



सत्यमेव जयते

Geoscientific Information of CBM Blocks for Special CBM Bid Round – 2021



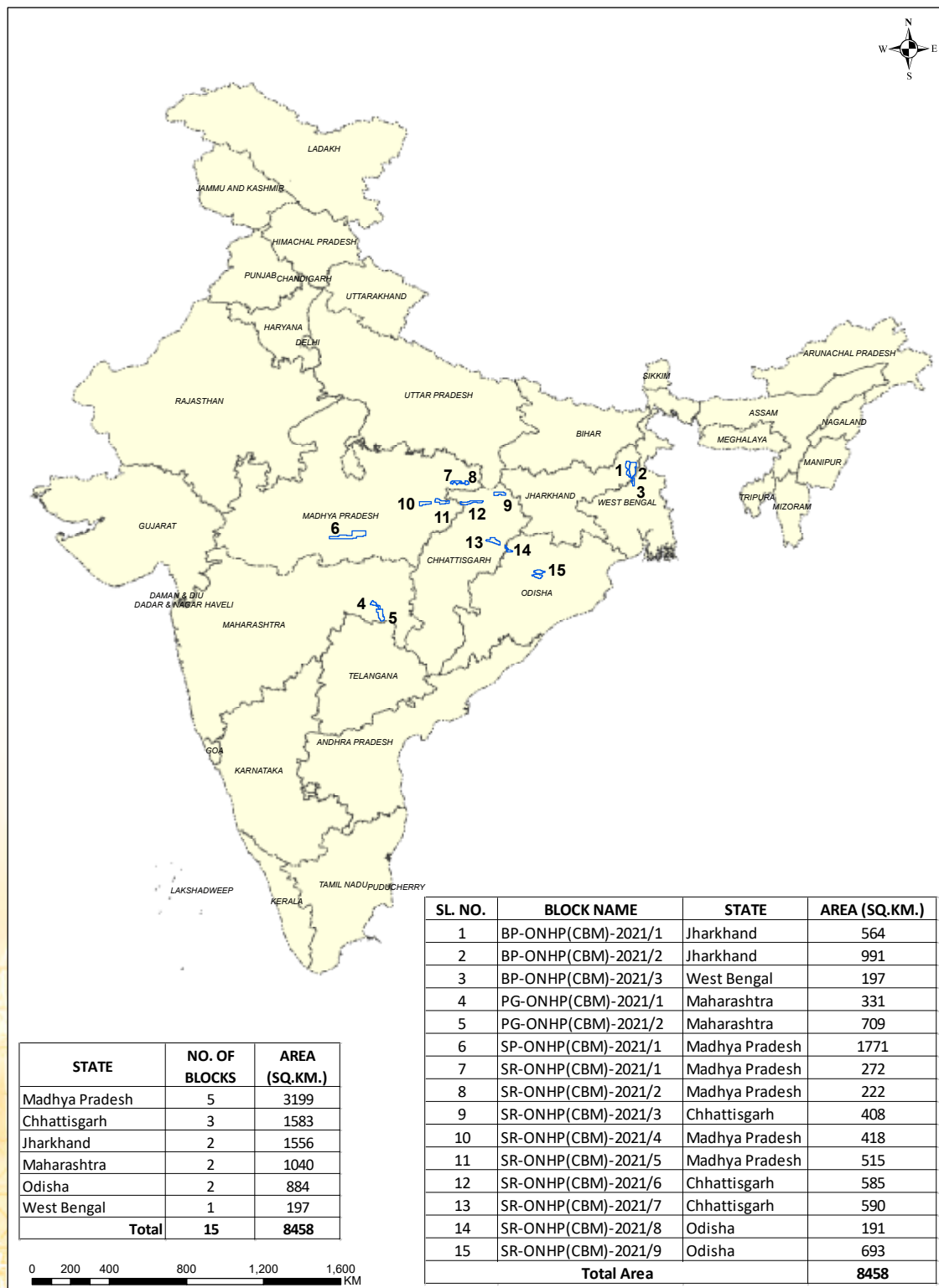
Disclaimer

This booklet, Geoscientific information, is prepared based on original inputs of data within the Contract area wherever available. The information surrounding the Contract Area and Basin/Coalfield have also been used for general understanding. DGH has collated the key information of the subsurface with the intent to guide and support the prospective bidders through their bidding process, including viewing of data at NDR. The factual correctness and content clarity of information including the prognosticated CBM resource are therefore limited to available information and will stand for future review and scrutiny upon additional and clarified data/information.



**GEOSCIENTIFIC
INFORMATION FOR
SPECIAL CBM ROUND 2021**

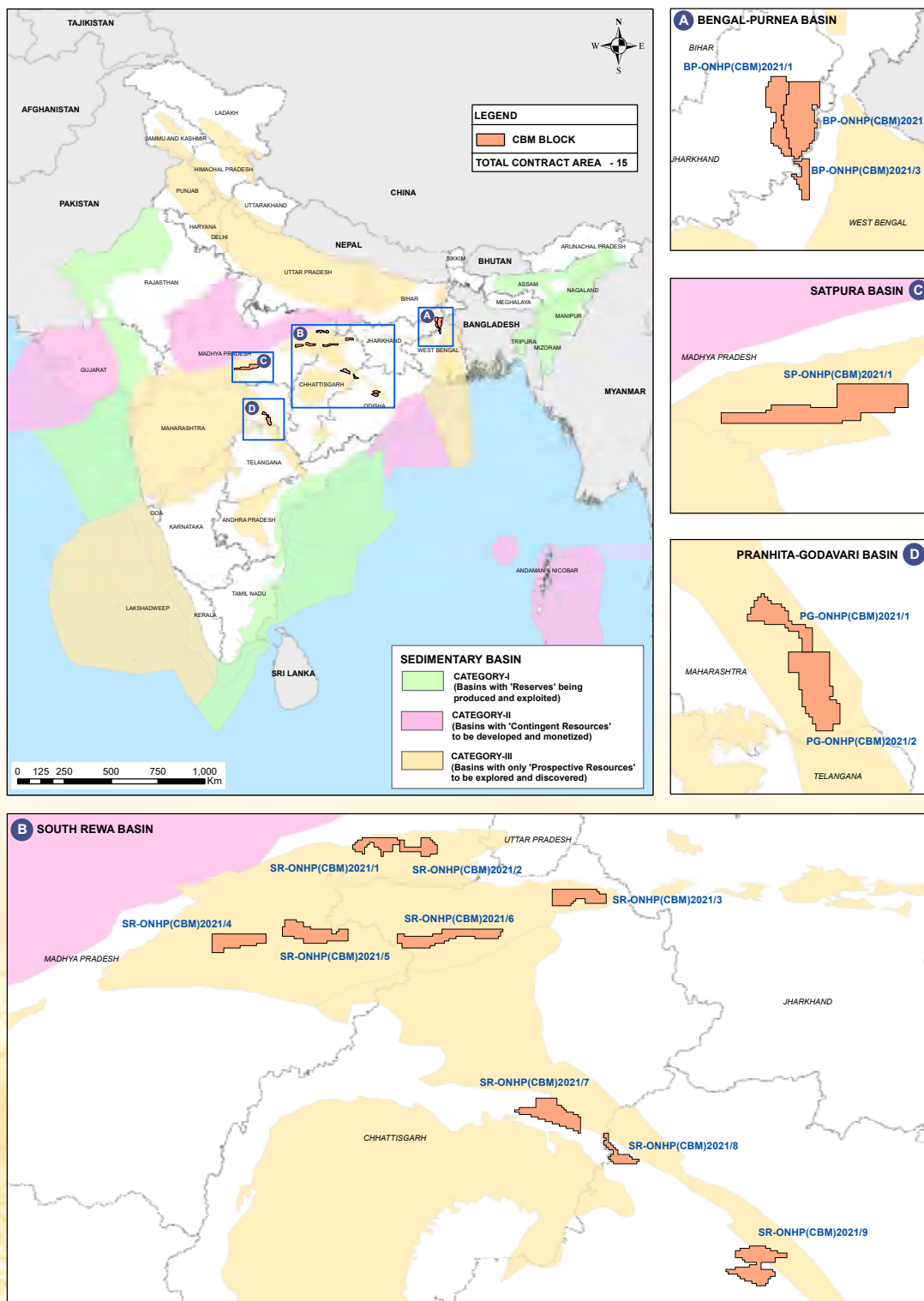
Blocks on Offer: Special CBM Bid Round-2021



Brief of Contract Areas

Sl. No.	BASIN	BLOCK	STATE	AREA (Sq.Km.)
1	Bengal-Purnea	BP-ONHP(CBM)-2021/1	Jharkhand	564
		BP-ONHP(CBM)-2021/2	Jharkhand	991
		BP-ONHP(CBM)-2021/3	West Bengal	197
2	Pranhita-Godavari	PG-ONHP(CBM)-2021/1	Maharashtra	331
		PG-ONHP(CBM)-2021/2	Maharashtra	709
3	Satpura	SP-ONHP(CBM)-2021/1	Madhya Pradesh	1771
4	South Rewa	SR-ONHP(CBM)-2021/1	Madhya Pradesh	272
		SR-ONHP(CBM)-2021/2	Madhya Pradesh	222
		SR-ONHP(CBM)-2021/3	Chhattisgarh	408
		SR-ONHP(CBM)-2021/4	Madhya Pradesh	418
		SR-ONHP(CBM)-2021/5	Madhya Pradesh	515
		SR-ONHP(CBM)-2021/6	Madhya Pradesh	585
		SR-ONHP(CBM)-2021/7	Chhattisgarh	590
		SR-ONHP(CBM)-2021/8	Odisha	191
		SR-ONHP(CBM)-2021/9	Odisha	693
Total				8458

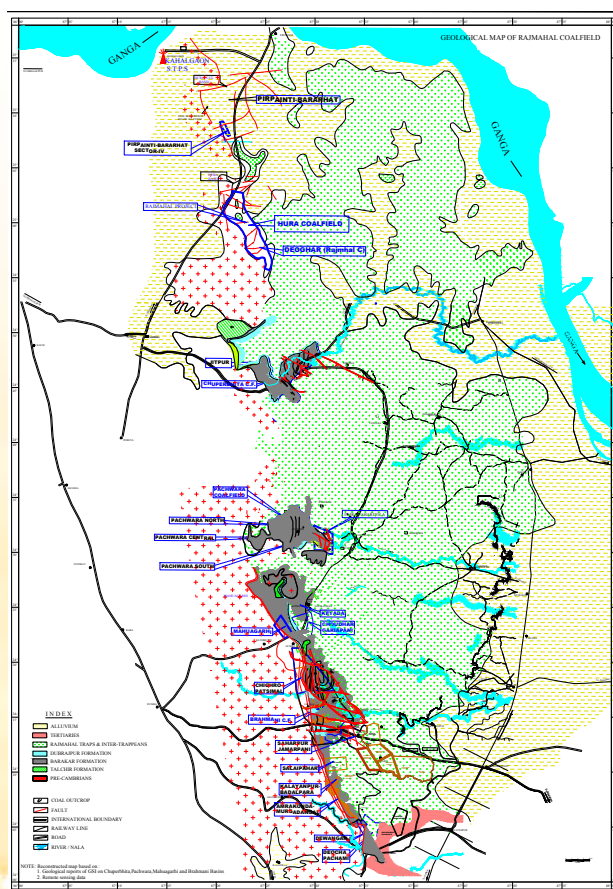
Index Map of Offered CBM Blocks



Bengal-Purnia Basin

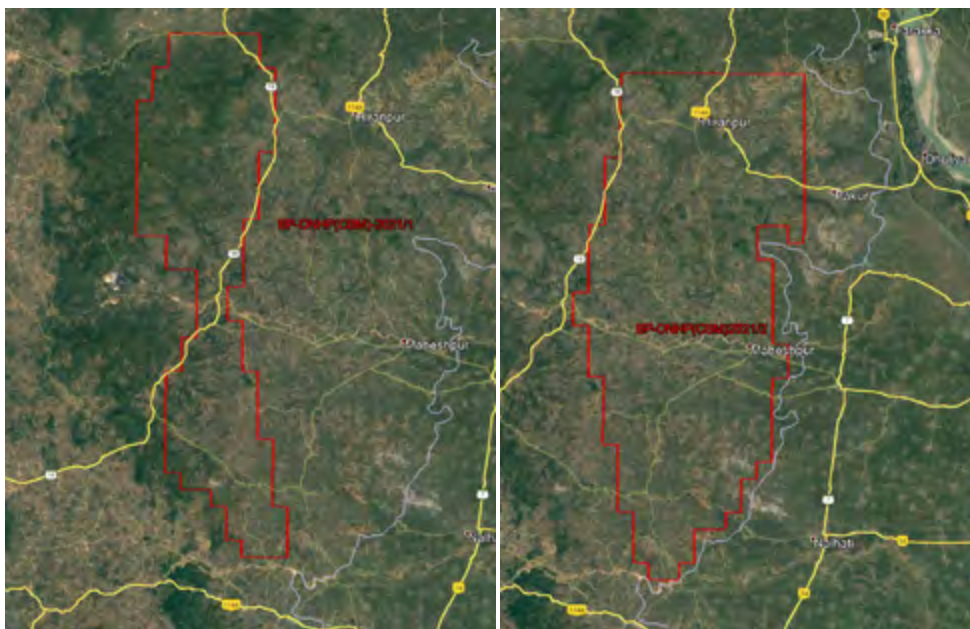
Coalfield	Offered CBM Blocks	Area (Sq. Km.)	Prognosticated CBM Potential (BCM)
Rajmahal	BP-ONHP (CBM)-2021/1	564.21	190.08
	BP-ONHP (CBM)-2021/2	991.44	79.98
Birbhum	BP-ONHP (CBM)-2021/3	197.00	39.73

Rajmahal Coalfield



Geological Map of Rajmahal CF

Rajmahal Coalfield



Blocks Location

Age	Formation	Lithotype	Thickness (m)
Recent/Quaternary	Soil/Alluvium	Loose soil and clay	
Lower Cretaceous	Rajmahal Traps & intertrappean	Basic volcanics with sedimentary intertrappean	200+
Unconformity			
Upper Triassic to Jurassic	Dubrajpur Formation	Medium to coarse grained ferruginous sandstone, pebble beds & chocolate shale	40 to 150
Lower Triassic	Panchet formation (in northern part)	Fine grained greenish sandstone, shale	80 to 600+
Unconformity			
Lower Permian	Barakar Formation	Conglomerate, sandstone, shale and coal seams	330 to 600
Early Permian	Talchir Formation	Diamictite, fine grained sandstone, red and green shale	5 to 70
Precambrian	Chotanagpur Gneissic complex	Granite Gneiss with Quartz vein	

Generalised Stratigraphy

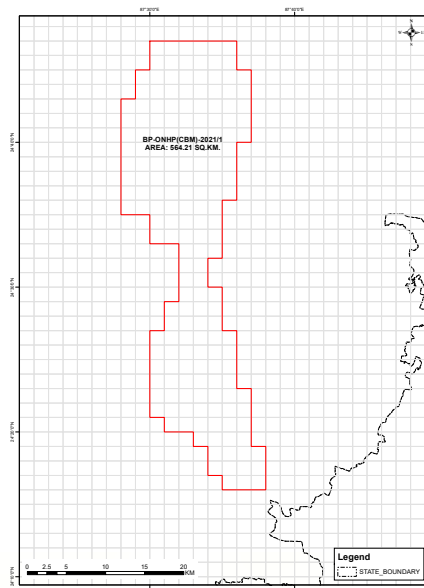


Blocks on Offer

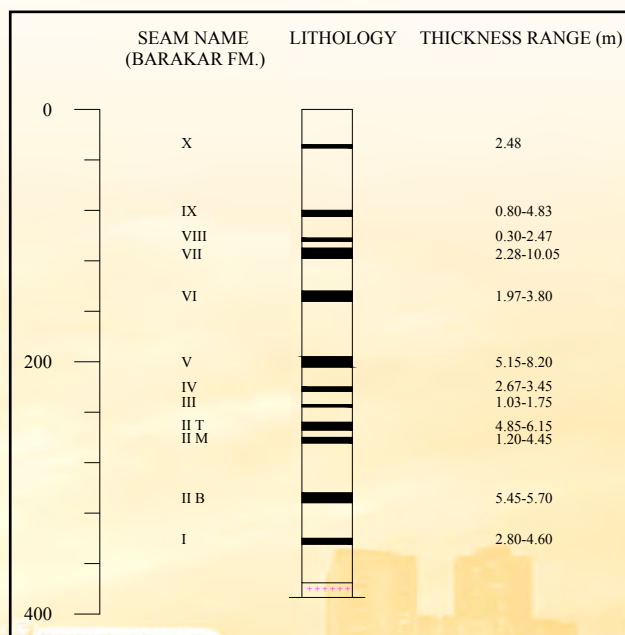
BP-ONHP(CBM)-2021/1

BP-ONHP(CBM)-2021/1	
Area (Sq. Km.)	564.21
No. of Wells	Nil
Other Studies	Nil
Reports	1 Well report

Block Information



Location Map



Generalised Seam Sequence

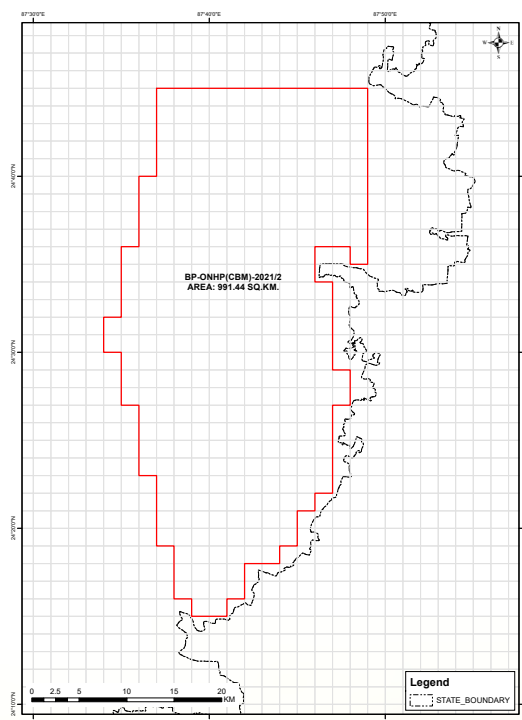
SL NO.	PARAMETER	QUALITY
1	Target Coal Seam	Barakar Coal seams II,III,V, VI
2	Ash Content (%)	18 – 46.3
3	Vitrinite Content (%)	29.3-79.5
4	Vitrinite Reflectance (%Ro)	0.38-0.57
5	Coal Rank	High Volatile Bituminous 'C' to 'B' category
6	Gas Storage Capacity (m3/t)	1.43-1.57
7	Gas Content (m3/t)	5
8	Permeability (mD)	12.6-34

Reservoir Properties

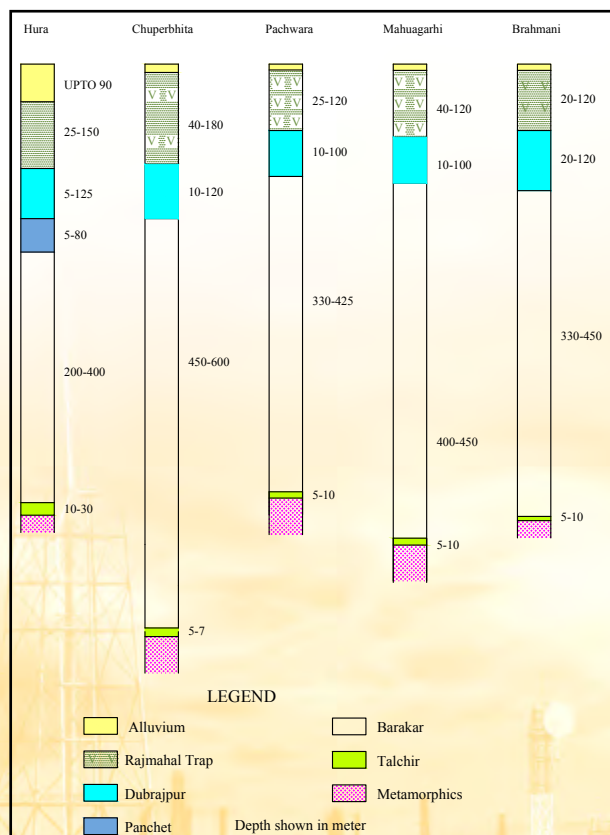
BP-ONHP(CBM)-2021/2

BP-ONHP(CBM)-2021/2	
Area (Sq. Km.)	991
No. of Wells	Nil
Other Studies	Nil
Reports	Nil

Block Information



Location Map



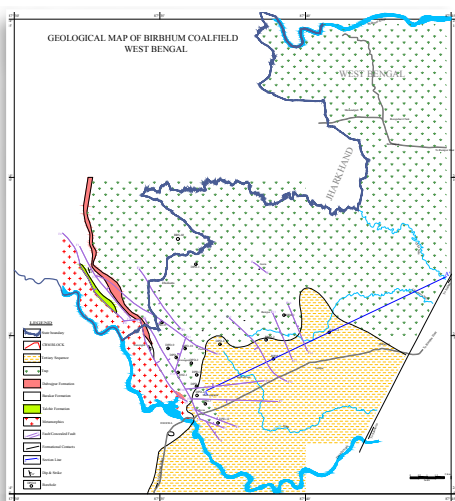
Generalised Seam Sequence

SL NO.	PARAMETER	QUALITY
1	Target Coal Seam	Barakar Coal seams II,III,V,VI
2	Ash Content (%)	18 – 46.3
3	Vitrinite Content (%)	29.3-79.5
4	Vitrinite Reflectance (%Ro)	0.32 to 0.81
5	Coal Rank	High Volatile Bituminous 'B' to 'C' category
6	Gas Content (m3/t)	2.88

Reservoir Properties



Birbhum Coalfield



Geological Map of Birbhum CF



Block Information

Age	Formation	Lithotype	Thickness (m)
Recent	Surficial deposit	Soil/alluvium	--
Quaternary	Surficial deposit	Laterite, Lateritic soil, Lateritic gravel with petrified wood	--
Tertiary	Undifferentiated Tertiary deposit	Dirty white clay, sandy clay and coarse grained friable sandstones	45
UNCONFORMITY			
Early Cretaceous	Igneous intrusives	Basic (Dolerite) dykes/sills	
Cretaceous	Rajmahal Formation	Tholeiitic basalt with beds of grey shale carb shale, sandstone olite etc.	250
UNCONFORMITY			
Late Triassic to Early Jurassic	Dubrajpur Formation	Pebbly S.stones, mottled coarse to medium grained sandstone, red siltstone, arenaaceous clay with carbonaceous shale and thin Coal bands	130
UNCONFORMITY			
Lower Permian	Barakar Formation	Pebbly Sandstones, white to light grey fine to coarse grain sandstone, grey shale, carb shale, fire clay and Coal seams	650
Early Permian	Talchir Formation	Diamictite, greenish sandstone Rhythmites, clays and muds etc.	310
UNCONFORMITY			
Precambrian	Chotanagapur Granite Gneiss	Granite, gneiss pegmatite quartz veins, basic dykes etc.	

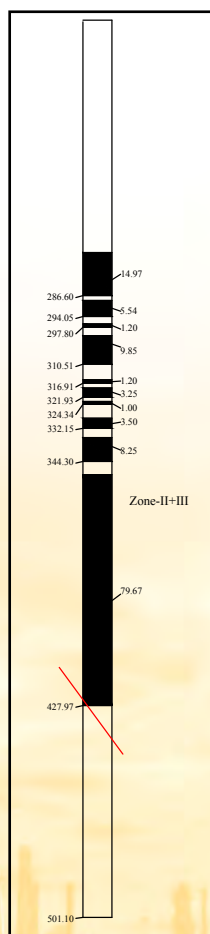
Generalised Stratigraphy

Blocks on Offer

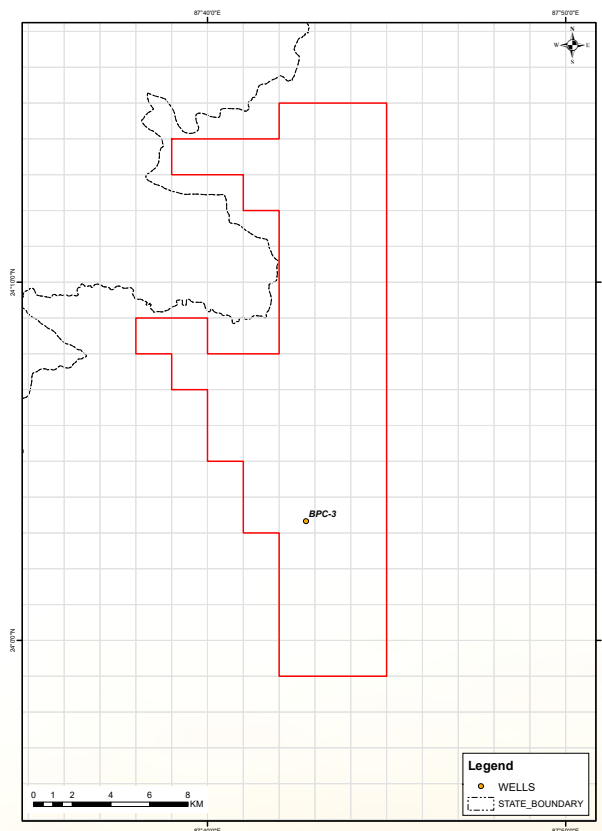
BP-ONHP(CBM)-2021/3

BP-ONHP(CBM)-2021/3	
Area (Sq. Km.)	197
No. of Wells	1 Core Hole
Other Studies	Nil
Reports	Well Completion Report

Block Information



Generalised Seam Sequence



Location Map

SL NO.	PARAMETER	QUALITY
1	Target Coal Seam	Barakar Coal Seams Zone II -III
2	Ash Content (%)	24-28
3	Vitrinite Content (%)	16.5-79.5
4	Vitrinite Reflectance (%Ro)	0.42-0.55
5	Coal Rank	High Volatile Bituminous B/C
6	Calorific Value (Kcal/kg)	3300-4500
7	Gas Content (m3/t)	4

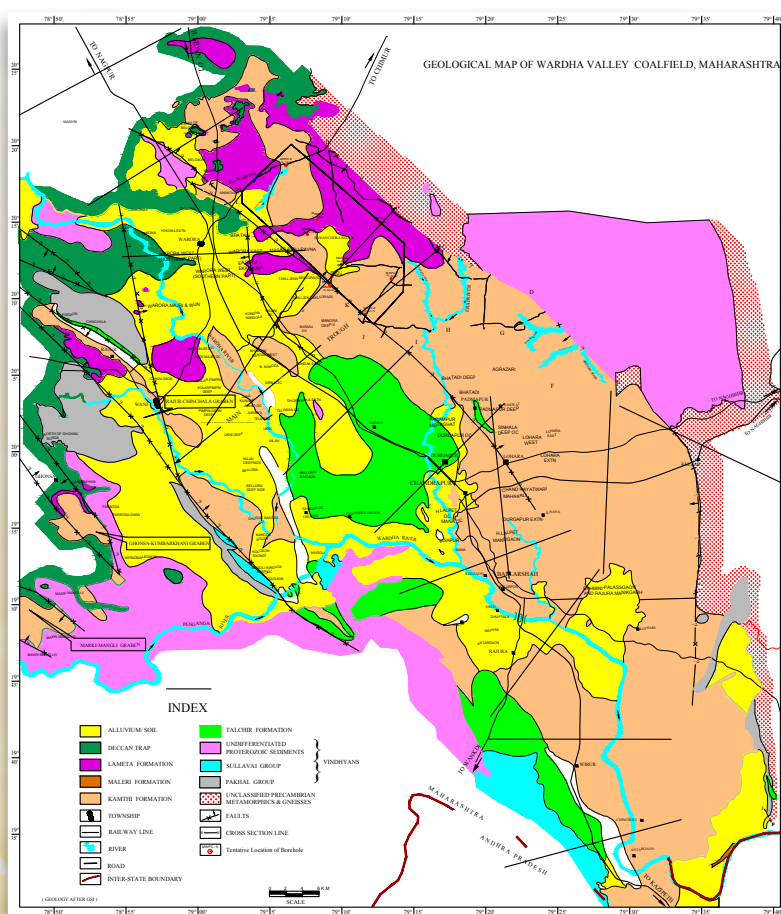
Reservoir Properties



Pranhita Godavari Basin

Coalfield	Offered CBM Blocks	Area (Sq. Km.)	Prognosticated CBM Potential (BCM)
Wardha	PG-ONHP(CBM)-2021/1	331.21	28.19
	PG-ONHP(CBM)-2021/2	708.87	71.93

Wardha Coalfield



Geological Map of Wardha Coalfield

Wardha Coalfield



Blocks Location

Age	Formation	Lithology (Thickness)	
Recent	Alluvium	Black cotton soil, sandy soil, kankar, laterite, etc. (20 m)	
Upper Cretaceous to Eocene	Deccan Trap	Basalts (100 m)	
Unconformity			
Cretaceous	Lameta	Limestone, Cherts and Silicified sandstone (50 m)	
Unconformity			
Upper Triassic	Maleri (only in the south-eastern extremity)	Fine to medium grained sandstone and red shales (100 m)	
Upper Permian to Lower Triassic	Kamthi	Red, brown and variegated sandstone, reddish siltstone and variegated shales, thin coal bands (800m)	
Unconformity			
Middle Permian	Motur	Medium to fine grained variegated sandstone, variegated clays, and shales (300m)	
Lower Permian	Barakar	Light grey to white sandstones, shales and coal seams (400 m)	
Upper Carboniferous to Lower Permian	Talchir	Greenish to dark grey shale and sandstone (200m)	
Unconformity			
Proterozoic	Vindhyan Group	Sullavai Sandstone	White to light brown, fine to coarse grained sandstone, conglomerates (thickness not estimated)
		Pakhal Limestone	Grey, bluish, pinkish limestone (thickness not estimated)
Unconformity			
Archaean	Metamorphics		Gneisses & Schists

Generalised Stratigraphy

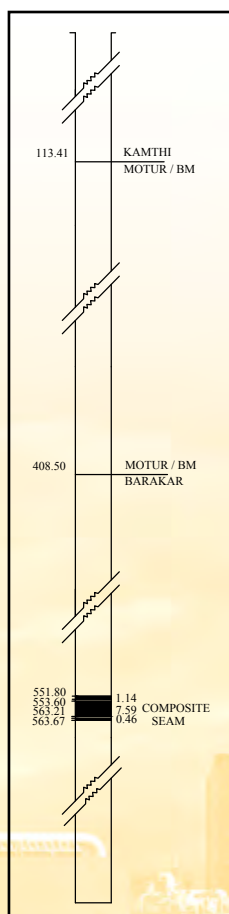


Blocks on Offer

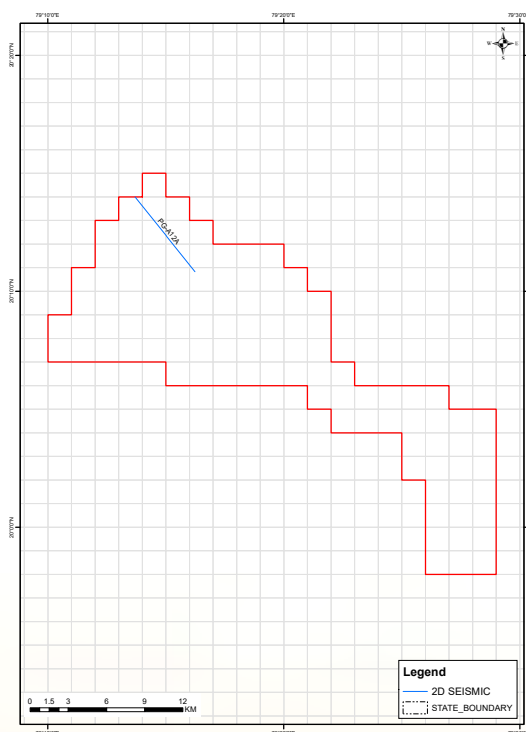
PG-ONHP(CBM)-2021/1

PG-ONHP(CBM)-2021/1	
Area (Sq. Km.)	331
No. of Wells	Nil
Other Studies	2D Seismic- 7 LKM
Reports	Nil

Blocks Location



Generalised Seam Sequence



Location Map

SL NO.	PARAMETER	QUALITY
1	Target Coal Seam	Barakar Composite seam (I,II,III)
2	Ash Content (%)	16-40
3	Vitrinite Content (%)	20-76
4	Vitrinite Reflectance (%Ro)	0.5-0.70
5	Coal Rank	High Volatile Bituminous 'B' to sub bituminous 'C'
6	Gas Content (m ³ /t)	4-6

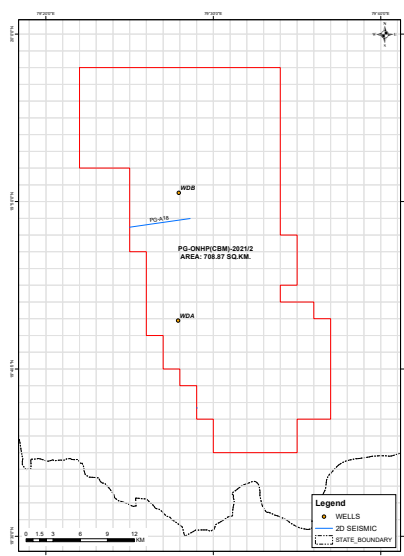
Reservoir Properties

PG-ONHP(CBM)-2021/2

PG-ONHP(CBM)-2021/2

Area (Sq. Km.)	709
No. of Wells	2 wells
Other Studies	2D Seismic- 6.4 LKM
Reports	1 Well Re- port

Blocks Location



Location Map

AGE	FORMATION	LITHOLOGY	MAXIMUM THICKNESS (m)
UP.CRETACEOUS TO EOCENE	DECCAN TRAP		100
CRETACEOUS	LAMETA		50
UPPER TRIASSIC	MALERI		100
UPPER PERMIAN TO LOWER TRIASSIC	KAMTHI		800
MIDDLE PERMIAN	MOTUR		300
LOWER PERMIAN	BARAKAR		400
UPPER CARBONIFEROUS TO LOWER PERMIAN	TALCHIR		200
PROTEROZOIC	VINDHYAN		NOT ESTIMATED
ARCHAEOAN	METAMORPHICS		

Generalised Seam Sequence

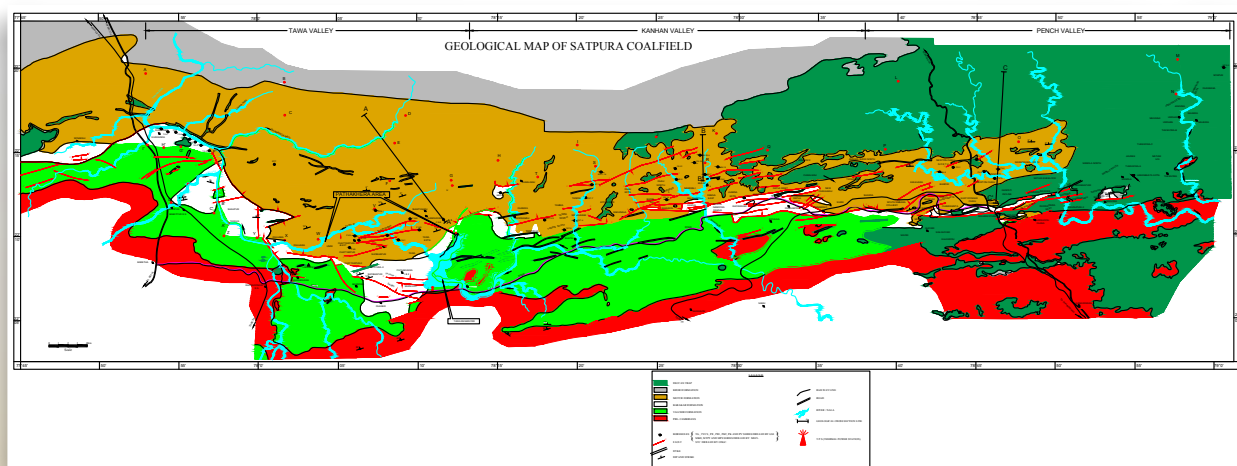
SL NO.	PARAMETER	QUALITY
1	Target Coal Seam	Barakar Composite seam (I,II,III)
2	Ash Content (%)	16-40
3	Vitrinite Content (%)	20-76
4	Vitrinite Reflec- tance (%Ro)	0.5-0.70
5	Coal Rank	High Volatile Bituminous 'B' to sub bituminous 'C'
6	Gas Content (m3/t)	4-6

Reservoir Properties

Satpura Basin

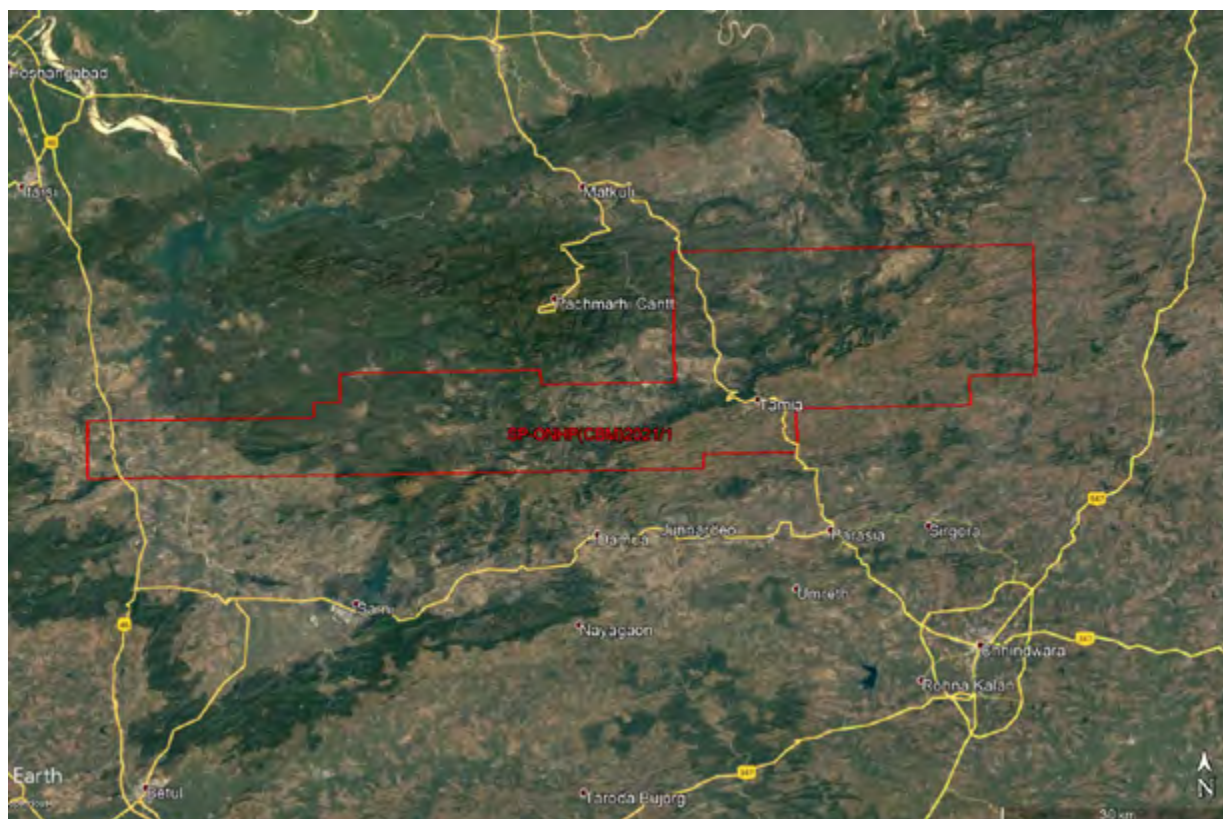
Coalfield	Offered CBM Blocks	Area (Sq. Km.)	Prognosticated CBM Potential (BCM)
Satpura	SP-ONHP(CBM)-2021/1	1770.89	18.37

Satpura Coalfield



Geological Map of Satpura Coalfield

Satpura Coalfield



Block Location

Age	Formation	Lithology
Recent	Alluvium	
Upper Cretaceous	Deccan trap	Basalt (more than 200 m)
Middle Permian	Motur	Buff, green and variegated clays with coarse to very coarse grained sandstones (about 750 m)
Lower Permian	Barakar	Coarse to medium grained sandstones, shales, carbonaceous shales and coal seams (70 m – 450 m)
Upper Carboniferous to early Permian	Talchir	Diamictites, sandstones grey and olive green needle shales, varves and rhythmites (max. about 490 m)
Unconformity		
Precambrian	Gneisses, schists, quartzites, limestones, etc.	

Generalised Stratigraphy

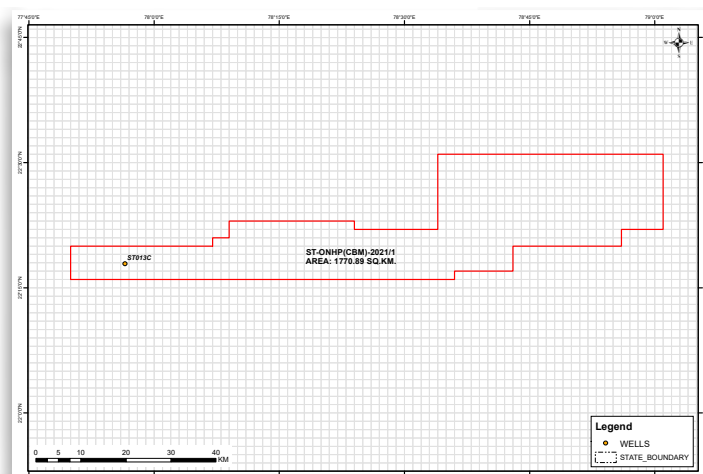


Blocks on Offer

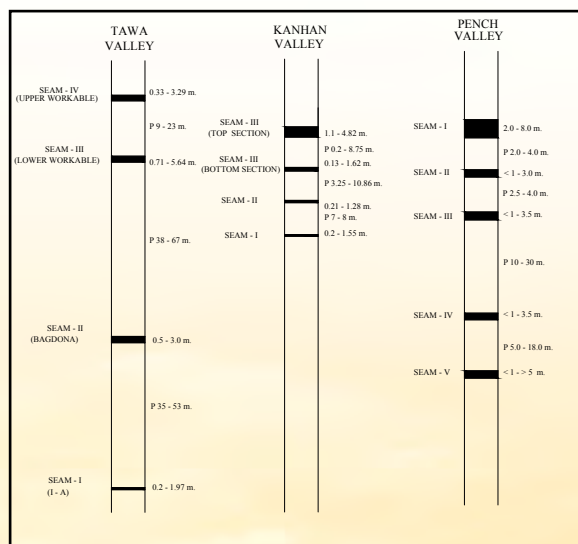
SP-ONHP(CBM)-2021/1

SP-ONHP(CBM)-2021/1	
Area (Sq. Km.)	1770
No. of Wells	1 well
Other Studies	Nil
Reports	1 Well Report

Block Information



Location Map



Generalised Seam Sequence

SL NO.	PARAMETER	QUALITY
1	Target Coal Seam	Barakar seams III, IV, V
2	Ash Content (%)	16-40
3	Vitrinite Content (%)	26-48
4	Vitrinite Reflectance (%Ro)	0.42 - 0.99
5	Coal Rank	High Volatile Bituminous A
6	Gas Content (m³/t)	4-6
7	Permeability (mD)	0.15 - 15

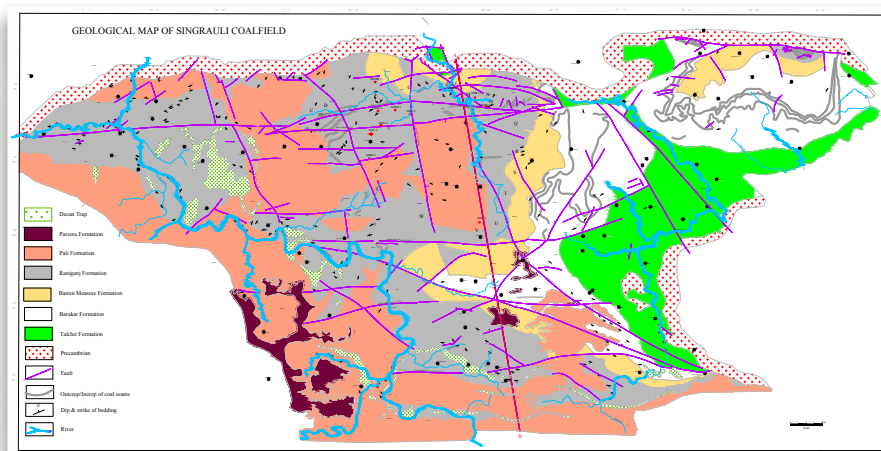
Reservoir Properties

South Rewa Basin

Coalfield	Offered CBM Blocks	Area (Sq. Km.)	Prognosticated CBM Potential (BCM)
Singrauli	SR-ONHP(CBM)-2021/1	272.14	4.04
	SR-ONHP(CBM)-2021/2	222.13	20.87
Tata-Pani Ramkola	SR-ONHP(CBM)-2021/3	407.80	48.08
Johila	SR-ONHP(CBM)-2021/4	418.18	12.71
Sohagpur	SR-ONHP(CBM)-2021/5	515.45	14.39
Sonhat	SR-ONHP(CBM)-2021/6	584.71	24.10
Mand-Raigarh	SR-ONHP(CBM)-2021/7	590.00	110.74
IB	SR-ONHP(CBM)-2021/8	190.70	31.11
Talchir	SR-ONHP(CBM)-2021/9	693.33	92.80



Singrauli Coalfield



Geological Map of Singrauli CF



Blocks Location

Age	Formation	Thickness (m)	Lithology
Late Cretaceous	Deccan trap	60	Basic sills and dykes
Unconformity			
Early Triassic	Pali/ Panchet Formation	150-250	Fine to coarse grained sandstone, white grey, green and buff shales
Upper Permian	Raniganj Formation	Maximum 200	Fine-grained sandstone, shale, carbonaceous shale and thin coal seams
Middle Permian	Barren Measures	40-100	White, greenish white coarse-grained ferruginous sandstone, green clays and shales
Lower Permian	Barakar Formation	120-500	Medium to coarse grained sandstone, shales and coal seams
Early Permian	Talchar Formation	-	Diamictite, calcareous sandstones, green shales
Unconformity			
Proterozoic	Mahakosal group and Sarguja crystalline		Migmatites, gneiss and meta-sediments.

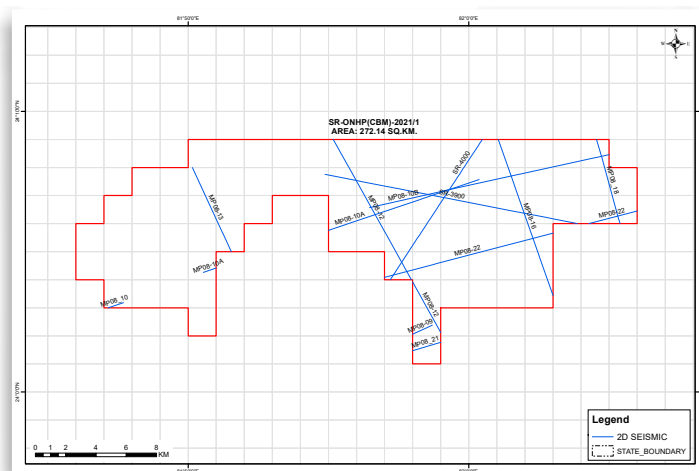
Generalised Stratigraphy

Blocks on Offer

SR-ONHP(CBM)-2021/1

SR-ONHP(CBM)-2021/1	
Area (Sq. Km.)	272.14
No. of Wells	Nil
Other Studies	2D Seismic-106 LKM
Reports	Nil

Block Information



Location Map

FORMATION/ SEAM NAME	LOG	COAL SEAM THICKNESS RANGE (m)	PARTING RANGE (m)
RANIGANJ FORMATION			
R-VI		0.30-0.77	11.57-16.55
R-V		0.14-3.51	1.0-13.92
R-IV		0.20-1.50	13.50-30.99
R-III		Nil-5.81	8.16-15.20
R-II		Nil-4.60	22.02-43.54
R-I		Nil-1.87	
BARREN MEASURES			
BARAKAR FORMATION			
VIII		0.08-4.38	19.40-62.59
VII		0.30-18.41	7.00-40.00
VI		0.10-2.85	5.25-54.00
V		0.06-5.15	11.22-62.62
IV		0.12-14.00	6.70-49.00
III		0.20-5.22	17.07-70.30
II		0.03-0.92	66.33
I		1.00-1.55	

Generalised Seam Sequence

SL NO.	PARAMETER	QUALITY
1	Target Coal Seam	Barakar Seam -IV, VII
2	Ash Content (%)	8.2-55.6
3	Vitrinite Content (%)	23.1-73.8
4	Vitrinite Reflectance (%Ro)	0.51-0.60
5	Coal Rank	high Volatile Bituminous "C" rank.
6	Gas Content (m ³ /t)	2.5
7	Permeability (mD)	0.38 - 165 (600-850m) - Adjacent SR Block

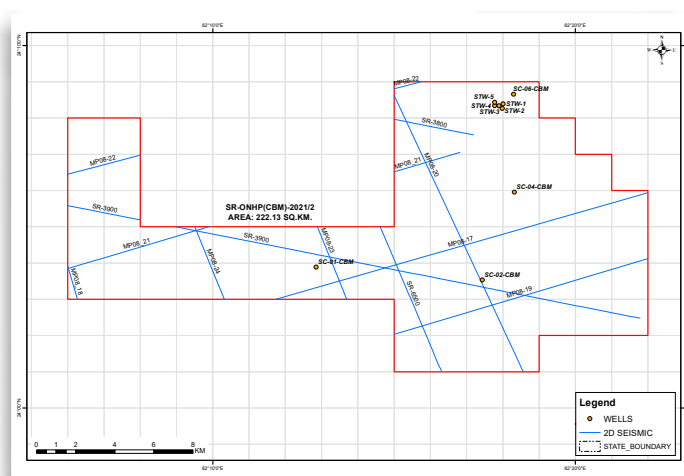
Reservoir Properties



SR-ONHP(CBM)-2021/2

SR-ONHP(CBM)-2021/2	
Area (Sq. Km.)	222
No. of Wells	9 Wells
Other Studies	2D Seismic-108 LKM
Reports	9 Well Reports

Block Information



Location Map

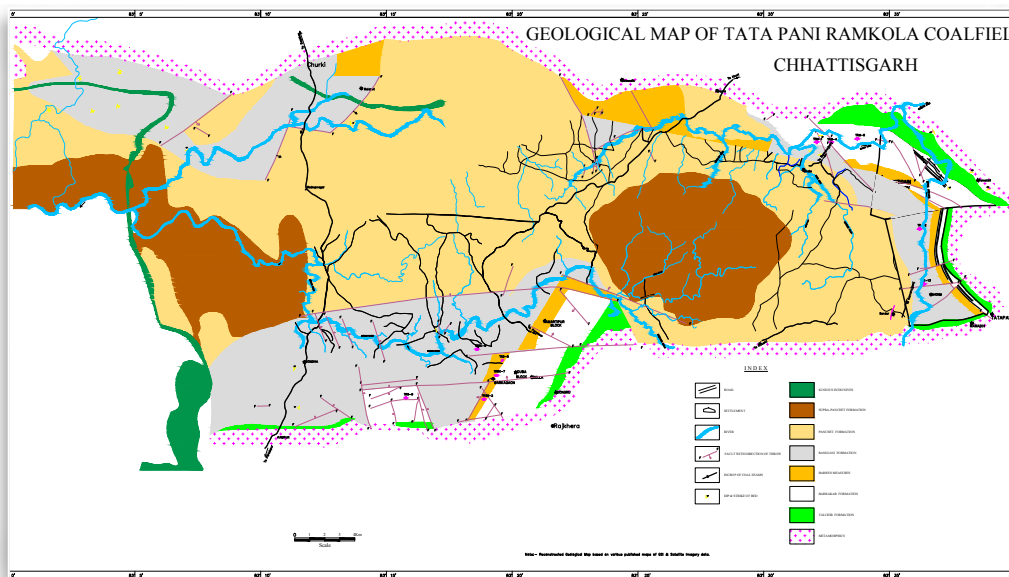
FORMATION/ SEAM NAME	LOG	COAL SEAM THICKNESS RANGE (m)	PARTING RANGE (m)
RANIGANJ FORMATION			
R-VI		0.30-0.77	11.57-16.55
R-V		0.14-3.51	1.0-13.92
R-IV		0.20-1.50	13.50-30.99
R-III		Nil-5.81	8.16-15.20
R-II		Nil-4.60	22.02-43.54
R-I		Nil-1.87	
BARREN MEASURES			
BARAKAR FORMATION			
VIII		0.08-4.38	19.40-62.59
VII		0.30-18.41	7.00-40.00
VI		0.10-2.85	5.25-54.00
V		0.06-5.15	11.22-62.62
IV		0.12-14.00	6.70-49.00
III		0.20-5.22	17.07-70.30
II		0.03-0.92	66.33
I		1.00-1.55	

Generalised Seam Sequence

SL NO.	PARAMETER	QUALITY
1	Target Coal Seam	Barakar Coal Seams (VII, V, IV and III)
2	Ash Content (%)	19.8 – 38.2
3	Vitrinite Content (%)	~45
4	Vitrinite Reflec- tance (%Ro)	0.42 – 0.62
5	Coal Rank	High Volatile C Bituminous
6	Gas Content (m3/t)	2.5 (200-900m)
7	Permeability (mD)	0.38 - 165 (600 - 850m)

Reservoir Properties

Tata-Pani Ramkola Coalfield



Geological Map of Tata-Pani Ramkola Coalfield



Block Location

Age	Formation	Thickness (m)	Lithology
Upper Triassic to Early Jurassic	Supra-Panchet	200	Dirty white to brick red, medium to coarse-grained arenite with oligomictic conglomerate, red clay
Unconformity			
Early to Middle Triassic	Panchet	500	Cross-bedded white to red mottled medium to coarse grained arkose, red and variegated clay.
Upper Permian	Raniganj	400+	Fine to medium grained micaceous sandstone, grey and carbonaceous shale's, impersistent Coal seams.
Upper Permian	Barren Measures	200+	Predominantly grey to black shale with light grey fine to medium-grained felspathic sandstone.
Lower Permian	Barakar	468+	Dirty white to light grey fine to coarse-grained arkose's pebble bed, debris flow deposit, grey and carbonaceous shales, Coal seams.
Early Permian to Late Carboniferous	Talchir	200	Diamictites, coarse to fine grained sandstone, green shale, limestone bands.
Unconformity			
Pre - Cambrian	Surguja Crystalline		Granite, gneiss, mica schist phyllite, quartzite, etc.

Generalised Stratigraphy

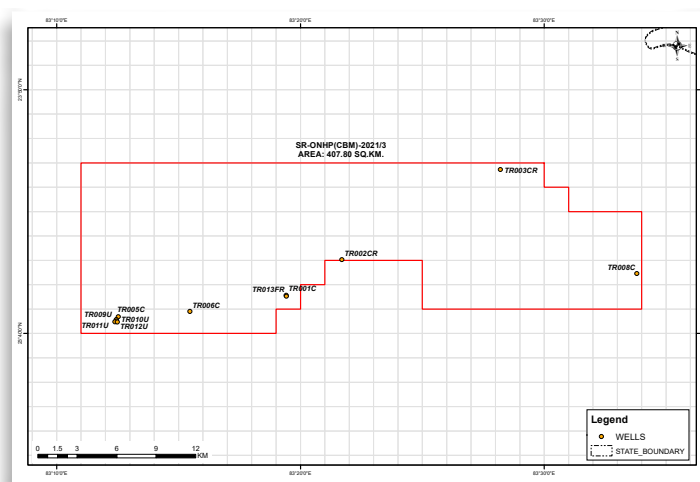


Blocks on Offer

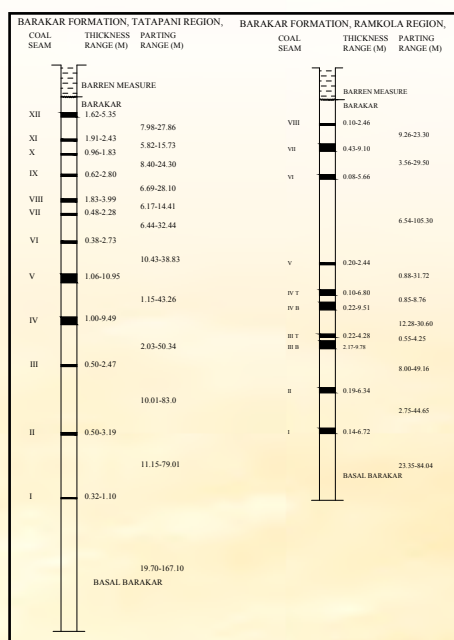
SR-ONHP(CBM)-2021/3

SR-ONHP(CBM)-2021/3	
Area (Sq. Km.)	408
No. of Wells	11 Wells
Other Studies	
Reports	11 Well Re-ports

Block Information



Location Map

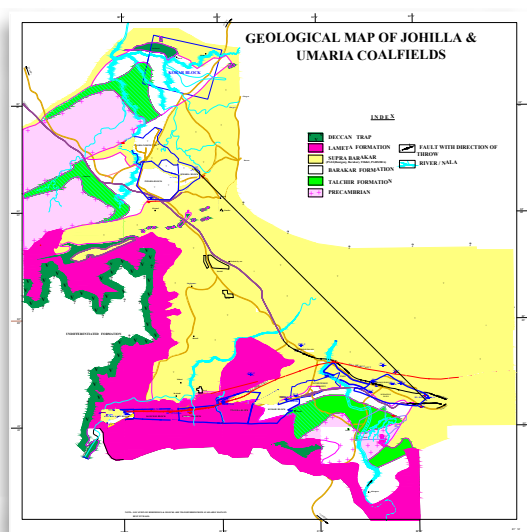


Generalised Seam Sequence

SL NO.	PARAMETER	QUALITY
1	Target Coal Seam	Barakar Coal Seams (III, IV)
2	Ash Content (%)	10.5-14.8
3	Vitrinite Content (%)	29.92-67.4
4	Vitrinite Reflectance (%Ro)	0.57-0.9
5	Coal Rank	Medium Volatile B/C Bituminous
6	Calorific Value (Kcal/Kg)	7200-7700
7	Gas Storage Capacity (m3/t)	4.56-7.09
8	Gas Content (m³/t)	4
9	Permeability (mD)	11-18

Reservoir Properties

Johila Coalfield



Block Location

Geological Map of Johila Coalfield

Age	Formation	Thickness (m)	Lithology
Late Cretaceous to Eocene	Deccan Trap		Basalt flow and dolerite dyke
Late Cretaceous	Lameta Formation	30+	Pink to brownish calcareous sandstone and marlstone
Early to Middle Jurassic	Parsora Formation	125+	Mature Sandstone, very fine to coarse grained, light grey to buff color with brownish, purple and lavender tint
Middle to Early Triassic	Pali Formation	125+	Mineralogically as well as texturally immature sandstone, medium to coarse grained, light grey, brown.
Late Permian	Raniganj Formation	450+	Grey shale with coal streaks and dark grey carbonaceous shale, greenish grey to olive green siltstone.
Middle Permian	Barren Measures	300+	Upper part with immature feldspathic sandstone with minor amount of shale/siltstone/claystone: Lower part with thick argillaceous horizons.
Early Permian	Barakar	250+	Feldspathic sandstone, shale and coal seams
Late Carboniferous to Early Permian	Talchir		Tillite: sandstones, green shales, siltstone, diamictite
Pre-Cambrian	Crystalline Basement		Granite gneiss (porphyritic granite with large phenocryst of pink feldspar) mica schists and quartzites.

Generalised Stratigraphy

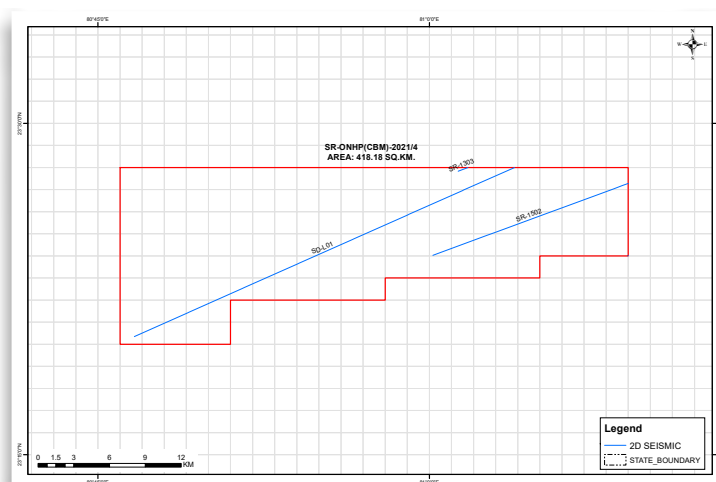


Blocks on Offer

SR-ONHP(CBM)-2021/4

SR-ONHP(CBM)-2021/4	
Area (Sq. Km.)	418
No. of Wells	Nil
Other Studies	2D Seismic-49 LKM
Reports	Nil

Block Information



Location Map

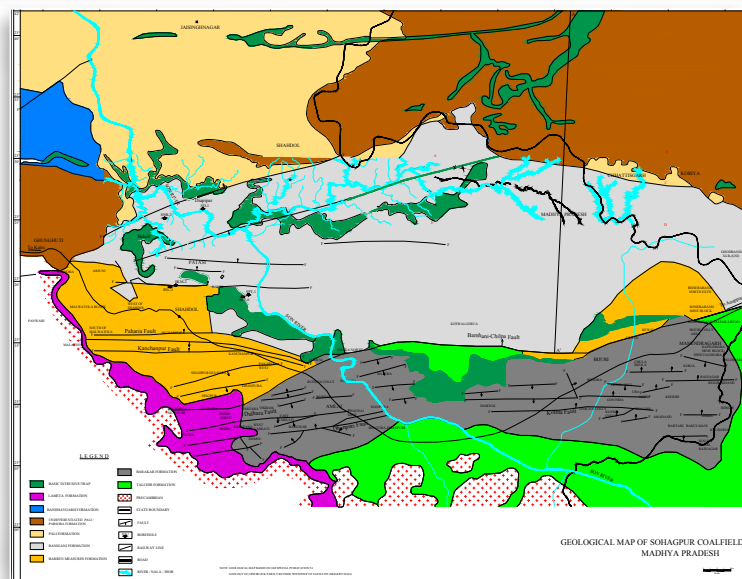
FORMATION/SEAM NAME	LOG	COAL SEAM THICKNESS RANGE(m)	PARTING RANGE(m)
SUPRA BARAKARS			
BARAKARS			
JOHILLA TOP		0.10-3.81	18-26
JOHILLA BOT		0.05-4.40	2-23
L-I A		0.20-1.89	0.24-5.27
L-I B		1.15-6.67	5-11
L-I C		0.03-0.48	2-5
L-II A		0.06-1.90	1-10
L-II B		0.07-3.65	

Generalised Seam Sequence

SL NO.	PARAMETER	QUALITY
1	Target Coal Seam	Johilla coal seams Top and Bottom
2	Ash Content (%)	18.6-29.4
3	Vitrinite Content (%)	28-34
4	Vitrinite Reflectance (%Ro)	0.40 – 0.43
5	Coal Rank	Sub Bituminous C
6	Gas Storage Capacity (m ³ /t)	3.67 – 5.74
7	Gas Content (m ³ /t)	3

Reservoir Properties

Sohagpur Coalfield



Geological Map of Sohagpur Coalfield



Block Location

Age	Formation	Lithology	Maximum Thickness (m)
Upper Cretaceous	Deccan Trap	Sills and dykes of dolerite	100
Upper Triassic	Parlor/ Tiki	Sandstone, lavender clay	400
Lower Triassic	Pali	Sandstone and shale	600
Upper Permian	Raniganj	Sandstone, shale, banded coal seams	540
Upper Permian	Barren Measures	Sandstone, yellow, grey, brown siltstone and shale	300
Lower Permian	Barakar Formation	Sandstone, shale and coal seams	300
Early Permian	Talchir Formation	Diamictite shale, siltstone	70
UNCONFORMITY			
Pre-Cambrian	Crystalline basement	Gneiss, Schist, granites	

Generalised Stratigraphy

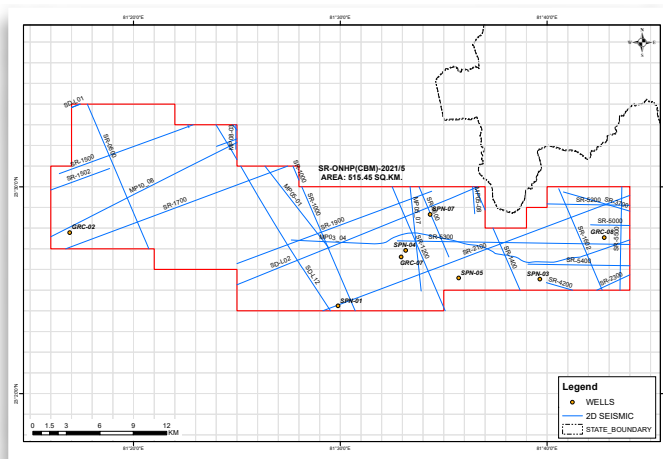


Blocks on Offer

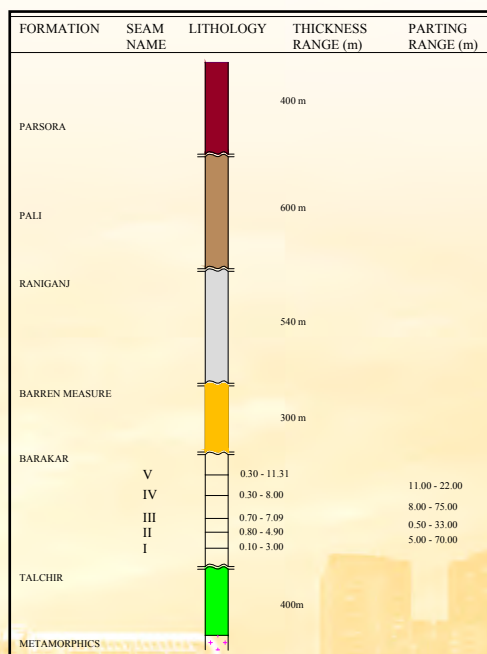
SR-ONHP(CBM)-2021/5

SR-ONHP(CBM)-2021/5	
Area (Sq. Km.)	515
No. of Wells	8
Other Studies	2D seismic- 320 LKM
Reports	8 well reports

Block Information



Location Map

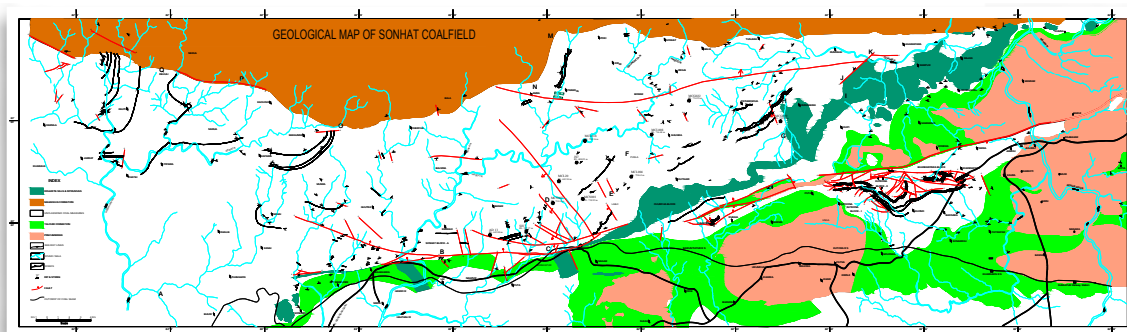


Generalised Seam Sequence

SL NO.	PARAMETER	QUALITY
1	Target Coal Seam	Barakar Coal seams I, III, IV & V
2	Ash Content (%)	10.2-13.5
3	Vitrinite Content (%)	55.4-60.2
4	Vitrinite Reflectance (%Ro)	0.51-0.54
5	Coal Rank	High Volatile Bituminous
6	Gas Content (m ³ /t)	5-6
7	Gas Storage Capacity (m ³ /t)	5-10 (400-600 m)

Reservoir Properties

Sonhat Coalfield



Geological Map of Sonhat Coalfield



Block Location

Age	Formation	Thickness (m)	Lithology
Upper Cretaceous to Early Eocene		Dolerite intrusive of Deccan Trap affinity (115-154m)	Dolerite Sill
Upper Triassic	Upper Gondwana	Mahadeva Formation (600m +)	Ferruginous, coarse grained sandstone, pebbly sandstone, red siltstone
UNCONFORMITY			
Permian	Lower Gondwana	Upper Coal Measures (350-500m)	Fine to medium grained sandstone, shales, alternate sequence of thin coal and carbonaceous shale.
		Middle Barren Zone (250-300m)	Medium to coarse grained sandstones, shales and carbonaceous shales.
		Lower Coal Measures (460-500m)	Coarse to medium grained sandstone, grey and carbonaceous shales and coal seams.
Upper Carboniferous to Early Permian		Talchir Formation (100-300m)	Basal tillite, olive shales, rhythmites, fine to medium grained sandstone
UNCONFORMITY			
Precambrian	Basement	Granites, gneisses with granulites, etc.	

Generalised Stratigraphy



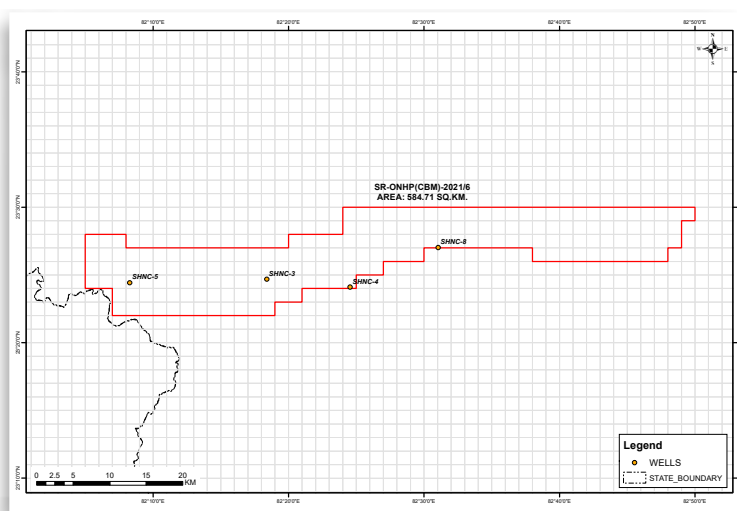
Blocks on Offer

SR-ONHP(CBM)-2021/6

SR-ONHP(CBM)-2021/6

Area (Sq. Km.)	585
No. of Wells	4 Core wells
Other Studies	Nil
Reports	Nil

Block Information



Location Map

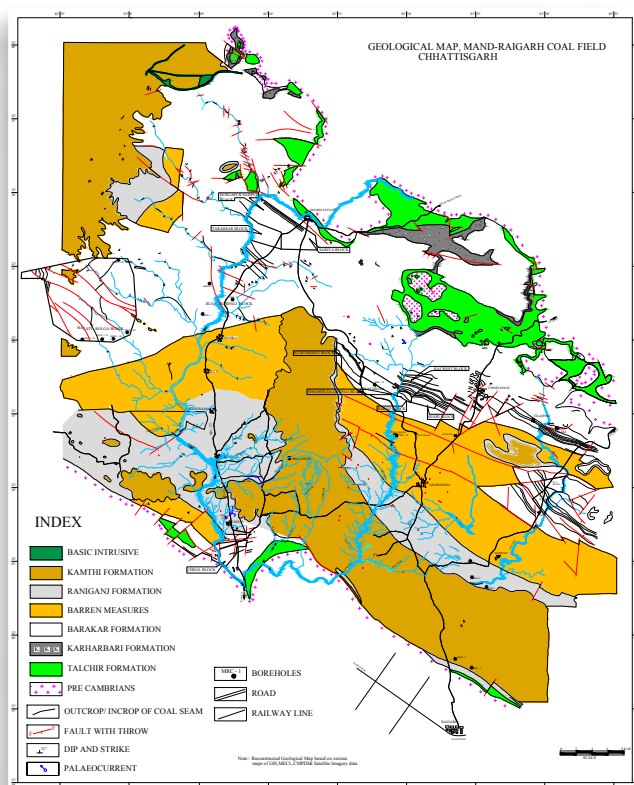
Seam Name	Seam Thickness (m)	Parting Range (m)
VIII	0.05 - 1.43	47 - 86
VII	0.20 - 5.45	
		100 - 145
VI & VIA	0.10 - 14.05	130 - 180
V	0.10 - 5.20	7 - 37
IV	0.10 - 2.24	14 - 33
III	0.10 - 1.96	17 - 30
II	0.05 - 2.49	13 - 22
I	0.10 - 1.58	

Generalised Seam Sequence

SL NO.	PARAMETER	QUALITY
1	Target Coal Seam	Barakar Coal seam I,II,IV,V
2	Ash Content (%)	12.6-61.3
3	Vitrinite Content (%)	47.6-57.5
4	Vitrinite Reflectance (%Ro)	1.3-1.69
5	Coal Rank	Low to Medium Volatile Bituminous B
6	Gas Content (m ³ /t)	0.58-6.02 (Seam II)
7	Permeability (mD)	0.18-90(Seam II)

Reservoir Properties

Mand Raigarh Coalfield



Block Location

Geological Map of Mand Raigarh Coalfield

Age	Formation	Lithology	Thickness (m)
Recent	Alluvium		Up to 15
Lower Cretaceous	Rajmahal Trap	Basaltic lava flows with inter-trappen beds of shale and sandstone	20 to over 200
UNCONFORMITY			
Upper Triassic-Jurassic	Dubrajpur Formation	Medium to coarse grained ferruginous sandstone, pebbly sandstone, siltstone and chocolate shale	Up to 130
UNCONFORMITY			
Lower Permian	Barakar Formation	Conglomerate, coarse to fine grained sandstone, carbonaceous shale, siltstone, Coal seams	330-600
Early Permian	Talchir Formation	Diamictite, Fine grained sandstone, chocolate and green shale.	5-70
UNCONFORMITY			
Pre-Cambrian	Unclassified metamorphites	Granite gneiss, Hornblende gneiss, Schists, Pegmatite	

Generalised Stratigraphy

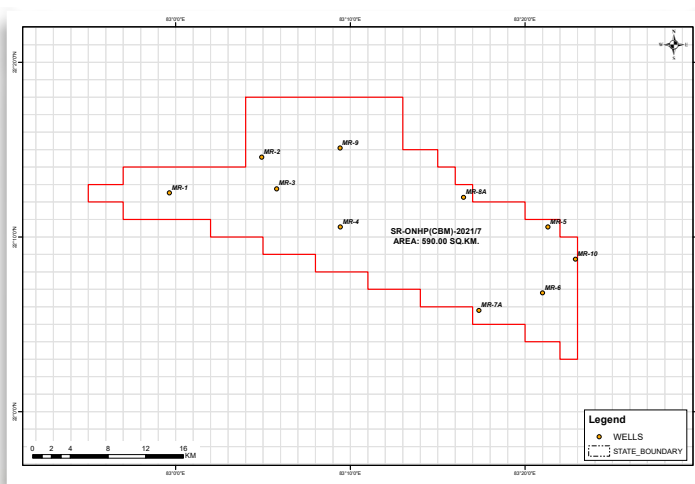


Blocks on Offer

SR-ONHP(CBM)-2021/7

SR-ONHP(CBM)-2021/7	
Area (Sq. Km.)	590
No. of Wells	10 Wells
Other Studies	Nil
Reports	10 Well Reports

Block Information



Location Map

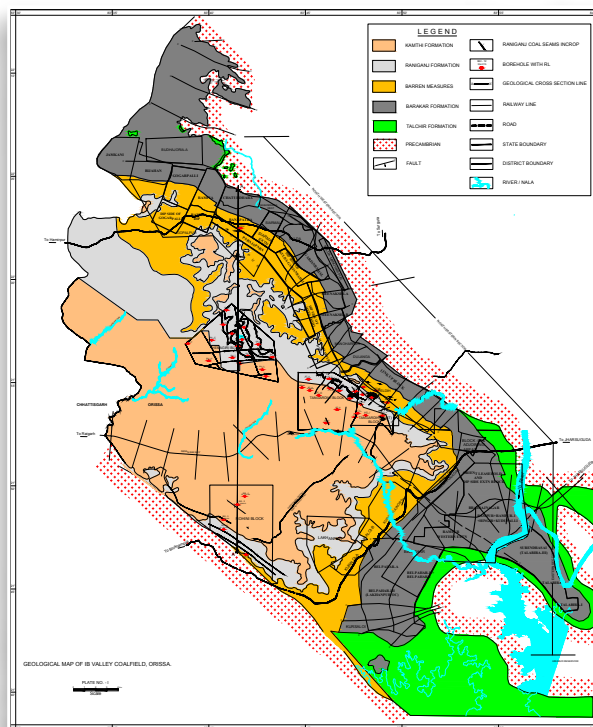
THICKNESS RANGE	COAL SEAM	PARTING RANGE
BARREN MEASURE		220.00–250.00
BARAKAR		80.00–290.00
0.55–3.21	XII	14.45–22.00
0.30–5.50	XI T	2.00–42.00
0.11–2.72	XI B	12.00–35.00
0.52–7.14	X	15.00–22.00
0.32–5.70	IX	12.00–15.00
0.19–9.00	VIII	8.00–20.00
0.41–2.94	VI	28.00–40.00
0.80–10.45	VI	30.00–35.00
0.05–6.38	V	70.00–75.0
3.10–3.60	IV	20.00–25.00
0.90–7.72	III	140.00–150.00
1.02–5.55	II	15.00–25.00
2.60	I	

Generalised Seam Sequence

SL NO.	PARAMETER	QUALITY
1	Target Coal Seam	Barakar Coal seams III, VI
2	Ash Content (%)	34.5-48.8
3	Vitrinite Content (%)	44.9-45.7
4	Vitrinite Reflectance (%Ro)	0.40-0.62
5	Coal Rank	High Volatile Bituminous A to B
6	Gas Content (m3/t)	4.5-5.5 (>300 m)

Reservoir Properties

IB Valley Coalfield



Geological Map of IB Valley Coalfield



Block Location

Age	Formation	Lithology	Thickness (m)
Early to Middle Triassic	Kamthi	Pebbly sandstone, ferruginous sandstone and red shales	50 – 200+
UNCONFORMITY			
Upper Permian	Raniganj	Fine to medium grained sandstone, siltstone, shale and coal seams.	300+
Upper Permian	Barren Measures	Grey to dark grey shales with phosphatic clay, ironstone bands, sandstones and rare thin coal seams.	300+
Lower Permian	Barakar Formation	Felspathic sandstone, grey and carbonaceous shales, fireclay and coal seams.	350-550
Basal Permian	Karharbari	Mostly coarse grained sandstone, fireclay and one coal horizon.	90 – 125
Upper Carboniferous to Early Permian	Talchir	Diamictite, greenish sandstone, Olive and chocolate shales and rhytmities.	130+
UNCONFORMITY			
Precambrian		Granite, gneisses, amphibolites	

Generalised Stratigraphy

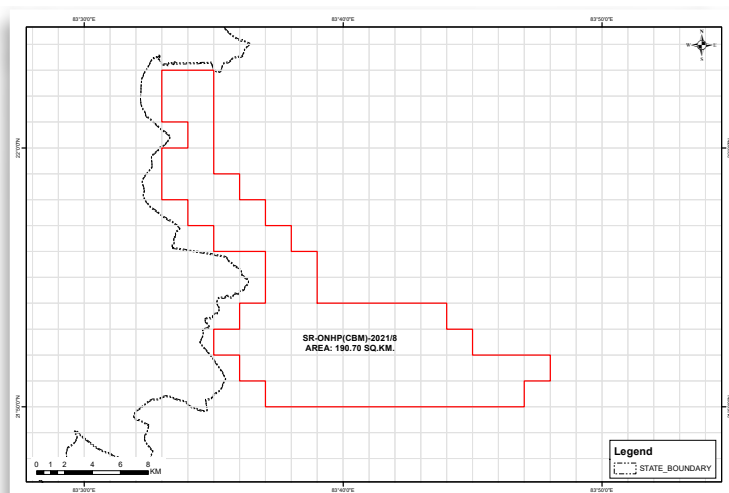


Blocks on Offer

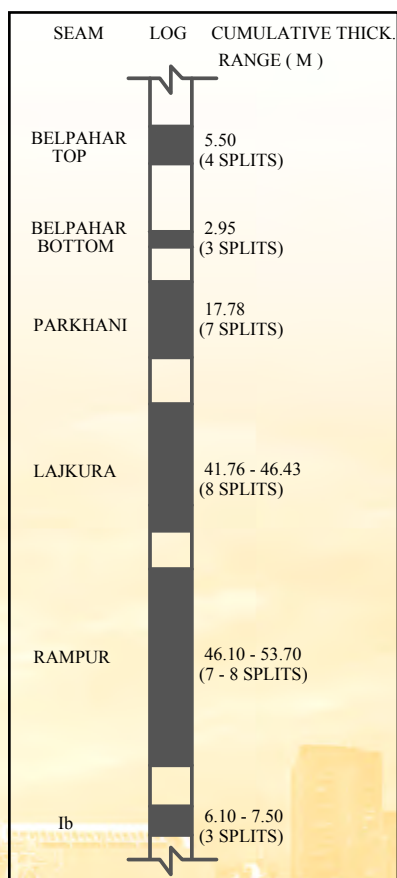
SR-ONHP(CBM)-2021/8

SR-ONHP(CBM)-2021/8	
Area (Sq. Km.)	190.77
No. of Wells	Nil
Other Studies	Nil
Reports	Nil

Block Information



Location Map

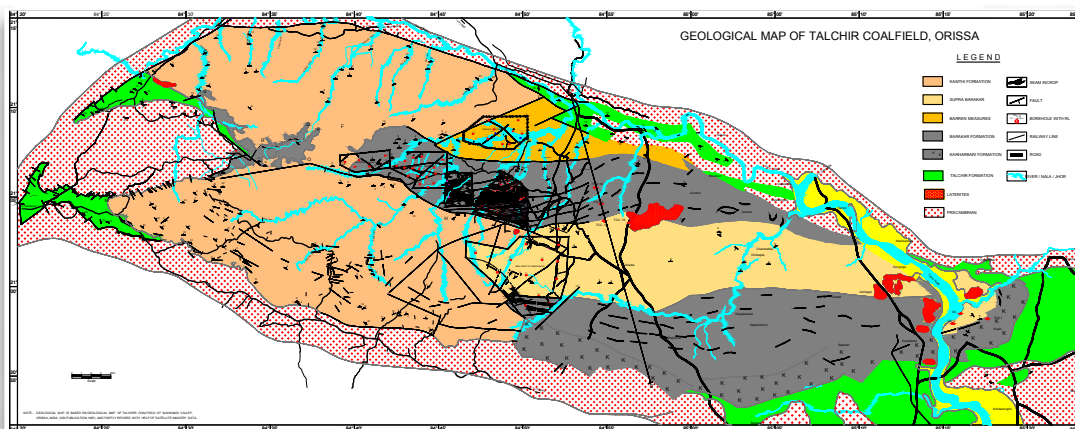


Generalised Seam Sequence

SL NO.	PARAMETER	QUALITY
1	Target Coal Seam	Barakar Coal Seams Lajkura, Rampur & Parkani
2	Ash Content (%)	27.6-31.7
3	Vitrinite Content (%)	0.4-0.52
4	Vitrinite Reflectance (%Ro)	0.51-0.70
5	Coal Rank	High Volatile B Bituminous
6	Gas Content (m3/t)	3 (600-1200m)

Reservoir Properties

Talchir Coalfield



Geological Map of Talchir Coalfield



Block Location

Age	Formation	Thickness (m)	Lithology
Triassic	Kamthi	550+	Conglomerates, ferruginous sandstone, pink to red shale argillaceous at the bottom, arenaceous and pebbly towards the top part.
Unconformity			
Upper Permian	Barren Measures	411+	Light grey to greenish grey fine grained sandstone, occasional medium to coarse grained cross bedded sandstones, grey shale, chocolate shale, carbonaceous shale and then coal seams.
Lower Permian	Barakar Formation	450+	Greyish white to white, coarse, medium to fine grained arkosic sandstone, siltstone grey shale coal seams. A gritty sandstone to conglomerate horizon at the base.
Early Permian	Karharbari	240	Coarse to medium grained white sandstone, grey and carbonaceous shales and coal seams.
Early Permian to Upper Carboniferous	Talchir Formation	325+	Diamictite, turbidites, varves, fine to medium grained sandstone
Early Permian to Late Carboniferous	Talchir	200	Diamictites, coarse to fine grained sandstone, green shale, limestone bands.
Unconformity			
Precambrian			Granite, gneisses, migmatite, amphibolites, mica schist, quartzite etc.

Generalised Stratigraphy



Blocks on Offer

SR-ONHP(CBM)-2021/9

SR-ONHP(CBM)-2021/9

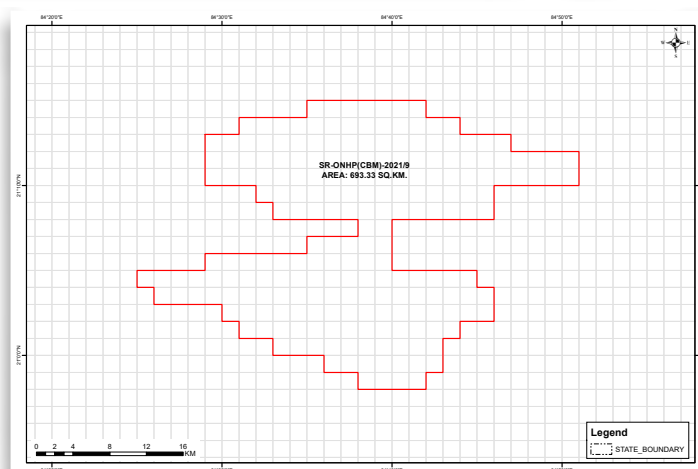
Area (Sq. Km.) 693.33

No. of Wells Nil

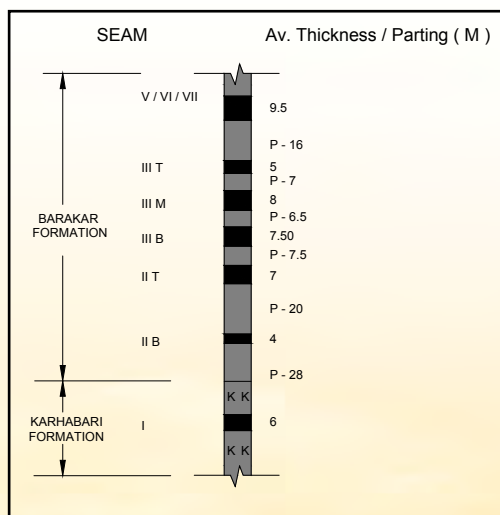
Other Studies Nil

Reports Nil

Block Information



Location Map

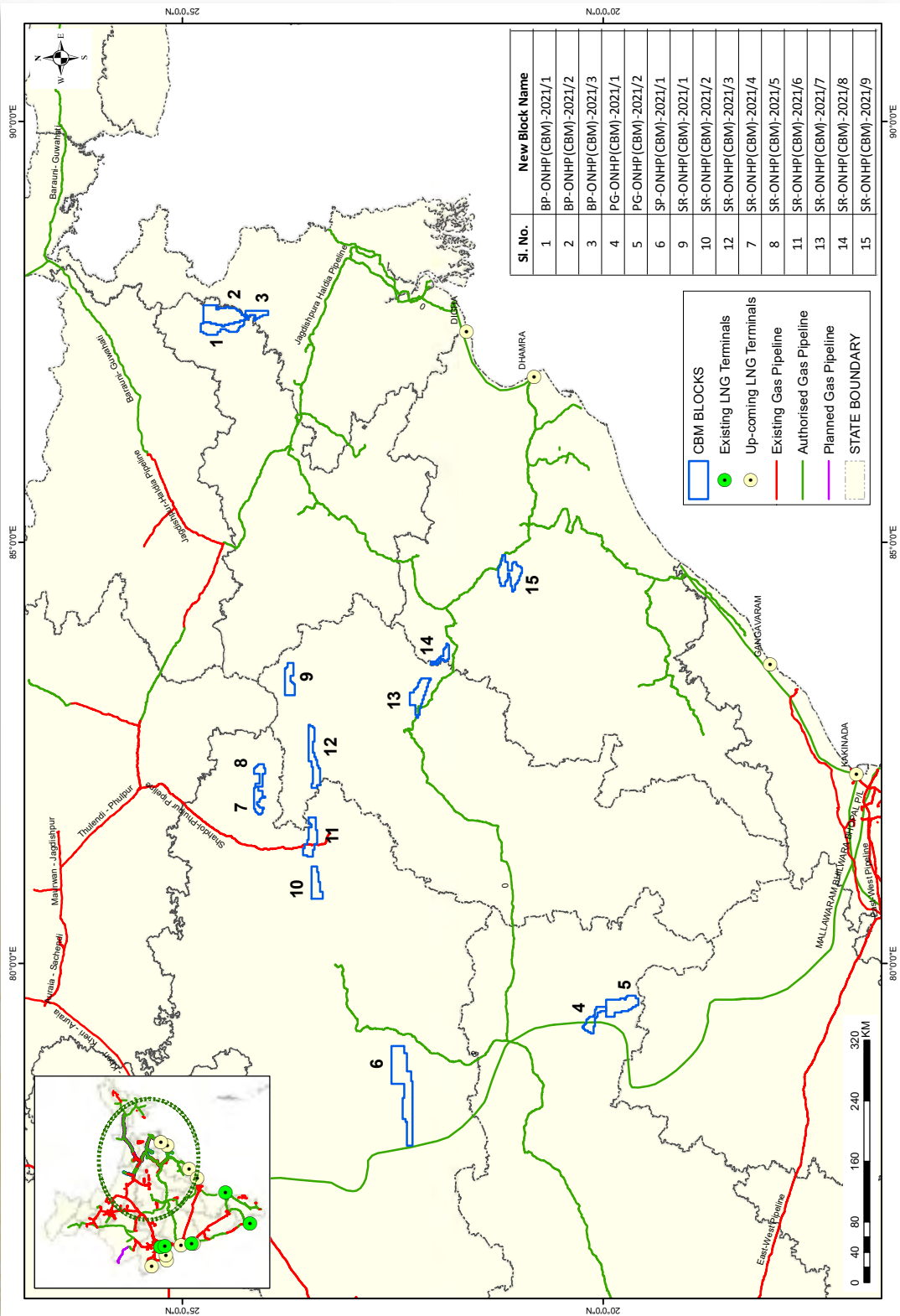


Generalised Seam Sequence

SL NO.	PARAMETER	QUALITY
1	Target Coal Seam	Barakar Coal seams II, III
2	Ash Content (%)	24.5-49.7
3	Vitrinite Content (%)	17.7-60.4
4	Vitrinite Reflectance (%Ro)	0.41-0.57
5	Coal Rank	High Volatile C Bituminous
6	Gas Content (m3/t)	3 (600-1200m)
7	Permeability (mD)	1.5-5 (600-1000m)

Reservoir Properties

Natural Gas Pipeline alongwith Proposed CBM Blocks



Source: PNGRB



सत्यमेव जयते

Ministry of Petroleum and Natural Gas
Government of India

<http://petroleum.nic.in>



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