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NOTICE INVITING EXPRESSION OF INTEREST

CBMC/62(T)/I-794

Dated: 03/02/2017

Expression of Interest (EoI) invited for “Pre-drainage of Methane within Moonidih mine in Jharia coalfield under Bharat Coking Coal Limited (BCCL), Dhanbad (Jharkhand) India”

1. Background

Coal India Ltd. (**CIL**) is a Maharatna Company and is the single largest coal producing company in the world with present level of production of about 538.75 million tonnes in 2015-16. Its gross revenue is about INR 837.38 Billion (USD 12.5 Billion) in 2015-16. In line with international development and realizing the needs for climate change mitigation for which reducing global warming, management and development of coal based nonconventional energy resources i.e; Coalbed Methane (CBM), Coal Mine Methane (CMM) etc. are also in priority by CIL in its command area.

Central Mine Planning and Design Institute Ltd (**CMPDI**) is a subsidiary of Coal India Limited (**CIL**) and located at Ranchi, Jharkhand which provides consultancy in the area of mineral exploration, mining, engineering, environment, coal preparation, geo-matics, CBM/CMM related services. Regional Institutes of CMPDI are situated at Asansol, Dhanbad, Ranchi, Nagpur, Bilaspur, Singrauli and Bhubaneswar which is providing services to respective coal producing subsidiaries of CIL.

Bharat Coking Coal Limited (**BCCL**), is a coal producing subsidiary of Coal India Limited (**CIL**) and located at Dhanbad, Jharkhand. Its meets almost 50% of the total prime coking coal requirement of the integrated steel sector.

Moonidih UG Project: Coal mining operations in Moonidih UG Project, Jharia coalfield is very old where XVIII, XVIIT, XVIIB, XVIT and XVIComb. seams have extensively worked out and presently Seam XVIT is under mining. Project was designed in early 1960's for horizon mining system through Longwall Mining operation to produce coking coal from seams XVIII to XV upto a depth of 500m for a production capacity of 2.1MTY. Most of the coal seams are gassy seams. Seam XVI Top (D Panels) are being worked in Moonidih UG Project and for the purpose Longwall equipment has been installed. Also below seams XVTop & XV Bot. are also proposed to be worked. In the Moonidih mine, seam XVIT balance reserves is about 15 million tonne in which and about 6 - 7 MT is likely to be mined as planned.

Pre-drainage of Methane

Methane gas blowers have been encountered at various places while working in XVIII, XVIIT, XVIIB, XVIT and XVIComb. Seams. Even when air is sufficient, the problem in ventilation is due to (i) rise in temperature and humidity (in rainy season particularly) and (ii) emission of methane in large quantity. The gas content of seam XVIT is about 8-10 m³/tonne whereas in bottom seam XV Seam is about 15m³/tonne. BCCL intend to go for pre-drainage of methane for safe and successful operation of Longwall operations at Moonidih.

2. Invitation of Expression of Interest:

Bharat Coking Coal Limited (BCCL) intends for Pre-drainage of Methane within Moonidih mine in Jharia coalfield at Dhanbad (Jharkhand) India. On behalf of BCCL, CMPDI intends to go for global tendering process for which Expression of Interest (EoI) is invited from financially sound reputed company from India and abroad having good experiences to undertake such job on priority. The work is critical in nature and is to be completed in a time bound manner.

3. Eligibility Criteria:

Firm/Organization having necessary domain knowledge (both technical and functional) and experience of successfully executing pre-drainage of methane and its utilization shall be considered for evaluation.

Firm/organization from India and abroad may be a sole firm/organization or an associate (consortium) having state-of-art competency from concept to commissioning with wide experience in pre-drainage of methane and/or Coalbed Methane (CBM) or Coal Mine Methane (CMM) recovery in effective manner and its commercial utilization.

Firm/organization from India and abroad having wide experience in pre-drainage of gas from active coal mines with a proven credibility and reliability will be preferred who are currently engaged for pre-drainage of large Longwall operations using established drilling methodologies.

It is desirable that firm/organization should have at least 10 years' experience in gas drainage from active coal mining areas and having in-house capabilities of drilling for (i) Underground In Seam Drilling (UIS); (ii) Surface to In Seam Drilling (SIS) with horizontal wells; (iii) Goaf Drilling; and or combinations of these methods; and competency for resource estimation in distressed condition, reservoir modelling and related activities for recovery and end use utilization.

4. Scope of Work

4.1 Pre-drainage of Methane within Moonidih mine in Jharia coalfield by the most appropriate/suitable technology which have to be carried out by the financial sound Firm/organization from India or Abroad having sufficient experience and equipment for execution of job.

4.2 Extraction of Methane gas through pre-drainage from working or to be worked out coal seams i.e; Seam XVIT.

Annexures with respect to Moonidih project given as **(I)** Schematic Map of Jharia coalfield, **(II)** Block Location Map for Moonidih block, **(III)** Schematic geological Log Section, Moonidih block, Jharia Cf, **(IV)** Coal Seams Sequence and Parting Range, **(V)** Working Plan of Seam XVI, and **(VI)** Nature of immediate roof and floor rocks of different Seams.

The job will be executed on “concept to commissioning” basis to recover or produce gas from coal seams on “turn key basis” i.e. Built Own Operate model or other applicable model which may include following:

Technical Assessment and feasibility through study	Resource evaluation and Reservoir modelling and envisaged production forecasts,
Economic assessment and feasibility	Economic assessment and Market survey
Field operations	Drilling & completion of wells as per global best practices for pre-mine methane drainage,
	Production operations
Use(s)	As per defined end use

5. Deliverables

Effective pre-drainage of methane resulting in smooth mining operations and utilization of drained/captured CMM in an economic manner subject to applicable legislation and guidelines in this regard including but not limited to gas utilization policy.

6. CMPDI/BCCL's responsibility

All the necessary inputs such as Geologic information, mining status, data on gassiness on seams, ventilation data or any other data of relevance will be provided. The company shall make best efforts to provide existing infrastructure facilities to the extent possible.

7. Formulation of Tender Specific Document (TSD)

Based on the above consideration and information /documents submitted by the respondents to this **EoI**, a bidder's meet will be convened to discuss and define the terms and conditions suitable for formulation of Notice Inviting Tender (NIT)/ Tender Specification Document (TSD). Subsequently, Notice Inviting Tender (NIT)/ Tender Specification Document (TSD) will be finalized and floated for global e-tendering to select suitable financially sound experienced Firm/organization for ***"Pre-drainage of Methane within Moonidih mine in Jharia coalfield under Bharat Coking Coal Limited (BCCL), Dhanbad (Jharkhand) India"***.

CMPDI reserves the right to (a) accept or reject any/all EoI submitted by potential bidders, (b) cancel the process at any time without any liability and assigning any reason thereof.

8. Submission of Expression of Interest (EoI):

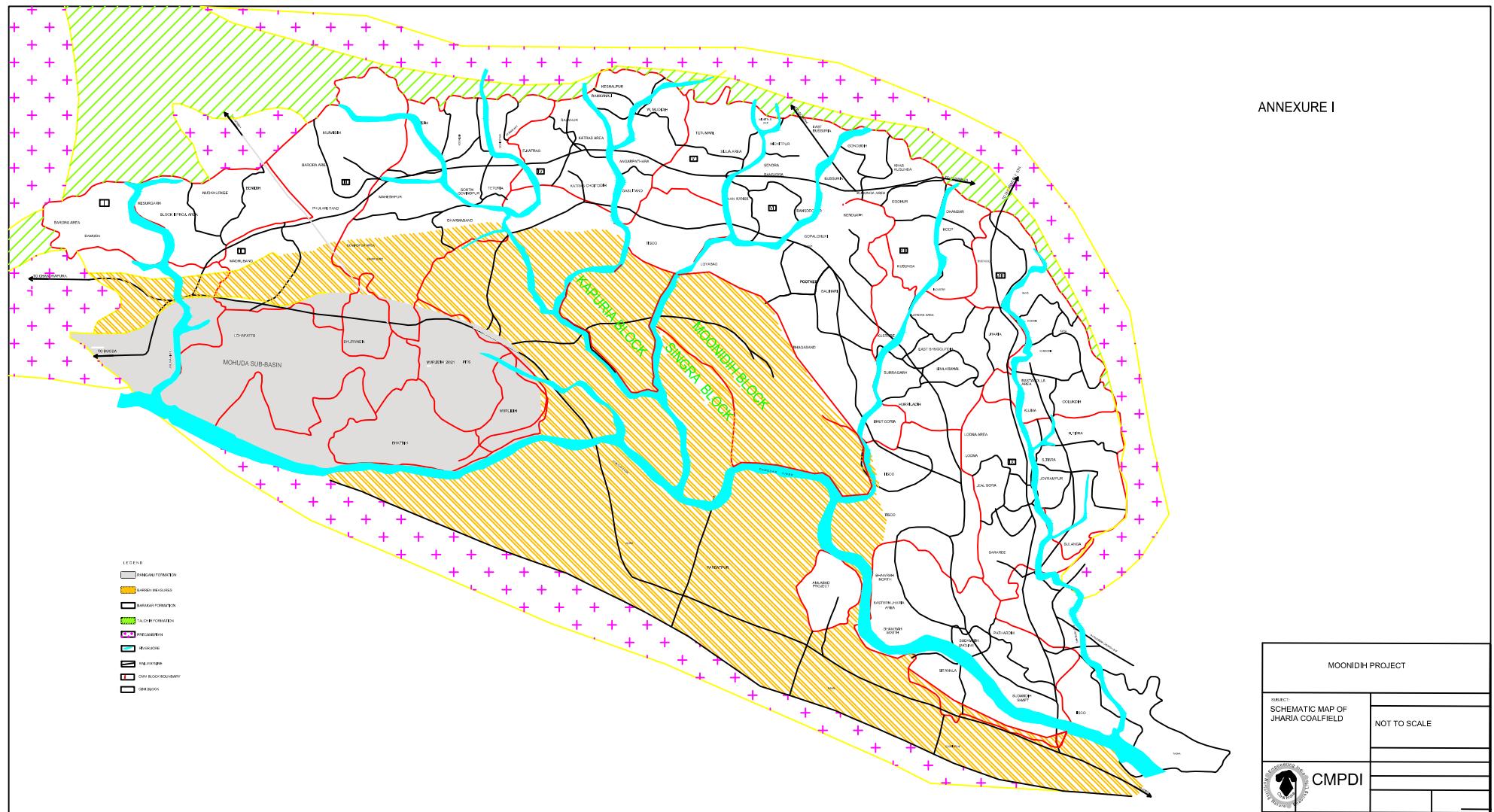
CMPDI looks forward to receive response in this regard. Interested parties please submit their Expression of Interest (EoI) along with supporting information/document by hard copy in duplicate in a sealed envelope super-scribing "***Expression of Interest for Pre-drainage of Methane within Moonidih mine in Jharia coalfield under Bharat Coking Coal Limited (BCCL), Dhanbad (Jharkhand) India.***" EoI should be submitted with covering along with organization brief duly signed and submitted in compatible electronic version also preferably in Pen drive/ CD/ DVD. EoI may be submitted by e-mail also by due date, but it must be followed by duly signed hard copy along with compatible electronic version preferably in Pen drive/ CD/ DVD.

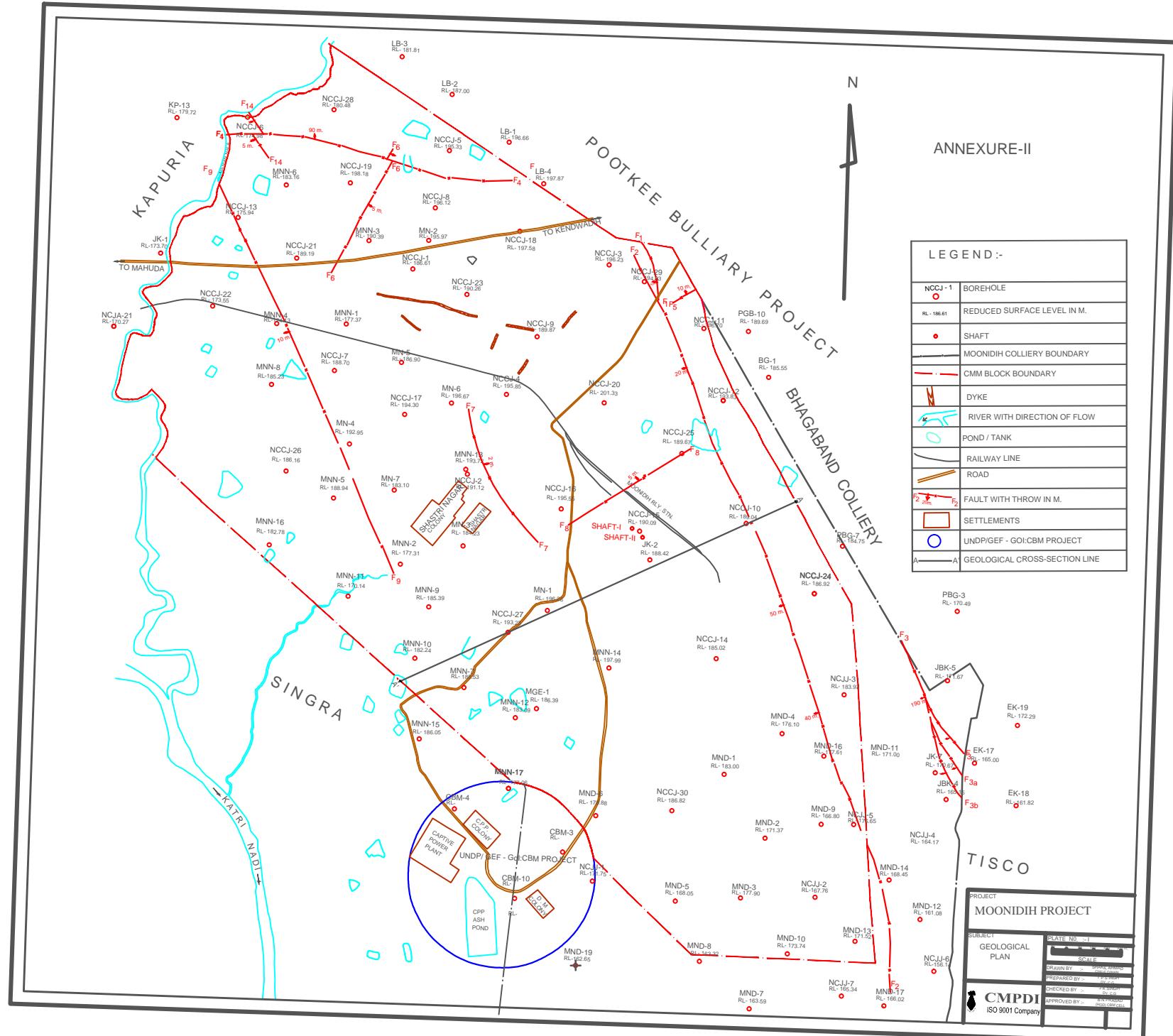
Offers must be **submitted** latest by **15.00 Hrs. (IST)** on or before **10th March,2017** at the following address:

General Manager (CBM), CBM Cell, Central Mine Planning & Design Institute Ltd (CMPDI), Gondwana Place, Kanke Road, Ranchi-834031, Jharkhand, India. E-mail: hodcbm.cmpdi@coalindia.in Tel: +91-651-2230011 Fax: +91-651-223-3314/223-1447.

ANNEXURES

ANNEXURE I





ANNEXURE III

SCHEMATIC GEOLOGICAL LOG SECTION MOONIDIH CMM BLOCK, JHARIA COALFIELD			
FORMATION/ SEAM NAME	LOG	COAL SEAM THICKNESS RANGE (m)	PARTING RANGE (m)
ALLUVIUM/SOIL		4.50-12.00	
INTRUSIVES			
BARREN MEASURES		Up to 270 (+)	
BARAKAR			
XVIII		1.25-6.10	
XVII TOP		Up to 2.65	32-60
XVII BOTTOM		0.25-2.05	14-40
			96-125
XVI COMBINED (Splits in XVI Top & Bottom)		4.15-6.31	
			87-128
XV COMBINED (Splits in XV Top & Bottom)		5.99-9.25	
			37-73
XIV		4.25-12.04	
XIII		1.90-8.69	3-18
XII		3.43-5.59	10-25
XI		1.59-6.19	6-24
X		2.44-4.41	18-60
IX		2.51-4.12	2-68
VIIIC		2.56-2.71	62-69
VIIIB		1.85-2.64	4-5
VIIIA		0.71-1.52	8-10
VIII		4.75 - 7.96	18-55
V/VI/VII		32.91*- 37.56*	58-105 From IX 8*-26*
IV		5.66*-10.62*	2*-8*
III		5.76*-11.82*	9*-51*
II		1.65*-7.38*	9*-31*
I (Splits in ITop, Mid. & Bot)		7.63*-10.67*	15*-20*
TALCHIR METAMORPHICS		-	

(Scale :- Schematic)

* - Data considered from adjacent block

ANNEXURE - IV

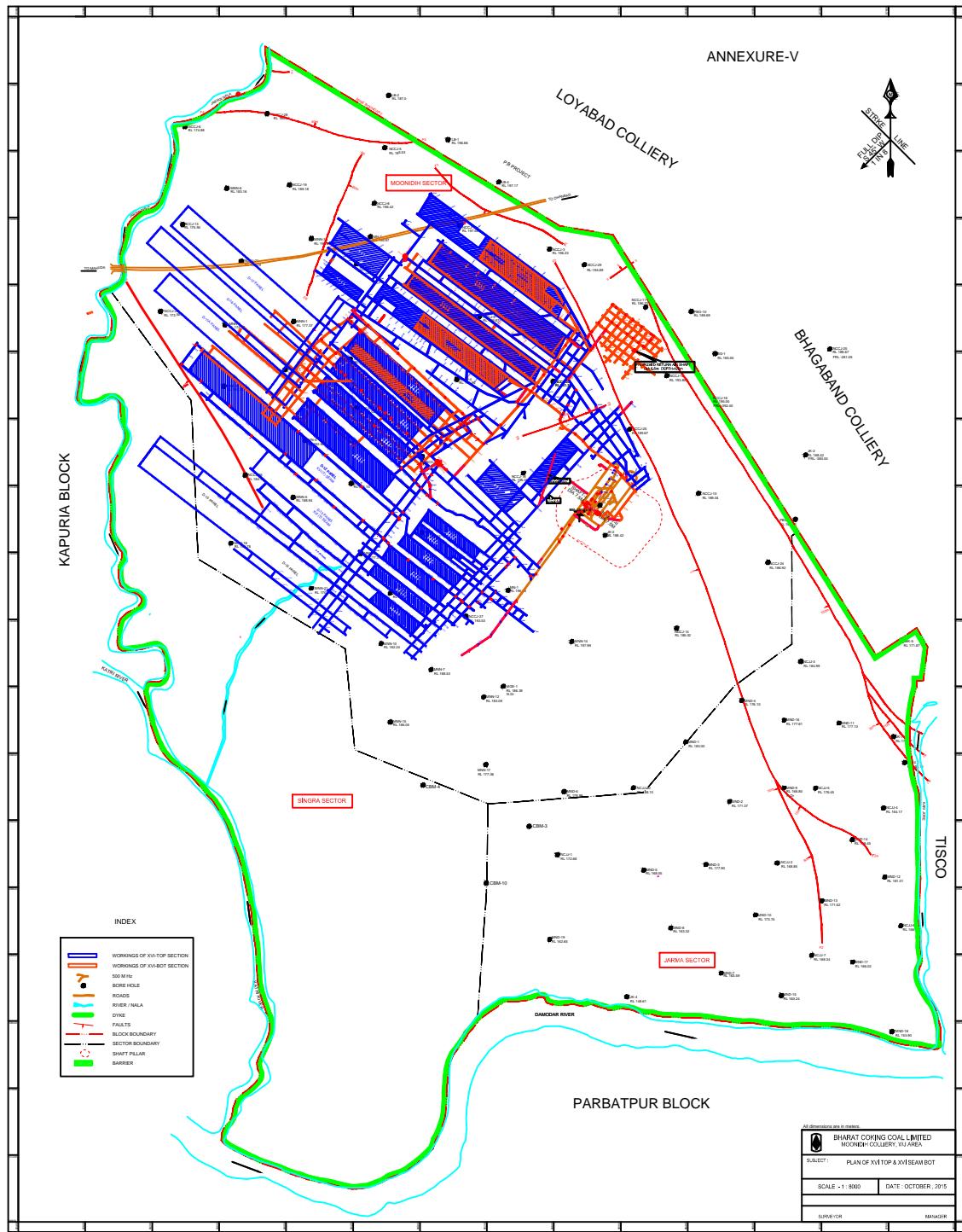
Sequence of Coal Seams & Parting in Moonidih Block

Coal Seams & Parting	Thickness Range (m)	
	Minimum	Maximum
XVIII	1.25	6.10
P	32	60
XVII TOP		UP TO 2.65
P	14	40
XVII BOT	0.25	2.05
P (XVII BOT TO XVI COMB)	96	101
P (XVII BOT TO XVI TOP)	74	125
XVI COMB	4.15	6.31
XVI TOP	1.52	8.53
P		UP TO 28
XVI BOT	0.58	4.40
P (XVI COMB TO XV COMB)	89	104
P (XVI COMB TO XV TOP)	106	126
P (XVI BOT TO XV TOP)	89	125
P (XVI BOT TO XV TOP)	87	128
XV COMB	5.15	10.77
XV TOP	1.53	4.16
P		UP TO 12.12
XV BOT	1.65	6.15
P	37	73
XIV	4.25	11.35
P	3	18
XIII	1.90	8.69
P	10	25
XII	3.43	5.59
P	6	24
XI	1.59	6.19
P	18	60
X	2.44	4.41
P	2	68
IX	2.51	4.12
P	62	69
VIII C	2.56	2.71
P		UP TO 4.5
VIII B	1.85	2.64

ANNEXURE - IV

Coal Seams & Parting	Thickness Range (m)	
	Minimum	Maximum
P	8	10
VIII A	0.71	1.52
P (FROM VIII A)	18	55
P (FROM IX)	58	105
VIII	4.75	8.21
P	9	11
V/VI/VII		UP TO 32.91
P		8
IV		10.62
P		53
III		11.82
P	7	31
II	2.67	6.40

ANNEXURE-V



ANNEXURE - VI

NATURE OF IMMEDIATE ROOF AND FLOOR ROCKS OF COAL SEAMS AT MOONIDIH MINE, JHARIA COALFIELD, DHANBAD

Seam	Roof Rock	Floor Rock	Depth Range (meter)
XVIII	Generally intercalation of shale and sandstone but at places carbonaceous shale.	Generally intercalation of shale and sandstone but at places varies to shale and carbonaceous shale.	80-590
XVII Top	Intercalation of shale and sandstone.	Intercalation of shale and sandstone.	120-640
XVII Bot	Intercalation of shale and sandstone.	Intercalation of shale and sandstone.	140-650
XVI Top	Generally intercalation of shale and sandstone but at few places carbonaceous shale.	Generally intercalation of shale and sandstone but at few places carbon	230-780
XVI Bot	Generally sandstone but at few places intercalation of shale and sandstone.	Generally intercalation of Shale and sandstone but at places varies to sandstone.	240-790
XV Top	Generally carbonaceous shale to shale but few places alternating shale and sandstone	Generally standstone but varies to alternating shale and sandstone and at few places carbonaceous shale or shale.	310-900
XV Bot	Generally sandstone but varies to alternating shale and stone	Generally intercalation of shale and sandstone but varies to sandstone.	320-910