

Sections 1.3, 2.3 & 2.4 and Tables 1.4.1, 1.4.2 & 2.1 contain confidential information or data, as described in Section 2 of the *Coal Act Regulation*, and have been excluded from this report.

Coal Act Regulation: http://www.gp.gov.bc.ca/statreg/reg/C/251_2004.htm

TITLE PAGE

Coal Licence Numbers: Quintette Trend: 3297, 3309, 3301
Transfer: 3341, 3661

Peace River Land District:

N. T. S. Map Sheets: 93-I-14, 93-I-15

Transfer Area: Latitude 54° 54'
Longitude 121° 03'

Quintette Trend: Latitude 54° 56'
Longitude 121° 00'

Owner: Quintette Coal Limited

Operator: Quintette Coal Limited (Denison Mines Limited; Manager)

Consultants: Nil

Author: G. P. Gormley

Date Work Completed: Transfer: August 15 to August 30, 1985
Quintette Trend: July 15 to August 10/85

Date Submitted: April, 1986

~~CONFIDENTIAL~~

1985 QUINTETTE GEOLOGICAL EXPLORATION REPORT
QUINTETTE TREND SOUTH AND TRANSFER EXPLORATION AREAS

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1985 **QUINTETTE GEOLOGICAL** EXPLORATION REPORT
QUINTETTE TREND SOUTH **AND** TRANSFER EXPLORATION AREAS

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GEOLOGICAL ASSESSMENT REPORT
QUINTETTE TREND SOUTH AND TRANSFER AREA, 1985

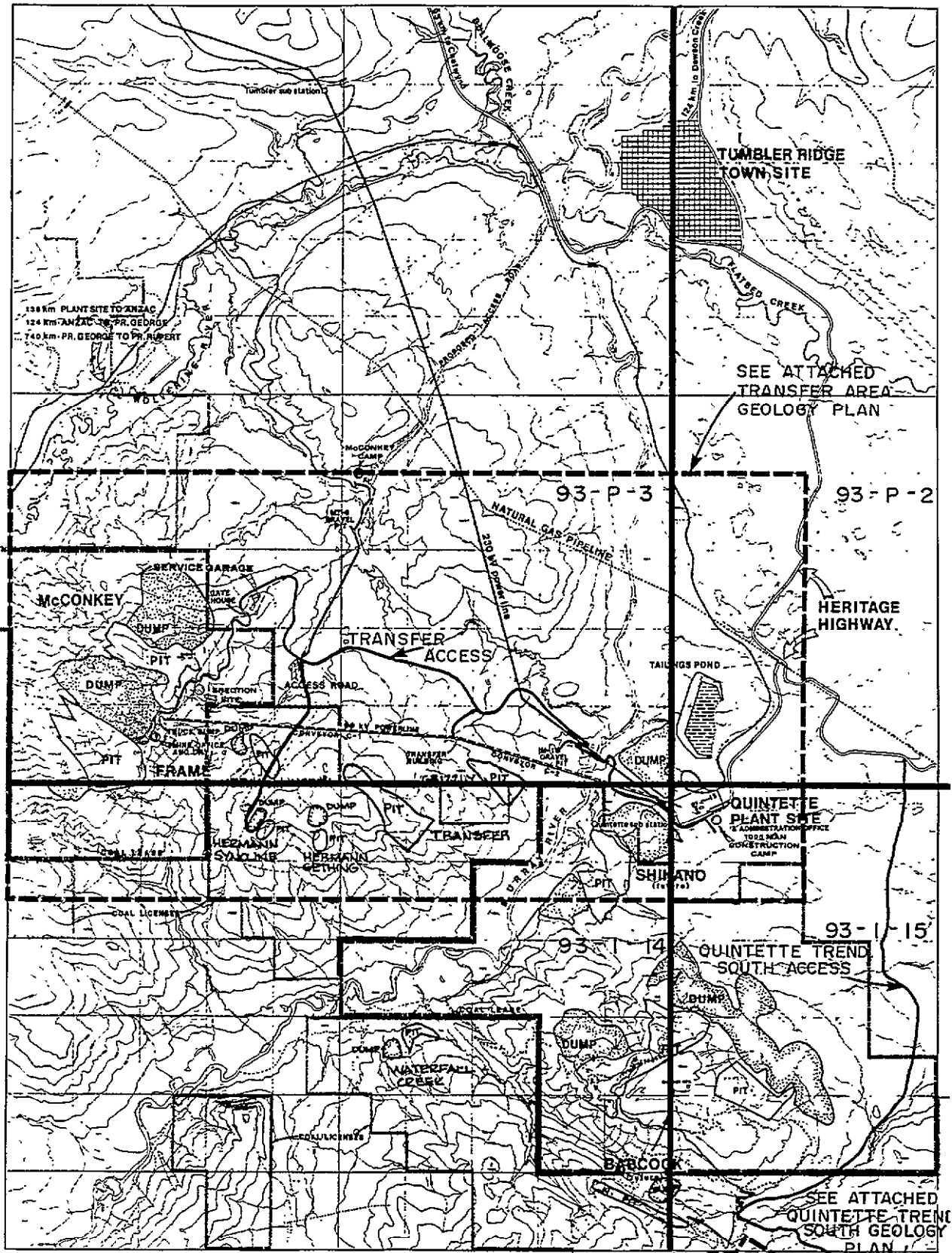
1.0 INTRODUCTION

1.1 **General Geographic and Physiographic Position**

The two aforementioned study areas are located on the Quintette Coal Limited property as indicated on the attached index map. Generally the Quintette Trend area is situated in alpine terrain just above tree level at an average elevation of 1,650 metres. The Transfer area is situated in forested terrain ranging in elevation from 900 metres to 1,550 metres above sea level. Access to Quintette Trend is possible by 4-wheel drive vehicle via 14 kilometres of "well site" access road connecting the old Babcock campsite to the Heritage Highway (Boundary section). The Transfer area may be approached via the road which accesses Quintette's Transfer Point Building on the overland conveyor or alternately via the well site access as indicated on the index map.

1.2 **Property History**

The Quintette property was initially acquired in 1969. Regional mapping of both the Quintette Trend and Transfer areas was undertaken in 1970 to 1974. Limited diamond drilling and bulldozer trenching was undertaken on the Quintette Trend in 1974 and 1976. No drilling or trenching has been undertaken in the Transfer area prior to the 1985 Programme.



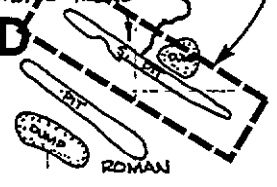
QUINTETTE COAL LIMITED

MINE SITE DEVELOPMENT
 INDEX MAP: 1985 GEOLOGICAL
 ASSESSMENT REPORT

KILOMETRES 0 1 2 3 4 5 KILOMETRES

QUINTETTE TREND SOUTH AND TRANSFER AREAS

MARCH 1984



1.0 QUINTETTE TREND SOUTH

1.1 Description

The Quintette Trend South exploration area lies approximately 11 km south of Quintette's plant site. It is bound on south by Gordon Creek and on North by Babcock Creek. The area is accessed by an exploration road which was built in 1974 from the old Babcock campsite. The elevation ranges from approximately 1500 m to 1700 m and is subalpine to alpine.

Previous work in this area was conducted in 1973 and 1974, and included mapping, drilling and trenching. The results indicated very simple structure with a well developed coal section. The 1985 exploration program included two diamond drill holes, 10 rotary drill holes and geological mapping. It was conducted with the purpose of confirming the structure and to obtain coal quality data.

1.2 Stratigraphy and Coal Development

Regionally, all formation from Minnes and Shaftsbury Formation outcrop in this area. Within the exploration area, the minable seams of interest are found in the Middle Member of the Gates Formation. Movable seams recognized are O, E, F, G, and J seams. The Middle Gates Member from top of O to bottom of K reaches a thickness of 115 to 135 m. Table 1.2.1 show interseam **thickness** and **lithology** between each of the minable seams. Table 1.2.2 summarizes seam **thicknesses** obtained from 1985 drilling program.

Seam O, overlain by sandstone and conglomerate of the Upper Gates, can be easily correlated **with those** of other deposits in Quintette property. It is 2.0 to 2.6 m in thickness and is a clean seam especially toward the north.

Seam E thickness ranged from 2.4 to 3.1 m. There are three distinct coal portions separated by partings. Toward the North, the seam begins to develop more partings resulting in increased in-seam ash.

Seam F is characterized by high-ash bony coal at the top of the seam. The seam thickness ranges from 2.4 to 3.5 m. Excluding the bony portion, F seam is very clean except where it develops parting at the north end.

Seam G varies in thickness from 2.5 to 3.4 m, its upper parting develops significantly in the south resulting in high head ash.

Seam J is a clean seam with thickness ranging from 4.4 to 6.3 m. Seam K (**K1** and **K2**) was considered to be unminable because of its thinness and its distance from the J seam (see Table **1.2.1**).

The average cumulative minable **seam thickness** in Quintette Trend South from both 1985 to **1974** data is **15.9** m.

TABLE 1.2.1

QUINETTE TREND SOUTH
INTER-SEAM THICKNESS

Inter-Seam	Thickness Range	Lithology
D-E	11 - 25	Carbonaceous and shaly below D seam to sandy shale to fine grained sandstone .
D-F	13 - 30	Shale to very fine and fine sandstone
F-G	21 - 41	Shale with very fine to sandy shale bands
G-J	4 - 18	fine sandstone to shale and carbonaceous shale
J-K	10 - 14	shale to fine sandstone

TABLE 1.2.2

QUINTETTE TREND SOUTH
SEAM THICKNESS

Drill Hole	Seam	Thickness	
QTD 85001	D	2.45/2.64	
	E	2.47/2.86	
	F	3.14/3.48	
	G	2.19/3.21	
	J	4.60/4.93	
	K1	0.81/0.81	
	K2	0.26/0.34	
	QTD 85009	D-	2.09/2.14
		E	1.99/2.90
		F	2.15/2.67
G		2.58/2.88	
J		4.36/4.91	
K1		0.95/0.95	
QTR 85001	K2	0.48/0.57	
	D	2.11	
QTR 85002 ¹	E	2.37	
	E	2.51	
QTR 85003	F	2.06	
QTR 85004	G	2.84	
QTR 85005	J	4.51	
QTR 85006	K1	0.91	
	K2	0.46	
QTR 85007	D	2.46	
QTR 85008	E	2.36	
QTR 85009	F	3.21	
QTR 85010	G	2.71	
	J	4.73	
	K1	1.26	
	K2	0.55	

1.3 structure

Regionally, to the Northeast of the exploration area; the Waterfall **Syncline** and the Babcock-2 anticline pair runs from Southeast to Northwest. The Gates formation exposed in the exploration area forms the south limb of the Waterfall Creek Syncline, and all strata, dips uniformly to the Northeast at **65°** to **70°** (see cross sections in Appendix 1). The drill and mapping data indicate that there are no major faults in **this** area.

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Section 1.4 and Table 1.4.2 contain confidential information or data, as described in Section 2 of the *Coal Act Regulation*, and have been excluded from this report.

Coal Act Regulation: http://www.gp.gov.bc.ca/statreg/reg/C/251_2004.htm

TABLE 1.4.2

QUINTETTE TREND SOUTH
ROTARY DRILLHOLE ANALYSIS RESULT

DRILLHOLE	SEAM	VERTICAL DEPTH FROM SURFACE (m)	RAW ANALYSIS	
			ASH%	FSI
QTR 85001	D	20.11	44.27	1.5
	E	83.72	53.16	1.5
QTR 85002	E	21.94	61.42	1.5
QTR 85003	F	19.42	53.60	1.0
QTR 85004	G	19.48	31.51	5.5
QTR 85005	J	16.87	23.22	3.5
	K1	61.47	10.15	3.5
	K	69.11	70.32	0
QTR 85006	D	20.96	27.83	2.5
QTR 85007	E	18.20	42.67	3.0
QTR 85008	F	44.97	18.63	7.5
QTR 85009	G	17.86	24.31	6.5
QTR 85010	J	8.77	21.08	5.5
	K1	85.63	32.54	1.5
	K2	97.49	61.14	1.0

Portions of Table 1.4.2 contain confidential information or data, as described in Section 2 of the Coal Act Regulation, and have been excluded from this report.

Coal Act Regulation: http://www.gp.gov.bc.ca/statreg/reg/C/251_2004.htm

2.0 TRANSFER AREA

2.1 Description

The Transfer Area lies between what was previously known as the **Hermann** North and the **Hermann** South pits. This area is located approximately 1 km southwest of the overland conveyor transfer point. An exploration program was conducted in the M-11 anticline region within the Transfer Area during the **summer** of 1985. The area lies above the **treeline** with elevation ranging from 1400 to 1680 m (see geological map),

The area had been explored with regional scale **geological** mapping in 1975, but at that point it had only been determined as belonging to the Gates Formation, and there was no data to confirm minable coal seams. The 1985 program was conducted with the purpose of confirming the presence of minable coal. The work was limited to 2 exploratory diamond drill holes and detailed mapping in the confined area.

2.2 Stratigraphy and Coal Development

The Gates Formation reaches up to 300 m in thickness within the exploration area. The formation is divided in descending order, into Upper, Middle and Lower Members. The main coal bearing member is the Middle Member with thickness of 102 m. It correlates very well with the northern portion of the Shikano pit on the opposite bank of the Murray River.

There are eight potentially minable seams, B, D, E, F, G, J, K1 and K2. Seam B belongs to the Upper Member and the others belong to the Middle Member. Thickness of each seam is shown on Table 2.1.

Seam B and D have no partings but are thin reaching to only 0.8 and 1.0 m.

Seam E has developed partings and relatively thin coal splits and therefore maybe unminable.

Seam F which lies 22 m below E seam has two parting but is relatively thick developing to 4.2 m.

Seam G attains a thickness of 3.2 m. This seam is made up of three coal splits and two rock partings.

Seam J is 13 m below G and 3.0 m in thickness. It is a very clean seam.

The J and K1 interseam is only 0.7 m while K1 seam is 0.85 m in thickness.

Seam k2 is 0.9 m below K1 and 0.7 m in thickness. Seams J, K1 and K2 may be mined together, but interseam partings will probably be separated. The cumulative minable coal seam thickness (**B, D, F, G, J, K1, K2**) in this area is 14.77 m. Without seam B and D, the thickness is 12.9 m.

2.3 structure

The structure in the Transfer area is dominated by M-11 anticline. The anticline axis runs from NW to SE. Both limbs dip from **35** to **60°**. Three fault zones have been interpreted, however, **these faults have** not yet been well defined.

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Sections 2.3 & 2.4 and Table 2.1 contain confidential information or data, as described in Section 2 of the *Coal Act Regulation*, and have been excluded from this report.

Coal Act Regulation: http://www.gp.gov.bc.ca/statreg/reg/C/251_2004.htm

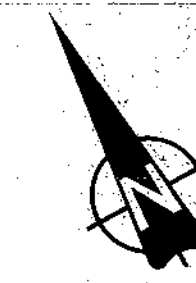
APPENDIX 1.1

QUINTETTE TREND SOUTH

LOCATION **MAP**

SECTION 12122, 12778.~14165 and 14922

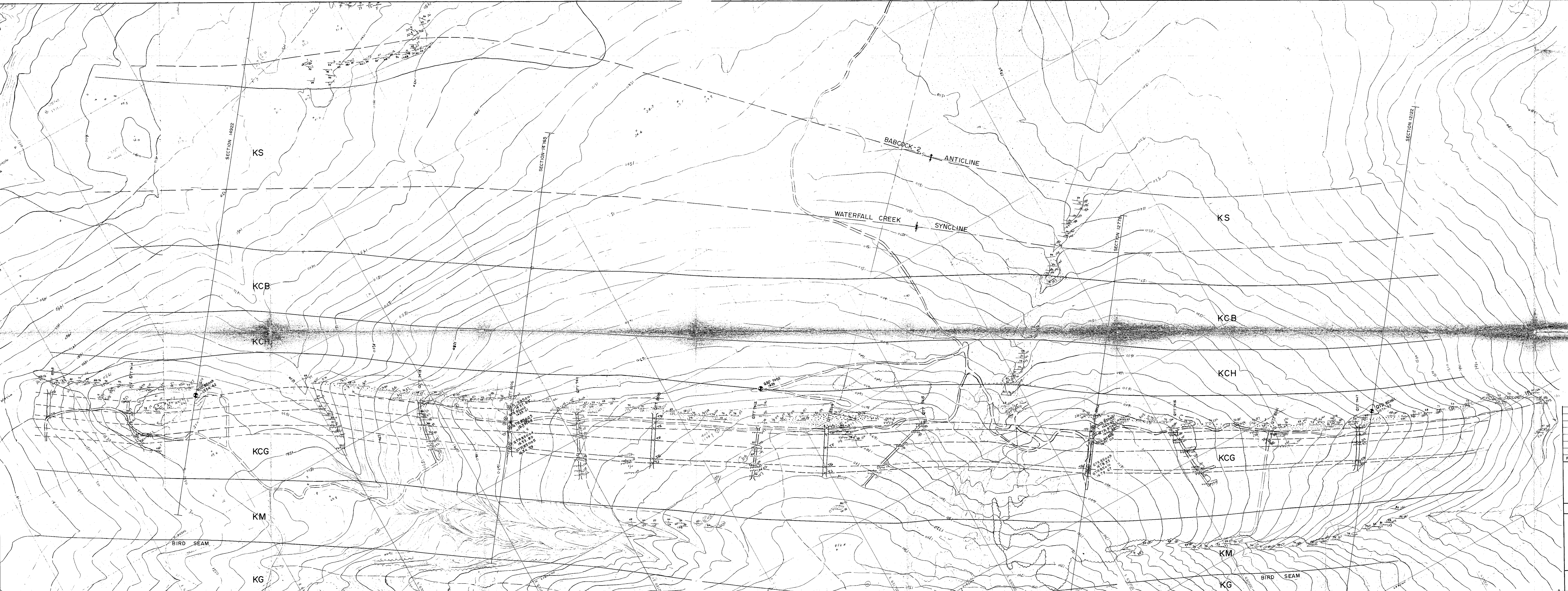
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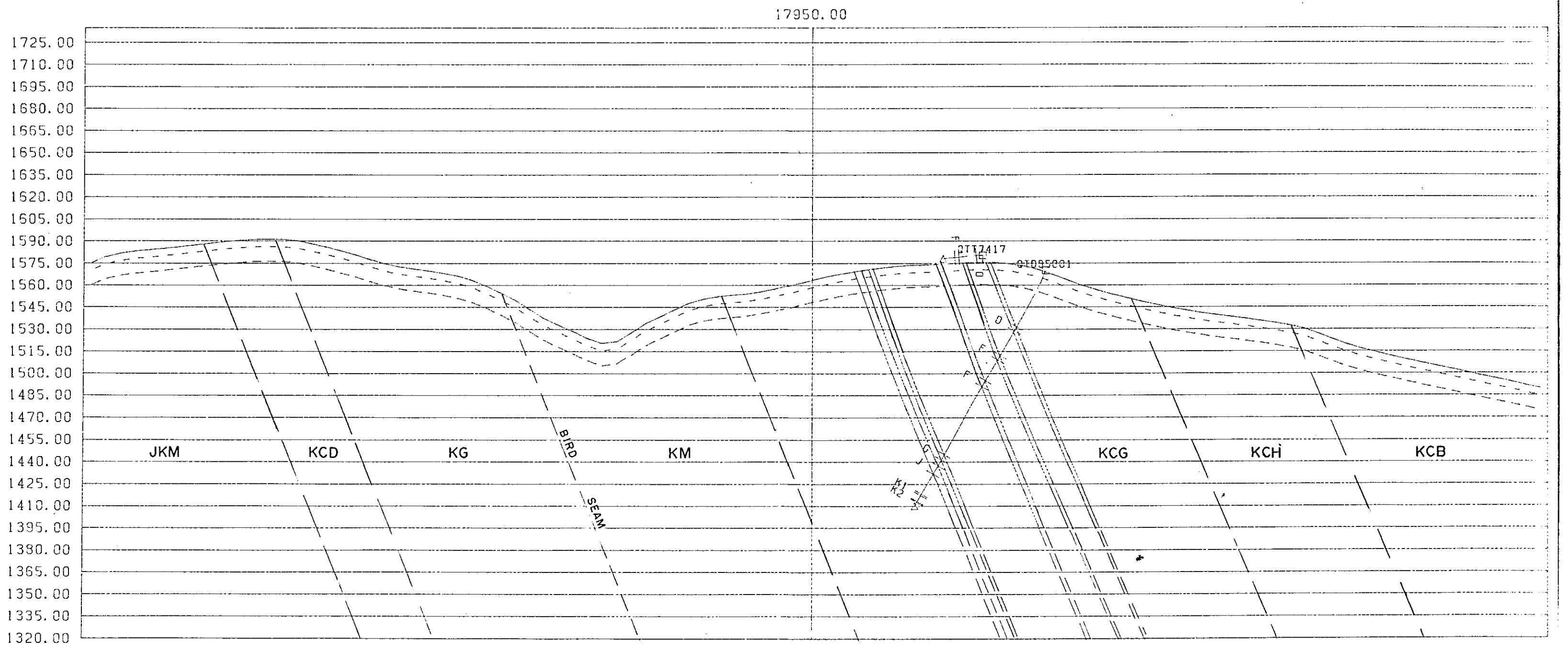
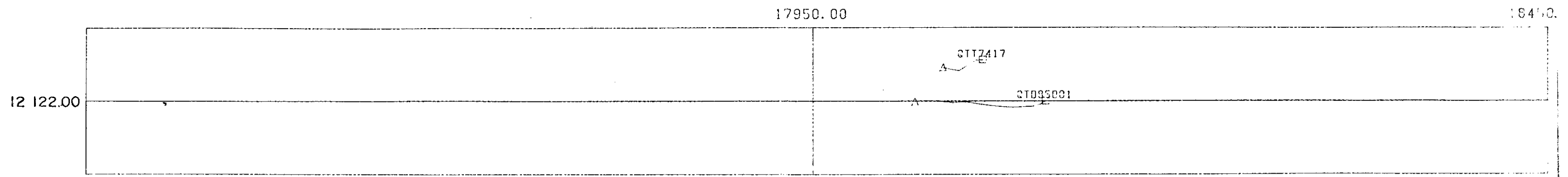


- LEGEND**
- ROAD
 - DRILL HOLES - ROTARY, DIAMOND
 - STRIKE & DIP
 - TRENCH
 - COAL SEAM OUTCROP (TOP OF SEAM)
 - GEOLOGICAL CONTACT
 - ANTICLINE
 - SYNCLINE
 - GEOLOGICAL FORMATIONS**
 - KS SHAFTESBURY
 - KCB BOULDER CREEK
 - KCH HULCROSS
 - KCG GATES
 - KM MOOSEBAR
 - KG GETHING

METRES
1:2500

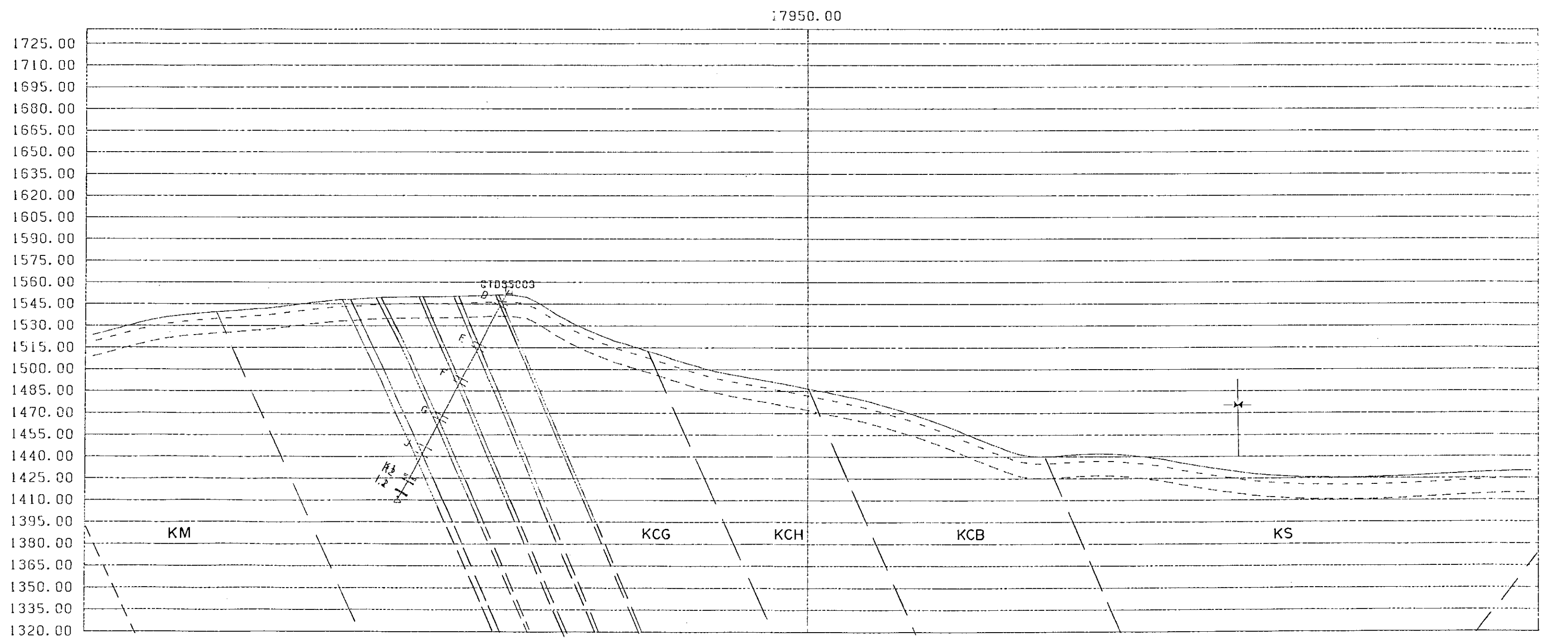
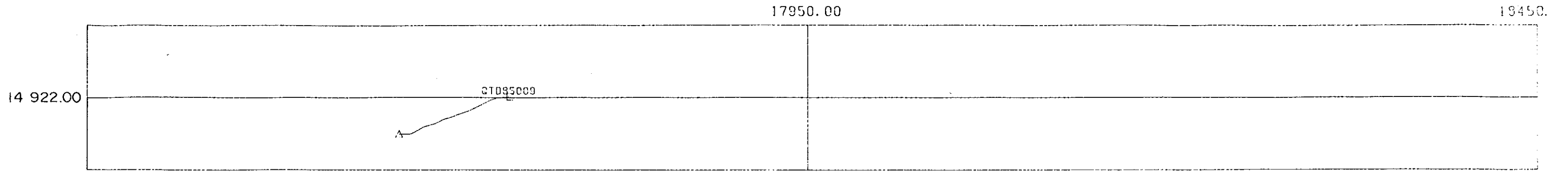
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Project Manager DENISON MINES LIMITED					
COAL DIVISION					
Area	TREND SOUTH	Category	GEOLOGY PLAN		
Drawing Title					
QUINETTE TREND SOUTH GEOLOGY PLAN					
500					
Scale	1:2500	Drawing No.	66-802-20-001	Rev.	C





SECTION 12122

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SECTION 14922

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SECTION 14922

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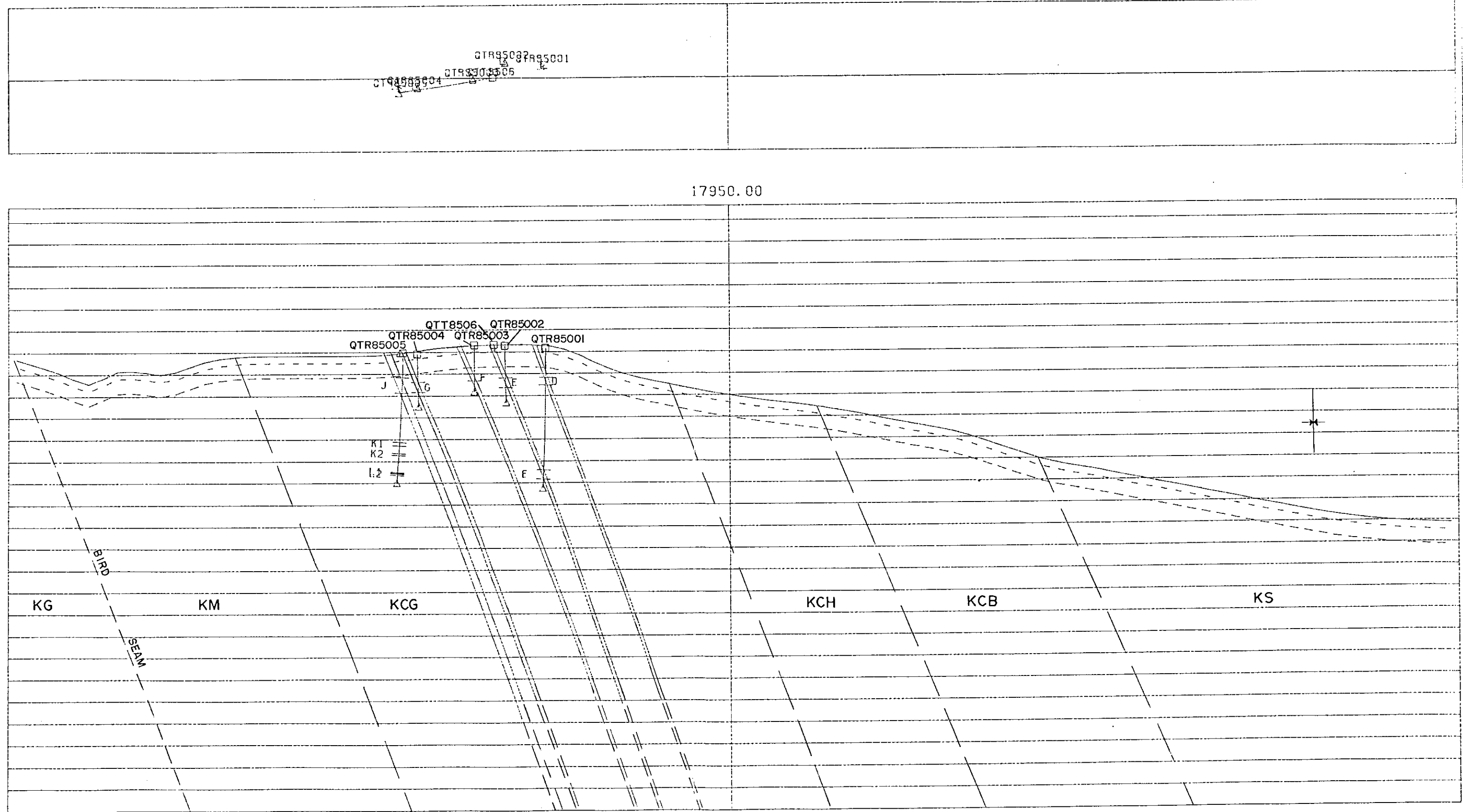
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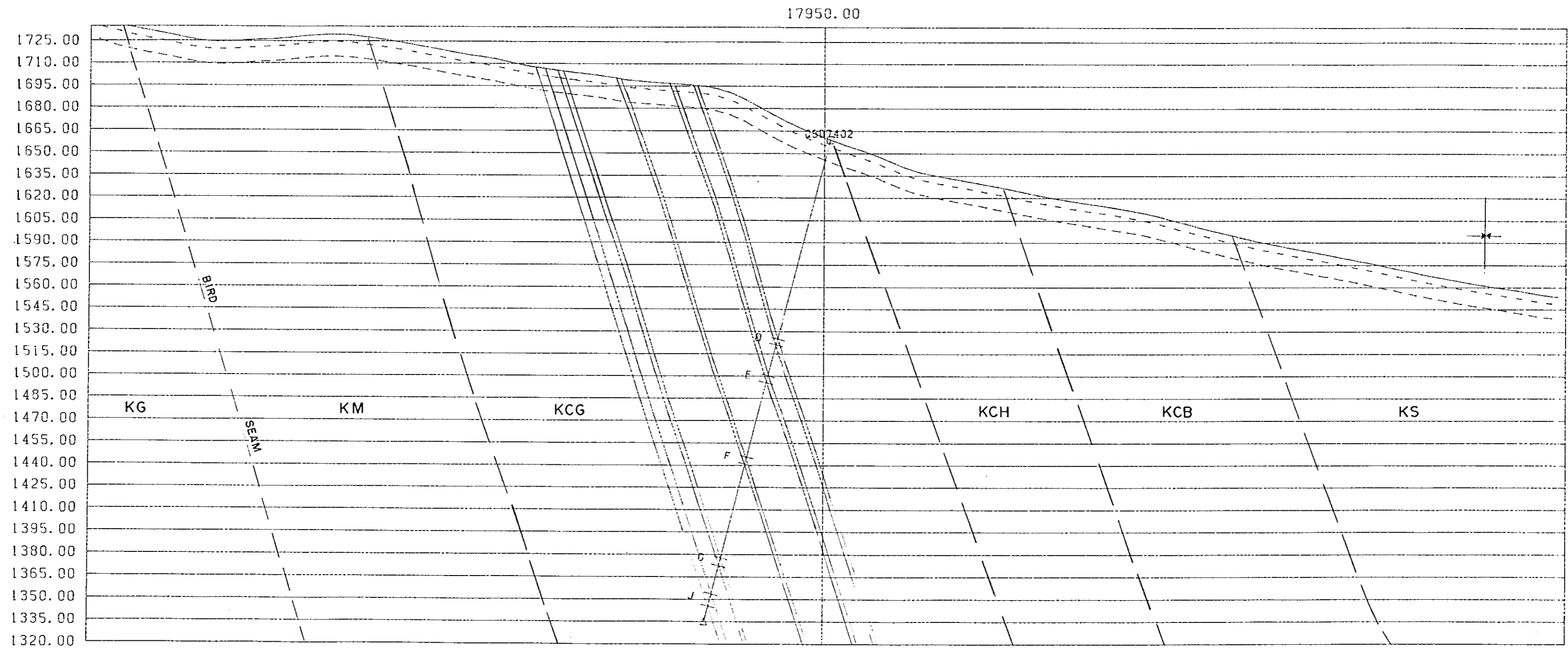
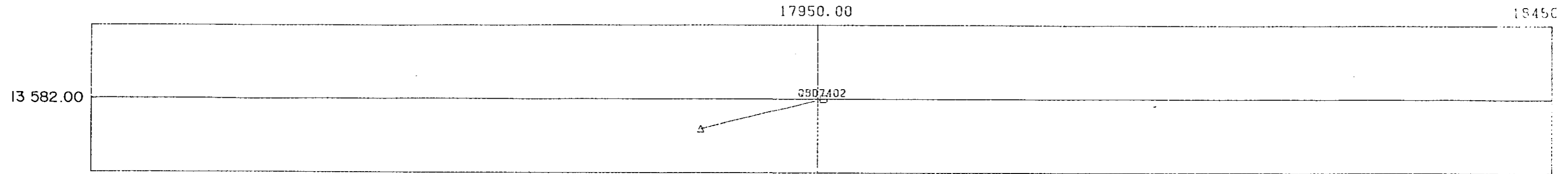
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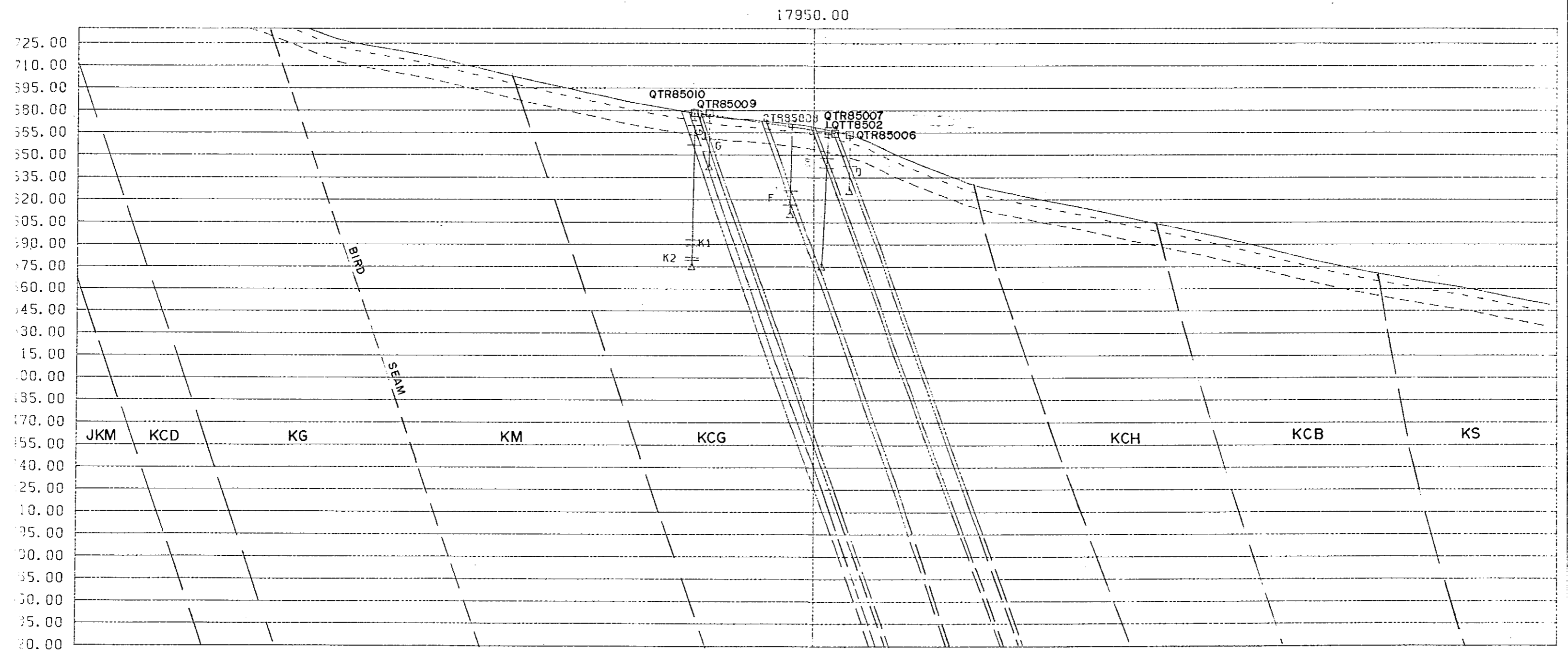
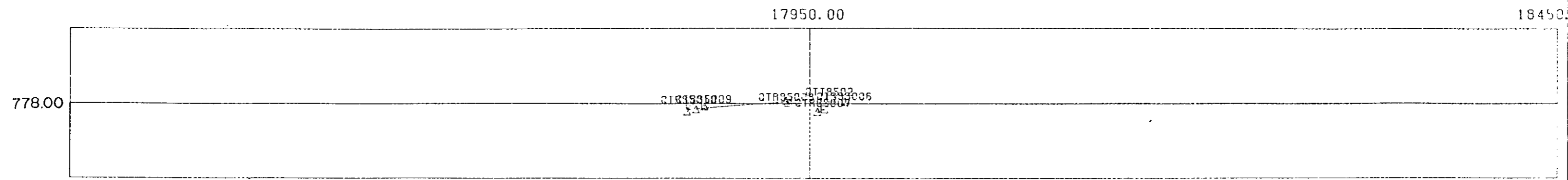
SECTION 14165

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SECTION 13582

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SECTION 12778

500 SECTION 12778

GEOLOGICAL ASSESSMENT REPORT
QUINTETTE TREND SOUTH AND TRANSFER AREA, 1985

DIAMOND AND ROTARY DRILLING REPORT

DIAMOND DRILLING:

Contractor: Canadian Longyear, Vancouver, British Columbia

Equipment: Longyear 44 and 38 drills equipped for HQ coring operation

Core Location: BC Mines Core Storage, Charlie Lake, British Columbia

Sampling: 100% of core representing Mining sections was sampled and analyzed by Cyclone Engineering Sales Limited, Edmonton, Alberta. Results have been previously reported.

Geophysical Logging: Gamma, Neutron, Density and Caliper. 1:200 general and 1:20 detailed scales. (Contractor - Century Geophysical, Quintette Trend; BPB Instruments, Transfer Area)

Logging Sheets: Records of the original core logging sheets are attached.

ROTARY DRILLING:

Contractor: Garritty and Baker Drilling, Edmonton, Alberta

Equipment: Mayhew 1000 Singlewall on ~~Modwell~~ carrier

Sampling: Chip samples taken at 1 metre intervals in coal sections only. Samples were processed by Cyclone Engineering Sales Limited, Edmonton, Alberta. Results have been previously reported

Geophysical Logging: As above.

APPENDIX 1.2

QUINTETTE TREND SOUTH

DRILLING **SUMMARY** SHEETS .
CORE - **QTD 85001** and **QTD 85009**
ROTARY - **QTR 85001 to QTR 85010**

Quintette Coal Limited

DRILL HOLE SUMMARY SHEET

PROJECT: QUINTETTE TREND SOUTH

PAGE 1 of 1

NUMBER	HOLE ANGLE	COLLAR BEARING	TOTAL DEPTH	CORE SIZE	MAP / SECTION ID
QTR 85002	90		38790	5 1/2"	
ELEVATION		U. T. M. COC	TES		DATE (From 19...)
16319.21		NORTH	EAST		DRILLED
6084376.14			631131-908		01 08 85
					01 08 85

GEOPHYSICAL DATA

OVERBURDEN

LEN	BRD	ISD	HRD	GAM	NEUT	TRF	FBS	CAI	DIR	STANI	Res	DEPTH	COMPOSITION
X				X	X			X	X		XX	4.5	
X				X				X					

MINING SECTION

SECTION	DRILLED INTERVAL	AVG B.C.H.	TRUE THICKNESS	COAL/ROCK RECOVER	INTERSEAM THICKNESS	DATE DRILLED	DATE SAMPLED	SAMPLE TAG No.	COMP. LAB No.	COMMENTS
01	21.95-25.14		1.20							
02P	25.14-25.50		0.13							
02	25.50-26.65		0.43							
03P	26.65-27.03		0.14							
03	27.03-28.65		0.61							
04	21.95-28.65		2.51							

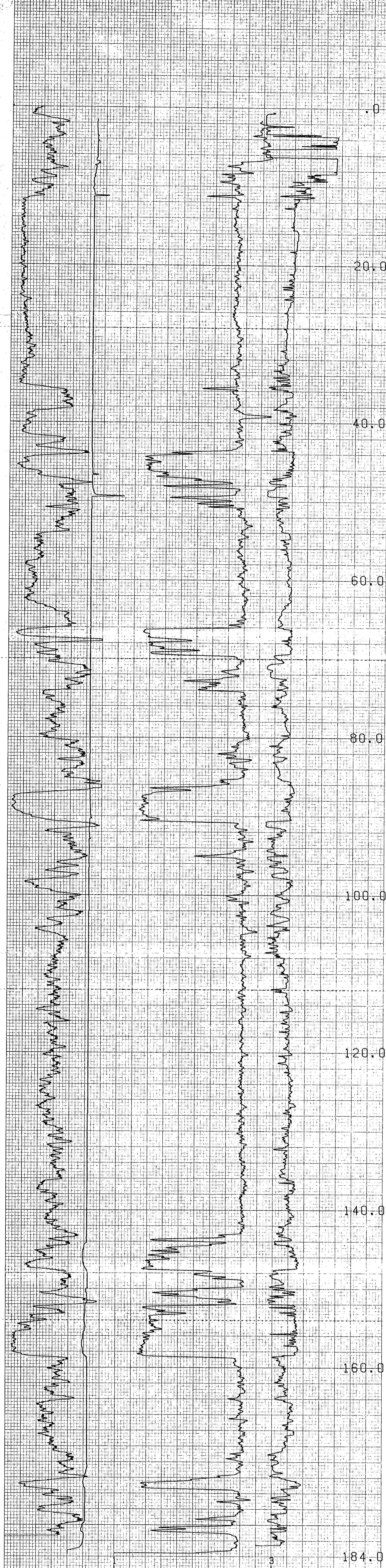
APPENDIX 1.3

QUINTETTE TREND SOUTH

GENERAL ~~GAMMA-DENSITY~~ - CALIPER GEOPHYSICAL LOG
(1:200)

QTD 85001 and QTD 85009

QTR 85001 to QTR 85010



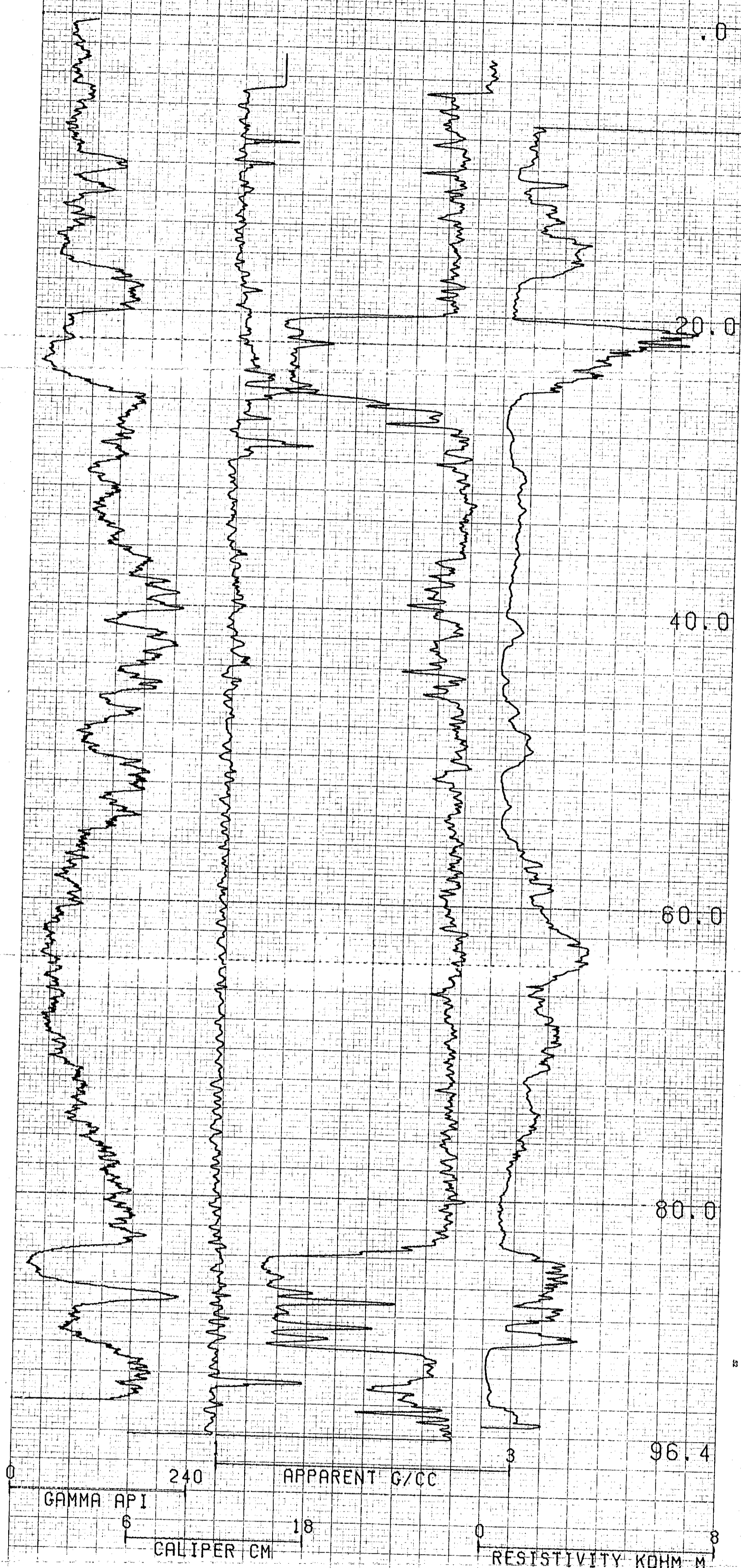
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 0 6 GAMMA API
 18 CALIPER CM
 0 2.4 RESISTIVITY KOHM M

500

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 QUINTETTE COAL
 Q. TREND SOUTH
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 SENSOR #4 CAL BIAS # = 1
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 M. HOREL APPL. #30 L1

782

781



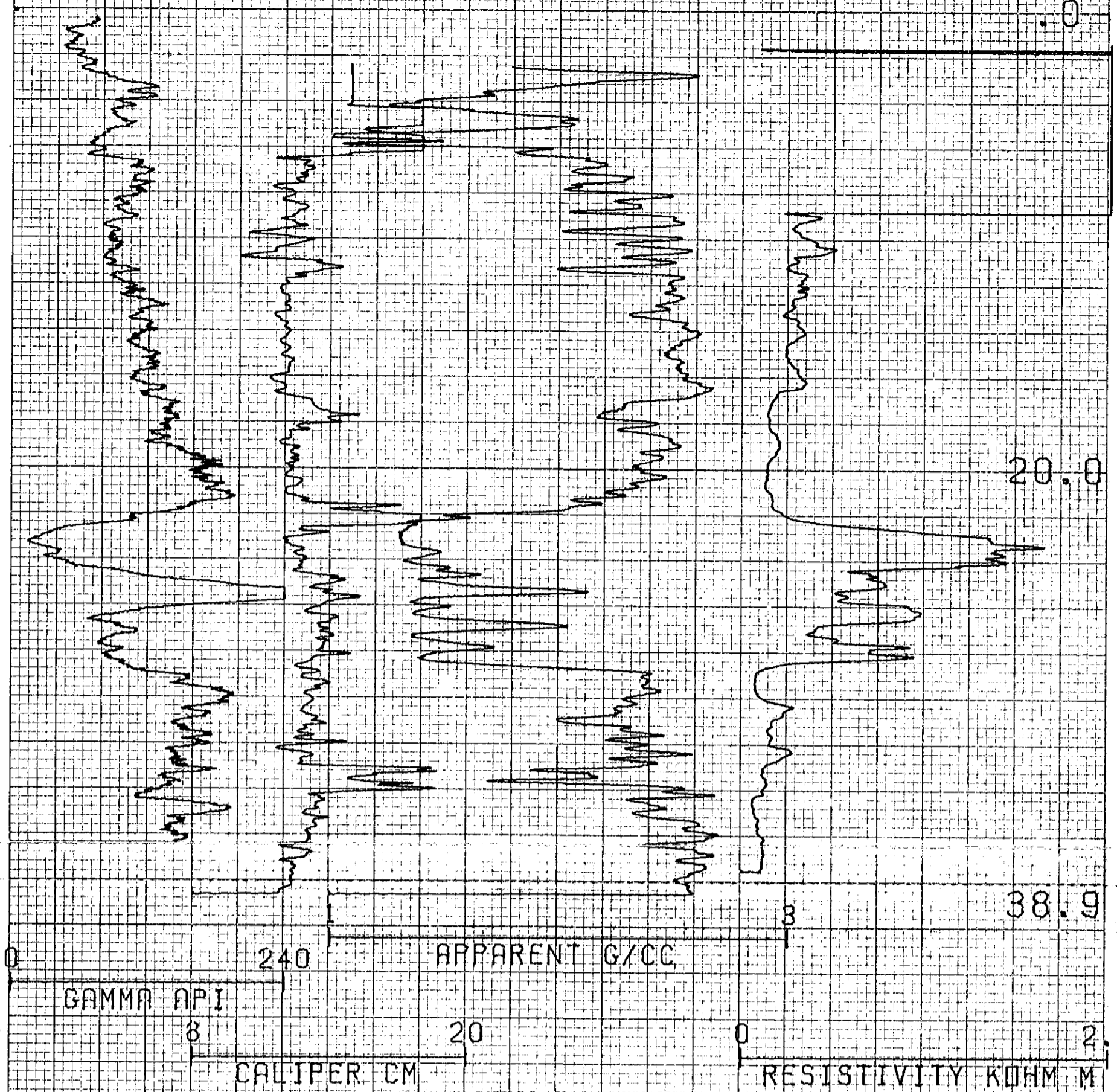
COMPU-LOG V8L2 - PLOT 07-27-85

QTR85001
 QUINTETTE COAL
 Q. TREND SOUTH

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 M. HQREL APPL. #30 LI

279



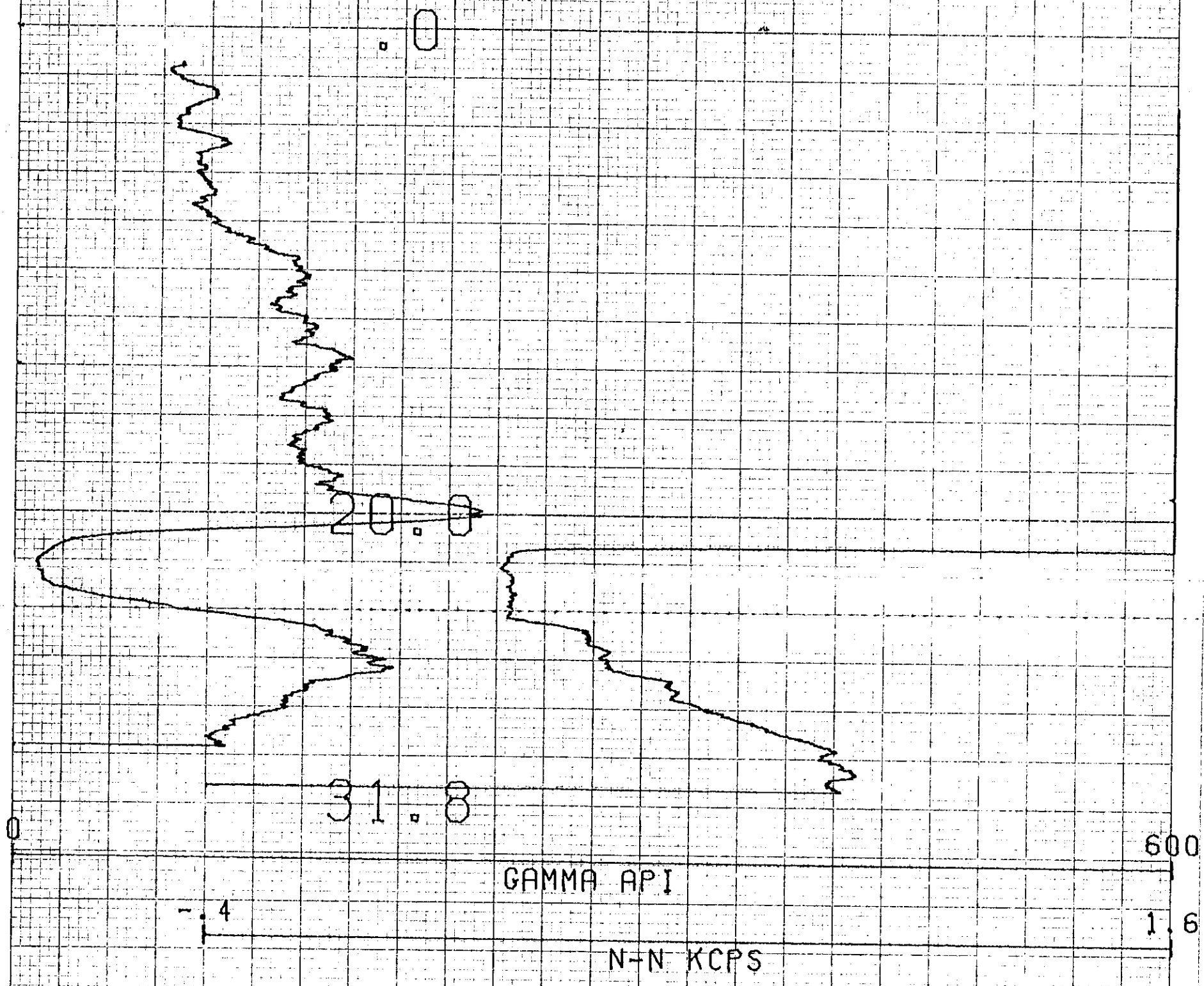
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 QUINTETTE COAL
 Q. TREND SOUTH

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153



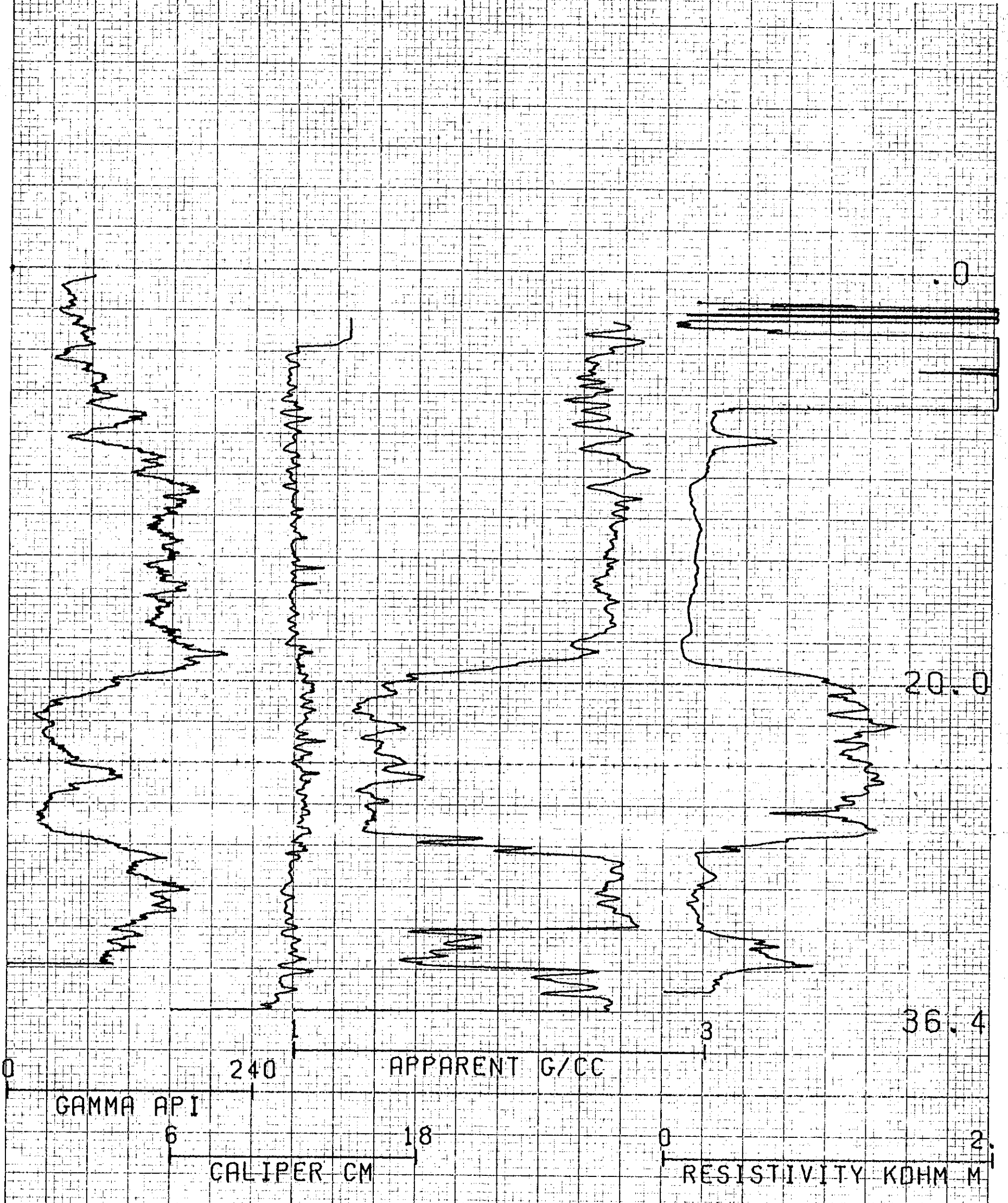
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 QUINTETTE COAL
 Q. TREND SOUTH

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43

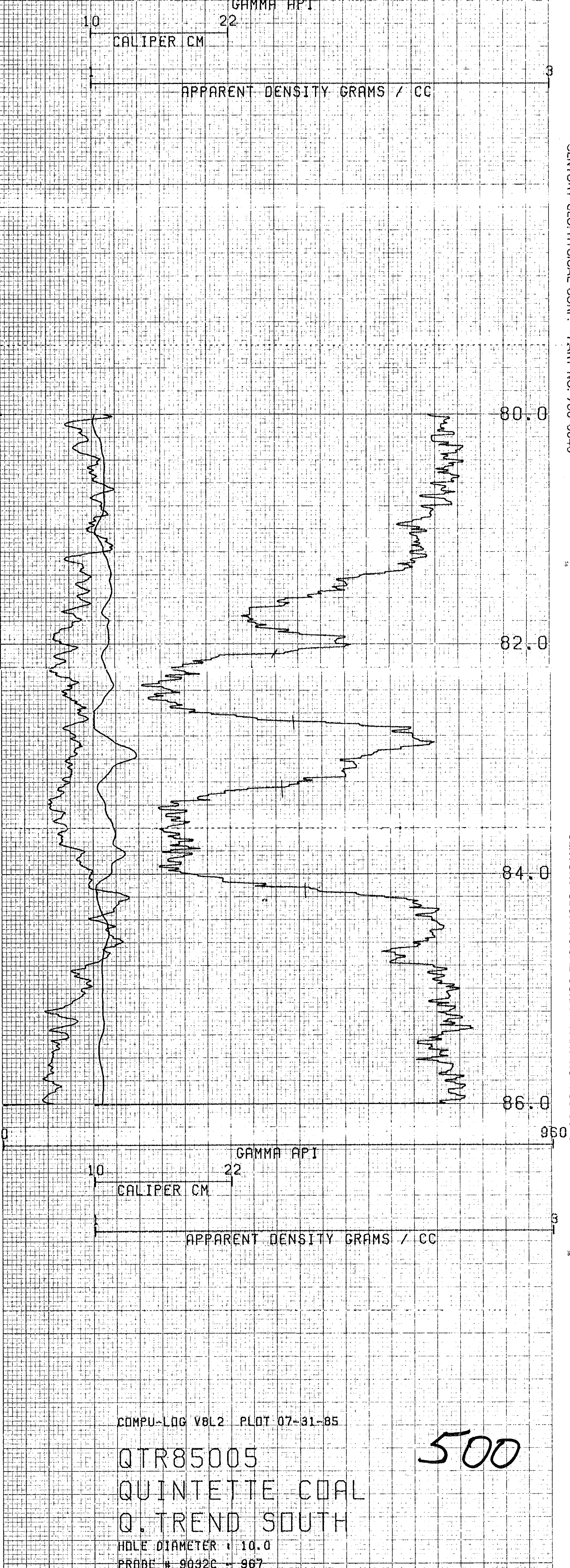
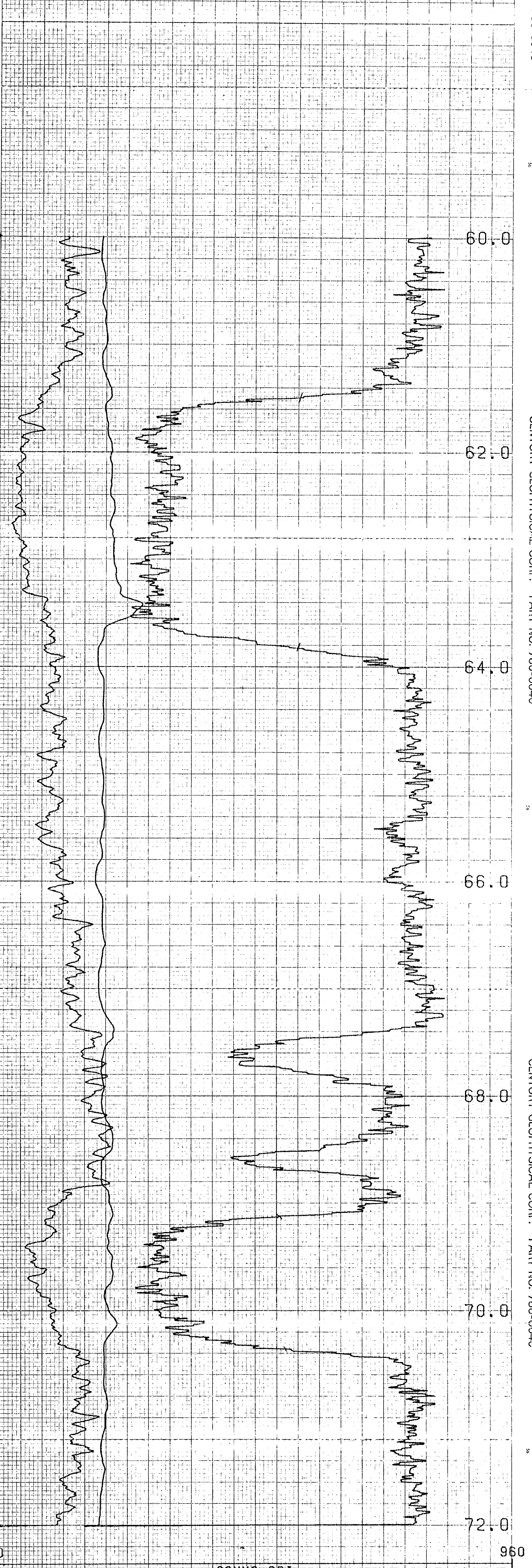
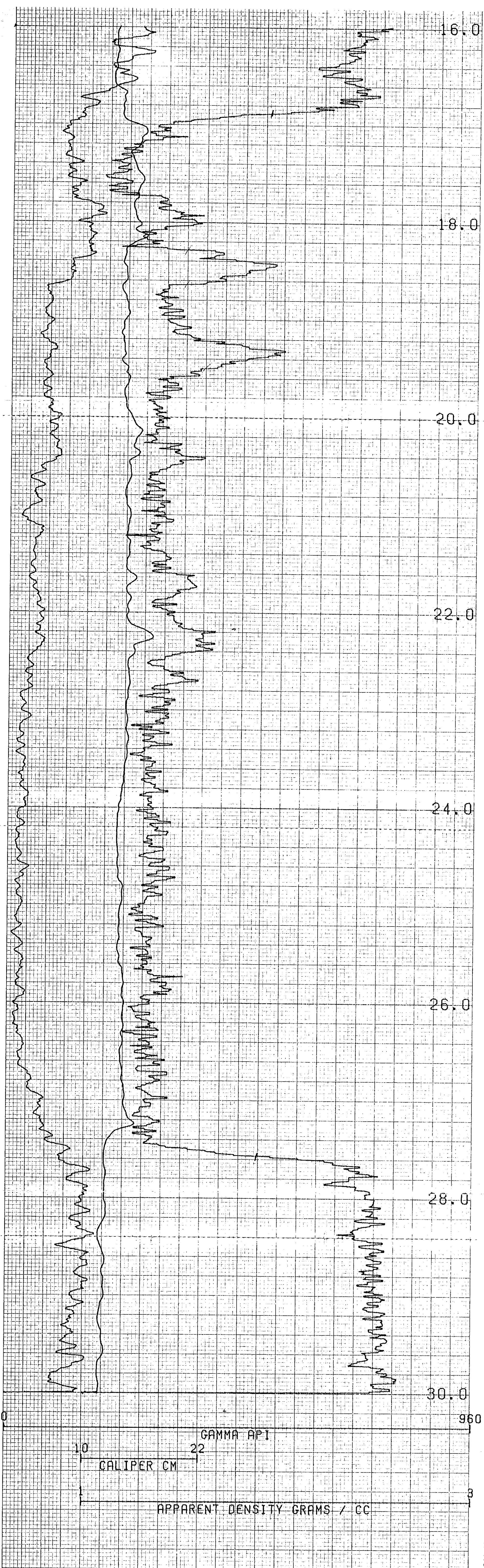


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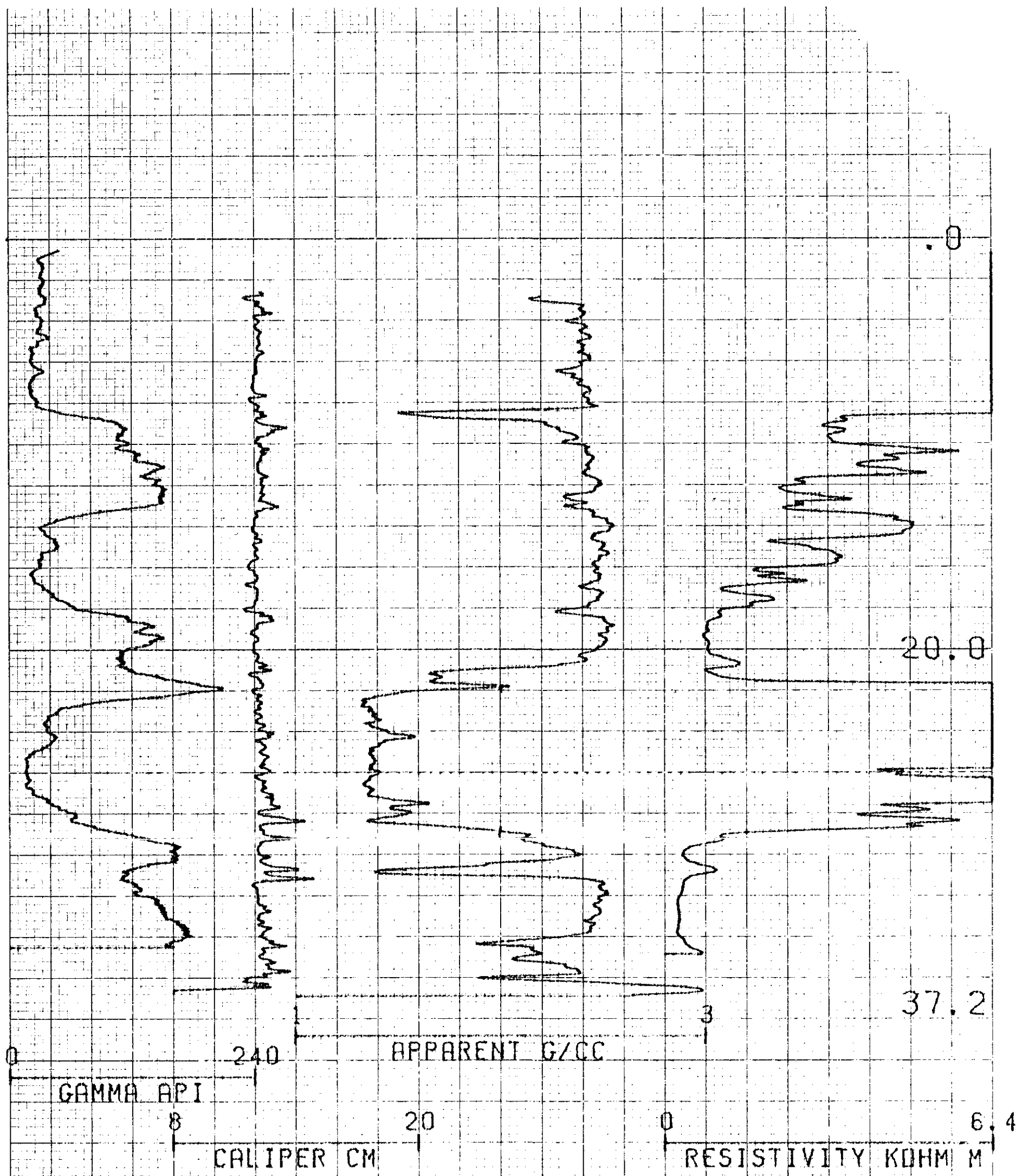
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 QUINTETTE COAL
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 M. HOREL APPL.#30 L1

41



COMPU-LOG V8L2 PLOT 07-31-85
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 H. HOREL APPL #709 L1

500



COMPU-LOG V8L2 PLOT

500

85006

QUINTETTE COAL

Q. TREND SOUTH

HOLE DIAMETER : 10.0

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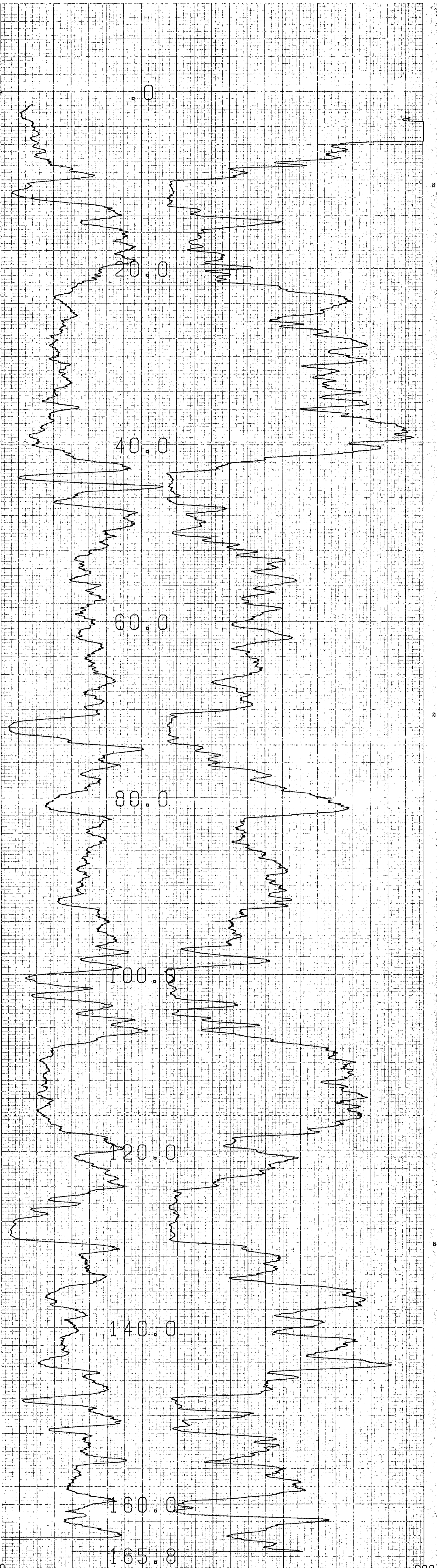
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TRUCK # 7922

M. HDREL

APPL.#30 L1



COMPU-LOG V8L2 PLOT 07-27-85

500

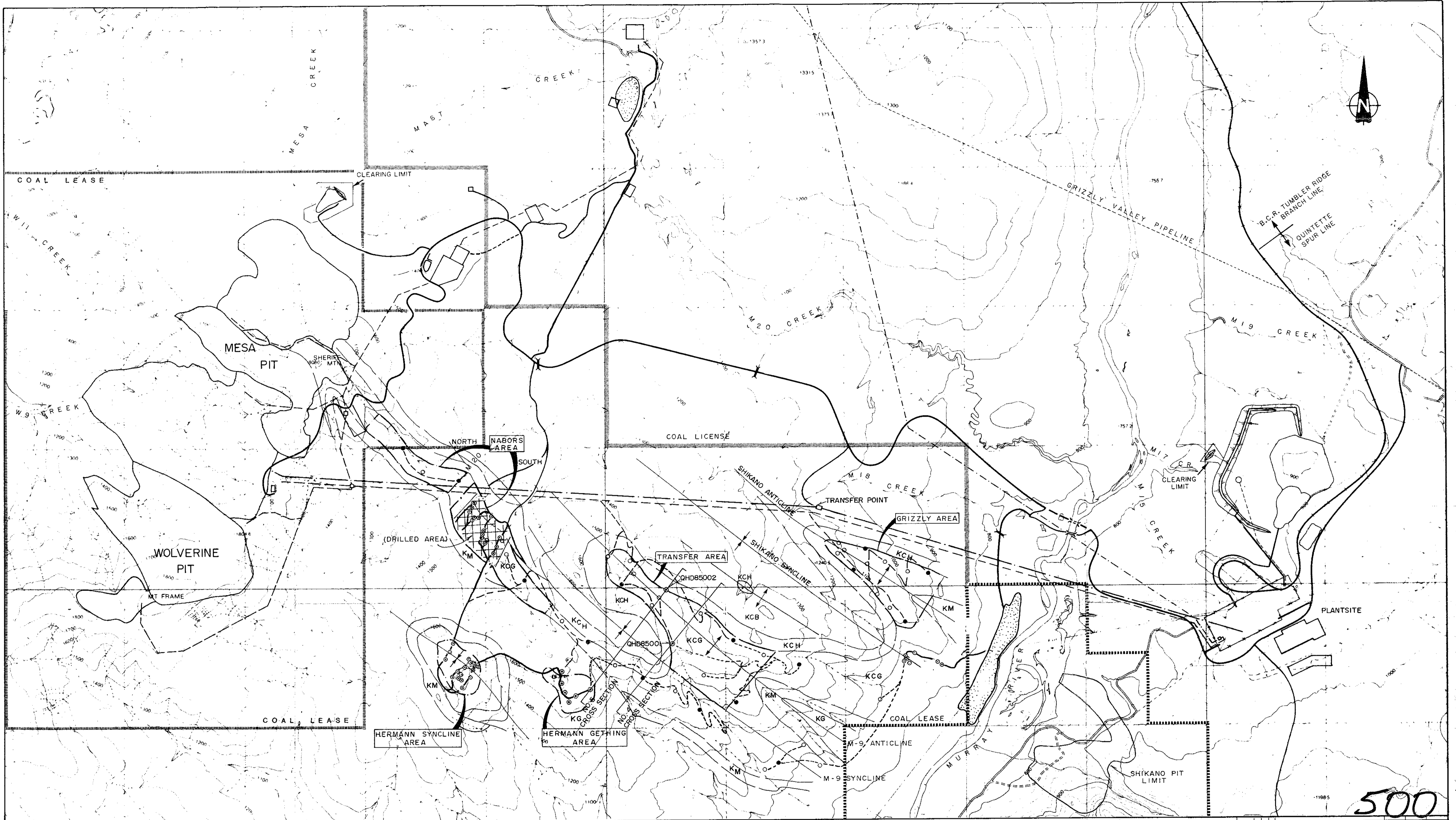
QTD85008
 QUINTETTE COAL
 Q-TREND SOUTH

HOLE DIAMETER = 10.0
 PROBE # 9055A - 246
 SENSOR #4 CAL STD CPS = 152
 SENSOR #4 CAL RUN CPS = 166
 SENSOR #4 CAL BIAS = 0
 DATA V8L2 TRUCK # 7922
 M. HOREL APPL. #1007L1

APPENDIX 2.1

TRANSFER AREA

LOCATION MAP
SECTIONS #4 and #5



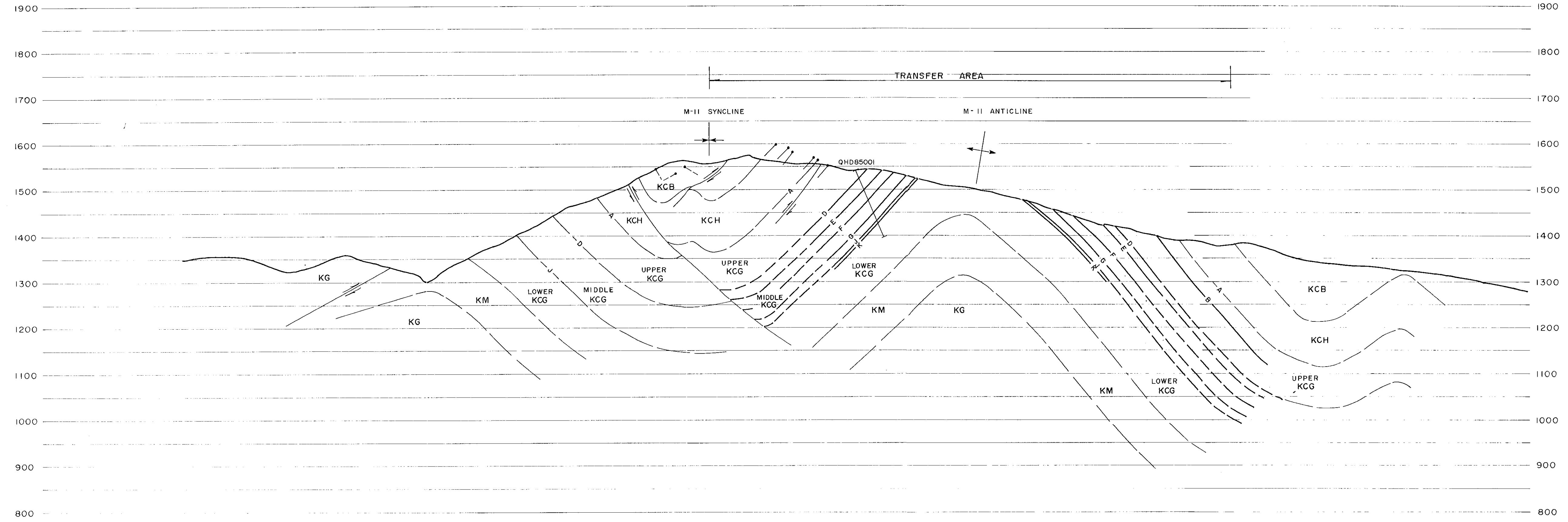
500



LEGEND

- PROPOSED ACCESS ROAD
- PROPOSED ROTARY DRILL HOLE
- PROPOSED DIAMOND DRILL HOLE
- ⊙ EXISTING DRILL HOLE
- EXISTING ACCESS ROAD
- RESERVE AREA BOUNDARY
- - - POSSIBLE ACCESS ROAD DEPENDING ON FIELD CONDITIONS (POSSIBLE HELICOPTER ACCESS AREA)
- [KCH] GEOLOGIC FORMATION HULCROSS FORMATION
- [KCG] GEOLOGIC FORMATION GATES FORMATION
- [KM] GEOLOGIC FORMATION MOOSEBAR FORMATION
- [KG] GEOLOGIC FORMATION GETHING FORMATION
- ↑↓ SYNCLINE AXIS
- ↑↓ ANTICLINE AXIS

0	11	0486	ORIGINAL DRAFT	KJY	J.K.	G.G.		
Rev.	D	M	Y	Revision	Description	Drn.	Des.	App.
QUINTETTE COAL LIMITED Project Manager DENISON MINES LIMITED								
Area			TRANSFER AREA	Category		GEOLOGY		
Drawing Title								
TRANSFER AREA GEOLOGY								
Scale	1 25000		Drawing No.	86-903-20-001		Rev.	0	



LEGEND

- QUESTIONABLE COAL SEAM
- COAL SEAM TOP
- FAULT WITH RELATIVE MOVEMENT
- FORMATION CONTACT
- PROJECTED APPARENT DIP IN SECTION OF OUTCROP
- ANTICLINE
- SYNCLINE
- KCB BOULDER CREEK FORMATION
- KCH HULCROSS FORMATION
- KCG GATES FORMATION
- KM MOOSEBAR FORMATION
- KG GETHING FORMATION

100 0 100 200 400
METRES

0	11 04 85	ORIGINAL DRAFT	KJV	IK	IK
Rev	Drn	Description	Drn	Des.	App.

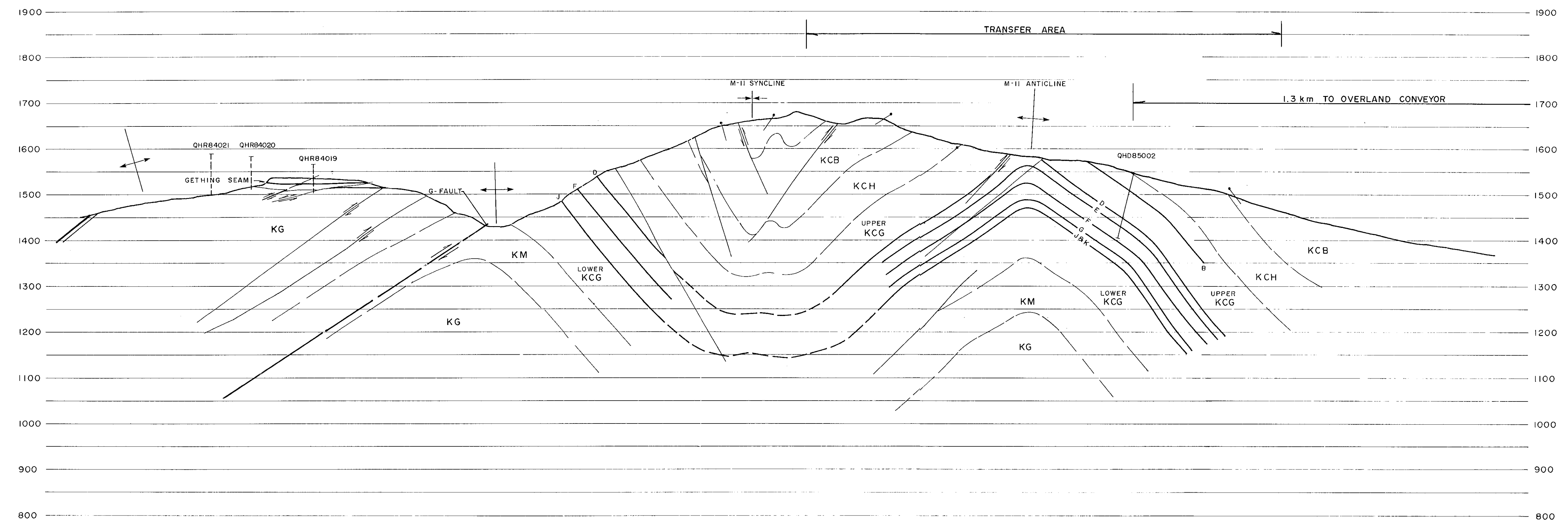
QUINTETTE COAL LIMITED
Project Manager
DENISON MINES LIMITED
COAL DIVISION

Area: TRANSFER AREA Category: CROSS SECTION

Drawing Title:
TRANSFER AREA 500
CROSS SECTION # 4

Scale	Drawing No.	Rev
1:5000	85-903-21-00	0

500



LEGEND

- QUESTIONABLE COAL SEAM
- COAL SEAM TOP
- FAULT WITH RELATIVE MOVEMENT
- FORMATION CONTACT
- PROJECTED APPARENT DIP IN SECTION OF OUTCROP
- ↔ ANTICLINE
- ↔ SYNCLINE
- KCB BOULDER CREEK FORMATION
- KCH HULLCROSS FORMATION
- KCG GATES FORMATION
- KM MOOSEBAR FORMATION
- KG GETHING FORMATION

100 0 100 200 400
METRES

Rev	D	M	Y	Revision	Description	Drn	Des	App
0	20	11	85	ORIGINAL DRAFT		KJV	IK	IK

QUINTETTE COAL LIMITED
 Project Manager
DENISON MINES LIMITED
 COAL DIVISION

Area TRANSFER AREA Category CROSS SECTION

Drawing Title
TRANSFER AREA
CROSS SECTION # 5

Scale	Drawing No	Rev
1:5000	85-903-21-002	0

APPENDIX 2.2

TRANSFER AREA

CORE DRILLING SUMMARY SHEETS

QHD 85001 and QHD 85002

Intette Coal Limited

DRI LL HOLE SUMMARY SHEET

PROJECT _____

PAGE 2 of 2

HOLE NUMBER	HOLE ANGLE	COLLAR BEARING	TOTAL DEPTH	CORE SIZE	MAP / SECTION NUMBER
QHD 85001					

U. T. M. COORDINATES				DATE (from / to)
ELEVATION	NORTH	EAST	DRILLED	CORE

G E O P H Y S I C A L D A T A										O V E R B U R D E N			
DEN	BRD	LSD	HRD	LAM	NEUT	FBE	FBS	CAI	DIR	SEAM	DEPTH	COMPOSITION	

M I N I N G S E C T I O N

STATION (BASE)	DRILLED INTERVAL	AVG. 30 M	TRUE THICKNESS	COAL/ROCK RECOVER	INTERSEAM THICKNESS	DATE DRILLED	DATE SAMPLED	SAMPLE TAG No.	COMP LAB No.	COMMENTS
C2	100.46-101.34		.83							
G3F	101.34-101.76		.40							
G3	101.76-102.59		.78							
G	99.19-102.59		3.22							
J1	116.16-117.62									
J2	117.62-120.43									
J	116.16-117.62		3.88							
K1P	120.43-121.34		.83							
Y1	121.34-122.58		1.15							
K3F	122.58-123.24		0.62							
Y2	123.24-123.99		0.71							

APPENDIX 2.3

TRANSFER AREA

GENERAL **GAMMA-DENSITY - CALIPER** GEOPHYSICAL LOG (1:200)
QHD 85001 and QHD 85002

500



BOREHOLE GHD-65001
 CLIENT Quintette Coal

AREA Herman, Ont.
 COUNTRY Canada
 DATE LOGGED 16/AUG/85
 DEPTH SCALE 1:200
 LOG L. LOGS 1 OF 4 LOGS

COAL LITHOLOGY LOG

PERMANENT DATA
 ELEMENT OF PD GROUND LEVEL
 MEASUREMENTS FROM DRIILL FLOOR
 DEPTH REACHED 157.10m
 CASING SPEAR 4.30m
 BIT SIZES 1 1/4" TO 1/2"
 CASING STEEL 1 1/4" TO 1/2"

FLUID DATA
 NATURAL Quilk-Gel
 SIG 1.01 g/cm³
 LEVEL 27.0m
 VISCOSITY N/A
 Rm at meas temp N/A
 BH1 N/A

SONDE TYPE Gamma-Ray
 COAL COMBINATION Gamma-Ray
 SONDE Gamma-Ray

LOG SUITE
 GAMMA RAY
 U.S DENSITY
 CALIPER

FIRST READINGS
 LAST READINGS
 INTERVAL LOGGED
 UNIT TRACK NO
 ENGINEER
 WITNESS

EQUIPMENT AND RECORDING DATA									
COAL COMBINATION SONDE #101									
LOG	EQUIPMENT		TAPING		PANEL		CAL COEFF		SEAM LOG RUN
SONDE	SOURCE	CALIBRATOR	LOG TAPED	RECORD SPEED	DIRECT REPLAY	SPEED	TC SECS	NORM	FROM TO INTERVAL
GAMMA RAY	0592	463	Y	9m/m	Y	9m/m	1	-	1.2 155 00 155
U.S DENSITY	0592	4340	Y	9m/m	D	9m/m	7.4	-	154 00 142
CALIPER	SIDEWALL POSITION	2" x 2"	Y	9m/m	D	9m/m	3	-	156 01 155

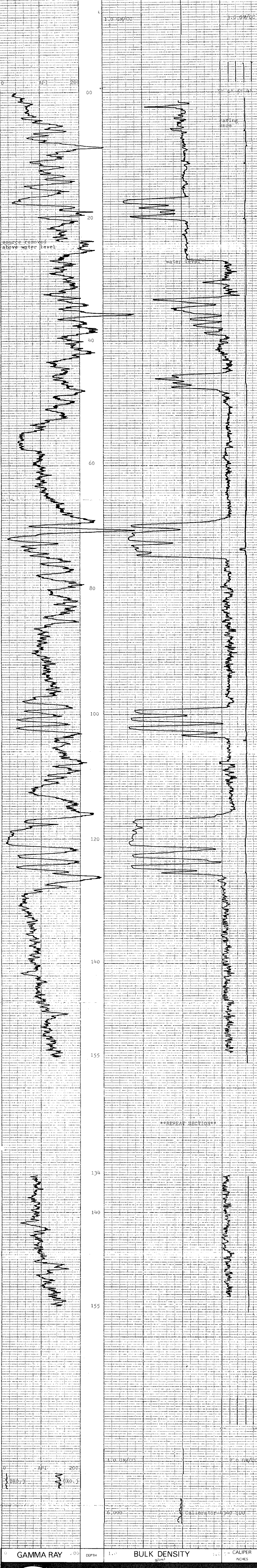
COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)					INTERVAL TOTAL	
FROM	128.0m	106.0m	77.0m	50.0m	22.0m	+ 1.0m
TO	114.0m	96.0m	66.0m	42.0m	14.0m	
INTERVAL	14.0m	10.0m	11.0m	8.0m	8.0m	

ADDITIONAL SONDES RUN				REMARKS
SONDE	LOG	GENERAL SCALE LOG	DETAIL SCALE LOG	
18	N/N	1:200	-	Please note low water level (27.0m) source removed for gamma log above 27.0m.
236	Vert.	C.B.S	-	

BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No 242 VALUE 63@ 5" DIAM JIG CAL DATE 02/08/83 JIG VALUE 3740SDU@ 2.0 g/cm³ 2" ins 731 cps
 JIG MARK SHOWN AT ABOVE VALUE - X, 3 JIG No 0042 SPAN 6,000 NORM 600 ± 2.4 3" ins 505 cps



GAMMA RAY	DEPTH	BULK DENSITY	CALIPER
API	m	g/cm ³	INCHES
0	0	1.0	6.000
200	200	2.0	6.000



BOREHOLE GHD-65001 AREA Herman, Ont.
 CLIENT Quintette Coal COUNTRY Canada

COAL LITHOLOGY LOG

500



COAL LITHOLOGY LOG

BOREHOLE DATA

PERMANENT DATUM: Ground Level
 ELEVATION OF P.O.: Not available
 MASTHEADS FROM DRILL FLOOR: Drill Floor
 DEPTH REACHED: 144.90m
 CASING SIZE: 9.14m to 9.14m, 9.14m to 14.27m, 9.14m to 14.27m
 CASING SIZES: 1 HW to 9.14m, 2 to 9.14m, 3 to 9.14m, 4 to 9.14m, 5 to 9.14m, 6 to 9.14m, 7 to 9.14m, 8 to 9.14m, 9 to 9.14m

BOREHOLE DATA

AREA: Transfer Pit
 COUNTRY: Canada
 DATE LOGGED: 21 Aug 85
 DEPTH SCALE: 1:200
 1 of 4 logs

SONDE TYPE: COAL COMBINATION SONDE
LOG SUITE: GAMMA RAY, L.S. DENSITY, CALIPER

OPERATION DATA

FIRST READING: 14.30m
 LAST READING: 143.00m
 INTERVAL LOGGED: 143.00m
 UNIT-INDEX NO: H-11-1114/1215
 ENGINEER: CALEDONIAN
 WITNESS: JALIBEK

EQUIPMENT AND RECORDING DATA

COAL COMBINATION SONDE #101

LOG	SONDE	SOURCE	CALIBRATOR	LOG TAPE	TAPING RECORD SPEED	DIRECT REEL	RECORD SPEED	PANEL TC SECS	NORM	CAL COEFF	DEPTHS FROM	TO	INTERVAL	SEAM LOG RUN
GAMMA RAY	101	0592	242	Y	9m/m	D	9	1	-	1.8	143	00	143	Yes
L.S. DENSITY			0042	Y	9m/m	D	9	3	7.14	-	143	10	143	Yes
CALIPER			2" - 7"	Y	9m/m	D	9	3	-	-	143	00	143	Yes

COAL QUALITY/SEAM THICKNESS LOG INTERVALS (Refer to relevant log)

FROM	TO	INTERVAL
127.0m	106.0m	58.0m
117.0m	98.0m	51.0m
10.0m	8.0m	7.0m
		6.0m
		5.0m
		36.0m

ADDITIONAL SONDES RUN

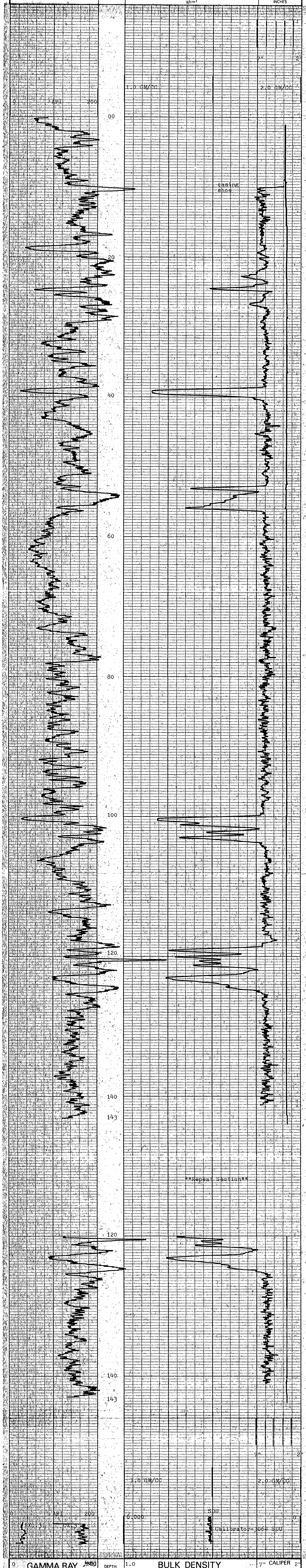
SONDE	LOG	GENERAL SCALE LOGS	DETAIL SCALE LOG	REFER TO ADDITIONAL HEADINGS
18	N/N	1,200		
236	Vert.	CDS		

REMARKS

BPB COAL LITHOLOGY LOG

CALIBRATION DATA

JIG No 242	VALUE 46 @ 5" DIAM	JIG CAL DATE 02/08/85	JIG VALUE 3064	SDU @ 2.0g/cm ³	7"ms 733 cps
JIG MARK SHOWN AT ABOVE VALUE X.3		JIG No 0042	SPAN 6,000	NORM 7.14	3"ms 511 cps



GAMMA RAY DEPTH 1.0 **BULK DENSITY** 7" CALIPER 2"



BOREHOLE: QHD-85002 AREA: Transfer Pit
 CLIENT: Quintette Coal COUNTRY: Canada

COAL LITHOLOGY LOG

ITEMIZED COST LISTING
FOR 1985 QUINTETTE GEOLOGICAL EXPLORATION REPORT
QUINTETTE TREND SOUTH AND TRANSFER EXPLORATION AREAS
APRIL, 1986

Please do not copy
this section.

1	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
2	FILENAME: GEOLOGY					AS OF:	09-Dec-85															
3			PURCHASE ORDER					INVOICE		\$'s	\$'s						REMAINING					
4	VENDOR	NO.	DATE	\$	NO.	DATE PERIOD	\$	TYPE	OPERATING	CAPITAL	CAP. RCE	IN P.O.	PAID Y/N	TO BE PAID								
277	SDS DRILLING	Q8505268	06-Mar-85		6372	29-Mar-85 ADJUSTMENT	(400.00)	2	0.00	(400.00)	855009	89,316.49		0.00								
278	SDS DRILLING	Q8505268	06-Mar-85	157,200.00	6405	25-Apr-85 27 FEB	699.20	2	0.00	699.20	855009	88,617.29		0.00								
279	SUB TTL	Q8505268		157,200.00			68,582.71		0.00	68,582.71		88,617.29		0.00								
280																						
281	SDS DRILLING	Q8519883	29-Aug-85	150,000.00	6455	24-Jul-85 3-9 JUL	29,711.53	1/2	27,511.53	2,200.00	855014	120,288.47		0.00								
282	SDS DRILLING	Q8519883	29-Aug-85		6462	24-Jul-85	(148.33)	1	(148.33)	0.00		120,436.80		0.00								
283	SDS DRILLING	Q8519883	29-Aug-85		6463	30-Jul-85 10-13 JUL	18,129.00	1/2	2,440.00	15,689.00	855014	102,307.80		0.00								
284	SDS DRILLING	Q8519883	29-Aug-85		6464	30-Jul-85 14-18 JUL	11,378.50	1/2	6,907.50	4,471.00	855014	90,929.30		0.00								
285	SDS DRILLING	Q8519883	29-Aug-85		6473	09-Aug-85 23-29 JUL	39,922.50	1/2	7,718.10	32,204.40	855014	51,006.80		0.00								
286	SDS DRILLING	Q8519883	29-Aug-85		6472	09-Aug-85 19-23 JUL	10,733.30	1/2	1,982.30	8,751.00	855014	40,273.50		0.00								
287	SUB TTL	Q8519883		150,000.00			109,726.50		46,411.10	63,315.40		40,273.50		0.00								
288																						
289	SDS DRILLING	Q8519938	30-Aug-85	60,000.00	6441	04-Jul-85 19-26 JUN	24,917.85	2	0.00	24,917.85	858021	35,082.15		0.00								
290	SDS DRILLING	Q8519938	30-Aug-85		6442	05-Jul-85 26 JUN-2 JUL	24,250.04	2	0.00	24,250.04	858021	10,832.11		0.00								
291	SUB TTL	Q8519938		60,000.00			49,167.89		0.00	49,167.89		10,832.11		0.00								
292																						
293	SDS DRILLING TTL		367,200.00	367,200.00			227,477.10	TTL	46,411.10	181,066.00		139,722.90		0.00								
294																						
295	TARGET TUNNELLING	Q8511689	23-May-85	184,971.75	383	24-Apr-85	46,403.80	2	0.00	46,403.80	855009	138,567.95		0.00								
296	TARGET TUNNELLING	Q8511689	23-May-85		389	02-May-85	29,167.00	2	0.00	29,167.00	855009	109,400.95		0.00								
297	TARGET TUNNELLING TTL	Q8511689		184,971.75			75,570.80	TTL	0.00	75,570.80		109,400.95		0.00								
298																						
299	THE ORTHOSHOP	Q8514879	02-Jul-85	1,000.00	1785	08-Jul-85	1,010.00	2	0.00	1,010.00	858021	(10.00)		0.00								
300																						
301	THE ORTHOSHOP	Q8517268	29-Jul-85		1899	09-Sep-85	510.86	2	0.00	510.86	859001	25,289.14		0.00								
302	THE ORTHOSHOP	Q8517268	29-Jul-85		1921	18-Sep-85	2,828.00	2	0.00	2,828.00	859001	22,461.14		0.00								
303	THE ORTHOSHOP	Q8517268	29-Jul-85		1950	25-Sep-85	9,218.26	2	0.00	9,218.26	859001	13,242.88		0.00								
304	THE ORTHOSHOP	Q8517268	29-Jul-85		2021	23-Oct-85	11,670.10	2	0.00	11,670.10	859001	1,572.78	2.00	11,670.10								
	THE ORTHOSHOP	R28167CAP	05-Dec-85	3,600.00								1,572.78										
	THE ORTHOSHOP	R28167CAP	05-Dec-85									1,572.78										
	THE ORTHOSHOP	R28167CAP	05-Dec-85									1,572.78										
305	THE ORTHOSHOP	Q8517268	29-Jul-85	22,200.00	?	TO COME	1,500.00	2	0.00	1,500.00	859001	72.78	2.00	1,500.00								
306	SUB TTL	Q8517268		25,800.00			25,727.22		0.00	25,727.22		72.78		13,170.10								
307																						
308	THE ORTHOSHOP TTL			26,800.00			26,737.22	TTL	0.00	26,737.22		62.78		13,170.10								
309																						
310	TONTO DRILLING	Q8503953	19-Feb-85		5774C	31-Jan-85 12-31 JAN	46,888.92	2	0.00	46,888.92	855009	179,311.08		0.00								
311	TONTO DRILLING	Q8503953	19-Feb-85		5778C	15-Feb-85 1-15 FEB	35,587.69	2	0.00	35,587.69	855009	143,723.39		0.00								
312	TONTO DRILLING	Q8503953	19-Feb-85		5790C	28-Feb-85 16-28 FEB	35,121.07	2	0.00	35,121.07	855009	108,602.32		0.00								
313	TONTO DRILLING	Q8503953	19-Feb-85		5798C	14-Mar-85 1-14 MAR	67,576.37	2	0.00	67,576.37	855009	41,025.95		0.00								
314	TONTO DRILLING	Q8503953	19-Feb-85	226,200.00	5808C	30-Mar-85 16-30 MAR	77,786.56	2	0.00	77,786.56	855009	(36,760.61)		0.00								
315	SUB TTL	Q8503953		226,200.00			262,960.61		0.00	262,960.61		(36,760.61)		0.00								
316																						
317	TONTO DRILLING	Q8518799	16-Aug-85		5847C	15-Jun-85 1-15 JUN	65,864.25	1	65,864.25	0.00		157,135.75		0.00								
318	TONTO DRILLING	Q8518799	16-Aug-85		5862C	30-Jun-85 16-30 JUN	68,383.29	2	0.00	68,383.29	855009	88,752.46		0.00								
319	TONTO DRILLING	Q8518799	16-Aug-85		5883C	12-Jul-85 1-12 JUL	39,105.15	2	0.00	39,105.15	855009	49,647.31		0.00								
320	TONTO DRILLING	Q8518799	16-Aug-85	223,000.00	5847CA	19-Sep-85 CORRECTION	(1,625.00)	2	0.00	(1,625.00)	855009	51,272.31		0.00								
321	SUB TTL	Q8518799		223,000.00			171,727.69		65,864.25	105,863.44		51,272.31		0.00								
322																						
323	TONTO DRILLING TTL			449,200.00			434,688.30	TTL	65,864.25	368,824.05		14,511.70		0.00								
324																						
325	VANCOUVER BOOKBINDING	Q8506134	18-Mar-85	1,540.80	850411	11-Apr-85	1,762.21	TTL	0.00	1,762.21	855009	(221.41)		0.00								
326																						
327	WESTERN HYDRO AIR	Q8503381	12-Feb-85		152	16-Jan-85 to 15 JAN	29,682.45	1	29,682.45	0.00		302,117.55		0.00								
328	WESTERN HYDRO AIR	Q8503381	13-Feb-85		153	16-Jan-85 to 15 JAN	275.00	1	275.00	0.00		301,842.55		0.00								

1	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
2	FILENAME: GEOLOGY				AS OF:		09-Dec-85															
3			PURCHASE ORDER					INVOICE					\$'s	\$'s	CAP. RCE		REMAINING		PAID		TO BE	
4	VENDOR		NO.	DATE			NO.	DATE	PERIOD	\$			OPERATING	CAPITAL	#		IN P.O.		Y/N		PAID	
5																						
384								TO COME		32,490.00		2	0.00	32,490.00	855009		(32,490.00)		2		32,490.00	
385	CANMET																					
386								TO COME		0.00		2	0.00	0.00	859001		0.00		2		0.00	
387	ACCRUAL (OCT)							TO COME		0.00		2	0.00	0.00	858021		0.00		2		0.00	
388	ACCRUAL (OCT)							TO COME		0.00		2	0.00	0.00								
389																						
390																						
391	*****									3,264,058			1,180,182	2,083,856			650,037.81				486,432.93	
392	GRAND TOTAL				3,914,096									3,264,038			650,037.81					
393															P.O.'s NOT ON FILE =		286,998.19					
394																	363,039.62					
395	*****																					
396	*****																					

GEOLOGY RCE STATUS

AS OF 29-Nov-85

AFE F.S.E. #	APPROVED \$	SPENT + TO COME \$	VAR	TO COME \$ (INCLUDED)
85.5.009	\$1,330,000	\$1,310,674.79	\$19,325.21	32,490.00 CANMET = 32.49
85.5.014	\$420,000	\$409,958.06	\$10,041.94	21,000.00 WHA = 10.0
85.8.021	\$120,000	\$126,244.46	(\$6,244.46)	
85.9.001	\$700,000	\$236,978.88	\$463,021.12	1,500.00 THE ORTHOSHOP
TOTAL	\$2,570,000	\$2,083,856.19	\$486,143.81	

GEOLOGY CAP BUDGET

AS OF 29-Nov-85

AFE F.S.E. #	APPROVED \$	SPENT + TO COME \$	VAR	TO COME \$ (INCLUDED)
85.5.009	\$1,310,208	\$1,310,674.79	(\$100,466.79)	32,490.00 CANMET = 32.49
85.5.014	\$420,000	\$409,958.06	\$10,041.94	21,000.00 WHA = 10.0
85.8.021	\$120,000	\$126,244.46	(\$6,244.46)	
85.9.001	\$0	\$236,978.88	(\$236,978.88)	1,500.00 THE ORTHOSHOP
TOTAL	\$1,750,208	\$2,083,856.19	(\$333,648.19)	