

COAL SEAM ZONE CORRELATION OF BOREHOLES DRILLED IN BANHARDI SECTOR, AURANGA COALFIELD, PALAMAU DISTRICT, BIHAR

SCALE

20m 10 0 10 20 30 40m

AB-6

(R.L. 432.50m.)

DEPTH (m)	LOG	TH (m)	M%	ASH%	V.M%	F.C%	GRADE	SEAM ZONE
26.45		0.55	7.9	22.0	-	-	D	V
28.35		3.45	9.1	31.7	26.5	32.7	F	
47.87		1.89	9.5	35.1	26.1	31.5	F	V
53.70		2.77	9.1	29.9	25.7	35.3	E	
57.85		0.15						IV
90.36		0.10						
127.05		0.95	4.8	39.8	27.0	26.4	F	V
154.45		1.20	7.3	38.1	24.7	29.9	F	
165.50		3.45	7.7	33.9	25.4	35.0	F	IV
182.35		4.70	7.9	30.7	26.0	35.4	E	
197.45		10.75	7.6	29.7	28.0	34.7	E	III
209.95		4.55	7.5	31.2	28.3	33.0	E	
214.80		6.50	7.4	34.8	25.5	32.3	F	IV
224.55		3.80	7.2	34.5	25.3	33.0	F	
232.40		11.05	6.7	36.1	25.1	32.1	F	V
255.55		0.45	6.4	39.5	-	-	F	
296.25		2.00	5.8	47.4	20.1	26.5	G	II
297.25		0.30						
299.25								TALCHIR FORMATION
345.80								

377.00m.

AB-7

(R.L. 441.96m.)

DEPTH (m)	LOG	TH. (m)	M/ %	ASH/ %	V.M/ %	F.C/ %	GRADE	SEAM ZONE
33.40		0.45						VII
54.25		1.00	8.3	35.0	26.0	30.7	F	
75.65								
89.25		0.85	9.2	19.9	—	—	D	VI
90.40		1.57	9.3	27.9	27.2	35.4	E	
97.50		1.10	6.3	48.3	29.3	23.1	G	
105.60		1.20	7.5	36.9	25.6	30.0	F	V
109.75		0.35						
130.40		7.75	8.9	29.1	27.0	35.0	E	
152.78		0.52	6.7	39.2	—	—	F	IV
155.43		0.25						
186.30		5.76	7.8	35.0	25.9	31.3	F	
196.40		0.85	7.3	33.4	—	—	F	IV
197.05		1.00	8.4	31.8	26.3	32.5	F	
199.95		1.95	7.7	34.4	25.2	32.7	F	
226.10		3.35	7.7	30.4	25.8	36.1	E	III
234.70		0.10						
281.05		27.60	7.7	24.0	29.9	38.4	D	
358.52		39.75	6.1	30.0	28.1	35.3	E	II

430.15m.

AB-8

(R.L. 415.49m.)

DEPTH (m)	LOG	TH (m)	M%	ASH%	V.M%	F.C%	GRADE	SEAM ZONE
149.30		0.17	9.6	32.3	-	-	F	VIII
257.70								
316.80		3.95	9.0	38.1	23.7	29.2	F	VIII
340.80		0.80	8.9	29.4	-	-	E	
345.94		1.20	11.1	19.4	30.9	38.6	D	VIII
352.45		10.25	9.9	27.6	29.0	38.5	E	
365.95		0.65	8.1	35.7	-	-	F	VIII
393.10		0.50	10.2	31.9	-	-	F	
406.40		1.77	8.8	45.9	19.4	25.7	G	VIII
475.20		1.40	7.9	43.5	22.1	26.5	G	
517.45		1.00	9.1	32.3	26.6	32.0	F	VII
531.25		0.40						

534.00m.

AB-9

(R.L. 456.69m.)

DEPTH (m)	LOG	TH (m)	M%	ASH%	V.M%	F.C%	GRADE	SEAM ZONE
38.10		1.27	7.2	24.7	-	-	D	III
45.00		1.65	8.9	19.8	-	-	D	
48.45		1.15	8.1	35.7	25.4	39.8	F	III
49.45		7.02	8.0	37.5	24.4	30.1	E	
53.98								III
76.60		5.45	8.6	36.9	24.4	31.1	F	
82.05		0.40						III
120.18		1.47	7.3	41.1	22.7	28.9	G	
153.25		13.77	8.3	31.8	27.6	32.3	E	II
155.55		4.30	6.4	38.9	25.2	29.3	F	
170.05		8.00	8.7	32.7	25.5	33.1	F	II
174.95		1.40	8.1	34.9	25.4	31.6	F	
184.95		0.31	8.1	36.1	-	-	F	II
196.69		0.70	6.4	49.0	-	-	G	
209.60								TALCHIR FORMATION
345.90								

352.00m.

AB-10

(R.L. 448.38m.)

DEPTH (m)	LOG	TH (m)	M%	ASH%	V.M%	F.C%	GRADE	SEAM ZONE
27.60		0.45	9.3	27.1	-	-	E	V
28.40		4.40	8.4	30.1	26.0	35.2	E	
34.20		7.50	8.8	30.2	26.5	34.5	E	V
41.40		0.60	7.4	35.5	-	-	F	
50.90								IV
65.70		0.25						
86.40		6.25	8.0	33.5	25.0	31.5	F	IV
86.52		2.00	7.5	39.9	24.2	28.4	F	
95.65								IV
126.60		3.00	8.2	32.0	25.0	34.8	E	
133.50		0.20						III
165.95		5.40	7.4	27.8	28.3	34.5	E	
170.85		24.15	7.0	35.7	24.4	32.9	F	III
204.55		0.80						

278.00m.

LEGEND

-  Coal Seam.
-  Carbonaceous Shale.
-  Fault

COAL SEAM ZONE CORRELATION OF BOREHOLES DRILLED IN BANHARDI SECTOR, AURANGA COALFIELD, PALAMAU DISTRICT, BIHAR

SCALE

20m. 10 0 10 20 30 40m.

AB-II

(R.L. 419.39 m.)

AB-12

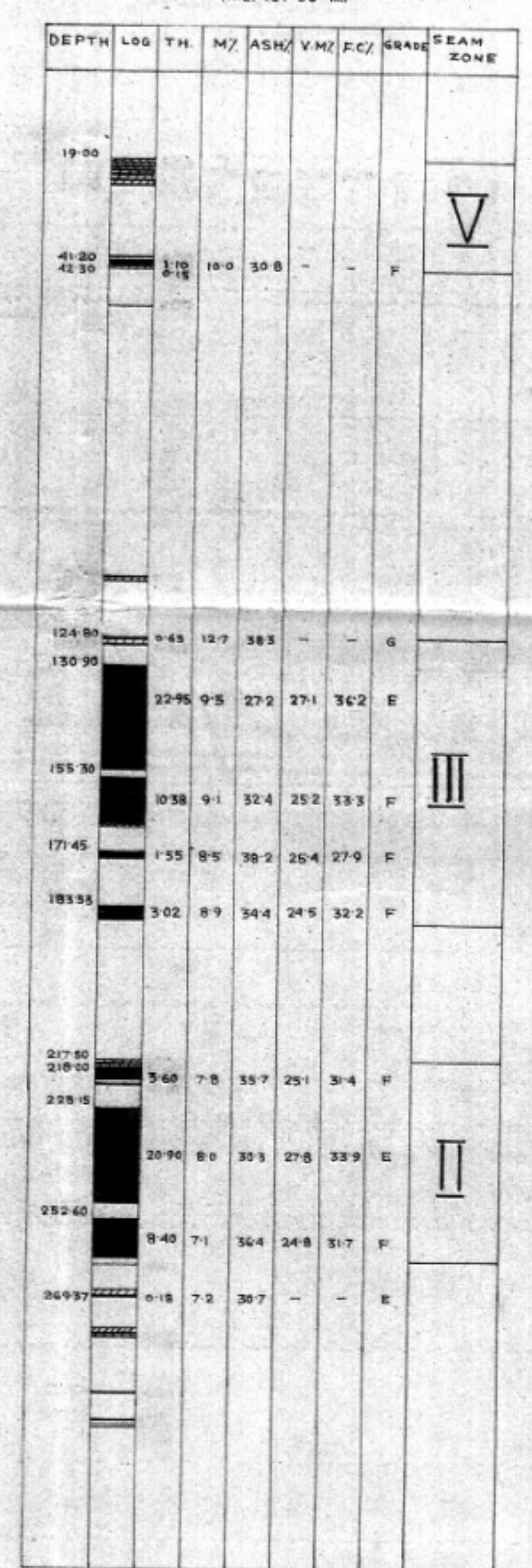
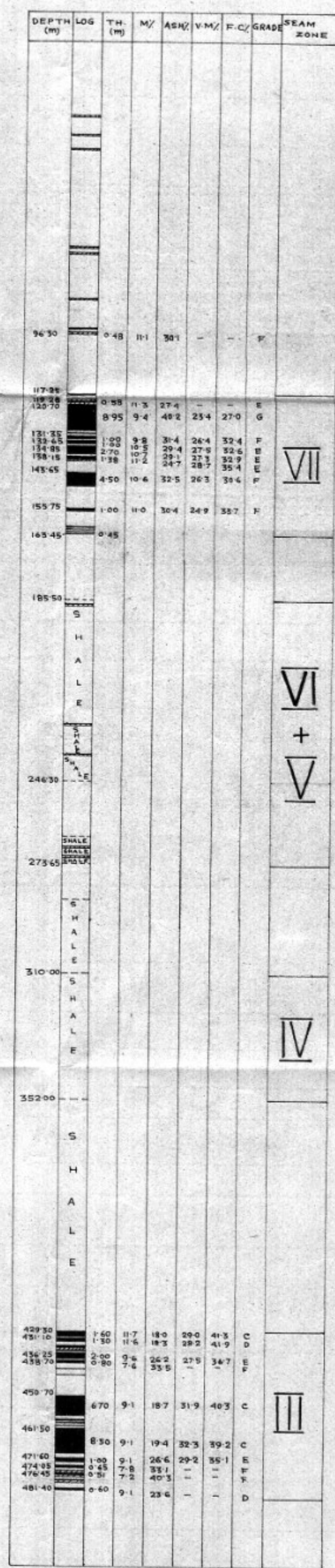
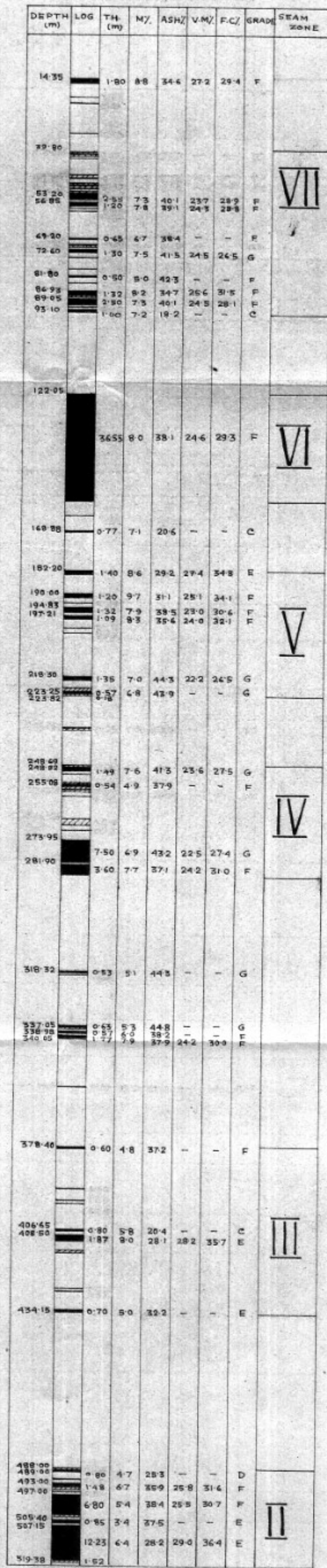
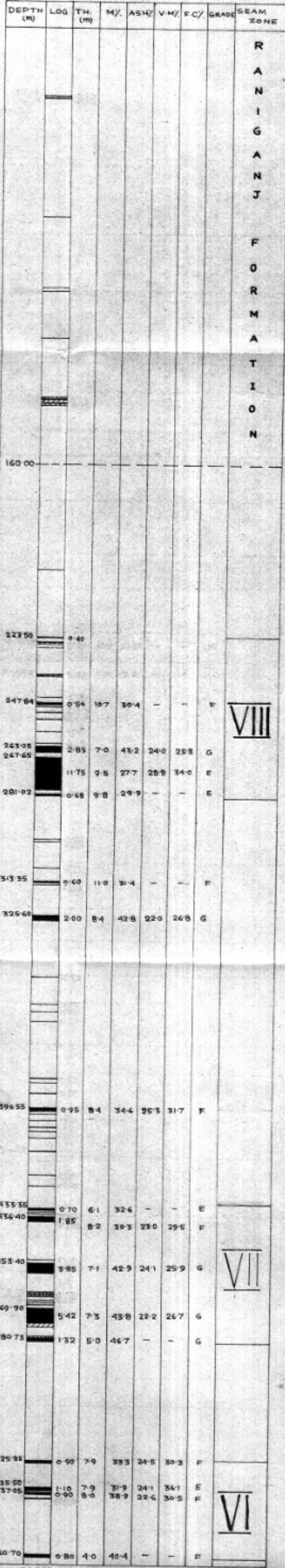
(R.L. 436.61 m.)

AB-13

(R.L. 430.26 m.)

AB-14

(R.L. 437.36 m.)



GEOLOGICAL SURVEY OF INDIA

COALSEAM ZONE CORRELATION OF BOREHOLES DRILLED IN BANHARDI SECTOR, AURANGA COALFIELD, PALAMAU DISTRICT, BIHAR

SCALE

20m 10 0 10 20 30 40m.

AB-15

(R.L. 431-43m.)

DEPTH (m)	LOG	TH. (m)	M%	ASH%	V.M%	F.C%	GRADE	SEAM ZONE
18.30		0.90	7.8	47.1	2.3	35.8	G	VII
21.90		0.68	7.8	31.5	—	—	E	
25.75		1.86	8.0	36.6	—	—	F	
29.75		0.20	—	—	—	—	—	
158.10		1.30	8.0	44.0	22.1	25.9	G	VII
175.50		0.46	8.0	29.9	—	—	D	
185.18		1.32	8.6	39.5	24.4	27.3	G	
187.85		0.50	6.1	27.0	—	—	D	
193.15		7.50	9.1	50.1	27.5	32.5	E	VII
207.85		1.26	9.1	34.2	26.6	30.1	F	
215.15		0.55	7.2	34.5	—	—	F	
217.80		0.88	—	—	—	—	—	
238.85		8.40	—	—	—	—	—	VI
270.92		0.75	—	—	—	—	—	
291.34		0.61	4.8	40.8	—	—	F	
310.70		1.55	7.5	45.5	21.3	20.7	G	
313.35		1.80	8.5	37.3	28.8	29.4	G	V
316.30		1.50	8.8	39.3	25.5	28.4	G	
318.15		6.80	7.7	44.5	24.5	23.3	G	
328.45		1.25	8.3	40.3	23.7	20.3	G	
341.50		1.20	5.9	51.6	—	—	G	IV
345.50		1.00	8.3	40.1	23.8	27.6	G	
350.10		0.20	—	—	—	—	—	
381.75		4.25	9.3	31.3	24.6	34.8	E	
405.15		1.70	7.7	46.7	23.4	22.2	G	III
444.52		0.21	4.1	50.0	—	—	G	
449.40		1.0	8.3	37.3	24.6	29.8	G	
458.15		4.95	7.1	44.3	22.5	26.1	G	

477.70 m

AB-16

(R.L. 399-45m.)

DEPTH (m)	LOG	TH. (m)	M%	ASH%	V.M%	F.C%	GRADE	SEAM ZONE
174.25		0.25	—	—	—	—	—	VIII
210.50		0.25	—	—	—	—	—	
242.40		0.30	7.9	30	—	—	E	
247.40		0.35	—	—	—	—	—	
275.60		0.85	7.6	32.2	—	—	E	VII
284.10		1.30	9.0	34.3	26.8	29.9	F	
286.80		1.20	9.7	35.5	24.3	30.5	F	
314.50		1.00	9.1	36.7	24.9	30.2	F	
327.77		0.53	7.8	29.6	—	—	E	VI
352.12		7.45	9.0	29.9	27.4	35.7	E	
441.75		0.18	—	—	—	—	—	
552.85		—	—	—	—	—	—	

552.85 m

AB-17

(R.L. 425-47m.)

DEPTH (m)	LOG	TH. (m)	M%	ASH%	V.M%	F.C%	GRADE	SEAM ZONE
15.20		0.35	—	—	—	—	—	V + IV
23.30		5.45	9.7	34.3	24.4	31.6	F	
37.62		2.77	10.7	38.6	24.5	26.2	G	
51.45		1.19	11.2	41.5	—	—	G	
59.30		0.88	9.3	45.9	—	—	G	III + II
71.04		0.96	10.6	30.7	26.2	32.5	F	
78.20		1.97	9.9	39.0	25.7	27.4	G	
94.20		6.05	8.7	42.3	22.4	26.6	G	
103.45		4.00	11.0	20.0	25.8	35.2	E	III + II
145.60		6.60	10.3	24.6	28.2	34.9	E	
179.50		3.85	9.6	31.4	24.6	34.4	F	
190.50		5.00	8.7	34.4	24.3	32.6	F	
214.50		1.75	8.4	34.0	29.3	28.1	F	III + II
216.80		2.35	9.5	34.0	28.0	33.2	D	
221.30		11.00	7.8	31.8	28.0	32.9	E	
234.10		3.40	7.6	35.3	25.0	34.1	F	
238.40		2.70	8.5	32.7	26.4	32.4	F	III + II
243.80		1.79	8.8	31.9	22.6	34.6	E	
246.77		6.94	6.5	42.7	—	—	G	
250.75		4.55	8.4	32.6	26.4	32.6	F	
255.80		6.81	6.9	39.8	23.6	29.7	F	III + II
264.35		8.00	—	—	—	—	—	
319.89		0.51	6.7	40.7	—	—	F	
378.15		—	—	—	—	—	—	

383.65 m

AB-18

(R.L. 438-52m.)

DEPTH (m)	LOG	TH. (m)	M%	ASH%	V.M%	F.C%	GRADE	SEAM ZONE
21.60		0.70	4.5	35.0	—	—	E	VII
46.45		0.85	13.4	24.4	—	—	E	
55.45		2.70	10.9	32.4	26.6	30.1	F	
55.80		—	—	—	—	—	—	
70.30		8.15	11.6	26.0	28.5	35.9	E	VII
79.25		1.60	11.7	31.4	26.1	30.8	F	
93.20		1.15	—	—	—	—	—	
104.48		1.12	10.2	44.4	20.0	25.4	G	
124.30		0.60	9.5	32.4	—	—	F	VI
126.80		1.10	10.8	31.3	26.4	31.5	F	
132.45		7.75	8.8	42.1	23.4	25.7	G	
151.85		1.40	10.8	39.2	22.5	27.8	G	
159.52		0.15	—	—	—	—	—	V
194.60		0.55	11.1	21.4	—	—	D	
195.40		—	—	—	—	—	—	
204.15		4.25	10.4	34.5	26.2	31.9	F	
221.82		1.35	8.9	42.8	22.7	25.6	G	IV
240.97		2.93	8.2	42.8	22.6	30.7	G	
255.85		6.53	8.0	—	—	—	E	
259.45		0.40	7.7	29.6	—	—	E	
261.91		5.29	7.6	45.2	20.9	27.0	G	IV
274.47		2.63	7.6	46.4	21.7	24.3	G	
281.23		2.86	8.8	29.8	25.2	36.2	E	
375.95		15.95	6.8	28.7	28.2	36.3	E	
393.15		7.85	7.5	33.0	25.9	33.6	E	III
402.35		0.55	6.9	21.8	—	—	C	
407.80		0.95	6.3	30.5	24.6	29.6	F	
421.08		0.95	7.6	31.2	25.6	35.6	E	
435.70		4.30	6.8	34.2	23.7	35.8	F	III
447.48		0.90	5.4	36.7	—	—	F	
477.30		—	—	—	—	—	—	
477.30		—	—	—	—	—	—	

477.30 m

AB-19

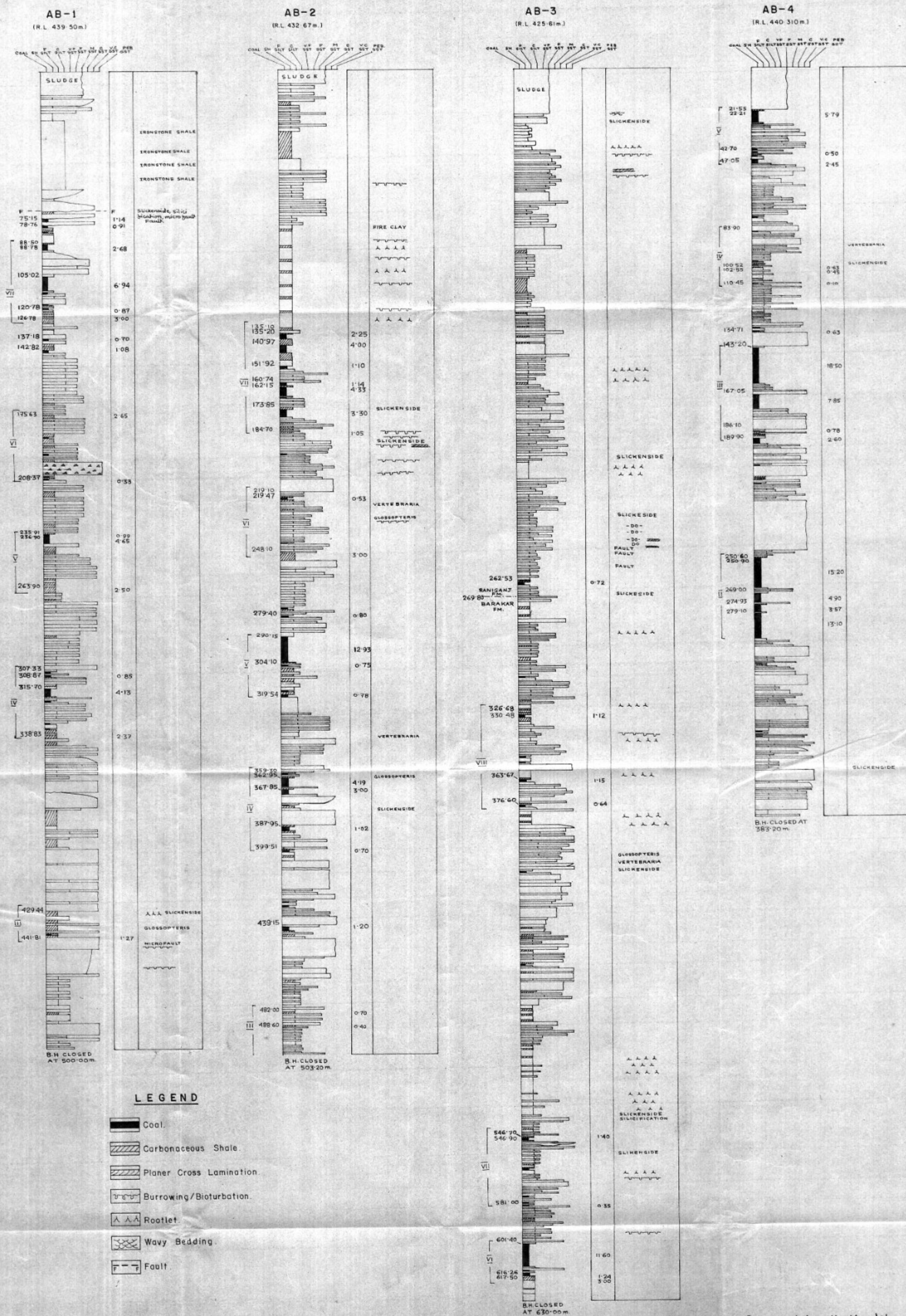
(R.L. 427-47m.)

DEPTH (m)	LOG	TH. (m)	M%	ASH%	V.M%	F.C%	GRADE	SEAM ZONE
48.35		2.63	7.9	44.3	22.9	24.9	G	VI
48.42		—	—	—	—	—	—	
81.95		0.40	—	—	—	—	—	
110.60		5.50	7.8	42.0	23.7	26.5	G	
116.00		5.45	8.5	31.1	—	—	E	V + IV
149.02		2.34	7.8	38.5	24.5	29.4	F	
174.15		3.20	8.1	31.9	26.6	32.2	E	
254.80		1.00	8.0	26.9	26.1	24.0	E	
293.30		27.70	7.5	28.9	26.8	36.8	E	III
321.50		1.00	7.0	36.6	25.6	30.8	F	
327.10		3.25	7.7	31.7	25.2	35.4	E	
352.40		5.25	7.2	33.6	24.7	34.5	E	
376.10		7.00	8.5	21.0	28.5	42.0	D	II
390.25		11.05	7.0	31.4	26.9	34.7	E	
404.70		5.50	6.6	31.7	25.4	36.3	E	
411.50		7.40	6.5	32.9	24.0	34.6	E	

423.50 m

LEGEND

-  Coal Seam.
-  Carbonaceous Shale.
-  Fault.

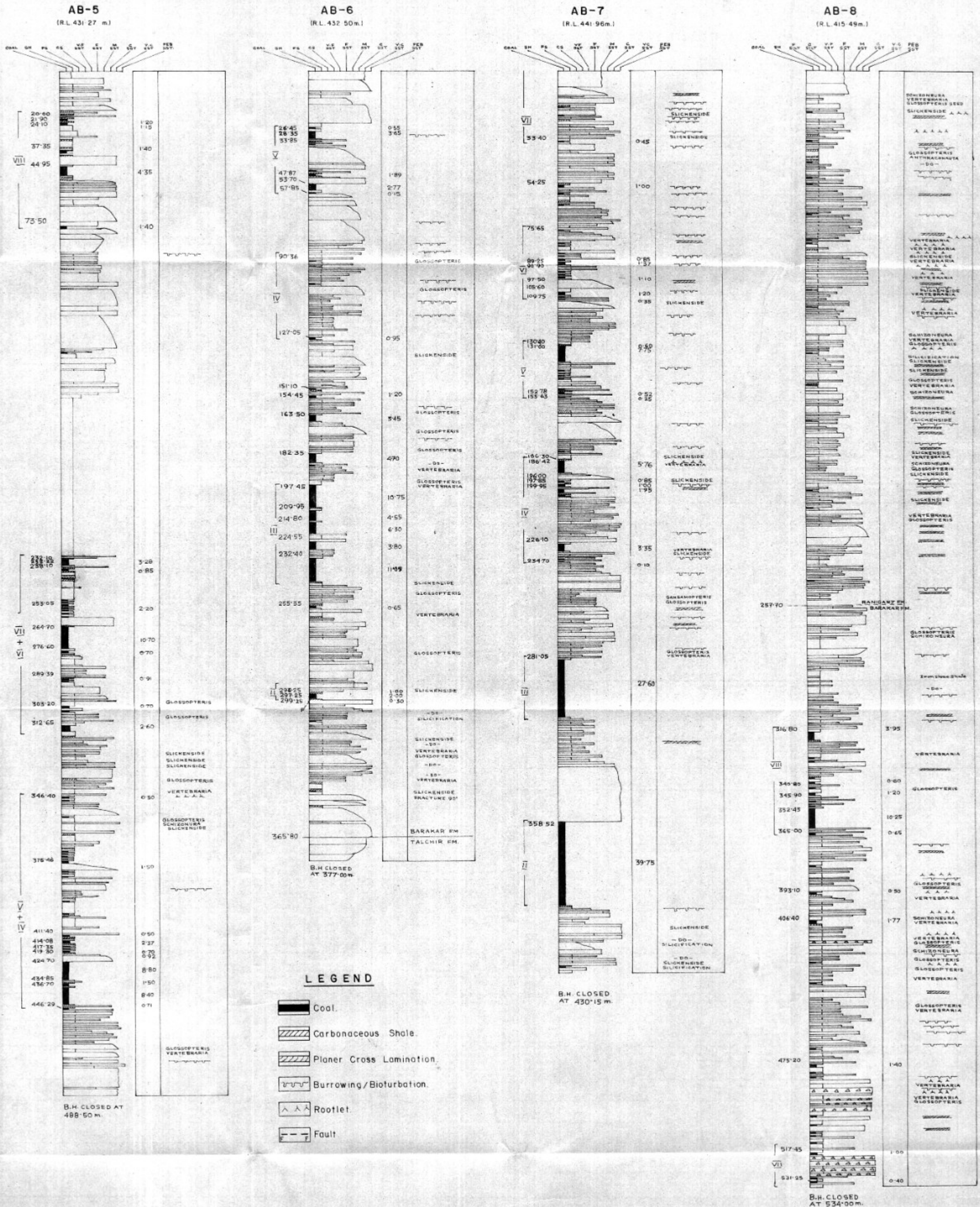


GEOLOGICAL SURVEY OF INDIA

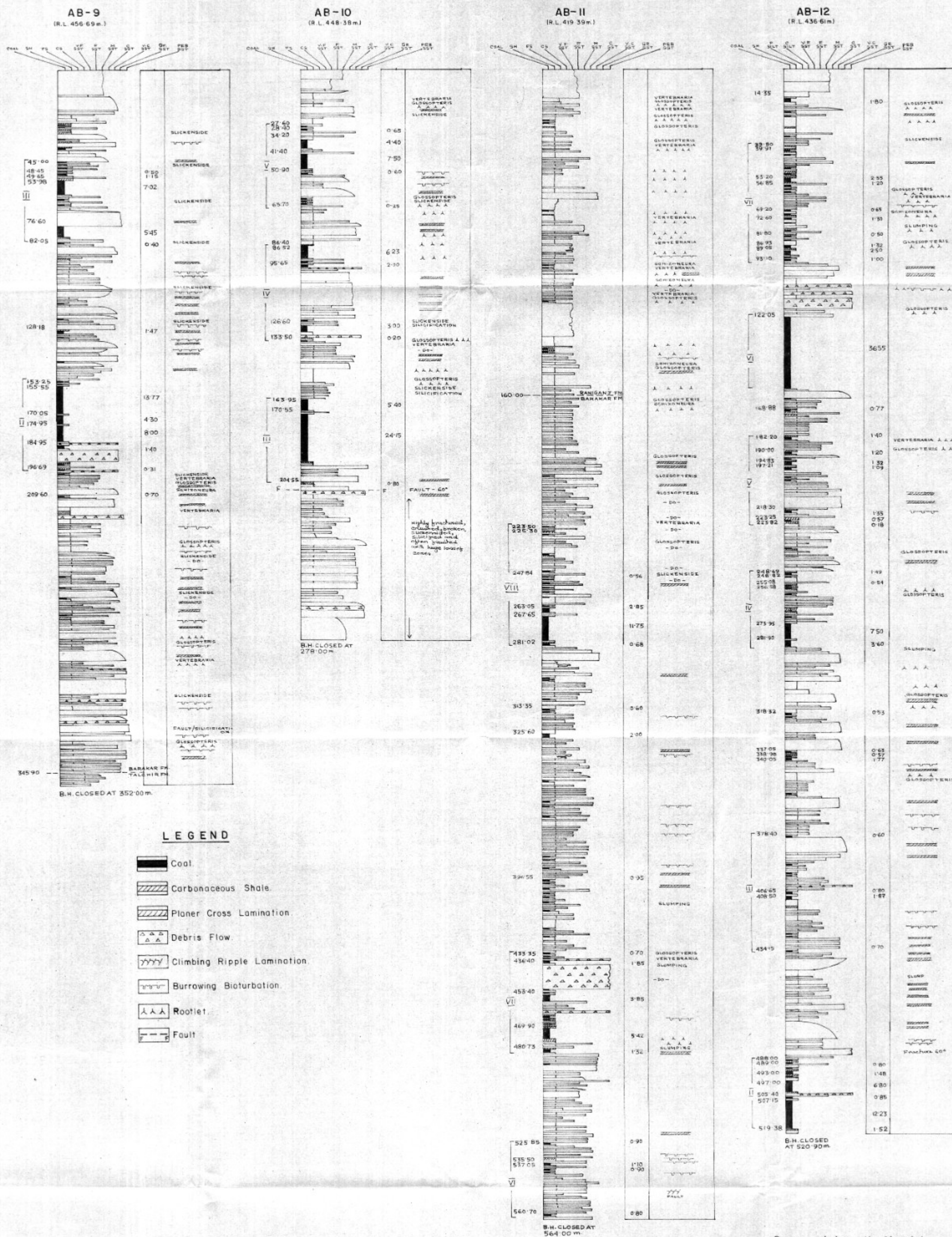
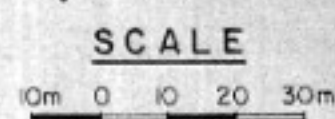
GRAPHIC LITHOLOG OF BOREHOLES DRILLED IN BANHARDI SECTOR, AURANGA COALFIELD, PALAMAU DISTRICT, BIHAR

SCALE

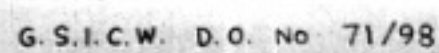
10m 0 10 20 30m



GEOLOGICAL SURVEY OF INDIA GRAPHIC LITHOLOG OF BOREHOLES DRILLED IN BANHARDI SECTOR, AURANGA COALFIELD, PALAMAU DISTRICT, BIHAR

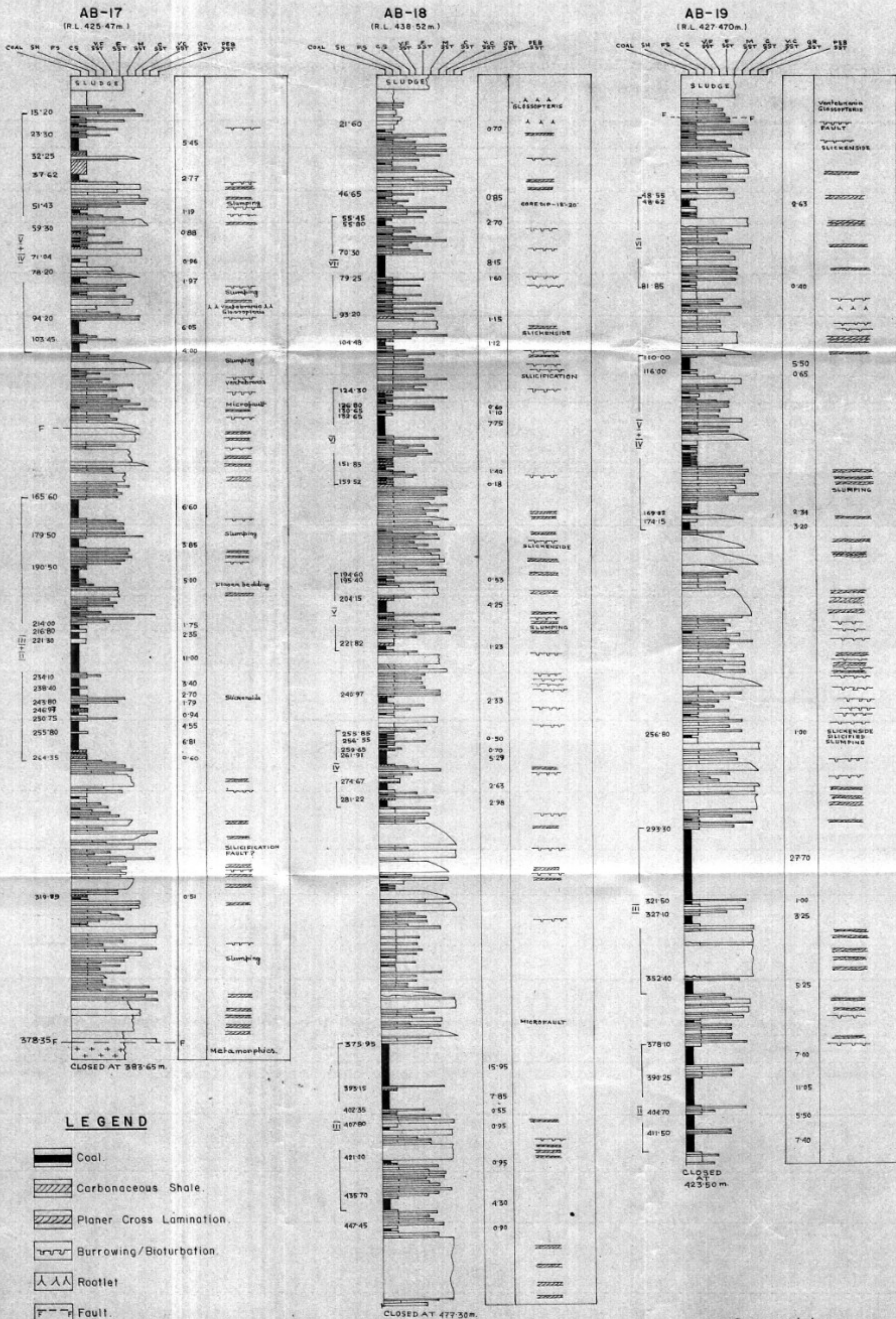
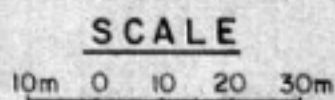


SCALE



Prepared by:- K. Mondal.

GEOLOGICAL SURVEY OF INDIA GRAPHIC LITHOLOG OF BOREHOLES DRILLED IN BANHARDI SECTOR, AURANGA COALFIELD, PALAMAU DISTRICT, BIHAR



GEOLOGICAL SURVEY OF INDIA

GEOLOGICAL CROSS-SECTIONS ALONG A-B, C-D, AND E-F, BANHARDI SECTOR, AURANGA COAL FIELD, DISTRICT-PALAMAU, BIHAR.

SCALE :-
HORIZONTAL } 1:10,000
VERTICAL }

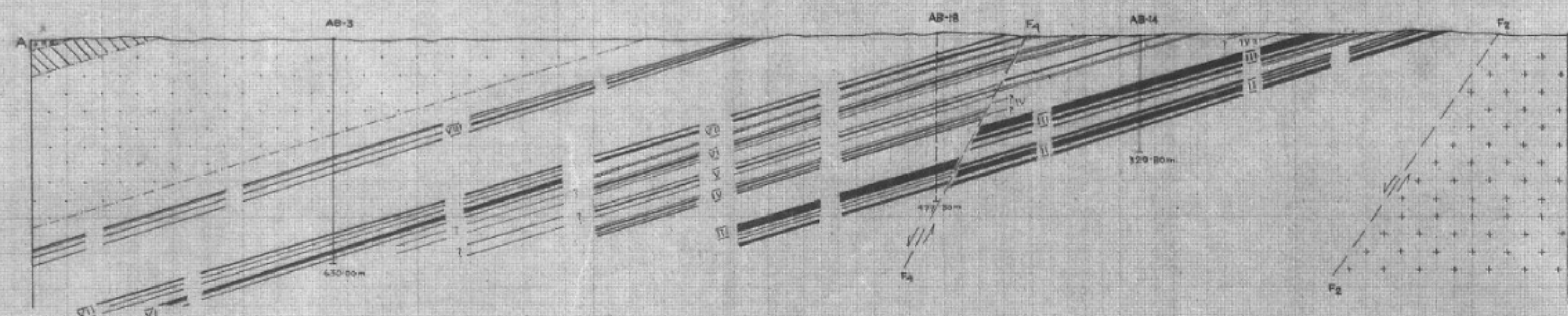


FIG-1 CROSS-SECTION (A-B) ALONG THE BORE HOLES AB-3, 18 & 14.

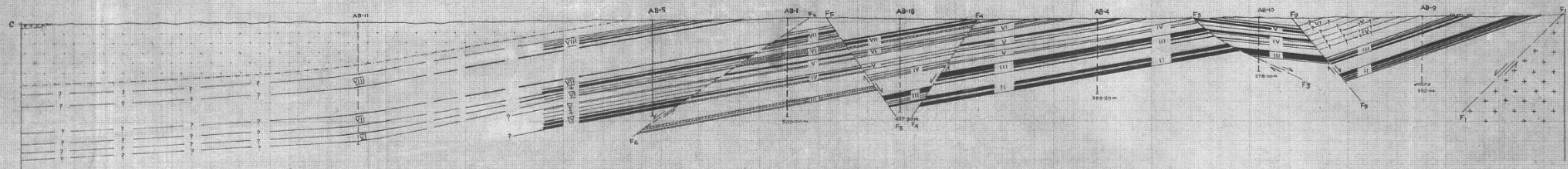


FIG-2 CROSS-SECTION (C-D) ALONG THE BORE HOLES - AB-5, 1, 18, 4, 10 & 9.

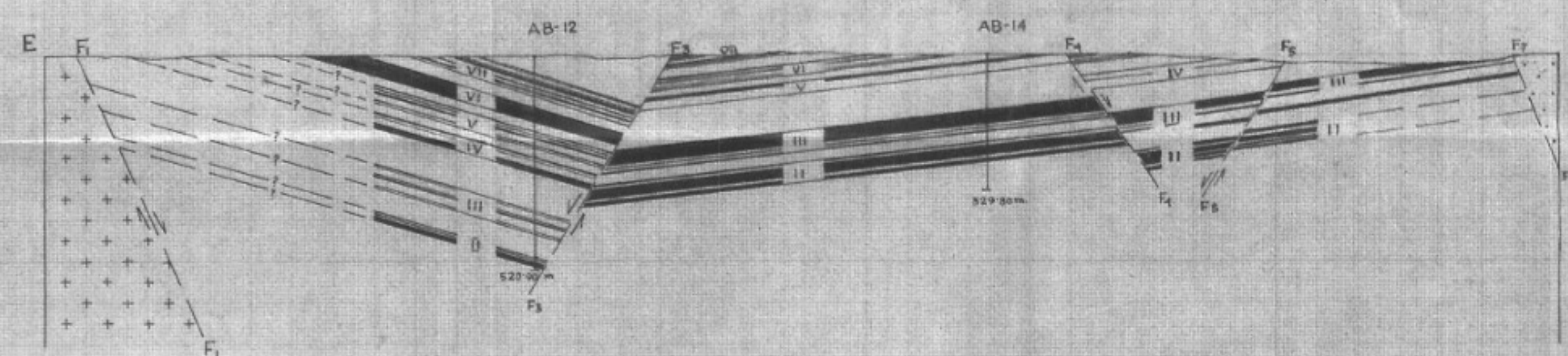


FIG-3 CROSS-SECTION (E-F) ALONG THE BORE HOLES AB-12 & 14.

INDEX

	MARADEVA FORMATION		COAL SEAM AND CARBONACEOUS SHALE
	PANCHET FORMATION		FAULT
	RANIGANJ FORMATION		FORMATIONAL CONTACT
	BARAKAR FORMATION		UNCONFORMITY
	TALCHER FORMATION		BORE HOLE / PROJECTED BORE HOLE
	METAMORPHICS		

Prepared by:-
K. MONDAL, Geologist (Jr).

MAP SHOWING AREA OF INFLUENCE AROUND BOREHOLES FOR RESERVE ESTIMATION, IN THE BANHARDI SECTOR, AURANGA COALFIELD, DISTRICT - PALAMAU, BIHAR

SCALE

m. 0 100 200 300 400

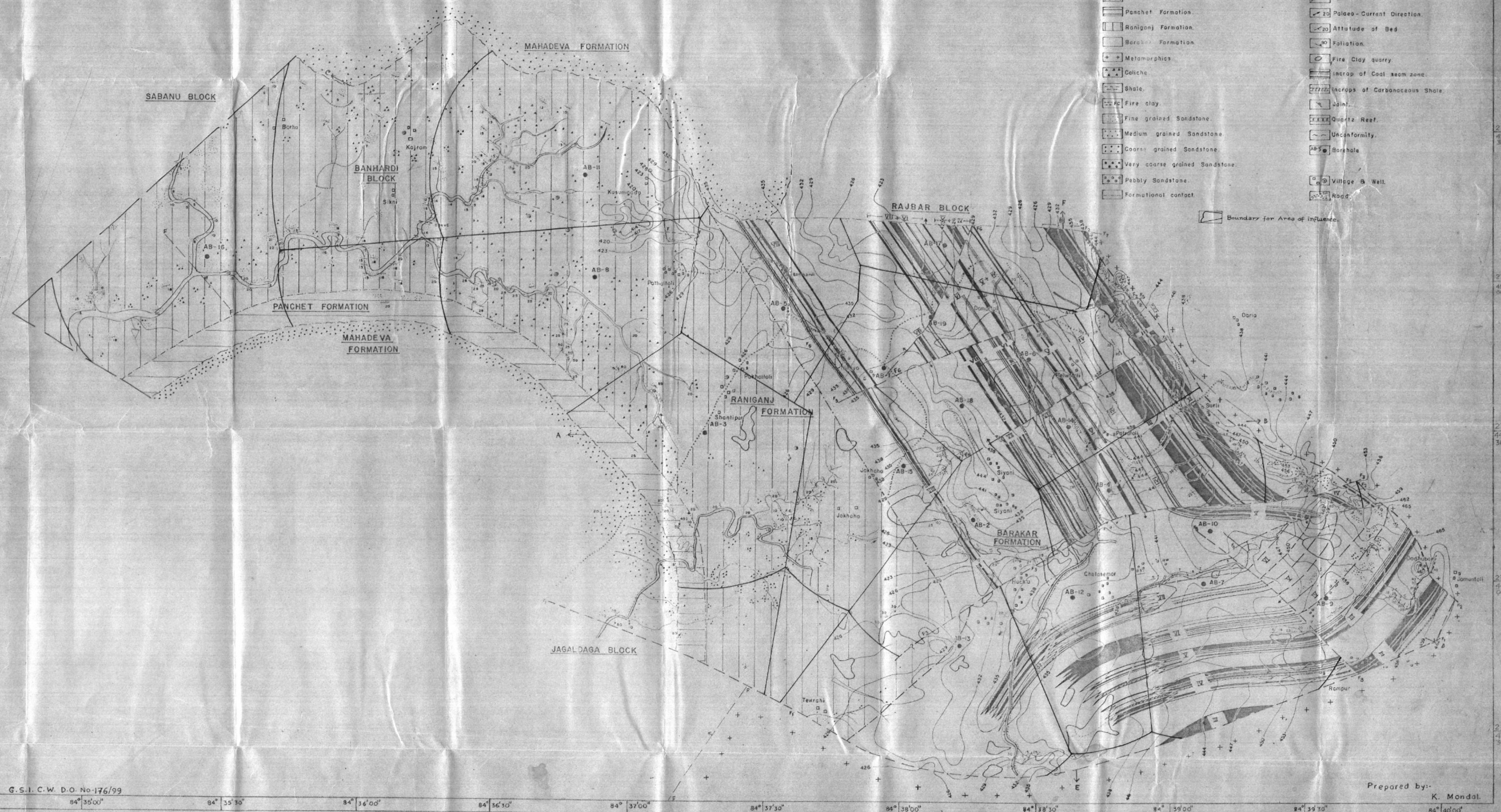
PLATE XII

PART OF TOPOSHEET NO: 73 A/9 & A/10.

I N D E X

- | | |
|--------------------------------|-------------------------------|
| Mahadeva Formation. | Fault. |
| Panchet Formation. | Palaeo-Current Direction. |
| Raniganj Formation. | Attitude of Bed. |
| Barakar Formation. | Foliation. |
| Metamorphics. | Fire Clay quarry. |
| Caliche. | Incrop of Coal seam zone. |
| Shale. | Incrop of Carbonaceous Shale. |
| Fire clay. | Joint. |
| Fine grained Sandstone. | Quartz Reef. |
| Medium grained Sandstone. | Unconformity. |
| Coarse grained Sandstone. | Borehole. |
| Very coarse grained Sandstone. | Village & Well. |
| Pebbly Sandstone. | Road. |
| Formational contact. | |

Boundary for Area of Influence.



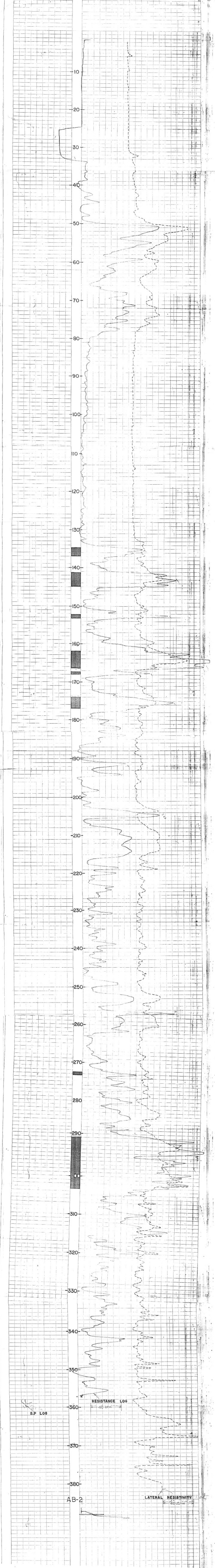
GEOLOGICAL SURVEY OF INDIA BOREHOLE GEOPHYSICAL LOG DATA

✓ COAL

Borehole No. AB-2 Location BANARDI BLOCK District PALAMU State BIHAR
Map Reference Project G.S.I. COAL EXPL. Lat. Long. R. L.
Depth of B. H. 502.00 m Depth logged 382.357 m Diameter
Date 3.5.91 Geophysicist A. K. SIKDAR
B. H. Fluid BENTONITE MUD Fluid Resistivity 9.0 Ohms-Meter, at 35 °C/F, Inclination of B. H.
Logger UPTRON Logging Upward Downward

Spontaneous Potential Scale 10 mV/m
Gamma Ray Scale MR/hr.
Time Constant Secs.
Logging Speed Min.

Resistance Scale 10 Ohms/m
Resistivity Scale Ohms-Meter
Temperature Scale °C/F



GEOLOGICAL SURVEY OF INDIA

BOREHOLE GEOPHYSICAL LOG DATA

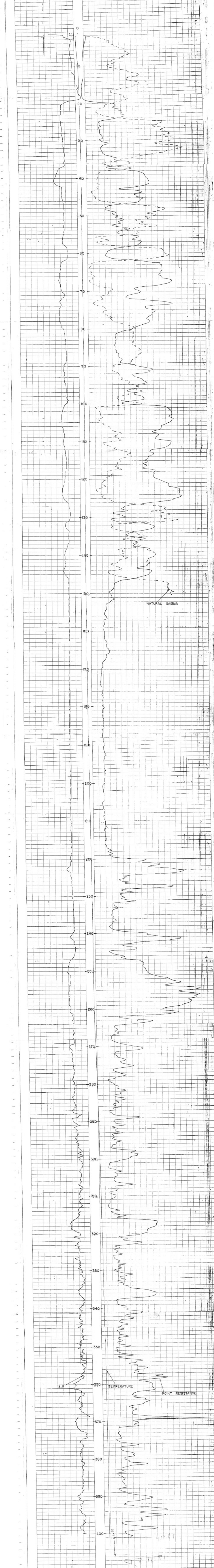
COAL
MISC.

BANHARDI BLOCK

Borehole No. AB-5 Location AURANGA COALFIELD District PALAMAU State BIHAR
Map Reference Project Lat Long R. L.
Depth of B. H. 410m Depth logged 400m
Date 17-1-92 Geophysicist K.K. DASGUPTA GEOPHYSICIST (Jr.), S.N. DAS ASSTY. GEOPHYSICIST (INSTN.)
B. H. Fluid BENTONITE Fluid Resistivity 8 Ohms-Meter, at °C Inclination of B. H. 90°
Diameter of B. H.

Resistance Scale 20 Ohms/Cm Gamma-ray Scale 500 C.P.S./Cm Temperature Scale 5 K/°C/Cm
Resistivity Scale Ohms-m/Cm T.C. 2 Secs
Speed 8 Mts/Min

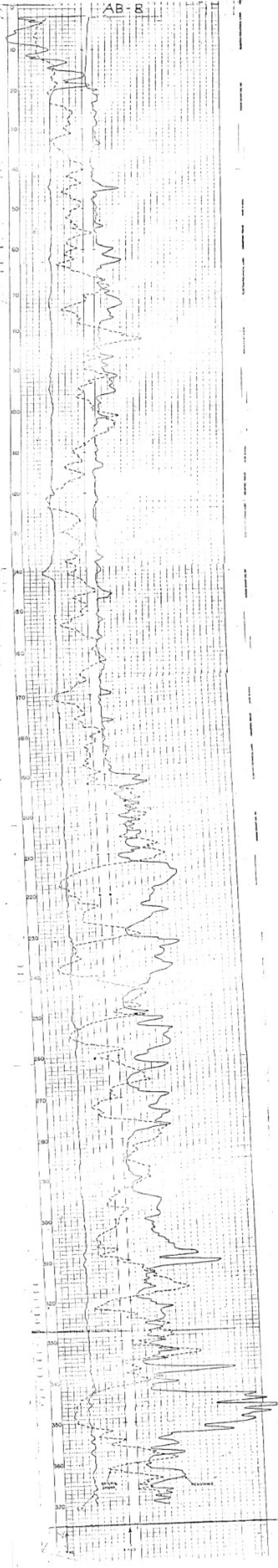
S.P. Scale 10 mvs/Cm Gamma-Gamma Scale C.P.S./Cm
T.C. Secs
Speed Mts/Min



Sanjaredi
Borehole No. AB-8 Location Block PALAMAU State BIHAR
Date Reference 4-00-09 Project ALBANSA C.F. Ltd. Long 85
Depth of B. in 400.09 Depth in feet 370.00 m
Date 10.06.92 Geophysicist K. K. DASGUPTA
S. M. Fluid Bentonite Mixture Ratio 10 Gross Weight, lb 27 °C Inclination of B. H. 90°
Diameter of B. H.

Reference Scale 20 Ohm/cm Geophysical Scale 500 G.P. & Ohm Temperature Scale 100 Ohm
Resistivity Scale Ohm/cm T.C. 2 Sec
Speed 8 Mts/Min

C.P. Scale 10 Ohm/cm Curves-Gamma Ray C.P. & Ohm
T.C. Sec
Speed Mts/Min



[illegible]

Resistance Scale 100 Ohms (100)	Genova 200	C.P.R. (100)	Temperature Scale 100 Ohms
Resistance Scale 100 Ohms (100)	T.C. 200	Resist	
	Scale 200	Mile Min	
	Av. Temp. Scale 100	C.P.R. (100)	
	TC 200	Temp	
	Scale 200	Mile Min	
R.P. Scale 100 Ohms (100)	Genova 200	C.P.R. (100)	
	T.C. 200	Resist	
	Scale 200	Mile Min	

