS
  - 3 SPECIFIC GRAVITY
  - 4 ELEMENTARY ASH
  - 5 NEAR GRAVITY MATERIAL
  - 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE April 21, 1972

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole #R-7114, Composite F  
Footage: 540' - 548' (742-749)

T A B L E 1: Raw Sample Analyses

Ash	14.03%
Volatile Matter	23.55%
Residual Moisture	0.67%
Fixed Carbon	61.75%
F.S.I.	7½
B.T.U./lb.	13,050
Sulphur	0.31%

February 3, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7114, Composite F  
Footage: 540' - 548' (742-749)

T A B L E 2: Weight % and Proximate Analyses of Specific Gravity Fractions

Sp. Gr.	Weight%	Ash %	V.M.%	R.M.%	F.C.%
- 1.30	34.64	1.80	28.30	0.66	69.96
1.30 - 1.35	22.68	2.83	25.51	0.68	70.98
1.35 - 1.40	10.63	5.78	22.86	0.67	70.69
1.40 - 1.45	5.12	7.89	22.40	0.70	69.01
1.45 - 1.50	2.36	13.39	21.89	0.62	64.10
1.50 - 1.60	3.47	17.58	21.25	0.64	60.53
1.60 - 1.70	3.06	21.61	20.56	0.69	57.14
1.70 - 1.80	3.82	24.50	20.20	0.68	54.62
+ 1.80	14.22	64.64	13.38	0.63	21.35
Total	100.00	13.75	23.72	0.66	61.87

February 3, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole #R-7114, Composite F  
 Footage: 540' - 548' (742-749)

T A B L E 3: Weight %, Proximate Analyses and Free Swelling Index of Cumulative Floats

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.%	F.S.I.*
- 1.30	34.64	1.80	28.30	0.66	69.96	9+
- 1.35	57.32	1.77	27.20	0.67	70.36	9
- 1.40	67.95	2.40	26.52	0.67	70.41	8
- 1.45	73.07	2.78	26.23	0.67	70.32	7½
- 1.50	75.43	3.12	26.09	0.67	70.12	7½
- 1.60	78.90	3.75	25.88	0.67	69.70	7½
- 1.70	81.96	4.42	25.68	0.67	69.23	7½
- 1.80	85.78	5.31	25.44	0.67	68.58	7½
Total	100.00	13.75	23.72	0.66	61.87	7

\* F.S.I. by actual determination.

DENISON MINES LTD.

Drill Hole #R-7114, Composite F  
Footage: 540' - 548' (742-749)

T A B L E 4: Washability Data

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	34.64	1.08	34.64	1.80	100.00	13.75	17.32	1.08
1.30 - 1.35	22.68	2.83	57.32	1.77	65.36	20.46	45.98	2.83
1.35 - 1.40	10.63	5.78	67.95	2.40	42.68	29.83	62.63	5.78
1.40 - 1.45	5.12	7.89	73.07	2.78	32.05	37.81	70.51	7.89
1.45 - 1.50	2.36	13.39	75.43	3.12	26.93	43.50	74.25	13.39
1.50 - 1.60	3.47	17.58	78.90	3.75	24.57	46.39	77.17	17.58
1.60 - 1.70	3.06	21.61	81.96	4.42	21.10	51.13	80.43	21.61
1.70 - 1.80	3.82	24.50	85.78	5.31	18.04	56.14	83.87	24.50
+ 1.80	14.22	64.64	100.00	13.75	14.22	64.64	92.89	64.64
Total	100.00	13.75						

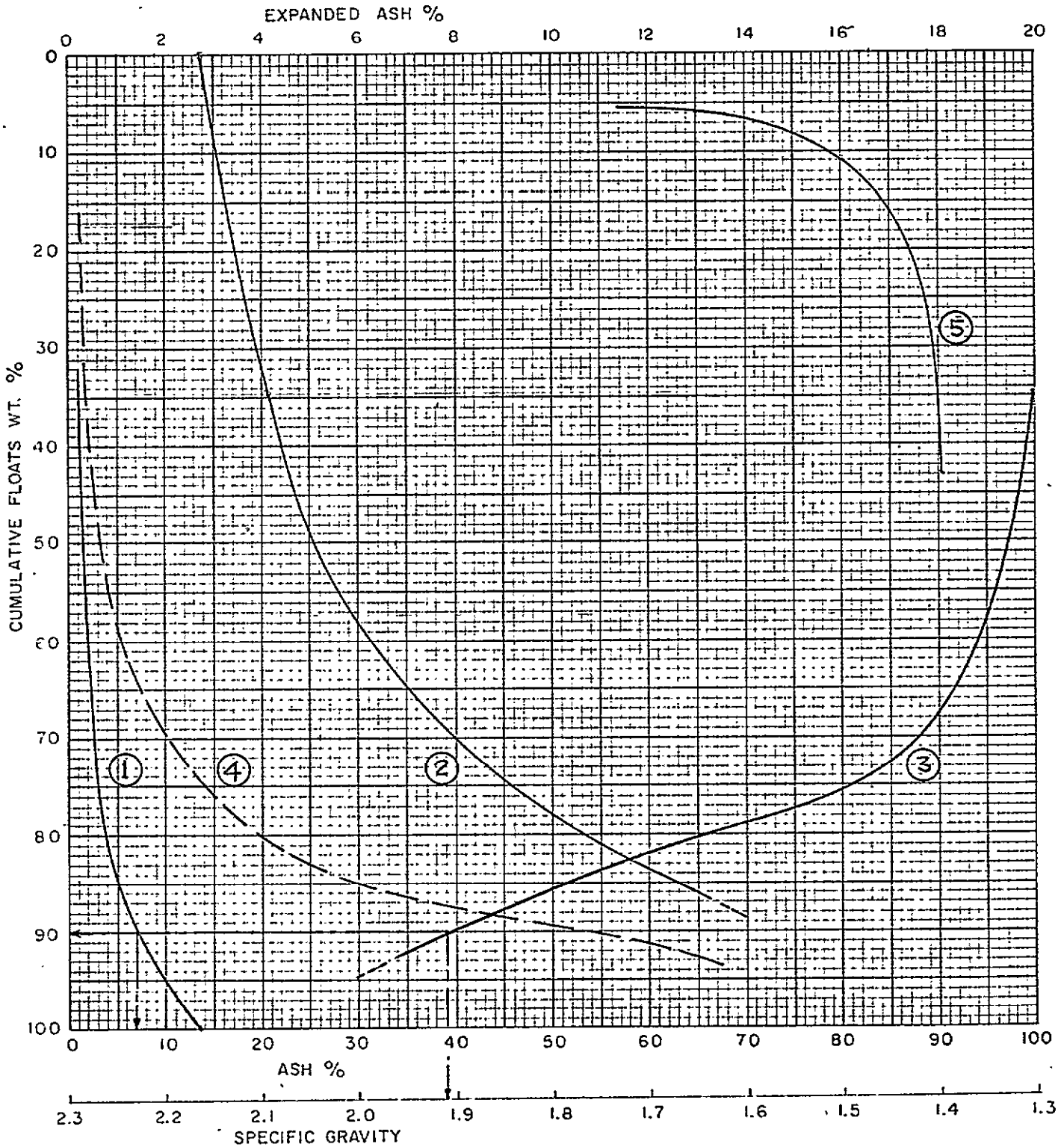
FIGURE: I

COMPANY Denison Mines Ltd.  
 DRILL HOLE # R-7114, Composite F  
 FOOTAGE : 540' - 548' (742-749)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DENISON MINES LTD..

Drill Hole #R-7114, Composite F  
Footage: 540' - 548' (742-749)

T A B L E 5: Analysis of Clean Coal at 7% Ash

Yield	96.00%
Floats Gravity	1.91
Ash	7.00%
Volatile Matter	25.02%
Residual Moisture	0.67%
Fixed Carbon	67.31%
F.S.I.	7½
Sulphur	0.24%

February 3, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7114, Composite F  
Footage: 540' - 548' (742-749)

T A B L E 6: Screen Analyses at 28 Mesh

	<u>Weight %</u>
+ 28 Mesh	40.18
- 28 Mesh	<u>59.82</u>
Total	<u>100.00</u>

T A B L E 7: Head Analyses of Minus 28 Mesh

Ash	9.51%
Volatile Matter	24.36%
Residual Moisture	0.45%
Fixed Carbon	65.68%
F.S.I.	8
Sulphur	0.38%

February 3, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7114, Composite F  
Footage: 540' - 548' (742-749)

T A B L E 8: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	73.04%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Floats</u>	<u>Tailings</u>
Ash, %	4.56	25.43
Volatile Matter, %	25.94	
Residual Moisture, %	0.53	
Fixed Carbon, %	68.97	
F.S.I.	8½	
Sulphur, %	0.29	

February 3, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LIMITED

Drill Hole QBD 7201, Composite Full F Seam  
Footage: 498.0' - 506.0' (D1011-D1015)

SEAM F - FULL SECTION

A full section of F seam has been composited. 1.7 feet of coal and shale in the roof was not recovered in the core and has, therefore, been omitted from the composite. Both the roof and floor are shale.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.70%	22.63%	5.0%	65.67%	0.54%	8

\* Assuming 5% total moisture and  
7% ash (air dried basis)

DENISON MINES LTD.

Drill Hole #QBD-7201, Composite Full F  
Footage: 498.0' - 506.0' (D1011 to D1015)

T A B L E 1: Raw Sample Analysis

Ash	19.89%
Volatile Matter	21.53%
Residual Moisture	0.81%
Fixed Carbon	57.77%
F.S.I.	7
B.T.U./lb.	12,110
Sulphur	0.69%

April 11, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole #QBD-7201, Composite Full F  
Footage: 498.0' - 506.0' (D1011 to D1015)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+28 Mesh	82.29%
28 x 100 Mesh	12.85
-100 Mesh	<u>4.86</u>
Total	<u>100.00</u>

April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7201 - Composite Full F  
Footage: 498.0' - 506.0' (D1011 to D1015)

T A B L E 3: Head Analysis of +28 Mesh

Ash	20.72%
Volatile Matter	21.38%
Residual Moisture	0.72%
Fixed Carbon	57.18%
F.S.I.	7

April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7201 - Composite Full F  
 Footage: 498.0' - 506.0' (D1011 to D1015)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: +28 Mesh

Sp. Gr.	Wt. %	Ash%	V.M. %	R.M. %	F.C. %
- 1.30	47.95	2.08	25.09	0.81	72.02
1.30 - 1.35	9.98	6.30	22.67	0.85	70.18
1.35 - 1.40	5.30	10.57	21.92	0.86	66.65
1.40 - 1.45	4.53	14.67	21.20	0.84	63.29
1.45 - 1.50	2.10	19.52	19.97	0.78	59.73
1.50 - 1.60	6.01	25.99	18.87	0.75	54.39
1.60 - 1.70	4.24	35.57	18.15	0.80	45.48
1.70 - 1.80	4.22	41.11	17.78	0.80	40.31
+ 1.80	15.67	79.29	9.88	0.84	9.99
Total	100.00	20.49	21.04	0.82	57.65

DENISON MINES LTD.

Drill Hole #QBD-7201 - Composite Full F  
 Footage: 498.0' - 506.0' (D1011 to D1015)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling  
Index of Cumulative Floats: +28 Mesh

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I. *
- 1.30	47.95	2.08	25.09	0.81	72.02	9
- 1.35	57.93	2.81	24.67	0.82	71.70	9
- 1.40	63.23	3.46	24.44	0.82	71.28	9
- 1.45	67.76	4.21	24.23	0.82	70.74	8½
- 1.50	69.86	4.67	24.10	0.82	70.41	8½
- 1.60	75.87	6.36	23.68	0.82	69.14	8
- 1.70	80.11	7.90	23.39	0.81	67.90	8
- 1.80	84.33	9.56	23.10	0.81	66.53	7½
Total	100.00	20.49	21.04	0.82	57.65	7

\* F.S.I. by actual determination.

April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7201 - Composite Full F  
Footage: 498.0' - 506.0' (D1011 to D1015)

T A B L E 6: Washability Data: +28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash%	Floats		Sinks		Wt. %	Ash%
			Wt. %	Ash%	Wt. %	Ash%		
- 1.30	47.95	2.08	47.95	2.08	100.00	20.49	23.97	2.08
1.30 - 1.35	9.98	6.30	57.93	2.81	52.05	37.45	52.94	6.30
1.35 - 1.40	5.30	10.57	63.23	3.46	42.07	44.84	60.58	10.57
1.40 - 1.45	4.53	14.67	67.76	4.21	36.77	49.78	65.50	14.67
1.45 - 1.50	2.10	19.52	69.86	4.67	32.24	54.71	68.81	19.52
1.50 - 1.60	6.01	25.99	75.87	6.36	30.14	57.17	72.86	25.99
1.60 - 1.70	4.24	35.57	80.11	7.90	24.13	64.93	77.99	35.57
1.70 - 1.80	4.22	41.11	84.33	9.56	19.89	71.19	82.22	41.11
+ 1.80	15.67	79.29	100.00	20.49	15.67	79.29	92.17	79.29
Total	100.00	20.49						

April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

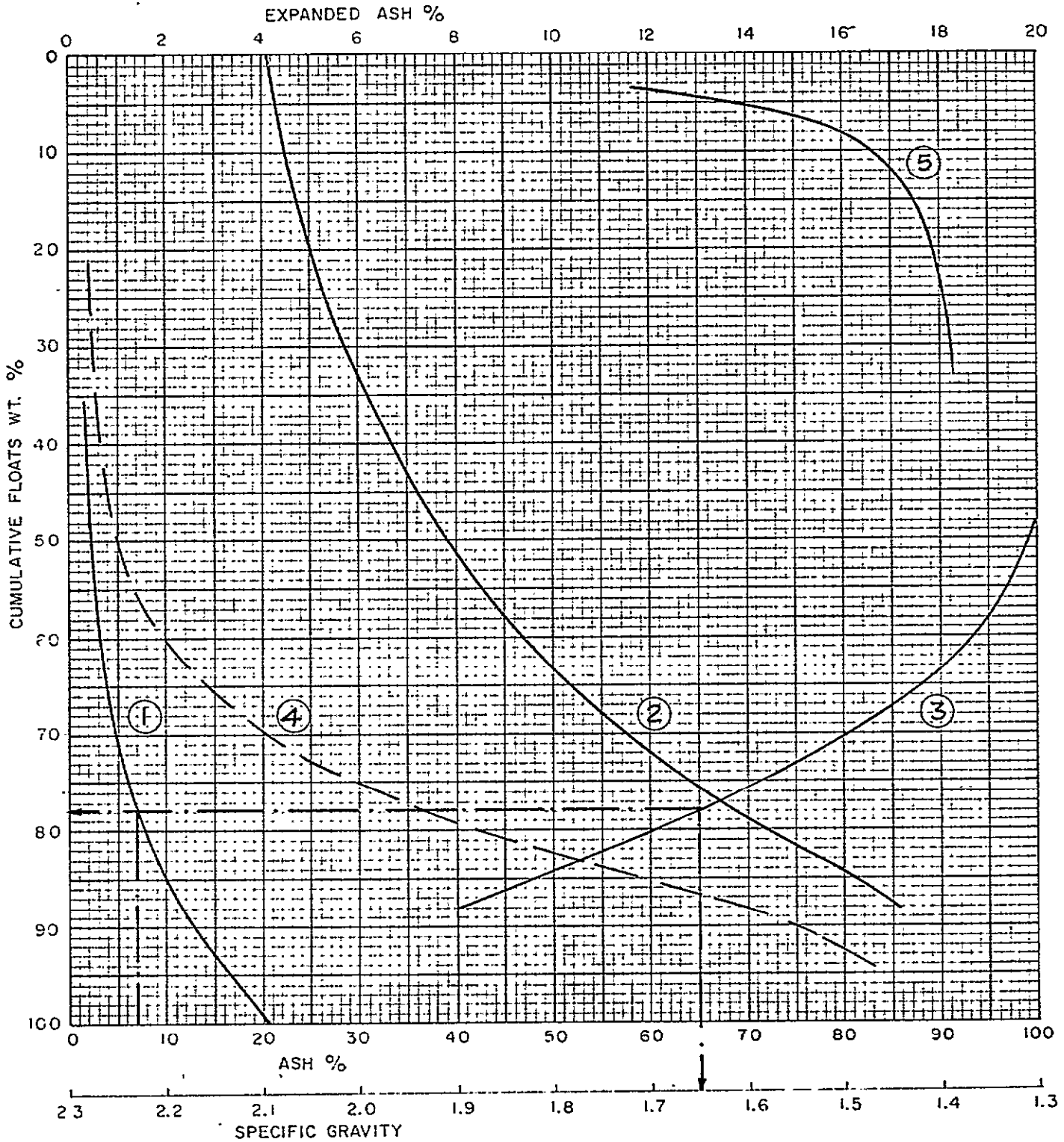
FIGURE

COMPANY Denison Mines Ltd.  
DRILL HOLE # QBD-7201 - Composite Full F  
FOOTAGE 498.0' - 506.0' (D1011 - D1015)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DENISON MINES LTD.

Drill Hole #QBD-7201 - Composite Full F  
Footage: 498.0' - 506.0' (D1011 to D1015)

T A B L E 7: Head Analysis of -28 Mesh

Ash	14.33%
Volatile Matter	22.21%
Residual Moisture	0.84%
Fixed Carbon	62.62%
F.S.I.	8

April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7201 - Composite Full F  
Footage: 498.0' - 506.0' (D1011 to D1015)

T A B L E 8: Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions

Specific Gravity	Wt. %	Ash %	V.M. %	F.C. %	Cum. Weight % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	77.46	2.56	24.52	72.92	77.46	2.56	9+
1.40 - 1.60	8.71	20.20	19.52	60.28	86.17	4.34	8½
1.60 - 1.80	4.67	38.31	17.16	44.53	90.84	6.09	8
+ 1.80	9.16	74.21	12.97	12.82	100.00	12.33	7½
Total	100.00	12.33	22.68	64.99			

April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole #QBD-7201 - Composite Full F  
Footage: 498.0' - 506.0' (D1011 to D1015)

T A B L E 9: Froth Flotation Test on -28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	85.94
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	7.73	48.68
Volatile Matter, %	23.34	
Residual Moisture, %	0.85	
Fixed Carbon, %	68.08	
F.S.I.	8½	
Sulphur, %	0.47	

DENISON MINES LTD.

Drill Hole #QBD-7201 - Composite Full F  
Footage: 498.0' - 506.0' (D1011 to D1015)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for +28 Mesh	1.65
Yield of Floats at 7% Ash in +28 Mesh	78.10%
Weight % of Floats at 1.65 in the Composite Clean Coal	80.90%
Weight % of Flotation Concentrate in Composite Clean Coal	19.10%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	6.99%
Volatile Matter	23.62%
Residual Moisture	0.83%
Fixed Carbon	68.56%
F.S.I.	8
Sulphur	0.56%

April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LIMITED

Drill Hole QBD-7202, Composite F Seam  
Footage: 889.0' - 896.8' (D1385 - D1389)

SEAM F - FULL SECTION

A 9.3 foot full seam composite was taken. Core recovery over all the sample increments was approximately 65%. The sample includes 1.1 feet of bony coal on the roof and 0.2 feet mudstone section near the floor. The roof consists of 5 feet of mudstone overlain by sandstone and the floor is mudstone.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
7.69%	22.77%	5.00%	64.48%	0.21%	7

\* Assuming 5% total moisture and 7% ash (air dried basis).

DENISON MINES LTD.

Drill Hole # QBD-7202 - Composite F  
Footage: 889.0' - 896.8' (D1385 - D1389)

T A B L E 1: Raw Sample Analysis

Ash	20.19%
Volatile Matter	21.11%
Residual Moisture	1.07%
Fixed Carbon	57.63%
F.S.I.	4
B.T.U./lb.	11,720
Sulphur	0.29%

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7202 - Composite F  
Footage: 889.0' - 896.8' (D1385 - D1389)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+ 28 Mesh	74.12
28 x 100 Mesh	17.16
- 100 Mesh	<u>8.72</u>
Total	<u>100.00</u>

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7202 - Composite F  
Footage: 889.0' - 896.8' (D1385 - D1389)

T A B L E 3: Head Analysis of +28 Mesh

Ash	21.69%
Volatile Matter	20.83%
Residual Moisture	1.11%
Fixed Carbon	56.37%
F.S.I.	3½

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENSION MINES LTD.

Drill Hole # QBD-7202 - Composite F  
 Footage: 889.0' - 896.8' (D1385 - D1389)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: +28 Mesh

Sp. Gr.	Wt. %	Ash%	V.M. %	R.M. %	F.C. %
- 1.30	37.06	2.11	26.34	1.15	70.40
1.30 - 1.35	21.09	4.67	22.94	1.12	71.27
1.35 - 1.40	6.50	10.17	21.56	1.07	67.20
1.40 - 1.45	2.71	12.52	20.75	1.06	65.67
1.45 - 1.50	1.63	17.20	19.09	1.06	62.65
1.50 - 1.60	1.67	23.47	18.47	1.09	56.97
1.60 - 1.70	1.95	34.16	17.33	1.06	47.45
1.70 - 1.80	3.85	43.65	15.98	1.04	39.33
+ 1.80	23.54	66.08	10.94	1.01	21.97
Total	100.00	21.34	20.71	1.10	56.85

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7202 - Composite F  
 Footage: 889.0' - 896.8' (D1385 - D1389)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling  
Index of Cumulative Floats: +28 Mesh

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I. *
- 1.30	37.06	2.11	26.34	1.15	70.40	9
- 1.35	58.15	3.04	25.11	1.14	70.71	8½
- 1.40	64.65	3.76	24.75	1.13	70.36	8
- 1.45	67.36	4.11	24.59	1.13	70.17	7½
- 1.50	68.99	4.42	24.46	1.13	69.99	7½
- 1.60	70.66	4.87	24.32	1.13	69.68	7½
- 1.70	72.61	5.65	24.13	1.12	69.10	7½
- 1.80	76.46	7.57	23.72	1.12	67.59	7
Total	100.00	21.34	20.71	1.10	56.85	3½

\* F.S.I. by actual determination.

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole # QBD-7202 - Composite F  
 Footage: 889.0' - 896.8' (D1385 - D1389)

T A B L E 6: Washability Data: +28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash%	Floats		Sinks		Wt. %	Ash%
			Wt. %	Ash%	Wt. %	Ash%		
- 1.30	37.06	2.11	37.06	2.11	100.00	21.34	18.53	2.11
1.30 - 1.35	21.09	4.67	58.15	3.04	62.94	32.67	47.60	4.67
1.35 - 1.40	6.50	10.17	64.65	3.76	41.85	46.77	61.40	10.17
1.40 - 1.45	2.71	12.52	67.36	4.11	35.35	53.50	66.01	12.52
1.45 - 1.50	1.63	17.20	68.99	4.42	32.64	56.91	68.17	17.20
1.50 - 1.60	1.67	23.47	70.66	4.87	31.01	58.99	69.83	23.47
1.60 - 1.70	1.95	34.16	72.61	5.65	29.34	61.02	71.64	34.16
1.70 - 1.80	3.85	43.65	76.46	7.57	27.39	62.93	74.53	43.65
+ 1.80	23.54	66.08	100.00	21.34	23.54	66.08	88.23	66.08
Total	100.00	21.34						

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

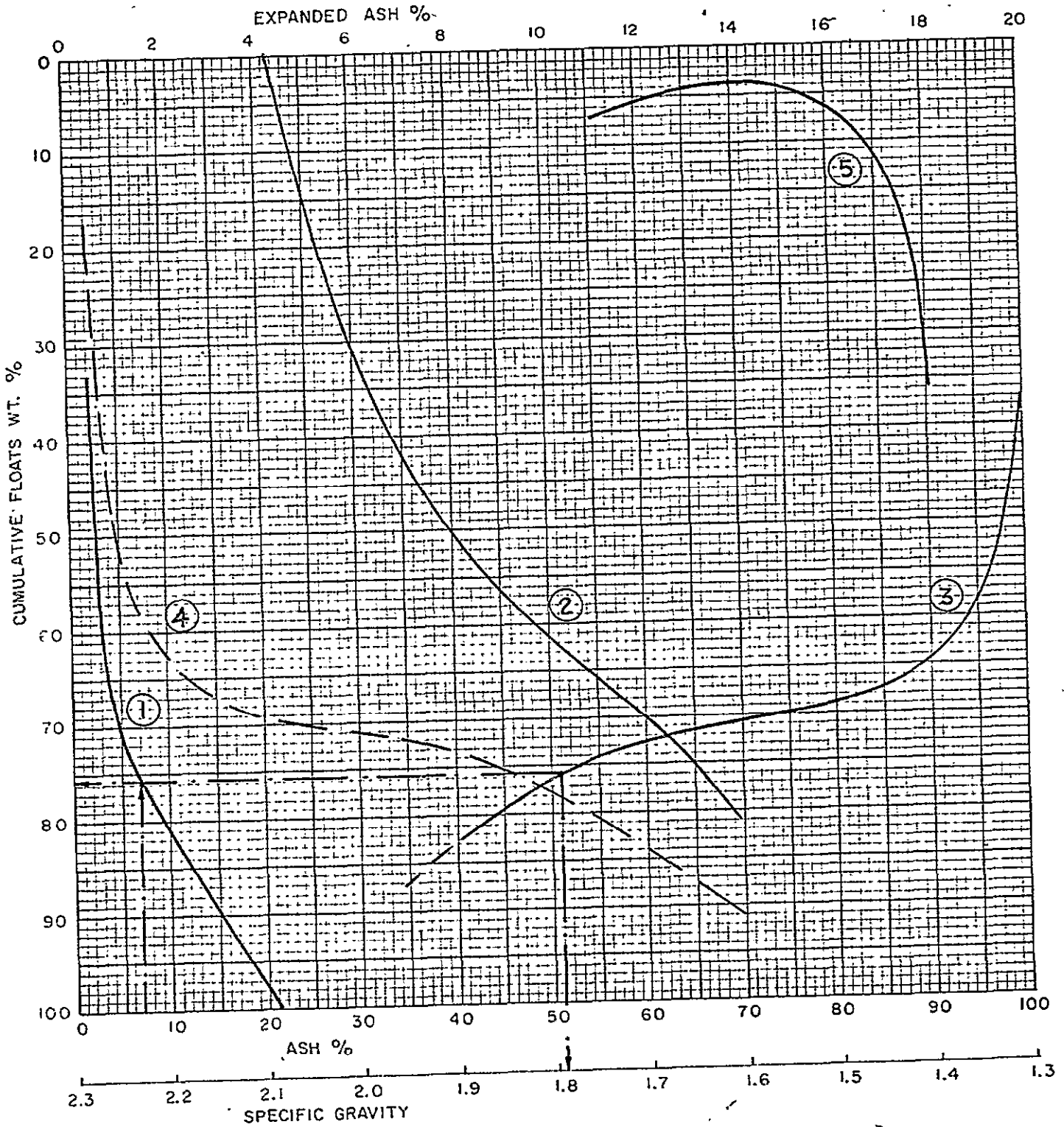
FIGURE

COMPANY Denison Mines Ltd.  
DRILL HOLE # QBD-7202 - Composite F  
FOOTAGE 889.0' - 896.8' (D1385 - D1389)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE : May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole # QBD-7202 - Composite F  
Footage: 889.0' 896.8' (D1385 - D1389)

T A B L E 7: Head Analysis of -28 Mesh

Ash	17.44%
Volatile Matter	21.93%
Residual Moisture	0.98%
Fixed Carbon	59.65%
F.S.I.	6

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7202 - Composite F  
 Footage: 889.0' - 896.8' (D1385 - D1389)

T A B L E 8: Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions.

Specific Gravity	Wt. %	Ash %	V.M. %	F.C. %	Cum. Wt. % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	71.81	3.07	25.10	71.83	71.81	3.07	8½
1.40 - 1.60	7.06	16.13	18.90	63.97	78.87	4.24	8
1.60 - 1.80	5.45	39.63	16.47	43.90	84.32	6.53	7½
+ 1.80	15.68	66.36	11.73	21.91	100.00	15.91	6
Total	100.00	15.91	22.10	61.99			

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7202 - Composite F  
Footage: 889.0' - 896.8' (D1385 - D1389)

T A B L E 9: Froth Flotation Test on -28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	85.82%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	10.18	60.19
Volatile Matter, %	23.74	
Residual Moisture, %	1.00	
Fixed Carbon, %	65.08	
F.S.I.	6½	
Sulphur, %	0.33	

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7202 - Composite F  
Footage: 889.0' - 896.8' (D1385 - D1389)

CLEAN COAL COMPOSITE:

Specific Gravity at 7% Ash for +28 Mesh	1.79
Yield of Floats at 7% Ash in +28 Mesh	75.90%
Weight of Floats at 1.79 in Composite Clean Coal	71.70%
Weight of Flotation Concentrate in Composite Clean Coal	28.30%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	8.01%
Volatile Matter	23.72%
Residual Moisture	1.10%
Fixed Carbon	67.17%
F.S.I.	7
Sulphur	0.22%

DENISON MINES LIMITED

Drill Hole QBD 7203, Composite F Seam  
Footage: 653.5' - 661.7' (D492-D493)

SEAM F - FULL SECTION

The sample represents a full seam height of 9.5 feet including 2.2 feet of gradational high ash material at the roof. Both the roof and floor units are shale.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
7.25%	22.83%	5.0%	64.92	0.37%	8

\* Assuming 5% total moisture and  
7% ash (air dried basis)

DENISON MINES LTD.

Drill Hole # QBD-7203 - Composite F  
Footage: 653.5' - 661.7' (D492 & D493)

T A B L E 1: Raw Sample Analysis

Ash	23.98%
Volatile Matter	20.61%
Residual Moisture	0.58%
Fixed Carbon	54.83%
F.S.I.	6
B.T.U./lb.	12,180
Sulphur	0.55%

April 13, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole # QBD-7203 - Composite F  
Footage: 653.5' - 661.7' (D492 & D493)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+28 Mesh	79.70
28 x 100 Mesh	14.16
- 100 Mesh	<u>6.14</u>
Total	<u>100.00</u>

April 13, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7203 - Composite F  
Footage: 653.5' - 661.7' (D492 & D493)

T A B L E 3: Head Analysis of +28 Mesh

Ash	25.81%
Volatile Matter	20.15%
Residual Moisture	0.60%
Fixed Carbon	53.44%
F.S.I.	5½

April 13, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7203 - Composite F  
 Footage: 653.5' - 661.7' (D492 & D493)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: +28 Mesh

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %
- 1.30	41.88	2.16	25.72	0.59	71.53
1.30 - 1.35	10.77	5.34	22.39q	0.62	71.65
1.35 - 1.40	2.54	9.11	22.07	0.65	68.17
1.40 - 1.45	1.15	14.00	21.80	0.60	63.60
1.45 - 1.50	0.77	20.29	20.51	0.59	58.61
1.50 - 1.60	2.35	28.11	19.12	0.57	52.20
1.60 - 1.70	6.35	38.44	17.57	0.55	43.44
1.70 - 1.80	12.71	48.00	15.72	0.58	35.70
+ 1.80	21.48	67.10	12.53	0.58	19.79
Total	100.00	25.64	20.40	0.59	53.91

DENISON MINES LTD.

Drill Hole # QBD-7203 - Composite F  
 Footage: 653.5' - 661.7' (D492 & D493)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling Index of Cumulative Floats: +28 Mesh

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I. *
- 1.30	41.88	2.16	25.72	0.59	71.53	9+
-1.35	52.65	2.81	25.04	0.60	71.55	9
- 1.40	55.19	3.10	24.90	0.60	71.40	9
- 1.45	56.34	3.32	24.84	0.60	71.24	9
- 1.50	57.11	3.55	24.78	0.60	71.07	8
- 1.60	59.46	4.52	24.56	0.60	70.32	8
- 1.70	65.81	7.79	23.88	0.59	67.74	8
- 1.80	78.52	14.30	22.56	0.59	62.55	6
Total	100.00	25.64	20.40	0.59	53.91	5½

\* F.S.I. by actual determination.



Drill Hole # QBD-7203 - Composite F  
Footage: 653.5' - 661.7' (D492 & D493)

T A B L E 6: Washability Data +28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash%	Floats		Sinks		Wt. %	Ash%
			Wt. %	Ash%	Wt. %	Ash%		
- 1.30	41.88	2.16	41.88	2.16	100.00	25.64	20.94	2.16
1.30 - 1.35	10.77	5.34	52.65	2.81	58.12	42.57	47.26	5.34
1.35 - 1.40	2.54	9.11	55.19	3.10	47.35	51.03	53.92	9.11
1.40 - 1.45	1.15	14.00	56.34	3.32	44.81	53.41	55.77	14.00
1.45 - 1.50	0.77	20.29	57.11	3.55	43.66	54.45	56.72	20.29
1.50 - 1.60	2.35	28.11	59.46	4.52	42.89	55.06	58.29	28.11
1.60 - 1.70	6.35	38.44	65.81	7.79	40.54	56.62	62.63	38.44
1.70 - 1.80	12.71	48.00	78.52	14.30	34.19	60.00	72.16	48.00
+ 1.80	21.48	67.10	100.00	25.64	21.48	67.10	89.26	67.10
Total	100.00	25.64						

FIGURE

COMPANY Denison Mines Ltd.

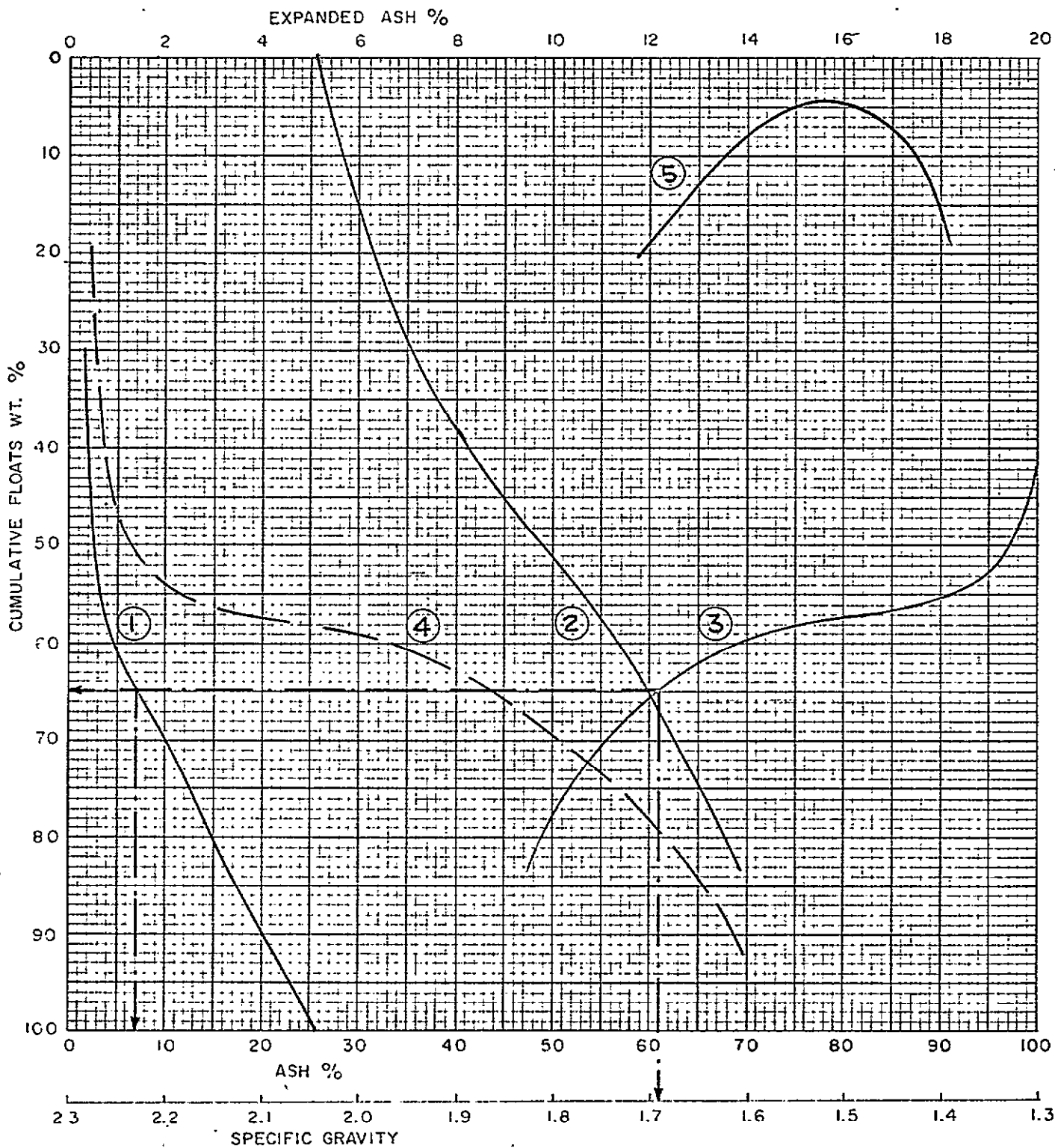
DRILL HOLE # QBD-7203 - Composite F

FOOTAGE 653.5' - 661.7' (D492 & D493)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE: April 13, 1972.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole # QBD-7203 - Composite F  
Footage: 653.5' - 661.7' (D492 & D493)

T A B L E 7: Head Analysis of -28 Mesh

Ash	18.15%
Volatile Matter	21.75%
Residual Moisture	0.54%
Fixed Carbon	59.56%
F.S.I.	7

April 13, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QED-7203 - Composite F  
 Footage: 653.5' - 661.7' (D492 & D493)

T A B L E 8      Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions

Specific Gravity	Wt.%	Ash%	V.M.%	F.C.%	Cu. Weight % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	67.07	2.75	25.46	71.79	67.07	2.75	.9
1.40 - 1.60	7.01	20.25	19.75	60.00	74.08	4.41	8½
1.60 - 1.80	11.02	41.19	16.21	42.60	85.10	9.17	8½
+ 1.80	14.90	66.16	13.01	20.83	100.00	17.66	7
Total	100.00	17.66	22.19	60.15			

April 13, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole # QBD-7203 - Composite F  
Footage: 653.5' - 661.7' (D492 & D493)

T A B L E 9: Froth Flotation Test on -28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	91.30%
Reagents	MIBC & Kerosene

Analysis of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	9.65	38.25
Volatile Matter, %	23.94	
Residual Moisture, %	0.57	
Fixed Carbon, %	65.84	
F.S.I.	8½	
Sulphur, %	0.50	

April 13, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7203 - Composite F  
Footage: 653.5' - 661.7' (D492 - D493)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for +28 Mesh	1.69
Yield of Floats at 7% Ash in +28 Mesh	65.00%
Weight % of Floats at 1.69 in the Composite Clean Coal	73.70%
Weight % of Flotation Concentrate in Composite Clean Coal	26.30%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	7.59%
Volatile Matter	23.89%
Residual Moisture	0.56%
Fixed Carbon	67.96%
F.S.I.	8
Sulphur	0.39%

April 13, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LIMITED

Drill Hole QBD 7204, Composite Upper F Seam  
Footage: 265.0' - 275.2' (D1053-D1054)

SEAM F - UPPER SECTION

The sample represents the middle section of F seam. An interbedded sequence of shale and coal has been left as floor material. Approximately 2.5 feet of shale overlain by 2.6 feet of coal has been left as roof, but will probably have to be mined. Estimated ash over this interval is 41%. The roof above this sequence is carbonaceous and gradational for another 3.5 feet to a shale unit.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.41%	24.93%	5.0%	63.66%	0.30%	6

\* Assuming 5% total moisture and  
7% ash (air dried basis)

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite Upper F  
Footage: 265.0' - 275.2' (D1053, D1054)

T A B L E 1: Raw Sample Analysis

Ash	12.68%
Volatile Matter	24.54%
Residual Moisture	0.83%
Fixed Carbon	61.95%
F.S.I.	6
B.T.U./lb.	13,160
Sulphur	0.42%

April 15, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada



DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite Upper F  
Footage: 265.0' - 275.2' (D1053, D1054)

T A B L E 2: Size Consist of Head Sample.

	<u>Weight, %</u>
+ 28 Mesh	79.74
28 x 100 Mesh	14.31
- 100 Mesh	<u>5.95</u>
Total	100.00

April 15, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite Upper F  
Footage: 265.0' - 275.2' (D1053, D1054)

T A B L E 3: Head Analysis of + 28 Mesh.

Ash	14.66%
Volatile Matter	24.02%
Residual Moisture	0.71%
Fixed Carbon	60.61%
F.S.I.	5½

April 15, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite Upper F  
 Footage: 265.0' - 275.2' (D1053, D1054)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: + 28 Mesh.

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %
- 1.30	50.64	1.35	27.64	0.79	70.22
1.30 - 1.35	23.83	5.30	25.06	0.78	68.86
1.35 - 1.40	4.16	9.61	22.31	0.75	67.33
1.40 - 1.45	2.51	15.63	21.89	0.73	61.75
1.45 - 1.50	1.26	19.62	20.68	0.75	58.95
1.50 - 1.60	2.02	26.24	19.79	0.70	53.27
1.60 - 1.70	2.48	36.10	18.85	0.70	44.35
1.70 - 1.80	1.67	42.34	17.76	0.71	39.19
+ 1.80	11.43	78.15	10.71	0.76	10.38
Total	100.00	14.05	24.09	0.78	61.08

April 15, 1972

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite Upper F  
 Footage: 265.0' - 275.2' (D1053, D1054)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling Index of Cumulative Floats: + 28 Mesh.

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I.*
- 1.30	50.64	1.35	27.64	0.79	70.22	9+
- 1.35	74.47	2.61	26.81	0.79	69.79	9+
- 1.40	78.63	2.98	26.58	0.78	69.66	9
- 1.45	81.14	3.38	26.43	0.78	69.41	8½
- 1.50	82.40	3.62	26.34	0.78	69.26	8
- 1.60	84.42	4.16	26.19	0.78	68.87	7
- 1.70	86.90	5.08	25.98	0.78	68.16	6½
- 1.80	88.57	5.78	25.82	0.78	67.62	6½
Total	100.00	14.05	24.09	0.78	61.08	5½

April 15, 1972

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada



DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite Upper F  
 Footage: 265.0' - 275.2' (D1053, D1054)

T A B L E 6: Washability Data: + 28 Mesh.

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	50.64	1.35	50.64	1.35	100.00	14.05	25.32	1.35
1.30 - 1.35	23.83	5.30	74.47	2.61	49.36	27.08	62.55	5.30
1.35 - 1.40	4.16	9.61	78.63	2.98	25.53	47.41	76.55	9.61
1.40 - 1.45	2.51	15.63	81.14	3.38	21.37	54.77	79.89	15.63
1.45 - 1.50	1.26	19.62	82.40	3.62	18.86	59.98	81.77	19.62
1.50 - 1.60	2.02	26.24	84.42	4.16	17.60	62.87	83.41	26.24
1.60 - 1.70	2.48	36.10	86.90	5.08	15.58	67.62	85.66	36.10
1.70 - 1.80	1.67	42.34	88.57	5.78	13.10	73.58	87.74	42.34
+ 1.80	11.43	78.15	100.00	14.05	11.43	78.15	94.28	78.15
Total	100.00	14.05						

April 15, 1972

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada

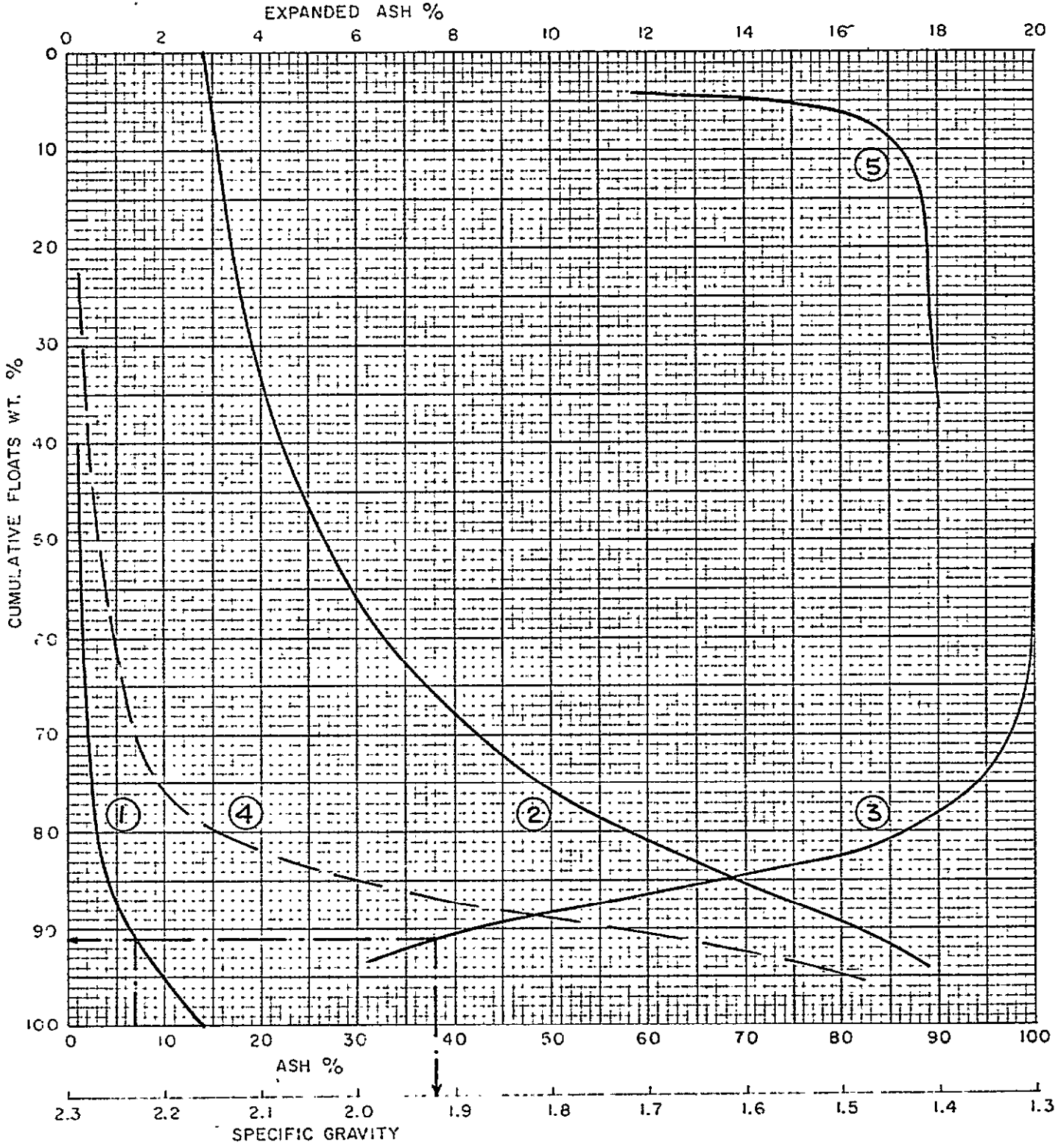
FIGURE

COMPANY DENISON MINES LTD.  
DRILL HOLE # QB-D-7204, Composite Upper F  
FOOTAGE 265.0' - 275.2' (D1053, D1054)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE April 17, 1972

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite Upper F  
Footage: 265.0' - 275.2' (D1053, D1054)

T A B L E 7: Head Analysis of - 28 Mesh.

Ash	7.12%
Volatile Matter	25.35%
Residual Moisture	0.86%
Fixed Carbon	66.67%
F.S.I.	6½

April 15, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite Upper F  
 Footage: 265.0' - 275.2' (D1053, D1054)

T A B L E 8: Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions.

Specific Gravity	Wt. %	Ash %	V.M. %	F.C. %	Cum. Weight % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	88.28	3.07	25.12	71.81	88.28	3.07	8½
1.40 - 1.60	4.49	16.10	21.86	62.04	92.77	3.70	7½
1.60 - 1.80	2.06	34.41	18.92	46.67	94.83	4.37	7
+ 1.80	5.17	62.68	13.46	23.86	100.00	7.38	6½
Total	100.00	7.38	24.24	68.38			

April 15, 1972

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada



DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite Upper F  
Footage: 265.0' - 275.2' (D1053, D1054)

T A B L E 9: Froth Flotation Test on - 28 Mesh.

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	91.04%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	4.77	33.51
Volatile Matter, %	26.33%	
Residual Moisture, %	0.88%	
Fixed Carbon, %	68.02%	
F.S.I.	7½	
Sulphur, %	0.42%	

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite Upper F  
Footage: 265.0' - 275.2' (D1053, D1054)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for + 28 Mesh	1.92
Yield of Floats at 7% Ash in + 28 Mesh	91.00%
Weight of Floats at 1.92 in the Composite Clean Coal	79.80%
Weight of Flotation Concentrate in Composite Clean Coal	2020%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	6.69%
Volatile Matter	26.03%
Residual Moisture	0.80%
Fixed Carbon	66.48%
F.S.I.	6
Sulphur	0.31%

April 15, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LIMITED

Drill Hole QBD 7205, Composite F Seam  
Footage: 454.4' - 462.0' (D1305-D1306)

SEAM F - FULL SECTION

A full 7.6 foot section of F seam has been composited including 1.5 feet of high as material at the top of the seam. The roof and floor are silty shale.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.57%	23.21%	5.00%	65.22%	0.21%	7

\* Assuming 5% total moisture and 7% ash (air dried basis).

DENISON MINES LTD.

Drill Hole # QBD-7205 - Composite F  
Footage: 454.4' - 462.0' (D1305 - D1306)

T A B L E 1: Raw Sample Analysis

Ash	23.15%
Volatile Matter	21.60%
Residual Moisture	1.23%
Fixed Carbon	54.02%
F.S.I.	4½
B.T.U./lb.	11,800
Sulphur	0.24%

May 8, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada



DENISON MINES LTD.

Drill Hole #QBD-7205 - Composite F  
Footage: 454.4' - 462.0' (D1305 - D1306)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+28 Mesh	67.63
28 x 100 Mesh	21.56
-100 Mesh	<u>10.81</u>
Total	<u>100.00</u>

June 8, 1972.

CYCLONE ENGINEERING SALES LTD  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7205 - Composite F  
Footage: 454.4' - 462.0' (D1305 - D1306)

T A B L E    3:        Head Analysis of + 28 Mesh

Ash	25.25%
Volatile Matter	20.57%
Residual Moisture	1.25%
Fixed Carbon	52.93%
F.S.I.	4

May 8, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #QBD-7205 - Composite F  
Footage: 454.4' - 462.0' (D1305 - D1306)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: + 28 Mesh

Sp.Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %
- 1.30	41.73	2.04	26.05	1.28	70.63
1.30 - 1.35	16.52	4.47	22.69	1.26	71.58
1.35 - 1.40	3.50	9.64	21.31	1.24	67.81
1.40 - 1.45	2.09	12.57	20.44	1.23	65.76
1.45 - 1.50	1.95	16.01	19.71	1.23	63.05
1.50 - 1.60	1.70	24.11	18.54	1.22	56.13
1.60 - 1.70	1.35	34.41	17.98	1.24	46.37
1.70 - 1.80	2.05	41.97	17.14	1.23	39.66
+ 1.80	29.11	71.24	11.01	1.25	16.50
Total	100.00	24.97	20.29	1.26	53.48

MAY 8, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #R-7114, Composite Lower I  
Footage: 731' - 736' (757-761)

T A B L E #3: Weight %, Proximate Analyses and Free Swelling Index of Cumulative Floats

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I. *
- 1.30	22.17	1.85	26.49	0.85	70.81	9+
- 1.35	30.83	3.05	26.25	0.83	69.87	9
- 1.40	36.40	4.25	25.83	0.83	69.09	9
- 1.45	41.56	5.75	25.30	0.83	68.12	9
- 1.50	46.66	7.77	24.66	0.84	66.73	8½
- 1.55	50.80	9.42	24.21	0.84	65.53	8½
- 1.60	54.47	11.01	23.76	0.84	64.39	8
- 1.70	64.50	15.52	22.65	0.83	61.00	8
- 1.80	73.82	19.74	21.74	0.83	57.69	7½
Total	100.00	32.50	19.08	0.84	47.58	5

\* F.S.I. by actual determination.

February 3, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole # QBD-7205 - Composite F  
Footage: 454.4' - 462.0' (D1305 - D1306)

T A B L E 6: Washability Data: + 28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	41.73	2.04	41.73	2.04	100.00	24.97	20.86	2.04
1.30 - 1.35	16.52	4.47	58.25	2.73	58.27	41.40	49.99	4.47
1.35 - 1.40	3.50	9.64	61.75	3.12	41.75	56.01	60.00	9.64
1.40 - 1.45	2.09	12.57	63.84	3.43	38.25	60.25	62.80	12.57
1.45 - 1.50	1.95	16.01	65.79	3.80	36.16	63.01	64.81	16.01
1.50 - 1.60	1.70	24.11	67.49	4.31	34.21	65.69	66.64	24.11
1.60 - 1.70	1.35	34.41	68.84	4.90	32.51	67.86	68.16	34.41
1.70 - 1.80	2.05	41.97	70.89	5.98	31.16	69.31	69.87	41.97
+ 1.80	29.11	71.24	100.00	24.97	29.11	71.24	85.44	71.24
Total	100.00	24.97						

May 8, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

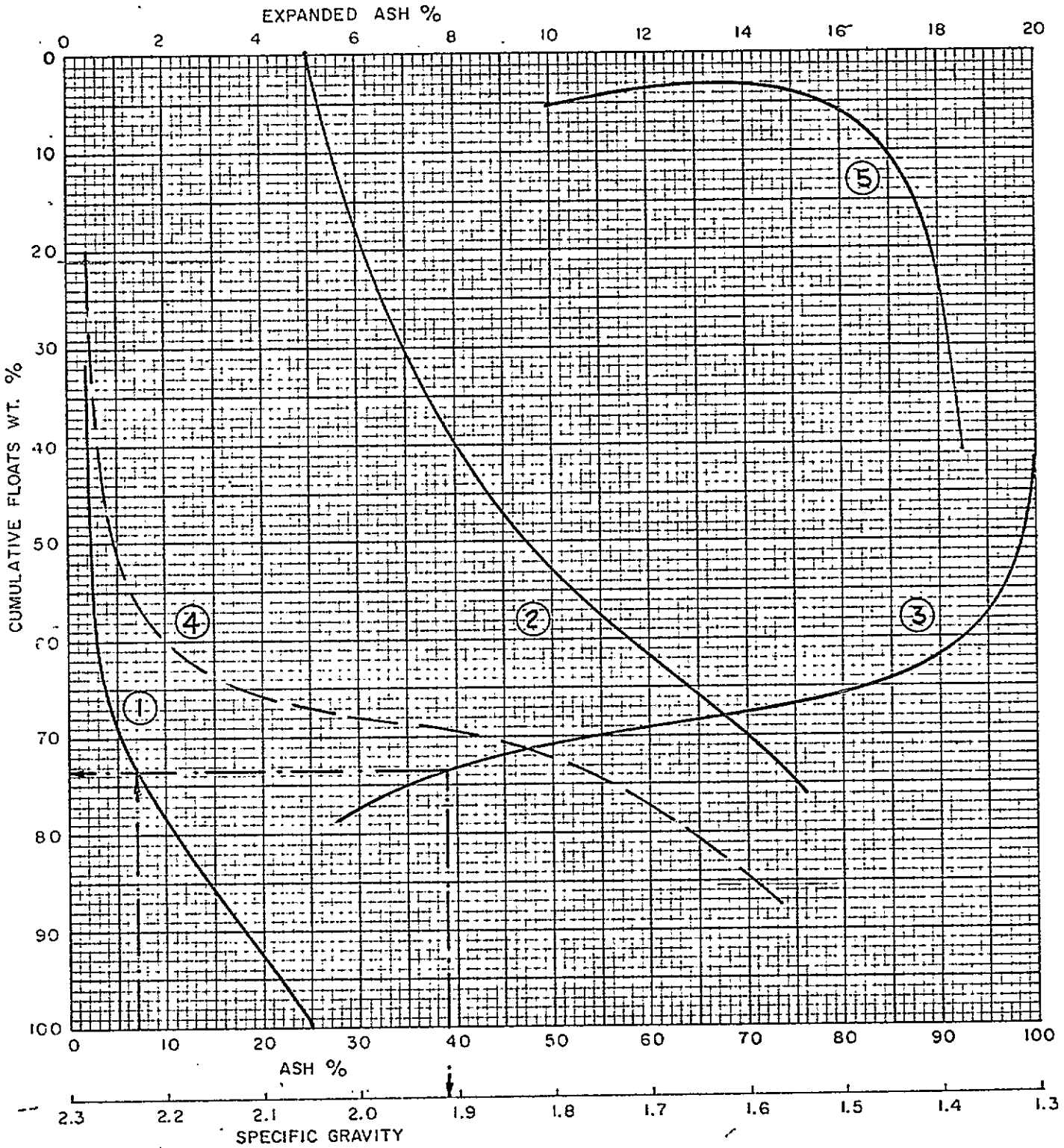
FIGURE

COMPANY Denison Mines Ltd.  
DRILL HOLE # QBD-7205 - Composite F  
FOOTAGE 454.4' - 462.0' (D1305 - D1306)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DENLSON MINES LTD.

Drill Hole # QBD-7205 - Composite F  
Footage: 484.4' - 462.0' - (D1305 - D1306)

T A B L E 7: Head Analysis of - 28 Mesh

Ash	17.39%
Volatile Matter	22.00%
Residual Moisture	1.19%
Fixed Carbon	59.42%
F.S.I.	5

May 9, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QBD-7205 - Composite F  
 Footage: 454.4' - 462.0' (D1305 - D1306)

T A B L E 8: Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions.

Specific Gravity	Wt. %	Ash %	V.M. %	F.C. %	Cum. Wt. % Floats	Cum. Ash %	Sum. F.S.I.
- 1.40	70.49	2.63	25.79	71.58	70.49	2.63	8
1.40 - 1.60	6.68	15.87	20.85	63.28	77.17	3.78	7½
1.60 - 1.80	3.01	38.20	18.24	43.56	80.18	5.07	7½
+ 1.80	19.82	66.42	11.72	21.86	100.00	17.23	5
Total	100.00	17.23	22.44	60.33			

June 8, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7205 - Composite F  
Footage: 484.4' - 462.0' (D1305 - D1306)

T A B L E 9: Froth Flotation Test on - 28 Mesh

Solids by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recover.	78.10%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	6.27	56.89
Volatile Matter, %	25.29	
Residual Moisture, %	1.17	
Fixed Carbon, %	67.27	
F.S.I.	7½	
Sulphur, %	0.37	

May 8, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada



DENISON MINES LTD.

Drill Hole #QBD-7205 - Composite F  
Footage: 454.4' - 462.0' (D1305 - D1306)

GLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for + 28 Mesh	1.91
Yield of Floats at 7% Ash in + 28 Mesh	73.50%
Weight of Floats at 1.91 in Composite Clean Coal	66.40%
Weight of Flotation Concentrate in Composite Clean Coal	33.60%

T A B L E 10:

Proximate Analysis of Clean Coal Composite

Ash	6.83%
Volatile Matter	24.12%
Residual Moisture	1.26%
Fixed Carbon	67.79%
F.S.I.	7
Sulphur	0.22%

May 8, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LIMITED

Drill Hole QBD 7208, Composite F Seam  
Footage: 788.2' - 798.5' (D1140-D1147)

SEAM F - FULL SECTION

The sample covers a full seam height of 10.3 feet including 2 feet of high ash material at the top. The roof is shale, and slightly carbonaceous. The floor is shale.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
7.43%	22.67%	5.0%	64.90%	0.31%	7½

\* Assuming 5% total moisture and  
7% ash (air dried basis)

DENISON MINES LTD.

Drill Hole # QBD-7208, Composite F  
Footage: 788.2' - 798.5' (D1140 - D1147)

T A B L E 1: Raw Sample Analysis.

Ash	18.56%
Volatile Matter	22.07%
Residual Moisture	0.72%
Fixed Carbon	58.65%
F.S.I.	4½
B.T.U./lb.	12,730
Sulphur	0.41

April 21, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QBD-7208, Composite F  
Footage: 788.2' - 798.5' (D1140 - D1147)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+ 28 Mesh	77.01
28 x 100 Mesh	16.64
- 100 Mesh	<u>6.35</u>
Total	100.00

May 16, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7208, Composite F  
Footage: 788.2' - 798.5' (D1140 - D1147)

T A B L E 3: Head Analysis of + 28 Mesh.

Ash	20.11%
Volatile Matter	20.95%
Residual Moisture	0.84%
Fixed Carbon	58.10%
F.S.I.	4

April 21, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada



DENISON MINES LTD.

Drill Hole # QBD-7208, Composite F  
 Footage: 788.2' - 798.5' (D1140 - D1147)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: + 28 Mesh.

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %
- 1.30	47.48	2.27	25.43	0.84	71.46
1.30 - 1.35	14.21	5.64	22.81	0.79	70.76
1.35 - 1.40	3.26	10.13	20.96	0.83	68.08
1.40 - 1.45	1.61	14.22	20.76	0.88	64.11
1.45 - 1.50	2.09	19.07	19.53	0.85	60.55
1.50 - 1.60	4.53	26.21	18.65	0.81	54.33
1.60 - 1.70	5.91	35.68	18.02	0.77	45.53
1.70 - 1.80	4.53	42.96	17.64	0.73	38.67
+ 1.80	16.38	71.31	12.11	0.75	15.83
Total	100.00	19.76	21.43	0.81	58.00

April 21, 1972

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QBD-7208, Composite F  
 Footage: 788.2' - 798.5' (D1140 - D1147)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling Index of Cumulative Floats: + 28 Mesh.

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	FSI
- 1.30	47.48	2.27	25.43	0.84	71.46	9+
- 1.35	61.69	3.05	24.83	0.83	71.29	8½
- 1.40	64.95	3.40	24.63	0.83	71.14	8½
- 1.45	66.56	3.66	24.54	0.83	70.97	8½
- 1.50	68.65	4.13	24.39	0.83	70.65	8½
- 1.60	73.18	5.50	24.03	0.83	69.64	8
- 1.70	79.09	7.75	23.58	0.82	67.85	7½
- 1.80	83.62	9.66	23.26	0.82	66.26	7
Total	100.00	19.76	21.43	0.81	58.00	4

DENISON MINES LTD.

Drill Hole # QBD-7208, Composite F  
Footage: 788.2' - 798.5' (D1140 - D1147)

T A B L E 6: Washability Data: + 28 Mesh.

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	47.48	2.27	47.48	2.27	100.00	19.76	23.74	2.27
1.30 - 1.35	14.21	5.64	61.69	3.05	52.52	35.57	54.58	5.64
1.35 - 1.40	3.26	10.13	64.95	3.40	38.31	46.67	63.32	10.13
1.40 - 1.45	1.61	14.22	66.56	3.66	35.05	50.07	65.75	14.22
1.45 - 1.50	2.09	19.07	68.65	4.13	33.44	51.80	67.60	19.07
1.50 - 1.60	4.53	26.21	73.18	5.50	31.35	53.98	70.91	26.01
1.60 - 1.70	5.91	35.68	79.09	7.75	26.82	58.67	76.13	35.68
1.70 - 1.80	4.53	42.96	83.62	9.66	20.91	65.17	81.35	42.96
+ 1.80	16.38	71.31	100.00	19.76	16.38	71.31	91.81	71.31
Total	100.00	19.76						

April 21, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

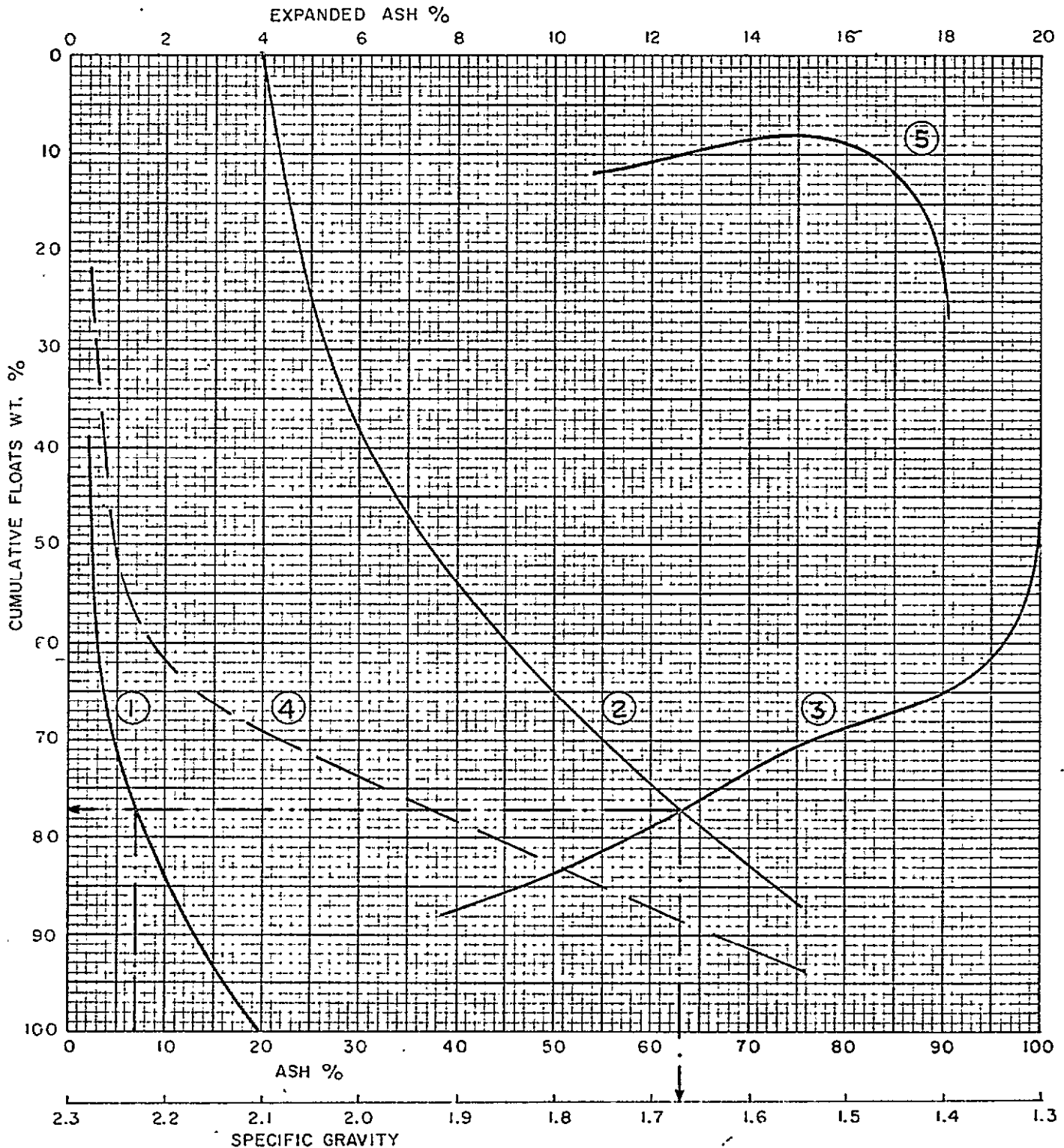
FIGURE

COMPANY DENISON MINES LTD.  
DRILL HOLE # QBD-7208, Composite F  
FOOTAGE 788.2' - 798.5' (D1140 - D1147)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE April 21, 1972

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole # QBD-7208, Composite F  
Footage: 788.2' - 798.5' (D1140 - D1147)

T A B L E 7: Head Analysis of - 28 Mesh.

Ash	13.14%
Volatile Matter	22.74%
Residual Moisture	0.69%
Fixed Carbon	63.43%
F.S.I.	6

April 21, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada



DENISON MINES LTD.

Drill Hole # QBD-7208, Composite F  
 Footage: 788.2' - 798.5' (D1140 - D1147)

T A B L E 8: Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions.

Specific Gravity	Wt. %	Ash %	V.M. %	F.C. %	Cum. Wt. % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	76.04	2.48	25.63	71.89	76.04	2.48	9
1.40 - 1.60	8.81	17.81	18.26	63.93	84.85	4.06	8½
1.60 - 1.80	6.09	37.96	16.33	45.71	90.94	6.34	8
+ 1.80	9.06	67.37	12.84	19.79	100.00	11.87	6½
Total	100.00	11.87	23.26	64.87			

May 16, 1972

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QBD-7208, Composite F  
Footage: 788.2' - 798.5' (D1140 - D1147)

T A B L E 9: Froth Flotation Test on - 28 Mesh.

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	93.09%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	9.77	59.22
Volatile Matter, %	23.19	
Residual Moisture, %	0.72	
Fixed Carbon, %	66.32	
F.S.I.	7	
Sulphur, %	0.40	

April 21, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QBD-7208, Composite F  
Footage: 788.2' - 798.5' (D1140 - D1147)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for + 28 Mesh	1.67
Yield of Floats at 7% Ash in + 28 Mesh	77.00%
Weight of Floats at 1.67 in Composite Clean Coal	73.50%
Weight of Flotation Concentrate in Composite Clean Coal	26.50%

T A B L E 10: Proximate Analysis of Clean Coal Composite.

Ash	7.76%
Volatile Matter	23.67%
Residual Moisture	0.80%
Fixed Carbon	67.77%
F.S.I.	7½
Sulphur	0.32%

April 21, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LIMITED

Drill Hole #QBD 7209, Composite F Seam  
Footage: 1242' - 1253' (D1040-1043)

SEAM F - FULL SECTION

A full section of F seam totalling 12 feet has been tested including high ash transition zones near the roof and floor. Both the roof and the floor are shale units.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
7.16%	22.36%	5.00%	65.48%	0.31%	7

\* Assuming 5% total moisture and 7% ash (air dried basis).

DENISON MINES LTD.

Drill Hole # QBD-7209 - Composite F  
Footage: 1242' - 1253' (D1040 to D1043)

T A B L E 1: Raw Sample Analysis

Ash	23.08%
Volatile Matter	20.65%
Residual Moisture	0.67%
Fixed Carbon	55.60%
F.S.I.	6
B.T.U./lb.	11,560
Sulphur	0.37%

April 26, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole # QBD-7209 - Composite F  
Footage: 1242' - 1253' (D1040 - D1043)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+28 Mesh	80.79
28 x 100 Mesh	13.51
-100 Mesh	<u>5.70</u>
Total	<u>100.00</u>

June 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7209 - Composite F  
Footage: 1242' - 1253' (D1040 to D1043)

T A B L E 3: Head Analysis of +28 Mesh

Ash	24.87%
Volatile Matter	19.84%
Residual Moisture	0.61%
Fixed Carbon	54.68%
F.S.I.	5½

April 26, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7209 - Composite F  
 Footage: 1242' - 1253' (D1040 to D1043)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: +28 Mesh

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %
- 1.30	44.67	3.08	24.86	0.65	71.41
1.30 - 1.35	10.99	4.65	22.56	0.66	72.13
1.35 - 1.40	4.86	8.57	21.62	0.59	69.22
1.40 - 1.45	2.45	12.96	20.49	0.60	65.95
1.45 - 1.50	1.68	18.05	20.03	0.58	61.34
1.50 - 1.60	30.1	27.36	19.54	0.58	52.52
1.60 - 1.70	4.33	36.35	18.21	0.61	44.83
1.70 - 1.80	2.98	43.86	16.32	0.57	39.25
+ 1.80	25.03	71.01	13.17	0.62	15.20
Total	100.00	24.40	20.63	0.63	54.34

April 26, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7209 - Composite F  
 Footage: 1242' - 1253' (D1040 to D1043)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling  
Index of Cumulative Floats: +28 Mesh

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I. *
- 1.30	44.67	3.08	24.86	0.65	71.41	9
- 1.35	55.66	3.39	24.41	0.65	71.55	8½
- 1.40	60.52	3.81	24.18	0.65	71.36	8½
- 1.45	62.97	4.16	24.04	0.65	71.15	8
- 1.50	64.65	4.52	23.93	0.64	70.91	8
- 1.60	67.66	5.54	23.74	0.64	70.08	8
- 1.70	71.99	7.39	23.41	0.64	68.56	7
- 1.80	74.97	8.84	23.12	0.64	67.40	7
Total	100.00	24.40	20.63	0.63	54.34	5½

\* F.S.I. by actual determination.

April 26, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7209 - Composite F  
 Footage: 1242' - 1253' (D1040 to D1043)

T A B L E 6: Washability Data: +28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash%	Floats		Sinks		Wt. %	Ash%
			Wt. %	Ash%	Wt. %	Ash%		
- 1.30	44.67	3.08	44.67	3.08	100.00	24.40	22.33	3.08
1.30 - 1.35	10.99	4.65	55.66	3.39	55.33	41.62	50.17	4.65
1.35 - 1.40	4.86	8.57	60.52	3.81	44.34	50.78	58.09	8.57
1.40 - 1.45	2.45	12.96	62.97	4.16	39.48	55.98	61.74	12.96
1.45 - 1.50	1.68	18.05	64.65	4.52	37.03	58.82	63.81	18.95
1.50 - 1.60	3.01	27.36	67.66	5.54	35.35	60.76	66.16	27.36
1.60 - 1.70	4.33	36.35	71.99	7.39	32.34	63.87	69.83	36.35
1.70 - 1.80	2.98	43.86	74.97	8.84	28.01	68.12	73.48	43.86
+ 1.80	25.03	71.01	100.00	24.40	25.03	71.01	87.48	71.01
Total	100.00	24.40						

April 26, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.



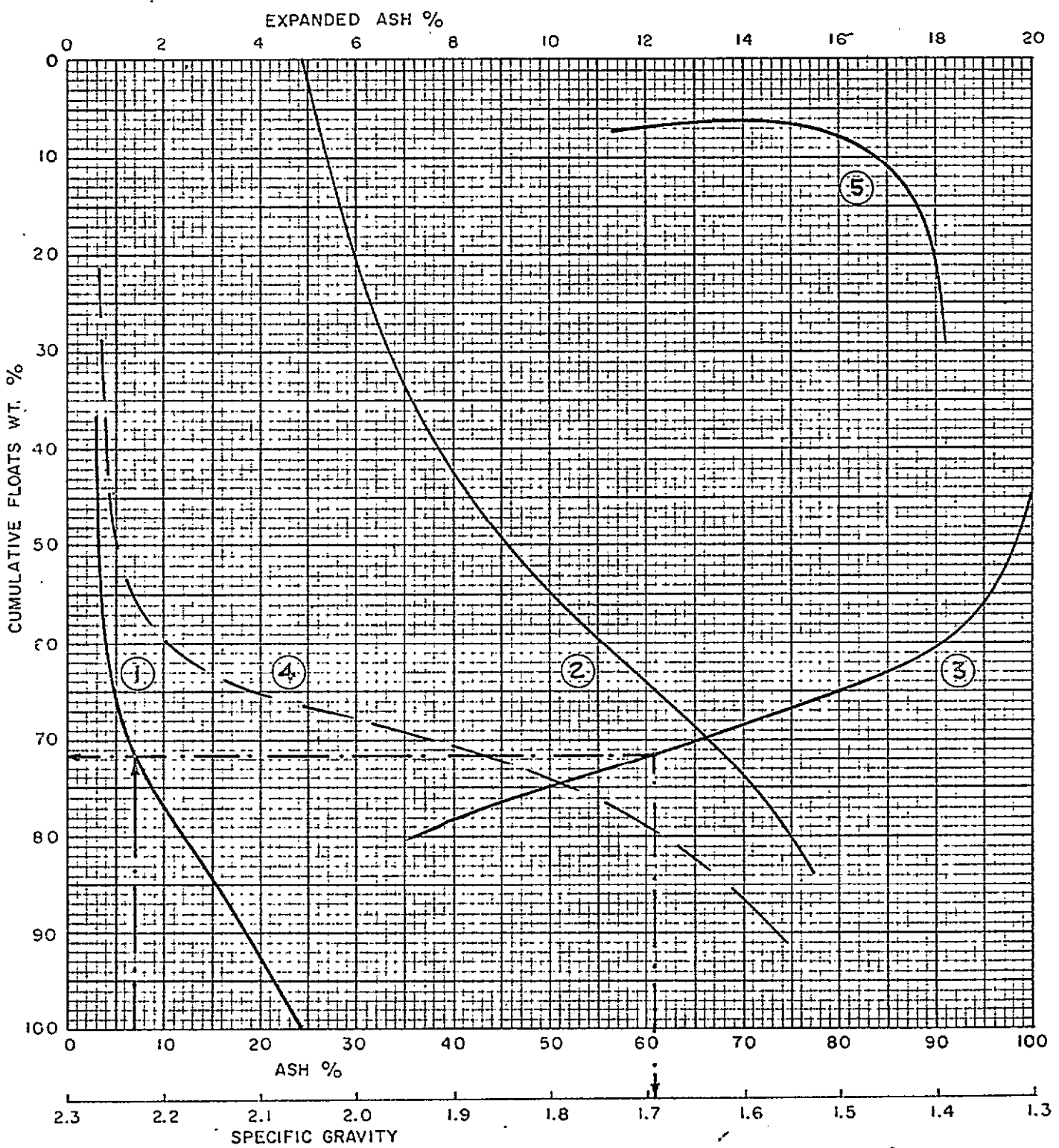
FIGURE

COMPANY Denison Mines Ltd.  
DRILL HOLE # QBD 7209 - Composite F  
FOOTAGE 1242' - 1253' (D1040 to D1043)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE : April 26, 1972.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole #QBD-7209 - Composite F  
Footage: 1242' - 1253. (D1040 D1043)

T A B L E 7: Head Analysis of -28 Mesh

Ash	16.30%
Volatile Matter	21.60%
Residual Moisture	0.70%
Fixed Carbon	61.40%
F.S.I.	7

April 26, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7209 - Composite F  
 Footage: 1242' - 1253' (D1040 - D1043)

T A B L E 8: Fbat-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions.

Specific Gravity	Wt. %	Ash%	V.M. %	F.C. %	Cum. Wt. % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	69.69	2.72	24.09	73.19	69.69	2.72	8½
1.40 - 1.60	7.81	18.92	20.21	60.87	77.50	4.35	8
1.60 - 1.80	5.70	37.05	17.82	45.13	83.20	6.59	7½
+ 1.80	16.80	69.19	13.46	17.35	100.00	17.11	7
Total	100.00	17.11	21.64	61.25			

June 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole# QBD-7209 - Composite F  
Footage: 1242' - 1253' (D1040 to D1043)

T A B L E 9: Froth Flotation Test on -28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	86.74%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash	9.56%	57.89%
Volatile Matter	23.01%	
Residual Moisture	0.74%	
Fixed Carbon	66.69%	
F.S.I.	8	
Sulphur	0.38%	

April 26, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

DrillHole # QBD-7209 - Composite F  
Footage: 1242' - 1253' - (D1040 to D1043)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for +28 Mesh	1.69
Yield of Floats at 7% Ash in +28 Mesh	71.80%
Weight of Floats at 1.69 in Composite Clean Coal	77.60%
Weight of Flotation Concentrate in Composite Clean Coal	22.40%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	7.49%
Volatile Matter	23.39%
Residual Moisture	0.63%
Fixed Carbon	68.49%
F.S.I.	7
Sulphur	0.32%

April 26, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LIMITED

Drill Hole QBD 7216, Composite F Seam  
Footage: 782.0' - 791.0' (D1213-D1218)

SEAM F - FULL SECTION

The sample represents a full 8.9 foot section of F seam including 1.5 feet of high ash material near the roof. The roof is shale and the floor is a silty shale.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
7.13%	22.61%	5.00%	65.26%	0.23%	7

\* Assuming 5% total moisture and  
7% ash (air dried basis).

DENISON MINES LTD.

Drill Hole # QBD-7216, Composite F  
Footage: 782.0' - 791.0' (D1213 - D1218)

T A B L E 1: Raw Sample Analysis

Ash	17.86%
Volatile Matter	20.84%
Residual Moisture	1.31%
Fixed Carbon	59.99%
F.S.I.	5½
B.T.U./lb.	12,090
Sulphur	0.31%

DENISON MINES LTD.

Drill Hole QBD-7216 - Composite F  
Footage: 782.0' - 791.0' ( D-1213 - D-1218)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+28 Mesh	80.19
28 x 100 Mesh	14.56
- 100 Mesh	<u>5.25</u>
Total	<u>100.00</u>

June 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7216, Composite F  
Footage: 782.0' - 791.0' (D1213 - D1218)

T A B L E 3: Head Analysis of +28 Mesh

Ash	18.46%
Volatile Matter	21.04%
Residual Moisture	1.33%
Fixed Carbon	59.17%
F.S.I.	6

DENISON MINES LTD.

Drill Hole # QBD-7216, Composite F  
 Footage: (D1213 - D1218) 782.0' - 791.0'

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: +28 Mesh

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %
- 1.30	47.47	1.81	25.53	1.37	71.29
1.30 - 1.35	11.56	4.58	22.17	1.36	71.89
1.35 - 1.40	5.07	8.06	21.40	1.30	69.24
1.40 - 1.45	2.21	12.35	20.67	1.35	65.63
1.45 - 1.50	1.86	18.11	20.12	1.29	60.48
1.50 - 1.60	3.30	24.36	19.68	1.25	45.29
1.60 - 1.70	2.91	30.01	19.06	1.28	49.65
1.70 - 1.80	4.08	40.14	17.88	1.30	40.68
+ 1.80	21.54	57.90	13.05	1.31	27.74
Total	100.00	18.19	21.34	1.34	59.13



DENISON MINES LTD.

Drill Hole # QBD-7216, Composite F  
 Footage: 782.0' - 791.0' (D1213 - D1218)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling Index of Cumulative Floats: +28 Mesh

Sp. Gr.	Wt. %	Ash%	V.M. %	R.M. %	F.C. %	F.S.I.*
- 1.30	47.47	1.81	25.53	1.37	71.29	9
- 1.35	59.03	2.35	24.87	1.37	71.44	9
- 1.40	64.10	2.80	24.60	1.36	71.24	8½
- 1.45	66.31	3.12	24.47	1.36	71.05	8½
- 1.50	68.17	3.53	24.35	1.36	70.76	8½
- 1.60	71.47	4.49	24.13	1.36	70.02	8
- 1.70	74.38	5.49	23.93	1.35	69.23	7½
- 1.80	78.46	7.29	23.62	1.35	67.74	7
Total	100.00	18.19	21.34	1.34	59.13	6

DENISON MINES LTD.

Drill Hole # QBD-7216, Composite F  
Footage 782.0' - 791.0' (D1213 - D1218)

T A B L E 6: Washability Data +28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt.%v	Ash%	Floats		Sinks		Wt.%	Ash%
			Wt.%	Ash%	Wt.%	Ash%		
- 1.30	47.47	1.81	47.47	1.81	100.00	18.19	23.73	1.81
1.30 - 1.35	11.56	4.58	59.03	2.35	52.53	33.00	53.25	4.58
- 1.35 - 1.40	5.07	8.06	64.10	2.80	40.97	41.02	61.56	8.06
1.40 - 1.45	2.21	12.35	66.31	3.12	35.90	45.67	65.20	12.35
1.45 - 1.50	1.86	18.11	68.17	3.53	33.69	47.86	67.24	18.11
1.50 - 1.60	3.30	24.36	71.47	4.49	31.83	49.60	69.82	24.36
1.60 - 1.70	2.91	30.01	74.38	5.49	28.53	52.52	72.92	30.01
1.70 - 1.80	4.08	40.14	78.46	7.29	25.62	55.07	76.92	40.14
+ 1.80	21.54	57.90	100.00	18.19	21.54	57.90	89.23	57.90
Total	100.00	18.19						

April 29, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

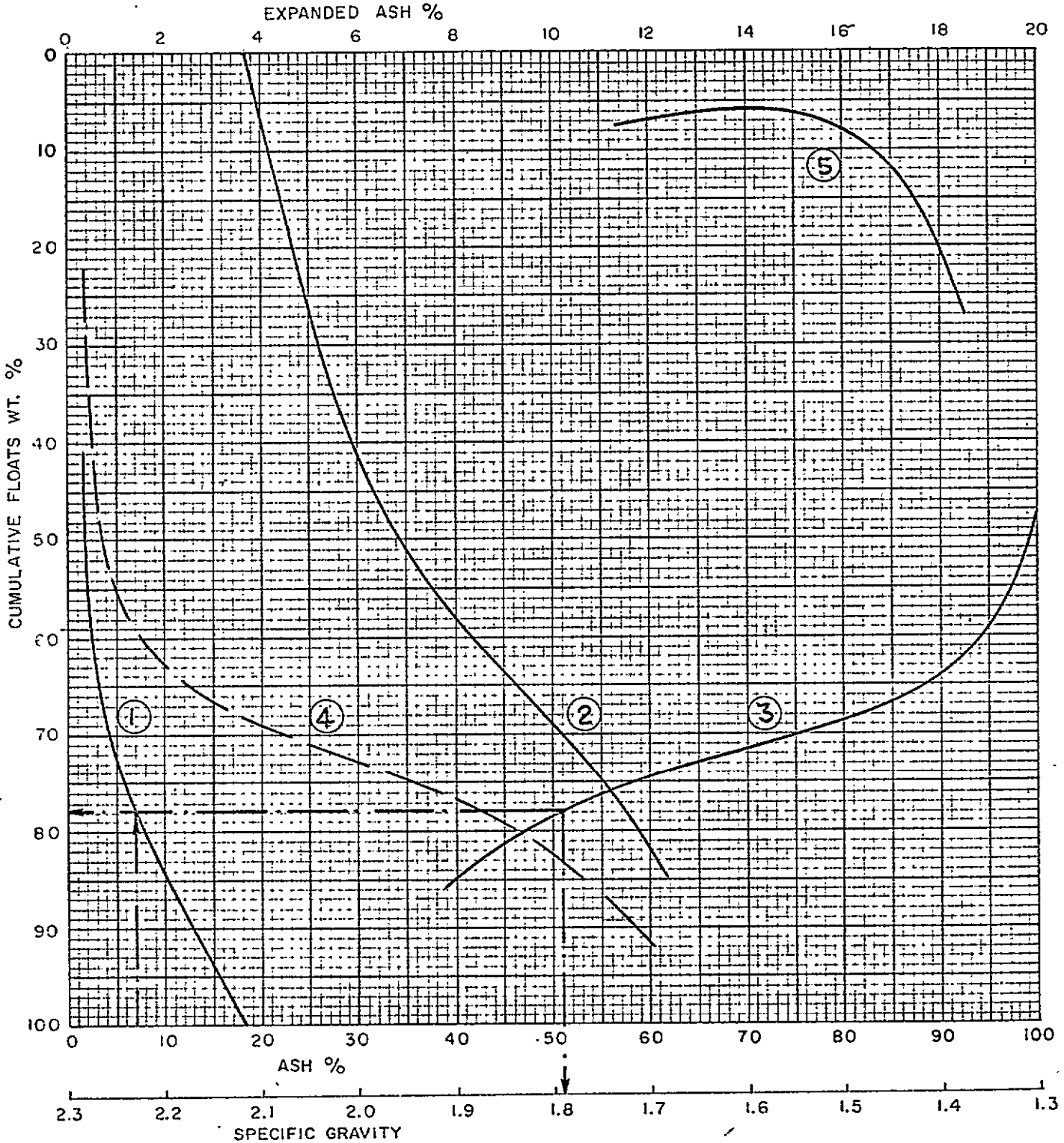
FIGURE

COMPANY DENISON MINES LTD.  
DRILL HOLE # QBD-7216, Composite F  
FOOTAGE 782.0' - 791.0' (D1213 - D1218)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE April 29, 1972

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole # QBD-7216, Composite F  
Footage: 782.0' - 791.0' (D1213 - D1218)

T A B L E 7: Head Analysis of -28 Mesh

Ash	14.52%
Volatile Matter	22.27%
Residual Moisture	1.11%
Fixed Carbon	62.10%
F.S.I.	4½

April 29, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7216 - Composite F  
 Footage: 782.0' - 791.0' (D-1213 - D-1218)

T A B L E 8: Float-Sink of 28 x100 Mesh and Proximate Analysis of Fractions

Specific Gravity	Wt. %	Ash %	VM. %	F.C. %	Cum. Wt. % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	75.85	2.13	24.96	72.91	75.85	2.13	8
1.40 - 1.60	5.77	16.53	19.54	63.93	81.62	3.15	7½
1.60 - 1.80	3.36	36.15	17.23	46.62	84.98	4.42	6½
+ 1.80	15.02	57.57	13.79	28.64	100.00	12.43	5
Total	100.00	12.43	22.71	64.86			

June 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole # QBD-7216, Composite F  
Footage: 782.0' - 791.0' (D1213 - D1218)

T A B L E 9: Froth Flotation Test on -28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	86.33%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash	9.02%	46.27%
Volatile Matter	22.81%	
Residual Moisture	1.15%	
Fixed Carbon	67.02%	
F.S.I.	7	
Sulphur	0.34%	

April 29, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7216, Composite F  
Footage: 782.0' - 791.0' D1213 - D1218)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for +28 Mesh	1.79
Yield of Floats at 7% Ash in +28 Mesh	78.00%
Weight % of Floats at 1.79 in Composite Clean Coal	78.50%
Weight % of Flotation Concentrate in Composite Clean Coal	21.50%

T A B L E 10 Proximate Analysis of Clean Coal Composite

Ash	7.41%
Volatile Matter	23.49%
Residual Moisture	1.29%
Fixed Carbon	67.81%
F.S.I.	7
Sulphur	0.24%

DENISON MINES LIMITED

Drill Hole #QBD 7217, Composite F Seam  
Footage: 1122.5 to 1132.0 (D1250-D1256)

SEAM F - FULL SECTION

A full thickness of 9.5 feet of F seam has been composited including 1.2 feet of high ash material at the top. Approximately 1 foot of carbonaceous shale has been left as roof material. The main roof and floor are shale units.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.53%	23.40%	5.00%	65.07%	0.23%	7½

\* Assuming 5% total moisture and 7% ash (air dried basis).

DENISON MINES LTD.

Drill Hole #QBD-7217 - Composite F  
Footage: 1122.5' - 1132.0' (D1250 to D1256)

T A B L E 1: Raw Sample Analysis

Ash	11.99%
Volatile Matter	23.57%
Residual Moisture	1.45%
Fixed Carbon	62.99%
F.S.I.	5½
B.T.U./lb.	13,290
Sulphur	0.31%

May 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7217 - Composite F  
Footage: 1122.5' - 1132.0' (D1250 - D1256)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+28 Mesh	79.44
28 x 100 Mesh	14.93
-100 Mesh	<u>5.63</u>
Total	<u>100.00</u>

June 8, 1972:

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole # QBD-7217 - Composite F  
Footage: 1122.5' - 1132.0' (D1250 to D1256)

T A B L E 3: Head Analysis of +28 Mesh

Ash	12.28%
Volatile Matter	23.26%
Residual Moisture	1.51%
Fixed Carbon	62.95%
F.S.I.	4½

May 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7217 - Composite F  
 Footage: 1122.5' - 1132.0' (D1250 to D1256)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: +28 Mesh

Sp. Gr.	Wt. %	Ash%	V.M. %	R.M. %	F.C. %
- 1.30	58.77	1.97	25.62	1.58	70.83
1.30 - 1.35	13.09	4.67	22.95	1.55	70.83
1.35 - 1.40	3.93	8.77	22.13	1.54	67.56
1.40 - 1.45	2.49	13.98	21.78	1.50	62.74
1.45 - 1.50	2.29	19.15	20.55	1.52	58.78
1.50 - 1.60	4.97	28.01	19.19	1.49	51.31
1.60 - 1.70	3.72	38.98	17.77	1.50	41.75
1.70 - 1.80	1.88	47.52	16.01	1.54	34.93
+ 1.80	8.86	65.58	14.26	1.55	18.61
Total	100.00	12.44	23.12	1.56	62.87

May 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

DENISON MINES Ltd.

Drill Hole #QBD-7217 - Composite F  
Footage: 1122.5' - 1132.0' (D1250 to D1256)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling  
Index of Cumulative Floats: +28 Mesh

Sp. Gr.	Wt.%	Ash%	V.M.%	R.M.%	F.C.%	F.S.I.*
- 1.30	58.77	1.97	25.62	1.58	70.83	8½
- 1.35	71.86	2.46	25.13	1.57	70.84	8
- 1.40	75.79	2.79	24.98	1.57	70.66	8
- 1.45	78.28	3.14	24.88	1.57	70.41	8
- 1.50	80.57	3.60	24.75	1.57	70.08	8
- 1.60	85.54	5.02	24.43	1.56	68.99	7½
- 1.70	89.26	6.43	24.15	1.56	67.86	7½
- 1.80	91.14	7.28	23.98	1.56	67.18	7½
Total	100.00	12.45	23.12	1.56	62.87	4½

\*F.S.I. by actual determination.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7217 - Composite F  
 Footage: 1122.5' = 1132.0' (D1250 to D1256)

T A B L E 6: Weight %, Proximate Analysis and Free Swelling Index of Cumulative Floats: +28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash%	Floats		Sinks		Wt. %	Ash%
			Wt. %	Ash%	Wt. %	Ash%		
- 1.30	58.77	1.97	58.77	1.97	100.00	12.45	29.36	1.97
1.30 - 1.35	13.09	4.67	71.86	2.46	41.23	27.38	65.32	4.67
1.35 - 1.40	3.93	8.77	75.79	2.79	28.14	37.94	73.82	8.77
1.40 - 1.45	2.49	13.98	78.28	3.14	24.21	42.68	77.04	13.98
1.45 - 1.50	2.29	19.15	80.57	3.60	21.72	45.97	79.42	19.15
1.50 - 1.60	4.97	28.01	85.54	5.02	19.43	49.13	83.06	28.01
1.60 - 1.70	3.72	38.98	89.26	6.43	14.46	56.39	87.30	38.98
1.70 - 1.80	1.88	47.52	91.14	7.28	10.74	62.42	90.20	47.52
+ 1.80	8.86	65.58	100.00	12.45	8.86	65.58	95.57	65.58
Total	100.00	12.45						

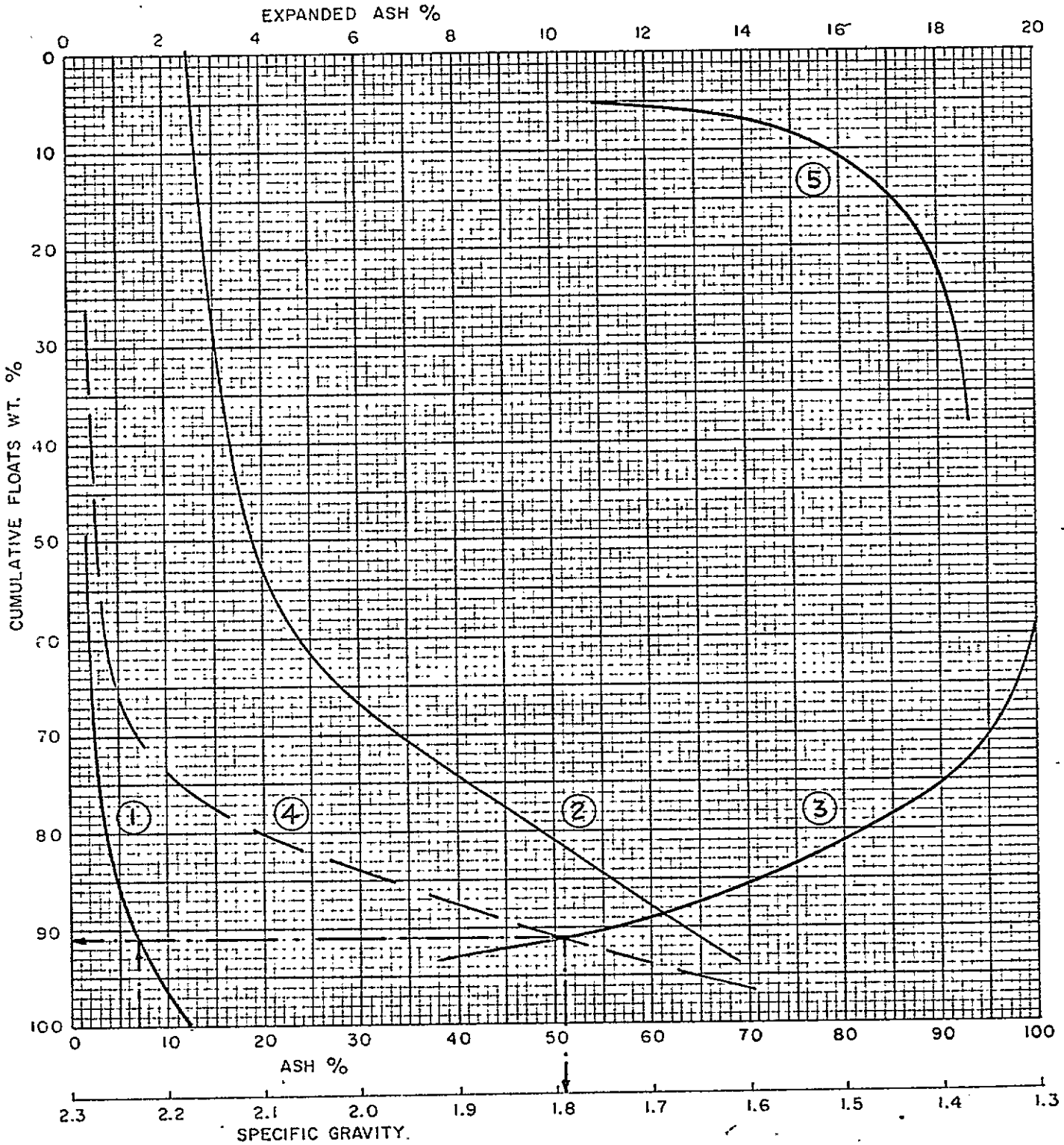
FIGURE

COMPANY Denison Mines Ltd.  
DRILL HOLE # QBD-7217 - Composite F  
FOOTAGE 1122.5' - 1132.0' (D1250 to D1256)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE : May 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole # QBD-7217 - Composite F  
Footage: 1122.5' - 1132.0' (D1250 to D1256)

T A B L E 7: Head Analysis of -28 Mesh

Ash	10.25%
Volatile Matter	24.24%
Residual Moisture	1.33%
Fixed Carbon	64.18%
F.S.I.	6

May 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole# QBD-7217 - Composite F  
 Footage: 1122.5' - 1132.0' (D1250 - D1256)

T A B L E 8: Float-Sink on 28 x 100 Mesh and Proximate Analysis of Fractions

Specific Gravity	Wt. %	Ash %	V.M. %	F.C. %	Cum. Wt. % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	81.32	2.21	24.96	72.83	81.32	2.21	8½
1.40 - 1.60	8.47	17.14	20.15	62.71	89.79	3.62	8
1.60 - 1.80	3.75	34.48	17.98	47.54	93.54	4.86	8
+ 1.80	6.46	62.29	16.11	21.60	100.00	8.57	7
Total	100.00	8.57	23.72	67.71			

June 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7217 - Composite F  
Footage: 1122.5' - 1132.0' (D1250 To D1256)

T A B L E 9: Froth Flotation Test on -28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	84.55%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash	5.79%	30.29%
Volatile Matter	25.01%	
Residual Moisture	1.39%	
Fixed Carbon	67.81%	
F.S.I.	6½	
Sulphur	0.32%	

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

May 2, 1972.

DENISON MINES LTD.

Drill Hole # QBD-7217 - Composite F  
Footage: 1122.5' - 1132.0' (D1250 to D1256)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for +28 Mesh	1.79
Yield of Floats at 7% in +28 Mesh	91.00%
Weight % of Floats at 1.71 in Composite Clean Coal	80.60%
Weight % of Flotation Concentrate in Composite Clean Coal	19.40%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	6.77%
Volatile Matter	24.27%
Residual Moisture	1.48%
Fixed Carbon	67.48%
F.S.I.	7½
Sulphur	0.24%

May 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LIMITED

Drill Hole #QBD 7218, Composite F Seam  
Footage: 296.5' - 306.5' (D1118 to D1123)

SEAM.F - FULL SECTION

10.1 feet of F seam have been composited including gradational zones near the roof and floor. Both roof and floor are shale units.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
7.96%	22.70%	5.0%	64.34%	0.24%	7

\* Assuming 5% total moisture and 7% ash (air dried basis).

DENISON MINES LTD.

Drill Hole #QBD-7218 - Composite F  
Footage: 296.5' - 306.5' (D1118 to D1123)

T A B L E 1: Raw Sample Analysis

Ash	24.84%
Volatile Matter	20.25%
Residual Moisture	1.25%
Fixed Carbon	53.66%
F.S.I.	6½
B.T.U./lb.	11,100
Sulphur	0.31%

April 27, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QBD-7218 - Composite F  
Footage: 296.5' - 306.5' (D-1118 - D-1123)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+ 28 Mesh	78.35
28 x 100 Mesh	15.81
- 100 Mesh	<u>5.84</u>
Total	<u>100.00</u>

June 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole #QBD-7218 - Composite F  
Footage: 296.5' - 306.5' (D1118 to D1123)

T A B L E 3: Head Analysis of + 28 Mesh

Ash	26.31%
Volatile Matter	20.43%
Residual Moisture	1.15%
Fixed Carbon	52.11%
F.S.I.	6

April 27, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #QBD-7218 - Composite F  
Footage: 296.5' - 306.5' (D1118 to D1123)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: + 28 Mesh

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %
- 1.30	43.90	2.02	25.20	1.21	71.57
1.30 - 1.35	12.89	5.10	22.32	1.19	71.39
1.35 - 1.40	3.73	9.96	21.31	1.14	67.59
1.40 - 1.45	1.82	13.68	20.63	1.15	64.54
1.45 - 1.50	1.54	17.47	20.02	1.12	61.39
1.50 - 1.60	2.11	26.19	19.13	1.12	53.56
1.60 - 1.70	1.97	36.54	17.89	1.10	44.47
1.70 - 1.80	1.83	43.18	16.21	1.12	39.49
+ 1.80	30.21	69.86	11.61	1.17	17.33
Total	100.00	25.60	19.98	1.18	53.24

April 27, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QBD-7218 - Composite F  
 Footage: 296.5' - 306.5' (D1118 to D1123)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling Index of Cumulative Floats: + 28 Mesh

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	FSI *
- 1.30	43.90	2.02	25.20	1.21	71.57	9+
- 1.35	56.79	2.72	24.55	1.21	71.52	9
- 1.40	60.52	3.17	24.35	1.20	71.28	9
- 1.45	62.34	3.47	24.24	1.20	71.09	8½
- 1.50	63.88	3.81	24.14	1.20	70.85	8½
- 1.60	65.99	4.53	23.98	1.20	70.29	8
- 1.70	67.96	5.45	23.80	1.19	69.56	7½
- 1.80	69.79	6.44	23.60	1.19	68.77	7
Total	100.00	25.60	19.98	1.18	53.24	6

\* F.S.I. by actual determination.

April 27, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #QBD-7218 - Composite F  
 Footage: 296.5' - 306.5' (D1118 to D1123)

T A B L E 6: Washability Data: + 28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	43.90	2.02	43.90	2.02	100.00	25.60	21.95	2.02
1.30 - 1.35	12.89	5.10	56.79	2.72	56.10	44.05	50.34	5.10
1.35 - 1.40	3.73	9.96	60.52	3.17	43.21	55.67	58.66	9.96
1.40 - 1.45	1.82	13.68	62.34	3.47	39.48	59.99	61.43	13.68
1.45 - 1.50	1.54	17.47	63.88	3.81	37.66	62.23	63.11	17.47
1.50 - 1.60	2.11	26.19	65.99	4.53	36.12	64.14	64.93	26.19
1.60 - 1.70	1.97	36.54	67.96	5.45	34.01	66.49	66.98	36.54
1.70 - 1.80	1.83	43.18	69.79	6.44	32.04	68.34	68.87	43.18
+ 1.80	30.21	69.86	100.00	25.60	30.21	69.86	84.90	69.86
Total	100.00	25.60						

April 27, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada

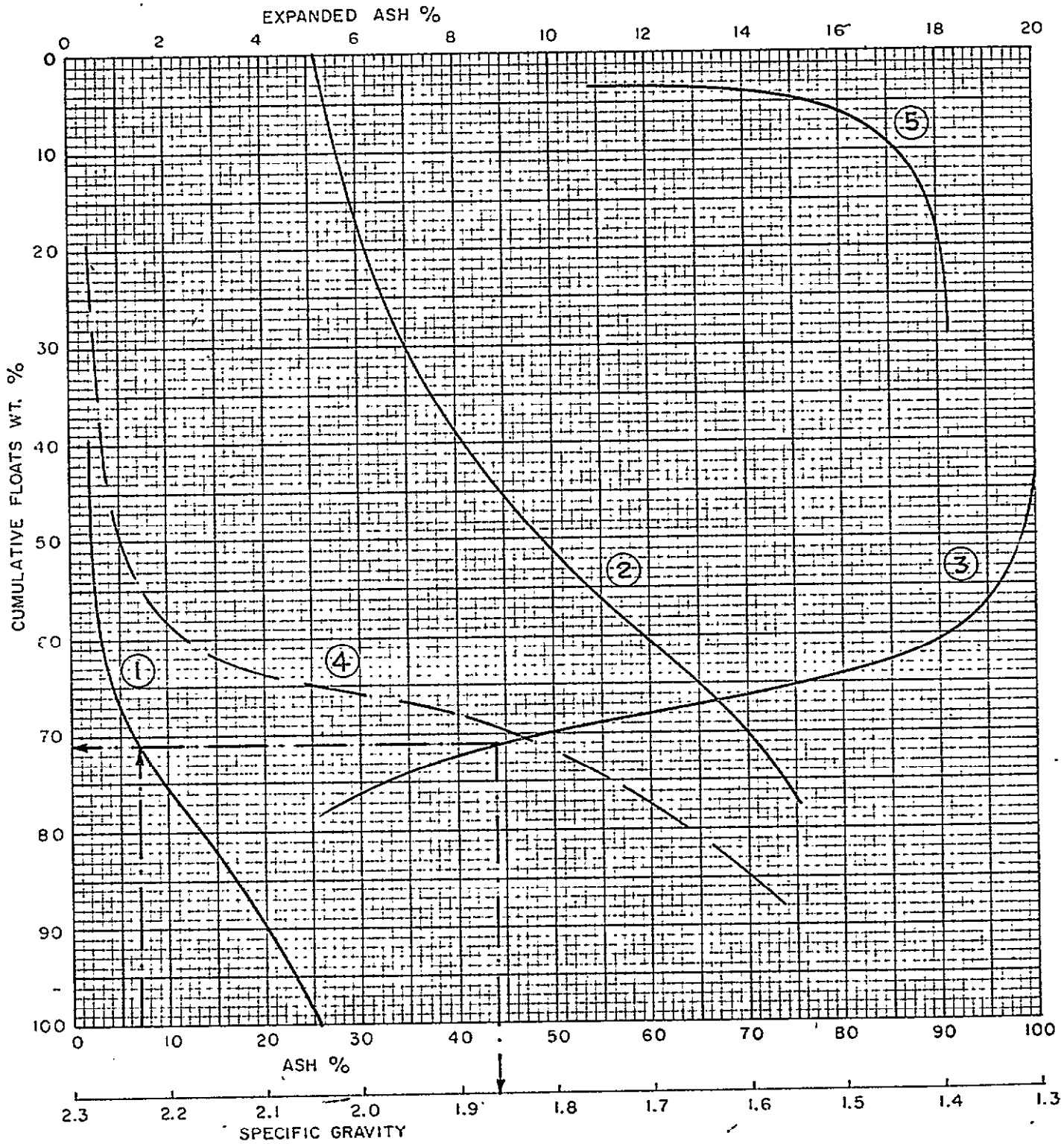
FIGURE

COMPANY Denison Mines Ltd.  
DRILL HOLE # QBD-7218 - Composite F  
FOOTAGE 296.5' - 306.5' (D1118 to D1123)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DATE: April 27, 1972.

DENISON MINES LTD.

Drill Hole # QBD-7218 - Composite F  
Footage 296.5' - 306.5' (D1118-D1123)

T A B L E 7: Head Analysis of - 28 Mesh

Ash	17.42%
Volatile Matter	22.24%
Residual Moisture	1.30%
Fixed Carbon	59.04%
F.S.I.	7½

April 27, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada



DENISON MINES LTD.

Drill Hole # QBD-7218 - Composite F  
 Footage: 296.5' - 306.5' (D-1118 - D-1123)

T A B L E 8: Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions.

Specific Gravity	Wt. %	Ash %	V.M. %	F.C. %	Cum. Wt. % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	68.48	2.56	24.68	72.76	68.48	2.56	9
1.40 - 1.60	7.51	16.26	20.52	63.22	75.99	3.91	8
1.60 - 1.80	2.74	38.51	18.03	43.46	78.73	5.12	7½
+ 1.80	21.27	68.76	14.35	16.89	100.00	18.65	8
Total	100 .00	18.65	21.99	59.36			

June 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7218 - Composite F  
Footage: 296.5' - 306.5' (D1118 to D1123)

T A B L E 9: Froth Flotation Test on - 28 Mesh

Solids, By weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	87.57%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash	12.16%	57.16%
Volatile Matter	23.59%	
Residual Moisture	1.15%	
Fixed Carbon	63.10%	
F.S.I.	8	
Sulphur	0.33%	

April 27, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #QBD-7218 - Composite F  
Footage: 296.5' - 306.5' (D1118 to D1123)

GLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for + 28 Mesh	1.86
Yield of Floats at 7% Ash in + 28 Mesh	71.00%
Weight of Floats at 1.86 in Composite Clean Coal	74.50%
Weight of Flotation Concentrate in Composite Clean Coal	25.50%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	8.28%
Volatile Matter	23.62%
Residual Moisture	1.16%
Fixed Carbon	66.94%
F.S.I.	7
Sulphur	0.25%

April 27, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LIMITED

Drill Hole QBD 7219, Composite F Seam  
Footage: 920.0' - 930.0' (D1340)

SEAM F - FULL SECTION

Only 10% of the core was recovered for this seam. Therefore, complete analysis of core was not warranted.

DENISON MINES LTD.

Drill Hole #QBD-7219, Composite F  
Footage: 920.0' - 930.0' (D1340)

T A B L E 1: Raw Sample Analysis

Ash	4.90%
Volatile Matter	24.13%
Residual Moisture	0.52%
Fixed Carbon	70.45%
F.S.I.	9
B.T.U./lb.	14,760
Sulphur	0.41%

May 3, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

BABCOCK ANALYSIS

<u>Drill Hole #</u>	<u>Footage</u>	<u>Ash % Clean Coal</u>	<u>Phosphorous Pentoxide % of Ash</u>	<u>Phosphorous in Coal Product at Stated Ash</u>
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SEAM G

D-7102

484.0'-491.0'

7.95

.22

.0076



SEAM G

PRODUCT QUALITY

Only one diamond drill core analysis is available for seam G. This indicates that a product with the following approximate analysis might be obtained. An adit has been driven in this seam, but the results are not yet to hand.

*not corrected for H<sub>2</sub>O.*

<u>ASH</u>	<u>VOL.</u>	<u>TOTAL MOISTURE</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.7	24.5	5.0	67.0	0.5	8
<i>adit 6-7</i>	<i>22.5</i>	<i>5.0</i>	<i>65.8</i>	<i>0.39</i>	<i>7</i>

RESERVE CALCULATION

SEAM G

Borehole No.	Area of Influence Sq.Ft. x 10 <sup>6</sup>	Thickness Feet	L. Tons in Place x 10 <sup>6</sup>	Geol. & Mining Recovery 40% L. Tons Mined x 10 <sup>6</sup>	Estimated Wash Plant Recovery %	Net Product L. Tons x 10 <sup>6</sup>
7101		N O T	D R I L L E D			
7102	6.66	7.0	1.727	0.691	55	0.380
7103		N O T	P R E S E N T			
7104		N O T	P R E S E N T			
7105		N O T	P R E S E N T			
7106		N O T	P R E S E N T			
7107	16.92	6.3	3.950	1.580	55	0.869
7108		N O T	D R I L L E D			
7110		N O T	P R E S E N T			
7114		N O T	P R E S E N T			
<b>TOTAL</b>	<b>23.58</b>		<b>5.677</b>			<b>1.249</b>

Coal is assumed to weigh 83 lbs. per solid cubic foot.

DENISON MINES LIMITED

Drill Hole #D-7102, Composite G  
Footage: 484.0' - 491.0'

SEAM G

The sample represents a full seam height of 6.9 feet. Floor and roof contacts are sharp although there is a small 6" shale parting 8" from the roof.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
7.82%	22.64%	5.00%	64.55%	0.34%	8

\* Assuming 5% total moisture and 7% Ash (air dried basis)

DENISON MINES LTD.

Drill Hole #D-7102, Composite G  
Footage: 484.0' - 491.0'

T A B L E 1. Raw Sample Analyses

Ash	17.62%
Volatile Matter	20.93%
Residual Moisture	0.28%
Fixed Carbon	62.70%
F.S.I.	6½
B.T.U./lb.	12,115
Sulphur	0.43%

December 20, 1971

CYCLONE ENGINEERING SALES LTD.  
EDMONTON, ALBERTA, CANADA

DENISON MINES LTD.

Drill Hole #D-7102, Composite G  
Footage: 484.0' - 491.0'

T A B L E 2. Size Consist of Head Sample

	<u>Weight %</u>
+ 28 mesh	80.85
28 x 100 mesh	13.22
- 100 mesh	5.93
	<hr/>
Total	100.00

December 20, 1971

CYCLONE ENGINEERING SALES LTD.  
EDMONTON, ALBERTA, CANADA

DENISON MINES LTD.

Drill Hole #D-7102, Composite G  
Footage: 484.0' - 491.0'

T A B L E 3. Head Analysis of + 28 Mesh

Ash	21.45%
Volatile Matter	21.01%
Fixed Carbon	57.54%
F.S.I.	6

December 20, 1971

CYCLONE ENGINEERING SALES LTD.  
EDMONTON, ALBERTA, CANADA



DENISON MINES LTD.

Drill Hole #D-7102, Composite G  
 Footage: 484.0' - 491.0'

T A B L E 4. Weight % and Proximate Analyses of Specific Gravity Fractions: + 28 Mesh.

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.%
-1.30	25.05	2.67	25.98	0.48	70.87
1.30 - 1.35	15.27	6.75	23.29	0.42	69.54
1.35 - 1.40	12.33	10.97	21.25	0.44	67.34
1.40 - 1.45	10.10	15.73	19.98	0.44	63.85
1.45 - 1.50	7.64	19.71	18.86	0.46	60.97
1.50 - 1.55	3.90	25.99	18.56	0.41	55.04
1.55 - 1.60	3.57	30.14	17.44	0.45	51.97
1.60 - 1.70	6.53	35.68	16.51	0.48	57.33
1.70 - 1.80	2.13	45.20	14.82	0.42	39.56
+ 1.80	13.48	70.40	11.92	0.50	17.18
<b>Total</b>	<b>100.00</b>	<b>21.02</b>	<b>20.49</b>	<b>0.46</b>	<b>58.03</b>

DENISON MINES LTD.

Drill Hole #D-7102, Composite G  
Footage: 484.0' - 491.0'

T A B L E 5: Weight %, Proximate Analyses and Free Swelling Index of Cumulative Floats : +28 Mesh

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I.
- 1.30	25.05	2.67	25.98	0.48	70.87	9+
- 1.35	40.32	4.22	24.96	0.46	70.36	9
- 1.40	52.65	5.80	24.09	0.45	69.66	8½
- 1.45	62.75	7.40	23.43	0.45	68.72	8
- 1.50	70.39	8.73	22.93	0.45	67.89	8
- 1.55	74.29	9.64	22.70	0.45	67.21	7½
- 1.60	77.86	10.58	22.46	0.45	66.51	7½
- 1.70	84.39	12.52	22.00	0.45	65.03	6½
- 1.80	86.52	13.33	21.83	0.45	64.39	6½
Total	100.00	21.02	20.49	0.46	58.03	6

December 20, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #D-7102, Composite G  
Footage: 484.0' - 491.0'

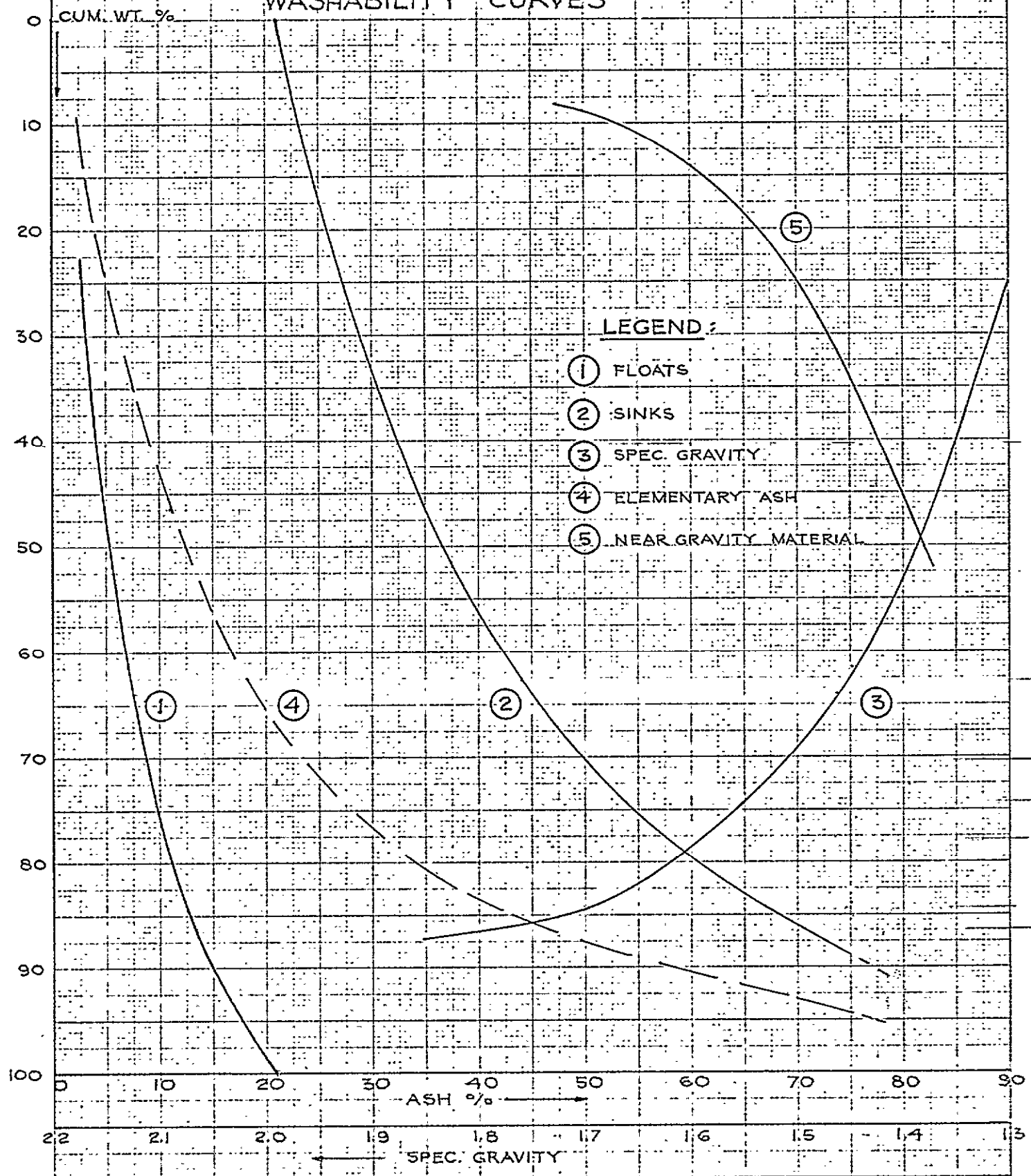
T A B L E 6. Washability Data: + 28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	25.05	2.67	25.05	2.67	100.00	21.02	12.52	2.67
1.30 - 1.35	15.27	6.75	40.32	4.22	74.95	27.15	32.69	6.75
1.35 - 1.40	12.33	10.97	52.65	5.80	59.68	32.37	46.48	10.97
1.40 - 1.45	10.10	15.73	62.75	7.40	47.35	37.94	57.70	15.73
1.45 - 1.50	7.64	19.71	70.39	8.73	37.25	43.97	66.57	19.71
1.50 - 1.55	3.90	25.99	74.29	9.64	29.61	50.23	72.34	25.99
1.55 - 1.60	3.57	30.14	77.86	10.58	25.71	53.80	76.07	30.14
1.60 - 1.70	6.53	35.68	84.39	12.52	22.14	57.74	81.13	35.68
1.70 - 1.80	2.13	45.20	86.52	13.33	15.61	66.96	85.45	45.20
+ 1.80	13.48	70.40	100.00	21.02	13.48	70.40	93.26	70.40
Total	100.00	21.02						

# DENISON MINES LTD.

DRILL HOLE # D-7102 COMPOSITE G  
FOOTAGE 484.0' - 491.0'

## WASHABILITY CURVES



K&S 10 X 10 TO THE CENTIMETER 46 1512  
 MADE IN U.S.A.  
 KEUFFEL & ESSER CO.

DENISON MINES LTD.

Drill Hole #D-7102, Composite G  
Footage: 484.0' - 491.0'

T A B L E 7: Head Analysis of -28 Mesh

Ash	15.04%
Volatile Matter	23.45%
Fixed Carbon	61.51%
F.S.I.	7½

December 20, 1971.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON, ALBERTA, CANADA.

DENISON MINES LTD.

Drill Hole #D-7102, Composite G  
Footage: 484.0' - 491.0'

T A B L E 8. Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions.

Sp. Gr.	Wt. %	Ash %	V.M.%	F.C.%	Cum. Wt. % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	70.80	5.48	25.14	69.38	70.80	5.48	9+
1.40 - 1.60	17.44	19.36	20.34	60.30	88.24	8.22	9
1.60 - 1.80	4.82	38.46	17.58	43.96	93.06	9.79	9
+ 1.80	6.94	69.73	14.25	16.02	100.00	13.95	9

December 20, 1971

CYCLONE ENGINEERING SALES LTD.  
EDMONTON, ALBERTA, CANADA



DENISON MINES LTD.

Drill Hole #D-7102, Composite G  
Footage: 484.0' - 491,0'

T A B L E 9: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	89.68%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	11.50	45.02
Volatile Matter, %	24.15	
Fixed Carbon, %	64.35	
F.S.I.	8	

December 20, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #D-7102, Composite G  
Footage: 484.0' - 491.0'

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for + 28 Mesh	1.44
Yield	63.00%
Weight of Floats at 1.44 in the Composite Clean Coal	74.79%
Weight of Flotation Concentrate in Composite Clean Coal	25.21%

T A B L E 10. Proximate Analysis of Clean Coal Composite

Ash	8.19%
Volatile Matter	23.72%
Residual Moisture	0.45%
Fixed Carbon	67.64%
F.S.I.	8
Sulphur	0.36%

December 20, 1971

CYCLONE ENGINEERING SALES LTD.  
EDMONTON, ALBERTA, CANADA

DENISON MINES LIMITED

Drill Hole QBD 7204, Composite G Seam  
Footage: 392.0' - 396.5' (D1056-D1057)

SEAM G - FULL SECTION

Seam G is 5.0 feet thick below a 1.4 foot gradational roof. The main roof is shale. The floor is also gradational for approximately 3 feet.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.78%	24.85%	5.0%	63.36%	0.54%	7½

\* Assuming 5% total moisture and 7% ash (air dried basis)

DENISON MINES LTD.

Drill Hole #QB-D-7204, Composite G  
Footage: 392.0' - 396.5' (D1056, D1057)

T A B L E 1: Raw Sample Analysis.

Ash	24.09%
Volatile Matter	22.52%
Residual Moisture	0.67%
Fixed Carbon	52.72%
F.S.I.	6½
B.T.U./lb.	11,860
Sulphur	0.74%

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite G  
Footage: 392.0' - 396.5' (D1056 - D1077)

T A B L E 2: Size Consist of Head Sample.

	<u>Weight %</u>
+ 28 Mesh	81.44
- 28 Mesh	<u>18.56</u>
Total	100.00

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite G  
Footage: 392.0' - 396.5' (D1056, D1057)

T A B L E 3: Head Analysis of + 28 Mesh.

Ash	25.25%
Volatile Matter	21.61%
Residual Moisture	0.70%
Fixed Carbon	52.44%
F.S.I.	6

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada



DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite G  
 Footage: 392.0' - 396.5' (D1056, D1057)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: + 28 Mesh.

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %
- 1.30	41.94	2.20	26.86	0.76	70.18
1.30 - 1.35	10.22	5.94	23.94	0.75	69.37
1.35 - 1.40	3.32	11.33	22.76	0.70	65.21
1.40 - 1.45	4.10	16.49	21.85	0.71	60.95
1.45 - 1.50	3.44	20.89	20.71	0.71	57.69
1.50 - 1.60	5.64	26.21	19.53	0.69	53.57
1.60 - 1.70	4.19	34.29	18.42	0.70	46.59
1.70 - 1.80	3.71	44.16	16.49	0.73	38.62
+ 1.80	23.44	75.33	11.21	0.78	12.68
Total	100.00	25.51	21.18	0.75	52.56

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite G  
 Footage: 392.0' - 396.5' (D1056, D1057)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling Index of Cumulative Floats: + 28 Mesh.

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I.
- 1.30	41.94	2.20	26.86	0.76	70.18	9+
- 1.35	52.16	2.93	26.29	0.76	70.02	9
- 1.40	55.48	3.44	26.08	0.75	69.73	8½
- 1.45	59.58	4.33	25.79	0.75	69.13	8½
- 1.50	63.02	5.24	25.51	0.75	68.50	8
- 1.60	68.66	6.96	25.02	0.74	67.28	7½
- 1.70	72.85	8.53	24.64	0.74	66.09	7
- 1.80	76.56	10.26	24.24	0.74	64.76	7
Total	100.00	25.51	21.18	0.75	52.56	6

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite G  
 Footage: 392.0' - 396.5' (D1056, D1057)

T A B L E 6: Washability Data: + 28 Mesh.

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	41.94	2.20	41.94	2.20	100.00	25.51	20.97	2.20
1.30 - 1.35	10.22	5.94	52.16	2.93	58.06	42.35	47.05	5.94
1.35 - 1.40	3.32	11.33	55.48	3.44	47.84	50.13	53.82	11.33
1.40 - 1.45	4.10	16.49	59.58	4.33	44.52	53.02	57.53	16.49
1.45 - 1.50	3.44	20.89	63.02	5.24	40.42	56.73	61.30	20.89
1.50 - 1.60	5.64	26.21	68.66	6.96	36.98	60.06	65.84	26.21
1.60 - 1.70	4.19	34.29	72.85	8.53	31.34	66.15	70.76	34.29
1.70 - 1.80	3.71	44.16	76.56	10.26	27.15	71.07	74.70	44.16
+ 1.80	23.44	75.33	100.00	25.51	23.44	75.33	88.28	75.33
Total	100.00	25.51						

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada

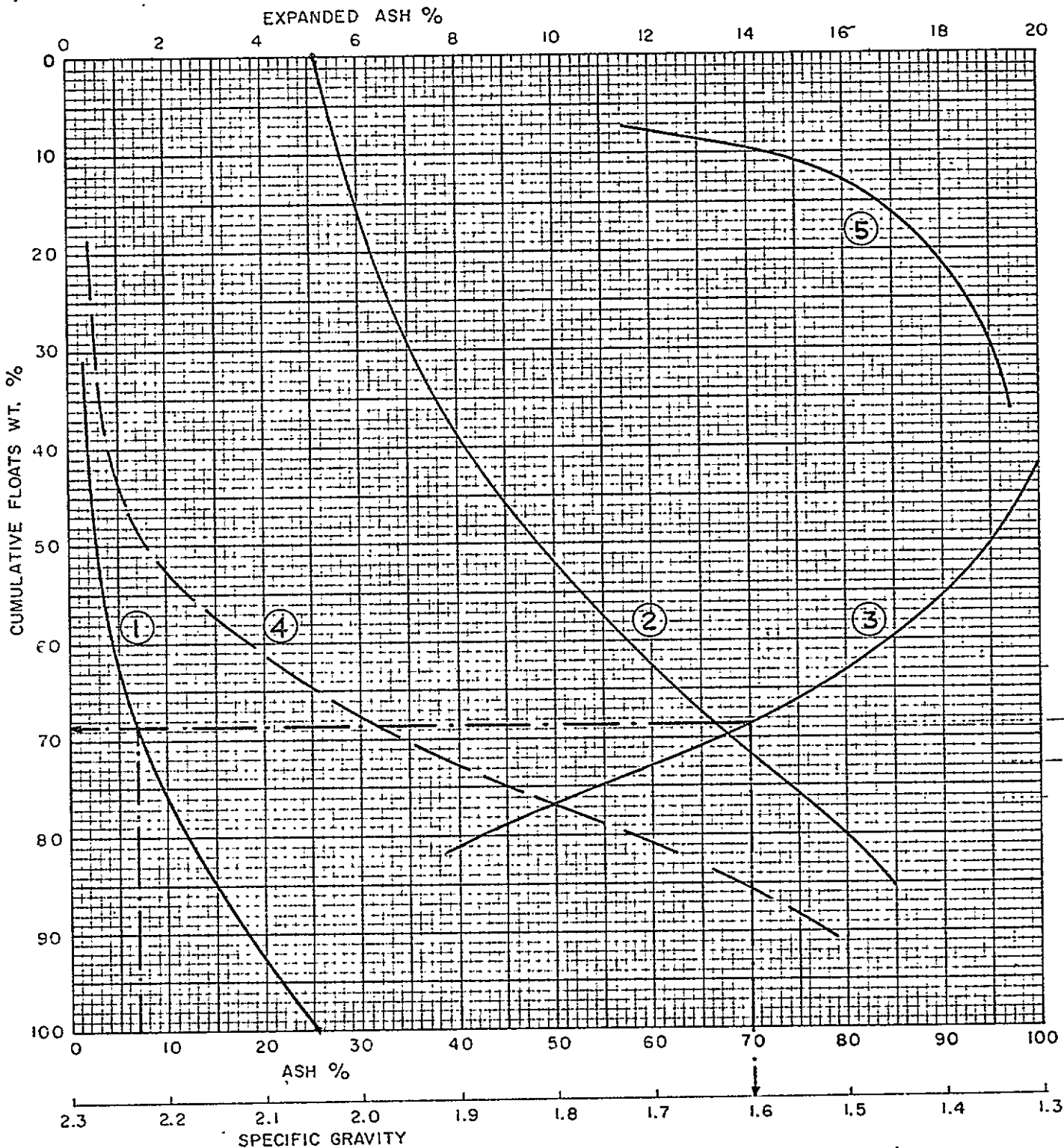
FIGURE

COMPANY DENISON MINES LTD.  
DRILL HOLE # QB-D-7204, Composite G  
FOOTAGE 392.0' - 396.5' (D1056, D1057)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite G  
Footage: 392.0' - 396.5' (D1056 - D1057)

T A B L E 7: Head Analysis of - 28 Mesh.

Ash	18.01%
Volatile Matter	23.92%
Residual Moisture	0.60%
Fixed Carbon	57.47%
F.S.I.	7½

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #QB-D-7204, Composite G  
Footage: 392.0' - 396.5' (D1056, D1057)

T A B L E 8: Float-Sink of 28 x 100 Mesh and Proximate  
Analysis of Fractions.

There was not sufficient sample available to complete  
these analyses.

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada



DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite G  
Footage: 392.0' - 396.5' (D1056, D1057)

T A B L E 9: Froth Flotation Test on - 28 Mesh.

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	74.45%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	7.48	48.19
Volatile Matter, %	25.86	
Residual Moisture, %	0.65	
Fixed Carbon, %	66.01	
F.S.I.	8	
Sulphur, %	0.65	

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite G  
Footage: 392.0' - 396.5' (D1056, D1057)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for + 28 Mesh	1.60
Yield of Floats at 7% Ash in + 28 Mesh	68.80%
Weight of Floats at 1.60 in the Composite Clean Coal	80.20%
Weight of Floatation Concentrate in Composite Clean Coal	19.80%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	7.09%
Volatile Matter	25.98%
Residual Moisture	0.71%
Fixed Carbon	66.22%
F.S.I.	7½
Sulphur	0.56%

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LIMITED

Drill Hole QBD 7205, Composite G Seam  
Footage: 506.2' - 509.8' (D1307-D1310)

SEAM G - FULL SECTION

A full 3.6 feet of G seam have been tested although a 0.6 foot rider seam 2.3 feet above the seam has been excluded. Both the roof and floor are silty shale.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
9.46%	23.47%	5.00%	62.07%	0.43%	7½

\* Assuming 5% total moisture and 7% ash (air dried basis).

DENISON MINES LTD.

Drill Hole # QBD-7205 - Composite G  
Footage: 506.2' - 509.8' (D1307 to D1310)

T A B L E 1: Raw Sample Analysis

Ash	26.01%
Volatile Matter	19.88%
Residual Moisture	1.27%
Fixed Carbon	52.84%
F.S.I.	3½
B.T.U./lb.	10,620
Sulphur	0.52%

May 9, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #ABD-7205 - Composite G  
Footage 506.2' - 509.8' (D1307 to D1310)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+ 28 Mesh	72.49
- 28 Mesh	<u>27.51</u>
Total	<u>100.00</u>

May 9, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QBD-7205 - Composite G  
Footage: 506.2' - 509.8' (D1307 to D1310)

T A B L E 3: Head Analysis of + 28 Mesh

Ash	27.20%
Volatile Matter	19.06%
Residual Moisture	1.30%
Fixed Carbon	52.44%
F.S.I.	3

May 9, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QBD-7205 - Composite G  
 Footage: 506.2' - 509.8' (D1307 to D1310)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: +28 Mesh

Sp. Gr.	Wt. %	Ash%	V.M. %	R.M. %	F.C. %
- 1.30	13.31	2.29	27.56	1.28	68.87
1.30 - 1.35	11.25	5.67	25.51	1.35	67.47
1.35 - 1.40	12.17	9.91	22.47	1.31	66.31
1.40 - 1.45	9.39	16.24	20.74	1.25	61.77
1.45 - 1.50	6.37	20.04	18.93	1.27	59.76
1.50 - 1.60	14.82	27.78	17.77	1.23	53.23
1.60 - 1.70	8.61	36.10	16.91	1.33	45.66
1.70 - 1.80	6.64	44.15	15.11	1.29	39.45
+ 1.80	17.44	66.05	11.35	1.32	21.28
Total	100.00	26.63	19.50	1.29	52.58

May 9, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole # QBD-7205 - Composite G  
 Footage: 506.2' - 509.8' (D1307 to D1310)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling  
Index of Cumulative Floats: +28 Mesh

Sp. Gr.	Wt. %	Ash%	V.M. %	R.M. %	F.C. %	F.S.I. *
- 1.30	13.31	2.29	27.56	1.28	68.87	9+
- 1.35	24.56	3.84	26.62	1.31	68.23	8½
- 1.40	36.73	5.85	25.25	1.31	67.59	8½
- 1.45	46.12	7.97	24.33	1.30	66.40	8
- 1.50	52.49	9.43	23.67	1.30	65.60	8
- 1.60	67.31	13.47	22.37	1.28	62.88	7½
- 1.70	75.92	16.04	21.75	1.29	60.92	7
- 1.80	82.56	18.30	21.22	1.29	59.19	7
Total	100.00	26.63	19.50	1.29	52.58	3

\* F.S.I. by actual determination.

May 9, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7205 - Composite G  
 Footage: 506.2' - 509.8' - (D1307 to D1310)

T A B L E 6: Washability Data: +28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash%	Floats		Sinks		Wt. %	Ash%
			Wt. %	Ash%	Wt. %	Ash%		
- 1.30	13.31	2.29	13.31	2.29	100.00	26.63	6.65	2.29
1.30 - 1.35	11.25	5.67	24.56	3.84	86.69	30.36	18.93	5.67
1.35 - 1.40	12.17	9.91	36.73	5.85	75.44	34.04	30.64	9.91
1.40 - 1.45	9.39	16.24	46.12	7.97	63.27	38.69	41.42	16.24
1.45 - 1.50	6.37	20.04	52.49	9.43	53.88	42.60	49.30	20.04
1.50 - 1.60	14.82	27.78	67.31	13.47	47.51	45.62	59.90	27.78
1.60 - 1.70	8.61	36.10	75.92	16.04	32.69	53.71	71.61	36.10
1.70 - 1.80	6.64	44.15	82.56	18.30	24.08	60.01	79.24	44.15
+ 1.80	17.44	66.05	100.00	26.63	17.44	66.05	91.28	66.05
Total	100.00	26.63						

May 9, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

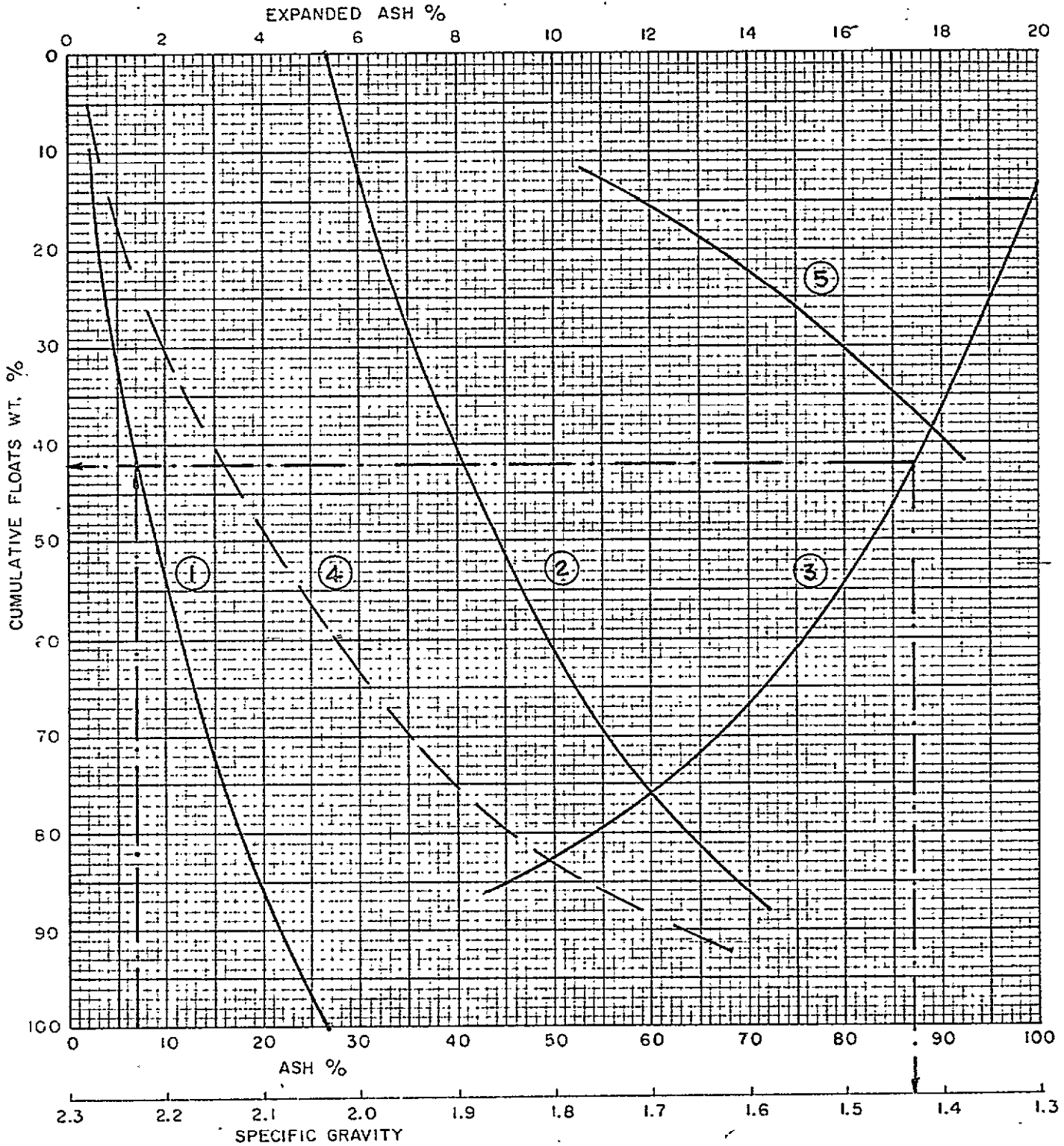
FIGURE

COMPANY Denison Mines Ltd.  
DRILL HOLE # QBD-7205 - Composite G  
FOOTAGE 506.2' - 509.8' (D1307 to D1310)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE : May 9, 1972.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole # QBD-7205 - Composite G  
Footage: 506.2' - 509.8' (D1307 to D1310)

T A B L E 7: Head Analysis of -28 Mesh

Ash	22.11%
Volatile Matter	21.28%
Residual Moisture	1.21%
Fixed Carbon	55.40%
F.S.I.	4

May 9, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7205 - Composite G  
Footage: 506.2' - 509.8' (D1307 to D1310)

T A B L E 9: Froth Flotation Test on -28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	80.43%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash	13.61%	55.50%
Volatile Matter	22.74%	
Residual Moisture	1.23%	
Fixed Carbon	62.42%	
F.S.I.	5½	
Sulphur	0.58%	

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

May 9, 1972.

DENISON MINES LTD.

Drill Hole #QBD-7205 - Composite G  
Footage: 506.2' - 509.8' (D1307 to D1310)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for +28 Mesh	1.43
Yield of Floats at 7% Ash in +28 Mesh	42.00%
Weight % of Floats at 1.43 in Composite Clean Coal	57.90%
Weight % of Flotation Concentrate in Composite Clean Coal	42.10%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	9.83%
Volatile Matter	24.39%
Residual Moisture	1.27%
Fixed Carbon	64.51%
F.S.I.	7½
Sulphur	0.45%

May 9, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

SEAM H

PRODUCT QUALITY

Only one borehole intersected the seam (R-7106). The seam is low in volatiles. The full analysis on washed coal is as follows:

<u>ASH</u>	<u>VOL.</u>	<u>TOTAL MOISTURE</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.7	19.81	5.0	68.5	0.26	8½



## RESERVE CALCULATION

SEAM H

Borehole No.	Area of Influence Sq.Ft. x 10 <sup>6</sup>	Thickness Feet	L. Tons in Place x 10 <sup>6</sup>	Geol. & Mining Recovery 40% L. Tons Mined x 10 <sup>6</sup>	Estimated Wash Plant Recovery %	Net Product L. Tons x 10 <sup>6</sup>
7101	-	N O T	D R I L L E D			
7102	-	N O T	P R E S E N T			
7103	-	N O T	P R E S E N T			
7104	-	N O T	P R E S E N T			
7105	-	N O T	P R E S E N T			
7106	4.00	9.7	1.438	0.575	Not included. single area too small	
7107	-	N O T	P R E S E N T			
7108	-	N O T	P R E S E N T			
7110	-	N O T	P R E S E N T			
7114	-	N O T	P R E S E N T			
TOTAL	4.00		1.328			Nil

Coal is assumed to weigh 83 lbs. per solid cubic foot.

DENISON MINES LIMITED

Drill Hole #R-7106, Composite D  
Footage: 677' - 687' (419 - 428)

SEAM H

The composite represents a total seam thickness of 9.7 feet including a 2" shale parting 5" down from the roof. Roof and floor contacts are relatively sharp.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL</u>	<u>MOIST</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.7%	19.81%	5%	68.52%	0.26%	8 1/2

\* Assuming 5% total moisture  
and 7% ash (air dried basis)

DENISON MINES LTD.

Drill Hole #R-7106, Composite D  
Footage: 677' - 687' (419 - 428)

T A B L E 1: Raw Sample Analyses

Ash	27.12%
Volatile Matter:	17.39%
Residual Moisture:	0.89%
Fixed Carbon:	54.60%
Free Swelling Index:	4½
B.T.U./lb.	10,760
Sulphur:	0.36%

November 4, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7106, Composite D  
 Footage: 677' - 687' (419 - 428)

T A B L E 2: Weight % and Proximate Analyses of Specific Gravity Fractions

Sp. gr.	Weight %	Ash %	V.M. %	R.M. %	F.C.%
- 1.30	20.03	2.29	23.12	0.53	74.06
1.30 - 1.35	19.14	5.14	20.46	0.65	73.75
1.35 - 1.40	11.87	9.10	19.49	0.84	70.57
1.40 - 1.45	6.29	14.45	18.63	0.97	65.95
1.45 - 1.50	6.18	20.65	17.71	1.11	60.53
1.50 - 1.55	4.87	21.77	17.68	1.13	59.42
1.55 - 1.60	2.47	29.24	16.72	1.17	52.87
1.60 - 1.70	5.21	35.04	15.47	1.17	48.32
1.70 - 1.80	2.70	42.26	15.24	1.21	41.29
+ 1.80	21.24	80.37	7.16	1.28	11.19
Total	100.00	26.53	17.14	0.91	55.42

November 4, 1971.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7106, Composite D  
Footage: 677' - 687' (419-428)

T A B L E 3: Weight %, Proximate Analyses and Free Swelling Index of Cumulative Floats

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C.%	F.S.I.
- 1.30	20.03	2.29	23.12	0.53	74.06	9+
- 1.35	39.17	3.68	21.82	0.59	73.91	9
- 1.40	51.04	4.94	21.28	0.65	73.13	8½
- 1.45	57.33	5.99	20.99	0.68	72.34	8½
- 1.50	63.51	7.41	20.67	0.72	71.20	8
- 1.55	68.38	8.44	20.46	0.75	70.35	7½
- 1.60	70.85	9.16	20.33	0.77	69.74	7
- 1.70	76.06	10.93	19.99	0.80	68.28	6½
- 1.80	78.76	12.00	19.83	0.81	67.36	6
Total	100.00	26.53	17.14	0.91	55.42	4½

November 4, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7106, Composite D  
Footage: 677' 687' (419 - 428)

T A B L E 4: Washability Data

Sp. Gr.	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash%	Floats		Sinks		Wt. %	Ash%
			Wt. %	Ash%	Wt. %	Ash%		
- 1.30	20.03	2.29	20.03	2.29	100.00	26.53	10.01	2.29
1.30 - 1.35	19.14	5.14	39.17	3.68	79.97	32.60	29.60	5.14
1.35 - 1.40	11.87	9.10	51.04	4.94	60.83	41.24	45.10	9.10
1.40 - 1.45	6.29	14.45	57.33	5.99	48.96	49.03	54.19	14.45
1.45 - 1.50	6.18	20.65	63.51	7.41	42.67	54.13	60.42	20.65
1.50 - 1.55	4.87	21.77	68.38	8.44	36.49	59.80	65.94	21.77
1.55 - 1.60	2.47	29.24	70.85	9.16	31.62	65.65	69.61	29.24
1.60 - 1.70	5.21	35.04	76.06	10.93	29.15	68.74	73.45	35.04
1.70 - 1.80	2.70	42.26	78.76	12.01	23.94	76.07	77.41	42.26
+ 1.80	21.24	80.37	100.00	26.53	21.24	80.37	89.38	80.37
<b>Total</b>	<b>100.00</b>	<b>26.53</b>						

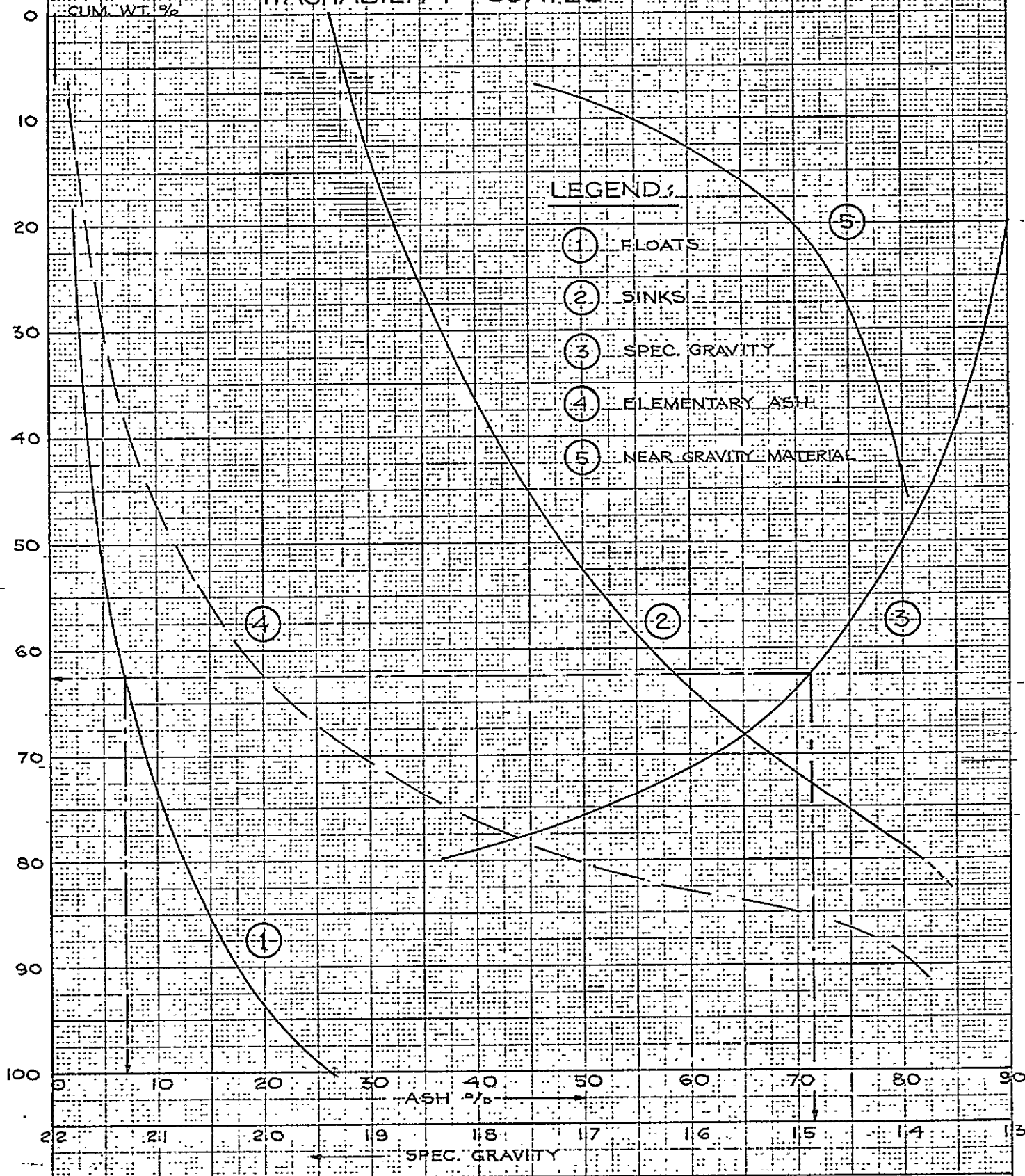
November 4, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

# DENISON MINES LTD.

DRILL HOLE # R-7106 COMPOSITE 'D'  
FOOTAGE 677'-687' (419-428)

## WASHABILITY CURVES



K<sub>10</sub> 10 X 10 TO THE CENTIMETER 46 1512  
 MADE IN U.S.A.  
 KLUFFEL & ESSER CO.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA



DENISON MINES LTD.

Drill Hole #R-7106, Composite D  
Footage: 677' - 687' (419 - 428)

T A B L E 5: Analysis of Clean Coal at 7% Ash

Yield	61.5%
Floats Gravity	1.48%
Ash	7.0%
Volatile Matter	20.7%
Residual Moisture	0.7%
Fixed Carbon	71.60%
F.S.I.	8½
Sulphur	0.27%

November 4, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7106, Composite D  
Footage: 677' - 687' (419 - 428)

T A B L E 6: Screen Analyses at 28 Mesh

	<u>Weight %</u>
+ 28 Mesh	46.29
- 28 Mesh	<u>53.71</u>
Total:	<u>100.00</u>

T A B L E 7: Head Analyses of Minus 28 Mesh

Ash	17.16%
Volatile Matter	19.17%
Residual Moisture	0.92%
Fixed Carbon	62.75%
Free Swelling Index	5½

November 4, 1971

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7106, Composite D  
Footage: 677' - 687' (419 - 428)

T A B L E 8: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 Minutes
Flotation Recovery	79.37%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Floats</u>	<u>Tailings</u>
Ash %	10.77	45.91
Volatile Matter %	20.35	
Residual Moisture %	0.92	
Fixed Carbon %	67.96%	
Sulphur %	0.42%	
F.S.I.	8	

November 4, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

<u>Drill Hole #</u>	<u>Footage</u>	<u>Ash % Clean Coal</u>	<u>Phosphorous Pentoxide % of Ash</u>	<u>Phosphorous in Coal Product at Stated Ash</u>
<u>SEAM I</u>				
R-7105	731'-738'	7.29	1.49	.047
R-7110	1080'-1086'	7.46	.14	.0045
R-7114 (Upper)	722'-727'	7.05	.45	.0138

SEAM I

PRODUCT QUALITY

The product is more consistent than some seams. Although the seam is rather close to seam J, the quality appears good. Only one sample has an F.S.I. of 5; the others are between 8 and 9.

<u>ASH</u>	<u>VOL.</u>	<u>TOTAL MOISTURE</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.7	20.4 - 21.9	5.0	66.0-68.0	0.2 - 0.32	5 - 9

RESERVE CALCULATION

SEAM I

Borehole No.	Area of Influence Sq.Ft. x 10 <sup>6</sup>	Thickness Feet	L. Tons in Place x 10 <sup>6</sup>	Geol. & Mining Recovery 40% L. Tons Mined x 10 <sup>6</sup>	Estimated Wash Plant Recovery %	Net Product L. Tons x 10 <sup>6</sup>
7101 *	32.80 *	8.0 *	9.723	3.889	70	2.722
7102	-	N O T	P R E S E N T			
7103	9.73	22.0	7.932	3.172	75	2.380
7104	14.10	6.8	3.553	1.421	75	1.066
7105	7.45	7.4	2.043	0.817	65	0.531
7106		N O T	P R E S E N T			
7107		N O T	P R E S E N T			
7108		N O T	P R E S E N T			
7110	17.02	8.0	5.045	2.018	70	1.413
7114	15.25	7.4	4.181	1.672	70	1.171
TOTAL	86.35		32.477			9.282

Coal is assumed to weigh 83 lbs. per solid cubic foot.

\*Inferred from the three adjacent holes.

DENISON MINES LIMITED

Drill Hole #R7103, Composite I  
Footage: 977' - 998'

SEAM I

A full seam height of 21 feet has been composited. Roof is sandstone unit in sharp contact with the coal. Floor is slightly gradational with a 12" parting 6" up from the shale unit below.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL</u>	<u>MOIST</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.72%	20.60%	5.0%	67.68%	0.20%	8 <sup>1</sup> / <sub>2</sub>

\* Assuming 5% total moisture  
and 7% ash (air dried basis)



DENISON MINES LTD.

Drill Hole #R-7103, Composite I  
Footage: 977' - 998'

T A B L E 1: Raw Sample Analyses

Ash	15.47%
Volatile Matter	20.44%
Residual Moisture	0.93%
Fixed Carbon	63.16%
F.S.I.	6
B.T.U./lb.	12,240
Sulphur	0.23%

February 18, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7103, Composite I  
Footage: 977' - 998'

T A B L E 2: Weight % and Proximate Analyses of Specific Gravity Fractions

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.%
- 1.30	30.93	2.96	24.21	0.87	77.88
1.30 - 1.35	21.21	5.22	21.26	0.85	72.67
1.35 - 1.40	11.82	9.21	19.78	0.86	70.15
1.40 - 1.45	9.65	13.86	18.75	0.88	66.51
1.45 - 1.50	5.86	18.31	17.56	0.91	63.22
1.50 - 1.60	4.45	25.92	16.48	0.92	56.68
1.60 - 1.70	4.34	36.48	15.87	0.90	46.75
1.70 - 1.80	3.25	42.92	14.99	0.89	41.20
+ 1.80	8.49	64.07	12.86	0.88	22.19
Total	100.00	15.09	20.17	0.87	63.87

February 18, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7103, Composite I  
Footage: 977' - 998'

T A B L E 3: Weight %, Proximate Analyses and Free Swelling Index of Cumulative Floats

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.%	F.S.I.*
- 1.30	30.93	2.96	24.21	0.87	77.88	9+
- 1.35	52.14	3.88	23.01	0.86	72.25	9+
- 1.40	63.96	4.86	22.41	0.86	71.87	9
- 1.45	73.61	6.04	21.93	0.86	71.17	8½
- 1.50	79.47	6.95	21.61	0.87	70.57	8½
- 1.60	83.92	7.95	21.34	0.87	69.84	8
- 1.70	88.26	9.36	21.07	0.87	68.70	7½
- 1.80	91.51	10.55	20.85	0.87	67.73	7
Total	100.00	15.09	20.17	0.87	63.87	6

DENISON MINES LTD.

Drill Hole #R-7103, Composite I  
Footage 977' - 998'

T A B L E 4: Washability Data

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	30.93	2.96	30.93	2.96	100.00	15.09	15.46	2.96
1.30 - 1.35	21.21	5.22	52.14	3.88	69.07	20.53	41.54	5.22
1.35 - 1.40	11.82	9.21	63.96	4.86	47.86	27.31	58.05	9.21
1.40 - 1.45	9.65	13.86	73.61	6.05	36.04	33.25	68.78	13.86
1.45 - 1.50	5.86	18.31	79.47	6.95	26.39	40.33	76.54	18.31
1.50 - 1.60	4.45	25.92	83.92	7.95	20.53	46.20	81.70	25.92
1.60 - 1.70	4.34	36.48	88.26	9.36	16.08	52.35	86.09	36.48
1.70 - 1.80	3.25	42.92	91.51	10.55	11.74	58.22	89.88	42.92
+ 1.80	8.49	64.07	100.00	15.09	8.49	64.07	95.75	64.07
Total	100.00	15.09						

February 18, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

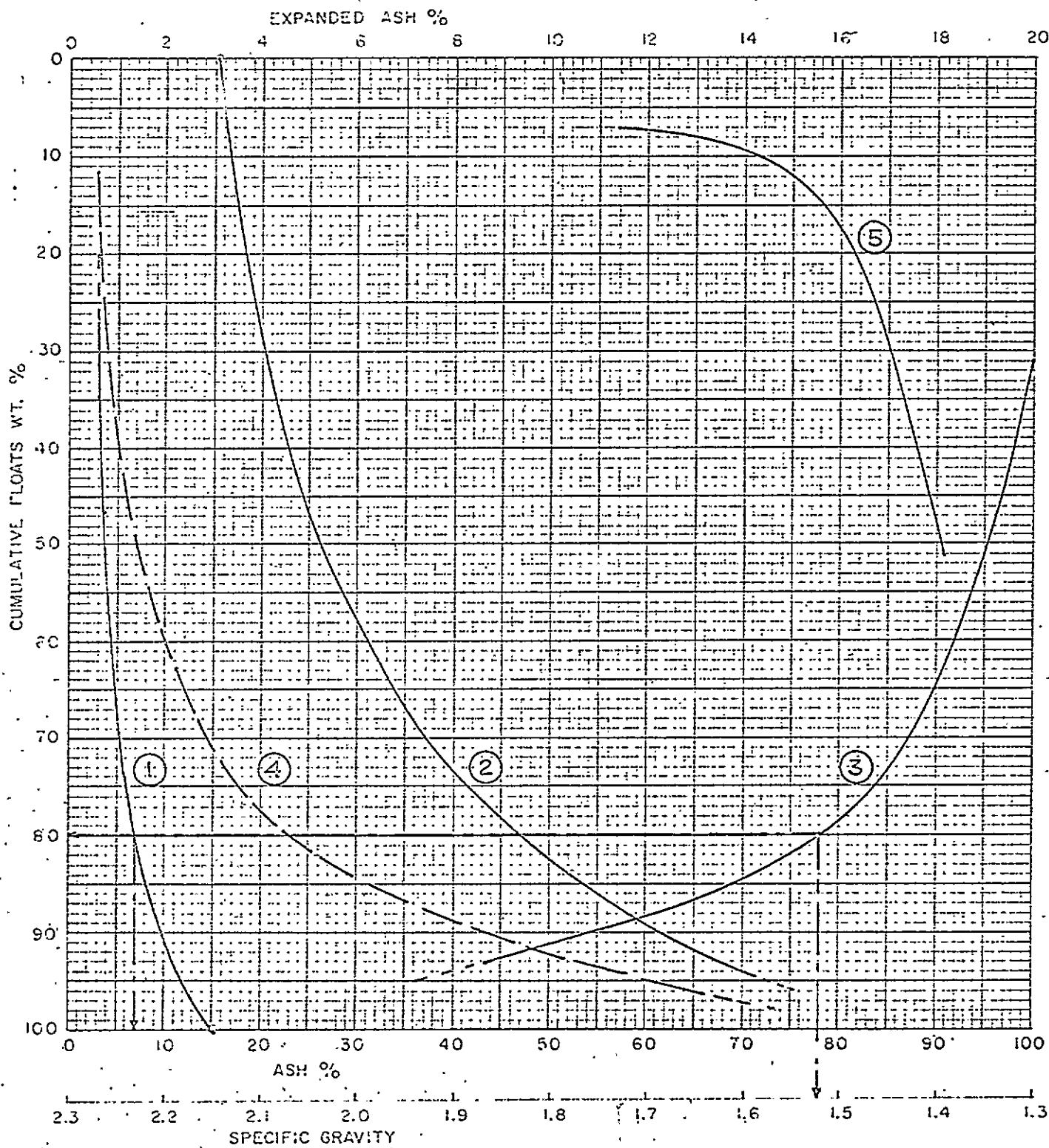
FIGURE

COMPANY Denison Mines Ltd.  
DRILL HOLE # R-7103, Composite I  
FOOTAGE 977' - 998'

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE : February 18, 1972.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole #R-7103, Composite I  
Footage: 977' - 998'

T AB L E 5: Analysis of Clean Coal at 7% Ash

Yield	80.00%
Floats Gravity	1.52
Ash	7.00%
Volatile Matter	21.50%
Residual Moisture	0.87%
Fixed Carbon	70.63%
F.S.I.	8½
Sulphur	0.21%

February 18, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7103, Composite I  
Footage: 977' - 998'

T A B L E 6: Screen Analysis at 28 Mesh

	<u>Weight %</u>
+ 28 Mesh	56.28
- 28 Mesh	<u>43.72</u>
Total	<u>100.00</u>

T A B L E 7: Head Analyses of Minus 28 Mesh

Ash	16.26%
Volatile Matter	21.86%
Residual Moisture	0.85%
Fixed Carbon	61.03%
F.S.I.	6
Sulphur	0.28%



DENISON MINES LTD.

Drill Hole #R-7103, Composite I  
Footage: 977' - 998'

T A B L E 8: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	82.31%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	8.68	52.03
Volatile Matter, %	23.45	
Residual Moisture, %	0.92	
Fixed Carbon, %	66.95	
F.S.I.	8	
Sulphur, %	0.34	

February 18, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LIMITED

Drill Hole #D7104, Composite Upper I  
Footage: 617' - 623.3' (315 - 317)

SEAM I - UPPER SECTION

A full seam height of 7.1 feet has been tested. Roof is interbedded shale and coal for approximately 2 feet. Floor is a competent shale unit 4.6 feet thick.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL</u>	<u>MOIST</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
7.01%	20.55%	5.0%	67.44%	0.30%	7 <sup>1</sup> / <sub>2</sub>

\* Assuming 5% total moisture  
and 7% ash (air dried basis)

DENISON MINES LTD.

Drill Hole #D-7104: Composite Upper I  
Footage: 617' - 623.3' (315 - 317)

T A B L E 1. Raw Sample Analysis

Ash	16.42%
Volatile Matter	19.93%
Residual Moisture	1.09%
Fixed Carbon	62.56%
F.S.I.	4½
B.T.U./lb.	12,540
Sulphur	0.35%

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #D-7104, Composite Upper I  
Footage: 617' - 623.3' (315 - 317)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+ 28 mesh	88.66
28 x 100 mesh	8.03
- 100 mesh	<u>3.31</u>
Total	<u>100.00</u>

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #D-7104, Composite Upper I  
Footage: 617' - 623.3' (315 - 317)

T A B L E 3. Head Analysis of + 28 Mesh

Ash	15.97%
Volatile Matter	19.53%
Residual Moisture	1.25%
Fixed Carbon	63.25%
F.S.I.	5

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #D-7104, Composite Upper I  
Footage: 617' - 623.3' (315 - 317)

T A B L E 4: Weight % and Proximate Analyses of Specific Gravity Fractions: + 28 Mesh.

Sp. Gr.	Weight %	Ash %	V.M. %	R.M. %	F.C.%
- 1.30	33.93	2.43	23.99	1.25	72.33
1.30 - 1.35	19.99	5.08	20.41	1.27	73.24
1.35 - 1.40	9.51	8.98	19.43	1.28	70.31
1.40 - 1.45	6.03	14.28	18.46	1.20	66.06
1.45 - 1.50	3.97	18.62	17.82	1.17	62.39
1.50 - 1.60	6.79	27.23	16.96	1.24	54.57
1.60 - 1.70	5.64	37.78	15.76	1.31	45.15
1.70 - 1.80	3.36	40.92	15.48	1.19	42.41
+ 1.80	10.78	62.11	13.39	1.29	23.21
Total	100.00	16.18	19.89	1.25	62.68

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #D-7104, Composite Upper I  
Footage: 617' - 623.3' (315 - 317)

T A B L E 5: Weight %, Proximate Analyses and Free Swelling  
Index of Cumulative Floats; + 28 Mesh.

Sp.Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I.
- 1.30	33.93	2.43	23.99	1.25	72.33	9+
- 1.35	53.92	3.41	22.66	1.26	72.67	9
- 1.40	63.43	4.25	22.18	1.26	72.31	8½
- 1.45	69.46	5.12	21.85	1.25	71.78	8
- 1.50	73.43	5.85	21.64	1.25	71.26	7½
- 1.60	80.22	7.66	21.24	1.25	69.85	7
- 1.70	85.86	9.64	20.88	1.25	68.23	6½
- 1.80	89.22	10.81	20.68	1.25	67.26	6
Total	100.00	16.34	19.89	1.25	62.68	5

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada



DENISON MINES LTD.

Drill Hole #D-7104, Composite Upper I  
Footage: 617' - 623.3' (315 - 317)

T A B L E 6: Washability Data: + 28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	33.93	2.43	33.98	2.43	100.00	16.34	16.97	2.43
1.30 - 1.35	19.99	5.08	53.92	3.41	66.07	23.48	43.93	5.08
1.35 - 1.40	9.51	8.98	63.43	4.25	46.08	31.47	58.68	8.98
1.40 - 1.45	6.03	14.28	69.46	5.12	36.57	37.32	66.45	14.28
1.45 - 1.50	3.97	18.62	73.43	5.85	30.54	41.87	71.44	18.62
1.50 - 1.60	6.79	27.23	80.22	7.66	26.57	45.35	76.82	27.23
1.60 - 1.70	5.64	37.78	85.86	9.64	19.78	51.57	83.04	37.78
1.70 - 1.80	3.36	40.92	89.22	10.81	14.14	57.07	87.54	40.92
+ 1.80	10.78	62.11	100.00	16.34	10.78	62.11	94.61	62.11
Total	100.00	16.34						

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, alberta, Canada

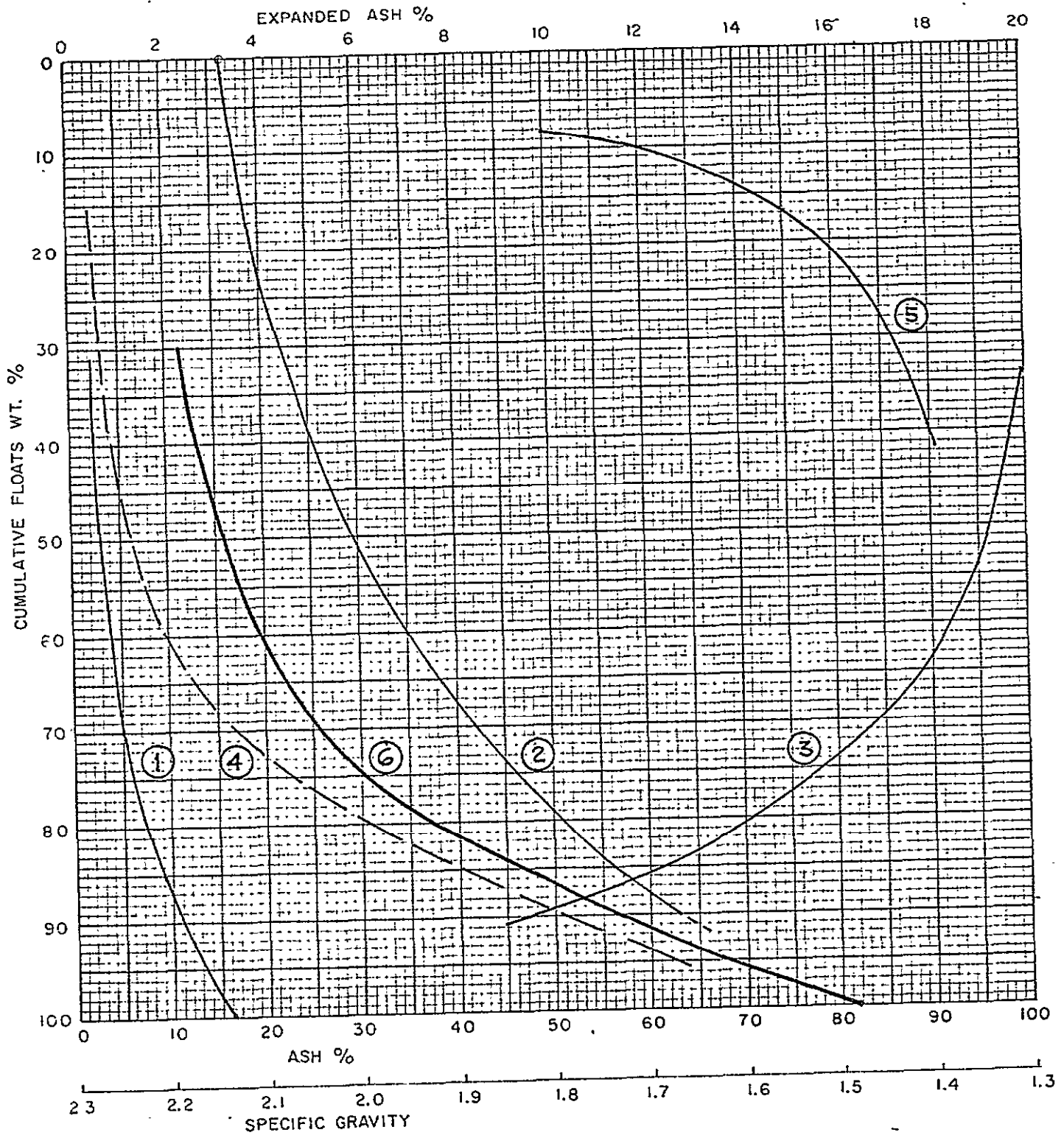
FIGURE

COMPANY DENISON MINES LTD.  
DRILL HOLE # D-7104, Composite Upper I  
FOOTAGE 617' - 623.3' (315 - 317)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES + 28 Mesh



DATE January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole #D-7104, Composite Upper I  
Footage: 617' - 623.3' (315 - 317)

T A B L E 7: Head Analysis of - 28 Mesh

Ash	12.25%
Volatile Matter	20.85%
Residual Moisture	1.42%
Fixed Carbon	65.48%
F.S.I.	7½

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #D-7104, Composite Upper I  
Footage: 617' - 623.3' (315 - 317)

T A B L E 8: Float-Sink Analysis of 28 x 100 Mesh and Proximate Analysis of Fractions.

Sp. Gr.	Wt. %	Ash %	V.M.%	F.C.%	Cum. Wt. % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	72.64	3.76	22.63	73.61	72.64	3.76	9
1.40 - 1.60	13.44	18.15	18.06	63.79	86.08	6.01	8
1.60 - 1.80	5.80	38.31	15.64	46.05	91.88	8.05	7½
+ 1.80	8.12	63.16	14.02	22.82	100.00	12.52	7½
Total	100.00	12.52	20.91	66.57			

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #D-7104, Composite Upper I  
Footage: 617' - 623.3' (315 - 317)

T A B L E 9: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	92.55%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	10.07	51.81
Residual Moisture, %	1.36	
Volatile Matter, %	21.16	
Fixed Carbon, %	67.41	
F.S.I.	8	
Sulphur, %	0.42	

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #D-7104, Composite Upper I  
Footage: 617' - 623.3' (315 - 317)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for + 28 Mesh	1.56
Yield	79.00%
Weight % of Floats at 1.56 in the Composite Clean Coal	87.00%
Weight % of Flotation Concentrate in Composite Clean Coal	13.00%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	7.28%
Volatile Matter	21.35%
Residual Moisture	1.29%
Fixed Carbon	70.08%
F.S.I.	7½
Sulphur	0.31%

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LIMITED

Drill Hole #D7104, Composite Lower I

Footage: 628.3' - 632.0' (318 - 320)

SEAM I - LOWER SECTION

The lower section of I seam is 6.5 feet thick below a 4.5 foot shale parting. The seam contains several small shale partings resulting in a high raw ash content of 32%.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL</u>	<u>MOIST</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
7.88%	20.63%	5.0%	66.49%	0.27%	8

\* Assuming 5% total moisture  
and 7% ash (air dried basis)



DENISON MINES LTD.

Drill Hole #D-7104, Composite Lower I  
Footage: 628.3' - 632.0' (318 - 320)

T A B L E 1: Raw Sample Analysis

Ash	32.05%
Volatile Matter	17.12%
Residual Moisture	1.08%
Fixed Carbon	49.75%
F.S.I.	4
B.T.U./lb.	10,000
Sulphur	0.32%

January 28, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #D-7104, Composite Lower I  
Footage: 628.3' - 632.0' (318 - 320)

T A B L E 2: Size Analysis of Head Sample.

	<u>Weight %</u>
+ 28 mesh	77.98
28 x 100 mesh	15.71
- 100 mesh	<u>6.31</u>
Total	<u>100.00</u>

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #D-7104: Composite Lower I  
Footage: 628.3' - 632.0' (318 - 320)

T A B L E 3: Head Analysis of + 28 Mesh

Ash	34.03%
Volatile Matter	17.19%
Residual Moisture	1.12%
Fixed Carbon	47.66%
F.S.I.	4½

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #D-7104, Composite Lower I  
Footage: 628.3' - 632.0' (318 - 320)

T A B L E 4: Weight % and Proximate Analyses of Specific Gravity Fractions: + 28 Mesh.

Sp. Gr.	Weight %	Ash %	V.M. %	R.M.%	F.C.%
- 1.30	22.27	3.4	24.54	1.08	71.24
1.30 - 1.35	11.03	7.59	21.93	1.11	69.37
1.35 - 1.40	7.43	11.91	19.58	1.19	67.32
1.40 - 1.45	4.92	19.31	18.65	1.16	60.88
1.45 - 1.50	4.85	25.57	18.27	1.09	55.07
1.50 - 1.55	4.38	31.31	17.49	1.15	50.05
1.55 - 1.60	3.48	35.64	17.04	1.21	46.11
1.60 - 1.70	8.17	42.66	15.69	1.20	40.45
1.70 - 1.80	5.81	50.35	14.33	1.06	34.26
+ 1.80	27.66	73.11	9.95	1.10	15.84
Total	100.00	33.86	17.37	1.12	47.65

DENISON MINES LTD.

Drill Hole #D-7104, Composite Lower I  
Footage: 628.3' - 632.0' (318 - 320)

T A B L E 5: Weight %, Proximate Analyses and Free Swelling  
Index of Cumulative Floats: + 28 Mesh.

Sp.Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I.
- 1.30	22.27	3.14	24.54	1.08	71.24	9+
-1.35	33.30	4.61	23.68	1.08	70.63	9
- 1.40	40.73	5.94	22.93	1.10	70.03	8½
- 1.45	45.65	7.38	22.47	1.11	69.04	8½
- 1.50	50.50	9.13	22.06	1.11	67.70	8
- 1.55	54.88	10.90	21.70	1.11	66.29	8
- 1.60	58.36	12.37	21.42	1.12	65.09	7½
- 1.70	66.53	16.10	20.72	1.13	62.05	7
- 1.80	72.34	18.85	20.20	1.12	59.83	6½
Total	100.00	33.86	17.37	1.12	47.65	4½

DENISON MINES LTD.

Drill Hole #D-7104, Composite Lower I  
Footage: 628.3' - 632.0' (318 - 320)

T A B L E 6: Washability Data: + 28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	22.27	3.14	22.27	3.14	100.00	33.86	11.14	3.14
1.30 - 1.35	11.03	7.59	33.30	4.61	77.73	42.65	28.29	7.59
1.35 - 1.40	7.43	11.91	40.73	5.94	66.70	48.45	37.02	11.91
1.40 - 1.45	4.92	19.31	45.65	7.38	59.27	53.03	43.19	19.31
1.45 - 1.50	4.85	25.57	50.50	9.13	54.35	56.08	48.07	25.57
1.50 - 1.55	4.38	31.31	54.88	10.90	49.50	59.07	52.69	31.31
1.55 - 1.60	3.48	35.64	58.36	12.37	45.12	61.77	56.62	35.64
1.60 - 1.70	8.17	42.66	66.53	16.10	41.64	63.95	62.44	42.66
1.70 - 1.80	5.81	50.35	72.34	18.85	33.47	69.15	69.43	50.35
+ 1.80	27.66	73.11	100.00	33.86	27.66	73.11	86.17	73.11
Total	100.00	33.86						

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

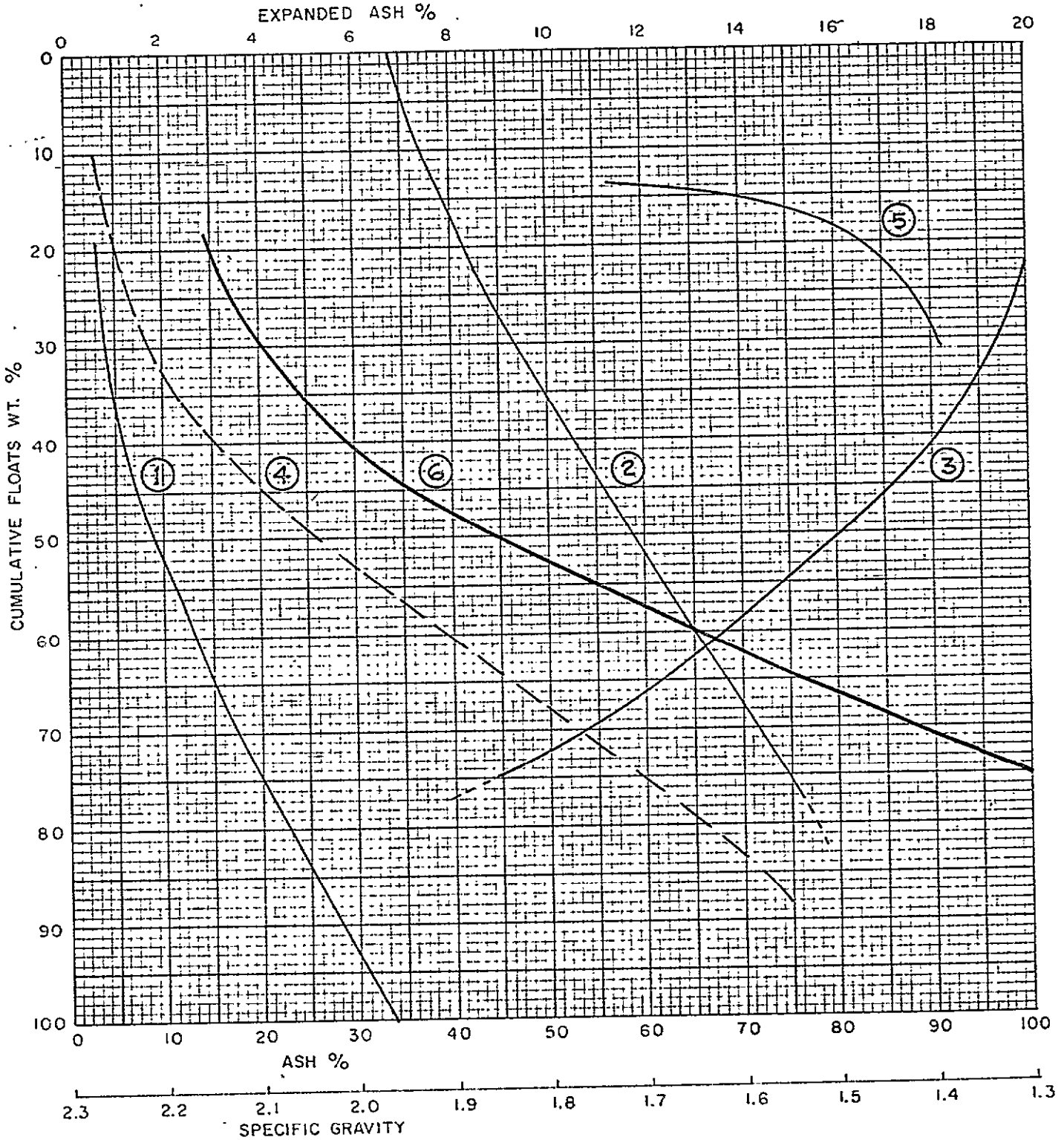
FIGURE

COMPANY DENISON MINES LTD.  
 DRILL HOLE # D-7104, Composite Lower I  
 FOOTAGE 628.3' - 632.0' (318 - 320)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES + 28 Mesh



DATE January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
 EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole #D-7104, Composite Lower I  
Footage: 628.3' - 632.0' (318 - 320)

T A B L E 7: Head Analysis of - 28 Mesh

Ash	21.65%
Volatile Matter	19.73%
Residual Moisture	1.21%
Fixed Carbon	57.41%
F.S.I.	7

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada



DENISON MINES LTD.

Drill Hole #D-7104, Composite Lower I  
 Footage: 628.3' - 632.0' (318 - 320)

T A B L E 8; Float-Sink of 28 x 100' Mesh and Proximate Analysis of Fractions.

Sp. Gr.	Wt. %	Ash %	V.M.%	F.C.%	Cum. Wt. % Floats	Cum. Ash	Cum. F.S.I.
- 1.40	58.28	4.88	23.02	72.10	58.28	4.88	9+
1.40 - 1.60	15.59	21.05	18.96	59.99	73.87	8.29	9
1.60 - 1.80	8.33	42.85	15.74	41.41	82.20	11.79	8½
+ 1.80	17.80	71.14	10.35	18.51	100.00	22.35	7
Total	100.00	22.35	19.53	58.11			

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #D-7104, Composite Lower I  
Footage: 628.3' - 632.0'

T A B L E 9: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	73.15%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	10.60	53.16
Residual Moisture, %	1.27	
Volatile Matter, %	21.16	
Fixed Carbon, %	66.97	
F.S.I.	8½	
Sulphur, %	0.49	

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #D-7104, Composite Lower I  
Footage: 628.3' - 632.0'

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for + 28 Mesh	1.44
Yield	45.00%
Weight % of Floats at 1.44 in the Composite Clean Coal	68.60%
Weight % of Flotation Concentrate in Composite Clean Coal	31.40%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	8.20%
Volatile Matter	21.47%
Residual Moisture	1.15%
Fixed Carbon	69.18%
F.S.I.	8
Sulphur	0.28%

January 28, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LIMITED

Drill Hole #R-7105, Composite A  
Footage: 731' - 738' (384 - 390)

SEAM I - UPPER SECTION

The composite represents top 7.4 foot section of the seam.  
Roof is a sharp contact and floor is a 2 foot shale parting.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL</u>	<u>MOIST</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.7%	20.65%	5%	67.66%	0.32%	8

\* Assuming 5% total moisture  
and 7% ash ( air dried basis)

DENISON MINES LTD.

Drill Hole #R-7105, Composite A  
Footage: 731' - 738' (384 - 390)

T A B L E 1: Raw Sample Analyses

Ash	20.40%
Volatile Matter	18.92%
Residual Moisture	0.66%
Fixed Carbon	60.02%
Free Swelling Index	3½
B.T.U./lb.	11,800
Sulphur	0.43%

November 1, 1971.

Cyclone Engineering Sales Ltd.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7105, Composite A  
Footage: 731' - 738' (384 - 390)

T A B L E      2: Weight % and Proximate Analyses of Specific Gravity Fractions

Sp. Gr.	Weight %	Ash %	V.M. %	R.M.%	F.C.%
- 1.30	16.20	2.78	23.62	0.62	72.98
1.30 - 1.35	25.44	6.81	21.35	0.68	71.16
1.35 - 1.40	16.57	11.79	19.98	0.58	67.65
1.40 - 1.45	7.54	13.94	19.56	0.59	65.91
1.45 - 1.50	6.67	19.79	19.10	0.67	60.44
1.50 - 1.55	4.65	23.84	18.36	0.63	57.17
1.55 - 1.60	3.40	28.56	17.53	0.68	53.23
1.60 - 1.70	4.28	34.58	16.48	0.68	48.26
1.70 - 1.80	4.26	42.39	15.46	0.72	41.43
+ 1.80	10.99	75.37	11.33	0.67	12.63
<b>Total</b>	<b>100.00</b>	<b>20.16</b>	<b>19.38</b>	<b>0.64</b>	<b>59.82</b>

November 1, 1971.

Cyclone Engineering Sales Ltd.,  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7105, Composite A  
 Footage: 731' - 738' (384 - 390)

T A B L E 3: Weight %, Proximate Analyses and Free Swelling Index of Cumulative Floats

Sp. Gr.	Wt. %	Ash %	V.M.%	R.M.%	F.C.%	F.S.I.
- 1.30	16.20	2.78	23.62	0.62	72.98	9+
- 1.35	41.64	5.24	22.23	0.66	71.87	8½
- 1.40	58.21	7.11	21.59	0.63	70.67	8
- 1.45	65.75	7.89	21.36	0.63	70.12	6½
- 1.50	72.42	8.99	21.15	0.63	69.23	6
- 1.55	77.07	9.88	20.98	0.63	68.51	5½
- 1.60	80.47	10.67	20.84	0.64	67.85	5
- 1.70	84.75	11.88	20.62	0.64	66.86	4½
- 1.80	89.01	13.34	20.37	0.64	65.65	4
Total	100.00	20.16	19.38	0.64	59.82	3½

November 1, 1971.

Cyclone Engineering Sales Ltd.  
 Edmonton, Alberta, Canada.

## DENISON MINES LTD.

Drill Hole #R-7105, Composite A  
 Footage: 731' - 738' (384 - 390)

T A B L E 4: Washability Data

Sp. Gr.	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash%	Wt. %	Ash %		
- 1.30	16.20	2.78	16.20	2.78	100.00	20.16	8.10	2.78
1.30 - 1.35	25.44	6.81	41.64	5.24	83.80	23.52	28.92	6.81
1.35 - 1.40	16.57	11.79	58.21	7.11	58.36	30.80	49.90	11.79
1.40 - 1.45	7.54	13.94	65.75	7.89	41.79	38.33	61.98	13.94
1.45 - 1.50	6.67	19.79	72.42	8.99	34.25	43.70	69.08	19.79
1.50 - 1.55	4.65	23.84	77.07	9.88	27.58	49.49	74.74	23.84
1.55 - 1.60	3.40	28.56	80.47	10.67	22.93	54.69	78.77	28.56
1.60 - 1.70	4.28	34.58	84.75	11.88	19.53	59.24	82.61	34.58
1.70 - 1.80	4.26	42.39	89.01	13.34	15.25	66.16	86.88	42.39
+ 1.80	10.99	75.37	100.00	20.16	10.99	75.37	94.51	75.37
Total	100.00	20.16						

November 1, 1971.

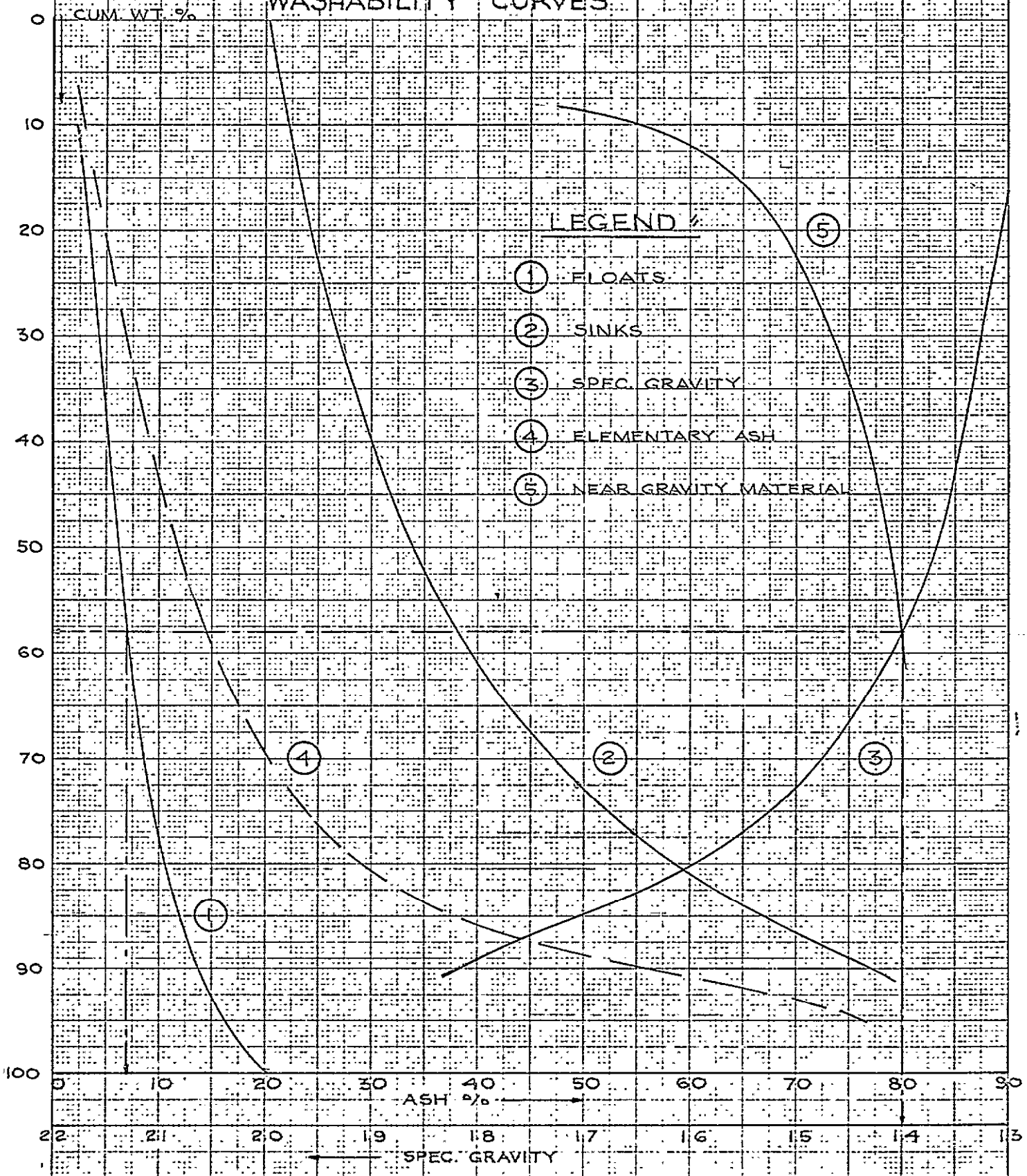
Cyclone Engineering Sales Ltd.  
 Edmonton, Alberta, Canada.



# DENISON MINES LTD.

DRILL HOLE # R-7105 COMPOSITE - A  
FOOTAGE 731' - 738' (384 - 390)

## WASHABILITY CURVES



### LEGEND

- ① FLOATS
- ② SINKS
- ③ SPEC. GRAVITY
- ④ ELEMENTARY ASH
- ⑤ NEAR GRAVITY MATERIAL

K&E 10 X 10 TO THE CENTIMETER 46 1512  
 MADE IN U.S.A.  
 KUUFFEL & ESSER CO.

NOV. 1 / 71 G.W.L.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole #R-7105, Composite A  
Footage: 731' - 738' (384 - 390)

T A B L E 5: Analysis of Clean Coal at 7% Ash

Yield	58.0%
Floats Gravity	1.40%
Ash	7.0%
Volatile Matter	21.6%
Residual Moisture	0.63%
Fixed Carbon	70.77%
F.S.I.	8
Sulphur	0.32%

November 1, 1971.

Cyclone Engineering Sales Ltd.,  
Edmonton, Alberta, Canada.

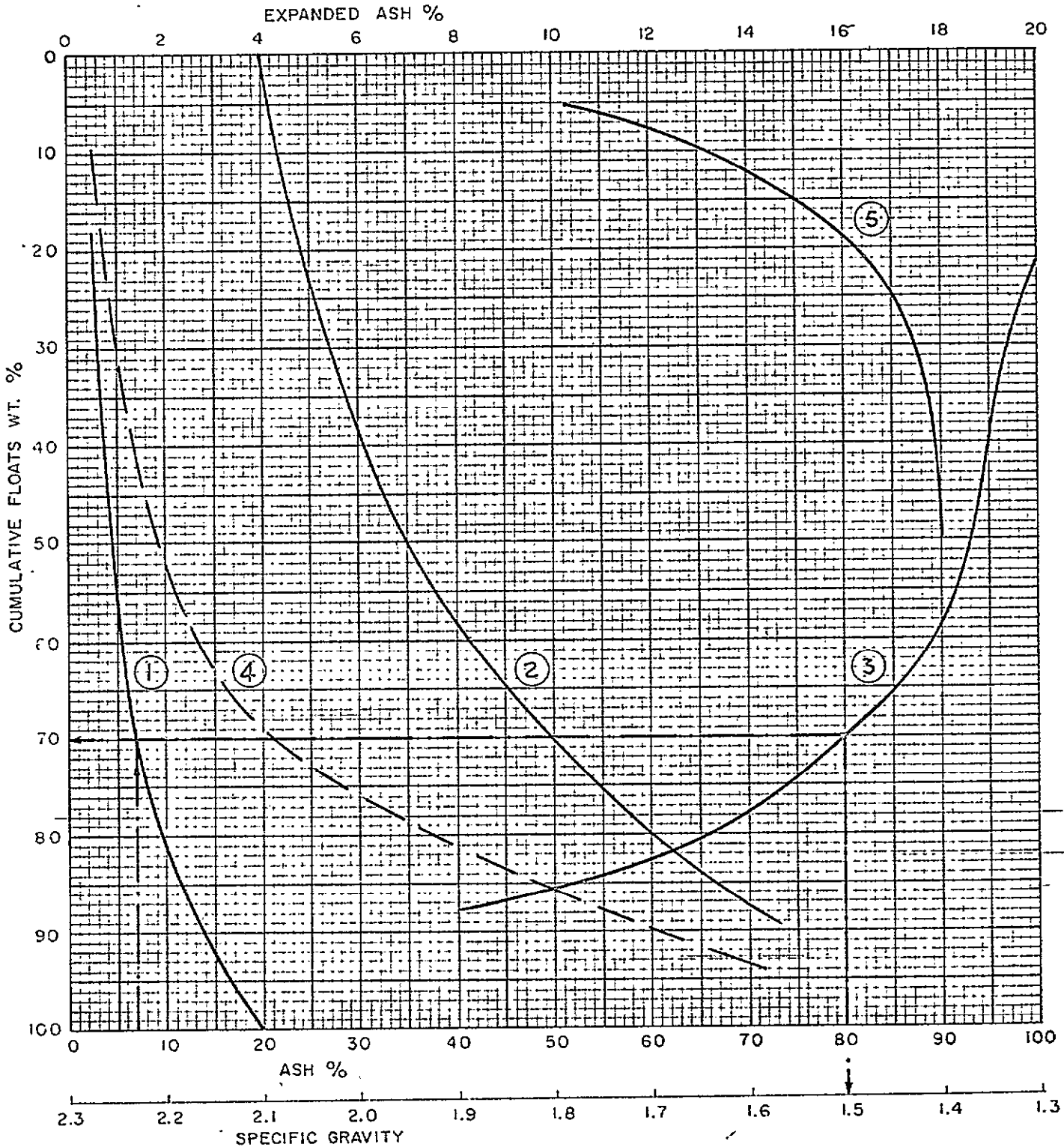
FIGURE

COMPANY Denison Mines Ltd.  
DRILL HOLE # QBD-7219 - Composite Upper I  
FOOTAGE 1058.0' - 1066.5' (D1341 - D1344)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DENISON MINES LTD.

Drill Hole #R-7105, Composite A  
Footage: 731' - 738' (384 - 390)

T A B L E 8: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	76.65%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Floats</u>	<u>Tailings</u>
Ash, %	10.62	44.95
Volatile Matter, %	21.03	
Residual Moisture, %	0.66	
Fixed Carbon, %	67.69	
Sulphur, %	0.44	
F.S.I.	5½	

November 1, 1971.

Cyclone Engineering Sales Ltd.  
Edmonton, Alberta, Canada.

DENISON MINES LIMITED

Drill Hole #R-7105, Composite B  
Footage: 741' - 746' (392 - 396)

SEAM I - LOWER SECTION

The composite represents the lower 5.6 feet of the seam.  
Roof is the lower surface of 2 foot shale parting. The floor is gradational.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL</u>	<u>MOIST</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.7%	21.9%	5%	66.39%	0.29%	9

\* Assuming 5% total moisture  
and 7% ash (air dried basis)

DENISON MINES LTD.

Drill Hole #R-7105, Composite B  
Footage: 741' - 746' (392 - 396)

T A B L E 1: Raw Sample Analyses

Ash	38.54%
Volatile Matter	16.96%
Residual Moisture	0.70%
Fixed Carbon	43.80%
Free Swelling Index	3½
B.T.U./lb.	8,950
Sulphur	0.49%

November 1, 1971.

Cyclone Engineering Sales Ltd.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7105, Composite B  
Footage: 741' - 746' (392 - 396)

T A B L E 2: Weight % and Proximate Analyses of Specific Gravity Fractions

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.
- 1.30	17.48	4.84	23.35	0.70	71.11
1.30 - 1.35	9.62	6.90	22.98	0.76	69.36
1.35 - 1.40	9.18	13.65	20.35	0.71	65.29
1.40 - 1.45	8.54	19.90	19.76	0.65	59.69
1.45 - 1.50	5.37	24.66	18.82	0.67	55.85
1.50 - 1.60	6.59	28.02	18.34	0.69	52.95
1.60 - 1.70	4.83	35.43	17.82	0.73	46.02
1.70 - 1.80	3.49	48.78	16.35	0.66	34.21
+ 1.80	34.90	79.13	11.63	0.69	8.55
Total	100.00	38.66	17.56	0.70	43.08

November 1, 1971.

Cyclone Engineering Sales Ltd.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7105, Composite B  
Footage: 741' - 746' (392 - 396)

T A B L E 3: Weight %, Proximate Analyses and Free Swelling Index of Cumulative Fbats

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I.
- 1.30	17.48	4.84	23.35	0.70	71.11	9+
- 1.35	27.10	5.57	23.22	0.72	70.49	9+
- 1.40	36.28	7.62	22.49	0.72	69.17	9
- 1.45	44.82	9.96	21.97	0.71	67.36	9
- 1.50	50.19	11.53	21.63	0.70	66.14	8½
- 1.60	56.78	13.44	21.25	0.70	64.61	7½
- 1.70	61.61	15.17	20.98	0.70	63.15	7
- 1.80	65.10	16.97	20.73	0.70	61.60	6½
Total	100.00	38.66	17.56	0.70	43.08	3½



DENISON MINES LTD.

Drill Hole #R-7105, Composite B  
 Footage: 741' - 746' (392 - 396)

T A B L E 4: Washability Data

Sp. Gr.	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	17.48	4.84	17.48	4.84	100.00	38.66	8.74	4.84
1.30 - 1.35	9.62	6.90	27.10	5.57	82.52	45.83	22.29	6.90
1.35 - 1.40	9.18	13.65	36.28	7.62	72.90	50.96	31.69	13.65
1.40 - 1.45	8.54	19.90	44.82	9.96	63.72	56.34	40.55	19.90
1.45 - 1.50	5.37	24.66	50.19	11.53	55.18	61.98	47.50	24.66
1.50 - 1.60	6.59	28.02	56.78	13.44	49.81	66.00	53.49	28.02
1.60 - 1.70	4.83	35.43	61.61	15.17	43.22	71.80	59.20	35.43
1.70 - 1.80	3.49	48.78	65.10	16.97	38.39	76.37	63.35	48.78
+ 1.80	34.90	79.13	100.00	38.66	34.90	79.13	82.55	79.13
Total	100.00	38.66						

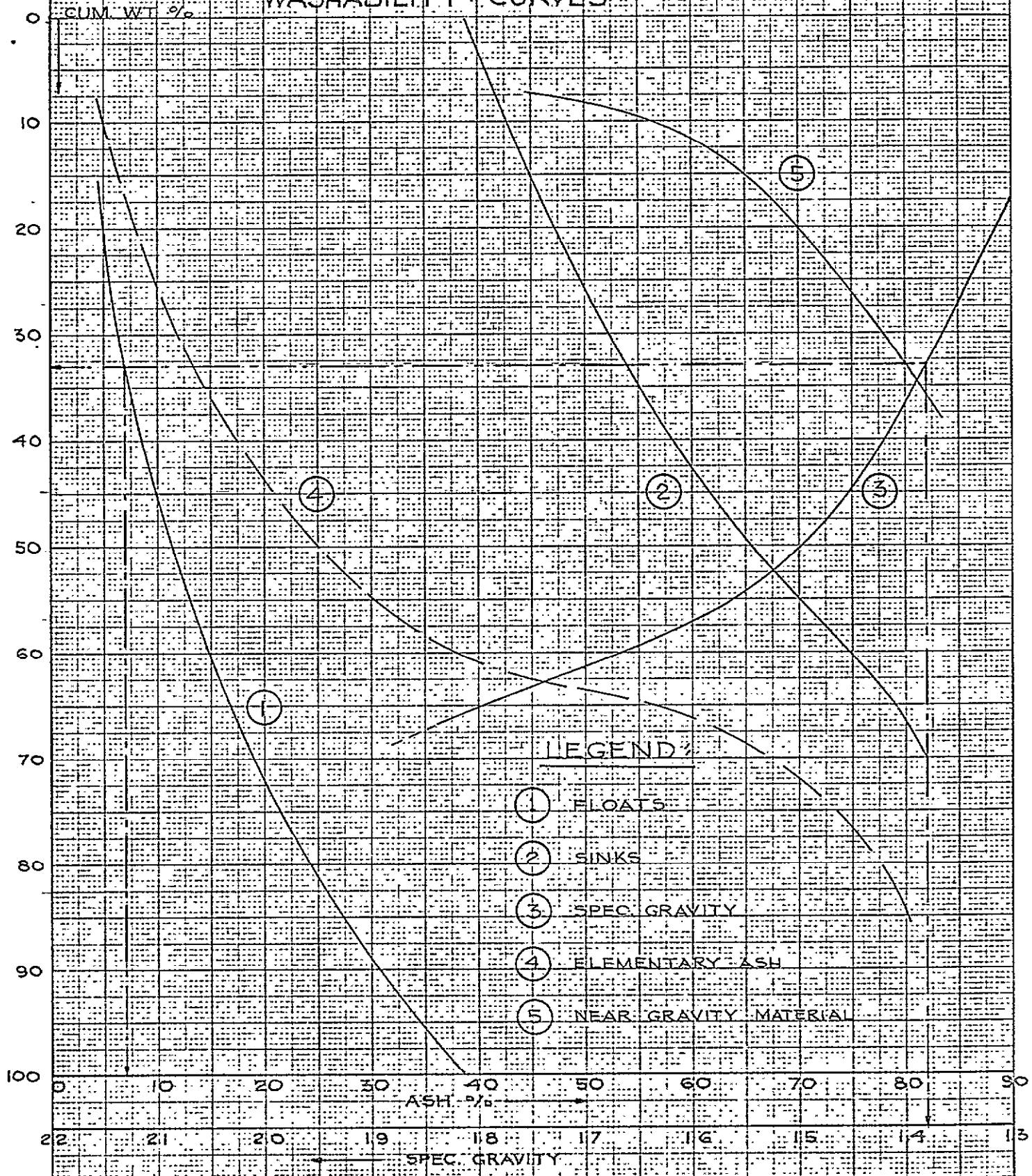
November 1, 1971.

Cyclone Engineering Sales Ltd.  
 Edmonton, Alberta, Canada.

# DENISON MINES LTD.

DRILL HOLE # R-7105 COMPOSITE - B  
FOOTAGE 74' - 746' (392 - 396)

## WASHABILITY CURVES



### LEGEND

- ① FLOATS
- ② SINKS
- ③ SPEC. GRAVITY
- ④ ELEMENTARY ASH
- ⑤ NEAR GRAVITY MATERIAL

KEUFFEL & ESSER CO.  
 10 X 10 TO THE CENTIMETER 46 1512  
 MADE IN U.S.A.

DENISON MINES LTD.

Drill Hole #R-7105, Composite B  
Footage: 741' - 746' (392 - 396)

T A B L E 5: Analysis of Clean Coal at 7% Ash

Yield	33.0%
Floats Gravity	1.38%
Ash	7.0%
Volatile Matter	22.9%
Residual Moisture	0.72%
Fixed Carbon	69.38%
F.S.I.	9
Sulphur	0.29%

November 1, 1971

Cyclone Engineering Sales Ltd.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #R-7105, Composite B  
Footage: 741' - 746' (392 - 396)

T A B L E 6: Screen Analyses at 28 Mesh.

	<u>Weight %</u>
+ 28 mesh	33.63
- 28 mesh	<u>66.37</u>
Total	100.00

T A B L E 7: Head Analyses of Minus 28 Mesh.

Ash	31.65%
Volatile Matter	18.49%
Residual Moisture	0.70%
Fixed Carbon	49.16%
Free Swelling Index	5

November 1, 1971

Cyclone Engineering Sales Ltd.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole #R-7105, Composite B  
Footage: 741' - 746' (392 - 396)

T A B L E 8: Froth Flotation Test on Minus 28 Mesh.

Solids by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	64.25%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Floats</u>	<u>Tailings</u>
Ash, %	11.48	65.58
Volatile Matter, %	20.83%	
Residual Moisture, %	0.70%	
Fixed Carbon, %	66.99%	
Sulphur, %	0.46%	
F.S.I.	7½	

November 1, 1971

Cyclone Engineering Sales Ltd.  
Edmonton, Alberta, Canada.

DENISON MINES LIMITED

Drill Hole #R-7110, Composite E  
Footage: 1073 - 1079 (663 - 668)

SEAM I

The composite represents the upper 6 feet of the seam above a 1 1/2 to 2 foot shale bond which overlies 5 - 6 feet of poorer coal.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL</u>	<u>MOIST</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.72	20.39	5.0	67.31	.22	5

\* Assuming 5% total moisture  
7% ash (air dried basis)

DENISON MINES LTD.

Drill Hole #R-7110, Composite E  
Footage: 1073' - 1079' (663 - 668)

T A B L E 1: Raw Sample Analyses

Ash	12.87%
Volatile Matter	19.93%
Residual Moisture	0.92%
Fixed Carbon	66.28%
F.S.I.	3
B.T.U./lb.	13,190
Sulphur	0.32%

November 16, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7110, Composite E  
Footage: 1073' - 1079' (663 - 668)

T A B L E 2: Weight % and Proximate Analyses of Specific Gravity Fractions

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.%
-1.30	23.43	1.94	23.59	0.98	73.49
1.30 - 1.35	21.81	4.52	21.75	1.03	72.70
1.35 - 1.40	19.91	8.77	19.83	0.83	70.57
1.40 - 1.45	7.78	15.48	18.95	0.85	64.72
1.45 - 1.50	6.63	17.91	18.32	0.74	63.03
1.50 - 1.55	6.10	19.92	17.84	0.91	61.33
1.55 - 1.60	2.23	25.72	17.27	0.95	56.06
1.60 - 1.70	3.87	33.70	16.85	0.99	48.46
1.70 - 1.80	2.50	40.06	15.98	0.95	43.01
+ 1.80	5.74	70.12	14.00	0.96	14.92
Total	100.00	13.70	20.24	0.93	65.13



DENISON MINES LTD.

Drill Hole #R-7110, Composite E  
Footage: 1073' - 1079' (663 - 668)

T A B L E 3: Weight %, Proximate Analyses and Free Swelling  
Index of Cumulative Floats

Sp. Gr.	Wt. %	Ash %	V.M.%	R.M.%	F.C.%	F.S.I.*
-1.30	23.43	1.94	23.59	0.98	73.49	9+
-1.35	45.24	3.18	22.70	1.00	73.12	8½
-1.40	65.15	4.89	21.82	0.95	72.34	7
-1.45	72.93	6.02	21.52	0.94	71.52	6
- 1.50	79.56	7.01	21.25	0.92	70.82	5
- 1.55	85.66	7.93	21.91	0.92	70.14	5
- 1.60	87.89	8.38	20.01	0.92	69.79	4½
- 1.70	91.76	9.45	20.74	0.93	68.88	4½
- 1.80	94.26	10.26	20.62	0.93	68.55	4
Total	100.00	13.70	20.24	0.93	65.13	5

\* F.S.I. by actual determination.

November 16, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

Drill Hole #R-7110, Composite E  
Footage: 1073' - 1079' (663 - 668)

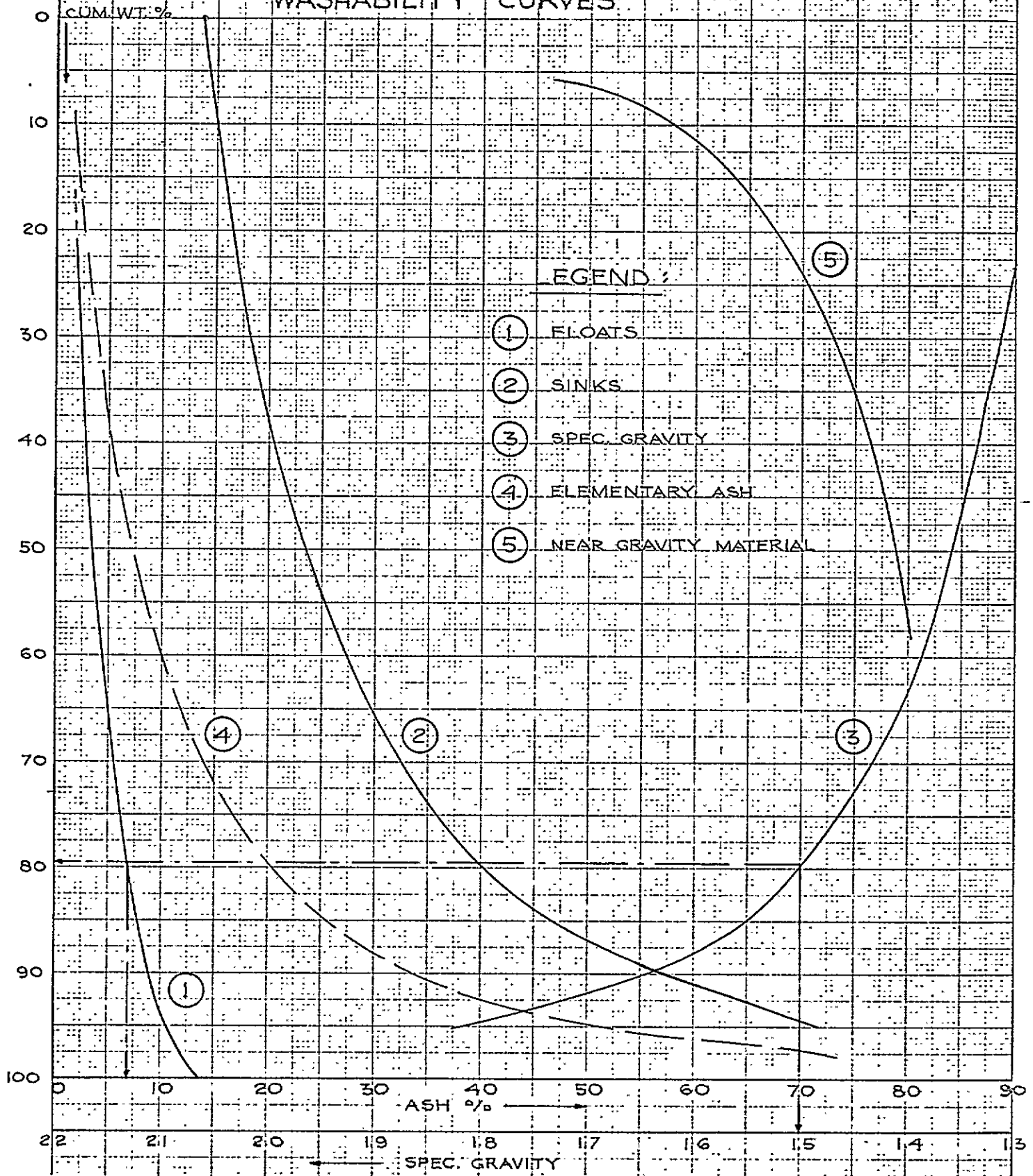
T A B L E 4: Washability Data

Sp. Gr.	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	23.43	1.94	23.43	1.94	100.00	13.70	11.71	1.94
1.30 - 1.35	21.81	4.52	45.24	3.18	76.57	17.30	34.33	4.52
1.35 - 1.40	19.91	8.77	65.15	4.89	54.76	22.38	55.19	8.77
1.40 - 1.45	7.78	15.48	72.93	6.02	34.85	30.16	69.04	15.48
1.45 - 1.50	6.63	17.91	79.56	7.01	27.07	34.38	76.25	17.91
1.50 - 1.55	6.10	19.92	85.66	7.93	20.44	39.72	82.61	19.92
1.55 - 1.60	2.23	25.72	87.89	8.38	14.34	48.15	86.78	25.72
1.60 - 1.70	3.87	33.70	91.76	9.45	12.11	52.28	89.82	33.70
1.70 - 1.80	2.50	40.06	94.26	10.26	8.24	61.00	93.01	40.06
+ 1.80	5.74	70.12	100.00	13.70	5.74	70.12	97.13	70.12
Total	100.00	13.70						

# DENISON MINES LTD.

DRILL HOLE # R-7110 COMPOSITE - E  
FOOTAGE 073' - 1079' (663 - 668)

## WASHABILITY CURVES



KEUFFEL & ESSER CO. MADE IN U.S.A. 46 1512  
 10 X 10 TO THE CENTIMETER  
 10 X 25 CM.

DENISON MINES LTD.

Drill Hole #R-7110, Composite E  
Footage: 1073 - 1079' (663 - 668)

T A B L E 5: Analysis of Clean Coal at 7% Ash

Yield	79.5%
Floats Gravity	1.50
Ash	7.0
Volatile Matter	21.25
Residual Moisture	0.92
Fixed Carbon	70.14
F.S.I.	5
Sulphur	0.23

November 16, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7110, Composite E  
Footage: 1073' - 1079' (663 - 669)

T A B L E 6: Screen Analyses at 28 Mesh

	<u>Weight %</u>
+ 28 Mesh	31.01
- 28 Mesh	<u>68.99</u>
Total	<u>100.00</u>

T A B L E 7: Head Analyses of Minus 28 Mesh

Ash	13.31%
Volatile Matter	19.82%
Residual Moisture	0.56%
Fixed Carbon	66.31%
F.S.I.	5

November 16, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada..

DENISON MINES LTD.

Drill Hole #R-7110, Composite E  
Footage: 1073' - 1079' (663 - 669)

T A B L E 8: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	82.23%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Floats</u>	<u>Tailings</u>
Ash , %	9.07	29.21
Volatile Matter, %	20.77	
Residual Moisture, %	0.74	
Fixed Carbon, %	69.42	
Sulphur, %	0.48	
F.S.I.	6	

November 16, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LIMITED

Drill Hole #R-7110, Composite F.  
Footage: 1080' - 1086' (670 - 675)

Seam I - Lower Section

This composite represents the lower six feet of Seam I below 1.7 foot shale parting. Floor shows a gradational contact between coal and shale.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F. C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.72%	20.87%	5%	67.41%	0.27%	7 1/2

\* Assuming 5% Moisture  
and 7% Ash (dry basis)

BENISON MINES LTD.

Drill Hole #R-7110, Composite F  
Footage: 1080' - 1086' (670 - 675)

T A B L E 1: Raw Sample Analyses

Ash	29.58%
Volatile Matter	17.07%
Residual Moisture	1.05%
Fixed Carbon	52.30%
Free Swelling Index	4½
B.T.U./lb.	10,450
Sulphur	0.32%

December 2, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole #R-7110, Composite F  
Footage: 1080' - 1086' (670 - 675)

T A B L E 2: Weight % and Proximate Analyses of Specific Gravity Fractions

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.%
- 1.30	27.90	2.04	23.96	1.06	72.94
1.30 - 1.35	16.21	4.51	21.71	1.08	72.70
1.35 - 1.40	10.94	7.44	20.30	1.11	71.15
1.40 - 1.45	6.40	14.67	19.27	1.03	65.03
1.45 - 1.50	5.15	20.97	18.55	1.02	59.46
1.50 - 1.60	4.28	23.04	17.32	0.99	58.65
1.60 - 1.70	2.56	34.91	16.20	1.05	47.84
1.70 - 1.80	1.44	43.71	15.25	1.03	40.01
+ 1.80	25.12	87.28	7.06	1.04	4.62
Total	100.00	28.57	17.76	1.06	52.61

December 2, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7110, Composite F  
Footage: 1080' - 1086' ( 670 - 675)

T A B L E 3: Weight %, Proximate Analyses and Free Swelling  
Index of Cumulative Floats

Sp. Gr.	Wt. %	Ash %	V.M.%	R.M.%	F.C.%	F.S.I.*
- 1.30	27.90	2.04	23.96	1.06	72.94	9+
- 1.35	44.11	2.95	23.13	1.07	72.85	9
- 1.40	55.05	3.84	22.57	1.08	72.51	8½
- 1.45	61.45	4.97	22.23	1.07	71.73	8
- 1.50	66.60	6.21	21.94	1.07	70.78	8
- 1.60	70.88	7.22	21.66	1.06	70.06	7½
- 1.70	73.44	8.19	21.47	1.06	69.28	7½
- 1.80	77.88	8.87	21.35	1.06	68.72	7
Total	100.00	28.57	17.76	1.06	52.61	4½

\* F.S.I. by actual determination.

December 2, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

## DENISON MINES LTD.

Drill Hole #R-7110, Composite F  
Footage: 1080' - 1086' (670 - 675)

T A B L E 4: Washability Data

Sp. Gr.	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash%	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash%	Wt. %	Ash %		
- 1.30	27.90	2.04	27.90	2.04	100.00	28.57	13.95	2.04
1.30 - 1.35	16.21	4.51	44.11	2.95	72.10	38.83	36.00	4.51
1.35 - 1.40	10.94	7.44	55.05	3.84	55.89	48.79	49.58	7.44
1.40 - 1.45	6.40	14.67	61.45	4.97	44.95	58.85	58.25	14.67
1.45 - 1.50	5.15	20.97	66.60	6.21	38.55	66.18	63.53	20.97
1.50 - 1.60	4.28	23.04	70.88	7.22	33.40	73.16	68.74	23.04
1.60 - 1.70	2.56	34.91	73.44	8.19	29.12	80.52	72.16	34.91
1.70 - 1.80	1.44	43.71	74.88	8.87	26.56	83.92	74.16	43.71
+ 1.80	25.12	87.28	100.00	28.57	25.12	87.28	90.44	87.28
Total	100.00	28.57						

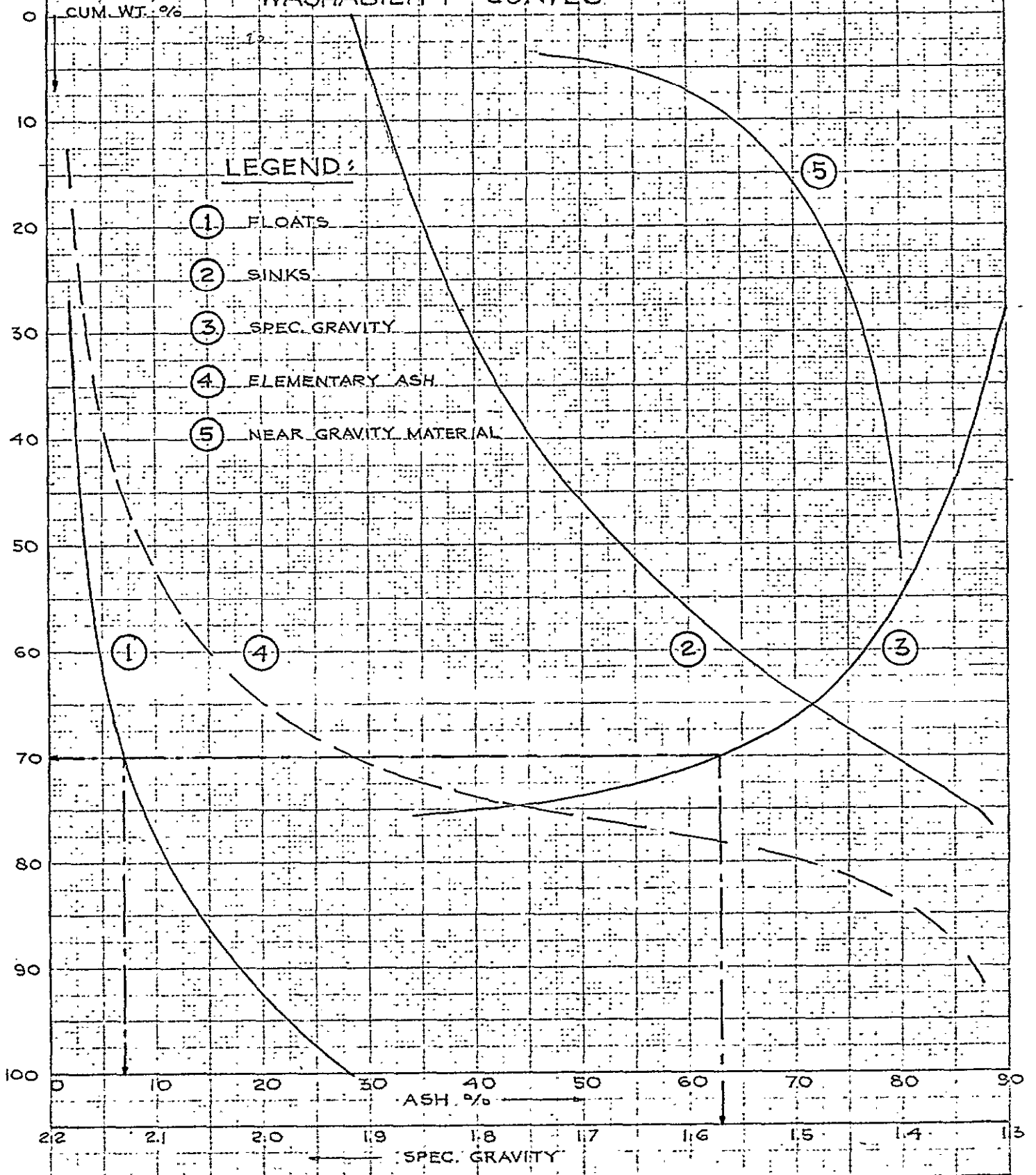
December 2, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

# DENISON MINES LTD.

DRILL HOLE # R-7110 COMPOSITE F  
FOOTAGE 1080' - 1086' (670 - 675)

## WASHABILITY CURVES



DEC. 2 / '71

G.W.L.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

MAKE 10 X 10 TO THE CENTIMETER 46 1512  
 MADE IN U.S.A.  
 KLUFFEL & ESSER CO.

DENISON MINES LTD.

Drill Hole #R-7110, Composite F  
Footage: 1080' - 1086' ( 670 - 675)

T A B L E 5: Analysis of Clean Coal at 7% Ash

Yield	70.0%
Floats Gravity	1.57%
Ash	7.0%
Volatile Matter	21.74%
Residual Moisture	1.06%
Fixed Carbon	70.20%
F.S.I.	7½
Sulphur	0.28%

December 2, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7110, Composite F  
Footage: 1080' - 1086' (670 - 675)

T A B L E 6: Screen Analyses at 28 Mesh

	<u>Weight %</u>
+ 28 Mesh	41.40
- 28 Mesh	<u>58.60</u>
Total	<u>100.00</u>

T A B L E 7: Head Analyses of Minus 28 Mesh

Ash	17.49%
Volatile Matter	19.41%
Residual Moisture	1.33%
Fixed Carbon	61.77%
Free Swelling Index	7

December 2, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7110, Composite F  
Footage: 1080' - 1086' (670 - 675)

T A B L E 8: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	82.38%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Floats</u>	<u>Tailings</u>
Ash, %	9.73	50.63
Volatile Matter, %	20.57	
Residual Moisture, %	1.33	
Fixed Carbon, %	68.37	
Free Swelling Index	7½	
Sulphur, %	0.43%	

December 2, 1971.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LIMITED

Drill Hole #R7114, Composite Upper I

Footage: 722' - 727' (752 - 756)

SEAM I - UPPER SECTION

Sample represents a height of 7.4 feet of coal. Both roof and floor are sharp contacts. Floor is a 3.4 foot shale unit.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL</u>	<u>MOIST</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.69%	21.74%	5.0%	66.57%	0.19%	8

\* Assuming 5% total moisture  
and 7% ash (air dried basis)



DENISON MINES LTD.

Drill Hole #R-7114, Composite Upper I  
Footage: 722' - 727' (752-756)

T A B L E 1: Raw Sample Analyses

Ash	21.87%
Volatile Matter	19.44%
Residual Moisture	0.60%
Fixed Carbon	58.09%
F.S.I.	3½
B.T.U./lb.	11,670
Sulphur	0.22%

February 7, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7114, Composite Upper I  
Footage: 722' - 727' (752-756)

T A B L E 2: Weight % and Proximate Analyses of Specific Gravity Fractions

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.%
- 1.30	17.68	2.03	25.73	0.57	71.67
1.30 - 1.35	19.26	4.39	23.84	0.62	71.15
1.35 - 1.40	15.97	7.99	21.29	0.65	70.07
1.40 - 1.45	9.84	11.44	20.22	0.69	67.65
1.45 - 1.50	5.86	15.86	19.71	0.66	63.77
1.50 - 1.60	6.09	23.95	18.79	0.58	56.68
1.60 - 1.70	5.94	31.50	17.73	0.55	50.22
1.70 - 1.80	3.52	43.24	15.97	0.59	40.20
+ 1.80	15.84	76.35	10.87	0.60	12.18
Total	100.00	21.48	20.17	0.61	57.74

February 7, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7114, Composite Upper I  
Footage: 722' - 727' (752-756)

T A B L E 3: Weight %, Proximate Analyses and Free Swelling Index of Cumulative Floats

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.%	F.S.I.*
- 1.30	17.68	2.03	25.73	0.57	71.67	9+
- 1.35	36.94	3.26	24.74	0.60	71.40	9
- 1.40	52.91	4.69	23.70	0.61	71.00	8½
- 1.45	62.75	5.75	23.16	0.62	70.47	8
- 1.50	68.61	6.61	22.86	0.63	69.90	8
- 1.60	74.70	8.02	22.53	0.62	68.83	7½
- 1.70	80.64	9.75	22.18	0.62	67.45	6½
- 1.80	84.16	11.15	21.92	0.62	66.31	5½
Total	100.00	21.48	20.17	0.61	57.74	3½

\* B.S.I. by actual determination.

## DENISON MINES LTD.

Drill Hole #R-7114, Composite Upper I  
Footage: 722' 727' (752-756)

T A B L E 4: Washability Data

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	17.68	2.03	17.68	2.03	100.00	21.48	8.84	2.03
1.30 - 1.35	19.26	4.39	36.94	3.26	82.32	25.66	27.31	4.39
1.35 - 1.40	15.97	7.99	52.91	4.69	63.06	32.15	44.92	7.99
1.40 - 1.45	9.84	11.44	62.75	5.75	47.09	40.35	57.83	11.44
1.45 - 1.50	5.86	15.86	68.61	6.61	37.25	47.99	65.68	15.86
1.50 - 1.60	6.09	23.95	74.70	8.02	31.39	53.98	71.65	23.95
1.60 - 1.70	5.94	31.50	80.64	9.75	25.30	61.21	77.67	31.50
1.70 - 1.80	3.52	43.24	84.16	11.15	19.36	70.33	82.40	43.24
+ 1.80	15.94	76.35	100.00	21.48	15.84	76.35	92.08	76.35
Total	100.00	21.48						

February 7, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

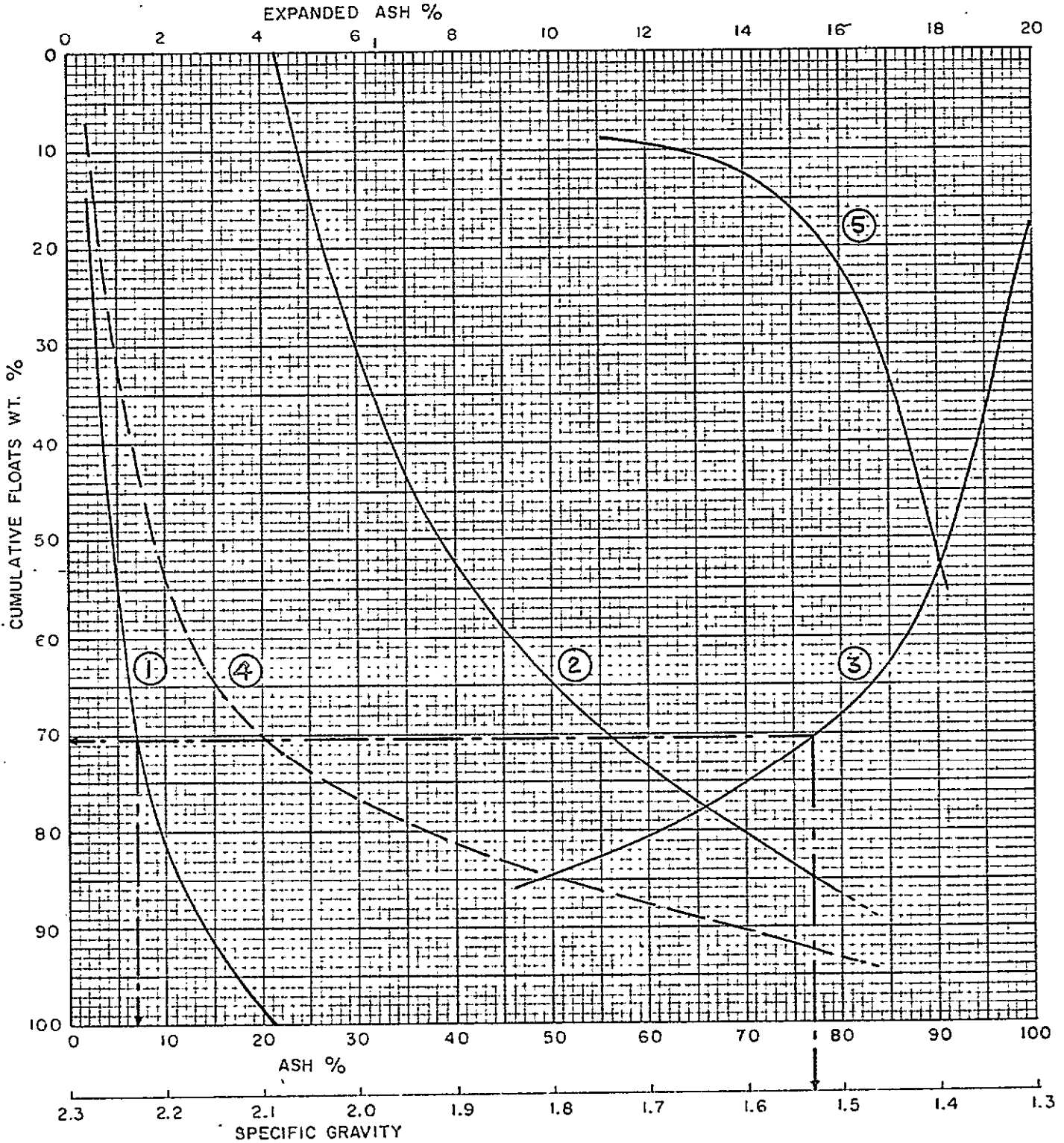
FIGURE

COMPANY DENISON MINES LTD.  
DRILL HOLE # R-7114, Composite Upper I  
FOOTAGE 722' - 727' (752 - 756)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE: February 7, 1972.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole #R-7114, Composite Upper I  
Footage: 722' - 727' (752-756)

T A B L E 5: Analysis of Clean Coal at 7% Ash

Yield	70.00%
Floats Gravity	1.53
Ash	7.00%
Volatile Matter	22.74%
Residual Moisture	0.63%
Fixed Carbon	69.63%
F.S.I.	8
Sulphur	0.20%

February 7, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7114, Composite Upper I  
Footage: 722' - 727' (752-756)

T A B L E 6: Screen Analysis at 28 Mesh

	<u>Weight %</u>
+ 28 Mesh	46.30
- 28 Mesh	<u>53.70</u>
Total	<u>100.00</u>

T A B L E 7: Head Analyses of Minus 28 Mesh

Ash	26.25%
Volatile Matter	18.70%
Residual Moisture	0.60%
Fixed Carbon	54.45%
F.S.I.	6½
Sulphur	0.27%

DENISON MINES LTD.

Drill Hole #R-7114, Composite Upper I  
Footage: 722' - 727' (752-756)

T A B L E 8: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	74.01%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Floats</u>	<u>Tailings</u>
Ash, %	15.83	55.51
Residual Moisture, %	0.59	
Volatile Matter, %	22.76	
Fixed Carbon, %	60.82	
F.S.I.	8½	
Sulphur, %	0.34	

February 7, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LIMITED

Drill Hole #R7114, Composite Lower I  
Footage: 731' - 736' (757 - 761)

SEAM I - LOWER SECTION

The lower section of I seam is 6.5 feet thick and is relatively high in ash at 33%. Roof is a 3.4 foot shale unit. Floor is a competent shale bed.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL</u>	<u>MOIST</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.70%	23.74%	5.0%	64.56%	0.21%	8 <sup>1</sup> / <sub>2</sub>

\* Assuming 5% total moisture  
and 7% ash (air dried basis)

DENISON MINES LTD.

Drill Hole #R-7114, Composite Lower I  
Footage: 731' - 736' (757-761)

T A B L E 1: Raw Sample Analyses

Ash	32.92%
Volatile Matter	18.22%
Residual Moisture	0.85%
Fixed Carbon	48.01%
F.S.I.	5
B.T.U./lb.	9,910
Sulphur	0.26%

February 3, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7114, Composite Lower I  
Footage: 731' - 736' (757-761)

T A B L E 2: Weight % and Proximate Analyses of Specific Gravity Fractions

Sp. Gr.	Weight %	Ash %	V.M.%	R.M.%	F.C.%
- 1.30	22.17	1.85	26.49	0.85	70.81
1.30 - 1.35	8.66	6.13	25.65	0.79	67.43
1.35 - 1.40	5.57	10.89	23.48	0.81	64.82
1.40 - 1.45	5.16	16.30	21.60	0.86	61.24
1.45 - 1.50	5.10	24.23	19.42	0.87	55.48
1.50 - 1.55	4.14	28.00	19.10	0.82	52.08
1.55 - 1.60	3.67	33.11	17.54	0.87	48.48
1.60 - 1.70	10.03	40.01	16.63	0.81	42.55
1.70 - 1.80	9.32	48.91	15.46	0.79	34.84
+ 1.80	26.18	68.50	11.56	0.86	19.08
Total	100.00	32.50	19.08	0.84	47.58

DENISON MINES LTD.

Drill Hole #R-7114, Composite Lower I  
Footage: 731' - 736' (757-761)

T A B L E #3: Weight %, Proximate Analyses and Free Swelling Index of Cumulative Floats

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I.*
- 1.30	22.17	1.85	26.49	0.85	70.81	9+
- 1.35	30.83	3.05	26.25	0.83	69.87	9
- 1.40	36.40	4.25	25.83	0.83	69.09	9
- 1.45	41.56	5.75	25.30	0.83	68.12	9
- 1.50	46.66	7.77	24.66	0.84	66.73	8½
- 1.55	50.80	9.42	24.21	0.84	65.53	8½
- 1.60	54.47	11.01	23.76	0.84	64.39	8
- 1.70	64.50	15.52	22.65	0.83	61.00	8
- 1.80	73.82	19.74	21.74	0.83	57.69	7½
Total	100.00	32.50	19.08	0.84	47.58	5

\* F.S.I. by actual determination.

February 3, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7114, Composite Lower I  
Footage: 731' - 736' (757-761)

T A B L E 4: Washability Data

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	22.17	1.85	22.17	1.85	100.00	32.50	11.08	1.85
1.30 - 1.35	8.66	6.13	30.83	3.05	77.83	41.24	26.50	6.13
1.35 - 1.40	5.57	10.89	36.40	4.25	69.17	45.63	33.62	10.89
1.40 - 1.45	5.16	16.30	41.56	5.75	63.60	48.67	38.98	16.30
1.45 - 1.50	5.10	24.23	46.66	7.77	58.44	51.53	44.11	24.23
1.50 - 1.55	4.14	28.00	50.80	9.42	53.34	54.14	48.73	28.00
1.55 - 1.60	3.67	33.11	54.47	11.01	49.20	56.34	52.63	33.11
1.60 - 1.70	10.03	40.01	64.50	15.52	45.53	58.21	59.49	40.01
1.70 - 1.80	9.32	48.91	73.82	19.74	35.50	63.36	69.16	48.91
+ 1.80	26.18	68.50	100.00	32.50	26.18	68.50	86.91	68.50
Total	100.00	32.50						

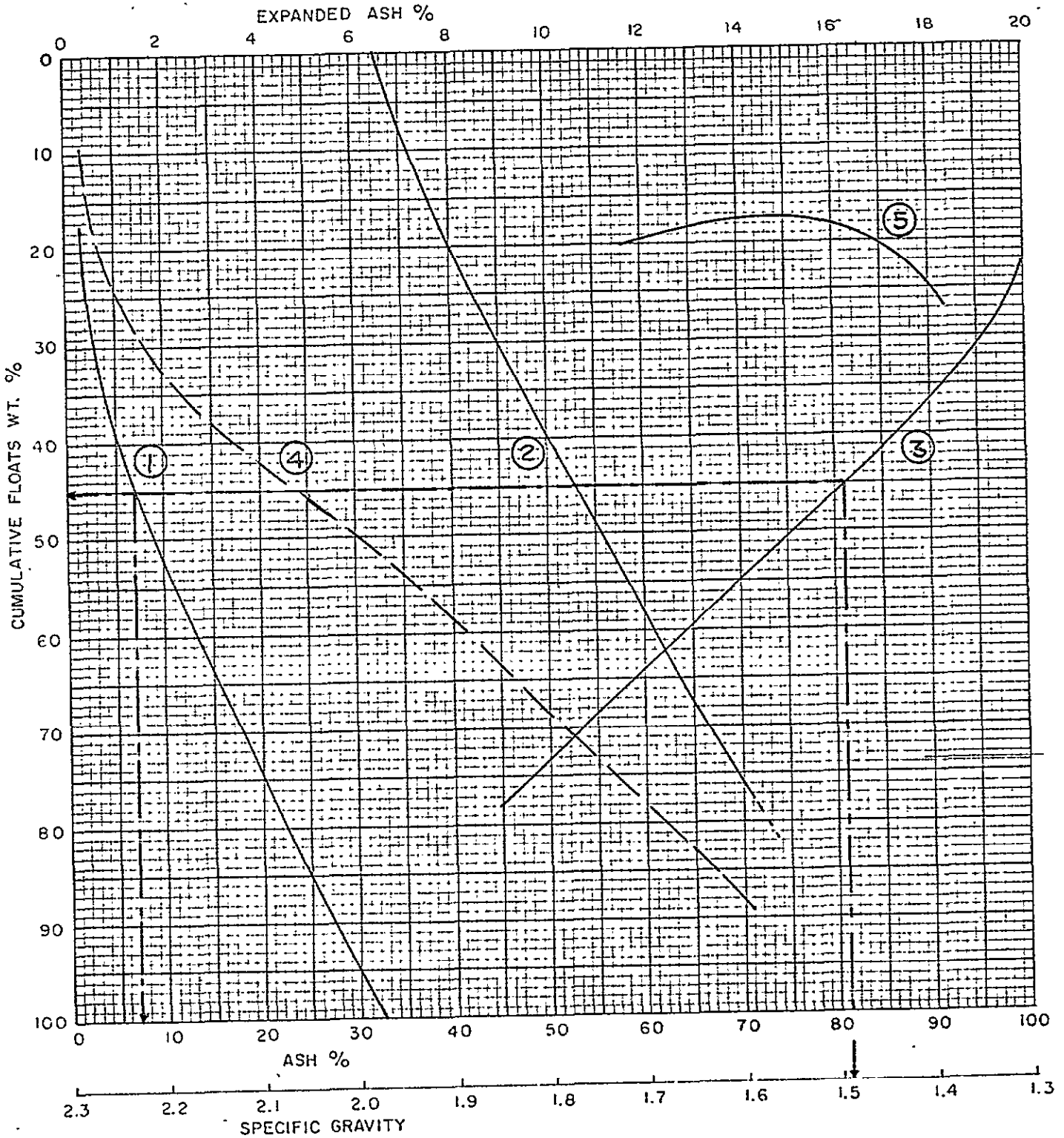
FIGURE 1

COMPANY Denison Mines Ltd.  
DRILL HOLE # R-7114, Composite Lower I  
FOOTAGE : 731' - 736' (757-761)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE : February 3, 1972.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole #R-7114, Composite Lower I  
Footage: 731' - 736' (757-761)

T A B L E 5: Analysis of Clean Coal at 7% Ash

Yield	45.00%
Floats Gravity	1.49
Ash	7.00%
Volatile Matter	24.78%
Residual Moisture	0.84%
Fixed Carbon	67.38%
F.S.I.	8½
Sulphur	0.22%

February 3, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #R-7114, Composite Lower I  
Footage: 731' - 736' (757-761)

T A B L E 6: Screen Analyses at 28 Mesh

	<u>Weight %</u>
+ 28 Mesh	43.03
- 28 Mesh	<u>56.97</u>
Total	<u>100.00</u>

T A B L E 7: Head Analyses of Minus 28 Mesh

Ash	16.26%
Volatile Matter	21.06%
Residual Moisture	0.44%
Fixed Carbon	62.24%
F.S.I.	5½
Sulphur	0.27%

February 3, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole #R-7114, Composite Lower I  
Footage: 731' - 736' (757-761)

T A B L E 8: Froth Flotation Test on Minus 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	82.11%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Floats</u>	<u>Tailings</u>
Ash, %	9.97	48.35
Volatile Matter, %	22.04	
Residual Moisture, %	0.58	
Fixed Carbon, %	67.41	
F.S.I.	7	
Sulphur, %	0.28	

February 3, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LIMITED

Drill Hole QBD 7201, Composite I Seam  
Footage: 672.5' - 681.0' (D1016-D1021)

SEAM I - FULL SECTION

The composite represents a full 10.8 foot section of I seam. The roof is 2.5 feet of shale overlain by sandstone. The floor is a silty shale unit.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.N.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
7.21%	21.34	5.0%	66.45%	0.33%	6

\* Assuming 5% total moisture and  
7% ash (air dried basis)

DENISON MINES LTD.

Drill Hole #QBD-7201 - Composite I  
Footage: 672.5' - 681.0' (D1016 - D1021)

T A B L E 1: Raw Sample Analysis

Ash	15.12%
Volatile Matter	20.90%
Residual Moisture	1.05%
Fixed Carbon	62.93%
F.S.I.	4
B.T.U./lb.	12,890
Sulphur	0.35%

April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7201 - Composite I  
Footage: 672.5' - 681.0' (D1016 - to D1021)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+28 Mesh	83.71
28 x 100 Mesh	12.12
-100 Mesh	<u>4.17</u>
Total	<u>100.00</u>

April 12, 1972.

CYCLONE ENGINEERING SALES-LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7201 - Composite I  
Footage: 672.5' - 681.0' (D1016 - to D1021)

T A B L E 3: Head Analysis of +28 Mesh

Ash	15.79%
Volatile Matter	20.70%
Residual Moisutre	0.98%
Fixed Carbon	62.53%
F.S.I.	3½

April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7201 - Composite I  
 Footage: 672.5' - 681.0' (D1016 to D1021)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: +28 Mesh

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %
- 1.30	19.79	3.06	24.94	0.98	71.02
1.30 - 1.35	22.03	6.18	22.01	1.07	70.74
1.35 - 1.40	18.01	9.89	20.97	1.06	68.08
1.40 - 1.45	9.64	15.40	19.60	0.99	64.01
1.45 - 1.50	5.92	20.36	18.47	0.93	60.24
1.50 - 1.60	9.12	27.64	17.45	0.95	53.96
1.60 - 1.70	6.53	36.36	17.51	0.98	45.15
1.70 - 1.80	2.64	39.98	17.47	1.01	41.54
+ 1.80	6.32	54.09	17.60	1.04	27.27
Total	100.00	15.81	20.85	1.01	62.33

April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7201 - Composite I  
 Footage: 672.5' - 681.0' (D1016 to D1021)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling Index of Cumulative Floats: +28 Mesh

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I.*
- 1.30	19.79	3.06	24.94	0.98	71.02	9+
- 1.35	41.82	4.70	23.40	1.03	70.87	8
- 1.40	59.83	6.26	22.67	1.03	70.04	7
- 1.45	69.47	7.53	22.24	1.03	69.20	6
- 1.50	75.39	8.54	21.94	1.02	68.50	6
- 1.60	84.51	10.60	21.46	1.01	66.93	5½
- 1.70	91.04	12.45	21.18	1.01	65.36	5½
- 1.80	93.68	13.22	21.07	1.01	64.70	5
Total	100.00	15.81	20.85	1.01	62.33	3½

\* B.S.I. by actual determination.

April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

Drill Hole #QBD-7201 - Composite I  
Footage: 672.5' - 681.0' (D1016 to D1021)

T A B L E 6: Washability Data: +28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash%	Floats		Sinks		Wt. %	Ash%
			Wt. %	Ash%	Wt. %	Ash%		
- 1.30	19.79	3.06	19.79	3.06	100.00	15.81	9.89	3.06
1.30 - 1.35	22.03	6.18	41.82	4.70	80.21	18.95	30.81	6.18
1.35 - 1.40	18.01	9.89	59.83	6.26	58.18	23.79	50.82	9.89
1.40 - 1.45	9.64	15.40	69.47	7.53	40.17	30.02	64.65	15.40
1.45 - 1.50	5.92	20.36	75.39	8.54	30.53	34.64	72.43	20.36
1.50 - 1.60	9.12	27.64	84.51	10.60	24.61	38.07	79.95	27.64
1.60 - 1.70	6.53	36.36	91.04	12.45	15.49	44.21	87.78	36.36
1.70 - 1.80	2.64	39.98	93.68	13.22	8.96	49.93	92.36	39.98
+ 1.80	6.32	54.09	100.00	15.81	6.32	54.09	96.84	54.09
Total	100.00	15.81						

April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



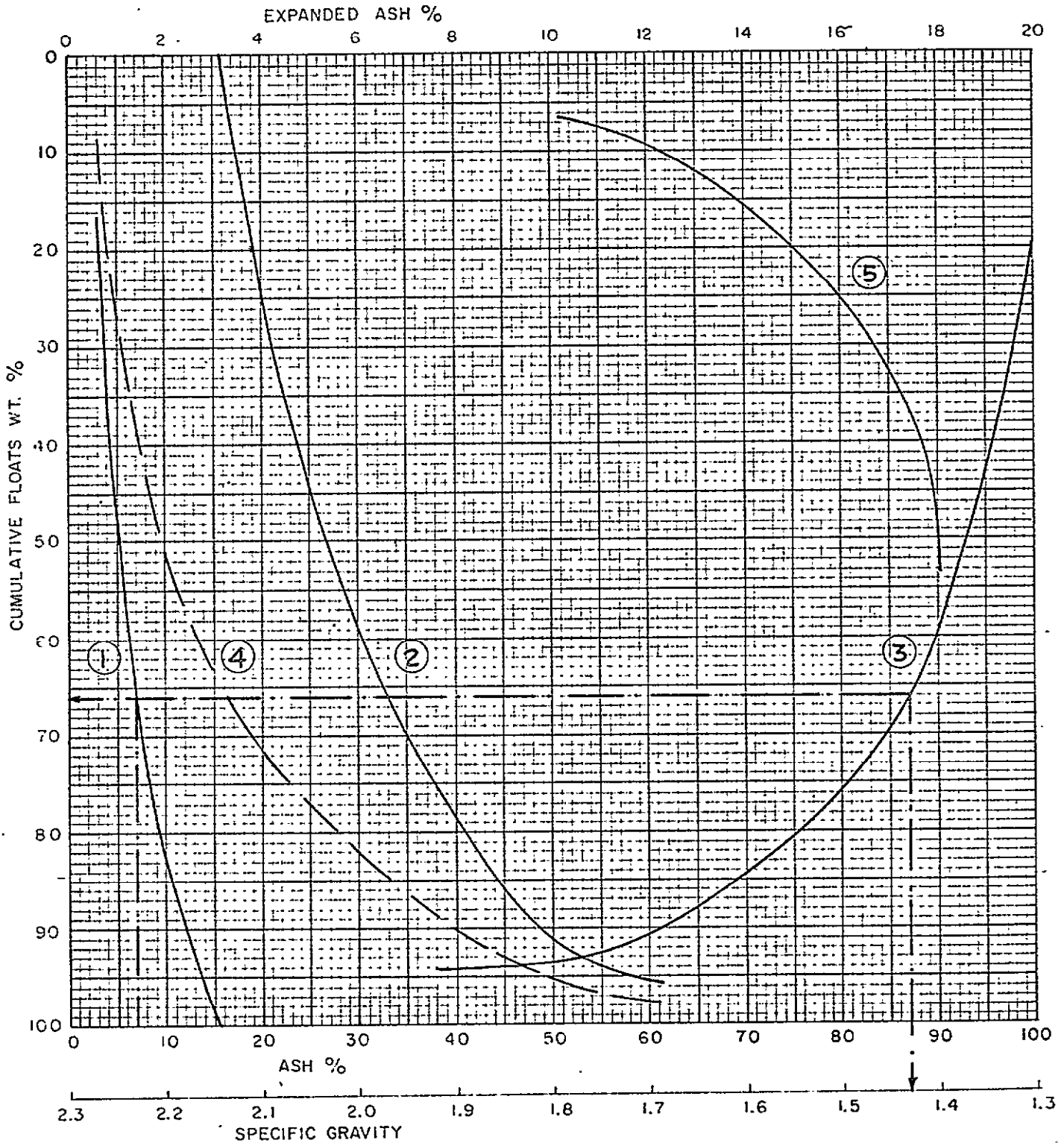
FIGURE

COMPANY Denison Mines Ltd.  
DRILL HOLE # QBD-7201 - Composite I  
FOOTAGE 672.5' - 681.0' (D1016 - D1021)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE: April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole #QBD-7201 - Composite I  
Footage: 672.5' - 681.0' (D1016 to D1021)

T A B L E 7: Head Analysis of -28 Mesh

Ash	12.56%
Volatile Matter	21.53%
Residual Moisture	1.22%
Fixed Carbon	64.69%
F.S.I.	6

April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

Drill Hole #QBD-7201 - Composite I  
Footage: 672.5' - 681.0' (D1016 to D1021)

T A B L E 8: Float Sink of 28 x 100 Mesh and Proximate Analysis of Fractions

Specific Gravity	Wt. %	Ash %	VM. %	F.C. %	Cum. Weight % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	72.53	4.79	22.48	72.73	72.53	4.79	8
1.40 - 1.60	17.07	19.31	18.53	62.16	89.60	7.56	7
1.60 - 1.80	5.65	35.97	17.91	46.12	95.25	9.24	7
+ 1.80	4.75	57.87	19.51	22.62	100.00	11.55	6
Total	100.00	11.55	21.41	67.04			

April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7201 - Composite I  
Footage: 672.5' - 681.0' (D1016 to D1021)

T A B L E 9: Froth Flotation Test on - 28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	91.79%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	10.37	31.05
Volatile Matter, %	21.98	
Residual Moisture, %	1.15	
Fixed Carbon, %	66.50	
F.S.I.	6½	
Sulphur, %	0.45	

April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7201 - Composite I  
Footage: 672.5' - 681.0' (D1016 to D1021)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for +28 Mesh	1.43
Yield of Floats at 7% Ash in +28 Mesh	66.00%
Weight % of Floats at 1.43 in the Composite Clean Coal	78.70%
Weight % of Flotation Concentrate in Composite Clean Coal	21.30%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	7.51%
Volatile Matter	22.21%
Residual Moisture	1.08%
Fixed Carbon	69.20%
F.S.I.	6
Sulphur	0.34%

April 12, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LIMITED

Drill Hole QBD-7202, Composite I  
Footage: 973.0' - 982.0' (D1390 - D1392)

SEAM I - FULL SECTION

A 10.9 foot composite of the full seam section was taken. Core recovery was approximately 64%. The composite includes a 0.9 foot shaly coal section near the roof. The roof is argillaceous siltstone and the floor consists of 1 foot of gradational argillaceous siltstone.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
8.40%	21.45%	5.00%	65.14%	0.36%	8½

\* Assuming 5% total moisture and 7% ash (air dried basis).

DENISON MINES LTD.

Drill Hole # QBD-7202 - Composite II  
Footage: 973.0' - 982.0' (D1390 - D1392)

T A B L E 1: Raw Sample Analysis.

Ash	18.35%
Volatile Matter	20.73%
Residual Moisture	1.30%
Fixed Carbon	59.62%
F.S.I.	6
B.T.U./lb.	12,540
Sulphur	0.44%

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QBD-7202 - Composite I  
Footage: 973.0' - 982.0' (D1392 0 D1392)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+ 28 Mesh	67.28
28 x 100 Mesh	20.43
- 100 Mesh	<u>12.29</u>
Total	<u>100.00</u>

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole # QBD-7202 - Composite I  
Footage: 973.0' - 982.0' (D1390 - D1392)

T A B L E     3:     Head Analysis of + 28 Mesh.

Ash	19.96%
Volatile Matter	19.89%
Residual Moisture	1.35
Fixed Carbon	58.80%
F.S.I.	5½

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QBD-7202 - Composite H  
 Footage: 973.0' - 982.0' (D1390 - D1392)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: + 28 Mesh.

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %
- 1.30	22.04	2.16	24.41	1.33	72.10
1.30 - 1.35	20.12	6.03	22.04	1.36	70.57
1.35 - 1.40	15.72	9.93	20.15	1.37	68.55
1.40 - 1.45	10.29	15.66	19.09	1.30	63.95
1.45 - 1.50	3.82	19.37	17.82	1.29	61.52
1.50 - 1.60	5.35	25.02	16.66	1.39	56.93
1.60 - 1.70	4.91	35.23	15.91	1.41	47.45
1.70 - 1.80	3.69	40.11	14.72	1.32	43.85
+ 1.80	14.06	71.26	12.72	1.30	14.72
Total	100.00	20.17	19.63	1.34	58.86

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada

May 25, 1972.

DENISON MINES LTD.

Drill Hole # QBD-7202 - Composite I  
 Footage: 973.0' - 982.0' (D1390 - D1392)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling Index of Cumulative Floats: + 28 Mesh.

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	FSI
- 1.30	22.04	2.16	24.41	1.33	72.10	9+
- 1.35	42.16	4.01	23.28	1.34	71.37	9+
- 1.40	57.88	5.62	22.43	1.35	70.60	9
- 1.45	68.17	7.13	21.93	1.34	69.60	8½
- 1.50	71.99	7.78	21.71	1.34	69.17	8
- 1.60	77.34	8.97	21.36	1.34	68.33	7½
- 1.70	82.25	10.54	21.03	1.34	67.09	7½
- 1.80	85.94	11.81	20.76	1.34	66.09	7
Total	100.00	20.17	19.63	1.34	58.86	5½

\*F.S.I. by actual determination.

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada

## DENISON MINES LTD.

Drill Hole #QBD-7202 - Composite I  
Footage: 973.0' - 982.0' (D1390 - D1392)

TABLE 6: Washability Data: + 28 Mesh.

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	22.04	2.16	22.04	2.16	100.00	20.17	11.02	2.16
1.30 - 1.35	20.12	6.03	42.16	4.01	77.96	25.26	32.10	6.03
1.35 - 1.40	15.72	9.93	57.88	5.62	57.84	31.95	50.02	9.93
1.40 - 1.45	10.29	15.66	68.17	7.13	42.12	40.17	63.02	15.66
1.45 - 1.50	3.82	19.37	71.99	7.78	31.83	48.09	70.08	19.37
1.50 - 1.60	5.35	25.02	77.34	8.97	28.01	52.01	74.67	25.02
1.60 - 1.70	4.91	35.23	82.25	10.54	22.66	58.38	79.79	35.23
1.70 - 1.80	3.69	40.11	85.94	11.81	17.75	64.78	84.10	40.11
+ 1.80	14.06	71.26	100.00	20.17	14.06	71.26	92.97	71.26
Total	100.00	20.17						

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

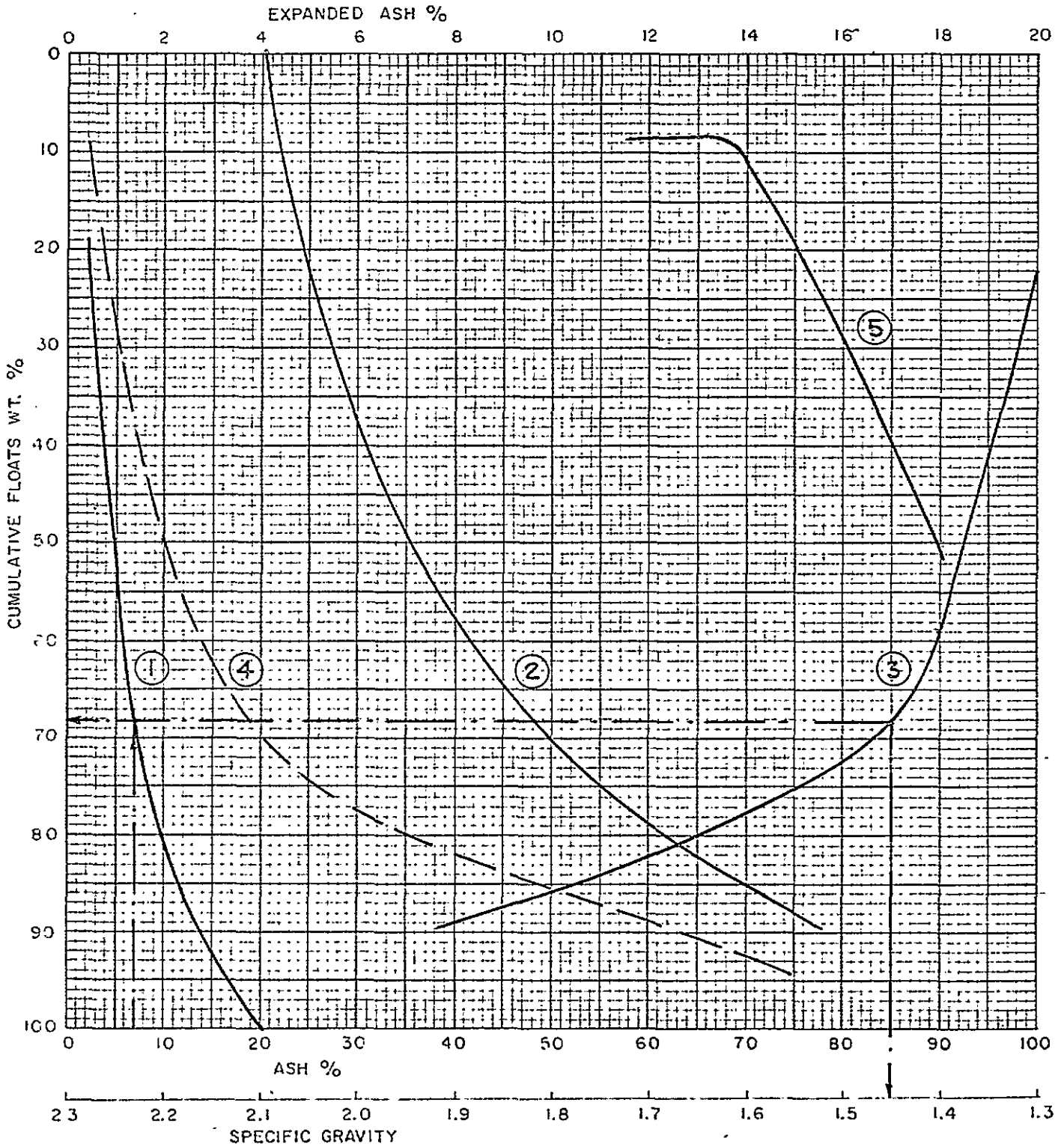
FIGURE

COMPANY Denison Mines Ltd.  
DRILL HOLE # QBD 7202 - Composite I  
FOOTAGE 973.0' - 982.0' (D1390 - D1392)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE : May25, 1972.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

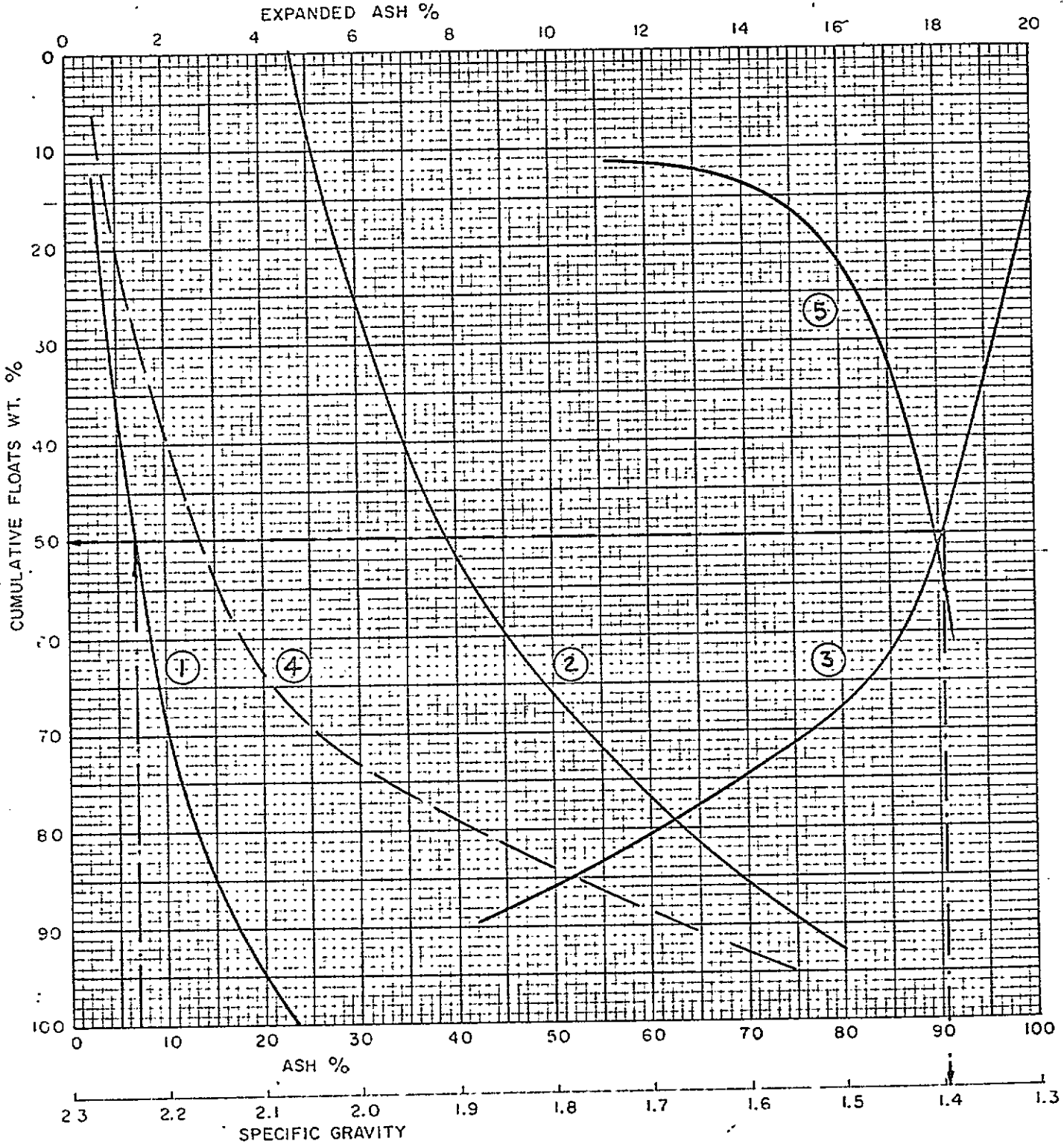
FIGURE

COMPANY Denison Mines Ltd.  
DRILL HOLE # QBD-7202 - Composite Upper J  
FOOTAGE 1103.5' - 1112.3' (D1393 - D1395)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DATE : May 25, 1972.

DENISON MINES LTD.

Drill Hole #QBD-7202 - Composite I  
Footage: 973.0' - 982.0' (D1390 - D1392)

T A B L E 7: Head Analysis of - 28 Mesh.

Ash	15.95%
Volatile Matter	21.53%
Residual Moisture	1.27%
Fixed Carbon	61.25%
F.S.I.	7½

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

Drill Hole # QBD-7202 - Composite I  
Footage: 973.0' - 982.0' (D1390 - D1392)

T A B L E 8: Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions.

Specific Gravity	Wt. %	Ash%	V.M. %	F.C. %	Cum. Wt. % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	65.52	3.99	23.52	72.49	65.52	3.99	9
1.40 - 1.60	17.42	17.05	19.27	63.68	82.94	6.73	8½
1.60 - 1.80	5.48	38.52	17.16	44.32	88.42	8.70	8
+ 1.80	11.58	69.89	13.25	16.86	100.00	15.79	7½
Total	100.00	15.79	21.24	62.97			

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole # QBD-7202 - Composite I  
Footage: 973.0' - 982.0' (D1390 - D1392)

T A B L E 9: Froth Flotation Test on - 28 Mesh.

Solids by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	90.77%
Reagents	MIBC & Kerosene

Analyses of the products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	11.44	59.63
Volatile Matter, %	22.55	
Residual Moisture, %	1.25	
Fixed Carbon, %	64.76	
F.S.I.	8	
Sulphur, %	0.50	

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QBD-7202 - Composite I  
Footage: 973.0' - 982.0' (D1390 - D1392)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for + 28 Mesh	1.45
Yield of Floats at 7% Ash in + 28 Mesh	68.00%
Weight of Floats at 1.45in Composite Clean Coal	60.60%
Weight of Flotation Concentrate in Composite Clean Coal	39.40%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	8.73%
Volatile Matter	22.29%
Residual Moisture	1.30%
Fixed Carbon	67.68%
F.S.I.	8½
Sulphur	0.37%

May 25, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LIMITED

Drill Hole QBD 7203, Composite I Seam  
Footage: 825.3' - 837.7' (D494-D496)

SEAM I - FULL SECTION

A full 12.4 foot section of I seam has been tested. The top and bottom sections are both gradational for approximately 2 feet. The roof material is shale and the floor is shale overlying siltstone.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
7.04%	22.48%	5.0%	65.48%	0.21%	6½

\* Assuming 5% total moisture and  
7% ash (air dried basis)

DENISON MINES LTD.

Drill Hole #QB-D-7203, Composite I  
Footage: 825.3' - 837.7' (D494 - D496)

T A B L E 1: Raw Sample Analysis.

Ash	15.23%
Volatile Matter	21.60%
Residual Moisture	0.68%
Fixed Carbon	62.49%
F.S.I.	5
B.T.U./lb.	12,450
Sulphur	0.27%

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QB-D-7203, Composite I  
Footage: 825.3' - 837.7' (D494 - D496)

T A B L E 2: Size Consist of Head Sample.

	<u>Weight %</u>
+ 28 Mesh	80.00
28 x 100 Mesh	14.20
- 100 Mesh	<u>5.80</u>
Total	100.00

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QB-d-7203, Composite I  
Footage: 825.3' - 837.7' (D494, D496)

T A B L E 3: Head Analysis of + 28 Mesh.

Ash	16.10%
Volatile Matter	21.50%
Residual Moisture	0.76%
Fixed Carbon	61.64%
F.S.I.	4½

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QB-D-7203, Compestie I  
 Footage: 825.3' - 837.7' (D494 - D496)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: + 28 Mesh.

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C.%
- 1.30	27.40	3.06	26.37	0.71	69.86
1.30 - 1.35	24.88	6.86	24.12	0.74	68.28
1.35 - 1.40	10.57	9.79	22.17	0.77	67.27
1.40 - 1.45	9.03	16.32	20.89	0.78	62.01
1.45 - 1.50	5.49	21.11	19.32	0.82	58.75
1.50 - 1.60	8.16	29.31	18.01	0.79	51.89
1.60 - 1.70	5.00	38.02	17.45	0.84	43.69
1.70 - 1.80	2.61	46.11	16.84	0.70	36.35
+ 1.80	6.86	72.67	10.32	0.77	16.24
Total	100.00	18.70	22.00	0.75	58.55

DENISON MINES LTD.

Drill Hole # QB-D-7203, Composite I  
 Footage: 825.3' - 837.7' (D494 - D496)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling  
Index of Cumulative Floats: + 28 Mesh.

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I.
- 1.30	27.40	3.06	26.37	0.71	69.86	9+
- 1.35	52.28	4.87	25.30	0.72	69.11	8
- 1.40	62.85	5.70	24.72	0.73	68.85	7½
- 1.45	71.88	7.03	24.29	0.74	67.94	6
- 1.50	77.37	8.03	23.93	0.74	67.30	6
- 1.60	85.53	10.06	23.37	0.75	65.82	5½
- 1.70	90.53	11.60	23.05	0.75	64.60	5½
- 1.80	93.14	12.57	22.87	0.75	63.81	4½
Total	100.00	16.69	22.00	0.75	60.56	4½

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada



Drill Hole # QB-D-7203, Composite I  
Footage: 825.3' - 837.7' (D494 - D496)

T A B L E 6: Washability Data: + 28 Mesh.

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	27.40	3.06	27.40	3.06	100.00	16.69	13.70	3.06
1.30 - 1.35	24.88	6.86	52.28	4.87	72.60	21.84	39.84	6.86
1.35 - 1.40	10.57	9.79	62.85	5.70	47.72	29.65	57.56	9.79
1.40 - 1.45	9.03	16.32	71.88	7.03	37.15	35.30	67.37	16.32
1.45 - 1.50	5.49	21.11	77.37	8.03	28.12	41.40	74.62	21.11
1.50 - 1.60	8.16	29.31	85.53	10.06	22.63	46.32	81.45	29.31
1.60 - 1.70	5.00	38.02	90.53	11.60	14.47	55.91	88.03	38.02
1.70 - 1.80	2.61	46.11	93.14	12.57	9.47	65.35	91.84	46.11
+ 1.80	6.86	72.67	100.00	16.69	6.86	72.67	96.57	72.67
Total	100.00	16.69						

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

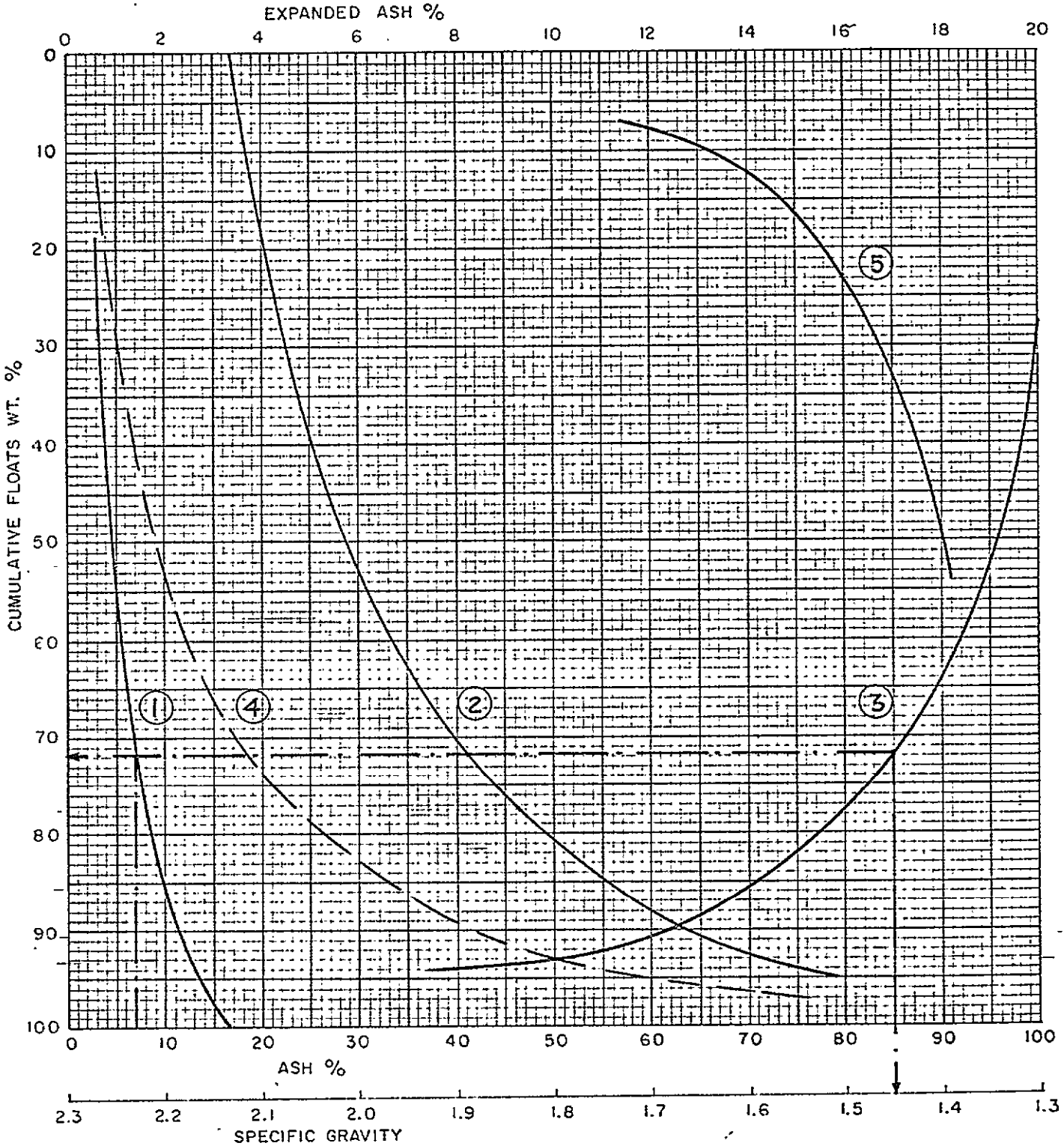
FIGURE

COMPANY DENISON MINES LTD.  
DRILL HOLE # Composite I QB-D-7203  
FOOTAGE 825.3' - 837.7' (D494 - D496)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole #QB-D-7203, Composite I  
Footage: 825.3' - 837.7' (D494 - D496)

T A B L E 7: Head Analysis of - 28 Mesh.

Ash	12.51%
Volatile Matter	22.21%
Residual Moisture	0.64%
Fixed Carbon	64.64%
F.S.I.	7

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QB-D-7203, Composite I  
 Footage: 825.3' - 837.7' (D494 - D496)

T-A B L E 8: Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions.

Specific Gravity	Wt. %	Ash %	V.M. %	F.C. %	Cum. Wt. % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	72.39	5.63	24.15	70.22	72.39	5.63	9
1.40 - 1.60	18.21	20.74	20.21	59.05	90.60	8.67	8½
1.60 - 1.80	4.83	36.49	17.56	45.95	95.43	10.07	8
+ 1.80	4.57	61.78	11.19	27.03	100.00	12.43	7
Total	100.00	12.43	22.52	65.05			

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QB-D-7203, Composite I  
Footage: 825.3' - 837.7' (D494 - D496)

T A B L E 9: Froth Flotation Test on - 28 Mesh.

Solids, by weight in Slurry	8%
Time Flotation	1.5 minutes
Flotation Recovery	82.53%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	8.69	28.91
Volatile Matter, %	22.41	
Residual Moisture, %	0.71	
Fixed Carbon, %	68.19	
F.S.I.	7½	
Sulphur, %	0.20	

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QB-D-7203, Composite I  
Footage: 825.3' - 837.7' (D494 - D496)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for + 28 Mesh	1.45
Yield of Floats at 7% Ash in + 28 Mesh	71.90%
Weight of Floats at 1.45 in the Composite Clean Coal	77.70%
Weight of Flotation Concentrate in Composite Clean Coal	22.30%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	7.36%
Volatile Matter	23.48%
Residual Moisture	0.73%
Fixed Carbon	68.43%
F.S.I.	6½
Sulphur	0.22%

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LIMITED

Drill Hole QBD 7204, Composite I Seam  
Footage: 476.5' - 482.3' (D1058-D1061)

SEAM I - FULL SECTION

A full 5.8 foot section of I seam below a carbonaceous shale roof has been tested. The floor is shale.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
7.08%	21.96%	5.0%	65.96%	0.47%	8

\* Assuming 5% total moisture and  
7% ash (air dried basis)

DENISON MINES LTD.

DRILL Hole # QB-D-7204, Composite I  
Footage: 476.5' - 482.3' (D1058 - D1061)

T A B L E 1: Raw Sample Analysis

Ash	21.98%
Volatile Matter	19.53%
Residual Moisture	0.55%
Fixed Carbon	57.94%
F.S.I.	5
B.T.U./lb.	11,080
Sulphur	0.58%

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada



DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite I  
Footage: 476.5' - 482.3' (D1058 - D1061)

T A B L E 2: Size Consist of Head Sample.

	<u>Weight, %</u>
+ 28 Mesh	80.75
28 x 100 mesh	13.16
- 100 mesh	<u>6.09</u>
Total	100.00

April 18, 1972

CYCLONE ENGINEERINGSALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite I  
Footage: 476.5' - 482.3' (D1058 - D1061)

T A B L E 3: Head Analysis of + 28 Mesh.

Ash	24.25%
Volatile Matter	18.61%
Residual Moisture	0.59%
Fixed Carbon	56.55%
F.S.I.	3½

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite I  
 Footage: 476.5' - 482.3' (D1058 - D1061)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: + 28 Mesh.

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %
- 1.30	21.21	2.66	25.50	0.65	71.19
1.30 - 1.35	18.10	6.07	22.21	0.64	71.08
1.35 - 1.40	11.35	12.87	20.76	0.61	65.76
1.40 - 1.45	9.13	16.13	19.44	0.59	63.84
1.45 - 1.50	5.00	20.76	18.71	0.55	59.98
1.50 - 1.60	6.50	26.48	16.65	0.58	56.29
1.60 - 1.70	4.50	37.89	15.88	0.57	45.66
1.70 - 1.80	3.77	44.31	15.45	0.55	39.69
+ 1.80	20.44	61.49	11.01	0.60	26.90
Total	100.00	23.30	19.12	0.61	56.97

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite I  
 Footage: 476.5' - 482.3' (D1058 - D1061)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling  
Index of Cumulative Floats: + 28 Mesh.

Sp. Gr.	Wt. %	Ash %	V.M. %	R.M. %	F.C. %	F.S.I.
- 1.30	21.21	2.66	25.50	0.65	71.19	9+
- 1.35	39.31	4.23	23.99	0.65	71.13	9
- 1.40	50.66	6.17	23.26	0.64	69.93	8
- 1.45	59.79	7.69	22.68	0.63	69.00	8
- 1.50	64.79	8.70	22.37	0.62	68.31	7½
- 1.60	71.29	10.32	21.85	0.62	67.21	7
- 1.70	75.79	11.95	21.50	0.62	65.93	6½
- 1.80	79.56	13.49	21.21	0.61	64.69	6
Total	100.00	23.30	29.12	0.61	56.97	3½

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite I  
 Footage: 476.5' - 482.3' (D1058 - D1061)

T A B L E 6: Washability Data: + 28 Mesh.

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	21.21	2.66	21.21	2.66	100.00	23.30	10.60	2.66
1.30 - 1.35	18.10	6.07	39.31	4.23	78.79	28.86	30.26	6.07
1.35 - 1.40	11.35	12.87	50.66	6.17	60.69	35.65	44.98	12.87
1.40 - 1.45	9.13	16.13	59.79	7.69	49.34	40.89	55.22	16.13
1.45 - 1.50	5.00	20.76	64.79	8.70	40.21	46.51	62.29	20.76
1.50 - 1.60	6.50	26.48	71.29	10.32	35.21	50.17	68.04	26.48
1.60 - 1.70	4.50	37.89	75.79	11.95	28.71	55.53	73.54	37.89
1.70 - 1.80	3.77	44.31	79.56	13.49	24.21	58.81	77.67	44.31
+ 1.80	20.44	61.49	100.00	23.30	20.44	61.49	89.78	61.49
Total	100.00	23.30						

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada

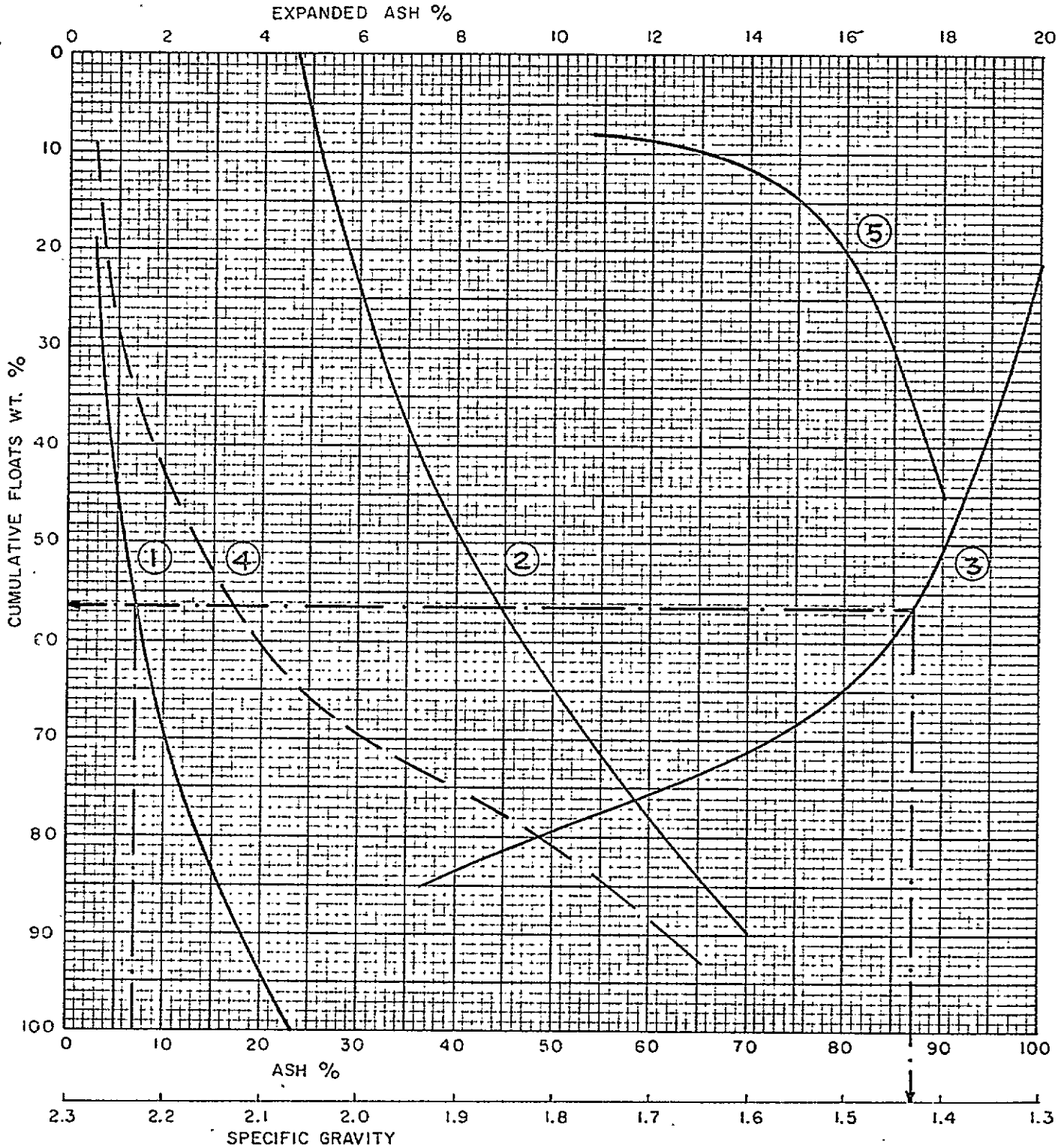
FIGURE

COMPANY DENISON MINES LTD.  
DRILL HOLE # QB-D-7204, Composite I  
FOOTAGE 476.5' - 482.3' (D1058 - D1061)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite I  
Footage: 476.5' - 482.3' (D1058 - D1061)

T A B L E 7: Head Analysis of - 28 Mesh.

Ash	15.75%
Volatile Matter	22.19%
Residual Moisture	0.51%
Fixed Carbon	61.55%
F.S.I.	7½

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite I  
 Footage: 476.5' - 482.3' (D1058 - D1061)

T A B L E 8: Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions.

Specific Gravity	Wt. %	Ash %	V.M. %	F.C. %	Cum. Wt. % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	66.18	4.04	24.81	71.15	66.18	4.04	9+
1.40 - 1.60	16.05	19.34	20.34	60.32	82.23	7.03	9
1.60 - 1.80	5.39	33.49	15.72	50.79	87.62	8.65	8
+ 1.80	12.38	56.28	12.84	30.88	100.00	14.55	7½
Total	100.00	14.55	22.12	63.33			



DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite I  
Footage: 476.5' - 482.3' (D1058 - D1061)

T A B L E 9: Froth Flotation Test on - 28 Mesh.

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	57.12%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash, %	9.04	25.45
Volatile Matter, %	24.54	
Residual Moisture, %	0.53	
Fixed Carbon, %	65.89	
F.S.I.	8	
Sulphur, %	0.68	

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LTD.

Drill Hole # QB-D-7204, Composite I  
Footage: 476.5' - 482.3' (D1058 - D1061)

CLEAN COAL COMPOSITE

Specific Gravity at 7% ash for + 28 Mesh	1.43
Yield of Floats at 7% Ash in + 28 Mesh	56.20%
Weight of Floats at 1.43 in the Composite Clean Coal	80.50%
Weight of Flotation Concentrate in Composite Clean Coal	19.50%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	7.41%
Volatile Matter	22.97%
Residual Moisture	0.60%
Fixed Carbon	69.02%
F.S.I.	8
Sulphur	0.49%

April 18, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada

DENISON MINES LIMITED

Drill Hole QBD 7217, Composite I Seam  
Footage: 1263.2' - 1275.7' (D1257 - D1262)

SEAM I - FULL SECTION

A full 11.7 foot section of I seam has been composited including 1.5 feet of gradational high ash material at the top. The roof and floor are shale units.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
7.40%	21.46%	5.00%	66.14%	0.30%	8

\* Assuming 5% total moisture and 7% ash (air dried basis).

DENISON MINES LTD.

Drill Hole # QBD-7217 - Composite I  
Footage: 1263.2' - 1275.7' (D1257 to D1262)

T A B L E 1: Raw Sample Analysis

Ash	25.45%
Volatile Matter	19.16%
Residual Moisture	1.05%
Fixed Carbon	54.34%
F.S.I.	4
B.T.U./lb.	10,980
Sulphur	0.42%

May 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7217 - Composite I  
Footage: 1263.2' - 1275.7' (D1257 - D1262)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+28 Mesh	77.55
28 x 100 Mesh	15.93
-100 Mesh	<u>6.52</u>
Total	<u>100.00</u>

June 8, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7217 - Composite I  
Footage: 1263.2' - 1275.7' (D1257 to D1262)

T A B L E 3: Head Analysis of +28 Mesh

Ash	27.11%
Volatile Matter	18.54%
Residual Moisture	1.11%
Fixed Carbon	53.24%
F.S.I.	3½

May 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7217 - Composite I  
 Footage: 1263.2' - 1275.7' (D1257 to D1262)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: +28 Mesh

Sp. Gr.	Wt. %	Ash%	K.M. %	R.M. %	F.C. %
- 1.30	24.24	3.04	25.82	1.13	70.01
1.30 - 1.35	17.30	6.87	21.62	1.14	70.37
1.35 - 1.40	7.98	11.81	19.41	1.09	67.69
1.40 - 1.45	6.57	14.14	18.55	1.09	66.22
1.45 - 1.50	5.01	20.12	17.98	1.07	60.83
1.50 - 1.60	8.36	26.18	17.09	1.10	55.63
1.60 - 1.70	6.24	34.69	15.72	1.07	48.52
1.70 - 1.80	3.63	42.44	14.55	1.11	41.90
+ 1.80	20.67	76.62	9.52	1.15	21.71
Total	100.00	26.54	18.57	1.12	53.77

DENISON MINES LTD.

Drill Hole #QBD-7217 - Composite I  
 Footage: 1263.2' - 1275.7' (D1257 to D1262)

t a b l e 5: Weight %, Proximate Analysis and Free Swelling Index of Cumulative Floats: +28 Mesh

Sp. Gr.	Wt. %	Ash%	V.M. %	R.M. %	F.C. %	F.S.I. *
- 1.30	24.24	3.04	25.82	1.13	70.01	9
- 1.35	41.54	4.63	24.07	1.13	70.17	8½
- 1.40	49.52	5.79	23.32	1.13	69.76	8½
- 1.45	56.09	6.77	22.76	1.12	69.35	8
- 1.50	61.10	7.86	22.37	1.12	68.65	8
- 1.60	69.46	10.07	21.73	1.12	67.08	7½
- 1.70	75.70	12.10	21.24	1.11	65.55	7
- 1.80	79.33	13.49	20.93	1.11	64.47	7
Total	100.00	26.54	18.57	1.12	53.77	3½

\*F.S.I. by actual determination.

May 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole # QBD-7217 - Composite I  
 Footage: 1263.2' - 1275.7' (D1257 yo D1262)

T A B L E 6: Washability Data: #28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash%	Floats		Sinks		Wt. %	Ash%
			Wt. %	Ash%	Wt. %	Ash%		
- 1.30	24.24	3.04	24.24	3.04	100.00	26.54	12.12	3.04
1.30 - 1.35	17.30	6.87	41.54	4.63	75.76	34.05	32.89	6.87
1.35 - 1.40	7.98	11.81	49.52	5.79	58.46	42.10	45.53	11.81
1.40 - 1.45	6.57	14.14	56.09	6.77	50.48	46.89	52.80	14.14
1.45 - 1.50	5.01	20.12	61.10	7.86	43.91	51.79	58.60	20.12
1.50 - 1.60	8.36	26.18	69.46	10.07	38.90	55.86	65.28	26.18
1.60 - 1.70	6.24	34.69	75.70	12.10	30.54	63.99	72.58	34.69
1.70 - 1.80	3.63	42.44	79.33	13.49	24.30	71.51	77.52	42.44
+ 1.80	20.67	76.62	100.00	26.54	20.67	76.62	89.66	76.62
Total	100.00	26.54						

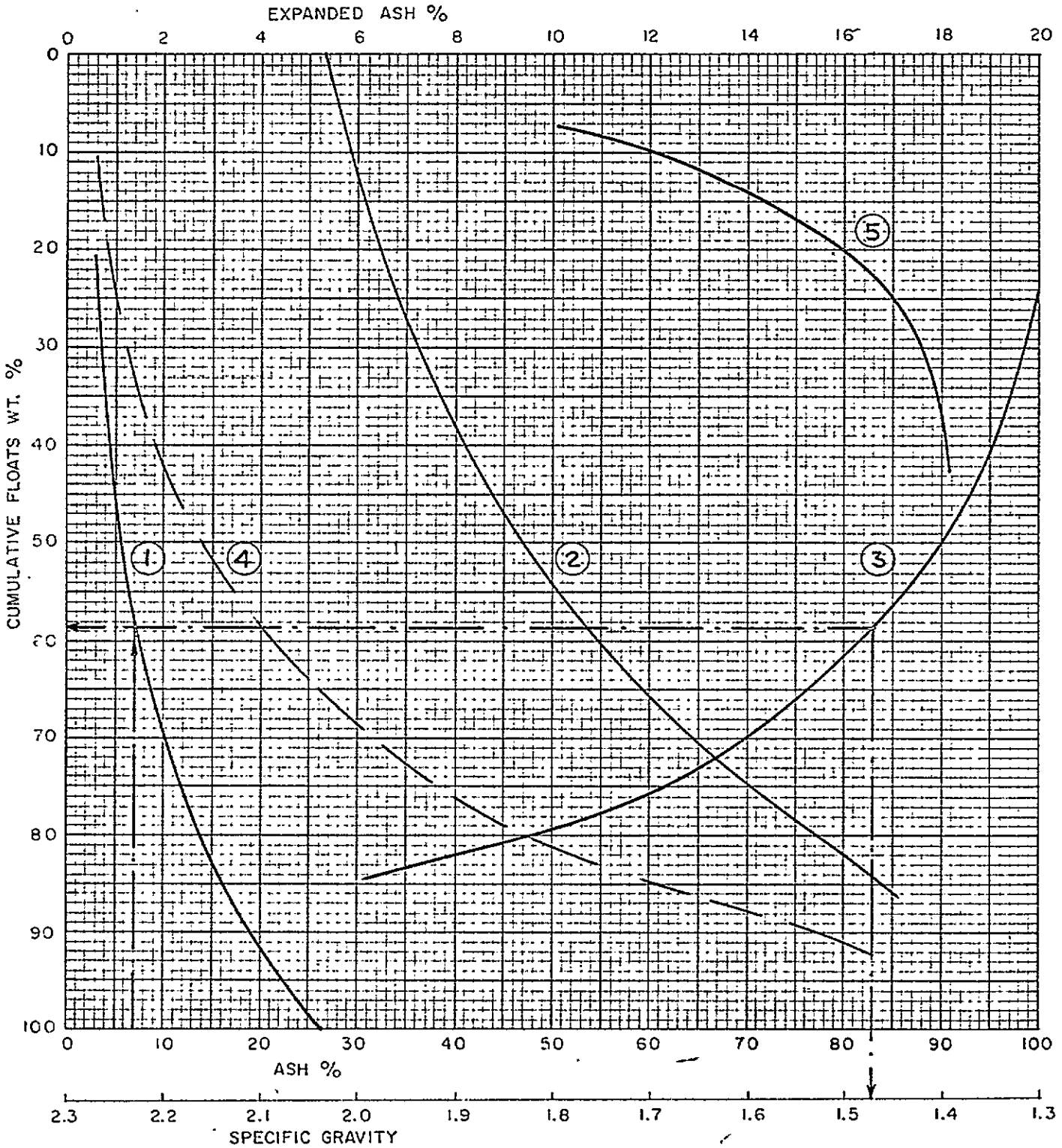
FIGURE

COMPANY Denison Mines Ltd.  
DRILL HOLE # QBD-7217 - Composite I  
FOOTAGE 1263.2' - 1275.7' (D1257 to D1262)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE : May 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole # QBD-7217 - 'Composite I'  
Footage: 1263.2' - 1275.7' (D1257 to D1262)

T A B L E 7: Head Analysis of -28 Mesh

Ash	20.49%
Volatile Matter	20.38%
Residual Moisture	0.99%
Fixed Carbon	58.14%
F.S.I.	5½

May 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7217 - Composite I  
Footage: 1263.2' - 1275.7' (D1257 - D1262)

T A B L E 8: Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions.

Specific Gravity	Wt. %	Ash %	V.M. %	F.C. %	Cum. Wt. % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	74.86	4.00	23.67	72.33	74.86	4.00	8½
1.40 - 1.60	11.85	19.74	18.34	61.92	86.71	6.15	7½
1.60 - 1.80	4.29	37.51	16.82	45.67	91.00	7.63	7
+ 1.80	9.00	74.79	11.17	14.04	100.00	13.67	6
Total	100.00	13.67	21.62	64.71			

June 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, =Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7217 - Composite I  
Footage: 1263.2' - 1275.7' (D1257 th D1262)

T A B L E 9: Froth Flotation Test on -28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	74.84
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash	9.30%	49.12%
Volatile Matter	22.61%	
Residual Moisture	1.01%	
Fixed Carbon	67.08%	
F.S.I.	7½	
Sulphur	0.44%	

May 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7217 - Composite I  
Footage: 1263.2' - 1275.7' (D1257 to D1262)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for +28 Mesh	1.47
Yield of Floats at 7% Ash in+28 Mesh	58.60%
Weight of Floats at 1.47 in Composite Clean Coal	73.10%
Weight % of Flotation Concentrate in Composite Clean Coal	26.90%

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	7.70%
Volatile Matter	22.35%
Residual Moisture	1.09%
Fixed Carbon	68.86%
F.S.I.	8
Sulphur	0.32%

May 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LIMITED

Drill Hole #QBD 7218, Composite I Seam  
Footage: 450.5' to 456.8' (D1124 - D1125)

SEAM I - FULL SECTION

The sample represents a full section of I seam. The seam is 6.6 feet thick with slightly gradation zones near the roof and floor. Both roof and floor are shale.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
6.83%	20.54%	5.00%	67.63%	0.28%	8

\* Assuming 5% total moisture and 7% ash (air dried basis).

DENISON MINES LTD.

Drill Hole# QED-7218 - Composite I  
Footage: 450.5' - 456.8' (D1124 & D1125)

T A B L E 1: Raw Sample Analysis

Ash	12.64%
Volatile Matter	20.92%
Residual Moisture	1.19%
Fixed Carbon	65.25%
F.S.I.	5½
B.T.U./lb.	13,350
Sulphur	0.37%

April 28, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole # QBD-7218 - Composite I  
Footage: 450.5' - 456.8' (D-1124 - 1125)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+ 28 Mesh	76.04
28 x 100 Mesh	16.73
- 100 Mesh	<u>7.23</u>
Total	<u>100.00</u>

June 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7218 - Composite I  
Footage: 450.5' - 456.8' (D1124 & D1125)

T A B L E 3: Head Analysis of +28 Mesh

Ash	14.02%
Volatile Matter	20.80%
Residual Moisture	1.35%
Fixed Carbon	63.83%
F.S.I.	4½

April 28, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7218 - Composite I  
Footage: 450.5' - 456.8' (D1124 & D1125)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: +28 Mesh

Sp. Gr.	Wt. %	Ash%	V.M. %	R.M. %	F.C. %
- 1.30	26.64	2.48	23.90	1.32	72.30
1.30 - 1.35	28.60	5.25	20.83	1.29	72.64
1.35 - 1.40	14.03	9.01	19.57	1.33	70.09
1.40 - 1.45	6.35	14.35	18.61	1.36	65.68
1.45 - 1.50	4.51	19.10	17.88	1.37	61.65
1.50 - 1.60	8.87	26.95	17.03	1.40	45.38
1.60 - 1.70	4.75	37.16	16.62	1.38	44.84
1.70 - 1.80	1.42	42.58	15.81	1.36	40.25
+ 1.80	4.83	70.45	14.50	1.39	13.66
Total	100.00	13.36	20.29	1.33	65.02

April 28, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7218 - Composite I  
 Footage: 450.5 - 456.8' (D1124 & D1125)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling Index of Cumulative Floats: +28 Mesh

Sp. Gr.	Wt. %	Ash%	V.M. %	R.M. %	F.C. %	F.S.I.*
- 1.30	26.64	2.48	23.90	1.32	72.30	9+
- 1.35	55.24	3.91	22.31	1.30	72.48	8
- 1.40	69.27	4.94	21.76	1.31	71.99	8
- 1.45	75.62	5.73	21.49	1.31	71.47	8
- 1.50	80.13	6.48	21.29	1.32	70.91	8
-1.60	89.00	8.52	20.86	1.33	69.29	8
- 1.70	93.75	9.98	20.65	1.33	68.04	7
- 1.80	95.17	10.46	20.58	1.33	67.63	7
Total	100.00	13.36	20.29	1.33	65.02	4½

\* F.S.I. by actual determination.

April 28, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7218 - Composite I  
 Footage: 450.5' - 456.8' (D1124 & D1125)

T A B L E 6: Washability Data: +28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash%	Floats		Sinks		Wt. %	Ash%
			Wt. %	Ash%	Wt. %	Ash%		
- 1.30	26.64	2.48	26.64	2.48	100.00	13.36	13.32	2.48
1.30 - 1.35	28.60	5.24	55.24	3.91	73.36	17.31	40.94	5.24
1.35 - 1.40	14.03	9.01	69.27	4.94	44.76	25.02	62.25	9.01
1.40 - 1.45	6.35	14.35	75.62	5.73	30.73	32.33	72.44	14.35
1.45 - 1.50	4.51	19.10	80.13	6.48	24.38	37.02	77.87	19.10
1.50 - 1.60	8.87	26.95	89.00	8.52	19.87	41.08	84.56	26.95
1.60 - 1.70	4.75	37.16	93.75	9.98	11.00	52.48	91.37	37.16
1.70 - 1.80	1.42	42.58	95.17	10.46	6.25	64.12	94.46	42.58
+ 1.80	4.83	70.45	100.00	13.36	4.83	70.45	97.59	70.45
Total	100.00	13.36						

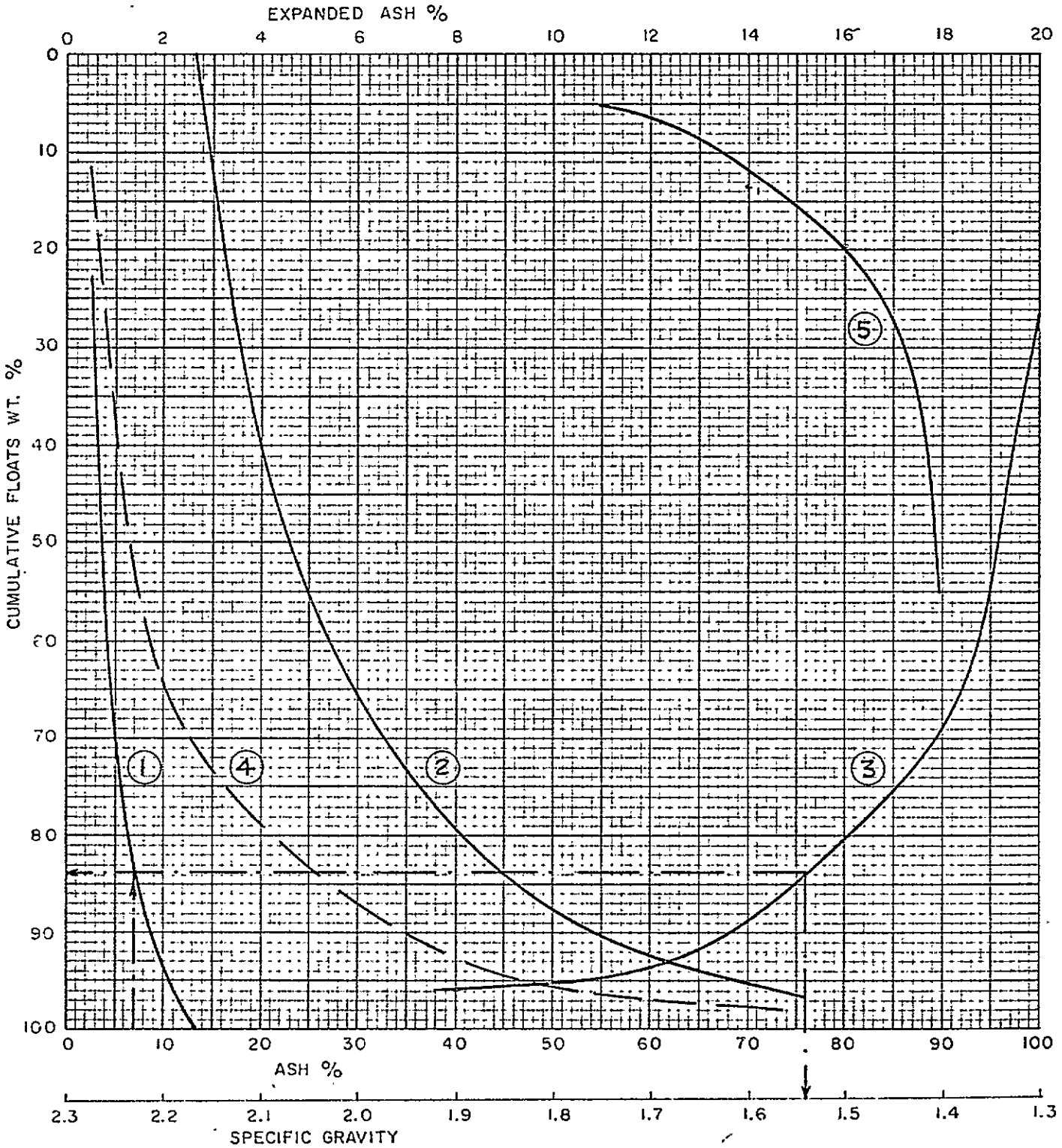
FIGURE

COMPANY Denison Mines Ltd.  
DRILL HOLE # QBD-7218 - Composite I  
FOOTAGE 450.5' - 456.8' (D1124 & D1125)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE : April 28, 1972.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA, CANADA

DENISON MINES LTD.

Drill Hole# QBD-7218 - Composite I  
Footage: 450.5' - 456.8' (D1124 & D1125)

T A B L E 7: Head Analysis of -28 Mesh

Ash	9.04%
Volatile Matter	21.56%
Residual Moisture	1.01%
Fixed Carbon	68.39%
F.S.I.	7½

April 28, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

Drill Hole # QBD-7218 - Composite I  
 Footage: 450.5' - 456.8' (D-1124 - D-1125)

T A B L E 8: Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions

Specific Gravity	Wt. %	Ash%	V.M. %	F.C. %	Cum. Wt. % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	80.81	3.72	23.07	73.21	80.81	3.72	8½
1.40 - 1.60	13.13	19.76	17.92	62.32	93.94	5.96	8
1.60 - 1.80	3.62	37.27	16.15	46.58	97.56	7.12	8
+ 1.80	2.44	66.45	15.46	18.09	100.00	8.57	7½
Total	100.00	8.57	21.96	69.47			

June 2, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.



DENISON MINES LTD.

Drill Hole # QBD-7218 - Composite I  
Footage : 450.5' - 456.8' (D1124 & D1125)

T A B L E 9: Froth Flotation Test on -28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	94.14%
Reagents	MIBC & Kerosene

Analyses of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash	7.23%	34.88%
Volatile Matter	22.20%	
Residual Moisture	0.99%	
Fixed Carbon	69.58%	
F.S.I.	8	
Sulphur	0.41%	

April 28, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7218 - Composite I  
Footage: 450.5' - 468.5' (D1124 & D1125)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for +28 Mesh	1.54
Yield of Floats at 7% Ash in +28 Mesh	83.90
Weight % of Floats at 1.54 in Composite Clean Coal	73.80
Weight % of Flotation Concentrate in Composite Clean Coal	26.20

T A B L E 10: Proximate Analysis of Clean Coal Composite

Ash	7.10%
Volatile Matter	21.35%
Residual Moisture	1.26%
Fixed Carbon	70.29%
F.S.I.	8
Sulphur	0.29%

April 28, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LIMITED

Drill Hole QBD 7219, Composite I Seam  
Footage: 1058.0' - 1066.5' (D1341-D1344)

SEAM I - UPPER SECTION

The sample represents a full seam height of 8.4 feet. Both roof and floor are shale units.

AS RECEIVED\* PRODUCT

<u>ASH</u>	<u>VOL.</u>	<u>R.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>F.S.I.</u>
7.34%	20.85%	5.00%	66.81%	0.37%	7½

\* Assuming 5% total moisture and 7% ash (air dried basis).

DENISON MINES LTD.

Drill Hole # QBD-7219, Composite Upper I  
Footage: 1058.0' - 1066.5' (D1341 - D1344)

T A B L E 1: Raw Sample Analysis

Ash	18.89%
Volatile Matter	19.98%
Residual Moisture	0.56%
Fixed Carbon	60.57%
F.S.I.	6½
B.T.U./lb.	11,760
Sulphur	0.46%

May 3, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7219 - Composite Upper I  
Footage: 1058.0' - 1066.5' (D1341 - 1344)

T A B L E 2: Size Consist of Head Sample

	<u>Weight %</u>
+28 Mesh	79.49
28 x 100 Mesh	15.19
-100 Mesh	<u>5.32</u>
Total	<u>100.00</u>

June 5, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7219, Composite Upper I  
Footage: 1058.0' - 1066.5' (D1341 - D1344)

T A B L E 3: Head Analysis of +28 Mesh

Ash	20.17%
Volatile Matter	19.65%
Residual Moisture	0.59%
Fixed Carbon	59.59%
F.S.I.	5½

May 3, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7219, Composite Upper I  
 Footage : 1058.0' - 1066.5' (D1341 - D1344)

T A B L E 4: Weight % and Proximate Analysis of Specific Gravity Fractions: +28 Mesh

Sp. Gr.	Wt.%	Ash%	V.M.%	R.M.%	F.C.%
- 1.30	21.42	2.58	25.91	0.62	70.89
1.30 - 1.35	19.25	5.12	21.02	0.62	73.24
1.35 - 1.40	19.28	9.11	19.54	0.61	70.74
1.40 - 1.45	5.24	14.56	18.61	0.58	66.25
1.45 - 1.50	4.77	18.65	17.65	0.57	63.13
1.50 - 1.60	8.02	27.44	16.78	0.59	55.19
1.60 - 1.70	4.23	38.18	15.55	0.55	45.72
1.70 - 1.80	3.41	41.51	14.99	0.57	42.93
+ 1.80	14.38	67.57	13.73	0.58	18.12
Total	100.00	19.89	19.67	0.60	59.84

DENISON MINES LTD.

Drill Hole # QBD-7219, Composite Upper I  
 Footage: 1058.0' - 1066.5' (D1341 - D1344)

T A B L E 5: Weight %, Proximate Analysis and Free Swelling  
Index of Cumulative Floats: +28 Mesh

Sp. Gr.	Wt. %	Ash%	V.M. %	R.M. %	F.C. %	F.S.I.*
- 1.30	21.42	2.58	25.91	0.62	70.89	9+
- 1.35	40.67	3.78	23.60	0.62	72.00	8½
- 1.40	59.95	5.50	22.29	0.62	71.59	8
- 1.45	65.19	6.22	21.99	0.61	71.18	8
- 1.50	69.96	7.07	21.70	0.61	70.62	7½
- 1.60	77.98	9.17	21.19	0.61	69.03	7½
- 1.70	82.21	10.66	20.90	0.61	67.83	7
- 1.80	85.62	11.89	20.67	0.60	66.84	7
Total	100.00	19.89	19.67	0.60	59.84	5½



DENISON MINES LTD.

Drill Hole # QBD-7219, Composite Upper I  
 Footage: 1058.0' - 1066.5' (D1341 - D1344)

T A B L E 6: Washability Data: +28 Mesh

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	21.42	2.58	21.42	2.58	100.00	13.89	10.71	2.58
1.30 - 1.35	19.25	5.12	40.67	3.78	78.58	24.61	31.05	5.12
- 1.35 - 1.40	19.28	9.11	59.95	5.50	59.33	30.94	50.31	9.11
1.40 - 1.45	5.24	14.56	65.19	6.22	40.05	41.45	62.57	14.56
1.45 - 1.50	4.77	18.65	69.96	7.07	34.81	45.50	67.57	18.65
1.50 - 1.60	8.02	27.44	77.98	9.17	30.04	49.76	73.97	27.44
1.60 - 1.70	4.23	38.18	82.21	10.66	22.02	57.89	80.09	38.18
1.70 - 1.80	3.41	41.51	85.62	11.89	17.79	62.57	83.92	41.51
+ 1.80	14.38	67.57	100.00	19.89	14.38	67.57	92.81	67.57
Total	100.00	19.89						

May 3, 1972

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

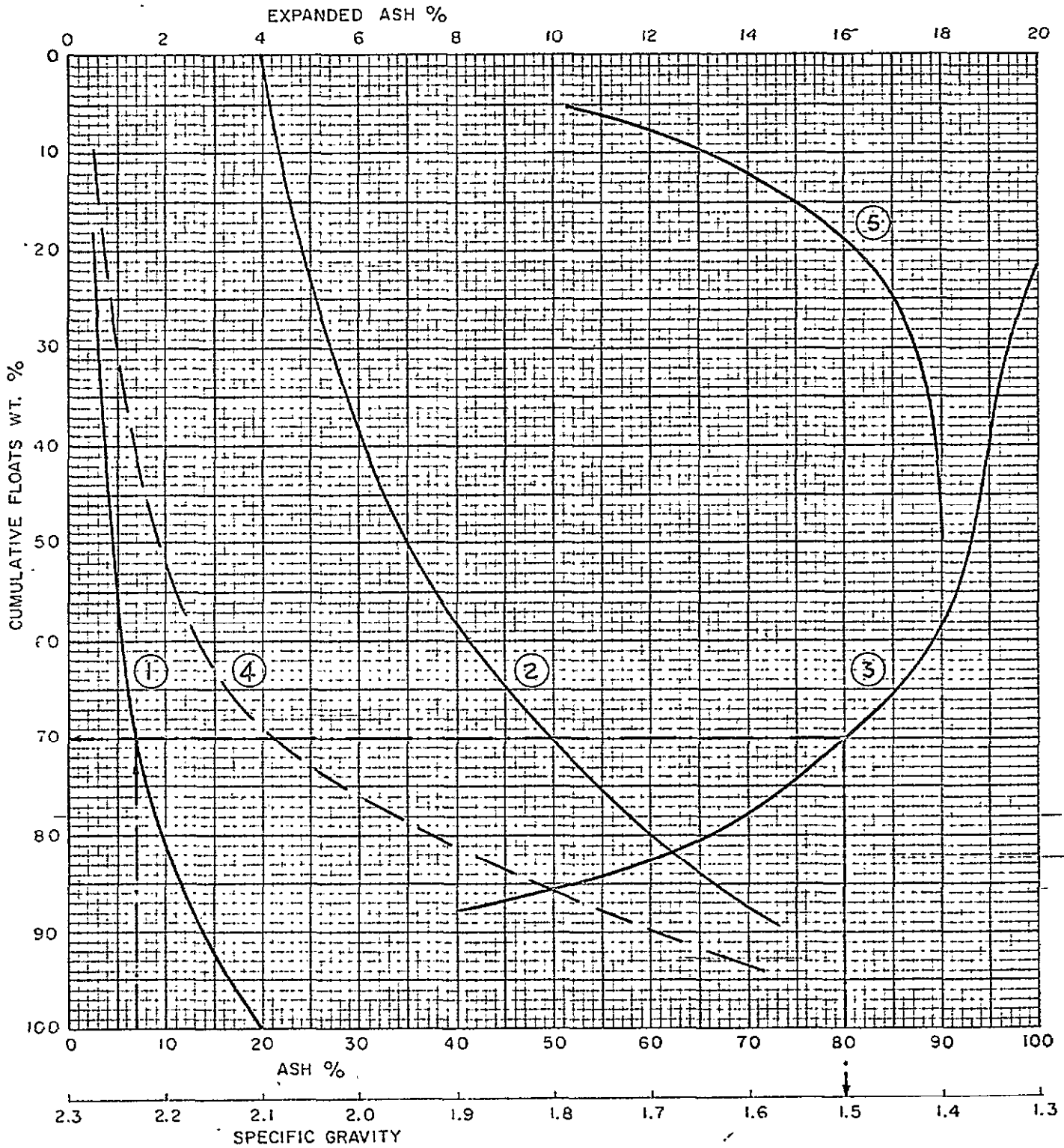
FIGURE

COMPANY Denison Mines Ltd.  
 DRILL HOLE # QBD-7219 - Composite Upper I  
 FOOTAGE 1058.0' - 1066.5' (D1341 - D1344)

CURVE LEGEND

- 1 FLOATS
- 2 SINKS
- 3 SPECIFIC GRAVITY
- 4 ELEMENTARY ASH
- 5 NEAR GRAVITY MATERIAL
- 6 EXPANDED FLOATS

WASHABILITY CURVES



DATE : May 3, 1972.

CYCLONE ENGINEERING SALES LTD.  
 EDMONTON ALBERTA CANADA

DENISON MINES LTD.

Drill Hole # QBD-7219, Composite Upper I  
Footage: 1058.0' - 1066.5' (D1341 - D1344)

T A B L E 7: Head Analysis of -28 Mesh

Ash	14.84%
Volatile Matter	21.70%
Residual Moisture	0.51%
Fixed Carbon	62.95%
F.S.I.	7½

May 3, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7219 - Composite Upper I  
 Footage: 1058.0' - 1066.5' (D1341 - D1344)

T A B L E 8: Float-Sink of 28 x 100 Mesh and Proximate Analysis of Fractions

Specific Gravity	Wt. %	Ash %	V.M. %	F.C. %	Cum. Wt. % Floats	Cum. Ash %	Cum. F.S.I.
- 1.40	72.58	4.13	23.19	72.60	72.58	4.13	9
1.40 - 1.60	14.69	20.70	18.06	61.24	87.27	6.92	8
1.60 - 1.80	4.81	39.91	16.84	43.25	92.08	8.64	7½
+ 1.80	7.92	67.47	15.70	16.83	100.00	13.30	6½
Total	100.00	13.30	21.54	65.16			

June 5, 1972.

CYCLONE ENGINEERING SALES LTD.  
 Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole # QBD-7219, Composite Upper I  
Footage: 1058.0' - 1066.5' (D1341 - D1344)

T A B L E 9: Froth Flotation Test on -28 Mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	89.23%
Reagents	MIBC & Kerosene

Anayles of the Products

	<u>Concentrate</u>	<u>Tailings</u>
Ash	9.85%	52.90%
Volatile Matter	22.36%	
Residual Moisture	0.49%	
Fixed Carbon	67.30%	
F.S.I.	8	
Sulphur	0.48%	

May 3, 1972

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

DENISON MINES LTD.

Drill Hole #QBD-7219 - Composite Upper I  
Footage: 1058.0' - 1066.5' (D1341 - D1344)

CLEAN COAL COMPOSITE

Specific Gravity at 7% Ash for +28 Mesh	1.50
Yield of Floats at 7% Ash in +28 Mesh	70.00%
Weight % of Floats at 1.50 in Composite Clean Coal	75.20%
Weight % of Flotation Concentrate in Composite Clean Coal	24.80%

T A B L E 10: Proximate Analysis of Clean Coal Compoiste

Ash	7.68%
Volatile Matter	21.83%
Residual Moisture	0.54%
Fixed Carbon	69.95%
F.S.I.	7½
Sulphur	0.39%

May 3, 1972.

CYCLONE ENGINEERING SALES LTD.  
Edmonton, Alberta, Canada.

RR - QUINTETTE 72 (4) A-6

**CONFIDENTIAL**  
BUSINESS  
ADDITIONAL WASH & CLEANING REPORTS  
SEAMS F, G & J

File to accompany report.  
Exploration Results  
Quintette Coal Limited  
Licence Numbers 1303 to 1427 incl.  
and 2607 to 2644 incl. January 31,  
1972 to August 31, 1972 6 of 6

600

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CONFIDENTIAL

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

00 600



REPORT ON  
WASHABILITY CHARACTERISTICS  
OF  
COKING COAL  
FOR  
DENISON MINES LTD.  
ADIT #1.  
F. SEAM  
COAL SECTION 5' 11"

Submitted by  
CYCLONE ENGINEERING SALES LTD.  
EDMONTON - ALBERTA - CANADA

CONFIDENTIAL

Report No.: RI-71.07  
Job No.: S1 - 84  
Dated: September 28, 1971

REPORT ON  
WASHABILITY CHARACTERISTICS  
OF  
COKING COAL  
FOR  
DENLSON MINES LTD.  
ADIT #1.

SUMMARY

The data presented in this report refers to the Washability Characteristics of Denison Mines' Sample, Adit #1.

The analysis and washability data indicate that the coal is of medium volatile rank with high coking quality (F.S.I. of 8) and is very easy to clean because of the small amount of near gravity material at all cut points between 1.50 and 1.70.

The fines, 28 mesh x 0, are low in ash and have high F.S.I. Froth Flotation tests show high and easy recoveries of fine coal.

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I. INTRODUCTION.

A sample of Adit #1, weighing 2,293 lb., was received by Cyclone Engineering Sales Ltd. on September 14, 1971.

Prior to analysis, a 1/8 split of the sample was taken and has been retained for possible future use.

The following work was done on the remaining portion of the sample:

1. A size analysis at 2", 1", 1/2", 1/4", 8 m., 28 m. and 100 m.
2. A proximate analysis on all size fractions (Table 2).
3. A float-sink analysis on all size fractions at 1.30, 1.35, 1.40, 1.45, 1.50, 1.60, 1.70 and 1.80.
4. Ash, volatile matter and free swelling index determinations on all specific gravity fractions.
5. Washability curves for all size fractions.
6. Washability curves for the rsw sample by re-constituting the date in 5.
7. Froth flotation tests on 28 m. x 100 m. and 100 m. x 0 fractions.

II. CONCLUSIONS AND RECOMMENDATIONS.

From the analysis performed it can be concluded that the coal will be very easy to clean for an ash content between 6 and 8 percent. The product will have high cokability.

It is recommended that a Tumbler test, ASTM Designation D441 - 45, be performed to obtain an idea of the friability characteristics.

Respectfully submitted,

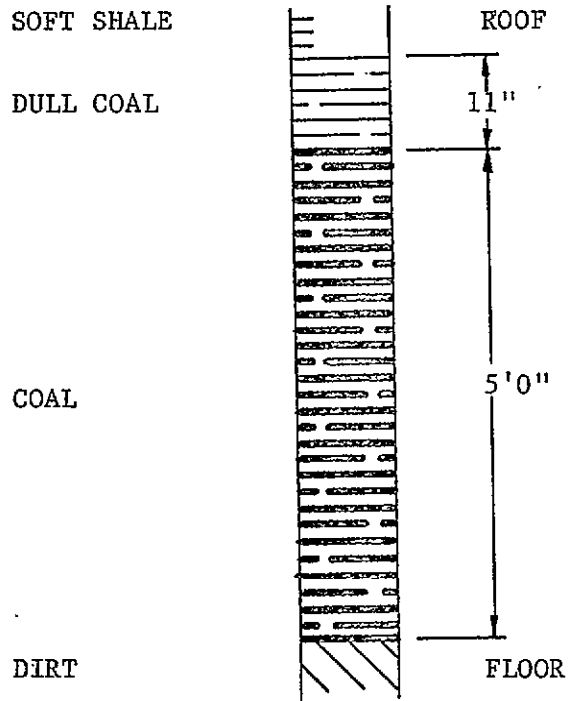
CYCLONE ENGINEERING SALES LTD.

Per: 

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R. S. Sehgal, P. Eng.  
Laboratory Manager

SAMPLE #F1 LOT 1



T A B L E 1 - ADIT #1

DENISON MINES LTD.

Classification by Rank

Ash:	15.69%
Volatile Matter:	22.27%
Residual Moisture:	0.63%
Fixed Carbon:	61.41%
Sulphur:	0.30%
B.T.U./lb.	12,820
F.S.I.	8
Rank	mvb

T A B L E 2 - ADIT #1

Analyses of Size Fractions

Size	Wt. %	Ash %	R.M. %	V.M. %	F.C. %	S. %	F.S.I.
+ 2"	11.34	30.20	0.63	18.82	50.35	0.32	2
2" x 1"	13.87	22.29	0.58	20.41	56.72	0.34	3½
1" x 1/2"	16.81	16.43	0.61	21.72	61.24	0.29	5
1/2" x 1/4"	12.98	16.30	0.66	21.63	61.41	0.32	6
1/4" x 8 m.	15.02	12.76	0.65	23.40	63.19	0.20	8
8 m. x 28 m.	16.11	7.58	0.62	24.24	67.56	0.30	8½
28 m. x 100 m.	10.94	7.63	0.66	24.57	67.14	0.29	8½
- 100 m.	2.93	11.20	0.53	25.31	62.96	0.56	7½
Total	100.00	15.69	0.63	22.27	61.41	0.30	



SAMPLE #F1 LOT 2

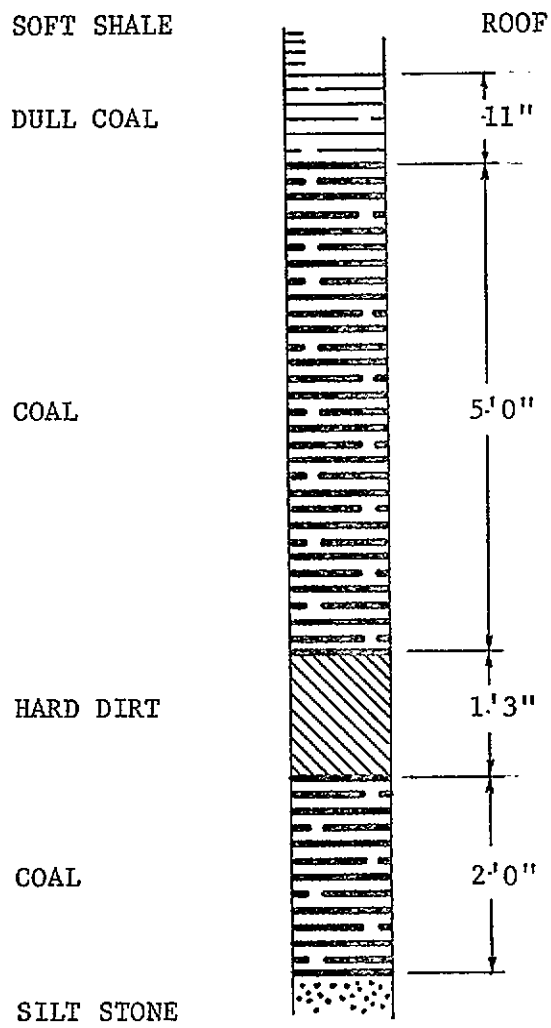


TABLE 3 - ADIT #1

Ash % and Weight % Distribution vs. Size and Specific Gravity

(Figures in Brackets show the Ash Content of Individual Fractions)

Size \ Sp.Gr.	Sp. Gr.									Total
	1.30	1.35	1.40	1.45	1.50	1.60	1.70	1.80		
+2"	1.70 (3.76)	1.83 (5.57)	1.07 (11.84)	0.56 (13.46)	0.03 (20.43)	0.74 (29.52)	1.22 (39.14)	1.39 (45.18)	2.80 (59.78)	11.34 (29.73)
2" x 1"	3.35 (3.35)	3.22 (5.69)	1.45 (10.89)	0.81 (14.16)	0.18 (20.72)	0.66 (29.33)	0.79 (38.31)	0.88 (45.48)	2.53 (61.24)	13.87 (22.00)
1" x 1/2"	5.25 (2.85)	4.73 (5.03)	1.75 (10.54)	0.95 (14.28)	0.35 (21.08)	0.74 (29.52)	0.60 (38.18)	0.51 (44.94)	1.93 (62.93)	16.81 (15.90)
1/2"x 1/4"	4.76 (2.83)	3.03 (5.17)	1.39 (9.62)	0.58 (14.76)	0.29 (21.32)	0.51 (27.29)	0.46 (39.14)	0.39 (46.18)	1.57 (69.85)	12.98 (16.71)
1/4" x 8 m.	9.38 (2.72)	2.04 (5.89)	0.79 (11.21)	0.32 (14.37)	0.18 (19.20)	0.26 (27.21)	0.30 (35.34)	0.34 (43.77)	1.41 (70.94)	15.02 (12.45)
8 m. x 28 m.	11.91 (2.25)	1.90 (5.08)	0.66 (10.71)	0.26 (16.76)	0.14 (20.24)	0.17 (27.39)	0.17 (35.28)	0.18 (44.20)	0.72 (70.75)	16.11 (7.46)
28m. x 100 m.	8.05 (2.08)	1.19 (5.44)	0.47 (9.14)	0.19 (14.09)	0.12 (16.84)	0.15 (24.63)	0.14 (33.24)	0.11 (41.32)	0.52 (66.10)	10.94 (7.26)
- 100 m.	1.82 (1.74)	0.37 (3.51)	0.15 (9.20)	0.12 (14.51)	0.05 (17.75)	0.06 (27.41)	0.05 (33.13)	0.06 (46.43)	0.25 (72.97)	2.93 (11.20)
Total	46.22 (2.55)	18.31 (5.32)	7.73 (10.59)	3.79 (14.38)	1.34 (20.22)	3.29 (28.58)	3.73 (38.03)	3.86 (45.06)	11.73 (64.54)	100.00 (15.46)

- 4 -

T A B L E 4 - A D I T #1

Volatile Matter % and Weight % Distribution vs. Size and Specific Gravity

(Figures in Brackets show the V.M. Content of Individual Fractions)

Size \ Sp. Gr.	1.30		1.35		1.40		1.45		1.50		1.60		1.70		1.80		Total	
+2"	1.70 (25.71)	1.83 (24.34)	1.07 (21.92)	0.56 (21.27)	0.03 (21.15)	0.74 (18.53)	1.22 (16.35)	1.39 (14.71)	2.80 (13.58)							11.34 (19.08)		
2" x 1"	3.35 (25.60)	3.22 (24.05)	1.45 (22.37)	0.81 (20.91)	0.18 (20.20)	0.66 (17.86)	0.79 (16.37)	0.88 (14.51)	2.53 (12.96)							13.87 (20.65)		
1" x 1/2"	5.25 (25.87)	4.73 (23.56)	1.75 (21.70)	0.95 (20.82)	0.35 (19.61)	0.74 (18.15)	0.60 (15.94)	0.51 (14.56)	1.93 (12.35)							16.81 (21.78)		
1/2" x 1/4"	4.76 (25.90)	3.03 (23.30)	1.39 (22.16)	0.58 (20.38)	0.29 (19.79)	0.51 (18.30)	0.46 (16.03)	0.39 (14.49)	1.57 (11.80)							12.98 (21.81)		
1/4" x 8 m.	9.38 (26.22)	2.04 (22.58)	0.79 (20.45)	0.32 (20.15)	0.18 (19.67)	0.26 (17.98)	0.30 (16.98)	0.34 (15.63)	1.41 (11.65)							15.02 (23.27)		
8 m. x 28 m.	11.91 (27.01)	1.90 (22.67)	0.66 (20.46)	0.26 (19.31)	0.14 (19.18)	0.17 (18.33)	0.17 (16.64)	0.18 (15.73)	0.72 (12.36)							16.11 (25.05)		
28 m x 100 m.	8.05 (27.24)	1.19 (22.90)	0.47 (20.09)	0.19 (19.84)	0.12 (19.49)	0.15 (18.06)	0.14 (16.89)	0.11 (16.32)	0.52 (16.25)							10.94 (25.35)		
- 100 m.	1.82 (28.65)	0.37 (24.76)	0.15 (20.05)	0.12 (19.79)	0.05 (19.45)	0.06 (18.35)	0.05 (17.28)	0.06 (15.83)	0.25 (16.35)							2.93 (25.48)		
Total	46.22 (26.56)	18.31 (23.46)	7.73 (21.58)	3.79 (20.59)	1.34 (19.71)	3.29 (18.19)	3.73 (16.34)	3.86 (14.81)	11.73 (12.88)							100.00 (22.59)		

5

T A B L E 5. ADIT #1.

Cumulative F.S.I. and Cumulative Weight % vs. Size and Specific Gravity

(Figures in brackets show the Cumulative F.S.I. of Individual Fractions)

Size \ Sp.Gr.	- 1.30	- 1.35	- 1.40	- 1.45	- 1.50	- 1.60	- 1.70	- 1.80	Raw
+ 2"	1.70 (8)	3.53 (7½)	4.60 (6½)	5.16 (6½)	5.19 (6½)	5.93 (6½)	7.15 (5)	8.54 (4)	11.34 (2)
2" x 1"	3.35 (8½)	6.57 (8)	8.02 (7½)	8.83 (7)	9.01 (6½)	9.67 (6½)	10.46 (6)	11.34 (5)	13.87 (3½)
1" x 1/2"	5.25 (8½)	9.98 (7)	11.73 (7)	12.68 (6½)	13.03 (6½)	13.77 (6)	14.37 (6)	14.88 (5½)	16.81 (5)
1/2" x 1/4"	4.76 (8)	7.79 (7½)	9.18 (7½)	9.76 (7½)	10.05 (7)	10.56 (7)	11.02 (6½)	11.41 (6½)	12.98 (6)
1/4" x 8 m.	9.38 (9)	11.42 (8½)	12.21 (8½)	12.53 (8½)	12.71 (8½)	12.97 (8½)	13.27 (8)	13.61 (8)	15.02 (8)
8 m. x 28 m.	11.91 (9)	13.81 (9)	14.47 (9)	14.73 (9)	14.87 (9)	15.04 (9)	15.21 (9)	15.39 (9)	16.11 (8½)
28 m. x 100 m.	8.05 (9+)	9.24 (9)	9.71 (9)	9.90 (9)	10.02 (9)	10.17 (9)	10.31 (9)	10.42 (9)	10.94 (8½)
- 100 m.	1.82 (9)	2.19 (9)	2.34 (8½)	2.47 (8½)	2.51 (8½)	2.57 (8½)	2.62 (8½)	2.68 (8½)	2.93 (7½)

T A B L E 6.

Washability Data for Adit #1  
(Re-constituted from Size Fractions)

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	46.22	2.55	46.22	2.55	100.00	15.46	23.11	2.55
1.30 - 1.35	18.31	5.32	64.53	3.34	53.78	26.55	55.37	5.32
1.35 - 1.40	7.73	10.59	72.26	4.11	35.47	37.51	68.39	10.59
1.40 - 1.45	3.79	14.38	76.05	4.62	27.74	45.01	74.15	14.38
1.45 - 1.50	1.34	20.22	77.39	4.89	23.95	49.85	76.72	20.22
1.50 - 1.60	3.29	28.58	80.68	5.86	22.61	51.61	79.04	28.58
1.60 - 1.70	3.73	38.03	84.41	7.28	19.32	55.53	82.54	38.03
1.70 - 1.80	3.86	45.06	88.27	8.93	15.59	59.72	86.34	45.06
+ 1.80	11.73	64.54	100.00	15.46	11.73	64.54	93.13	64.54
Total	100.00	15.46						

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T A B L E 6A

Cumulative Volatile Matter for Adit #1

Specific Gravity	Fractional		Cumulative			
	Wt. %	V.M. %	Floats		Sinks	
			Wt. %	V.M. %	Wt. %	V.M. %
- 1.30	46.22	26.56	46.22	26.56	100.00	22.59
1.30 - 1.35	18.31	23.46	64.53	25.68	53.78	19.14
1.35 - 1.40	7.73	21.58	72.26	25.24	35.47	16.92
1.40 - 1.45	3.79	20.59	76.05	25.00	27.74	15.62
1.45 - 1.50	1.34	19.71	77.39	24.91	23.95	14.84
1.50 - 1.60	3.29	18.19	80.68	24.64	22.61	14.55
1.60 - 1.70	3.73	16.34	84.41	24.27	19.32	13.93
1.70 - 1.80	3.86	14.81	88.27	23.86	15.59	13.35
+ 1.80	11.73	12.88	100.00	22.59	11.73	12.88
Total	100.00	22.59				

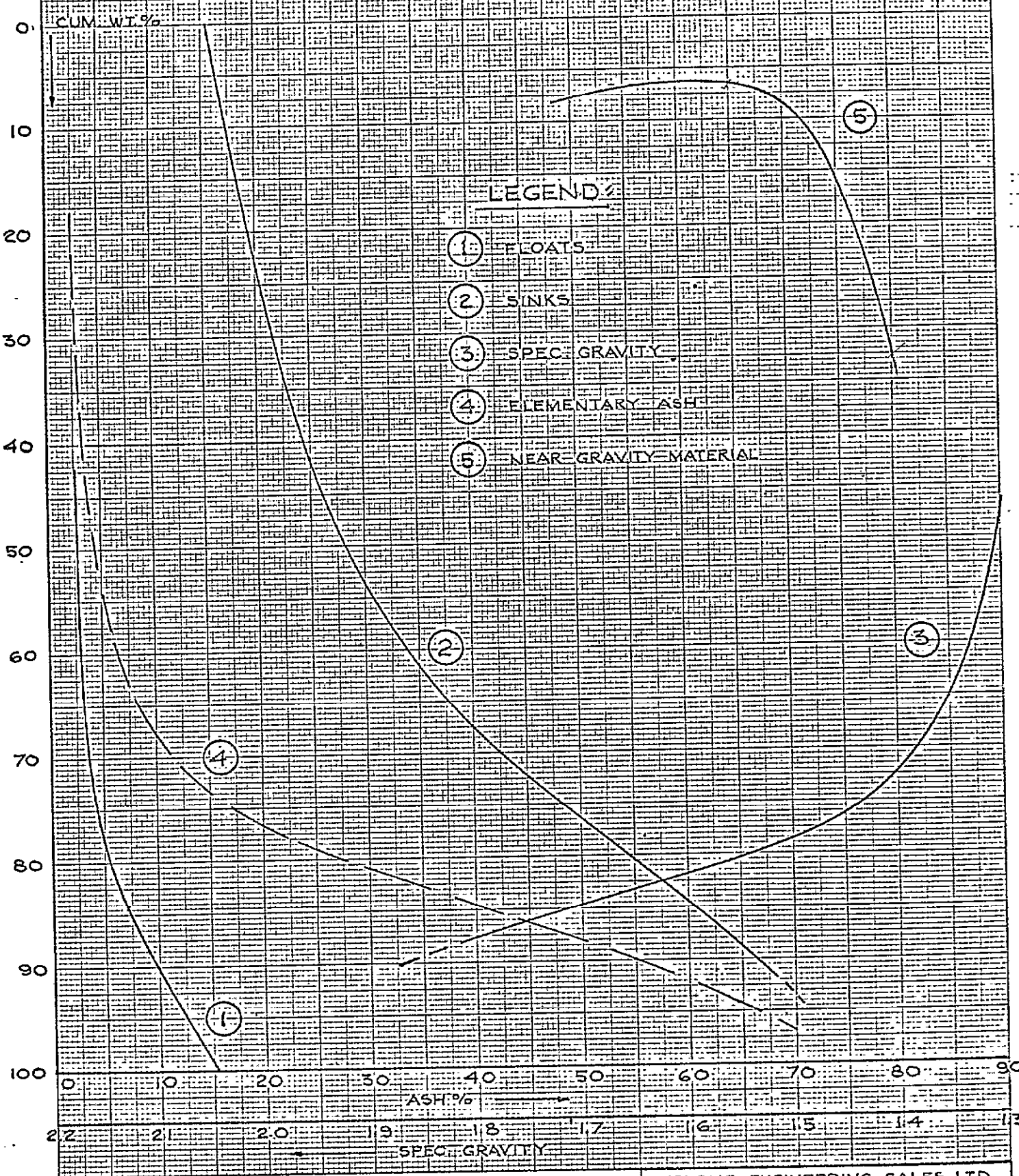
T A B L E 6B - ADIT #1

7% Ash of Clean Coal

Yield	83.00%
Floats Gravity	1.65
Near Gravity Material	8.00%
Ash	7.00%
Volatile Matter	24.50%
Residual Moisture	0.60%
Fixed Carbon	67.90%
F.S.I.	7½

# FIG. 1 DENISON MINES LTD. - ADIT #1

WASHABILITY CURVES FOR ADIT #1  
(RECONSTITUTED FROM SIZE FRACTIONS)



KE 10 X 10 TO THE CENTIMETER 46 1510  
MADE IN U.S.A.  
KEUFFEL & ESSER CO.

SEPT. 27/71 GW.L.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA



T A B L E 7. ADIT #1.

+ 2": 11.34% of Total Sample.

Ash, Volatile Matter & Cummulative F.S.I.

Specific Gravity	Weight %	Ash %	V.M. %	Gum. Weight %	Cum. F.S.I.
- 1.30	15.01	3.76	25.71	15.01	8
1.30 - 1.35	16.11	5.57	24.34	31.12	7½
1.35 - 1.40	9.40	11.84	21.92	40.52	6½
1.40 - 1.45	4.99	13.46	21.27	45.51	6½
1.45 - 1.50	0.27	20.43	21.15	45.78	6½
1.50 - 1.60	6.52	29.52	18.53	52.30	6½
1.60 - 1.70	10.74	39.14	16.35	63.04	5
1.70 - 1.80	12.27	45.18	14.71	75.31	4
+ 1.80	24.69	59.78	13.58	100.00	2
Total	100.00	29.73	19.08		

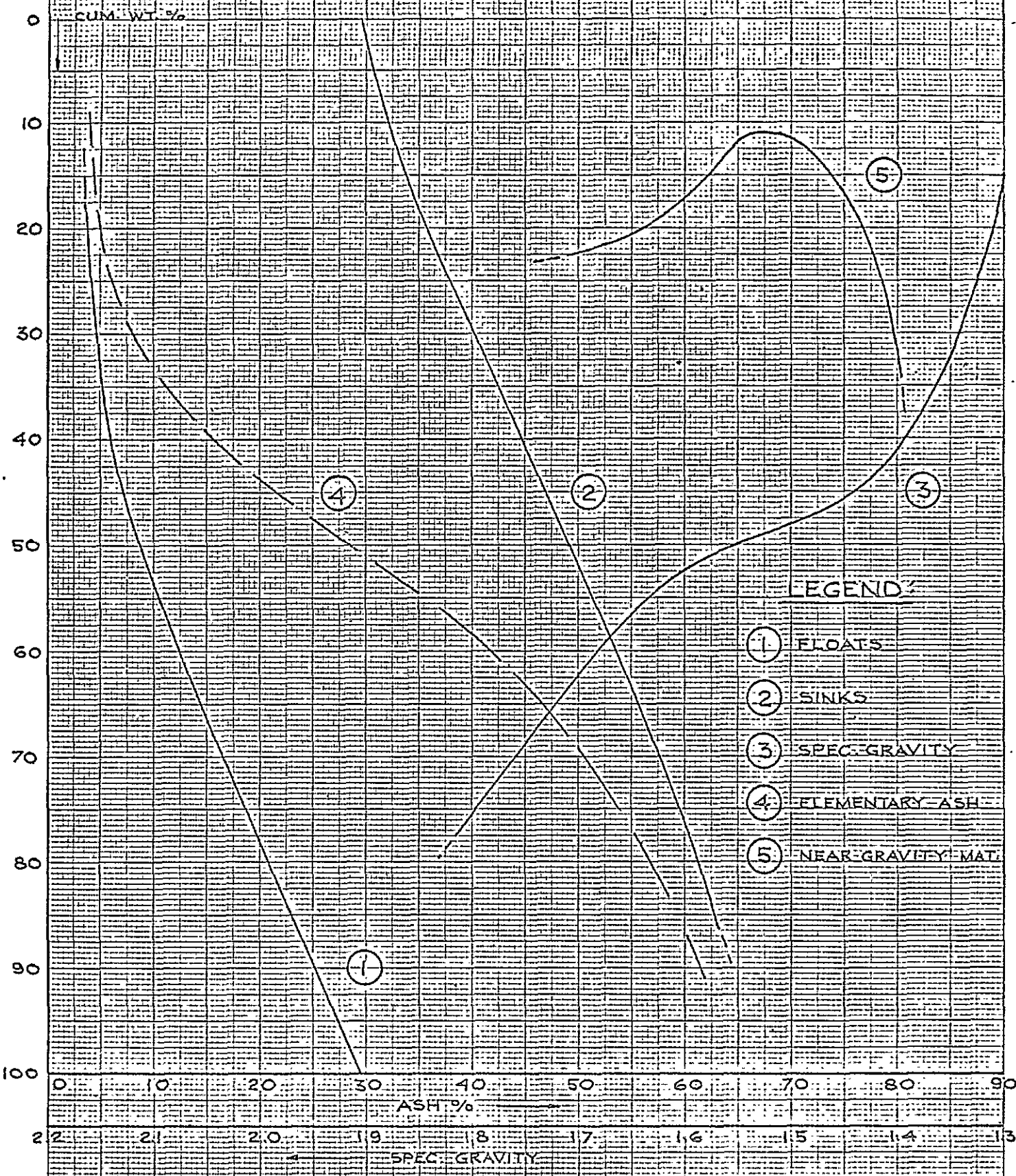
T A B L E 8. ADIT #1.

Washability Data - + 2"

Specific Gravity	Fractional		Cummulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	15.01	3.76	15.01	3.76	100.00	29.73	7.50	3.76
1.30 - 1.35	16.11	5.57	31.12	4.70	84.99	34.32	23.07	5.57
1.35 - 1.40	9.40	11.84	40.52	6.35	68.88	41.04	35.82	11.84
1.40 - 1.45	4.99	13.46	45.51	7.13	59.48	45.66	43.02	13.46
1.45 - 1.50	0.27	20.43	45.78	7.21	54.49	48.61	45.64	20.43
1.50 - 1.60	6.52	29.52	52.30	9.99	54.22	48.75	49.04	29.52
1.60 - 1.70	10.74	39.14	63.04	14.96	47.70	51.38	57.67	39.14
1.70 - 1.80	12.27	45.18	75.31	19.88	36.96	54.93	69.18	45.18
+ 1.80	24.69	59.78	100.00	29.73	24.69	59.78	87.66	59.78
Total	100.00	29.73						

# FIG. 2 DENISON MINES LTD. - ADIT # 1

## WASHABILITY CURVES FOR +2"



- LEGEND:
- ① FLOATS
  - ② SINKS
  - ③ SPEC. GRAVITY
  - ④ ELEMENTARY ASH
  - ⑤ NEAR GRAVITY MAT.

10 X 10 TO THE CENTIMETER 46 1510  
MADE IN U.S.A.  
KEUFFEL & ESSER CO.

SEPT. 27/71 G.W.L.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA.

T A B L E 9. ADIT #1.

2" x 1": 13.87% of Total Sample

Ash, Volatile Matter & Gummulative F.S.I.

Specific Graivty	Weight %	Ash %	V.M. %	Cum. Wt. %	Cum. F.S.I.
- 1.30	24.15	3.35	25.60	24.15	8½
1.30 - 1.35	23.17	5.69	24.05	47.32	8
1.35 - 1.40	10.48	10.89	22.37	57.80	7½
1.40 - 1.45	5.87	14.16	20.91	63.67	7
1.45 - 1.50	1.27	20.72	20.20	64.94	6½
1.50 - 1.60	4.76	29.33	17.86	69.70	6½
1.60 - 1.70	5.71	38.31	16.37	75.41	6
1.70 - 1.80	6.35	45.48	14.51	81.76	5
+ 1.80	18.24	61.24	12.96	100.00	3½
Total	100.00	22.00	20.65		

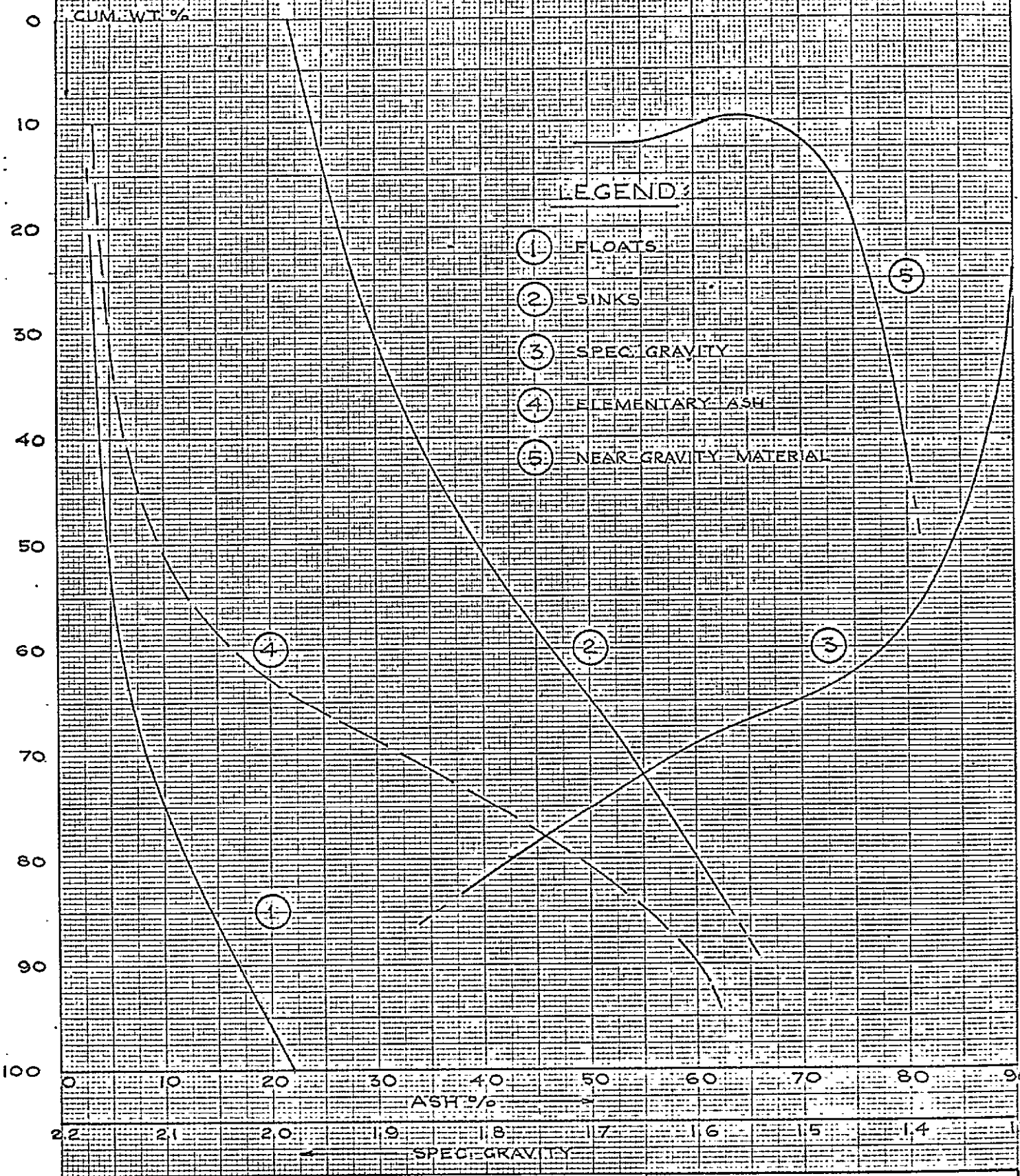
T A B L E 10. ADIT #1.

Washability Data - 2" x 1"

Specific Gravity	Fractional		Gummulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	24.15	3.35	24.15	3.35	100.00	22.00	12.07	3.35
1.30 - 1.35	23.17	5.69	47.32	4.50	75.85	27.94	36.73	5.69
1.35 - 1.40	10.48	10.89	57.80	5.66	52.68	37.73	52.56	10.89
1.40 - 1.45	5.87	14.16	63.67	6.44	42.20	44.40	62.73	14.16
1.45 - 1.50	1.27	20.72	64.94	6.72	36.33	49.28	64.30	20.72
1.50 - 1.60	4.76	29.33	69.70	8.26	35.06	50.32	67.32	29.33
1.60 - 1.70	5.71	38.31	75.41	10.54	30.30	53.62	72.56	38.31
1.70 - 1.80	6.35	45.48	81.76	13.25	24.59	57.17	78.59	45.48
+ 1.80	18.24	61.24	100.00	22.00	18.24	61.24	90.88	61.24
Total	100.00	22.00						

# FIG. 3 DENISON MINES LTD. - ADIT # 1

## WASHABILITY CURVES FOR "2" x T"



10 X 10 TO THE CENTIMETER 46 1510  
 MADE IN U.S.A.  
 KEUFFEL & ESSER CO.

SEPT. 27/71

CYCLONE ENGINEERING SALES LTD.  
 EDMONTON ALBERTA CANADA

T A B L E 11. ADIT #1.

1" x 1/2": 16.81% of Total Sample

Ash, Volatile Matter & Gummulative F.S.I.

Specific Gravity	Weight %	Ash %	V.M. %	Cum. Weight %	Cum. F.S.I.
- 1.30	31.25	2.85	25.87	31.25	8½
1.30 - 1.35	28.11	5.03	23.56	59.36	7
1.35 - 1.40	10.42	10.45	21.70	69.78	7
1.40 - 1.45	5.65	14.28	20.82	75.43	6½
1.45 - 1.50	2.09	21.08	19.61	77.52	6½
1.50 - 1.60	4.41	29.52	18.15	81.93	6
1.60 - 1.70	3.56	38.18	15.94	85.49	6
1.70 - 1.80	3.02	44.94	14.56	88.51	5½
+ 1.80	11.49	62.93	12.35	100.00	5
Total	100.00	15.90	21.78		

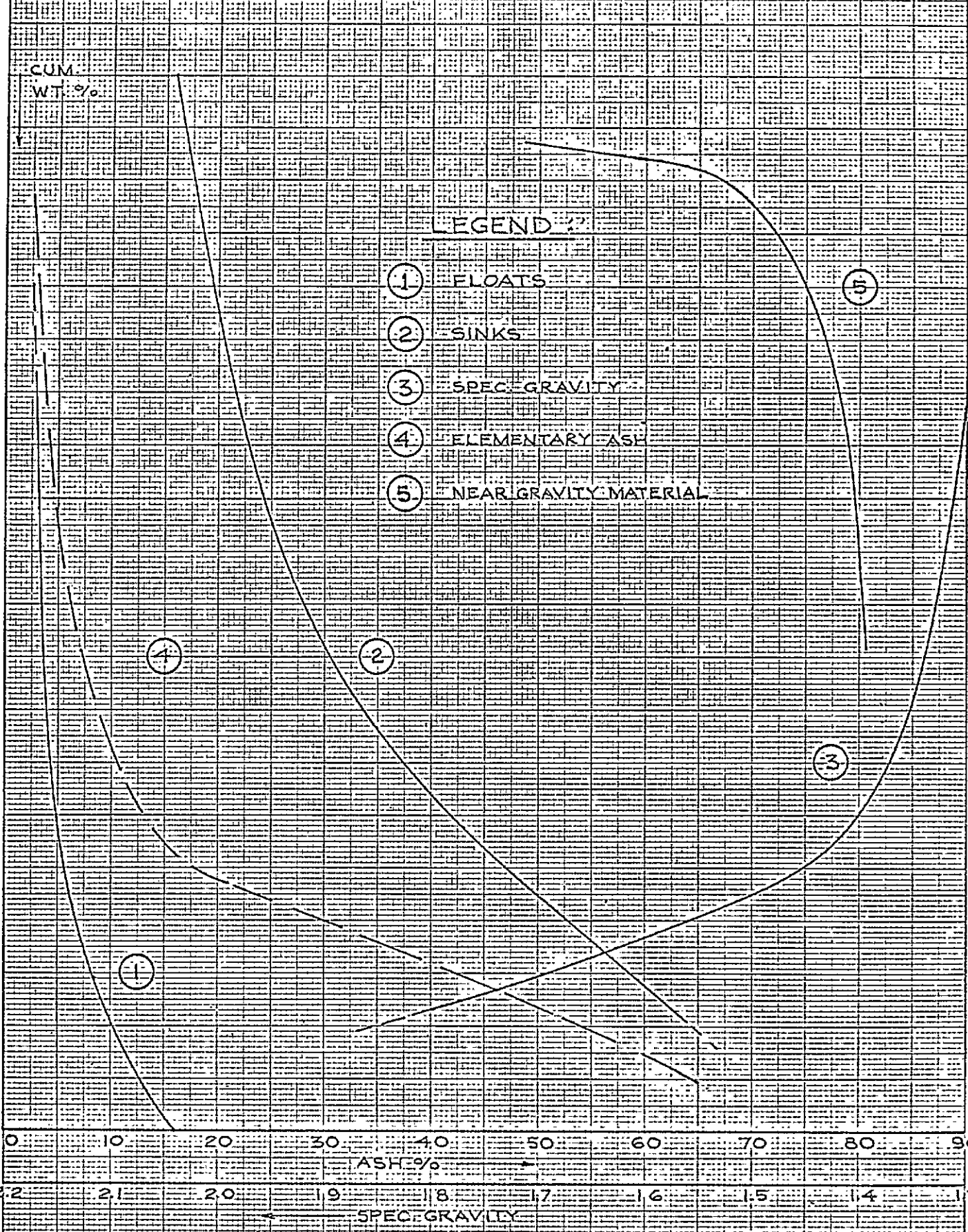
T A B L E 12. ADIT #1.

Washability Data - 1" x 1/2"

Specific Gravity	Fractional		Gummulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	31.25	2.85	31.25	2.85	100.00	15.90	15.63	2.85
1.30 - 1.35	28.11	5.03	59.36	3.88	68.75	21.82	45.30	5.03
1.35 - 1.40	10.42	10.45	69.78	4.86	40.64	33.43	64.57	10.45
1.40 - 1.45	5.65	14.28	75.43	5.57	30.22	41.35	72.60	14.28
1.45 - 1.50	2.09	21.08	77.52	5.99	24.57	47.58	76.47	21.08
1.50 - 1.60	4.41	29.52	81.93	7.25	22.48	50.04	79.72	29.52
1.60 - 1.70	3.56	38.18	85.49	8.54	18.07	55.05	83.71	38.18
1.70 - 1.80	3.02	44.94	88.51	9.78	14.51	59.19	87.00	44.94
+ 1.80	11.49	62.93	100.00	15.90	11.49	62.93	94.25	62.93
Total	100.00	15.90						

# FIG 4 DENISON MINES LTD. - ADIT #1

## WASHABILITY CURVES FOR 1" x 1/2"



KE 10 X 10 TO THE CENTIMETER 46 1510  
MADE IN U.S.A.  
KEUFFEL & ESSER CO.

SEPT. 27/71 G.W.L.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

T A B L E 13. ADIT #1.

$\frac{1}{2}$ " x  $\frac{1}{4}$ " : 12.98% of Total Sample

Ash, Volatile Matter & Cummulative F.S.I.

Specific Gravity	Weight %	Ash %	V.M. %	Cum. Weight %	Cum. F.S.I.
- 1.30	36.70	2.83	25.90	36.70	8
1.30 - 1.35	23.35	5.17	23.30	60.05	7½
1.35 - 1.40	10.70	9.62	22.16	70.75	7½
1.40 - 1.45	4.44	14.76	20.38	75.19	7½
1.45 - 1.50	2.21	21.32	19.79	77.40	7
1.50 - 1.60	3.97	27.29	18.30	81.37	7
1.60 - 1.70	3.52	39.14	16.03	84.89	6½
1.70 - 1.80	2.99	46.18	14.49	87.88	6½
+ 1.80	12.12	69.85	11.80	100.00	6
Total	100.00	16.71	21.81		

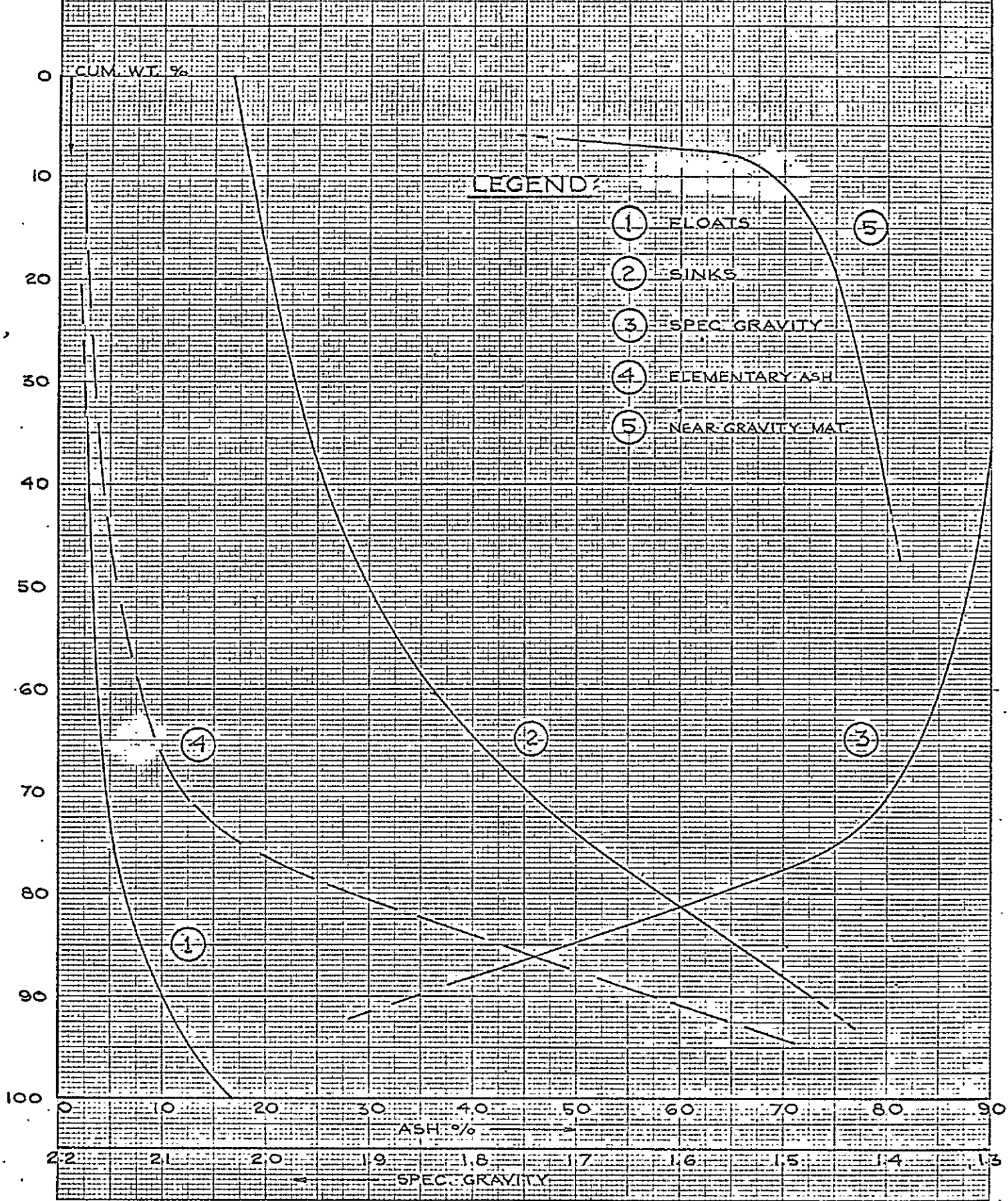
T A B L E 14. ADIT #1.

Washability Data -  $\frac{1}{2}$ " x  $\frac{1}{4}$ ".

Specific Gravity	Fractional		Cummulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	36.70	2.83	36.70	2.83	100.00	16.71	18.35	2.83
1.30 - 1.35	23.35	5.17	60.05	3.74	63.30	24.76	48.37	5.17
1.35 - 1.40	10.70	9.62	70.75	4.63	39.95	36.20	65.40	9.62
1.40 - 1.45	4.44	14.76	75.19	5.23	29.25	45.93	72.97	14.76
1.45 - 1.50	2.21	21.32	77.40	5.69	24.81	51.51	76.29	21.32
1.50 - 1.60	3.97	27.29	81.37	6.74	22.60	54.46	79.38	27.29
1.60 - 1.70	3.52	39.14	84.89	8.08	18.63	60.25	83.13	39.14
1.70 - 1.80	2.99	46.18	87.88	9.38	15.11	65.17	86.38	46.18
+ 1.80	12.12	69.85	100.00	16.71	12.12	69.85	93.94	69.85
Total	100.00	16.71						



FIG. 5 DENISON MINES LTD. - ADIT # 1  
WASHABILITY CURVES FOR 1/2" x 1/4"



KE 10 X 10 TO THE CENTIMETER 46 1510  
 MADE IN U.S.A.  
 KEUFFEL & ESSER CO.

SEPT. 27/'71 G.W.L.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA



T A B L E 15. ADIT #1.

$\frac{3}{4}$ " x 8 m.: 15.02% of Total Sample

Ash, Volatile Matter & Cumulative F.S.I.

Specific Gravity	Weight %	Ash %	V.M. %	Cum. Weight %	Cum. F.S.I.
- 1.30	62.44	2.72	26.22	62.44	9
1.30 - 1.35	13.57	5.89	22.58	76.01	8½
1.35 - 1.40	5.25	11.21	20.45	81.26	8½
1.40 - 1.45	2.16	14.37	20.15	83.42	8½
1.45 - 1.50	1.17	19.20	19.67	84.59	8½
1.50 - 1.60	1.76	27.21	17.98	86.35	8½
1.60 - 1.70	2.01	35.34	16.98	88.36	8
1.70 - 1.80	2.29	43.77	15.63	90.65	8
+ 1.80	9.35	70.94	11.65	100.00	8
Total	100.00	12.45	23.27		

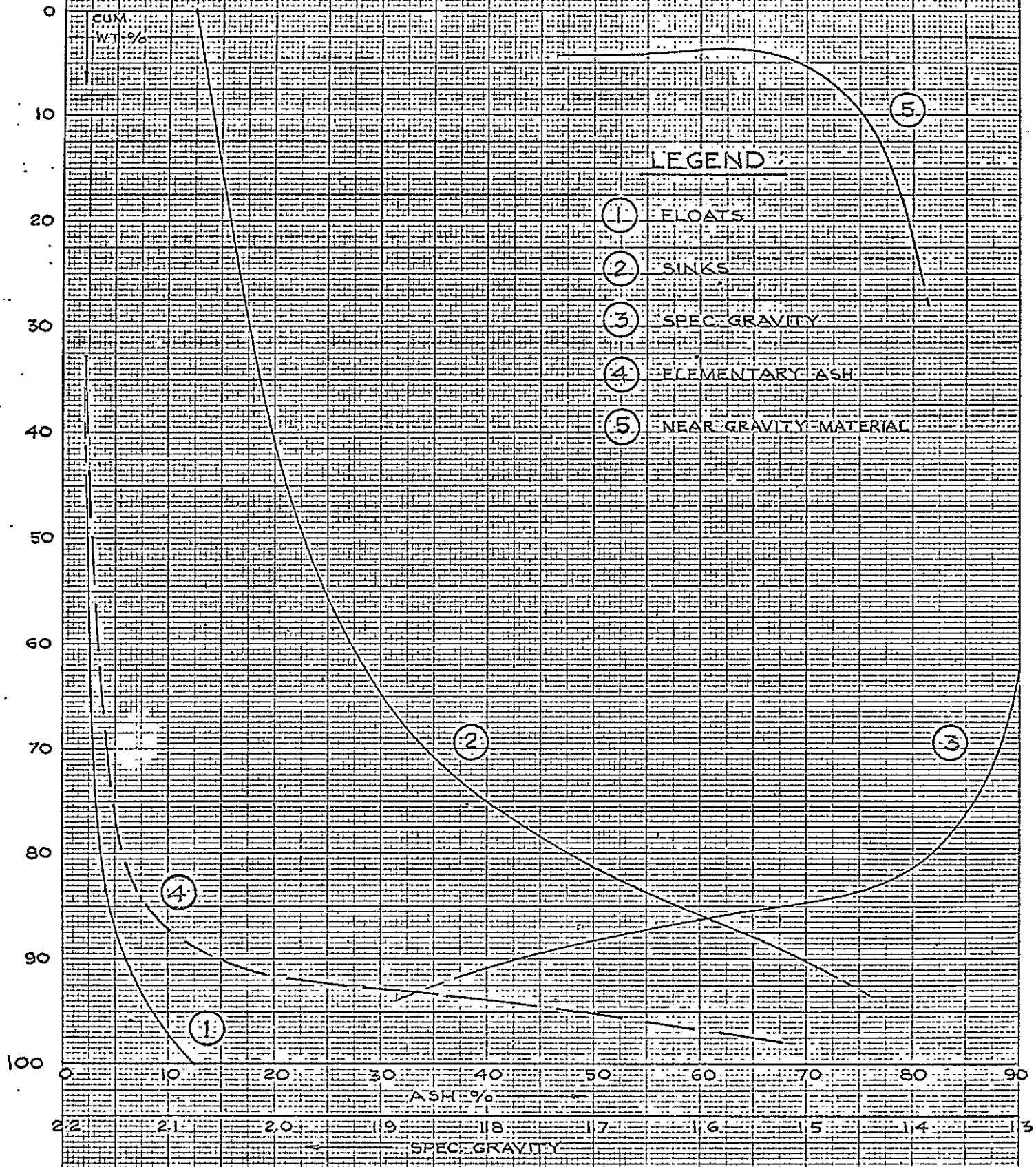
T A B L E 16. ADIT #1.

Washability Data -  $\frac{1}{4}$ " x 8 m.

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	62.44	2.72	62.44	2.72	100.00	12.45	31.22	2.72
1.30 - 1.35	13.57	5.89	76.01	3.29	37.56	28.61	69.22	5.89
1.35 - 1.40	5.25	11.21	81.26	3.80	23.99	41.47	78.63	11.21
1.40 - 1.45	2.16	14.37	83.42	4.07	18.74	49.94	82.34	14.37
1.45 - 1.50	1.17	19.20	84.59	4.28	16.58	54.58	84.00	19.20
1.50 - 1.60	1.76	27.21	86.35	4.75	15.41	57.26	85.47	27.21
1.60 - 1.70	2.01	35.34	88.36	5.44	13.65	61.14	87.35	35.34
1.70 - 1.80	2.29	43.77	90.65	6.41	11.64	65.59	89.50	43.77
+ 1.80	9.35	70.94	100.00	12.45	9.35	70.94	95.32	70.94
Total	100.00	12.45						

# FIG. 6 DENISON MINES LTD. - ADIT # 1

## WASHABILITY CURVES FOR 1/4" x 8 m



10 X 10 TO THE CENTIMETER 46 1510  
 MADE IN U.S.A.  
 KEUFFEL & ESSER CO.

SEPT. 27/71 G.W.L.

CYCLONE ENGINEERING SALES LTD.  
 EDMONTON ALBERTA CANADA

T A B L E 17. ADIT #1

8m. x 28m. : 16.11% of Total Sample

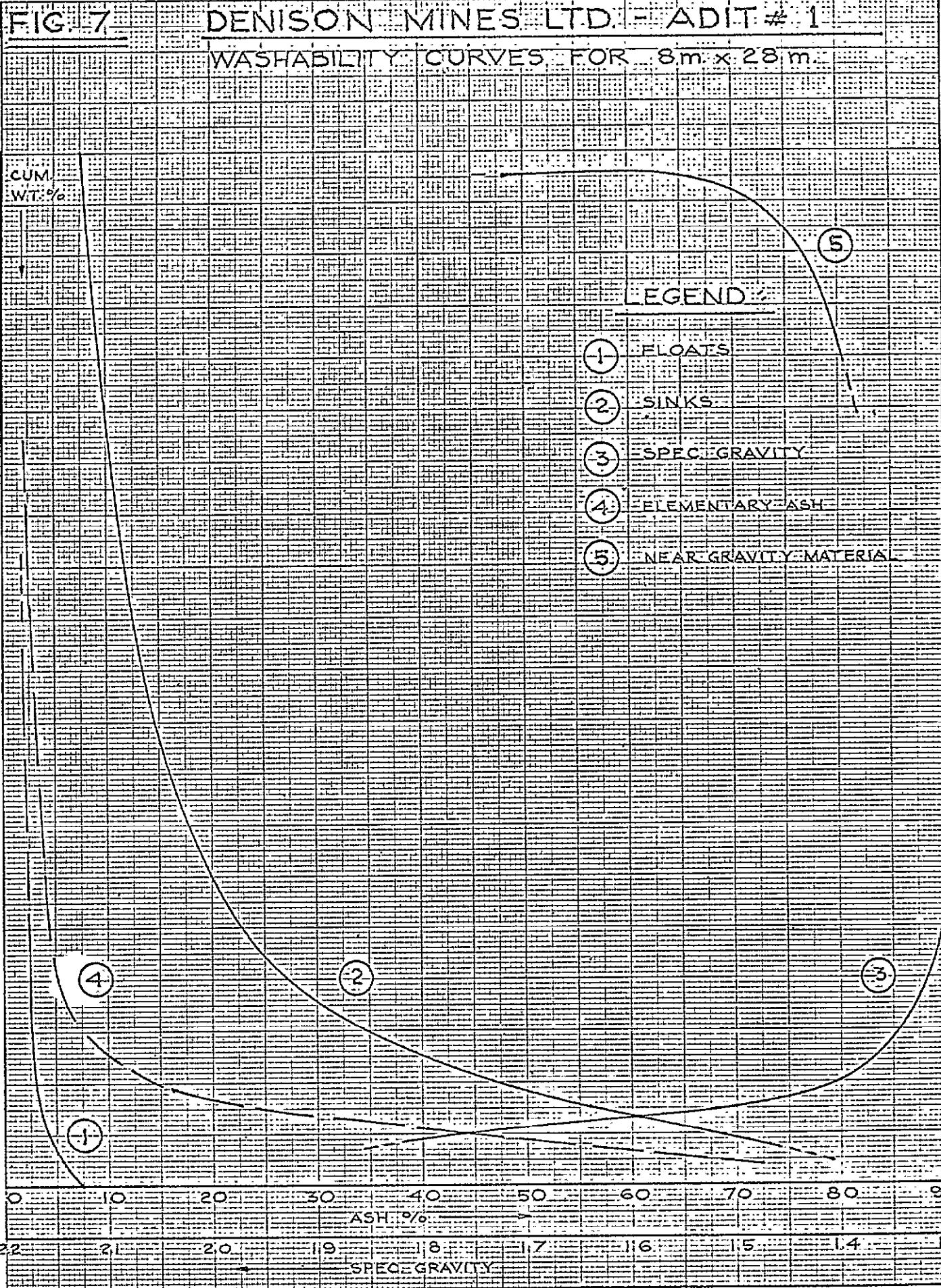
Ash, Volatile Matter & Cummulative F.S.I.

Specific Gravity	Weight %	Ash %	V.M.%	Cum. Wt. %	Cum. F.S.I.
- 1.30	73.93	2.25	27.01	73.93	9
1.30 - 1.35	11.76	5.08	22.67	85.69	9
1.35 - 1.40	4.11	10.71	20.46	89.80	9
1.40 - 1.45	1.64	16.76	19.31	91.44	9
1.45 - 1.50	0.85	20.24	19.18	92.29	9
1.50 - 1.60	1.08	27.39	18.33	93.37	9
1.60 - 1.70	1.06	35.28	16.64	94.43	9
1.70 - 1.80	1.11	44.20	15.73	95.54	9
+ 1.80	4.46	70.75	12.36	100.00	8½
Total	100.00	7.46	25.05		

T A B L E 18. ADIT #1

Washability Data - 8 m. x 28 m.

Specific Gravity	Fractional		Cummulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt.%	Ash%
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	73.93	2.25	73.93	2.25	100.00	7.46	36.96	2.25
1.30 - 1.35	11.76	5.08	85.69	2.64	26.07	22.25	79.81	5.08
1.35 - 1.40	4.11	10.71	89.80	3.01	14.31	36.36	87.74	10.71
1.40 - 1.45	1.64	16.76	91.44	3.25	10.20	46.69	90.62	16.76
1.45 - 1.50	0.85	20.24	92.29	3.41	8.56	52.43	91.86	20.24
1.50 - 1.60	1.08	27.39	93.37	3.69	7.71	55.98	92.83	27.39
1.60 - 1.70	1.06	35.28	94.43	4.04	6.63	60.63	93.90	35.28
1.70 - 1.80	1.11	44.20	95.54	4.51	5.57	65.46	94.98	44.20
+ 1.80	4.46	70.75	100.00	7.46	4.46	70.75	97.77	70.75
Total	100.00	7.46						



SEPT. 27 / 71 G.W.L.

CYCLONE ENGINEERING SALES LTD.  
EDMONTON ALBERTA CANADA

10 X 10 TO THE CENTIMETER 46 1510  
MADE IN U.S.A.  
KEUFFEL & ESSER CO.

T A B L E 19. ADIT #1

28 m. x 100 m.: 10.94% of Total Sample  
Ash, Volatile Matter & Cummulative F.S.I.

Specific Gravity	Weight %	Ash %	V.M. %	Cum. Wt. %	Cum. F.S.I.
- 1.30	73.56	2.08	27.24	73.56	9+
1.30 - 1.35	10.93	5.44	22.90	84.49	9
1.35 - 1.40	4.31	9.14	20.09	88.80	9
1.40 - 1.45	1.70	14.09	19.84	90.50	9
1.45 - 1.50	1.13	16.84	19.49	91.63	9
1.50 - 1.60	1.34	24.63	18.06	92.97	9
1.60 - 1.70	1.24	33.24	16.89	94.21	9
1.70 - 1.80	1.05	41.32	16.32	95.26	9
+ 1.80	4.74	66.10	16.25	100.00	8½
Total	100.00	7.26	25.35		

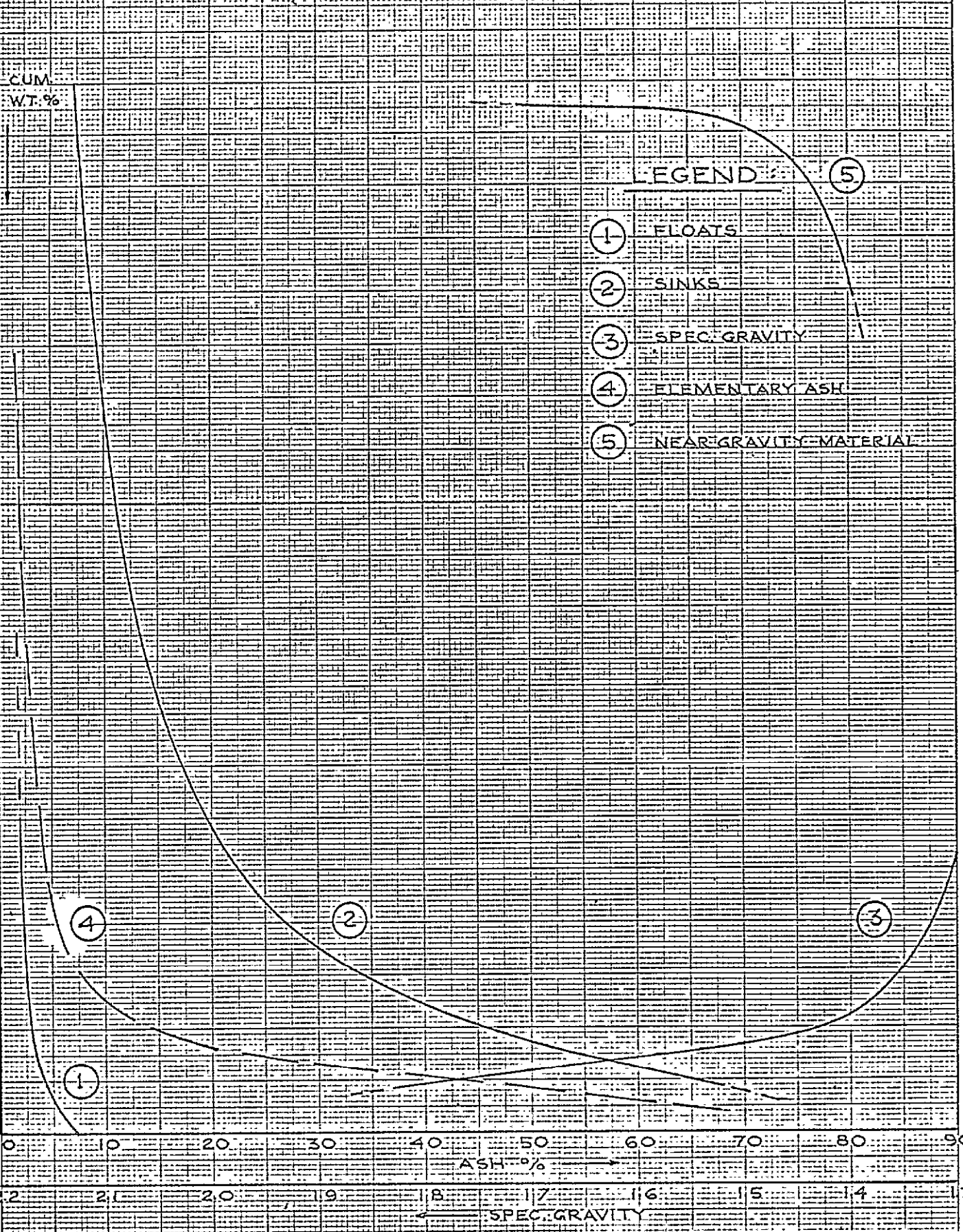
T A B L E 20. ADIT #1

Washability Data - 28m. x 100 m.

Specific Gravity	Fractional		Cummulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	73.56	2.08	73.56	2.08	100.00	7.26	36.78	2.08
1.30 - 1.35	10.93	5.44	84.49	2.51	26.44	21.66	79.02	5.44
1.35 - 1.40	4.31	9.14	88.80	2.84	15.51	33.09	86.64	9.14
1.40 - 1.45	1.70	14.09	90.50	3.05	11.20	42.31	89.65	14.09
1.45 - 1.50	1.13	16.84	91.63	3.22	9.50	47.36	91.06	16.84
1.50 - 1.60	1.34	24.63	92.97	3.53	8.37	51.48	92.30	24.63
1.60 - 1.70	1.24	33.24	94.21	3.92	7.03	56.60	93.59	33.24
1.70 - 1.80	1.05	41.32	95.26	4.33	5.79	61.61	94.73	41.32
+ 1.80	4.74	66.10	100.00	7.26	4.74	66.10	97.63	66.10
Total	100.00	7.26						

# FIG. 8 DENISON MINES LTD. - ADIT # 1

## WASHABILITY CURVES FOR 28m x 100m



10 X 10 TO THE CENTIMETER 46 1510  
 MADE IN U.S.A.  
 KEUFFEL & ESSER CO.

SEPT. 27/71 G.W.L.

CYCLONE ENGINEERING SALES LTD.  
 EDMONTON ALBERTA CANADA

T A B L E 21. ADIT #1

- 100 m.: 2.93% of Total Sample

Ash, Volatile Matter & Cumulative F.S.I.

Specific Gravity	Weight %	Ash %	V.M.%	Cum. Wt. %	Cum. F.S.I.
- 1.30	62.11	1.74	28.65	62.11	9
1.30 - 1.35	12.62	3.51	24.76	74.73	9
1.35 - 1.40	5.12	9.20	20.05	79.85	8½
1.40 - 1.45	4.10	14.51	19.79	83.95	8½
1.45 - 1.50	1.70	17.75	19.45	85.65	8½
1.50 - 1.60	2.07	27.43	18.35	87.72	8½
1.60 - 1.70	1.72	33.13	17.28	89.44	8½
1.70 - 1.80	2.03	46.43	15.83	91.47	8½
+ 1.80	8.53	72.97	16.35	100.00	7½
Total	100.00	11.20	25.48		

T A B L E 22. ADIT #1

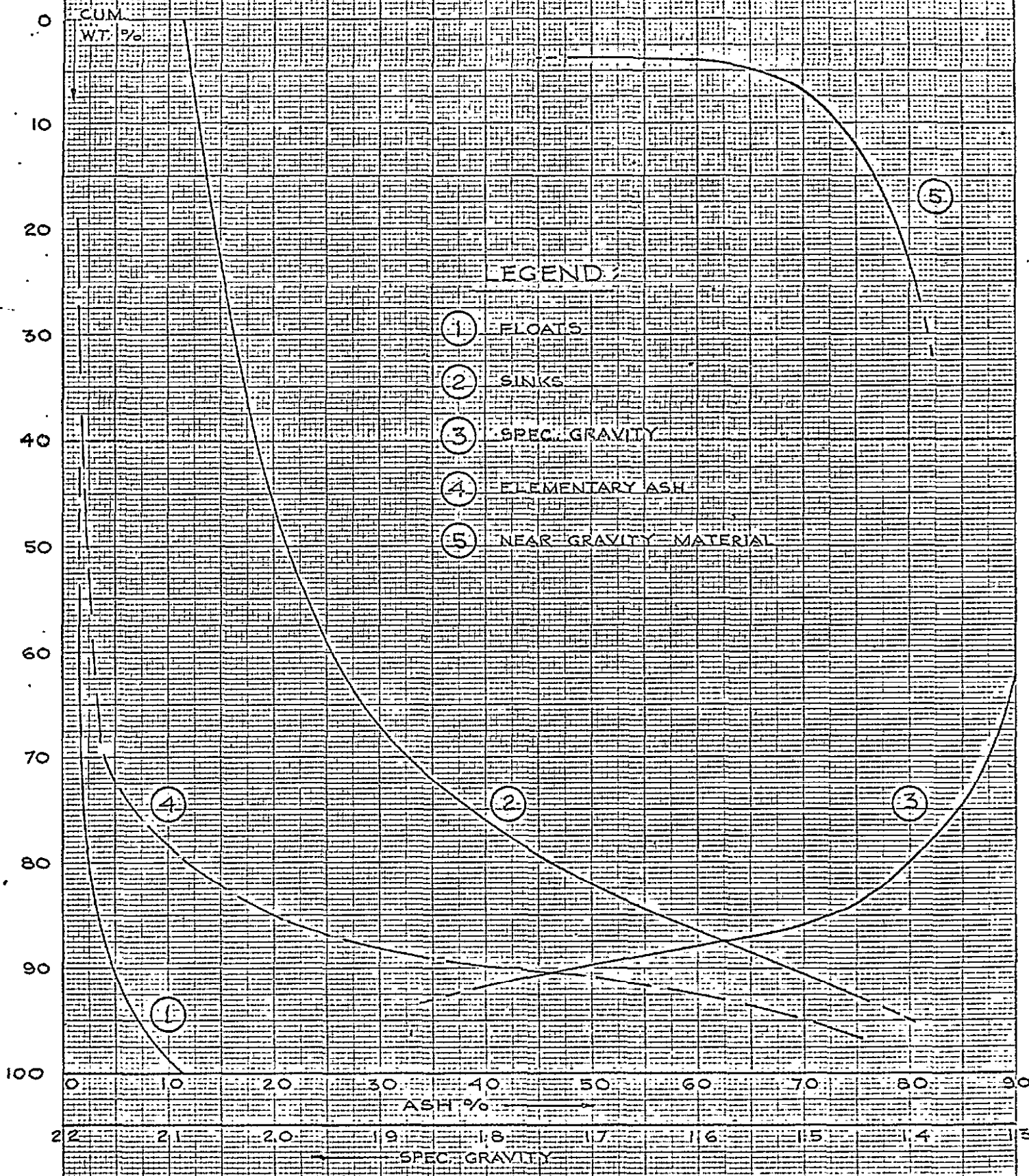
Washability Data - -100m.

Specific Gravity	Fractional		Cumulative				Elementary Ash	
	Wt. %	Ash %	Floats		Sinks		Wt. %	Ash %
			Wt. %	Ash %	Wt. %	Ash %		
- 1.30	62.11	1.74	62.11	1.74	100.00	11.20	31.05	1.74
1.30 - 1.35	12.62	3.51	74.73	2.04	37.89	26.70	68.42	3.51
1.35 - 1.40	5.12	9.20	79.85	2.50	25.27	38.28	77.29	9.20
1.40 - 1.45	4.10	14.51	83.95	3.08	20.15	45.66	81.90	14.51
1.45 - 1.50	1.70	17.75	85.65	3.38	16.05	53.62	84.80	17.75
1.50 - 1.60	2.07	27.43	87.72	3.94	14.35	57.87	86.68	27.43
1.60 - 1.70	1.72	33.13	89.44	4.50	12.28	63.00	88.58	33.13
1.70 - 1.80	2.03	46.43	91.47	5.44	10.56	67.87	90.45	46.43
+ 1.80	8.53	72.97	100.00	11.20	8.53	72.97	95.74	72.97
Total	100.00	11.20						



# FIG. 9 DENISON MINES LTD. - ADIT #1

## WASHABILITY CURVES FOR -100m.



KE 10 X 10 TO THE CENTIMETER 46 1510  
 MADE IN U.S.A.  
 KEUFFEL & ESSER CO.

SEPT. 27/71 G.W.L.

CYCLONE ENGINEERING SALES LTD.  
 EDMONTON ALBERTA CANADA



FROTH FLOTATION TEST

28 Mesh x 100 mesh

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	97.15%
Reagents	MIBC and Kerosene

Analyses of the Products

	<u>Floats</u>	<u>Tailings</u>
Ash %	5.90	50.22
Volatile Matter %	25.75	14.02
Residual Moisture %	0.67	0.41
Fixed Carbon %	67.68	35.35
B.T.U./lb.	14,980	5,920
Sulphur %	0.28	0.48
F.S.I.	8½	N.A.

FROTH FLOTATION TEST

100 Mesh x 0

Solids, by weight in Slurry	8%
Time of Flotation	1.5 minutes
Flotation Recovery	95.04%
Reagents	MIBC and Kerosene

Analyses of the Products

	<u>Floats</u>	<u>Tailings</u>
Ash %	8.33	65.59
· Volatile Matter %	26.31	16.42
Residual Moisture %	0.54	0.40
Fixed Carbon %	64.82	17.59
B.T.U./lb.	13,840	860
Sulphur %	0.51	1.67
F.S.I.	9	N.A.