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No.13016/26/2004-CA-I/CA-III(Pt.)(Vol.II)

भारत सरकार

कोयला मंत्रालय

GOVERNMENT OF INDIA

MINISTRY OF COAL

....

नई दिल्ली, अक्टूबर, 2016

New Delhi, the 18th October, 2016.

CORRIGENDUM

To

1. The West Bengal Power Development Corporation Ltd.
2. Karnataka Power Corporation Ltd.
3. Bihar State Power Generation Company Ltd./ SJVN Ltd. (Buxar)
4. Punjab State Power Corporation Ltd.
5. Tamil Nadu Generation and Distribution Corporation Ltd.
6. Uttar Pradesh Rajya Vidyut Utpadan Nigam Ltd.

Subject: ***Notice Inviting Application dated 03-10-2016.***

In partial modification of this Ministry's Notice Inviting Application (NIA) of even number dated 03-10-2016, the name of the coal blocks mentioned against S. No.7 of the Table in Para-2 may be read as "**North Kathara Ph-I and Ph-II & Ph-III UG/Jharkhand**" instead of "*North Kathara Ph-I and Ph-II UG/Jharkhand*". Rest of the contents of the said NIA shall remain unchanged.

(Rishan Ryntathiang)
Under Secretary to the Government of India
Tel. No.2307 3936

Copy to : TD, NIC Cell, Ministry of Coal for publishing the same on the website of this Ministry linking with the NIA dated 03-10-2016 alongwith the salient features/description of the coal blocks which are also enclosed herewith.

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BEHERABANDH NORTH EXTENTION B`LOCK,
SOHAGPUR COALFIELD, ANUPPUR DISTRICT, MADHYA PRADESH

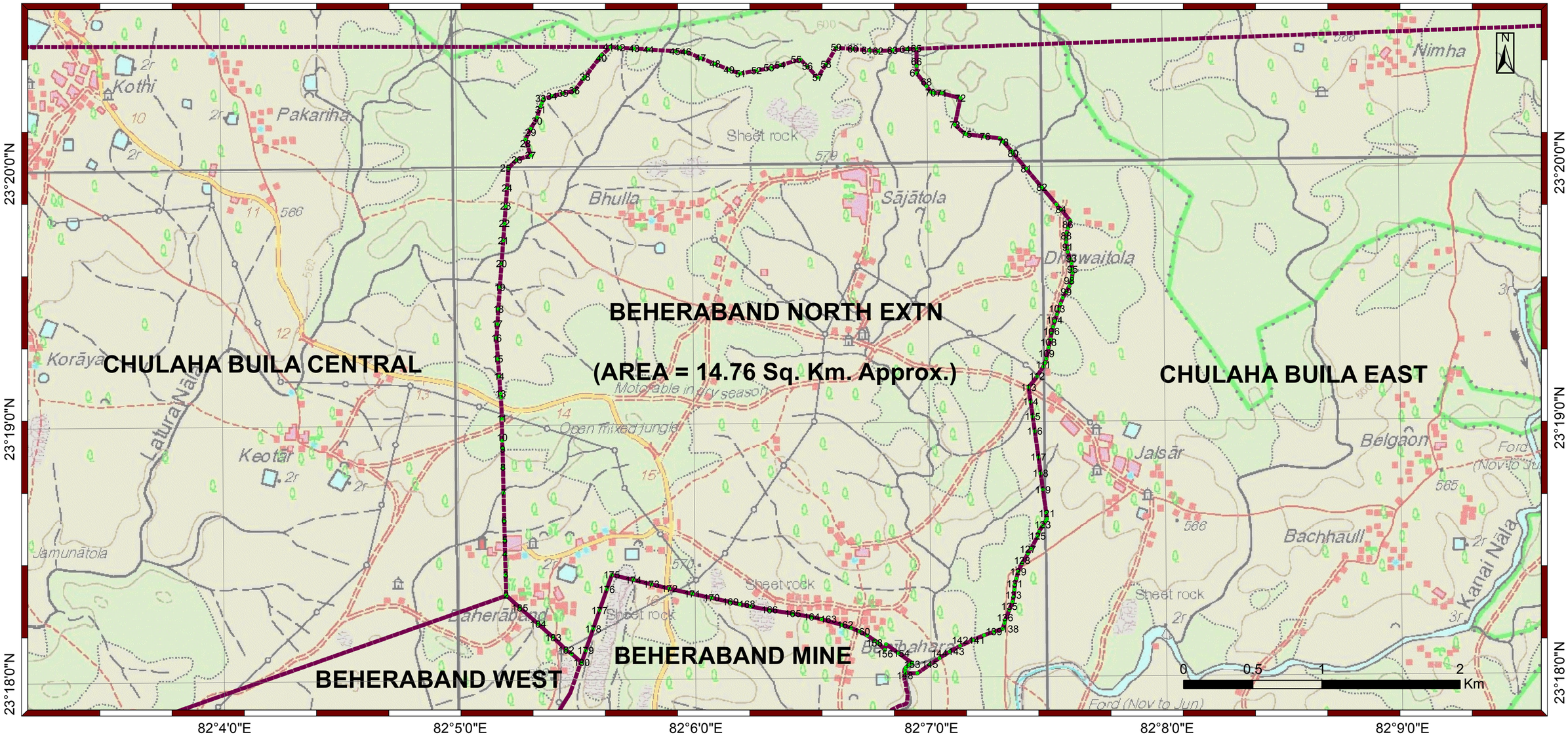
SALIENT FEATURES

1 Block:	Beherabandh North Extention
2 Coalfield:	Sohagpur Coalfield, Anuppur district, Madhya Pradesh
3 Area:	14.76 sq.km. (approx.)
4 Location and communication:	The block is within Hasdeo Area of SECL and is situated about 10 km. north of Bijuri railway station on Anuppur - Chirimiri section of South Eastern railway. The block lies between Latitudes 23°18'0.9" N to 23°20'28.8" N and Longitude 82°5'9.8" E to 82°7'36.7" E and covered under Toposheet No.64 1/4 (RF: 1:50,000) of Survey of India in Anuppur district of Madhya Pradesh. Block boundary coordinates are given at Annexure I.
5 Status of Exploration:	Total meterage of 31,941.75 has been drilled in 113 boreholes by CMPDI. Borehole density is about 8 boreholes per sq.km.
6 Structure:	The strike and dip of the formations show variation because of the domal flexure of the area. In south central part the strike shows rolling dip from 0° to 4°. Strike in the western portion of the block is NE-SW and 2°-3° dip towards WNW. Strike in eastern portion is NE-SW with dips varying from 4°-7° towards WNW. The strike in the south-eastern part changes from N-S to NE-SW with dip varying from 3°-4° towards W to WNW. In the central part the strike varies from N-S to NE-SW with dip varying from 0°-1° towards W to WNW. Three normal faults (F1, F2 &F3) have been encountered in the Block. The trend of these faults are NNE-SSW, E-W and NNE-E and the amounts of throw vary from 0-80m, 0-40m and 15-95m respectively. The presence of a thick intrusive body towards the base of Barakar Formation in the adjacent Beheraband UG Block has been established. It has affected the overlying coal seams to varying degree depending on its (igneous body) stratigraphic location with respect to the coal seams and has caused enhancement of rank of coal in this area.

7 Sequence of Coal Seams:	Altogether six coal seams designated as I to IV, Index seam and V seam in ascending order are found in this area. Due to mineable thickness and persistent nature, both splits of Seam-V (i.e. Top & Bottom) and Seam-IV have been considered for reserve estimation and quality evaluation.
8 Quality:	Coal seams are mostly low moisture, medium volatile, high rank and caking in nature. The emplacement of large igneous bodies provided the required heat for coal rank increase and development of caking property commensurate with the rank. Devolatilisation of coal and loss of its caking property has been observed on account of nearness of the coal seams with respect to igneous intrusive. The coking coal range in grade from W-I to W-IV with majority in the range of W-III & W-IV grade. The heat affected coal are of non-coking type with range in grade from mainly D to F grade.
9 Reserves:	The net geological reserves of the block are 174.875 million tonne.
10 CBA Status:	About two third of the block area has been acquired under CBA act by SECL. Existing Beheraband UG mine of SECL has extended in to the block (about one third of the block area).
11 CBM/CMM Overlap:	No overlap issues with respect to CBM/CMM block.

References: "Geological report on Beheraband North Extension block, Sohagpur Coalfield, Dist. Bilaspur (MP)", prepared by CMPDI, December 1996

BEHRABAND NORTH EXTENSION BLOCK
SOHAGPUR COALFIELD



Legend

- Points
- Bock boundary

Note: Co-ordinates based on WGS-84 system
Block boundary is approximate

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Annexure I

Block boundary co-ordinates of
Beherabandh North Extention Block

POINT	Longitude	Latitude
1	82° 5' 11.9" E	23° 18' 19.9" N
2	82° 5' 11.8" E	23° 18' 20.0" N
3	82° 5' 11.7" E	23° 18' 24.8" N
4	82° 5' 11.6" E	23° 18' 29.7" N
5	82° 5' 11.5" E	23° 18' 33.1" N
6	82° 5' 11.5" E	23° 18' 37.7" N
7	82° 5' 11.3" E	23° 18' 44.1" N
8	82° 5' 11.2" E	23° 18' 50.1" N
9	82° 5' 11.1" E	23° 18' 54.5" N
10	82° 5' 11.1" E	23° 18' 56.4" N
11	82° 5' 11.0" E	23° 19' 1.5" N
12	82° 5' 10.9" E	23° 19' 6.6" N
13	82° 5' 10.8" E	23° 19' 7.4" N
14	82° 5' 10.4" E	23° 19' 11.5" N
15	82° 5' 10.1" E	23° 19' 15.6" N
16	82° 5' 9.8" E	23° 19' 20.5" N
17	82° 5' 10.1" E	23° 19' 23.9" N
18	82° 5' 10.3" E	23° 19' 27.4" N
19	82° 5' 10.8" E	23° 19' 32.4" N
20	82° 5' 11.2" E	23° 19' 38.1" N
21	82° 5' 11.7" E	23° 19' 43.5" N
22	82° 5' 12.1" E	23° 19' 47.5" N
23	82° 5' 12.4" E	23° 19' 51.5" N
24	82° 5' 12.8" E	23° 19' 55.8" N
25	82° 5' 13.2" E	23° 20' 0.5" N
26	82° 5' 15.3" E	23° 20' 2.4" N
27	82° 5' 18.9" E	23° 20' 3.5" N
28	82° 5' 17.6" E	23° 20' 7.2" N
29	82° 5' 19.0" E	23° 20' 9.7" N
30	82° 5' 20.6" E	23° 20' 12.3" N
31	82° 5' 21.5" E	23° 20' 15.0" N
32	82° 5' 21.9" E	23° 20' 15.8" N
33	82° 5' 22.2" E	23° 20' 16.8" N
34	82° 5' 24.5" E	23° 20' 17.4" N
35	82° 5' 27.2" E	23° 20' 18.0" N
36	82° 5' 30.1" E	23° 20' 18.6" N
37	82° 5' 32.4" E	23° 20' 21.3" N
38	82° 5' 32.9" E	23° 20' 21.8" N
39	82° 5' 36.4" E	23° 20' 26.1" N
40	82° 5' 37.1" E	23° 20' 26.9" N
41	82° 5' 39.5" E	23° 20' 28.8" N
42	82° 5' 41.8" E	23° 20' 28.6" N
43	82° 5' 45.5" E	23° 20' 28.4" N
44	82° 5' 49.2" E	23° 20' 28.1" N
45	82° 5' 56.1" E	23° 20' 27.7" N
46	82° 5' 58.7" E	23° 20' 27.5" N

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47	82° 6' 2.4" E	23° 20' 26.1" N
48	82° 6' 6.0" E	23° 20' 24.7" N
49	82° 6' 9.7" E	23° 20' 23.2" N
50	82° 6' 12.2" E	23° 20' 22.3" N
51	82° 6' 12.5" E	23° 20' 22.4" N
52	82° 6' 16.6" E	23° 20' 23.0" N
53	82° 6' 20.3" E	23° 20' 23.6" N
54	82° 6' 22.6" E	23° 20' 24.2" N
55	82° 6' 27.8" E	23° 20' 25.5" N
56	82° 6' 29.6" E	23° 20' 23.8" N
57	82° 6' 32.1" E	23° 20' 21.3" N
58	82° 6' 34.3" E	23° 20' 24.3" N
59	82° 6' 36.9" E	23° 20' 28.3" N
60	82° 6' 41.2" E	23° 20' 27.9" N
61	82° 6' 45.5" E	23° 20' 27.5" N
62	82° 6' 47.6" E	23° 20' 27.4" N
63	82° 6' 51.3" E	23° 20' 27.6" N
64	82° 6' 54.9" E	23° 20' 27.8" N
65	82° 6' 57.3" E	23° 20' 27.9" N
66	82° 6' 57.4" E	23° 20' 23.7" N
67	82° 6' 57.3" E	23° 20' 22.2" N
68	82° 6' 59.8" E	23° 20' 19.0" N
69	82° 7' 1.0" E	23° 20' 17.6" N
70	82° 7' 1.8" E	23° 20' 17.4" N
71	82° 7' 3.7" E	23° 20' 17.3" N
72	82° 7' 8.5" E	23° 20' 16.1" N
73	82° 7' 7.0" E	23° 20' 9.9" N
74	82° 7' 9.5" E	23° 20' 7.7" N
75	82° 7' 9.9" E	23° 20' 7.7" N
76	82° 7' 14.7" E	23° 20' 7.1" N
77	82° 7' 18.4" E	23° 20' 6.7" N
78	82° 7' 19.3" E	23° 20' 5.8" N
79	82° 7' 21.4" E	23° 20' 3.6" N
80	82° 7' 21.8" E	23° 20' 3.0" N
81	82° 7' 25.1" E	23° 19' 59.4" N
82	82° 7' 29.0" E	23° 19' 55.0" N
83	82° 7' 32.7" E	23° 19' 51.0" N
84	82° 7' 33.9" E	23° 19' 49.8" N
85	82° 7' 36.2" E	23° 19' 47.1" N
86	82° 7' 35.6" E	23° 19' 45.4" N
87	82° 7' 35.3" E	23° 19' 44.3" N
88	82° 7' 35.1" E	23° 19' 43.1" N
89	82° 7' 35.2" E	23° 19' 42.1" N
90	82° 7' 35.4" E	23° 19' 40.7" N
91	82° 7' 35.5" E	23° 19' 39.8" N
92	82° 7' 36.1" E	23° 19' 38.2" N
93	82° 7' 36.4" E	23° 19' 37.1" N
94	82° 7' 36.5" E	23° 19' 35.7" N
95	82° 7' 36.7" E	23° 19' 34.9" N
96	82° 7' 36.5" E	23° 19' 33.7" N

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97	82° 7' 36.3" E	23° 19' 32.8" N
98	82° 7' 35.9" E	23° 19' 31.7" N
99	82° 7' 35.1" E	23° 19' 30.4" N
100	82° 7' 34.1" E	23° 19' 29.0" N
101	82° 7' 33.5" E	23° 19' 27.6" N
102	82° 7' 33.1" E	23° 19' 26.3" N
103	82° 7' 32.6" E	23° 19' 25.2" N
104	82° 7' 32.1" E	23° 19' 23.6" N
105	82° 7' 31.6" E	23° 19' 22.2" N
106	82° 7' 31.2" E	23° 19' 20.6" N
107	82° 7' 30.9" E	23° 19' 19.2" N
108	82° 7' 30.4" E	23° 19' 17.3" N
109	82° 7' 29.9" E	23° 19' 14.7" N
110	82° 7' 29.5" E	23° 19' 13.8" N
111	82° 7' 29.0" E	23° 19' 12.9" N
112	82° 7' 27.4" E	23° 19' 10.5" N
113	82° 7' 25.3" E	23° 19' 8.0" N
114	82° 7' 25.8" E	23° 19' 4.6" N
115	82° 7' 26.3" E	23° 19' 1.1" N
116	82° 7' 26.7" E	23° 18' 57.7" N
117	82° 7' 27.6" E	23° 18' 51.6" N
118	82° 7' 28.2" E	23° 18' 47.7" N
119	82° 7' 28.7" E	23° 18' 43.9" N
120	82° 7' 29.5" E	23° 18' 38.5" N
121	82° 7' 29.7" E	23° 18' 37.0" N
122	82° 7' 29.3" E	23° 18' 36.4" N
123	82° 7' 28.6" E	23° 18' 35.4" N
124	82° 7' 27.6" E	23° 18' 34.1" N
125	82° 7' 27.3" E	23° 18' 33.0" N
126	82° 7' 25.6" E	23° 18' 30.1" N
127	82° 7' 24.8" E	23° 18' 28.9" N
128	82° 7' 23.3" E	23° 18' 26.7" N
129	82° 7' 22.2" E	23° 18' 24.7" N
130	82° 7' 21.8" E	23° 18' 23.1" N
131	82° 7' 21.4" E	23° 18' 21.7" N
132	82° 7' 21.2" E	23° 18' 20.4" N
133	82° 7' 21.0" E	23° 18' 18.7" N
134	82° 7' 20.8" E	23° 18' 17.6" N
135	82° 7' 19.9" E	23° 18' 15.7" N
136	82° 7' 18.8" E	23° 18' 13.2" N
137	82° 7' 18.7" E	23° 18' 12.6" N
138	82° 7' 18.2" E	23° 18' 11.2" N
139	82° 7' 15.9" E	23° 18' 10.6" N
140	82° 7' 13.4" E	23° 18' 9.8" N
141	82° 7' 10.6" E	23° 18' 8.7" N
142	82° 7' 7.3" E	23° 18' 7.3" N
143	82° 7' 4.6" E	23° 18' 6.0" N
144	82° 7' 2.0" E	23° 18' 4.5" N
145	82° 6' 59.6" E	23° 18' 3.0" N
146	82° 6' 56.4" E	23° 18' 0.9" N

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147	82° 6' 53.3" E	23° 18' 1.0" N
148	82° 6' 53.2" E	23° 18' 1.7" N
149	82° 6' 53.3" E	23° 18' 2.2" N
150	82° 6' 53.5" E	23° 18' 2.4" N
151	82° 6' 54.1" E	23° 18' 2.8" N
152	82° 6' 54.7" E	23° 18' 3.2" N
153	82° 6' 55.0" E	23° 18' 3.3" N
154	82° 6' 51.6" E	23° 18' 5.7" N
155	82° 6' 48.4" E	23° 18' 7.8" N
156	82° 6' 48.1" E	23° 18' 6.5" N
157	82° 6' 46.5" E	23° 18' 8.1" N
158	82° 6' 45.5" E	23° 18' 8.8" N
159	82° 6' 43.7" E	23° 18' 9.9" N
160	82° 6' 41.8" E	23° 18' 10.9" N
161	82° 6' 39.6" E	23° 18' 11.7" N
162	82° 6' 37.3" E	23° 18' 12.5" N
163	82° 6' 32.1" E	23° 18' 13.8" N
164	82° 6' 29.6" E	23° 18' 14.4" N
165	82° 6' 24.7" E	23° 18' 15.2" N
166	82° 6' 18.9" E	23° 18' 16.1" N
167	82° 6' 14.1" E	23° 18' 16.9" N
168	82° 6' 11.3" E	23° 18' 17.5" N
169	82° 6' 8.9" E	23° 18' 18.1" N
170	82° 6' 4.1" E	23° 18' 19.1" N
171	82° 5' 59.2" E	23° 18' 20.0" N
172	82° 5' 53.4" E	23° 18' 21.3" N
173	82° 5' 48.8" E	23° 18' 22.4" N
174	82° 5' 44.2" E	23° 18' 23.4" N
175	82° 5' 38.7" E	23° 18' 24.6" N
176	82° 5' 37.4" E	23° 18' 21.3" N
177	82° 5' 35.5" E	23° 18' 16.3" N
178	82° 5' 33.9" E	23° 18' 12.0" N
179	82° 5' 32.0" E	23° 18' 6.9" N
180	82° 5' 30.9" E	23° 18' 4.1" N
181	82° 5' 28.3" E	23° 18' 6.1" N
182	82° 5' 27.0" E	23° 18' 7.0" N
183	82° 5' 23.7" E	23° 18' 10.0" N
184	82° 5' 19.9" E	23° 18' 13.2" N
185	82° 5' 15.3" E	23° 18' 17.0" N

Bounding Co-ordinates of Beherabandh North Extention Block		
Maximum	82° 7' 36.7" E	23° 20' 28.8" N
Minimum	82° 5' 9.8" E	23° 18' 0.9" N

POKHARIA PAHARPUR BLOCK, BRAHMANI COALFIELD, DUMKA DISTRICT, JHARKHAND

SALIENT FEATURES

1 Block:	Pokharia-Paharpur
2 Coalfield:	Brahmani coalfield, Dumka district, Jharkhand
3 Area:	7.2 sq. km. (approx.)
4 Location and communication:	The block is located to the south of the highway connecting Rampurhat in West Bengal and Dumka in Jharkhand. The nearest railhead Mallarpur is 15 km from the block. Area lies between latitudes 24°10'46.76" N and 24°12'25.18" N and longitudes 87°33'56.19" E and 87°36'22.79" E and covered by part of Survey of India toposheet no. 72 P/12. Block boundary coordinates are given at Annexure I.
5 Status of Exploration:	**Regionally explored by GSI**. A total of 1598.05m were drilled in 4 boreholes (RJPP-1 to RJPP-4). Borehole density is less than 1 borehole per sq.km.
6 Structure:	The general strike of beds -NNW-SSE and dip - 3º to 4º towards the east. Number of faults - Two.
7 Sequence of Coal Seams:	The coal seams, which are solely confined to Barakar Formation, are mostly interbanded in nature and exhibit frequent splitting and degeneration. The coal seam zones of this sector have been designated as A, B, C, D and E in ascending order.
8 Quality:	Coal seams are of non-coking coal type. The grade of the coal seams mainly range between C to G grade.
9 Reserves:	'Inferred' resource of 584.25 million tonne has been reported.
10 CBA Status:	Not acquired under CBA act
11 CBM/CMM Overlap:	The block is free from CBM/CMM overlap.

References: "Final report on regional exploration for coal in Pokharia-Paharpur block in the trap covered area of Brahmani basin, Rajmahal group of coalfields, Dumka district, Jharkhand", prepared by GSI, Progress Report for the field seasons 2006-07 to 2007-08, FSP No. - MIE/CW/CW/2006/004

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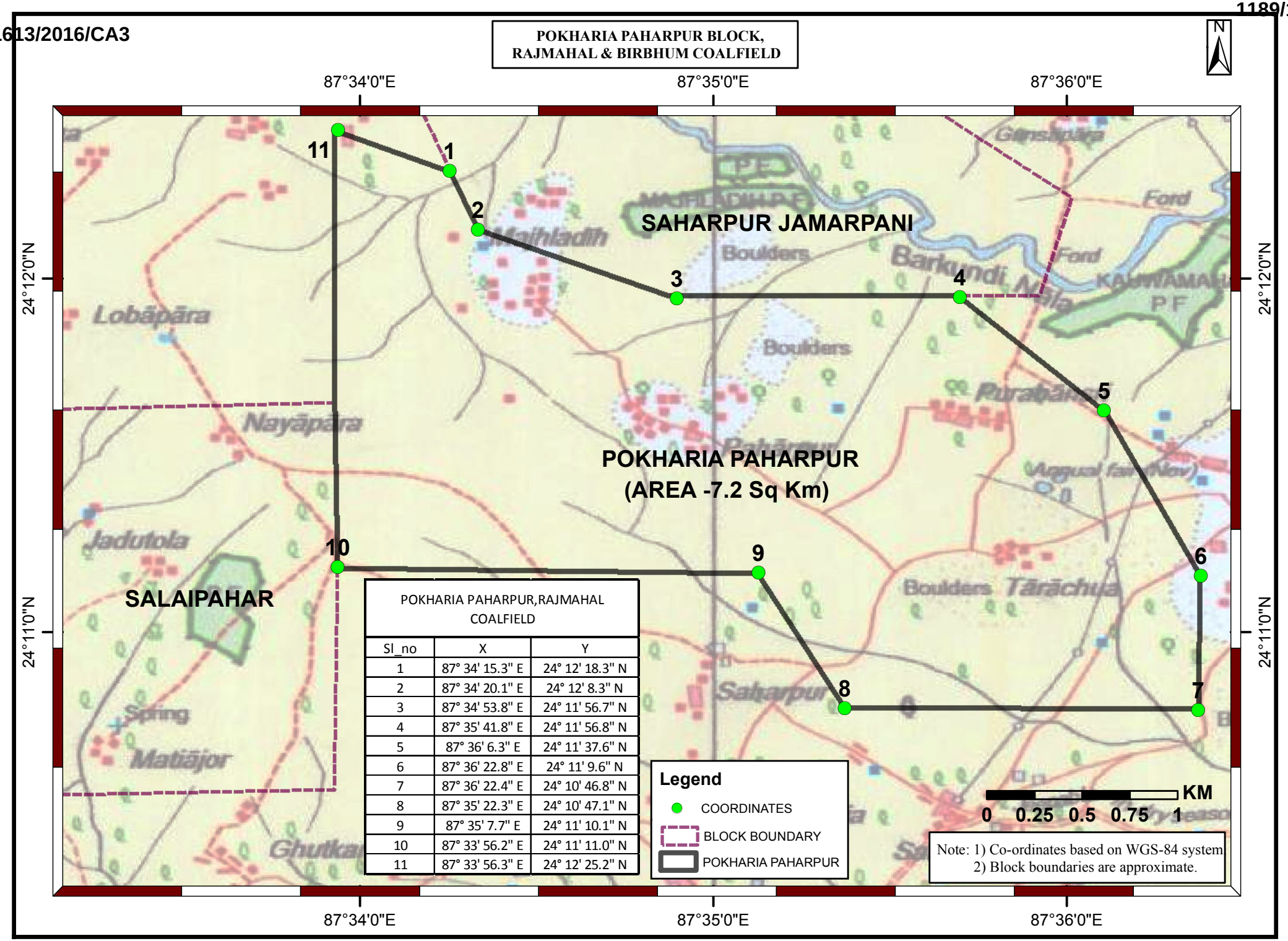
Remarks: The area of the block as given in Geological Report is 7.9 sq.km. Whereas, the area of the block is 7.2 sq.km (approx.). It is due to the block area adjustment of already allotted Saharpur Jamarpani block.

POKHARIA PAHARPUR BLOCK, RAJMAHAL & BIRBHUM COALFIELD



POKHARIA PAHARPUR,RAJMAHAL COALFIELD		
Sl_no	X	Y
1	87° 34' 15.3" E	24° 12' 18.3" N
2	87° 34' 20.1" E	24° 12' 8.3" N
3	87° 34' 53.8" E	24° 11' 56.7" N
4	87° 35' 41.8" E	24° 11' 56.8" N
5	87° 36' 6.3" E	24° 11' 37.6" N
6	87° 36' 22.8" E	24° 11' 9.6" N
7	87° 36' 22.4" E	24° 10' 46.8" N
8	87° 35' 22.3" E	24° 10' 47.1" N
9	87° 35' 7.7" E	24° 11' 10.1" N
10	87° 33' 56.2" E	24° 11' 11.0" N
11	87° 33' 56.3" E	24° 12' 25.2" N

Legend

- COORDINATES
- BLOCK BOUNDARY
- POKHARIA PAHARPUR

Note: 1) Co-ordinates based on WGS-84 system
2) Block boundaries are approximate.

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Block boundary co-ordinates Pokharia Paharpur Block		
Sl_no	X	Y
1	87° 34' 15.3" E	24° 12' 18.3" N
2	87° 34' 20.1" E	24° 12' 8.3" N
3	87° 34' 53.8" E	24° 11' 56.7" N
4	87° 35' 41.8" E	24° 11' 56.8" N
5	87° 36' 6.3" E	24° 11' 37.6" N
6	87° 36' 22.8" E	24° 11' 9.6" N
7	87° 36' 22.4" E	24° 10' 46.8" N
8	87° 35' 22.3" E	24° 10' 47.1" N
9	87° 35' 7.7" E	24° 11' 10.1" N
10	87° 33' 56.2" E	24° 11' 11.0" N
11	87° 33' 56.3" E	24° 12' 25.2" N

Bounding co-ordinates of Pokharia Paharpur Block		
Minimum	87° 33' 56.19" E	24° 10' 46.76" N
Maximum	87° 36' 22.79" E	24° 12' 25.18" N

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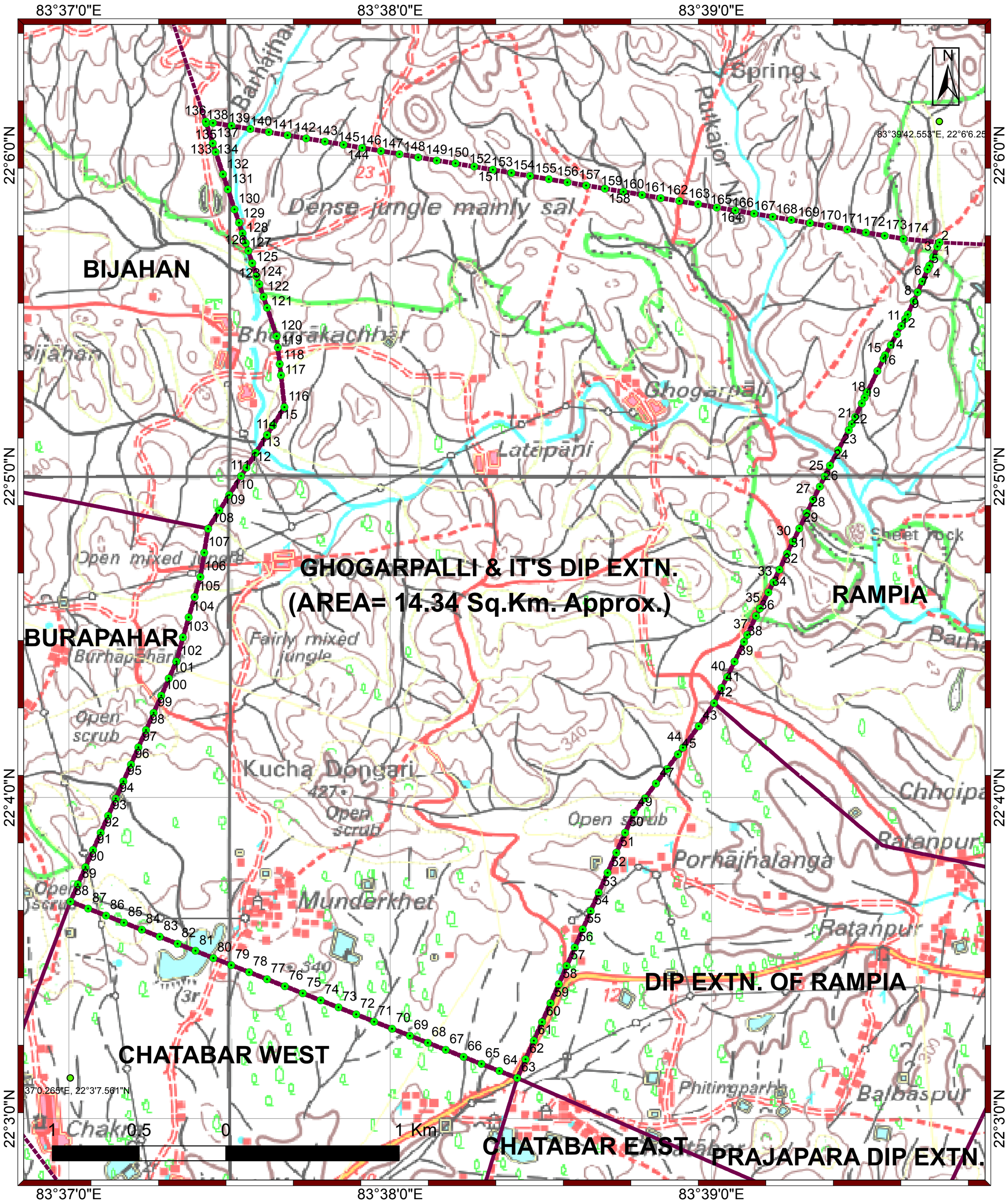
GHOGARPALLI & ITS DIP EXTENTION BLOCK
IB VALLEY COALFIELD, SUNDERGARH DISTRICT, ODISHA

SALIENT FEATURES

1 Block:	Ghogarpalli & its dip Extention Block
2 Coalfield:	Ib valley coalfield, Odisha
3 Area:	14.34 sq. km (approx.)
4 Location and communication:	The block lies between the latitude 22°3'7.5" N – 22°6'6.2" N and longitude 83°37'0.2"– 83°39'42.5" E in the district of Sundergarh, Odisha. The block falls under Survey of India toposheet no. 64N/12 on R.F 1:50,000 and special toposheet nos. 64N/12SE-1 and 64N/12SW-3 on R.F.1:10,000. Block boundary coordinates are given at Annexure I.
5 Status of Exploration:	Total number of 22 boreholes drilled by CMPDI with meterage of 6407.75 m. Borehole density is less than 2 boreholes per sq.km. Presently, exploratory drilling is in progress in the block.
6 Structure:	Strike - WNW-ESE to E-W. Dip - Varies from 3° to 7° towards South to Southwest. Faults - One number of E-W trending fault viz. F1 – F1 with southerly throw.
7 Coal Seams:	Total of 13 coal seams of Lajkura and Rampia seams with its splits occur in the block.
8 Quality:	The coal seams are generally of high moisture, high ash, power grade and non-coking type. The grade of coal is predominantly F to G.
9 Reserves:	The total net proved reserve is 179.408 million tonne, gross inferred reserve is 984.152 million tonne and total reserve is 1163.560 million tonne.
10 CBA Status:	Not acquired under CBA act.
11 CBM/CMM Overlap:	No overlap issue with respect to CBM/CMM.

References: "A geological report of Ghogarpalli & its dip extention Block, Ib valley coalfield, district - Sundergarh (Odisha)", prepared by CMPDI, February 2012.

GHOGHARPALLI AND ITS EXTENSION BLOCK
IB VALLEY COALFIELD



Legend

- POINTS
- BLOCK BOUNDARY
- All other adjacent blocks

Note: 1) Co-ordinates based on WGS-84 system.
2) Block boundaries are approximate.

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Annexure I

Block boundary co-ordinates

GHOGARPALLI & IT'S DIP EXTENTION, TALCHER COALFIELD

POINTS	Longitude	Latitude
1	83° 39' 42.5"	22° 5' 43.6"
2	83° 39' 42.1"	22° 5' 42.8"
3	83° 39' 41.3"	22° 5' 40.9"
4	83° 39' 40.6"	22° 5' 39.3"
5	83° 39' 40.3"	22° 5' 38.6"
6	83° 39' 39.3"	22° 5' 36.4"
7	83° 39' 38.4"	22° 5' 34.3"
8	83° 39' 37.7"	22° 5' 32.7"
9	83° 39' 36.6"	22° 5' 30.2"
10	83° 39' 36.1"	22° 5' 29.3"
11	83° 39' 35.4"	22° 5' 28.0"
12	83° 39' 34.6"	22° 5' 26.5"
13	83° 39' 33.4"	22° 5' 24.5"
14	83° 39' 32.3"	22° 5' 22.6"
15	83° 39' 32.1"	22° 5' 21.9"
16	83° 39' 30.9"	22° 5' 19.6"
17	83° 39' 29.0"	22° 5' 15.7"
18	83° 39' 28.5"	22° 5' 14.7"
19	83° 39' 28.0"	22° 5' 13.6"
20	83° 39' 26.8"	22° 5' 11.0"
21	83° 39' 26.1"	22° 5' 9.7"
22	83° 39' 25.6"	22° 5' 8.6"
23	83° 39' 23.6"	22° 5' 4.9"
24	83° 39' 22.0"	22° 5' 2.0"
25	83° 39' 21.1"	22° 4' 59.9"
26	83° 39' 20.2"	22° 4' 58.1"
27	83° 39' 18.9"	22° 4' 55.6"
28	83° 39' 17.7"	22° 4' 53.1"
29	83° 39' 16.4"	22° 4' 50.2"
30	83° 39' 15.1"	22° 4' 47.8"
31	83° 39' 14.0"	22° 4' 45.5"
32	83° 39' 12.6"	22° 4' 42.6"
33	83° 39' 11.5"	22° 4' 40.2"
34	83° 39' 10.6"	22° 4' 38.3"
35	83° 39' 9.0"	22° 4' 35.3"
36	83° 39' 8.3"	22° 4' 33.9"
37	83° 39' 6.6"	22° 4' 30.3"
38	83° 39' 6.064"	22° 4' 29.0"
39	83° 39' 4.3"	22° 4' 25.4"
40	83° 39' 2.9"	22° 4' 22.5"
41	83° 39' 1.8"	22° 4' 20.4"
42	83° 39' 0.4"	22° 4' 17.6"
43	83° 38' 57.6"	22° 4' 13.3"
44	83° 38' 54.6"	22° 4' 9.3"
45	83° 38' 53.7"	22° 4' 8.0"
46	83° 38' 51.6"	22° 4' 5.3"

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47	83° 38' 49.6"	22° 4' 2.6"
48	83° 38' 47.5"	22° 3' 59.8"
49	83° 38' 45.5"	22° 3' 57.1"
50	83° 38' 43.8"	22° 3' 53.4"
51	83° 38' 42.2"	22° 3' 49.6"
52	83° 38' 40.5"	22° 3' 45.9"
53	83° 38' 38.9"	22° 3' 42.2"
54	83° 38' 37.4"	22° 3' 38.7"
55	83° 38' 35.9"	22° 3' 35.3"
56	83° 38' 34.4"	22° 3' 31.9"
57	83° 38' 32.9"	22° 3' 28.5"
58	83° 38' 31.4"	22° 3' 25.0"
59	83° 38' 29.9"	22° 3' 21.5"
60	83° 38' 28.3"	22° 3' 18.0"
61	83° 38' 26.8"	22° 3' 14.5"
62	83° 38' 25.2"	22° 3' 11.0"
63	83° 38' 23.7"	22° 3' 7.5"
64	83° 38' 20.3"	22° 3' 8.8"
65	83° 38' 17.0"	22° 3' 10.2"
66	83° 38' 13.6"	22° 3' 11.5"
67	83° 38' 10.3"	22° 3' 12.8"
68	83° 38' 7.0"	22° 3' 14.1"
69	83° 38' 3.6"	22° 3' 15.4"
70	83° 38' 0.3"	22° 3' 16.8"
71	83° 37' 57.0"	22° 3' 18.1"
72	83° 37' 53.6"	22° 3' 19.4"
73	83° 37' 50.3"	22° 3' 20.7"
74	83° 37' 46.9"	22° 3' 22.0"
75	83° 37' 43.6"	22° 3' 23.4"
76	83° 37' 40.3"	22° 3' 24.7"
77	83° 37' 36.9"	22° 3' 26.0"
78	83° 37' 33.6"	22° 3' 27.3"
79	83° 37' 30.3"	22° 3' 28.6"
80	83° 37' 26.9"	22° 3' 30.0"
81	83° 37' 23.6"	22° 3' 31.3"
82	83° 37' 20.2"	22° 3' 32.6"
83	83° 37' 16.9"	22° 3' 33.9"
84	83° 37' 13.6"	22° 3' 35.2"
85	83° 37' 10.2"	22° 3' 36.6"
86	83° 37' 6.9"	22° 3' 37.9"
87	83° 37' 3.6"	22° 3' 39.2"
88	83° 37' 0.2"	22° 3' 40.5"
89	83° 37' 1.6"	22° 3' 43.7"
90	83° 37' 3.0"	22° 3' 46.9"
91	83° 37' 4.5"	22° 3' 50.1"
92	83° 37' 5.9"	22° 3' 53.3"
93	83° 37' 7.3"	22° 3' 56.5"
94	83° 37' 8.7"	22° 3' 59.7"
95	83° 37' 10.1"	22° 4' 2.9"
96	83° 37' 11.5"	22° 4' 6.1"

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97	83° 37' 12.9"	22° 4' 9.3"
98	83° 37' 14.4"	22° 4' 12.5"
99	83° 37' 15.8"	22° 4' 15.7"
100	83° 37' 17.2"	22° 4' 19.0"
101	83° 37' 18.6"	22° 4' 22.2"
102	83° 37' 20.0"	22° 4' 25.4"
103	83° 37' 21.3"	22° 4' 29.9"
104	83° 37' 22.3"	22° 4' 33.6"
105	83° 37' 23.4"	22° 4' 37.4"
106	83° 37' 24.5"	22° 4' 41.1"
107	83° 37' 25.2"	22° 4' 45.7"
108	83° 37' 25.9"	22° 4' 50.2"
109	83° 37' 28.1"	22° 4' 53.6"
110	83° 37' 29.9"	22° 4' 56.4"
111	83° 37' 32.1"	22° 5' 0.0"
112	83° 37' 33.1"	22° 5' 1.6"
113	83° 37' 34.8"	22° 5' 4.3"
114	83° 37' 37.0"	22° 5' 7.7"
115	83° 37' 38.1"	22° 5' 9.4"
116	83° 37' 40.2"	22° 5' 12.9"
117	83° 37' 39.6"	22° 5' 18.8"
118	83° 37' 39.3"	22° 5' 20.9"
119	83° 37' 39.0"	22° 5' 24.0"
120	83° 37' 38.7"	22° 5' 26.1"
121	83° 37' 37.0"	22° 5' 31.4"
122	83° 37' 36.3"	22° 5' 33.4"
123	83° 37' 35.5"	22° 5' 35.8"
124	83° 37' 35.0"	22° 5' 37.3"
125	83° 37' 34.2"	22° 5' 39.7"
126	83° 37' 33.4"	22° 5' 42.1"
127	83° 37' 33.0"	22° 5' 43.5"
128	83° 37' 32.4"	22° 5' 45.3"
129	83° 37' 31.7"	22° 5' 47.3"
130	83° 37' 30.9"	22° 5' 49.8"
131	83° 37' 29.6"	22° 5' 53.6"
132	83° 37' 28.7"	22° 5' 56.4"
133	83° 37' 27.4"	22° 6' 0.5"
134	83° 37' 26.8"	22° 6' 2.1"
135	83° 37' 25.6"	22° 6' 5.9"
136	83° 37' 25.5"	22° 6' 6.2"
137	83° 37' 26.8"	22° 6' 6.0"
138	83° 37' 30.3"	22° 6' 5.4"
139	83° 37' 33.8"	22° 6' 4.8"
140	83° 37' 37.3"	22° 6' 4.2"
141	83° 37' 40.8"	22° 6' 3.7"
142	83° 37' 44.3"	22° 6' 3.1"
143	83° 37' 47.7"	22° 6' 2.5"
144	83° 37' 51.2"	22° 6' 1.9"
145	83° 37' 54.7"	22° 6' 1.3"
146	83° 37' 58.2"	22° 6' 0.7"

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147	83° 38' 1.7"	22° 6' 0.1"
148	83° 38' 5.2"	22° 5' 59.6"
149	83° 38' 8.7"	22° 5' 59.0"
150	83° 38' 12.1"	22° 5' 58.4"
151	83° 38' 15.6"	22° 5' 57.8"
152	83° 38' 19.1"	22° 5' 57.2"
153	83° 38' 22.6"	22° 5' 56.6"
154	83° 38' 26.1"	22° 5' 56.0"
155	83° 38' 29.6"	22° 5' 55.5"
156	83° 38' 33.0"	22° 5' 54.9"
157	83° 38' 36.5"	22° 5' 54.3"
158	83° 38' 40.0"	22° 5' 53.7"
159	83° 38' 43.5"	22° 5' 53.1"
160	83° 38' 47.0"	22° 5' 52.5"
161	83° 38' 50.5"	22° 5' 51.9"
162	83° 38' 53.9"	22° 5' 51.4"
163	83° 38' 57.4"	22° 5' 50.8"
164	83° 39' 0.9"	22° 5' 50.2"
165	83° 39' 4.4"	22° 5' 49.6"
166	83° 39' 7.9"	22° 5' 49.0"
167	83° 39' 11.4"	22° 5' 48.4"
168	83° 39' 14.8"	22° 5' 47.8"
169	83° 39' 18.3"	22° 5' 47.3"
170	83° 39' 21.8"	22° 5' 46.7"
171	83° 39' 25.3"	22° 5' 46.1"
172	83° 39' 28.8"	22° 5' 45.5"
173	83° 39' 32.3"	22° 5' 44.9"
174	83° 39' 35.8"	22° 5' 44.3"

Bounding co-ordinates

GHOGARPALLI & IT'S DIP EXTENTION, TALCHER COALFIELD

Maximum	83° 39' 42.5"	22° 6' 6.2"
Minimum	83° 37' 0.2"	22° 3' 7.5"

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JADUNATHPUR BLOCK,

TALCHER COALFIELD, ANGUL DISTRICT, ODISHA

SALIENT FEATURES

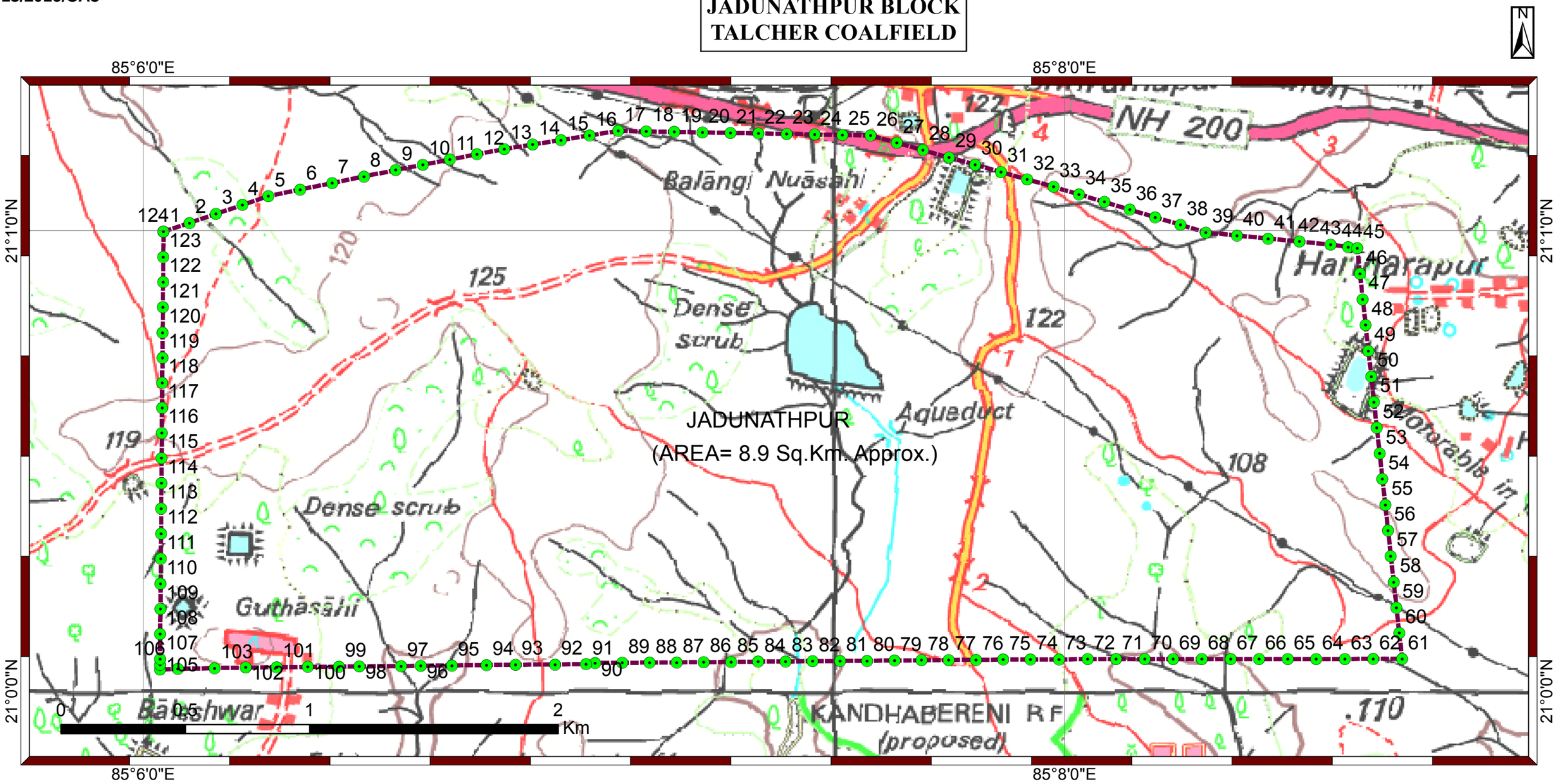
1 Block:	Jadunathpur
2 Coalfield:	Talcher Coalfield, Angul District, Odisha
3 Area:	8.9 Sq. Kms. (approx.)
4 Location and communication:	The block is located in the East central part of Talcher Coalfield. The nearest town and railway station at Talcher is at a distance of about 15 km & 17 km respectively. The block lies between latitudes 21°0'2.8" & 21°1'12.9" N and longitudes 85°6'2.1" & 85°8'43.9" E and covered in Survey of India toposheet No. F45N4 (73G/4). Block boundary coordinates are given at Annexure I.
5 Status of Exploration:	**Regionally explored** by GSI - 7 boreholes of TCS-series, total meterage 2767 m. Borehole density is less than 1 borehole per sq.km.
6 Structure:	General strike of the beds are E-W with minor swings at places and dipping 2° to 3° towards north.
7 Coal Seams:	The coal seams are mostly inter-banded in nature and exhibit splitting. There are five coal zones (Zone-I to Zone V) have been identified in the block.
8 Quality:	The coal is of Non-coking type.The coal seams range in grade from D to G grade.
9 Reserves:	The reserves in this block falls in "Inferred" category. The total reserves estimated is 470 Million tonnes.
10 CBA Status:	Not acquired under CBA act
11 CBM/CMM Overlap:	The block is free from CBM/CMM overlap.

References:

1 Regional Exploration for Coal in North of Arkhapal - Srirampur Block, Talcher Coalfield, Angul District, Odisha, prepared by GSI, 2001

2 Master Plan of Talcher Coalfield, RI-VII, CMPDI, 2012

JADUNATHPUR BLOCK
TALCHER COALFIELD



Legend

- POINTS
- Block Boundary

Note: 1) Co-ordinates based on WGS-84 system.
2) Block Boundaries are approximate.

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Annexure I

Block boundary co-ordinates
Jadunathpur Block

POINT	Longitude	Latitude
1	85° 6' 2.6"	21° 0' 59.8"
2	85° 6' 6.0"	21° 1' 1.0"
3	85° 6' 9.4"	21° 1' 2.1"
4	85° 6' 12.8"	21° 1' 3.3"
5	85° 6' 16.3"	21° 1' 4.5"
6	85° 6' 20.4"	21° 1' 5.3"
7	85° 6' 24.6"	21° 1' 6.2"
8	85° 6' 28.7"	21° 1' 7.0"
9	85° 6' 32.9"	21° 1' 7.9"
10	85° 6' 36.4"	21° 1' 8.5"
11	85° 6' 39.9"	21° 1' 9.2"
12	85° 6' 43.4"	21° 1' 9.9"
13	85° 6' 47.0"	21° 1' 10.6"
14	85° 6' 50.7"	21° 1' 11.2"
15	85° 6' 54.4"	21° 1' 11.8"
16	85° 6' 58.1"	21° 1' 12.4"
17	85° 7' 1.8"	21° 1' 12.9"
18	85° 7' 5.5"	21° 1' 12.9"
19	85° 7' 9.1"	21° 1' 12.8"
20	85° 7' 12.8"	21° 1' 12.8"
21	85° 7' 16.4"	21° 1' 12.7"
22	85° 7' 20.1"	21° 1' 12.6"
23	85° 7' 23.7"	21° 1' 12.6"
24	85° 7' 27.4"	21° 1' 12.5"
25	85° 7' 31.0"	21° 1' 12.4"
26	85° 7' 34.7"	21° 1' 12.4"
27	85° 7' 38.1"	21° 1' 11.4"
28	85° 7' 41.5"	21° 1' 10.4"
29	85° 7' 44.9"	21° 1' 9.5"
30	85° 7' 48.3"	21° 1' 8.5"
31	85° 7' 51.7"	21° 1' 7.6"
32	85° 7' 55.1"	21° 1' 6.6"
33	85° 7' 58.5"	21° 1' 5.7"
34	85° 8' 1.8"	21° 1' 4.7"
35	85° 8' 5.1"	21° 1' 3.7"
36	85° 8' 8.4"	21° 1' 2.7"
37	85° 8' 11.8"	21° 1' 1.7"
38	85° 8' 15.1"	21° 1' 0.7"
39	85° 8' 18.4"	21° 0' 59.7"
40	85° 8' 22.4"	21° 0' 59.3"
41	85° 8' 26.5"	21° 0' 58.9"
42	85° 8' 30.5"	21° 0' 58.5"
43	85° 8' 34.6"	21° 0' 58.1"
44	85° 8' 36.9"	21° 0' 57.8"
45	85° 8' 38.1"	21° 0' 57.7"

46	85° 8' 38.4"	21° 0' 54.3"
47	85° 8' 38.8"	21° 0' 51.0"
48	85° 8' 39.2"	21° 0' 47.6"
49	85° 8' 39.5"	21° 0' 44.3"
50	85° 8' 39.9"	21° 0' 41.0"
51	85° 8' 40.3"	21° 0' 37.6"
52	85° 8' 40.6"	21° 0' 34.3"
53	85° 8' 41.0"	21° 0' 30.9"
54	85° 8' 41.4"	21° 0' 27.6"
55	85° 8' 41.7"	21° 0' 24.2"
56	85° 8' 42.1"	21° 0' 20.9"
57	85° 8' 42.5"	21° 0' 17.5"
58	85° 8' 42.8"	21° 0' 14.2"
59	85° 8' 43.2"	21° 0' 10.8"
60	85° 8' 43.6"	21° 0' 7.5"
61	85° 8' 43.9"	21° 0' 4.2"
62	85° 8' 40.2"	21° 0' 4.1"
63	85° 8' 36.5"	21° 0' 4.1"
64	85° 8' 32.7"	21° 0' 4.1"
65	85° 8' 29.0"	21° 0' 4.1"
66	85° 8' 25.3"	21° 0' 4.1"
67	85° 8' 21.6"	21° 0' 4.1"
68	85° 8' 17.9"	21° 0' 4.1"
69	85° 8' 14.1"	21° 0' 4.1"
70	85° 8' 10.4"	21° 0' 4.1"
71	85° 8' 6.7"	21° 0' 4.1"
72	85° 8' 3.0"	21° 0' 4.1"
73	85° 7' 59.2"	21° 0' 4.1"
74	85° 7' 55.5"	21° 0' 4.1"
75	85° 7' 52.0"	21° 0' 4.1"
76	85° 7' 48.4"	21° 0' 4.0"
77	85° 7' 44.9"	21° 0' 4.0"
78	85° 7' 41.3"	21° 0' 4.0"
79	85° 7' 37.8"	21° 0' 3.9"
80	85° 7' 34.3"	21° 0' 3.9"
81	85° 7' 30.7"	21° 0' 3.9"
82	85° 7' 27.2"	21° 0' 3.9"
83	85° 7' 23.6"	21° 0' 3.8"
84	85° 7' 20.1"	21° 0' 3.8"
85	85° 7' 16.5"	21° 0' 3.8"
86	85° 7' 13.0"	21° 0' 3.7"
87	85° 7' 9.4"	21° 0' 3.7"
88	85° 7' 5.9"	21° 0' 3.7"
89	85° 7' 2.4"	21° 0' 3.6"
90	85° 6' 58.8"	21° 0' 3.6"
91	85° 6' 57.7"	21° 0' 3.5"
92	85° 6' 53.6"	21° 0' 3.4"
93	85° 6' 48.5"	21° 0' 3.4"
94	85° 6' 44.7"	21° 0' 3.4"
95	85° 6' 40.2"	21° 0' 3.3"

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96	85° 6' 36.1"	21° 0' 3.3"
97	85° 6' 33.5"	21° 0' 3.2"
98	85° 6' 28.1"	21° 0' 3.2"
99	85° 6' 25.4"	21° 0' 3.1"
100	85° 6' 21.4"	21° 0' 3.1"
101	85° 6' 17.3"	21° 0' 3.1"
102	85° 6' 13.3"	21° 0' 3.0"
103	85° 6' 9.3"	21° 0' 3.0"
104	85° 6' 4.5"	21° 0' 2.8"
105	85° 6' 2.1"	21° 0' 2.8"
106	85° 6' 2.1"	21° 0' 3.4"
107	85° 6' 2.1"	21° 0' 4.1"
108	85° 6' 2.2"	21° 0' 7.4"
109	85° 6' 2.2"	21° 0' 10.7"
110	85° 6' 2.2"	21° 0' 13.9"
111	85° 6' 2.2"	21° 0' 17.2"
112	85° 6' 2.3"	21° 0' 20.5"
113	85° 6' 2.3"	21° 0' 23.8"
114	85° 6' 2.3"	21° 0' 27.0"
115	85° 6' 2.4"	21° 0' 30.3"
116	85° 6' 2.4"	21° 0' 33.6"
117	85° 6' 2.4"	21° 0' 36.9"
118	85° 6' 2.4"	21° 0' 40.2"
119	85° 6' 2.5"	21° 0' 43.4"
120	85° 6' 2.5"	21° 0' 46.7"
121	85° 6' 2.5"	21° 0' 50.0"
122	85° 6' 2.5"	21° 0' 53.3"
123	85° 6' 2.6"	21° 0' 56.5"
124	85° 6' 2.6"	21° 0' 59.8"

Bounding co-ordinates of Jadunathpur block		
Maximum	85° 8' 43.9"	21° 1' 12.9"
Minimum	85° 6' 2.1"	21° 0' 2.8"

NORTH KATHARA PHASE I BLOCK
EAST BOKARO COALFIELD, BOKARO DISTRICT, JHARKHAND

SALIENT FEATURES

1 Block:	North Kathara Phase I
2 Coalfield:	East Bokaro coalfield, Bokaro district, Jharkhand
3 Area:	0.90 sq. km (approx.) (Re-adjusted boundary after considering the area occupied by Kathara mine of CCL in the block. Area as per original Geological Report - 1.30 sq km)
4 Location and communication:	The block is situated in the south western part of the coalfield and bounded between the latitude 23°45'42.6" N – 23°46'18.5" N and longitude 85°50'56.1" E – 85°51'46.9" E in Bokaro district of Jharkhand state. Block boundary coordinates are given at Annexure I.
5 Status of Exploration:	Total number of 24 boreholes drilled by IBM & MECL with total meterage of 6410.25 m. Borehole density is about 27 boreholes per sq.km.
6 Structure:	The strike of the formations in the southern part of the block almost E-W, swings to NNW-SSE in the northern part. The dip of the formation varies from 10° - 20° due North and North East. The block is traversed by 6 faults. Throw of the faults varies from 5 m to 120 m.
7 Coal Seams:	Altogether 12 coal seams from Jarangdih 'A' to Bermo are established in the block.
8 Quality:	The coal seams are medium volatile, weakly to medium coking ranging in grade generally from S-I to W-IV.
9 Reserves:	42.7 million tonne of net proved coal reserves have been assessed in North Kathara Phase I Block (with readjusted block boundary). The reserves for Bermo and Karo group of seams are not assessed
10 CBA Status:	Entire block area acquired under CBA act by CCL.
11 CBM/CMM Overlap:	The block is identified for CMM block.

References:

1. Geological report on coal exploration of North Kathara Phase I block (with readjusted block boundary), East Bokaro Coalfield, prepared by CMPDI, February 2014.

2. Geological report on coal exploration of North Kathara Phase I block, East Bokaro Coalfield, Bokaro District, Bihar, prepared by MECL, May 1993.

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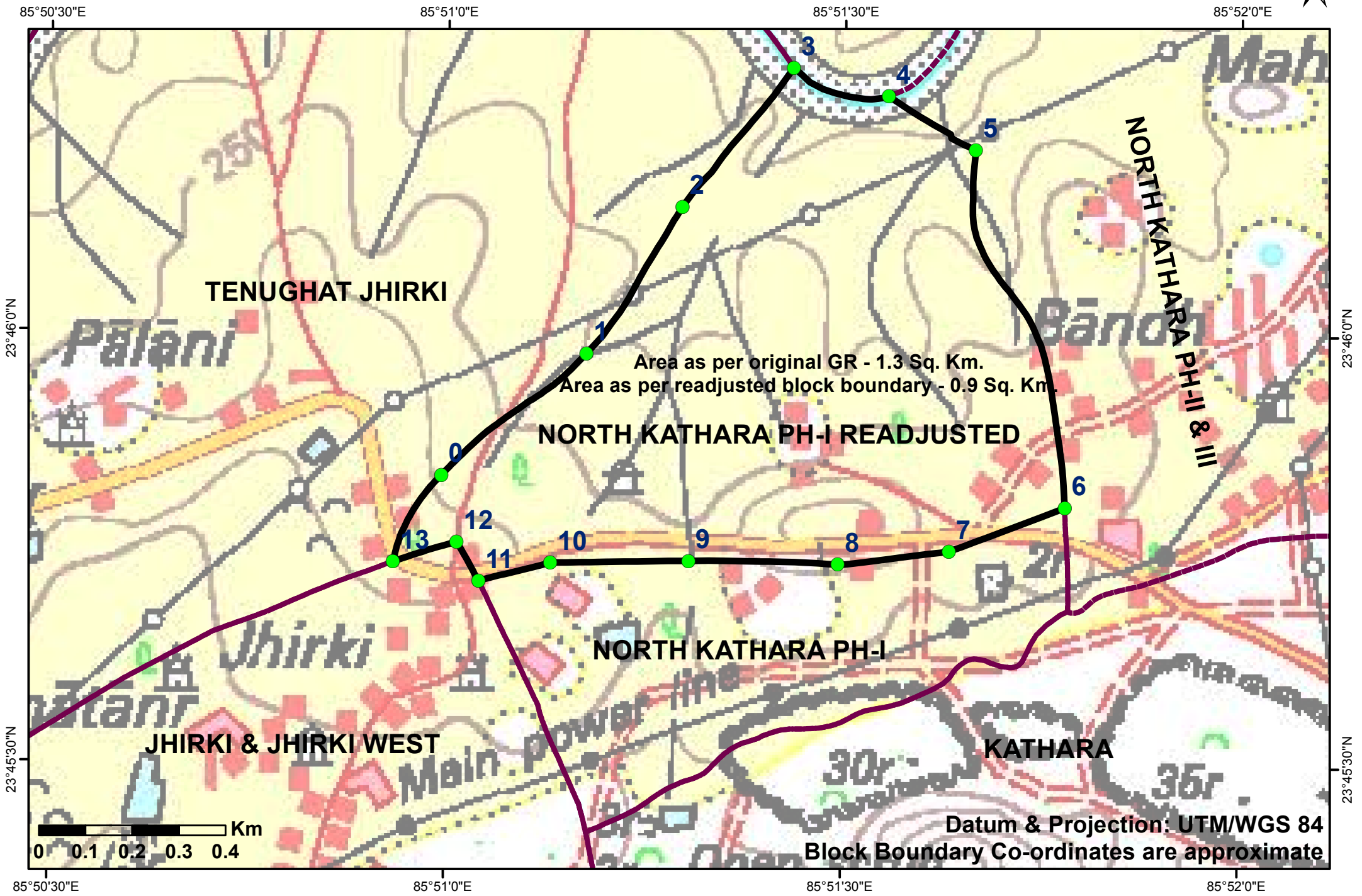
North Kathara Phase - I
(with Re-adjusted Boundary)

1204/1303



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Annexure I

Block boundary co-ordinates
North Kathara Phase I Block

Sl. No.	X	Y
1	85° 50' 59.7" E	23° 45' 50.0 " N
2	85° 51' 10.6" E	23° 45' 58.5 " N
3	85° 51' 17.8" E	23° 46' 8.8 " N
4	85° 51' 26.2" E	23° 46' 18.5 " N
5	85° 51' 33.4" E	23° 46' 16.6 " N
6	85° 51' 40.0" E	23° 46' 12.9 " N
7	85° 51' 46.9" E	23° 45' 48.0 " N
8	85° 51' 38.2" E	23° 45' 44.9 " N
9	85° 51' 29.8" E	23° 45' 44.0 " N
10	85° 51' 18.5" E	23° 45' 44.1 " N
11	85° 51' 8.0 " E	23° 45' 43.9 " N
12	85° 51' 2.6 " E	23° 45' 42.6 " N
13	85° 51' 0.9 " E	23° 45' 45.3 " N
14	85° 50' 56.1 " E	23° 45' 43.9 " N

Bounding co-ordinates North Kathara Phase I Block		
Maximum	85° 51' 46.9" E	23° 46' 18.5 " N
Minimum	85° 50' 56.1 " E	23° 45' 42.6 " N

NORTH KATHARA PHASE II & III BLOCK
EAST BOKARO COALFIELD, BOKARO DISTRICT, JHARKHAND

SALIENT FEATURES

1 Block:	North Kathara Phase II & III Block
2 Coalfield:	East Bokaro coalfield, Bokaro district, Jharkhand
3 Area:	3.40 sq. kms (approx.)
4 Location and communication:	The block is situated in the south western part of the coalfield and lies between the latitude 23°45'17.9" N – 23°46'31.1" N and longitude 85°51'33.4" E – 85°53'28.0" E in Bokaro district of Jharkhand state. The area falls under Survey of India Toposheet no 73 E/13 (RF – 1:50,000) and East Bokaro coalfiled topographical sheet number 6 & 7 (RF – 1: 10,000). Block boundary coordinates are given at Annexure I.
5 Status of Exploration:	Total number of 67 boreholes drilled by MECL, CMPDIL, NCDC & IBM with total meterage of 19765.59 m. Borehole density is about 20 boreholes per sq.km.
6 Structure:	In the western part of the block the strike of the formation is E-W and dip of the beds are 18˚ to 20˚ northerly whereas in the eastern part of the block the strike of the bed is NW-SE to E-W and dipping towards North. The amount of dip is around 10˚. A total of 22 faults of varying trend and throw are present in this block.
7 Coal Seams:	A total of 24 seams from Jarangdih "Top" to Karo – III are established in the block. These seams represent the complete sequences of coal seams excepting seams Karo IV, II & I, known to occur in the Barakar formation of the East Bokaro coalfield.
8 **Quality:**	Coal seams are coking coal with low moisture and medium to high volatile content. The coal seams generally exhibit moderate to high coking properties. The ash content of the coals varies widely with their grade ranging from S-I to Ungraded (UG). The majority of coal seams are of W-I to W- III.
9 Reserves:	A total of 186.682 million tonne and 109.299 million tonne of coal reserves of proved and indicated categories

respectively are estimated for the seams from Jarangdih "TOP' to Bermo. The reserves of coal seams below Bermo seam have not been assessed.

10 CBA Status: Entire block area acquired under CBA act.

11 CBM/CMM Overlap: The block is identified for CMM block.

References:

Geological report on coal exploration North Kathara Phase II & III Block, East Bokaro Coalfield, District Bokaro, Bihar, prepared by MECL, January 1996

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North Kathara Phase - II & III

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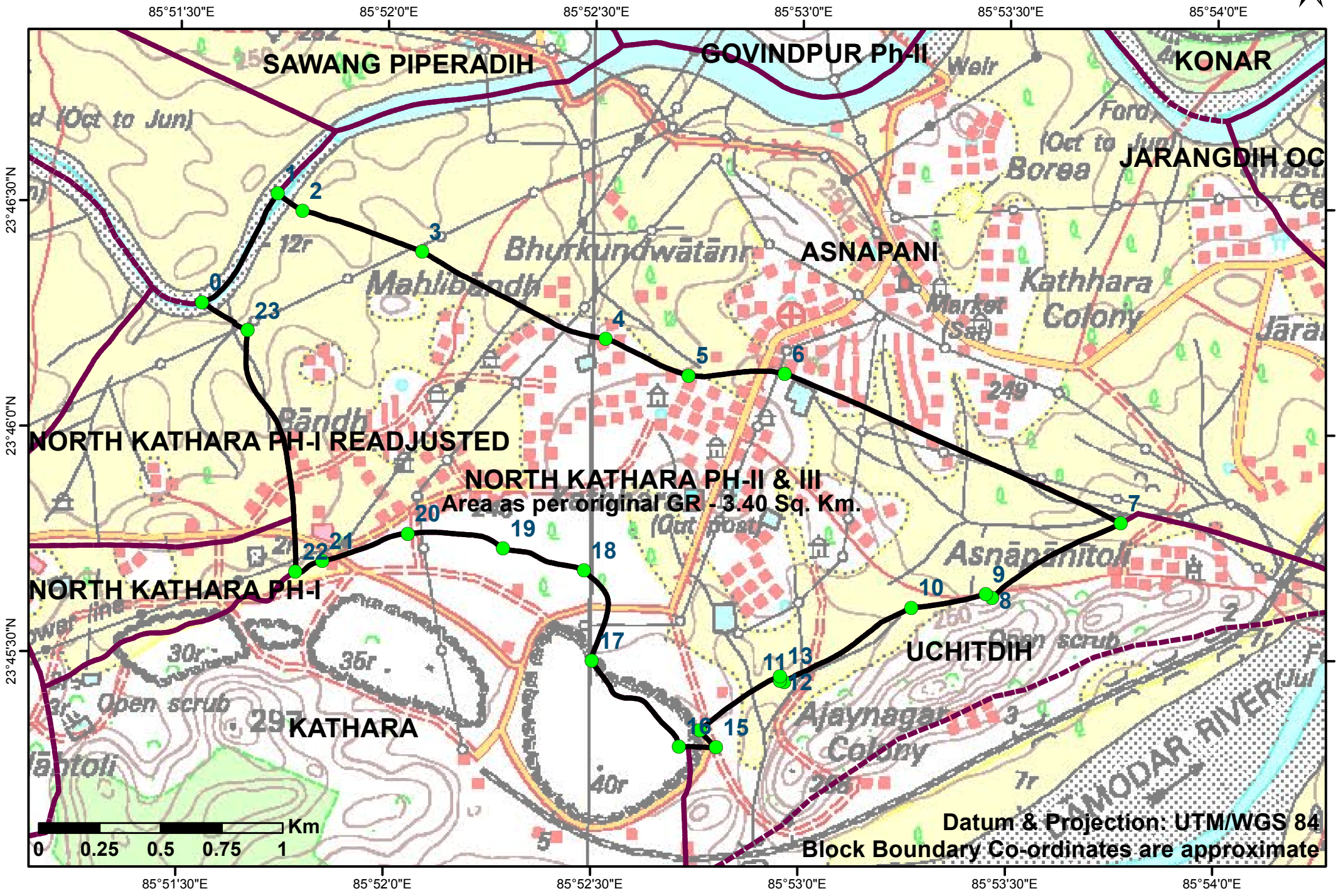

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Annexure I

Block boundary co-ordinates

North Kathara Phase II & III Block

SERIAL	X	Y
1	85° 51' 33.4" E	23° 46' 16.6" N
2	85° 51' 44.1" E	23° 46' 31.1" N
3	85° 51' 47.8" E	23° 46' 28.8" N
4	85° 52' 5.1" E	23° 46' 23.5" N
5	85° 52' 31.8" E	23° 46' 12.1" N
6	85° 52' 43.8" E	23° 46' 7.3" N
7	85° 52' 57.7" E	23° 46' 7.6" N
8	85° 53' 46.5" E	23° 45' 48.1" N
9	85° 53' 28.0" E	23° 45' 38.0" N
10	85° 53' 27.0" E	23° 45' 38.5" N
11	85° 53' 16.3" E	23° 45' 36.6" N
12	85° 52' 58.0" E	23° 45' 26.7" N
13	85° 52' 57.4" E	23° 45' 26.8" N
14	85° 52' 57.4" E	23° 45' 27.4" N
15	85° 52' 45.9" E	23° 45' 20.1" N
16	85° 52' 48.2" E	23° 45' 17.9" N
17	85° 52' 42.8" E	23° 45' 17.9" N
18	85° 52' 30.2" E	23° 45' 29.2" N
19	85° 52' 28.9" E	23° 45' 41.2" N
20	85° 52' 17.2" E	23° 45' 44.1" N
21	85° 52' 3.4" E	23° 45' 46.0" N
22	85° 51' 51.0" E	23° 45' 42.3" N
23	85° 51' 47.2" E	23° 45' 40.8" N
24	85° 51' 40.0" E	23° 46' 12.9" N

Bounding co-ordinates

North Kathara Phase II & III Block

Maximum	85° 53' 28.0" E	23° 46' 31.1" N
Minimum	85° 51' 33.4" E	23° 45' 17.9" N