

# MANDAKINI-B COAL BLOCK SUMMARY

## PART A

Sr. No.	Features	Details
<b>1.</b>	<b>Location</b>	
	Coal Block	<b>Mandakini-B</b>
	Latitude	21° 04' 19" N - 21° 07' 31" N (Provisional)
	Longitude	84° 56' 09" E - 84° 59' 48" E (Provisional)
	Topo Sheet No.	F45M16
	Coalfield	Talcher.
	Villages	Changudia, Kakudia, Santarabandha, Sunaripal, Balipata, Takua
	Tehsil/Taluka	Chhendipada, Kaniha
	District	Angul
	State	Odisha
<b>2.</b>	<b>Connectivity with Block</b>	
	Nearest Rail Head	The nearest railway station is Angul on Cuttack-Sambalpur line of East-Coast railway and is about 36 km. from the block.
	Road	The state capital Bhubaneswar is about 160 kms from the block and connected through the State Highway 63 upto Angul, then by National Highway 42 upto Manguli chowk and thereafter through National Highway 5 via Cuttack. District headquarter Angul, is the nearest town at a distance of about 36 kms by Santrabandh-Angul road and then by SH-63 from southwest boundary of the block.
	Airport and Seaport	The nearest airport is at Bhubaneswar.
<b>3.</b>	<b>Area</b>	
	Geological Block Area	20.7 sq.km. (As per shape file; Refer Note No. 3)
	Green Cover	Approx. 10 % (As per FSI plan)
	Area excluding green cover	Approx. 90 % (As per FSI plan)
<b>4.</b>	<b>Climate and Topography</b>	
	Average Annual Rainfall	758 mm – 1588 mm
	Temperature (Min. — Max.)	6.7°C to 38.1°C
	Local Surface Drainage Channels	There are two seasonal nallas viz. Gauduni and Gadari nalla. Gauduni nalla flows in the northwestern boundary of the block which finally drains to Tikra Nadi whereas Gadari nalla flows through the block which drains to Bankhuli Nalla (a seasonal nalla). Small ponds and dug wells are common in this block which are utilised for irrigation and drinking purpose.
	Rivers	-
<b>5.</b>	<b>Exploration</b>	
	Status	Explored
	Exploration Agency	GSI, DGO, CMPDI
	Total Number of	159 Boreholes; 55481.50 m (CMDPI: 149 Boreholes, 51652.00 m and

	Boreholes with meterage	GSI: 2 Boreholes, 1231.30 m, DGO: 8 Boreholes, 2598.20 m).			
	Borehole Density	Approx. 8 Boreholes/sq.km.			
	General Dip of Seams	The minimum and maximum dip amount ranges between 2° to around 13° from southern to northern part of the block.			
	General Strike Direction	Almost E-W in the south where as if move towards north, the trend changes to NW-SE in the western part of the block to almost E-W in the eastern part of the block with local swings.			
	Faults	The block is traversed by 25 faults having varying throw from 0 to 160m.			
<b>6.</b>	<b>Coal Seams &amp; Reserve (Net Proved: 1725.572 MT, Gross Indicated: 314.789 MT)</b>				
	Coal Seams	Thickness Range (m)	Depth Range (m)	Geological Reserve (MT) (Proved + Indicated)	Grade
	XVII	0.38-6.72	11.73-144.6	5.332	G15-UG
	XVI	0.53-7.82	29.52-185.18	13.124	G14-UG
	XV	0.09-6.1	13.67-223.98	10.973	G9-G16
	XIV	0.27-3.63	11.5-266.25	5.838	G8-G16
	XIII	0.11-5.87	10.77-301.61	8.678	G9-G17
	XII	0.14-3.67	31.19-158.4	6.111	G6-G17
	XI	0.2-20.15	9.62-310	20.584	G10-G17
	XI Top	0.15-6.3	40.54-422.75	24.175	G9-UG
	XI Mid	0.15-7.53	25.2-357.02	5.002	G10-G17
	XI Bot	0.34-4.12	33.8-445.71	7.935	G9-UG
	X	0.05-4.99	15.68-482.6	5.222	G9-G16
	X Top	0.21-4.92	12.19-346	3.514	G10-UG
	X Bot	0.04-2.32	15-355.2	1.606	G9-G16
	IX	0.11-8	8.3-413	11.774	G9-UG
	IX Top	0.53-4.1	24.47-443.29	4.425	G10-G15
	IX Bot	0.7-3.04	31.5-450.2	6.044	G10-G16
	Local 6	0.2-2.08	25.24-490.57	6.19	G8-UG
	Local 5	0.06-2.56	10.54-513.32	5.821	G5-G16
	VIII	1-5.59	51.52-519	12.635	G6-G17
	VIII Top	0.08-4.64	9-451.85	26.047	G7-UG
	VIII Bot	0.1-5.55	7.45-465.43	23.785	G8-UG
	Local 4	0.06-1.3	56.96-439		G7-UG
	VII	1.8-16.07	6-400.55	155.486	G8-G16
	VII Top	2.21-12.19	71.94-549.3	37.256	G7-G13
	VII Top Top	0.64-7.05	69.04-473.67	10.66	G8-G15
	VII Top Bot	0.14-5.8	72.36-481.39	12.946	G9-G15
	VII Bot	0.78-8.33	82.64-559.67	25.407	G7-UG
	VI	0.12-11.93	5.75-499.63	84.348	G4-G17
	VI Top	0.27-2.95	20.06-577	6.761	G6-UG
	VI Bot	0.5-3.16	24.6-582.55	4.201	G5-G15
	IV+V	0.3-8.08	43-211.51	22.142	G7-G17
	V	8.15-13.8	154.16-452.5	20.204	G9-G11
	V Top	0.15-5.69	31.91-560.4	28.17	G6-G16
	V Bot	0.12-6.83	65.16-564.65	23.749	G7-UG
	IV	5.54-15.33	44.06-485.35	65.739	G9-G16
	IV Top	1-6.2	128.12-569.2	27.138	G7-G15
	IV Bot	0.87-4.94	132.38-581.55	22.24	G8-G17
	Local 3	0.12-2.53	81.74-588.35		G6-G15
	III Top Top	0.38-9.47	86.35-307.71	26.727	G9-UG
	III Top Top 1+2	1.15-7.51	130.23-336.4	17.263	G11-G16
	III Top Top 1	0.2-3.78	88.89-524.45	6.873	G9-G17

	III Top Top 2	0.12-2.71	93.7-526.45	10.954	G7-G17
	III Top Top 3	0.08-3.82	97.88-529	13.02	G6-G17
	III Top Bot + III Mid	13.17-15.8	201-330.5	26.511	G8-G14
	III Top Bot + III Mid	0.4-17.43	7-560.4	199.063	G8-UG
	III Mid	9.11-13.08	319-536.02	14.495	G11-G13
	III Mid Top	0.15-8.7	12.28-568.35	82.835	G7-UG
	III Mid Mid	0.06-5.83	131.14-574.12	12.445	G6-G15
	III Mid Bot	0.2-6.91	20.09-586	72.091	G6-UG
	III Bot Top	0.05-9.1	26.63-595.55	50.673	G6-G17
	III Bot Bot	0.18-10.8	6-610.15	78.031	G6-UG
	II Top	0.06-6.75	8-548.8	18.573	G8-UG
	II Top Top	0.14-4.18	179.95-614.4	11.427	G9-G15
	II Top Bot	0.55-3.03	185.42-618.8	9.906	G6-G17
	Local 2	0.2-2.37	195.55-633.25	3.936	G8-UG
	II Bot	4.22-14.33	14.75-228.17	84.79	G11-G16
	II Bot Top	0.18-8.5	17.66-640.46	71.318	G5-UG
	II Bot Bot	0.11-10.59	20.36-648.26	63.554	G5-G16
	IA	0.2-10.93	44-605.4	42.02	G3-G17
	IA Top	0.48-8.06	40.12-659.06	38.583	G7-G15
	IA Bot	0.15-11.07	43.42-666.9	33.898	G6-G14
	IB+IC+ID	7.07-16.7	220.4-426.27	35.448	G8-G13
	IB+IC	6.08-11.19	267.57-565.48	14.794	G8-UG
	IB	0.08-10.98	64.85-603.6	71.591	G4-G15
	IC	0.05-10.1	71.29-610.67	51.667	G4-G17
	ID	0.08-7.65	87.2-616.37	38.899	G3-G17
	Local 1	0.11-2.12	252.52-624.38		G3-G13
	IE	0.07-3.68	95.06-382.15	13.284	G3-G16
	IE Top	0.06-5.95	126.74-642.6	22.227	G3-G15
	IE Bot	0.15-5.31	135.6-644.94	15.403	G2-G16
	IF	0.27-6.87	121-439	20.379	G2-G16
	IG	0.25-5	133.98-392.2	4.466	G3-G16
	IH	0.15-3.03	152.91-414.77	1.955	G4-G13
			<b>Total</b>	<b>2040.361</b>	
<b>7.</b>	<b>Surface Constraints</b>	NA			
<b>8.</b>	<b>Grade of the block</b>	G11 (Provisional) based on weighted average grade as per data available in GR.			
<b>9.</b>	<b>Decision Support System (DSS) Analysis</b>	The polygon touches Wildlife Habitat(s)- Sloth Bear, Dhole.			
<b>10.</b>	<b>Eco Sensitive Zone (ESZ) Analysis</b>	The tiger corridor between TRPA of Simlipal-Satkosia is approx.5.9 kms in the Northern direction & 16.3 kms in the S-W direction from the block boundary. The ESZ boundary of Mahanadi_Elephant_Region located approx. 17.5 kms away from S-W boundary of the block. Western boundary is approx. 22 km from the boundary of ESZ of Sambalpur Elephant Region.			

## PART B

Sr. No.	Features	Details (As per information submitted by prior allottee)
<b>1.</b>	<b>Previous Allocation</b>	
	Name and Address of Allocatee	Assam Mineral Dev. Corporation Ltd., Meghalaya Mineral Dev. Corp., Tamil Nadu Electricity Board, Odisha Mining Corporation Ltd.
<b>2.</b>	<b>Target Capacity as per Mining Plan</b>	<b>20 Mty</b>
<b>3.</b>	<b>Status of Clearances/Approvals</b>	
	Mining Plan/ Mine Closure Plan	Approved dated 26.09.2019
	Forest Clearance	NA
	Environmental Clearance	NA
	Mining Lease	NA
	Land Acquisition	NA
	No. of PAPs as per Mining Plan	NA
<b>4.</b>	Surface Infrastructure already built, if any.	NA

**Note:**

1. The above data is compiled from Geological Report, Mining Plan and the data furnished by the prior allottee in Annexure-I/II, as available. For clarifications with regard to above data, please refer aforesaid source documents.
2. The boundary of the block has been taken from GR after conversion to WGS84 system by feature matching. The block boundary is provisional and the cardinal points, bounding co-ordinates are approximate.
3. There may be a difference in area in the shape file and GR. Area in the shape file is based on feature mapped plan of the block as given in the GR. So, the area is tentative and field DGPS survey is required to ascertain the exact area.

**Disclaimer:**

1. The analysis is done on Beta-version (Trial Version) of Decision Support System (DSS) of FSI / MOEF.
2. The Decision Rules for various parameters of this DSS System are controlled by FSI.
3. CMPDI only runs this DSS to obtain the status of any block based on these Decision Rules.
4. The database of the Decision Rules is updated by FSI from time to time.
5. CMPDI does not own any responsibility for variation in the results which are based on the Decision Rules of the FSI DSS in case of any updation of the database at FSI end.
6. ESZ analysis and tiger habitat/ corridor given here is based on the information available in public domain. Bidders are encouraged to verify this information and any other information additionally available.

21°4'30"N 21°5'0"N 21°5'30"N 21°6'0"N 21°6'30"N 21°7'0"N 21°7'30"N

**Mandakini-B Block, Talcher Coalfield**

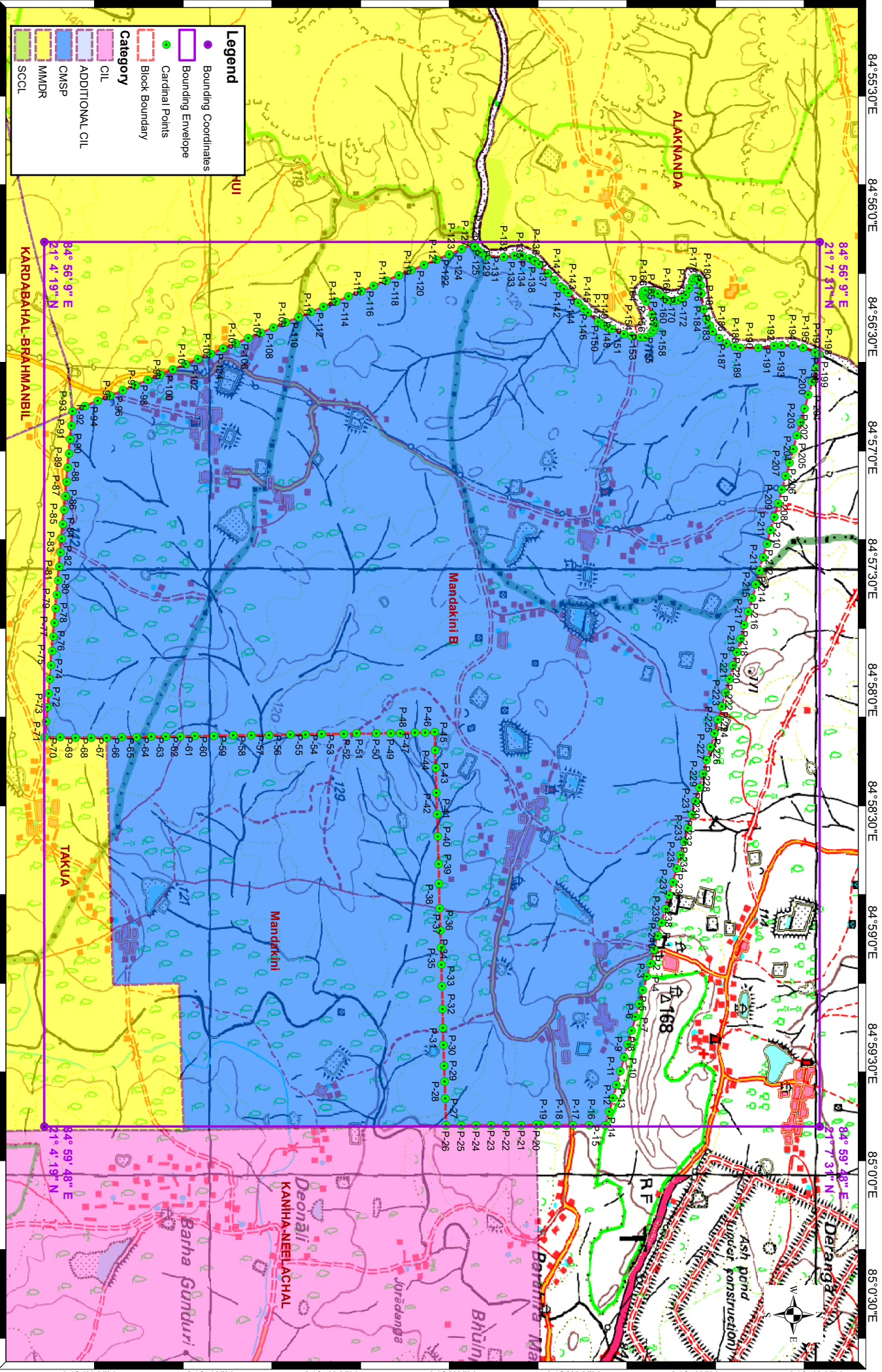
FOR INTERNAL/RESTRICTED USE ONLY

**Legend**

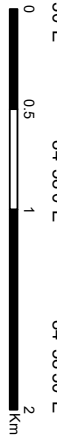
- Bounding Coordinates
- Bounding Envelope
- Cardinal Points
- Block Boundary

**Category**

- CIL
- ADDITIONAL CIL
- CMSP
- MMDR
- SCCL



Note: Data is in WGS84 coordinate system.



21°4'30"N 21°5'0"N 21°5'30"N 21°6'0"N 21°6'30"N 21°7'0"N 21°7'30"N

84°55'30"E 84°56'0"E 84°56'30"E 84°57'0"E 84°57'30"E 84°58'0"E 84°58'30"E 84°59'0"E 84°59'30"E 85°0'0"E 85°0'30"E

**Provisional Cardinal Points for Mandakini B Block**

POINT NO	Longitude (WGS84)	Latitude (WGS84)
P-1	84° 59' 0.851" E	21° 6' 50.957" N
P-2	84° 59' 4.198" E	21° 6' 50.026" N
P-3	84° 59' 7.545" E	21° 6' 49.096" N
P-4	84° 59' 10.893" E	21° 6' 48.165" N
P-5	84° 59' 14.240" E	21° 6' 47.234" N
P-6	84° 59' 17.587" E	21° 6' 46.304" N
P-7	84° 59' 20.934" E	21° 6' 45.373" N
P-8	84° 59' 24.281" E	21° 6' 44.442" N
P-9	84° 59' 27.628" E	21° 6' 43.511" N
P-10	84° 59' 30.975" E	21° 6' 42.581" N
P-11	84° 59' 34.322" E	21° 6' 41.650" N
P-12	84° 59' 37.669" E	21° 6' 40.719" N
P-13	84° 59' 41.016" E	21° 6' 39.788" N
P-14	84° 59' 44.363" E	21° 6' 38.857" N
P-15	84° 59' 47.710" E	21° 6' 37.926" N
P-16	84° 59' 47.681" E	21° 6' 33.929" N
P-17	84° 59' 47.652" E	21° 6' 29.931" N
P-18	84° 59' 47.624" E	21° 6' 25.934" N
P-19	84° 59' 47.595" E	21° 6' 21.936" N
P-20	84° 59' 47.604" E	21° 6' 20.876" N
P-21	84° 59' 47.625" E	21° 6' 17.145" N
P-22	84° 59' 47.646" E	21° 6' 13.414" N
P-23	84° 59' 47.667" E	21° 6' 9.683" N
P-24	84° 59' 47.689" E	21° 6' 5.952" N
P-25	84° 59' 47.710" E	21° 6' 2.221" N
P-26	84° 59' 47.731" E	21° 5' 58.489" N
P-27	84° 59' 41.083" E	21° 5' 58.297" N
P-28	84° 59' 36.815" E	21° 5' 58.179" N
P-29	84° 59' 32.942" E	21° 5' 58.036" N
P-30	84° 59' 27.857" E	21° 5' 57.877" N
P-31	84° 59' 23.652" E	21° 5' 57.722" N
P-32	84° 59' 18.936" E	21° 5' 57.617" N
P-33	84° 59' 13.248" E	21° 5' 57.476" N
P-34	84° 59' 7.994" E	21° 5' 57.359" N
P-35	84° 59' 3.769" E	21° 5' 57.246" N
P-36	84° 58' 59.544" E	21° 5' 57.133" N
P-37	84° 58' 54.043" E	21° 5' 56.938" N
P-38	84° 58' 47.922" E	21° 5' 56.781" N
P-39	84° 58' 43.089" E	21° 5' 56.659" N
P-40	84° 58' 36.298" E	21° 5' 56.456" N
P-41	84° 58' 30.671" E	21° 5' 56.317" N
P-42	84° 58' 25.403" E	21° 5' 56.128" N
P-43	84° 58' 19.283" E	21° 5' 55.937" N
P-44	84° 58' 14.830" E	21° 5' 55.821" N
P-45	84° 58' 10.377" E	21° 5' 55.706" N
P-46	84° 58' 10.456" E	21° 5' 53.320" N
P-47	84° 58' 10.554" E	21° 5' 50.835" N

**Provisional Cardinal Points for Mandakini B Block**

P-48	84° 58' 10.620" E	21° 5' 47.160" N
P-49	84° 58' 10.666" E	21° 5' 44.799" N
P-50	84° 58' 10.698" E	21° 5' 41.214" N
P-51	84° 58' 10.740" E	21° 5' 36.353" N
P-52	84° 58' 10.782" E	21° 5' 33.167" N
P-53	84° 58' 10.853" E	21° 5' 27.672" N
P-54	84° 58' 10.924" E	21° 5' 23.657" N
P-55	84° 58' 10.994" E	21° 5' 19.950" N
P-56	84° 58' 11.066" E	21° 5' 14.628" N
P-57	84° 58' 11.165" E	21° 5' 10.259" N
P-58	84° 58' 11.221" E	21° 5' 5.791" N
P-59	84° 58' 11.296" E	21° 5' 1.037" N
P-60	84° 58' 11.371" E	21° 4' 56.282" N
P-61	84° 58' 11.415" E	21° 4' 52.700" N
P-62	84° 58' 11.459" E	21° 4' 49.118" N
P-63	84° 58' 11.503" E	21° 4' 45.536" N
P-64	84° 58' 11.586" E	21° 4' 41.854" N
P-65	84° 58' 11.669" E	21° 4' 38.172" N
P-66	84° 58' 11.753" E	21° 4' 34.489" N
P-67	84° 58' 11.734" E	21° 4' 30.640" N
P-68	84° 58' 11.716" E	21° 4' 26.790" N
P-69	84° 58' 11.698" E	21° 4' 22.941" N
P-70	84° 58' 11.680" E	21° 4' 19.091" N
P-71	84° 58' 7.726" E	21° 4' 19.488" N
P-72	84° 58' 4.236" E	21° 4' 19.786" N
P-73	84° 58' 0.746" E	21° 4' 20.084" N
P-74	84° 57' 57.255" E	21° 4' 20.381" N
P-75	84° 57' 53.765" E	21° 4' 20.679" N
P-76	84° 57' 50.275" E	21° 4' 20.977" N
P-77	84° 57' 46.785" E	21° 4' 21.275" N
P-78	84° 57' 43.295" E	21° 4' 21.573" N
P-79	84° 57' 39.804" E	21° 4' 21.871" N
P-80	84° 57' 36.314" E	21° 4' 22.168" N
P-81	84° 57' 32.824" E	21° 4' 22.466" N
P-82	84° 57' 29.334" E	21° 4' 22.764" N
P-83	84° 57' 25.843" E	21° 4' 23.061" N
P-84	84° 57' 22.353" E	21° 4' 23.359" N
P-85	84° 57' 18.863" E	21° 4' 23.657" N
P-86	84° 57' 15.373" E	21° 4' 23.954" N
P-87	84° 57' 11.882" E	21° 4' 24.252" N
P-88	84° 57' 8.392" E	21° 4' 24.550" N
P-89	84° 57' 4.902" E	21° 4' 24.847" N
P-90	84° 57' 1.411" E	21° 4' 25.145" N
P-91	84° 56' 57.921" E	21° 4' 25.442" N
P-92	84° 56' 54.431" E	21° 4' 25.740" N
P-93	84° 56' 50.941" E	21° 4' 26.037" N
P-94	84° 56' 49.648" E	21° 4' 29.144" N
P-95	84° 56' 48.355" E	21° 4' 32.250" N

**Provisional Cardinal Points for Mandakini B Block**

P-96	84° 56' 47.061" E	21° 4' 35.356" N
P-97	84° 56' 45.768" E	21° 4' 38.463" N
P-98	84° 56' 44.475" E	21° 4' 41.569" N
P-99	84° 56' 43.182" E	21° 4' 44.676" N
P-100	84° 56' 41.889" E	21° 4' 47.782" N
P-101	84° 56' 40.596" E	21° 4' 50.889" N
P-102	84° 56' 39.303" E	21° 4' 53.995" N
P-103	84° 56' 38.009" E	21° 4' 57.101" N
P-104	84° 56' 36.716" E	21° 5' 0.208" N
P-105	84° 56' 35.423" E	21° 5' 3.314" N
P-106	84° 56' 34.130" E	21° 5' 6.421" N
P-107	84° 56' 32.836" E	21° 5' 9.527" N
P-108	84° 56' 31.543" E	21° 5' 12.634" N
P-109	84° 56' 30.250" E	21° 5' 15.740" N
P-110	84° 56' 28.957" E	21° 5' 18.846" N
P-111	84° 56' 27.663" E	21° 5' 21.953" N
P-112	84° 56' 26.370" E	21° 5' 25.059" N
P-113	84° 56' 25.076" E	21° 5' 28.166" N
P-114	84° 56' 23.783" E	21° 5' 31.272" N
P-115	84° 56' 22.490" E	21° 5' 34.379" N
P-116	84° 56' 21.196" E	21° 5' 37.485" N
P-117	84° 56' 19.903" E	21° 5' 40.591" N
P-118	84° 56' 18.609" E	21° 5' 43.698" N
P-119	84° 56' 17.316" E	21° 5' 46.804" N
P-120	84° 56' 16.023" E	21° 5' 49.911" N
P-121	84° 56' 14.729" E	21° 5' 53.017" N
P-122	84° 56' 13.436" E	21° 5' 56.123" N
P-123	84° 56' 12.142" E	21° 5' 59.230" N
P-124	84° 56' 10.848" E	21° 6' 2.336" N
P-125	84° 56' 9.551" E	21° 6' 5.278" N
P-126	84° 56' 10.068" E	21° 6' 5.560" N
P-127	84° 56' 10.106" E	21° 6' 5.571" N
P-128	84° 56' 10.143" E	21° 6' 5.600" N
P-129	84° 56' 11.093" E	21° 6' 6.339" N
P-130	84° 56' 11.687" E	21° 6' 7.071" N
P-131	84° 56' 12.537" E	21° 6' 8.441" N
P-132	84° 56' 12.714" E	21° 6' 12.834" N
P-133	84° 56' 12.484" E	21° 6' 15.416" N
P-134	84° 56' 12.359" E	21° 6' 17.327" N
P-135	84° 56' 13.032" E	21° 6' 19.181" N
P-136	84° 56' 13.609" E	21° 6' 20.193" N
P-137	84° 56' 13.672" E	21° 6' 20.354" N
P-138	84° 56' 13.792" E	21° 6' 20.514" N
P-139	84° 56' 14.548" E	21° 6' 21.526" N
P-140	84° 56' 16.859" E	21° 6' 23.727" N
P-141	84° 56' 18.410" E	21° 6' 25.292" N
P-142	84° 56' 19.972" E	21° 6' 26.763" N
P-143	84° 56' 20.734" E	21° 6' 27.661" N



**Provisional Cardinal Points for Mandakini B Block**

P-144	84° 56' 21.670" E	21° 6' 28.796" N
P-145	84° 56' 24.064" E	21° 6' 31.208" N
P-146	84° 56' 25.490" E	21° 6' 32.541" N
P-147	84° 56' 26.521" E	21° 6' 33.578" N
P-148	84° 56' 28.682" E	21° 6' 36.157" N
P-149	84° 56' 29.468" E	21° 6' 37.152" N
P-150	84° 56' 29.700" E	21° 6' 37.673" N
P-151	84° 56' 30.318" E	21° 6' 38.795" N
P-152	84° 56' 30.578" E	21° 6' 39.581" N
P-153	84° 56' 31.786" E	21° 6' 42.516" N
P-154	84° 56' 32.326" E	21° 6' 44.427" N
P-155	84° 56' 32.639" E	21° 6' 46.597" N
P-156	84° 56' 32.601" E	21° 6' 47.759" N
P-157	84° 56' 31.511" E	21° 6' 49.271" N
P-158	84° 56' 30.845" E	21° 6' 49.813" N
P-159	84° 56' 29.968" E	21° 6' 50.154" N
P-160	84° 56' 29.142" E	21° 6' 50.159" N
P-161	84° 56' 26.992" E	21° 6' 49.475" N
P-162	84° 56' 23.708" E	21° 6' 47.946" N
P-163	84° 56' 22.548" E	21° 6' 47.282" N
P-164	84° 56' 22.135" E	21° 6' 47.155" N
P-165	84° 56' 21.667" E	21° 6' 47.132" N
P-166	84° 56' 21.201" E	21° 6' 47.393" N
P-167	84° 56' 21.012" E	21° 6' 47.859" N
P-168	84° 56' 21.408" E	21° 6' 49.457" N
P-169	84° 56' 21.858" E	21° 6' 50.900" N
P-170	84° 56' 22.558" E	21° 6' 52.161" N
P-171	84° 56' 23.361" E	21° 6' 53.333" N
P-172	84° 56' 23.564" E	21° 6' 55.045" N
P-173	84° 56' 23.434" E	21° 6' 56.078" N
P-174	84° 56' 22.917" E	21° 6' 56.933" N
P-175	84° 56' 22.235" E	21° 6' 57.840" N
P-176	84° 56' 20.481" E	21° 6' 58.703" N
P-177	84° 56' 18.697" E	21° 6' 59.333" N
P-178	84° 56' 17.958" E	21° 6' 59.802" N
P-179	84° 56' 17.935" E	21° 7' 0.576" N
P-180	84° 56' 18.218" E	21° 7' 1.055" N
P-181	84° 56' 19.721" E	21° 7' 1.529" N
P-182	84° 56' 21.849" E	21° 7' 1.723" N
P-183	84° 56' 25.704" E	21° 7' 2.285" N
P-184	84° 56' 28.093" E	21° 7' 2.993" N
P-185	84° 56' 29.742" E	21° 7' 3.832" N
P-186	84° 56' 31.185" E	21° 7' 4.523" N
P-187	84° 56' 32.771" E	21° 7' 6.111" N
P-188	84° 56' 34.156" E	21° 7' 7.961" N
P-189	84° 56' 34.958" E	21° 7' 9.999" N
P-190	84° 56' 35.288" E	21° 7' 11.409" N
P-191	84° 56' 35.223" E	21° 7' 15.787" N

**Provisional Cardinal Points for Mandakini B Block**

P-192	84° 56' 34.737" E	21° 7' 19.748" N
P-193	84° 56' 34.676" E	21° 7' 21.538" N
P-194	84° 56' 34.659" E	21° 7' 24.428" N
P-195	84° 56' 35.136" E	21° 7' 26.912" N
P-196	84° 56' 36.312" E	21° 7' 29.847" N
P-197	84° 56' 36.796" E	21° 7' 30.993" N
P-198	84° 56' 36.911" E	21° 7' 30.957" N
P-199	84° 56' 40.258" E	21° 7' 30.027" N
P-200	84° 56' 43.606" E	21° 7' 29.097" N
P-201	84° 56' 46.954" E	21° 7' 28.167" N
P-202	84° 56' 50.302" E	21° 7' 27.237" N
P-203	84° 56' 53.649" E	21° 7' 26.307" N
P-204	84° 56' 56.997" E	21° 7' 25.378" N
P-205	84° 57' 0.344" E	21° 7' 24.448" N
P-206	84° 57' 3.692" E	21° 7' 23.518" N
P-207	84° 57' 7.040" E	21° 7' 22.588" N
P-208	84° 57' 10.387" E	21° 7' 21.658" N
P-209	84° 57' 13.735" E	21° 7' 20.728" N
P-210	84° 57' 17.082" E	21° 7' 19.798" N
P-211	84° 57' 20.430" E	21° 7' 18.868" N
P-212	84° 57' 23.778" E	21° 7' 17.938" N
P-213	84° 57' 27.125" E	21° 7' 17.008" N
P-214	84° 57' 30.473" E	21° 7' 16.077" N
P-215	84° 57' 33.820" E	21° 7' 15.147" N
P-216	84° 57' 37.168" E	21° 7' 14.217" N
P-217	84° 57' 40.515" E	21° 7' 13.287" N
P-218	84° 57' 43.863" E	21° 7' 12.357" N
P-219	84° 57' 47.210" E	21° 7' 11.427" N
P-220	84° 57' 50.558" E	21° 7' 10.496" N
P-221	84° 57' 53.905" E	21° 7' 9.566" N
P-222	84° 57' 57.252" E	21° 7' 8.636" N
P-223	84° 58' 0.600" E	21° 7' 7.706" N
P-224	84° 58' 3.947" E	21° 7' 6.775" N
P-225	84° 58' 7.295" E	21° 7' 5.845" N
P-226	84° 58' 10.642" E	21° 7' 4.915" N
P-227	84° 58' 13.989" E	21° 7' 3.984" N
P-228	84° 58' 17.337" E	21° 7' 3.054" N
P-229	84° 58' 20.684" E	21° 7' 2.124" N
P-230	84° 58' 24.031" E	21° 7' 1.193" N
P-231	84° 58' 27.379" E	21° 7' 0.263" N
P-232	84° 58' 30.726" E	21° 6' 59.332" N
P-233	84° 58' 34.073" E	21° 6' 58.402" N
P-234	84° 58' 37.421" E	21° 6' 57.471" N
P-235	84° 58' 40.768" E	21° 6' 56.541" N
P-236	84° 58' 44.115" E	21° 6' 55.610" N
P-237	84° 58' 47.462" E	21° 6' 54.680" N
P-238	84° 58' 50.810" E	21° 6' 53.749" N
P-239	84° 58' 54.157" E	21° 6' 52.818" N

**Provisional Cardinal Points for Mandakini B Block**

P-240	84° 58' 57.504" E	21° 6' 51.888" N
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Note: The provisional cardinal points are in WGS84 coordinate system. These points are extracted through ArcGIS software after georeferencing of block boundary and onground DGPS survey is required to ascertain the exact location of the points.