Mine Plan and Mine Closure Plan

(First Modification/Revision)

For

Gourangdih ABC Coal Mine

Raniganj Coal Field
(Under Rule 22E of MCR 1960)
Paschim Bardhaman
West Bengal

Project area 356.575 ha

Rated Capacity 2.500 MTPA
Peak Capacity -3.7500MTPA

Prepared By

Indian Mine Planners and Consultants

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APPLICANT

West Bengal Mineral Development and Trading Corporation Limited

West Bengal Mineral Development & Trading Corporation Limited.
13, Nellie Sengupta Sarani,
2nd Floor, Kolkata – 700087.
#Registered Address has been changed to: 3rd Floor, DJ - 10 (WBIIDC Building), DJ Block, Sector II, Salt Lake City, Kolkata - 700091

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PLANS / PLATES

Prepared By Indian Mine Planners and Consultants On 23/02/2023

CHECKLIST

Prepared By Indian Mine Planners and Consultants On 23/02/2023

Chapter-1: Project Information

1.1 Introduction

S.No	Parameters	Details
1.1.1	Name of the Coal/Lignite Block	Gourangdih ABC Coal Mine
1.1.2	Name of the Coalfield/ Lignite Field.	Raniganj Coal Field
1.1.3	Base date of Mining Plan/ Mine Closure Plan.	01/03/2023
1.1.4	Linked End Use Plant.	Not applicable, as it is a commercial block for sale of coal.
1.1.5	Distance of End Use Plant from the pit head of the project in âkmâ.	Not applicable, it will depend on consumers.
1.1.6	Mode of Coal Transport	Coal transportation is planned through railway and by road

1.2 Location, Topography & Communication:

S.No	Parameters	Details
1.2.1	Location of coal deposit.	Gourangdih-ABC Coal Mine is located at North-West of Raniganj Coalfield in Paschim Bardhman District of West Bengal state. The project area lies in the SOI Toposheet No73I/13. The Block is bounded by 23 48' 30" N - 23 49'45" N 86 57' 45" E - 87 00' 15" E.
	State	West Bengal
	District	Paschim Bardhaman
1.2.2	Communication	The Block is well connected by rail and road . A part of Asansol-Domohani road passes through Southern part of the block. The block is located about 20km from Asansol township. The nearest Railway junction Andal is located about 38km form Howrah-Delhi of Eastern Railway. The nearest Air port is Kazi Nazrul Islam about 66 km and Netaji Subhash Chandra Bose International Airport Kolkata is about 220 km.
1.2.3	Availability of power supply & water etc.	The mine is proposed to receive at 33 kV form the nearest Substation of WBSEB/WBPDCL situated in the southern side of the block about 4-5 km form the boundary . The main sub-station of the project is proposed to be located at dip side of the Quarry so that two independent 11kV feeders , One for Gourangdih-A and other for Gourangdih-C be arranged for power supply to units.
1.2.4	Prominent physiographic features, drainage pattern, natural water courses, rainfall data, highest flood level.	The area has gentle undulations and northerly slope. In the North-Western there is small mounds . The maximum ground elevation is 174m above MSL in the North-West while the lowest level is found in the South central zone is 135m above MSL. Ajay river which flows in the North-East, about 2.2 km away from the project and a seasonal Nonia Jhor , a trbutory of Damodar River in the southern part of block , Sector-C control the drainage system . The average rainfall in the area is about 1180mm, and 170mm maximum in a single day,major part of this precipitates during June to October.Please refer to Plate No. VII for present Surface condition of Gourangdih-ABC Coal Block.
1.2.5	Important surface features within the project area and major diversion or shifting involved.	Gourangdih-ABC block area is thickly populated and a number of developed villages namely, Gourangdih, Panuria, Kanta Pahari are major among the others situated within the proposed mining area. Apart form villages powerlines, road form Asansol to Chittaranjan passes through the block. The surface constraints particularly in B block makes difficult for envisaging mine operation. The population falling in the Block C have been proposed to be shifted and rehabilitated suitably as per R and R plan under approval. Road diversion has been proposedalong the south eastern to northern boundary of the acquired lease.

1.3 Details of the Allotment Agreement:

S.No	Parameters	Details
1.3.1	Name of the Allottee	West Bengal Mineral Development and Trading Corporation Limited
1.3.2	Details of allotment/vesting Order.	103/6/2016/NA
1.3.2(B)	Allocation/Vesting Order Date	2016-09-29
1.3.3	Name and address of the Applicant	West Bengal Mineral Development & Trading Corporation Limited. 13, Nellie Sengupta Sarani, 2nd Floor, Kolkata – 700087. #Registered Address has been changed to: 3rd Floor, DJ - 10 (WBIIDC Building), DJ Block, Sector II, Salt Lake City, Kolkata - 700091
1.3.4	Name of the previous Allottee of the Block.	Himachal EMTA Power Ltd and JSW Steel Ltd

1.3.5	Starting date of the Mine as per CMDPA/CBDPA	29/05/2020
1.3.6	Rated capacity as per CMDPA/CBDPA	2.50
1.3.7	Production Schedule as per opening permission (meeting provisions of CMDPA if any).	NA
1.3.8	End Use of Coal/ Lignite as per allotment order if any	Not applicable, it is a commercial block for sale of coal.
1.3.9	Cardinal points coordinates of the Block Boundary	Cardinal Points files data shown below

Cardinal Points co-ordinates of the Block boundary :

ID	Latitude (N)	Longitude (E)
A	23°48'30"	86°57'45"
B	23°49'45"	86°57'45"
C	23°49'45"	87°00'15"
D	23°48'30"	87°00'15"
ID	LATITUDE	LONGITUDE
G-1	23° 49' 30.448" N	86° 57' 44.983" E
G-2	23° 49' 32.894" N	86° 57' 48.115" E
G-3	23° 49' 33.005" N	86° 57' 49.255" E
G-4	23° 49' 34.129" N	86° 57' 50.531" E
A44	23° 49' 35.286" N	86° 57' 53.294" E
G-5	23° 49' 35.411" N	86° 57' 53.592" E
A45	23° 49' 35.896" N	86° 57' 55.085" E
G-6	23° 49' 36.237" N	86° 57' 56.578" E
A46	23° 49' 36.475" N	86° 57' 57.739" E
A47	23° 49' 36.564" N	86° 57' 58.446" E
A48	23° 49' 36.563" N	86° 57' 59.456" E
G-7	23° 49' 36.532" N	86° 58' 00.146" E
G-8	23° 49' 36.217" N	86° 58' 00.129" E
A50	23° 49' 36.069" N	86° 58' 00.852" E
A51	23° 49' 36.186" N	86° 58' 02.528" E
A52	23° 49' 36.224" N	86° 58' 04.278" E
A53	23° 49' 36.066" N	86° 58' 06.512" E
A54	23° 49' 35.757" N	86° 58' 08.539" E
G-9	23° 49' 35.257" N	86° 58' 11.083" E
G-10	23° 49' 34.062" N	86° 58' 14.431" E
G-11	23° 49' 33.967" N	86° 58' 18.111" E
G-12	23° 49' 33.838" N	86° 58' 18.695" E
G-13	23° 49' 33.689" N	86° 58' 19.592" E
G-14	23° 49' 33.586" N	86° 58' 20.659" E
A1'	23° 49' 33.495" N	86° 58' 22.128" E
G-15	23° 49' 33.023" N	86° 58' 26.152" E
G-16	23° 49' 32.916" N	86° 58' 28.851" E
G-17	23° 49' 32.493" N	86° 58' 31.388" E
G-18	23° 49' 32.294" N	86° 58' 32.096" E
G-19	23° 49' 29.145" N	86° 58' 31.788" E
G-20	23° 49' 28.052" N	86° 58' 36.229" E
G-21	23° 49' 28.376" N	86° 58' 36.874" E
G-22	23° 49' 27.808" N	86° 58' 41.173" E
A12''	23° 49' 27.787" N	86° 58' 41.429" E
G-23	23° 49' 27.494" N	86° 58' 44.882" E
G-24	23° 49' 27.226" N	86° 58' 47.283" E
G-25	23° 49' 26.849" N	86° 58' 48.787" E
G-26	23° 49' 26.674" N	86° 58' 49.275" E
G-27	23° 49' 25.889" N	86° 58' 50.886" E
G-28	23° 49' 25.208" N	86° 58' 51.952" E
G-29	23° 49' 24.418" N	86° 58' 53.041" E
G-30	23° 49' 23.589" N	86° 58' 53.462" E
G-31	23° 49' 23.024" N	86° 58' 51.414" E
G-32	23° 49' 21.915" N	86° 58' 48.633" E
G-33	23° 49' 21.062" N	86° 58' 48.067" E
G-34	23° 49' 18.087" N	86° 58' 54.026" E
G-35	23° 49' 17.038" N	86° 58' 56.156" E
G-36	23° 49' 14.007" N	86° 58' 59.598" E
C41'	23° 49' 13.007" N	86° 59' 01.034" E
'	23° 49' 12.207" N	86° 59' 02.859" E
	23° 49' 11.526" N	86° 59' 03.908" E

ID	Latitude (N)	Longitude (E)
G-39	23° 49' 11.003" N	86° 59' 05.007" E
G-40	23° 49' 10.385" N	86° 59' 06.864" E
G-41	23° 49' 09.967" N	86° 59' 08.083" E
G-42	23° 49' 09.704" N	86° 59' 09.025" E
G-43	23° 49' 09.566" N	86° 59' 10.582" E
G-44	23° 49' 09.518" N	86° 59' 12.781" E
G-45	23° 49' 09.288" N	86° 59' 14.667" E
G-46	23° 49' 08.937" N	86° 59' 16.421" E
G-47	23° 49' 08.605" N	86° 59' 17.783" E
G-48	23° 49' 08.029" N	86° 59' 19.082" E
G-49	23° 49' 08.316" N	86° 59' 21.397" E
G-50	23° 49' 08.118" N	86° 59' 22.032" E
G-51	23° 49' 07.945" N	86° 59' 23.198" E
G-52	23° 49' 07.532" N	86° 59' 24.365" E
G-53	23° 49' 06.814" N	86° 59' 26.189" E
G-54	23° 49' 06.167" N	86° 59' 27.475" E
G-55	23° 49' 05.152" N	86° 59' 29.409" E
C4"	23° 49' 04.095" N	86° 59' 31.175" E
G-56	23° 49' 03.752" N	86° 59' 31.747" E
G-57	23° 49' 02.718" N	86° 59' 33.179" E
G-58	23° 49' 02.202" N	86° 59' 34.007" E
G-59	23° 49' 01.595" N	86° 59' 35.676" E
G-60	23° 49' 00.924" N	86° 59' 37.766" E
G-61	23° 49' 00.537" N	86° 59' 38.931" E
G-62	23° 48' 59.582" N	86° 59' 44.712" E
C9'	23° 48' 59.304" N	86° 59' 46.153" E
G-63	23° 48' 57.771" N	86° 59' 54.087" E
G-64	23° 48' 55.749" N	86° 59' 59.387" E
G-65	23° 48' 55.572" N	87° 00' 00.021" E
G-66	23° 48' 55.418" N	87° 00' 00.962" E
G-67	23° 48' 55.233" N	87° 00' 02.007" E
G-68	23° 48' 55.147" N	87° 00' 03.207" E
G-69	23° 48' 55.022" N	87° 00' 04.474" E
C20	23° 48' 54.919" N	87° 00' 05.605" E
C21	23° 48' 54.794" N	87° 00' 07.204" E
C22	23° 48' 54.673" N	87° 00' 07.953" E
G-70	23° 48' 54.045" N	87° 00' 08.738" E
C22'	23° 48' 54.174" N	87° 00' 09.655" E
C23	23° 48' 53.882" N	87° 00' 10.384" E
G-71	23° 48' 53.469" N	87° 00' 10.982" E
G-72	23° 48' 52.712" N	87° 00' 12.003" E
C24	23° 48' 51.008" N	87° 00' 13.219" E
C24'	23° 48' 50.764" N	87° 00' 14.038" E
C24''	23° 48' 49.477" N	87° 00' 14.998" E
C25	23° 48' 50.319" N	87° 00' 10.911" E
C25'	23° 48' 49.059" N	87° 00' 05.694" E
C26	23° 48' 48.649" N	87° 00' 04.302" E
C26'	23° 48' 48.006" N	87° 00' 02.534" E
C27	23° 48' 47.349" N	87° 00' 00.481" E
C27'	23° 48' 46.005" N	86° 59' 56.109" E
C27''	23° 48' 44.008" N	86° 59' 52.626" E
C28	23° 48' 44.467" N	86° 59' 51.605" E
G-73	23° 48' 43.424" N	86° 59' 47.095" E
G-74	23° 48' 41.896" N	86° 59' 43.158" E
G-75	23° 48' 41.477" N	86° 59' 41.767" E
G-76	23° 48' 41.068" N	86° 59' 40.054" E
G-77	23° 48' 40.466" N	86° 59' 38.459" E
G-78	23° 48' 39.831" N	86° 59' 35.981" E
G-79	23° 48' 38.594" N	86° 59' 31.808" E
G-80	23° 48' 37.553" N	86° 59' 28.346" E
G-81	23° 48' 36.574" N	86° 59' 25.202" E
G-82	23° 48' 35.509" N	86° 59' 21.894" E
G-83	23° 48' 34.412" N	86° 59' 18.492" E
G-84	23° 48' 33.778" N	86° 59' 16.727" E
G-85	23° 48' 32.575" N	86° 59' 14.443" E
G-86	23° 48' 33.522" N	86° 59' 11.425" E
G-87	23° 48' 34.008" N	86° 59' 10.018" E
[illegible]	23° 48' 34.748" N	86° 59' 08.225" E

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ID	Latitude (N)	Longitude (E)
G-89	23° 48' 35.501" N	86° 59' 06.332" E
G-90	23° 48' 36.081" N	86° 59' 05.022" E
G-91	23° 48' 37.178" N	86° 59' 03.105" E
G-92	23° 48' 38.812" N	86° 59' 00.907" E
G-93	23° 48' 40.404" N	86° 58' 58.593" E
G-94	23° 48' 42.167" N	86° 58' 55.974" E
G-95	23° 48' 43.221" N	86° 58' 54.408" E
C36	23° 48' 43.995" N	86° 58' 53.496" E
C37	23° 48' 45.035" N	86° 58' 52.007" E
G-96	23° 48' 45.931" N	86° 58' 51.228" E
G-97	23° 48' 46.425" N	86° 58' 50.363" E
G-98	23° 48' 46.941" N	86° 58' 49.241" E
G-99	23° 48' 47.285" N	86° 58' 48.376" E
G-100	23° 48' 47.801" N	86° 58' 46.482" E
G-101	23° 48' 48.855" N	86° 58' 42.578" E
G-102	23° 48' 49.736" N	86° 58' 39.094" E
G-103	23° 48' 50.058" N	86° 58' 37.715" E
G-104	23° 48' 50.789" N	86° 58' 33.857" E
G-105	23° 48' 51.283" N	86° 58' 30.116" E
G-106	23° 48' 51.498" N	86° 58' 28.527" E
G-107	23° 48' 51.777" N	86° 58' 26.633" E
G-108	23° 48' 52.001" N	86° 58' 24.505" E
A25	23° 48' 52.486" N	86° 58' 21.162" E
A25'	23° 48' 52.873" N	86° 58' 16.557" E
A26	23° 48' 53.108" N	86° 58' 12.465" E
A26'	23° 48' 52.914" N	86° 58' 08.888" E
G-109	23° 48' 52.617" N	86° 58' 04.515" E
G-110	23° 48' 55.501" N	86° 58' 03.014" E
G-111	23° 48' 58.896" N	86° 58' 01.406" E
G-112	23° 49' 01.553" N	86° 58' 00.037" E
G-113	23° 49' 03.885" N	86° 57' 58.731" E
G-114	23° 49' 09.162" N	86° 57' 56.159" E
G-115	23° 49' 14.053" N	86° 57' 53.064" E
G-116	23° 49' 17.135" N	86° 57' 51.997" E
G-117	23° 49' 21.004" N	86° 57' 50.066" E
G-118	23° 49' 22.299" N	86° 57' 49.465" E
A31'	23° 49' 22.953" N	86° 57' 49.087" E
G-119	23° 49' 23.997" N	86° 57' 48.483" E
G-120	23° 49' 24.479" N	86° 57' 48.094" E
G-121	23° 49' 26.462" N	86° 57' 46.923" E
G-122	23° 49' 28.346" N	86° 57' 45.789" E
G-1	23° 49' 30.448" N	86° 57' 44.983" E

1.4 Details of the Previous Approval of Mining Plan:

<table>
<tr><th>S.No</th><th>Parameters</th><th>Details</th></tr>
<tr><td>1.4.1</td><td>Date of approval :</td><td>28/06/2011</td></tr>
<tr><td></td><td>Copy of earlier approval of mining plan Upload document</td><td>Annexure 4 : Document shown in annexure section.</td></tr>
<tr><td>1.4.2</td><td>Conditions, if any</td><td>
<table>
<tr><th>S.No.</th><th>Conditions</th><th>Compliance Status</th></tr>
<tr><td>1</td><td>The mining company shall take all necessary precautions regarding safety' of mine workings, persons deployed therein.</td><td>Shall be Complied</td></tr>
<tr><td>2</td><td>Mining Lease to be acquired-shall not encroach into any other coal block.</td><td>Noted , shall be complied</td></tr>
<tr><td>3</td><td>The approval of the Mining Plan is without prejudice to the requirement of approvals from competent/prescribed authority under the relevant ruleslregulations etc.</td><td>Noted , All other statutory reuirements shall be obtained and complied on approval of the instant revise Mine plan and at the time of implementation of the project.</td></tr>
</table>
</td></tr>
<tr><td>1.4.3</td><td>Scheduled year of start of production.</td><td>2011-12</td></tr>
<tr><td>1.4.4</td><td>Proposed year of achieving the targeted production</td><td>2013-14</td></tr>
<tr><td>1.4.5</td><td>Date of actual commencement of mining operations, if operations already started.</td><td></td></tr>
</table>

<table>
<tr><td>1.4.6</td><td>Likely date of mining operations, if operations not yet started & reasons for non-commencement of operations.</td><td colspan="4">Non Operational

Statutory clearances are yet to be obtained.</td></tr>
<tr><td>1.4.8</td><td>Statutory obligations vis-à-vis compliance status in a tabular form</td><td colspan="4"><table>
<tr><th>S.No</th><th>Clearance Type (Mining Plan, Mining Lease Environment, Forest, CTO etc)</th><th>Conditions</th><th>Compliance Status</th></tr>
<tr><td>1</td><td>Mining Plan and Mine Closure Plan</td><td>The approval conditions of the instant MP-MCP(Rev-01)</td><td>Shall be Complied</td></tr>
<tr><td>2</td><td>Mining Lease Allocation</td><td>Conditions stipulated in the lease grant letter</td><td>Noted and Being Complied</td></tr>
<tr><td>3</td><td>Environment and Forest Clearance</td><td>The Conditions likely to be imposed in the EC, FC , wild life conservation which are under process of approval</td><td>Shall be Complied</td></tr>
<tr><td>4</td><td>CTO, COE</td><td>Conditions of Consent to operate and establish</td><td>Shall be complied</td></tr>
<tr><td>5</td><td>Statutory Permission form safety and other regulatory bodies</td><td>The conditions of the permssion /approval /exemption of different inforcing regulatory bodies,</td><td>Shall be complied</td></tr>
</table></td></tr>
<tr><td>1.4.9</td><td>Reasons for difference between the planned and actual production levels</td><td colspan="4">The projectis yet to start production due to non availability of EC ,FC and other permissions.</td></tr>
</table>

1.5 PARAMETERS OF APPROVED MINING PLAN VIS-Ã-VIS PROPOSED MINING PLAN :

S.No	Block Area	Approved Mining Plan	Proposed Mining Plan
1.5.1	Geological Block Area HA	370	370.0000
1.5.2	Geological Block Area Projectised HA	291.48	291.48
1.5.3	Lease area HA	214	356.5750
1.5.4	Project area HA	356.575	356.5750
1.5.5	Life of the Project Yrs.	27	27
1.5.6	Minimum and Maximum Depth of working	Sector-A- Min. 8m Maximum 120m Sector-C- Min 8 m Maximum 210m	Sector A-Min 8 m Maximum 120m Sector-C- Min 8 min Maximum 210m
1.5.7	Geological Block Area yet to be projectised "Ha"	78.52	78.52
1.5.8	Production Target MTP	2.5	2.5000
1.5.9	Seams Available As per GR	Seam-BVII,Seam-BVI,Seam-BV,Seam-BIV,Seam-BIII Top,Seam-BIII Bottom,Seam-BII	Seam-BVII,Seam-BVI,Seam-BV,Seam-BIV,Seam-BIII Top,Seam-BIII Bottom,Seam-BII,Seam-BI
1.5.10	Seams not considered for Mining with Reasons		S. No / Seams / Reason 1 / Seam-BI / Impersistent ,not considered
1.5.11	Gross Geological Reserve Mte	143.50	143.50
1.5.12	Net Geological Reserve Mte	129.15	129.1500
1.5.13	Blocked Reserve Mte	53.23	53.2300
1.5.14	Minable Reserve Mte	75.92	75.9200
1.5.15	Extractable Reserve Mte	69.09	69.0900
1.5.16	% of Extraction/ recovery	53.496%	53.4960%
1.5.17	Reserve Depleted (till the base date) Reserves Mte	7.55	7.5500
1.5.18	Balance Extractable Reserve Mte	61.54	61.5400
1.5.19	Average Grade	F	4547.0000
1.5.20	OB in MM3	179.37	179.3700
1.5.21	SR M3/te	2.9147	2.9147
1.5.22	Mining Technology	Shovel Dumper with Drilling and Blasting in coal and OBR	Shovel Dumper with Drilling and Blasting in coal and OBR
1.5.23	Coal Beneficiation envisaged		
1.5.24	Handling of Rejects	NA	Not apploicable as no beneficiation proposed
1.5.25	Land use pattern " Ha"		
1	Excavation Area	214.0	242.8200
2	Top Soil Dump		4.0700
3	External Dump	62.97	47.0690
4	Safety Zone	45.20	10.0300
5	Other Use	25.0	43.3760
6	Infrastructure area	9.50	9.2100

7	Green Belt		0.0000
8	Undisturbed Area		0.0000
Total		356.6700	356.5750
1.5.26	Reasons for revision		To comply the conditions of EAC and MoEFCC.

Chapter-2: Exploration,Geology, Seam Sequence, Coal Quality and Reserve

2.1 Details of the block

S.No	Parameters	Details	
2.1.1	Particulars of adjacent blocks: North, South, East, West	North	The in crop position of B-II seam forms the Northern limit
		East	The Eastern boundary of the block is determined by Fault F17
		South	The Southern boundary is defined by the fault F13 and F12
		West	Fault F1 determines the Western boundary of the block
2.1.2	Location of the Block	Gourangdih ABC Coal Block OCP is located at Village - Jamgram, Katapahari, P.S-Barabani, Raniganj Coalfield, Dist. Paschim Bardhaman, West Bengal. The Gourangdih Block-ABC Sector covering an area of 3.7 sq. km. lies in the north central part of the Raniganj Coalfield. It falls between Latitudes 23 deg48'30" N 23 deg 49'45" N and Longitudes 86 deg 57'45" E 87 deg 00 15" E and is included in the Survey of India Topo Sheet No. 73 I/13.	
	State	West Bengal	
	District	Paschim Bardhaman	
2.1.3	Area of the Block "Ha"	370.0	
2.1.4	Area of the geological block projectized in "Ha" (Area of the geological block considered for liquidation of coal reserve)	291.48	
2.1.5	Balance area yet to be projectized "Ha"	78.52	
2.1.6	Likely Reserve in the area yet to be projectized "Mte"	22.09	
2.1.7	Cardinal Point Co-ordinates of the non-coal/lignite bearing area/existing mining lease outside the allotted Geological Coal/Lignite block	Attached as per state govt declaration Annexure IIA and IIB	
	(Duly certified in line with para 1.9 of the Guideline, if fresh minning lease required)	Cardinal Points files data shown below	
2.1.8	Certificate of Qualified person/ Accredited Mining Plan preparing agency (MPPA)if the project area is confined within the vested/allotted block boundary/existing mining lease and Cardinal Points Co-ordinates of the Proposed area outside the non-coal/lignite bearing area outside the allotted Geological Coal/Lignite block	Annexure 2A	Document shown in annexure section.
		Annexure 2B	Document shown in annexure section.
		Annexure 2C	Document shown in annexure section.
		The Project area, Lease area and geological block area in Ha shall also be envisaged.	Project area, Lease area is 356.575 Ha each, Geological Block area is 370 Ha,
2.1.9	KML file of the Proposed lease area, Project Area and geological block.	File attached in Plates section below.	
2.1.10	Whether the proposed project area is confined within the allotted block boundary/existing mining lease, if not, the reason for deviation from allotted block boundary, may be given.	The proposed project area is not confined within the allotted block boundary. A Cadastral Plan showing approved block boundary vis--vis proposed/existing mining lease mine boundary superimposed in land use and infrastructure etc. is furnished in Plate -4 and Plate-8. The Area outside the block area a non coal bearing area which is required for infrastructure development and temporary external dumping. A letter form Directorate of Geology and Mining west bengal regarding non coal bearing area is attached as additional Annexure-11	
2.1.11	If the project area extends outside the allotted block boundary/existing mining lease, confirmation about non-occurrence of coal/lignite in the area under reference needs to be furnished	The details has been furnished under Annexure-11 obtained form state govt.	
2.1.12(1)	Year of Starting.	2023	
2.1.12(2)	Type of the Project.	OC mine ,the Project is yet to start production after EC,FC and other permissions.The year of start of production is expected by 2023-24(on approval of revised MP-MCP, EAI, FC).	

(Duly certified in line with para 1.9 of the Guideline, if fresh minning lease required) :

ID	Latitude (N)	Longitude (E)
A	23°48'30"	86°57'45"
B	23°49'45"	86°57'45"
C	23°49'45"	87°00'15"
D	23°48'30"	87°00'15"
ID	LATITUDE	LONGITUDE
G-1	23° 49' 30.448" N	86° 57' 44.983" E
G-2	23° 49' 32.894" N	86° 57' 48.115" E
G-3	23° 49' 33.005" N	86° 57' 49.255" E
G-4	23° 49' 34.129" N	86° 57' 50.531" E
A44	23° 49' 35.286" N	86° 57' 53.294" E
G-5	23° 49' 35.411" N	86° 57' 53.592" E
A45	23° 49' 35.896" N	86° 57' 55.085" E
G-6	23° 49' 36.237" N	86° 57' 56.578" E
A46	23° 49' 36.475" N	86° 57' 57.739" E
A47	23° 49' 36.564" N	86° 57' 58.446" E
A48	23° 49' 36.563" N	86° 57' 59.456" E
G-7	23° 49' 36.532" N	86° 58' 00.146" E
G-8	23° 49' 36.217" N	86° 58' 00.129" E
A50	23° 49' 36.069" N	86° 58' 00.852" E
A51	23° 49' 36.186" N	86° 58' 02.528" E
A52	23° 49' 36.224" N	86° 58' 04.278" E
A53	23° 49' 36.066" N	86° 58' 06.512" E
A54	23° 49' 35.757" N	86° 58' 08.539" E
G-9	23° 49' 35.257" N	86° 58' 11.083" E
G-10	23° 49' 34.062" N	86° 58' 14.431" E
G-11	23° 49' 33.967" N	86° 58' 18.111" E
G-12	23° 49' 33.838" N	86° 58' 18.695" E
G-13	23° 49' 33.689" N	86° 58' 19.592" E
G-14	23° 49' 33.586" N	86° 58' 20.659" E
A1'	23° 49' 33.495" N	86° 58' 22.128" E
G-15	23° 49' 33.023" N	86° 58' 26.152" E
G-16	23° 49' 32.916" N	86° 58' 28.851" E
G-17	23° 49' 32.493" N	86° 58' 31.388" E
G-18	23° 49' 32.294" N	86° 58' 32.096" E
G-19	23° 49' 29.145" N	86° 58' 31.788" E
G-20	23° 49' 28.052" N	86° 58' 36.229" E
G-21	23° 49' 28.376" N	86° 58' 36.874" E
G-22	23° 49' 27.808" N	86° 58' 41.173" E
A12''	23° 49' 27.787" N	86° 58' 41.429" E
G-23	23° 49' 27.494" N	86° 58' 44.882" E
G-24	23° 49' 27.226" N	86° 58' 47.283" E
G-25	23° 49' 26.849" N	86° 58' 48.787" E
G-26	23° 49' 26.674" N	86° 58' 49.275" E
G-27	23° 49' 25.889" N	86° 58' 50.886" E
G-28	23° 49' 25.208" N	86° 58' 51.952" E
G-29	23° 49' 24.418" N	86° 58' 53.041" E
G-30	23° 49' 23.589" N	86° 58' 53.462" E
G-31	23° 49' 23.024" N	86° 58' 51.414" E
G-32	23° 49' 21.915" N	86° 58' 48.633" E
G-33	23° 49' 21.062" N	86° 58' 48.067" E
G-34	23° 49' 18.087" N	86° 58' 54.026" E
G-35	23° 49' 17.038" N	86° 58' 56.156" E
G-36	23° 49' 14.007" N	86° 58' 59.598" E
C41'	23° 49' 13.007" N	86° 59' 01.034" E
G-37	23° 49' 12.207" N	86° 59' 02.859" E
G-38	23° 49' 11.526" N	86° 59' 03.908" E
G-39	23° 49' 11.003" N	86° 59' 05.007" E
G-40	23° 49' 10.385" N	86° 59' 06.864" E
G-41	23° 49' 09.967" N	86° 59' 08.083" E
G-42	23° 49' 09.704" N	86° 59' 09.025" E
G-43	23° 49' 09.566" N	86° 59' 10.582" E
G-44	23° 49' 09.518" N	86° 59' 12.781" E
G-45	23° 49' 09.288" N	86° 59' 14.667" E
G-46	23° 49' 08.937" N	86° 59' 16.421" E
G-47	23° 49' 08.605" N	86° 59' 17.783" E
G-48	23° 49' 08.029" N	86° 59' 19.082" E
G-49	23° 49' 08.316" N	86° 59' 21.397" E
	23° 49' 08.118" N	86° 59' 22.032" E

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ID	Latitude (N)	Longitude (E)
G-51	23° 49' 07.945" N	86° 59' 23.198" E
G-52	23° 49' 07.532" N	86° 59' 24.365" E
G-53	23° 49' 06.814" N	86° 59' 26.189" E
G-54	23° 49' 06.167" N	86° 59' 27.475" E
G-55	23° 49' 05.152" N	86° 59' 29.409" E
C4"	23° 49' 04.095" N	86° 59' 31.175" E
G-56	23° 49' 03.752" N	86° 59' 31.747" E
G-57	23° 49' 02.718" N	86° 59' 33.179" E
G-58	23° 49' 02.202" N	86° 59' 34.007" E
G-59	23° 49' 01.595" N	86° 59' 35.676" E
G-60	23° 49' 00.924" N	86° 59' 37.766" E
G-61	23° 49' 00.537" N	86° 59' 38.931" E
G-62	23° 48' 59.582" N	86° 59' 44.712" E
C9'	23° 48' 59.304" N	86° 59' 46.153" E
G-63	23° 48' 57.771" N	86° 59' 54.087" E
G-64	23° 48' 55.749" N	86° 59' 59.387" E
G-65	23° 48' 55.572" N	87° 00' 00.021" E
G-66	23° 48' 55.418" N	87° 00' 00.962" E
G-67	23° 48' 55.233" N	87° 00' 02.007" E
G-68	23° 48' 55.147" N	87° 00' 03.207" E
G-69	23° 48' 55.022" N	87° 00' 04.474" E
C20	23° 48' 54.919" N	87° 00' 05.605" E
C21	23° 48' 54.794" N	87° 00' 07.204" E
C22	23° 48' 54.673" N	87° 00' 07.953" E
G-70	23° 48' 54.045" N	87° 00' 08.738" E
C22'	23° 48' 54.174" N	87° 00' 09.655" E
C23	23° 48' 53.882" N	87° 00' 10.384" E
G-71	23° 48' 53.469" N	87° 00' 10.982" E
G-72	23° 48' 52.712" N	87° 00' 12.003" E
C24	23° 48' 51.008" N	87° 00' 13.219" E
C24'	23° 48' 50.764" N	87° 00' 14.038" E
C24''	23° 48' 49.477" N	87° 00' 14.998" E
C25	23° 48' 50.319" N	87° 00' 10.911" E
C25'	23° 48' 49.059" N	87° 00' 05.694" E
C26	23° 48' 48.649" N	87° 00' 04.302" E
C26'	23° 48' 48.006" N	87° 00' 02.534" E
C27	23° 48' 47.349" N	87° 00' 00.481" E
C27'	23° 48' 46.005" N	86° 59' 56.109" E
C27''	23° 48' 44.008" N	86° 59' 52.626" E
C28	23° 48' 44.467" N	86° 59' 51.605" E
G-73	23° 48' 43.424" N	86° 59' 47.095" E
G-74	23° 48' 41.896" N	86° 59' 43.158" E
G-75	23° 48' 41.477" N	86° 59' 41.767" E
G-76	23° 48' 41.068" N	86° 59' 40.054" E
G-77	23° 48' 40.466" N	86° 59' 38.459" E
G-78	23° 48' 39.831" N	86° 59' 35.981" E
G-79	23° 48' 38.594" N	86° 59' 31.808" E
G-80	23° 48' 37.553" N	86° 59' 28.346" E
G-81	23° 48' 36.574" N	86° 59' 25.202" E
G-82	23° 48' 35.509" N	86° 59' 21.894" E
G-83	23° 48' 34.412" N	86° 59' 18.492" E
G-84	23° 48' 33.778" N	86° 59' 16.727" E
G-85	23° 48' 32.575" N	86° 59' 14.443" E
G-86	23° 48' 33.522" N	86° 59' 11.425" E
G-87	23° 48' 34.008" N	86° 59' 10.018" E
G-88	23° 48' 34.748" N	86° 59' 08.225" E
G-89	23° 48' 35.501" N	86° 59' 06.332" E
G-90	23° 48' 36.081" N	86° 59' 05.022" E
G-91	23° 48' 37.178" N	86° 59' 03.105" E
G-92	23° 48' 38.812" N	86° 59' 00.907" E
G-93	23° 48' 40.404" N	86° 58' 58.593" E
G-94	23° 48' 42.167" N	86° 58' 55.974" E
G-95	23° 48' 43.221" N	86° 58' 54.408" E
C36	23° 48' 43.995" N	86° 58' 53.496" E
C37	23° 48' 45.035" N	86° 58' 52.007" E
G-96	23° 48' 45.931" N	86° 58' 51.228" E
G-97	23° 48' 46.425" N	86° 58' 50.363" E
[illegible]	23° 48' 46.941" N	86° 58' 49.241" E

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ID	Latitude (N)	Longitude (E)
G-99	23° 48' 47.285" N	86° 58' 48.376" E
G-100	23° 48' 47.801" N	86° 58' 46.482" E
G-101	23° 48' 48.855" N	86° 58' 42.578" E
G-102	23° 48' 49.736" N	86° 58' 39.094" E
G-103	23° 48' 50.058" N	86° 58' 37.715" E
G-104	23° 48' 50.789" N	86° 58' 33.857" E
G-105	23° 48' 51.283" N	86° 58' 30.116" E
G-106	23° 48' 51.498" N	86° 58' 28.527" E
G-107	23° 48' 51.777" N	86° 58' 26.633" E
G-108	23° 48' 52.001" N	86° 58' 24.505" E
A25	23° 48' 52.486" N	86° 58' 21.162" E
A25'	23° 48' 52.873" N	86° 58' 16.557" E
A26	23° 48' 53.108" N	86° 58' 12.465" E
A26'	23° 48' 52.914" N	86° 58' 08.888" E
G-109	23° 48' 52.617" N	86° 58' 04.515" E
G-110	23° 48' 55.501" N	86° 58' 03.014" E
G-111	23° 48' 58.896" N	86° 58' 01.406" E
G-112	23° 49' 01.553" N	86° 58' 00.037" E
G-113	23° 49' 03.885" N	86° 57' 58.731" E
G-114	23° 49' 09.162" N	86° 57' 56.159" E
G-115	23° 49' 14.053" N	86° 57' 53.064" E
G-116	23° 49' 17.135" N	86° 57' 51.997" E
G-117	23° 49' 21.004" N	86° 57' 50.066" E
G-118	23° 49' 22.299" N	86° 57' 49.465" E
A31'	23° 49' 22.953" N	86° 57' 49.087" E
G-119	23° 49' 23.997" N	86° 57' 48.483" E
G-120	23° 49' 24.479" N	86° 57' 48.094" E
G-121	23° 49' 26.462" N	86° 57' 46.923" E
G-122	23° 49' 28.346" N	86° 57' 45.789" E
G-1	23° 49' 30.448" N	86° 57' 44.983" E

2.2 EXPLORATION, GEOLOGY AND ASSESSMENT OF RESERVE

S.No	Parameters	Details
2.2.1	Regional geological set up of the area, local geology, structure, stratigraphic sequence, characteristics of the litho-logical units (coal seams /partings/overburden).	

The Raniganj Coalfield represents the easternmost area, amongst the several outliers of the Gondwana sediments grouped into Gondwana Super Group, within the Archaean gneisses in the Damodar Valley region. It is surrounded in the north, west and south by the Archaean metamorphics, while its extension to the east is not known due to cover of laterite and alluvium.
General Stratigraphic sequence is furnished below.
Of all the various Gondwana formations, only the Barakars are exposed in Gourangdih ABC Mine block area explored, while the Talchirs and Post Gondwana intrusives were intersected in few boreholes.

Detailed exploration in Gourangdih ABC block was done by Mineral Exploration Corporation Limited (MECL) at the instance of CMPDI during the period between May 1978 and October 1980. A total of 57 boreholes were drilled aggregating to 7023.90 meters.

General Stratigraphic sequence

Age/Group	Formation	Lithology
Recent Quaternary		Alluvium and sandy soil Laterite, Lateritic Soil, gravel, clay etc.
----------Unconformity----------		
Post Gondwana	Intrusives	Mica peridotite and dolerite
Mahadeva Group	Supra-Panchet Formation, Durgapur Beds and Dubrajpur Formation	Red sandstone and clays
----------Unconformity----------		
Damuda Group	Panchet Formation	Greenish grey and brownish sandstone, shales and red clays
	Raniganj Formation	Coarse to fine grained micaceous and calcareous sandstone, grey, sandy and carbonaceous shales and coal seams
	Barren Measure (Kulti) Formation	Dark grey arenaceous and micaceous shales with clay ironstone bands at places
	Barakar Formation	Fine to coarse grained feldspathic sandstone, grey sandy, carbonaceous shales and coal seams
	Talchir Formation	Fine to coarse grained greenish sandstone, olive green shale and boulder bed
----------Unconformity----------		
Archeans		Gneisses, schists etc.

2.2.2	Local geology, Structure, Stratigraphic sequence, Characteristics of the litho-logical units (coal seams /partings/overburden)

ARCHAEANS: The Archaean metamorphics are not exposed within the explored area. However, just about 180 meters beyond the western limit of the block, the northwest-southeast trending Panuria - Itapora fault has brought the Barakars in just a-position with the metamorphic comprising granite gneisses, mica schist, quartzite, etc.

TALCHIRS: The Talchirs though not exposed anywhere in the area, have been intersected in one borehole GRD-1, where they are represented by greenish shale and intercalated shale and sandstone.

BARAKARS: The entire thickness of the sediments above the green Talchir shale/sandstone con be recognised as the Barakars. These essentially consist of pebbly to very coarse, and medium grained sandstones, shales, argillaceous sandstones, carbonaceous shale and coal seams.

Most of the Barakar outcrops are confined to the western part of the area exposing pebbly to coarse and medium grained sandstones with minor shale.

On the basis of drilling eight distinctly correlatable and seven persistent coal horizons have been identified in the Barakars of the area. However, exposures of coal are rare and are mainly confined to the quarries. While the B-II seams is exposed in a number of quarries to the north-west and north-east, the seams B-IV, B-V & B-VI are locally exposed in small quarries in the eastern part of the area. In the central part near GRD-17 the B-IV seam (exposed in an abandoned quarry) is in just a position with B-V seam (represented by para lava) due to incidence of faulting.

The most characteristic and unusual feature of the area is the **'para lava'** which is exposed in the western part in a long narrow trench, following the outcrop position of the B- V seam. In this part the seam is represented by a creamy to dirty white and locally slightly brownish granular to clayey material resembling fire clay. The area to the south of this horizon exposes what looks like devitrified or silicified ferruginous sandstone. The clay bed as well as the silicified ferruginous sandstone are termed as Para lava and is possibly the result of sub-aerial burning of the coal seam (under oxidising conditions) and effect of the heat on the overlying sandstone.

The strike of the strata shows a gradual swing from N 65-70° W-S 65-70° E in the east to nearly east-west in the west, with around 8° to 13° southerly dips. The increase in the dip is generally gradual from west to east. The local variations in the strike and dips are caused by incidence of faulting.

It has been possible to delineate 17 faults (F1 to F17) based on sub-surface data. All of these are normal gravity faults and die out towards up dip side: The F9. F10 and F12 are a combination of strike and oblique faults. Excluding the three faults in the extreme east which are dipping towards south, south east, all the oblique and dip faults with the exception of F9 dip either towards north or west Fault F9 is the only south dipping fault in the western part of the area.

A Geological Plan & Geological Cross Sections are furnished in **Plate -5 & Plate-11** respectively.

Stratigraphic Sequence of the block

Formation	Lithology	Thickness ranage (m)
Quaternary, Recent and sub recent	Alluvium and sandy/lateritic soil	0-9.6
Post Gondwana (Intrusives)	Mica peridotite associated with few coal/carbonaceous shale horizons	-
Barakars	Sandstone(Coarse grained, medium grained), Grey shale, Black shale	+ 87
	Coal & shaly coal (B VII seam)	0.65-1.95
	Sandstone (Coarse grained, medium grained argillaceous), shale	9.74-25.70
	Coal, shaly coal, Carbonaceous shale, Jhama (B VI seam)	5.02-8.66
	Sandstone (Pebbly, fine grained, Coarse grained, medium grained, argillaceous) Carbonaceous shale, shale sandstone intercalation	53.40-69.81
	Coal, shaly coal, Carbonaceous shale, Jhama, Para lava (B V seam)	2.36-9.89
	Sandstone (Coarse grained, medium grained argillaceous) Carbonaceous shale, shale sandstone intercalation	3.65-18.55
	Coal, shaly coal, Carbonaceous shale (B IV seam)	1.57-7.92
	Sandstone (argillaceous, fine grained, Coarse grained, medium grained), Grey shale, Black shale, Carbonaceous shale, minor coal bands	0.41-10.38
	Coal, shaly coal, Carbonaceous shale (B III Top seam)	1.02-4.92
	Grey shale, Black shale, Carbonaceous shale, sandy shale (Coarse grained, medium grained argillaceous) shale sandstone intercalation, minor coal bands	1.45-13.58
	Coal, shaly coal, Carbonaceous shale (B III Bot seam)	0.67-7.33
	Sandstone (argillaceous, fine grained, Coarse grained, medium grained, Carbonaceous), Grey shale, Black shale, Carbonaceous shale, shale sandstone intercalation, minor coal bands	7.36-23.33
	Coal, shaly coal, Carbonaceous shale, Jhama (B II seam)	5.69-25.07
	Sandstone (argillaceous, fine grained, Coarse grained, medium grained, Carbonaceous), Grey shale, Carbonaceous shale, shale sandstone intercalation, minor coal bands	5.65-37.75
	Coal, shaly coal, Carbonaceous shale (B I seam)	0.24-2.52
	Sandstone (Conglomeratic, argillaceous, fine grained, Coarse grained, medium grained), shale sandstone intercalation, minor coal bands	140
Talchirs	Greenish shale and shale sandstone intercalation	-

The coal seam description given in the para 2.2.14.

2.2.4	Status of Exploration of the block	
Detailed exploration in Gourangdih ABC block was done by Mineral Exploration Corporation Limited (MECL) at the instance of CMPDI during the period between May 1978 and October 1980. A total of 57 boreholes were drilled aggregating to 7023.90 meters.		
2.2.5	Area covered by "detailed" exploration within the block (sq. km)	3.70
2.2.6	Whether entire area has been covered by a detailed exploration.	Yes
2.2.7	No. of boreholes drilled within the block	57
2.2.8	Whether any further exploration/study is required or suggested and time frame in which it is to be completed	Further exploration/study is not required. Borehole for scientifc studies if required shall be drilled.
2.2.9	Year wise future programme of exploration	NA
2.2.10	Overall borehole density within the block (no./ sq. km) approx	15.41/sqkm
2.2.11	No of Seams available as per GR (Geological Report)	Seam-BVII,Seam-BVI,Seam-BV,Seam-BIV,Seam-BIII Top,Seam-BIII Bottom,Seam-BII,Seam-BI
2.2.12	Seams not considered for Mining with Reasons	Seam- BI impersistent deposit not considered in the approved plan also.
2.2.13	Dip of the Seam	The strike of the strata shows a gradual swing from N 65-70 deg to W-S 65-70 deg E in the East to nearly East-West in the West, with around 8 to 13 degree southerly dips. The increase in the dip is generally gradual from West to East. The local variations in the strike and dips are caused by incidence of faulting.

2.2.14 Seam wise thickness, depth and reserve

Seam	Thickness Range 'm'	Depth Range 'm	Net Geological Res "Mte"	Block Reserve Below "Mte"					Min Res "Mte"		Mining Losses	Ext Res "Mte"			As on base date "Mte"							Reason (For seams not considered for mining)
				High wall/ Batter	Nala/ River /Road	Barrier	Un-economic	Total Blocked	UG	OC		UG	OC	High wall	Depletion of Reserve			Balance Reserve				
															UG	OC	High wall	UG	OC	High wall	Total	
Seam-BVII	0.27-1.46	20.28-88.24	0.46	0.21	0	0.15	0.07	0.4300	0	0.03	0.01	0	0.02	0	0	0	0	0.00	0.02	0	0.02	
Parting	9.74-25.7							0.0000										0.00	0.00			
Seam-BVI	5.02-8.85	8.23-119.11	7.49	1.44	0	0.90	2.16	4.5000	0	2.99	0.29	0	2.70	0	0	0	0	0.00	2.70	0	2.7	
Parting	54.5-69.81							0.0000										0.00	0.00			
Seam-BV	3.52-9.89	18.40-196.38	12.54	1.74	0	1.29	1.31	4.3400	0	8.20	0.82	0	7.38	0	0	0	0	0.00	7.38	0	7.38	
Parting	3.65-18.55							0.0000										0.00	0.00			
Seam-BIV	1.57-7.92	24.98-216.48	13.77	2.79	0	1.40	1.96	6.1500	0	7.62	0.75	0	6.87	0	0	0.09	0	0.00	6.78	0	6.78	
Parting	0.41-10.38							0.0000										0.00	0.00			
Seam-BIII Top	0.97-4.92	11.34-220.34	8.99	1.37	0	0.85	1.76	3.9800	0	5.01	0.49	0	4.52	0	0	0.08	0	0.00	4.44	0	4.44	
Parting	1.45-13.58							0.0000										0.00	0.00			
Seam-BIII Bottom	0.67-7.33	8.09-232.34	14.84	1.92	0	1.57	2.07	5.5600	0	9.28	0.87	0	8.41	0	0	0.63	0	0.00	7.78	0	7.78	
Parting	7.36-23.33							0.0000										0.00	0.00			

Seam-BII	5.68-25.07	19.12-256.25	71.06	9.24	0	6.27	12.76	28.2700	0	42.79	3.60	0	39.19	0	0	6.75	0	0.00	32.44	0	32.44	
Parting	5.65-37.75							0.0000										0.00	0.00			
Seam-BI	0.24-2.52	22.35-286.02	0.00					0.0000										0.00	0.00			Impersistent ,not considered
Total			129.1500	18.7100	7.0000	12.4300	22.0900	53.2300		75.9200	6.8300		69.0900			7.5500			61.5400		61.5400	

S.No	Parameters	Details
2.2.15	Methodology of reserves estimation (also mention if any software package has been used).	

The reserves estimates as made in "**Geological Report on Exploration for Coal Gourangdih Block -ABC Sector**" prepared by M/s MECL in March'1981 and the Approved Mining Plan 2011 has been taken as base of the reserves.

The assumptions made in reserves estimation.

- **Minimum workable thickness of the individual seam has been considered as 1.20 m.**
- On account of the banded nature of certain coal seams and irregular pattern of number of split sections in each individual seam, the thickness of all the sections more than 0.90 m and with less than 3m intervening parting have been grouped together.
- Dirt bands less than 1 m in thickness and having ash content upto 75% are included within the seam, but the noncombustible bands have been excluded irrespective of their thickness.
- Dirt bands more than 1 m thick and/or having ash content more than 75 % as well as all other non-combustible bands irrespective of their thickness thus excluded from the seam, have been considered within the overburden'.
- The extent of the seam towards up-dip is assumed to extent upto half of width of its incrop, while estimating the reserves.
- Pyrolitised Seams In case of heat affected seams due to association of igneous intrusive, gradual baking effect on the coal has been assume. The Jhama has been excluded from the seam while considering the coal thickness.
- Para-Lava in the north-western part, where the B-V seam is burnt and forms 'Para Lava' the same has been excluded from the reserves estimation. The effect of sub-aerial burning under oxidizing condition has been assumed to extend down the dip upto the east-west trending F4 fault.
- Heave Zone: The area falling within the heave zone of a fault has been excluded for the purpose of reserve estimation.

Deduction on various accounts

- A deduction of 30 % of the estimated 'Gross Reserves' has been made on account of percentage of extraction in the developed area of the coal seams worked in past by underground mining. The area of open-cast mines have been excluded while estimating the reserves.
- A deduction of 10 % of the 'Gross Reserves' of coal has been made on account of normal geological - variation like structural disturbances, pyrolitisa- tion of seam etc. and unaccountable and unforeseen datum gaps, to arrive at the 'Net Reserves'.
- Following Specific Gravity has been assumed for different grades.
  B 1.42, C 1.47, D 1.52 E 1.58 F 1.67 and G 1.75.

Barriers

The following barriers have been considered

a) 45 meters of barrier along the railway line and the metalled roads within the block.

b) 60 meters of barrier around the constructed area covered by Gourangdih, Panuria & Kantapahari -villages and snail Bastis etc.

Iso-chore method has been adopted for estimated tonnage.
Tonnage= Volume x sp.gr of coal
10% deduction form gross reserves been made to arrive Net Geological resrves.
The reseves estimate as made in the mining sctors A and C for approved in the Mine Plan 2011 has been retained in this report.
The reserves of non persistent seam Seam-BI has not been been considered for exploitation and not presented in the Net Geological reserves.
Reserves of Seam-BI has not been considered as it has been fount impersisent and also not considered in the approved Mining Plan 2011.
The reserves has also been verifed in MINEX software(GEOVIA 6.7 Ver).
The reserves are found comparable. The extractaable reserves depends on bench parameters . As in the instant revised mine plan small configuration are propsed with improved productivity .
About 7.55 Mte of coal resrves has been reported to be depleted form mineable reserves in the original mine plan which has been taken into consideration.
About 22.09 Mte of coal is considered to be blocked under unprojectised area of of 78.52 Ha of Sector-B shown under the column of un-economic.

2.2.16	Average GCV "KCal/kg"

Average GCV is 4547 Kcal/Kg , G10 grade of Gourangdih ABC Coal Mine.
Seam wise GCV range of the block

(GCV in kCal/kg)

BH	SEAM	FROM	TO	THK (m)	M %	ASH%	GCV	WT GCV	OVERALL GCV	OVERALL GRADE
GRD-2	VII	44.75	45.6	0.85	2.1	31.7	5273			
GRD-11	VII	35.29	36.75	1.46	2.2	22.0	6165			
GRD-30	VII	27.35	28.71	1.36	1.3	29.5	5600	**5729**		
GRD-34	VII	52.21	54.16	1.95	1.8	27.7	5690			
TOTAL				5.62						
BH	SEAM	FROM	TO	THK	M	ASH	GCV			
GRD-3	VIM	55.04	57.16	2.12	2.5	30.7	5305			
GRD-3	VIB	60.1	62.25	2.15	2.2	31.5	5274			
GRD-9	VI	55.06	63.72	8.66	2.5	31.9	5192			
GRD-11	VI	59.95	66.3	6.35	2.4	33	5103	**5137**		
GRD-30	VIMB	54.81	62.17	7.36	2.4	34.1	5000			
GRD-61	VI	23.8	31.75	7.95	2.2	32.9	5142			
GRD-63	VI	16.45	22.35	5.9	2.5	32.4	5145			
TOTAL				40.49						
BH	SEAM	FROM	TO	THK m	M %	ASH %	GCV			
GRD-7	V	39.95	43.52	3.57	2.2	37.3	4728			
GRD-25	V	188.92	196.38	7.46	2.5	31.3	5249	**5393**		
GRD-32	V	38.45	42.43	3.98	2.8	20.1	6260			
TOTAL				15.01						
BH	SEAM	FROM	TO	THK m	M %	ASH %	GCV			
GRD-3	IVT	129.85	131.03	1.18	2	37.3	4757			
GRD-9	IV	148.89	155.68	6.79	2.1	33	5147			
GRD-18	IV	29.8	34.46	4.66	2.4	39.9	4454			
GRD-22	IV	40.15	42	1.85	2.5	42	4241		4547	G10
GRD-24	IV	79.75	83.7	3.95	1.9	40.6	4460			
GRD-25	IV	209.12	216.48	7.36	2.4	34.7	4943	**4793**		
GRD-30	IV	143.68	145.25	1.57	2.3	30.2	5381			
GRD-32	IV	54.72	62.64	7.92	2.5	38.9	4533			
GRD-35	IV	81.75	88.28	6.53	2.4	33.7	5037			
GRD-44	IV	25.53	29.45	3.92	2.6	38.3	4575			
GRD-45	IVB	40	42.4	2.4	2.2	32.8	5151			
TOTAL				48.13						
BH	SEAM	FROM	TO	THK m	M %	ASH %	GCV			
GRD-18	IIIT1	36.96	38.42	1.46	1.7	43.9	4179			
GRD-22	IIIT	46.14	50.25	4.11	2.4	47.9	3700			
GRD-25	IIIT	219.17	220.34	1.17	2.4	33.9	5019			
GRD-30	IIIT	155.3	158.15	2.85	2.2	37.6	4699			
GRD-32	IIIT1	64.85	66.36	1.51	2.5	39.9	4439	**4285**		
GRD-35	IIIT1	91.27	92.31	1.04	2.1	41.1	4384			
GRD-44	IIIT	35.9	38.67	2.77	1.9	45.7	3980			
GRD-45	IIIT	46.5	50.59	4.09	1.9	39.8	4536			
TOTAL				19						
BH	SEAM	FROM	TO	THK m	M %	ASH%	GCV			
GRD-1	IIIB1	67.89	70.26	2.37	2.0	34.5	5020			
GRD-2	IIIB	182.16	186.23	4.07	2	36.8	4804			
-7	IIIB1	77.58	80.76	3.18	2.1	40.6	4431			

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GRD-7	IIIB2	81.52	84.56	3.04	2.6	28.4	5507			
GRD-8	IIIB1	103.92	106.55	2.63	1.9	47.9	3773			
GRD-8	IIIB2	107.4	110	2.6	2.1	42.5	4252			
GRD-8	IIIB3	110.71	111.74	1.03	2.3	35.9	4845			
GRD-12	IIIB	40.85	44.45	3.6	1.9	41.6	4366			
GRD-22	IIIB1	51.89	54.96	3.07	1.7	44.5	4122	**4827**		
GRD-25	IIIB1	224.25	228.74	4.49	2	34.9	4983			
GRD-25	IIIB2	229.5	232.34	2.84	2.1	35.1	4949			
GRD-30	IIIB1	163.26	165.71	2.45	2.4	25.7	5791			
GRD-32	IIIB2	78.31	79.55	1.24	2	37.4	4747			
GRD-35	IIIB	102.05	103.52	1.47	2	37.3	4757			
GRD-44	IIIB	40.3	42.23	1.93	2.4	32	5197			
GRD-44	IIIB	43.43	44.36	0.93	2.4	31.2	5273			
GRD-45	IIIB	53.75	57.1	3.35	2.3	27.9	5598			
TOTAL				44.29						
BH	SEAM	FROM	TO	THK m	M %	ASH %	GCV			
GRD-17	II	25.38	31.05	5.67	1.8	42.5	4296			
GRD-24	II	117.97	136.45	18.48	1.8	41.7	4371			
GRD-28	II	6.35	22.92	16.57	1.7	44.1	4160			
GRD-30	II	179.53	181.65	2.12	2.3	38.7	4581			
GRD-32	II	93.55	110.97	17.42	2.4	42.6	4199	**4254**		
GRD-35	II	121.88	139.07	17.19	1.8	41.7	4371			
GRD-36	II	23.78	40.6	16.82	1.7	44.6	4113			
GRD-37	II	30.91	35.03	4.12	1.8	43.6	4193			
TOTAL				98.39						
GRAND TOTAL										

2.2.17	Gross Geological Reserve of the block “Mte”	143.50
2.2.18	Net Geological Reserve of the block “Mte”	129.1500
2.2.19	Minable Reserve of the block “Mte”	75.92
2.2.20	Blocked Reserve “Mte”	53.2300
2.2.21	Corresponding extractable reserve of the block “Mte”	69.09
2.2.22	Percentage of Extraction	53.496
2.2.23	Reserve already depleted (Base date of Mining Plan)	7.55
2.2.24	Balance Reserve (as on Base Date))	61.5400

Chapter-3: Mining

3.1 Mining Method

S.No	Parameters	Details
3.1.1	Existing method of mining if the mine is under operation	Gourangdih-ABC coal Block is allotted to M/s WBMDTCL in Sep'2016. The mining operation could not be started due to non availability of statutory approval of EC, FC and lease of the area. Since the Block earlier was in the lease hold area of ECL, OC mining in part of the A sector in the North western corner and North eastern side Sector-C have been done . Some illegal mining in the incrop region has been carried out prior to the allocation of the coal block to the present allotee.
3.1.2	Proposed method of mining with justification on suitability of method of mining	

Proposed Mining Method with justification on suitability of mining method.

Gourangdih-ABC Coal Block has an approved Mine Plan of 2.5 MTPA capacity where extraction of 7 number of Barakar group of potential seams have been planned.The method of extraction of coal seams and OB removal as envisaged in the approved Mining Plan 2011 is by Shovel Dumper with drilling and blasting technology.

In the approved Mining Plan , opencast is proposed in the Gourangdih A(127.53 ha) and Gourangdih C(151.64 ha) sectors which is located in the western and eastern side of the geological block of 370 Ha. Sector-B (90.83 ha) of the geological block has not been planned and considered for exploitation, as this sector is densely populated(Gourangdih Panuria and Kanta Pahari villages) and overlain with mixed built ups, important road, powerline etc.

Considering the prevailing geo-technical parameters , extent of the property , multiple workable seams with variable seam thickness and partings, presence of 17 number of faults, Shovel Dumper system has been proposed and finds the best suited technology for exploitation of the property. The dip of the super incumbent stratums and seams is 8 deg to 13 deg. The strike of the strata shows a gradual swing from N65-70 deg W-S 65-70 E in the east to nearly East- West. The increase in the dip is generally gradual form west to east. At places in sector C , the gradient of seam is steeper. Due to steeper gradient horizontal slicing method is proposed. In actual conditions, if Surface Miner is found suitable for deployment the same shall be tried for maintaining the grade and avoiding blasting while coal winning.

As mentioned, the proposed sectors of mining are surrounded by village and habitation the controlled blasting proposed to be carried out based on the scientific studies duly complying the conditions of statutory and regulatory bodies.

Before starting a mechanized opencast working, the owner and agent of the mine shall ensure that the mine, including its method of working, ultimate pit slope, dump slope and monitoring of slope stability, has been planned, designed and worked as determined by a scientific study and a copy of the report of such study has been kept available in the office of the mine.

Drilling and Blasting:

OB removal and coal winning is proposed to be carried out by drilling and blasting. For drilling in OB 160mm RBH diesel operated drills has been proposed and for coal 100mm/160mm drills. Wet drilling and muffled blasting proposed to be adopted as the project is in the close proximity of habitation and built up area so that dust and fly rocks can be minimised. The blasting operation, blast pattern and charge per hole/delay shall be made based on the scientific study report and DGMS permission for doing mechanized mining under 106 of CMR2017 . All the precautionary measures shall be taken as per the permission of controlled blasting in both the quarries A and C.

To meet the annual coal requirement of @2.50 MT form the mine , Quarry-A will have annual rated production of 1.0 MT, with average annual 2.7 Mcum OBR and Quarry-C will have 1.5 MT with average OBR of 4.55 Mcum . Considering (50 % category III and 50% Category IV) type rocks , specific explosive consumption of 0.35kg/cum in OB and 0.20kg/cum in coal(100% Category III rock) with normative 330 working days available in a year, daily production of coal works out to 7600 tonne of coal and 21970 cum of OBR. Daily basis explosives requirement is assessed to 990 kg for coal and 7690kg for OB . To meet the daily requirement of OBR and Coal blasting need to be planned and may require sleeping hole permission form DGMS .Advance drilling and Blasting may be required to be adopted to meet the target production. The detonating fuse and other blasting accessories shall be maintained and stored in magazine. The SMS shall be arranged form licensed Explosives manufacturers , the agency assist in blasting and meet the requirement based on indent and purchase formalities.

Overburden/ Waste Excavation:

In order meet to annual coal production the waste consisting of top soil/alluvium/weathered strata, top OB, inter-parting burden between workable seams are required to be removed and handled to expose coal . The total waste volume in A and B blocks estimated to be 66.64 mcum and 112.73 mcum respectively totaling to 179.37 mcum. The OB will be externally dumped in initial years or to be backfilled in the excavated area maintaining a safe distance(not less than 100m with toe of the spoil bank as per 108(5) CMR2017).

While removing overburden, the top soil shall be stacked at a separate place earmarked in the leasehold so that, the same is used to cover the reclaimed area.

The slope of a spoil bank shall be determined by the natural angle of repose of the material being deposited but, in any case, shall not exceed 37.5 degrees from the horizontal.

Provided that where in any mine, a steeper slope of spoil bank has been recommended as a result of a scientific study by any scientific agency or institution, having expertise in slope stability, DGMS may, by an order in writing and subject to such conditions as he may specify therein, permit a steeper slope of the spoil bank.

Loose overburden and other such materials from opencast workings or other rejects from washeries or from other sources shall be dumped in such a manner that there is no possibility of dumped material sliding.

Any spoil bank exceeding 30 metre in height shall be benched so that no bench exceeds 30 metre in height and the overall slope shall not exceed 1 vertical to 1.5 horizontal.

The toe of a spoil-bank shall not be extended to any point within 100m of a mine opening, railway or other public works, public road or building or other permanent structure not belonging to the owner.

A suitable fence shall be erected between any railway or public works or road or building or structure not belonging to the owner and the toe of an active spoil bank so as to prevent unauthorized persons from approaching the spoil-bank.

Mining:

In view of the surface constraints of built-up areas, Gourangdih ABC block has been divided in three sub blocks namely, Gourangdih-A, Gourangdih-B and Gourangdih-C for mine planning. Opencast mining proposed to be done for the seams B-II to B-VII in Gourangdih-A and Gourangdih-C quarries. Working of Gourangdih B has been kept out of the purview of this Mining Plan due to densely populated/heavily built up o Gourangdih, Panuria & Kantapahari and other villages.

Mining of Gourangdih B will be considered in future if/when the residents agree to shift/ vacate the area.

The mining plan envisages extraction of total 61.54 MT of coal in A and C quarries of Gourangdih. Gourangdih A and Gourangdih C quarries for an annual production target of 2.5 MTY at an overall stripping ratio of 2.91 m3/te. Out of the total extractable reserve of 61.54 MT, the extractable reserve in Gourangdih A is 24.46 MT and that in Gourangdih C is 37.08 MT.

The over life of the project works out to 27 years at a peak target annual capacity of 2.50 MTY of coal. The project will achieve the target capacity in 3rd year. After exhaustion of coal, Post Mine Closure activities will be continued for another three years.

The mining operation proposed to be started first in Gourangdih-A quarry from the north-west. The mining operation will start from the existing Khoirabad face. B-II seam being the thickest among all will contribute the major share of production. Some quantity of devolatilized coal (Jhama "para lava") may also be produced during extraction of coal seams . The other overlying seams will be worked on advancing the quarry . External dumping shall be done in old excavated area which shall be merged with the internal backfilling dumps.

Gourandih-C will start operation from the 2nd year of mining activity from North West side of the quarry. Gourandih-C will yield more coal than Gourandih-A due to its larger area strike length and reserve.

After the development of access trench /box-cut, mining operation will continue in Gourandih-A quarry. The quarry will be advancing along the strike as well as towards the dip. As the quarry advances towards dip the upper seams will gradually be met with. The overlying seams R-III (B), R-III (T) and part of R IV will be available in the first year of working.

The mining activity will be shifted towards the Khoirabad quarry end for widening the strike. R-III(B) and part of R-III(T) will be intersected here. The quarry will reach its full strike length in the third year and it will subsequently narrow down as it advances towards the dip side. The quarry will reach its target (1.00 MTY) in the second year and will continue till 25th year.

The existing road connecting Asansol to Runakuraghat passes over the Eastern flank of Gourangdih-C quarry. This road is proposed to be diverted towards further east of the quarry. Habitation /Villages situated in the block shall be relocated and rehabilitated in the R&R colony as per approved plan.

The main access trench in Gourangdih-C will be made from the north western part of the quarry. Initially a narrow strip on the floor of B-II along the strike direction will make a link between the entry point and quarry end this will be continued till the 5th year of operation. During this period the evacuation and rehabilitation of part of the Panuria village envisaged in the mining plan is required to be completed. The quarry operation will continue till the end of the mine life. The target of 1.5 MT from Gourangdih-C will be achieved in 2nd year of its operation.

The overlying seams B-III(B), B-III(T) and B-IV will intersect in the first year and B-V will be met in the third year of quarry operation. B-VI seam will be met with the quarry after 11th year of operation. In both the quarries seam B-VII will intersect at the end.

Transportation:

The transportation of OB, and coal shall be done by 60 T and 36 T dumpers. The coal brought at the quarry top shall be dumped into receiving hoppers, which shall feed to Feeders section for crushing the ROM coal to desired size of -100 mm and be loaded to trucks for dispatch/sale and ground stacking . The ground stock shall cater the need of sales and dispatch as per consumers requirement.

ransport of coal to railway siding if required shall be done complying th nditions. In both the units coal handling plants have been propos the and dispatch arrangement.

Top soil & waste management Geological formation met in the block consists of soil and Barakar formation. The topsoil shall be staked separately and be used while biological reclamation. About 3.19 MCum of topsoil shall be considered to be removed and proposed to be used in spreading over the overburden while reclamation. That no mining activity will be carried out in any area outside the block area, but inside the project area, within the first year of starting of the Gourangdih ABC Coal Mine. As per the revised plan for 1st year, the temporary topsoil dump (~0.15 MCM) will be made inside Gourangdih-A block area towards the eastern part. It will cover an area of ~2.44 Ha with 10 meters height and 37 deg slope. The hard OB (~2.35MCM) will be dumped in the part of de-coaled Khoirabad OCP falling inside the block. This will cover ~12.88Ha with 30 meters height in three benches and a slope of 37 deg. By the year end of 4th year sufficient space for internal dumping will be available and proposed accordingly. Re-handling of externally dumped waste will start in 8th year and likely to be completed by end of 12th year. The backfilled area shall be reclaimed technically by dozing, grading and shaping/terracing as per EC. In the Approved Mining Plan 37.15 M Cum of was proposed in external dumps which will now reassessed and works out.		
3.1.3	Coal production capacity proposed MTPA	2.5000
3.1.4	Justification for optimization Coal production capacity	
Considering the total quarry area of A&C 213.2 ha(appx)and 29.5 ha old quarried out area of Khoirabad , the strike length in each sector, geotechnical parameters of the and likely issue of day today from villagers form sector-B(which not planned in this phase)The capacity of sector-A and C has been optimized to be 1.0 Mty and 1.5 Mty respectively.		
3.1.5	Calendar year from which the production will start	2023-24
3.1.6	Year of Achieving rated production	2025-26

3.1.7 Tentative Coal production Plan MT

Year		Coal Production Schedule			OB MM3	SR
Year of Operation	Calendar Year	UG	OC	Total		
1	2023-24	0	0.50	0.5000	2.50	5.0000
2	2024-25	0	1.50	1.5000	5.20	3.4667
3	2025-26	0	2.50	2.5000	7.25	2.9000
4	2026-27	0	2.50	2.5000	7.25	2.9000
5	2027-28	0	2.50	2.5000	7.25	2.9000
6	2028-29	0	2.50	2.5000	7.25	2.9000
7	2029-30	0	2.50	2.5000	7.25	2.9000
8	2030-31	0	2.50	2.5000	7.25	2.9000
9	2031-32	0	2.50	2.5000	7.25	2.9000
10	2032-33	0	2.50	2.5000	7.25	2.9000
11	2033-34	0	2.50	2.5000	7.25	2.9000
12	2034-35	0	2.50	2.5000	7.25	2.9000
13	2035-36	0	2.50	2.5000	7.25	2.9000
14	2036-37	0	2.50	2.5000	7.25	2.9000
15	2037-38	0	2.50	2.5000	7.25	2.9000
16	2038-39	0	2.50	2.5000	7.25	2.9000
17	2039-40	0	2.50	2.5000	7.25	2.9000
18	2040-41	0	2.50	2.5000	7.25	2.9000
19	2041-42	0	2.50	2.5000	7.25	2.9000
20	2042-43	0	2.50	2.5000	7.25	2.9000
21	2043-44	0	2.50	2.5000	7.25	2.9000
22	2044-45	0	2.50	2.5000	7.25	2.9000
23	2045-46	0	2.50	2.5000	7.25	2.9000
24	2046-47	0	2.50	2.5000	7.25	2.9000
25	2047-48	0	2.46	2.4600	6.59	2.6789
26	2048-49	0	1.50	1.5000	4.55	3.0333
27	2049-50	0	0.58	0.5800	1.03	1.7759
Note: Calendar Plan/Production Plan for the entire life of the mine.						

3.1.8	Rated Capacity Mtpa	By OC : 2.500 By UG : 0 Overall : 2.5000
3.1.9	Life of the mine: Years	By OC : 27 By UG : 0.0 Overall : 27

3.1.10	Whether the proposed external OB dump site is coal/ lignite bearing: If so, whether coal/lignite below waste disposal area is extractable	The external dumping in the Quarry-A proposed in the de-coaled area of Khoirabad and for Quarry-C in non coal bering area lying north of geological boundary ,which is considered to be devoid of any potential coal seam (certificate form State Geology Deptt.is as Annexure-11) . The entire area proposed for external dumping (D1 and D2) in Quarry -C has been obtained as lease by the project proponent.
3.1.11	Whether the proposed external OB dump site is coal/ lignite bearing: If so, whether coal/lignite below waste disposal area is extractable	No borehole exist beyond the geological block boundary and in-crop region, in the northern side.
3.1.12	Results of any investigation carried out for scientific mining, conservation of minerals and protection of environment; future proposals	The wild life conservation plan, socio-economic study , R and R plan, ground water study have been prepared and approved.It proposed to get scientific study for controlled blasting, vibration study , slope stability of internal dumps by recognized/scientific agency.
3.1.13	Type of Equipment/ HEMM proposed	

S.No.	Type of Equipment	Capacity	Unit	Population
1	Diesel operated shovel	5.65	Cubic Meter	1
2	Rear Dumper	60	Tonnes	5
3	RBH Drill	160	mm	5
4	Dozer with Ripper	320	Horsepower (HP)	5
5	Backhoe Excavator(FEL)	3.1	Cubic Meter	7
6	Rear Dumper	36	Tonnes	41
7	Wheel Dozer	320	Horsepower (HP)	3
8	Diesel Hydraulic Backhoe	0.9	Cubic Meter	1
9	Dozer	320	Horsepower (HP)	4
10	Motor Grader	280	Horsepower (HP)	5
11	Water Sprinkler	28	KL	6
12	Pay Loader	2.5	Cubic Meter	1
13	CA Drill	115	mm	1
14	Diesel Bowser	14	KL	2
15	Fork Lift	5	Tonnes	1
16	Boom Truck	10	Tonnes	1
17	Tyre Handler	8	Tonnes	1
18	Crane	30	Tonnes	1
19	Vibrator Compactor	320	Horsepower (HP)	1
20	Main pumps	80	LPS	7
21	Auxiliary Pumps	90	KW	6
22	Diesel Slurry Pumps	65	Horsepower (HP)	3
23	Auxiliay pumps	160	KW	3

3.1.14	Upload Require Document	OC : OC files data shown below UG : NA

OC Document :

P& M Provisons

SL. NO.	PARTICULARS	Approved Mine Plan	Revised
A	OB		
1	5.65 cum Diesel Excavator (FEL)	0	1
2	3.1 cum Backhoe Excavator (FEL)	0	4
3	5 cum Diesel Hydraulic Shovel	3	0
4	5 cum Diesel Hydraulic Backhoe	3	0
5	60 T Rear Dumper	36	5
6	36 T Rear Dumper	0	26
7	160 mm RBH Drill	4	3
8	410 hp Dozer with Ripper	6	
9	320 hp Dozer with Ripper	0	5
B	COAL		
1	3.2 cum Diesel Hydraulic Shovel	2	
2	2.5 cum Diesel Hydraulic Backhoe	2	
3	3.1 cum Backhoe Excavator (FEL)	0	3
4	60 T Rear Dumper	20	
5	36 T Rear Dumper	0	15
6	160 mm RBH Drill	2	2
7	320 hp Dozer	4	3
C	RECLAIMATION		
1	0.9 cum Diesel Hydraulic Backhoe	1	1
2	410 hp Dozer	1	0
3	320 hp Dozer	0	1
4	28 kl Water Sprinkler	2	2
5	280 hp Motor Grader	1	1
D	COMMON		
1	2.5 cum Pay Loader	1	1
2	100-115 mm CA Drill	1	1
3	28 kl Water Sprinkler	4	4
4	280 hp Motor Grader	4	4
5	Diesel Bowser	2	2
6	Diesel Tanker	2	0
7	5 T Fork Lift	1	1
8	Boom Truck	2	1
9	6-8 T Tyre Handler	2	1
10	50 T Crane	1	0
11	30 T Crane	1	1
12	Viratory Compactor	1	1
13	Pumps 80 lps 150m,200 kW, 3,3 KV	4	3
14	Pumps 80 lps 250m,350kW, 3,3 KV	6	4
15	Aux Pumps 45 lps 90 kW 440	-	6
16	Diesel slurry pumps 40 lps 65 HP	-	5
17	Face/aux Pumps 38 lps 160 kW, 3.3 kV	6no 8 lps	3
18	Pipes and Fittings 150 mm , 200 mm 4-6 mm wall thickness	-	4 - 6 km

Chapter-4: Safety Management

4.1 Safety Management

S.No	Parameters	Details
4.1.1	Major Risks and uncertainties to the project viz. Proximity to river, adjacent working, geo-mining disturbances, slope stability and remedial measures suggested. It should also include proposed overall slope of the quarry and OB dump, dump height, strata control, fire and spontaneous heating, gas monitoring, disaster management, danger from inrush of water etc.	

The major areas of risks along with their remedial measures as envisaged in this project are discussed herewith.

Areas of concern	Risk and Remedial measures.
Failure of Benches of OB and Coal.	The benches in the overburden rocks are proposed upto 8-10meter height. The angle of individual dump will follow its natural angle of repose. The angle of slope of dumps should not be steeper the 28 to the horizontal. On these horizontal benches, regular movement of dumpers and shovels shall take place. Any sudden failures of the vertical face would cause dangerous situations to the top horizontal bench and would move large quantity of debris to the lower horizontal benches, thereby causing serious mishap to the equipment and persons deployed at both the horizontal bench. In order to prevent such incidents, a comprehensive slope monitoring system will be implemented under the safety management program of the mines. Implementation of Real time Slope Monitoring system such as SSR or MSR will be evaluated during operational stage besides manual monitoring through EDM, cracks meters etc. Any chances of slope failure identified by the monitoring system will be attended with highest priority and appropriate measures based on the type of failure will be followed. Based on nature of failure, grouting, ground anchoring, retaining walls, wire netting etc. methods shall be adopted. Fault zones and other weak zones will be monitored with added frequency. A pre-monsoon audit will take place at least one month prior to the onset of monsoon. Based on the audit report, a monsoon planning will be prepared and implemented.
Failure of Dump Slopes	The benches in the overburden rocks are proposed upto 10-meter height. The angle of individual dump will follow its natural angle of repose. The angle of slope of dumps should not be steeper the 28 to the horizontal by leaving a 10-meter-wide berm between two successive benches. This reduces the chances of OB slope failure and subsequent damages. At any point of time, reverse sloping on the top of the dumps will be followed. Toe drains and weep holes will be provided to drain out the water from the loose overburdens. Terracing will be done as much as possible in the dump slopes before plantation/ slopes will be covered through grass turfing. In few strategic areas, covering through Geo-textiles will be evaluated and if found suitable shall be implemented. Guard wall and retention walls of appropriate size shall be provided in the toe of the dump. Backfilled dumps once stabilized shall be technically and biologically reclaimed. Thus, failure of backfilled dumps in post closure phase is not envisaged. Regular dump slope monitoring will be done through real time slope monitoring system and appropriate preventive measures will be taken if such chances of failures are identified. At the conceptual stage, there will be no remaining mined-out voids. The external dump within the block boundary will be completely rehandled to fill up the voids. The backfilled dump will be kept in the surface level. The distance between the spoil banks and the public road has been provisioned more than 100 meter as a measure of safety.CMR 108(5) , 2017. All the conditions atipulated by DGMS in its permsion for HEMM deployment, controlled blasting and slope and dump monitoring shall be complied.
Flooding of the Mine	The mining operation will be restricted to 210 m depth in Sector-C and 120m in Sector-A from the surface level. Ground water accumulated during mining will be pumped and stored for plantation, workshop and sprinkling usage. Necessary pumping arrangements need to be done considering the worst-case scenario of the rainfall on a single day basis and ground water assessment through detail hydrogeological study. A berm of 3 meter all along the pit crest is planned to prevent entry of storm water within the pit. This water will be channelized along the pit which will then follow the natural course. A garland drain of 2-3 meter width and about 3-4 m deep has been planned along the lease boundary to channelize the storm water from the catchment area. In the initial years, this garland drain will connect the natural drainage through the central part of the block. Pumping arrangement on year-to-year basis will be followed as per Monsoon Planning to drain put the storm water.
Blasting & Vibration in Opencast Mines.	In general drilling and blasting has been envisaged as a mining process. Necessary study will be conducted when the mine becomes operationalized. Vibrations due to blasting may cause damage to the nearby structures if appropriate control measures are not adopted. Fly rock is another possible damage causing outcome of blasting. There are many factors which influence fly rocks. These are like long explosive columns with inadequate stemming column, improper burden, loose material or pebbles near holes and long water columns in the holes. The following control measures have been envisaged to reduce ground vibration within statutory limits: a. The peak particle velocity (PPV) of ground vibration will be kept below 10mm/s for 8-25 hz frequency range through optimally controlled blasting techniques, after necessary field trials. b. Drilling and charging pattern will be formulated, with less explosives charge etc, after field trials. c. Use of suitable initiating sequence and millisecond detonators. d. Reduction of number of explosives charged per day optimally. e. To contain fly rocks, stemming column will not be less than burden of the hole. Blasting area will also be muffled, if necessary, to stop fly rocks propagation. f. Blasting will not be carried out when strong winds are blowing towards habitation areas. Blasting will be done during midday time and never at night. g. Surrounding villages within 0.5 km radius of blasting will be regularly inspected for any visual cracks on walls and feedbacks will be gathered to investigate the reasons for these and for reassessing the charge per delay from time to time. h. Vibration study will also be carried out at appropriate times to firm up most ideal and optimal blasting parameters. i. Controlled blasting to avoid tension cracks which may endanger the stability of bench slopes in the mine. j. Short delay detonators to be used in preference to detonating fuse. k. In case of using detonating fuse, it should be cove[illegible] 750 mm thick cover of sand or drill

	cuttings. I. Proper care and supervision during blasting by a competent and experienced person. The conditions and stipulations of DGMS of controlled blasting shall be adehered.
Fire in Coal Benches/ Coal Stack Yard	Spontaneous heating of Coal may cause fire in its Coal benches, Coal yards etc. Extraction of Coal will made maximum possible from the Coal benches and spillage coals will be removed before moving to another bench. This will reduce the chances of fire. Never the less, if any Coal benches are to remain idle for a period more than 15 days, the same shall be properly dressed and cleaned from loose Coal or fines at the time of stoppage. Heights of Coal stack yard will be 6 meters to avoid spontaneous combustion at the stack yard. Fixed type sprinkler and firefighting arrangements will be installed at the Coal stock yards.
Accidents due to lack of proper space in movement in Mine.	Workers around shovel, dumper, dozer, drill and cranes must be warned to keep out of blind area so that operator may be able to see them clearly. Audiovisual alarms are used for pre warning person around this machine. To overcome shortage of space, strict discipline will have to be inculcated in workmen and supervisors. Haul roads are planned with sufficient widths to prevent accidents in the mines. CC TV cameras will be installed in the strategic location of the mine to supervise the mine activities more closely and for operational improvement to increase safety levels.
Disaster management Plan.	The mine will prepare a DMP as per guideline. This plan is to be vetted by DGMS and is governed by the provision of the Mines Act, 1952. This is to be prepared and submitted for approval to DGMS just after opening a mine. It is to be stated that, in case of any disaster, DGMS is the organization which is first to be informed. The emergency plan for disaster management is executed under guidance of best grade of the industry and senior officers of the regulator, the Directorate General of Mines Safety, GOI.

4.1.2	A Commitment from the Company Board that entire mining operation will be carried out as per the Statutory provision given under Mines Act 1952, Coal Mine Regulation 2017 and & wherever specific permission will be required the company will approach the concerned authorities	A commitment from the Board of Director has been furnished in Annexure-3A1.

Chapter-5: Infrastructure Facilities proposed and their Location

5. Infrastructure Facilities

<table>
<tr><th>S.No</th><th>Parameters</th><th colspan="3">Details</th></tr>
<tr><td>5.1</td><td>Mine infrastructure required</td><td colspan="3"><table>
<tr><th>S.No</th><th>Infrastructure to be reatin to be public use</th><th>Infrastructure to be dismantle/reclaimed</th></tr>
<tr><td>1</td><td>Diverted road</td><td>Coal Yard , Mine Office, VT Centers and Common Facilities, Security office etc.</td></tr>
<tr><td>2</td><td>Settling tanks</td><td>HEMM parking yard and Car parking areas for staffs and officers</td></tr>
</table></td></tr>
<tr><td>5.2</td><td colspan="4">Power supply & illumination</td></tr>
<tr><td colspan="5">The OH power supply shall be arranged from the nearest WBESB/WBPDCL Sub-station about 4-5 km from the southern boundary and a main sub-station (2 x 2MVA, 33/11 kV) is proposed to be made at the Colliery level (2 x 500KVA 11/0.433 kV) supplying powers to Unit A and C.
The details of sub-station capacities, distribution network, system of power supply and power factor improvement are as follows:
Distribution and Utilisation Voltages:
Incoming power supply for the project - 11.00 kV
Pumps 160 kW,200 kW & 350 kW -3.3 kV
Pumps 90 kW, 60 KW & Face pumps - 0.44 KV
Workshop/Colony water supply equipment - 215 V
Lighting - 230 V 2 nos. of 11/0.44 kV, 1.5 MVA Capacity Transformers feed power to various loads. The sub-station will be established near the entry of the quarry.
From the Sub-station, 440/230 V overhead transmission line will be laid along the edge of the quarry to feed power to equipment inside the quarry. The surface loads of workshop, Office, stores etc., will be fed by distribution transformers.
The system of power supply at all the voltages in the project i.e., 11.00 KV, 440 V and 230 V will be by earthing neutral as per statutory regulations.
Due to inductive loads of pumps etc., it is proposed to improve overall power factor of the system above 0.9 by manually operated capacitor banks. No automatic power factor correction is proposed as the connected loads are less.
The working areas of the quarry and haul road etc. will be illuminated with energy efficient Sodium Vapour lamps mounted on 18/12-meter high towers, installed along the edge of the quarry. 3 Nos of 25.00 KVA transformers shall be provided for meeting the lighting loads of the quarry.
The power for lighting loads of roads, stores, workshop, Office etc., will be drawn from 315 KVA, 3.3 KV/440 V transformers installed at the Sub-station.</td></tr>
<tr><td>5.3</td><td colspan="4">Drainage & Pumping : Assessment of Volume of Water for Pumping, Pumping Capacity and Pump Selection</td></tr>
</table>

The drainage of the area is mainly controlled by Ajay River folwing north about 3.5 km from the block.One seasonal water channel passes through the property of Sector-C whcih is propsed to be merged with garland drian of the quarry along the periphery of the pit.

Assumptions for Pumping requirement

i) Maximum raifall 170mm in a single day

ii) Seepage through backfilled area 20%

iii) Cathment area A comprises - a) Excavation area
b) Additional area 5% of (a)
c) Internal Dumping area

iv) Accummulated water is to be pumped out in 5 days with 20 hours effective per day

Volume of Water = Q =A x H x c (A -catchment area sqm, H -Max daily precipation)
(c- Run off coeffcient 0.50 for mine out area,
0.05 for beond excavtion area and 0.10 in backfilled area)
H=0.170m
A= A1+A2+A3
A1=Total Excavation area 242.8 Ha , factor 0.05
A2 = Void area 60 Ha factor 0.5
A3 = back filled area 178 Ha factor 0.10

Q= 0.17 x (242.8*0.05+60*0.5+178*0.10)x10000 cum/day

Q = 101,898cum/day-----A

Sump Capacity

Capacity of sump will be decided to accommodate rain water corresponding to maximum daily rainfall at 10% probability (once in every 10 years). It is assumed that sump will accommodate 70% of maximum rainfall in 24 Hr with(170mm max) .

B Sump Capacity [70 % of maximum rainfall in 24 Hrs.]	
Quarry	101898 x 0.70 = 71328.6 m3

Pumping Capacity

Daily capacity of pumping has been kept as difference between ingress of water in the mine in a day and holding capacity of sump. Pump will work for 20Hrs /day.

(C)	Pumping duty
Quarry	[A – B] ÷ 20 m3 /Hr = (101898.6-71328.6) ÷20 m3/Hr = 30570/20 m3/Hr =1528.5 **m3/Hr or say 1530m3/Hr** **i.e 425.4 lps, say 430lps**

Selection of Pumps

Excavation operation of a quarry is a dynamic process. Gradually the depth of working increases. The duty of the pumps particularly the static head increases as the quarry goes deeper and deeper. Following stages are stated here:

- When advance stripping of weathered mantle is to be done, water will accumulate on the lowest bench of OB, max 120m for quarry A and 210m for quarry C.m below which will be drained to quarry floor sump.
- For Quarry A make up of water will be 180 lps and for quarry C 250 lps with saftey factor of 1.5 pumping provison of 270 lps and 375 lps for A and C is enviasged.

The Pumps and their specification

Quarry A - 80lps 150m head main pumps electrically operated 200 kW 3.3 kV with complete electrical 2 No with1 spare
45 lps 120 m head auxiliary pumps 440 V, 90 kw 2 No
40 lps 100m 65 HP diesel Slurry pumps 2 no

Quarry C 80 lps 250 m , 350 kW, 3.3 V eleccricals main pumps 3 no with 1 spare complete set
45 lps 120 m 90 kW 440 V electricals 4 no
40 lps diesel slurry pumps 65 HP 3 No
38 lps 240 m, 160 kW, 3.3 electrical 3 no

Pipes with fittings and fixures 150mm 200mm (ERW, HDPE, Black Steel) with suitable wall thickness 4-6mm, 4km,and 6 km(appx)

5.4	Coal Handling Arrangement: Brief detail of the CHP/ Mode of Dispatch, Coal quality and Coal staking and handling arrangement	Quarry A and Quarry C will have separate Coal handling arrangement as shown in plate-8 .Coal borught form mine face by Coal Hualers/Tippers shall discharge over receving bunkers of 250tph , 2 no with suitable screening and sizing arrangement of of 100 mm .The dispatch to different consumers or affiliates shall be made by Road and Railway . Ground stacking of adeqaute capacity have also been envisaged near pits earmarked for each qaurry as shown in plate-8. The over all quality of coal is likely to be G10 . It is proposed to stack different grade of coal suitably for marketing and use point.
5.5	Coal washing and the proposed handling/ disposal of rejects	Coal washing is not envisaged

Chapter-6: Land Requirement

6.1 Land requirement

S.No	Parameters	Details
6.1.1	Total Land requirement for the mine in "Ha". Indicative source of data.	
Geological area of the block is 370 Ha. Project are of Gourangdih ABC Coal Mine is 356.575 Ha. Total Private or Tenancy land within the project area is 169.076 Ha, total Government Non Forest land within the project area is 72.076 Ha, total Government Forest land within the project area is about 109.459 Ha, out of which 1.95 Ha falls within the Safety Zone, and there is about 5.962 Ha of freehold area (ECL). The proposed lease area of 356.575 Ha consists of 109.459 Ha of forest land and rest 247.116 Ha non forest land. The forest land is lying with proposed excavation area of A&C and partly in the area lying in beyond the clock area proposed for utilization of surface external dumps, safety zone(partly) and top soil etc. Please refer Plate-9.		
Break up of pre-mining land type (indicative) and source of data.		

S.No.	Land Type	Exisiting/pre-Mining Use	Area
1	Private/Tenancy	Agricultural	113.982
2	Private/Tenancy	Township	8.036
3	Private/Tenancy	Barren	36.568
4	Private/Tenancy	Water Bodies	9.632
5	Private/Tenancy	Road	0.850
6	Private/Tenancy	Others/Community	0.008
7	Govt. Non Forest	Agricultural	33.353
8	Govt. Non Forest	Township	2.301
9	Govt. Non Forest	Barren	24.346
10	Govt. Non Forest	Water Bodies	1.159
11	Govt. Non Forest	Road	10.850
12	Govt. Non Forest	Others/Community	0.069
13	Govt Forest	Protected	109.459
14	Govt Forest	Reserve	0.000
15	Freehold	ECL	5.962

6.1.2 During mining Land use details:

Type	Land use (Proposed)	Land Use (End of Life)	Land Use (Post Closure)						
			Agricultural land	Plantation	Water Body	Public/Company Use	Forest Land (Returned)	Undisturbed	Total
Excavation Area	242.82								
Backfilled Area		201.89	48.43	43.96			109.50		201.8900
Excavated Void		40.93			40.93				40.9300
Without Plantation		47.069		47.069					47.0690
Top Soil Dump	4.07	4.07		4.07					4.0700
External Dump	47.069								
Safety Zone	10.03	10.03		10.03					10.0300
Haul Road between quarries									
Road diversion									
Diversion Or Below River Or Nala Or Canal									
Settling Pond	0.19	0.19			0.19				0.1900
Road And Infrastructur Area	9.21	9.21		7.93		1.28			9.2100

Rationalization Area									
Garland Drains	0.76	0.76			0.76				0.7600
Embankment									
Green Belt		10.00		10.00					10.0000
Water Reservoir Near Pit									
UG Entry									
Undisturbed OR Mining Right For UG									
Resettlement									
Pit Head Power Plant									
Water Harvesting									
Agricultural Land,Undisturbed OR Mining Right For UG	42.426	32.426						32.426	32.4260
Total	356.57	356.57	48.43	123.06	41.88	1.28	109.50	32.43	356.57

S.No	Parameters	Details
6.1.3	Surface features over the block area	The block is occupied with 5 no village, roads, powerline , few poles of 11KV line, etc.
6.1.4	No. of villages/Houses to be shifted	shifting of about 5no village s falling in Sector-A and C are proposed to be shifted and rehabilated as per approved Plan. Shifting of roads, powerline shall be taken up suitably during implementation of the project.
6.1.5	Population to be affected by the project	The likely PAFs of the mine has been assesed to be 632 .as per proposed R and R Plan .
6.1.6	Proposed Rehabilitation programme	The rehabilation of PAFs and PAPs shall be undertaken by the project proponent as per R and R Plan under approval.

6.2 DETAILS OF LEASE

S.No	Parameters	Details
6.2.1	Status of Lease	
Lease of 356.575 Ha land has been obtained by the project proponent. (Please refer Annexure-2C and Annexure-8)		
6.2.2	Existing Lease Area "Ha"	356.575 Ha
6.2.3	Period for which Mining Lease has been granted/is to be renewed/ is to be applied. for.	30 years
6.2.4	Date of expiry of earlier Mining Lease, if any .	22nd Feb'2048
6.2.5	Whether the lease boundary/ required boundary is same as mentioned in the allotment order.	Lease boundary /required boundary is different fromm allotment order . Additional lease area is proposed out side the geological block for temporary external dumps and Infrastructures which is about 80.7 ha. (Refer Plate-2B)
6.2.6	Lease Area (applied/ required) as per the Mining Plan under consideration (Ha)	356.575 Ha
6.2.7	Whether the applied lease area falls within the allotted block.	No, Sector-B of geological block has not been proposed for lease due to rehabilation and populated area, about 80.7 ha of out side the geological block has been proposed and obtained in lease.
6.2.8	Area (Ha) of lease which falls outside the delineated Block Boundary/Existing Mining Lease.	80.7 Ha fall out side the allocated geological block area but included in the present available lease area of 356.575 ha .(please referPlate-2B)
6.2.8	Area (Ha) of lease which falls outside the delineated Block Boundary/Existing Mining Lease.	80.7 Ha fall out side the allocated geological block area but included in the present available lease area of 356.575 ha .(please referPlate-2B)
6.2.9	Details of outside area	Not Applicable
	Whether forms part of any other coal block	It is old quarried out and private land includes planation and forest land
	Whether it contains any coal/lignite reserves.	No

	Purpose for which it is required, e.g. roads/ OB dumps/ service buildings/ colony/ safety zone/ others (specify).	For temprrary external OB dumping and project infarstructure.
6.2.10	Whether some part(s) of the allotted block has not been applied for mining lease	Not Applicable
	Total area in Ha of such part(s).	Yes, about 78.52 ha falling in Sector-B of the block not applied for lease.
	Total reserves in such part(s). (Mt).	22.09
	Brief reasoning for leaving such part(s).	The unplanned area 78.52 Ha of Sector-B is densely populated and overlain with powerline, road and pvt infrastructure. Residents of this area are presently not willing to vacate and as such, not considered in the approved mining plan and in the instant Revised mining plan.

Chapter-7: Environment Mangement

7. Environment Mangement

S.No	Parameters	Details
7.1	Commitment from the project proponent that the company will comply Environment and Forest Condition stipulated in the respective clearances	A commitment from the Project Proponent regarding compliance of the Conditions as will be stipulated in the Environmental Clearance as per EP Act, 1986 or any other permission related to Environment is furnished in Annexure-3A1

Chapter-8: Progressive & Final Mine Closure Plan

8.1.1 Land Degradation and restoration Schedule

Tentative Land Degradation and Technical Reclamation (Commutative Area Ha)									
Year/Stage		Land Degraded				Technically Reclaimed Area			
(Life of the mine plus post closure period)		Excav	Dump (Extn + Top Soil)	Infra/others	Total	Backfill	Dump (Extn + Top Soil)	Others	Total
Up to Base year	2023								
Y-1	2023-24	48.82	2.44	8.23	59.4900	12.88			12.8800
Y-3	2025-26	98.19	38.48	16.28	152.9500	35.51			35.5100
Y-5	2027-28	145.12	51.13	20.19	216.4400	68.86			68.8600
Y-10	2032-33	170.20	51.13	20.19	241.5200	110.00	15.00		125.0000
Y-15	2037-38	195.35	51.13	20.19	266.6700	180.00	20.00		200.0000
Y-20	2042-43	215.65	51.13	20.19	286.9700	190.00	25.00		215.0000
Y-25	2047-48	230.30	51.13	20.19	301.6200	195.00	35.00	32.00	262.0000
Y-27	2049-50	242.82	51.13	20.19	314.1400	201.99	51.13	61.12	314.2400
Post Closure									
Y-30	2052-53	242.82	51.13	20.19	314.14	201.99	51.13	61.12	314.24

8.1.2 TentativeBiological Reclamation (Cumulative in "Ha")

Year/Stage		Biologically Reclaimed Area					Forest land (Return)	Un Disturbed/ To be left for Public/com Use	Total
(Life of the mine plus post closure period)		Agriculture	Plantation	Water Body	Public/ Company Use	Total			
Up to Base year	2023								
Y-1	2023-24	0	1.55	0	1.28	2.8300	0	0	2.8300
Y-3	2025-26	0	3.25	0	1.28	4.5300	0	0	4.5300
Y-5	2027-28	0	8.33	0	1.28	9.6100	0	0	9.6100
Y-10	2032-33	0	15	0	1.28	16.2800	0	0	16.2800
Y-15	2037-38	5	28	0	1.28	34.2800	5	0	39.2800
Y-20	2042-43	15	42	0	1.28	58.2800	10	0	68.2800
Y-25	2047-48	20	60	0	1.28	81.2800	25	0	106.2800
Y-27	2049-50	25	73.37	0	1.28	99.6500	50	0	149.6500
Post Closure									
Y-30	2052-53	48.43	113.059	41.9	1.28	204.65	109.5	42.426	356.575

S.No	Parameters	Details
8.2	Post Closure Water Quality management (Existing water bodies available in the lease hold area; Measures to be taken for protection of the same including control of erosion, sedimentation, siltation, water.	Post Closure Water management , controll of erossion, rain water harvesting etc shall be carried out as per the approval conditions and stipulation of regulatory and statutory bodies and EC. The finacial assurance has been indicated in table 8.10.1
8.3	Post Closure Air Quality management.	Post closure Air qaulity maangement shall be carried out as per approval conditions of EC and SPCB stipulations. The provsions has been enviaged a sgiven in 8.10.1. Real time monitoring system shall be installed and maintained.

8.4 Waste Management (Figures in MM3) (Tentative)

Year/Stage (Life of the mine plus post closure period)		OB Removal (Cumulative)			External Dump (Cumulative)		Internal Backfilling (Cumulative)		Embankment (Cumulative)	
		Top Soil	OB	Total	Top Soil	OB	Top Soil	OB	Top Soil	OB
Up to Base year	2023									
Y-1	2023-24	0.15	2.35	2.5	0.10	0	0.05	2.35	0	0
Y-3	2025-26	0.71	14.24	14.95	0.20	7.05	0.50	7.19	0	0
Y-5	2027-28	1.32	28.13	29.45	0.24	10.14	1.08	17.99	0	0
Y-10	2032-33	2.06	58.64	60.70	0.24	10.14	1.82	60.32	0	0
Y-15	2037-38	2.68	99.27	101.950	0.24	4.64	2.44	99.27	0	0
Y-20	2042-43	3.10	135.10	138.20	0.24	0	2.86	135.10	0	0
Y-25	2047-48	3.10	170.69	173.79	0.24	0	2.86	170.69	0	0
Y-27	2049-50	3.19	176.18	179.37	0.24	0	2.95	176.18	0	0
Post Closure										
Y-30	2052-53	3.19	176.18	179.37	0	0	3.19	176.18	0	0

8.5 Top Soil Management – (Including Action plan for Top Soil management) (Tentative)

Year/Stage (Life of the mine plus post closure period)		Top Soil Removal Plan	Top Soil Used				
			Spreading Over Embankment	Spreading Over Backfill area	Spreading Over External OB Dump area	Used in Green Belt area	Total Utilised
Up to Base year	2023						
Y-1	2023-24	0.15	0	0.05	0	0.01	0.06
Y-3	2025-26	0.71	0	0.50	0	0.02	0.52
Y-5	2027-28	1.32	0	1.08	0	0.025	1.11
Y-10	2032-33	2.06	0	1.82	0	0.03	1.85
Y-15	2037-38	2.68	0	2.44	0	0.04	2.48
Y-20	2042-43	3.10	0	2.86	0	0.05	2.91
Y-25	2047-48	3.10	0	2.86	0	0.07	2.93
Y-27	2049-50	3.19	0	2.95	0	0.09	3.04
Post Closure							
Y-30	2052-53	3.19	0	3.05	0	0.14	3.19

S.No	Parameters	Details
8.6	Management of Coal Rejects.	Not applicable as no washery has been proposed.
8.7	Restoration of Land used for Infrastructure.	The infastructure at the end of the project life proposed to be dismentaled , be reclaimed and suitable plantation is proposed. After suitable boilogical treatment and planation the same shall be returned to communities and departments as per provosions indiacted in table 6.1.2 and 8.10.1
8.8	Disposal of Mining Machinery.	The Major P and M shall be deployed at the project will be on Hired/contractual basis whcih shall be removed by the the contractors at the time of closure of the project and be used for other new projects .The outlived equipment shall be sold as scrapes and disposed .
8.9	Safety & Security.	All the relevant conditions of coal mines Regulation2017, Mines Acts 1955 and prevailing laws of land shall be complied for safe opeartion of the mine , The safety and security against inadvertant entry to mine permisses, dump area shall be made by fencing ,walling as required. The financial assurance for the activity have been envisaged at Table 8.10.1. The void area of about 40.93 ha with depth of 27-28 m shll be will be left and will be suitably reclaimed as per approved conditions of which will be source of ground water recharge. The water body shall besuitably fenced and secured to avoid inadvertant entry and mishaps. The water can serve the purpose of agriculture and domestic use suitably.

8.10 Abandonment Cost and Financial Assurance.

8.10.1 Abandonment Cost: Cost of Activities to be taken up for closure of the mine

Head	Activities	Unit	Quantity	Rate RS/Unit	Amount RS Cr
Progressive Closure	Water quality management	Ls	27	300000	0.81
	Air quality management	Ls	27	400000	1.0

	Waste Management	M CUM	2.0	10000000	2.0
	Barbed wire fencing around dump	m	6800	200	0.136
	Barbed wire fencing around the pit	m	8000	200	0.16
	Filling of Void - Rehanding of Crown dump	MM3	4.0	20000000	8.00
	Top Soil Management	MM3	2.0	20000000	4.0
	Technical And Biological Reclamation of Mined out of land and OB Dump	Ha	214	250000	5.35
	Plantation over virgin area including green belt	Ha	350	250000	8.75
	Manpower Cost and Supervision	Yr	27	5000000	13.50
	Total wall around the dump	m	6000	250	0.15
	Garland drain	m	8500	200	0.17
	Garland drain around the dump	m	6700	200	0.134
	Any other Activity				0.00
	Any other Activity - 2				0.00
	Any other Activity - 3				0.0
	Any other Activity - 4				0.00
Dismentaling of infrastrucure & Disposal/ rehabilitation of mining Machinery	Dismentaling of workshop	Ls			0.25
	Rehabilitation of the dismentaled fascilities	Ls			0.10
	Dismentaling of pump and pipes/ other fascilities.	Ls			0.25
	Dismentaling of stowing bunker, provisioning of pumps for borewell pumping arrangement.				0.00
	Dismentaling of UG equipment				0.00
	Rearranging water pipeline to dump top park/Agriculture land	Ls			0.20
	Dismentaling of power lines.	LS			0.25
	Any other Activity	LS			0.00
Safety and Security	Barbed wire fencing around dump	LS	1000	200	0.20
	Barbed wire fencing around the pit	m		200	0.20
	Barbed wire fencing with Masonalry piller	LS			0.30
	Concrete wall with Masonalry pillers around the pit	m			0.25
	Securing air shaft and installation of borewall pump				0.00
	Securing of incline				0.00
	Concrete wall fencing around the water body	LS			0.35
	Boundary wall around the water body	LS			0.15
	Stabilisation (viz benching, pitching etc) of side walls of the water body	LS			0.25
	Toe wall around the dump	LS			0.25
	Garland Drain	LS			0.15
	Garland Drain around the dump	LS			0.10
	Drainage channel from main Ob dump	LS			0.10
	Any other Activity				0.0
Technical and Biological Reclamation of mined out of land and OB Dump	Filling of Void	Ha	42	2500000	10.50
	Top soil management	MM3	2	25000000	5.00
	OB Rehandling for backfilling	MM3	3	35000000	10.5
	Terracing, blanketing with soil and vegetation of External OB Dump	Ha	50	150000	0.75
	Paripharel road, gates, view point, cemented steps on bank	LS			0.10

	Expenditure on development of Agriculture land	Ha	48.5	400000	1.94
	Landscaping and Plantation	Ls			0.40
	Any other Activity				0.0
Post Closure management and supervision	Power Cost	Ls	3	1200000	0.36
	Post mining water quality management	Ls	3	300000	0.09
	Post mining air quality management	Ls	3	400000	0.12
	Subsidence monitoring for 5 years	Ls			0.20
	Waste management	Ls			0.50
	Manpower Cost and supervision	Ls	3	3000000	0.90
	Manpower Cost and supervision				0.20
Others	Enterprenuership development(vocational/skil l development training for sustainable income of affected people)	LS			0.50
	Golden Handshake/Retrenchment benefits to 100 employees of OC				0.00
	Golden Handshake/Retrenchment benefits to 200 employees of UG				0.00
	Onetime financial grant to societies/ institutions/ organisations which is dependent upon the project	LS			0.60
	Provide Jobs in other mines of company				0.00
	Continuation of other services like running of school etc.	LS			0.60
	Any other Activity	LS			0.20
Total					81.05

8.10.2 Financial Assurance : Amount to be deposited in Escrow account as a security against the mine activities to be carried out for the closure of the mine

WPI as on	Apr-19	121.10
WPI as on base date	Jan 2023 Provisional	150.6
Escalation rate of Closure cost		1.244
	UG	OC
Base Cost "Rs. Crs/Ha	0	0.09
Closure Cost "Rs. Crs/Ha"	0	0.112
Project Area "Ha"	0	356.575
Amount to be depostied into Escrow Account "Rs. in Crs	0	39.936
Amount already deposited into Escrow Account "Rs. in Crs	0	0
Net Amount to be depositied into Escrow Account "Rs. in Crs	0	39.936
Rate of componding of Annual Closure Cost		5.00%
Balance Life of the project "in Yrs	0	27
Annual Closure Cost "Rs. in Crs"	0	1.479
Amount to be deposited into Escrow Account after compounding @ of 5% "Rs. in Crs"		80.854

Amount to be deposited into Escrow

Year	OC	Year	UG	Total
1	1.479			1.479
2	1.553			1.553
3	1.631			1.631
4	1.712			1.712
5	1.798			1.798
6	1.888			1.888
	1.982			1.982

8	2.081			2.081
9	2.185			2.185
10	2.294			2.294
11	2.409			2.409
12	2.53			2.53
13	2.656			2.656
14	2.789			2.789
15	2.928			2.928
16	3.075			3.075
17	3.228			3.228
18	3.39			3.39
19	3.559			3.559
20	3.737			3.737
21	3.924			3.924
22	4.12			4.12
23	4.326			4.326
24	4.543			4.543
25	4.77			4.77
26	5.008			5.008
27	5.259			5.259
Total	80.854		0.000	80.854

Annexures

Annexure 1A1

Sr Manager (Geo)
Submitted
1/10/2016

Government of India

Ministry of Coal

O/o the Nominated Authority

World Trade Centre, New Delhi

Office of the nominated authority constituted under section 6 of the Coal Mines (Special Provisions) Act, 2015.

Allotment order under clause (c) of sub-rule (2) of rule 7 and sub-rule (1) of rule 13

In re: **Gourangdih ABC Coal Mine** (the "mine") particulars of which is specified in **Annexure I**

Order no.: F. No. 103/6/2016/NA

Date: September 29, 2016

In favour of: **West Bengal Mineral Development & Trading Corporation Limited** incorporated in India under the Companies Act, 1956 with corporate identity number U14219WB1973SGC028707, whose registered office is at 13, Nellie Sengupta Sarani, 2nd Floor Kolkata, West-Bengal – 700087, India (the "Allottee")

For: Sale of Coal

WHEREAS, the nominated authority has, in accordance with the provisions the Coal Mines (Special Provisions) Act, 2015 (the "Act") and the Coal Mines (Special Provisions) Rules 2014 (the "rules") conducted the allotment of the relevant Schedule I coal mine;

AND WHEREAS the allottee is eligible to receive this allotment order with respect to the mine, including, inter-alia -

(a) the coal bearing land acquired by the prior allottee and the lands, in or adjacent to the coal mines used for coal mining operations acquired by the prior allottee; and

(b) any existing mine infrastructure as defined in clause (j) of sub-section (1) of section 3 of the Act;

AND WHEREAS the allottee has furnished a performance bank guarantee dated September 23, 2016 for an amount equal to INR 42,37,50,000.00 (Indian Rupees Forty Two Crore Thirty Seven Lakh and Fifty Thousand) issued by HDFC Bank in accordance with the allotment document and in accordance with the provisions of sub-section (6) and sub-section (12) of section 8 of the Act;

AND WHEREAS the allottee has entered into an Allotment Agreement dated August 24, 2016 (as amended) with the nominated authority in accordance with the provisions of sub-rule (5) of rule 13.

NOW, THE NOMINATED AUTHORITY DOES ORDER:

1. On and from September 29, 2016 ("allotment date") and in accordance with sub-section (4) of section 8 read with sub-section (12) section 8 of the Act, with respect to the mine, the following shall stand fully and absolutely transferred and vested in the allottee, namely: -

   (a) all the rights, title and interest of the prior allottee in and over the land and mine infrastructure free from all encumbrances;

   (b) entitlement to a mining lease to be granted by the State Government with the terms and conditions of the Allotment Agreement forming a part of it on making an application;

   (c) all statutory licences, permits, permissions, approvals or consents as per rules, required to undertake coal mining operations in the mine, if already issued by the Central Government, to the prior allottee on the same terms and conditions as were applicable to the prior allottee, as listed in the **Annexure 2**;

   (d) entitlement to any statutory licence, permit, permission, approval or consent required to undertake coal mining operations in the mine, if already issued by the Central Government, to the prior allottee on making an application on the same terms and conditions as were applicable to the prior allottee, as listed in the **Annexure 3**;

   (e) entitlement to any statutory licence, permit, permission, approval or consent required to undertake coal mining operations in the mine, if already issued by the State Government, to the prior allottee on making an application on the same terms and conditions as were applicable to the prior allottee, as listed in the **Annexure 4**;

   (f) rights appurtenant to the approved mining plan of the prior allottee;

   (g) any subsisting contract in relation to coal mining operations, to which the prior allottee was a party and which is assumed, adopted and continued by the Allottee and listed in the **Annexure 5** shall stand novated (by virtue of a deemed consent from the relevant party(ies)), in accordance with the provisions of sub-section (1) of section 11 of the Act in favour of the allottee for the residual term or residual pe[redacted]

4. This allotment order is liable to be cancelled in accordance with the provisions of sub-rule (6) of rule 13.

Vivek Bhargava

(By the nominated authority)

Govt. of India
Min Coal
Nominated Authority

Annexures:

Annexure 1: Particulars of the mine

Part A – Description of the mine

Coal Mine	**Gourangdih ABC**
Latitude	23°48'30"N & 23°49'45"N
Longitude	86°57'45"E & 87°00'15"E
Coalfield	Raniganj
Villages	Shibdhawra, Banddhawra, Lalbandh, Panuria, Gourangdih, Kantapahari and Bhuiapara
District	Burdwan
State	West Bengal

Part B – Description of Land in relation to the mine

Type of Land: Freehold Land for Mining as per Mining Lease

Nil

Type of Land: Leasehold Land for Mining as per Mining Lease

Nature	Area (Hectares)
Government Land	-
Private Land	-
Forest Land	-

Part C – Description of Mine Infrastructure in relation to the mine

C1- Mine Infrastructure: Immovable Assets

Nil

C2- Mine Infrastructure: Land for Compensatory Afforestation

Type of Land: Freehold Land for Compensatory Afforestation

Nil

Type of Land: Leasehold Land for Compensatory Afforestation

Nature	Area (Hectares)
Government Land	-
Private Land	-
Forest Land	-

C3- Mine Infrastructure: Resettlement and Rehabilitation Land

Type of Land: Resettlement and Rehabilitation Freehold Land

Nil

Type of Land: Resettlement and Rehabilitation Leasehold Land

Nature	Area (Hectares)
Government Land	-
Private Land	-
Forest Land	-

Annexure 2: Particulars of statutory licences, permits, permissions, approvals or consents issued by the Central Government which are being transferred along with this Allotment order.

S. No	Statutory Clearance	Ministry/ Agency	Letter No.	Date
1.	Approval of Mining Plan and Mine Closure Plan	Ministry of Coal	No. 13016/77/2006-CA-I (Part)	28.06.2011

Annexure 3: Particulars of statutory licences, permits, permissions, approvals or consents issued by the Central Government to be obtained on application by the Allottee.

Not Applicable

Annexure 4: Particulars of statutory licences, permits, permissions, approvals or consents issued by the State Government to be obtained on application by the Allottee.

Not Applicable

Annexure 5: Particulars of the contracts adopted by the Allottee.

The Allottee does not intend to adopt and continue with any of the contracts of the Prior Allottee.

Annexure 2A

ID	Latitude (N)	Longitude (E)
A	23°48'30"	86°57'45"
B	23°49'45"	86°57'45"
C	23°49'45"	87°00'15"
D	23°48'30"	87°00'15"
ID	LATITUDE	LONGITUDE
G-1	23° 49' 30.448" N	86° 57' 44.983" E
G-2	23° 49' 32.894" N	86° 57' 48.115" E
G-3	23° 49' 33.005" N	86° 57' 49.255" E
G-4	23° 49' 34.129" N	86° 57' 50.531" E
A44	23° 49' 35.286" N	86° 57' 53.294" E
G-5	23° 49' 35.411" N	86° 57' 53.592" E
A45	23° 49' 35.896" N	86° 57' 55.085" E
G-6	23° 49' 36.237" N	86° 57' 56.578" E
A46	23° 49' 36.475" N	86° 57' 57.739" E
A47	23° 49' 36.564" N	86° 57' 58.446" E
A48	23° 49' 36.563" N	86° 57' 59.456" E
G-7	23° 49' 36.532" N	86° 58' 00.146" E
G-8	23° 49' 36.217" N	86° 58' 00.129" E
A50	23° 49' 36.069" N	86° 58' 00.852" E
A51	23° 49' 36.186" N	86° 58' 02.528" E
A52	23° 49' 36.224" N	86° 58' 04.278" E
A53	23° 49' 36.066" N	86° 58' 06.512" E
A54	23° 49' 35.757" N	86° 58' 08.539" E
G-9	23° 49' 35.257" N	86° 58' 11.083" E
G-10	23° 49' 34.062" N	86° 58' 14.431" E
G-11	23° 49' 33.967" N	86° 58' 18.111" E
G-12	23° 49' 33.838" N	86° 58' 18.695" E
G-13	23° 49' 33.689" N	86° 58' 19.592" E
G-14	23° 49' 33.586" N	86° 58' 20.659" E
A1'	23° 49' 33.495" N	86° 58' 22.128" E
G-15	23° 49' 33.023" N	86° 58' 26.152" E
G-16	23° 49' 32.916" N	86° 58' 28.851" E
G-17	23° 49' 32.493" N	86° 58' 31.388" E
G-18	23° 49' 32.294" N	86° 58' 32.096" E
G-19	23° 49' 29.145" N	86° 58' 31.788" E
G-20	23° 49' 28.052" N	86° 58' 36.229" E
G-21	23° 49' 28.376" N	86° 58' 36.874" E
G-22	23° 49' 27.808" N	86° 58' 41.173" E
A12''	23° 49' 27.787" N	86° 58' 41.429" E
G-23	23° 49' 27.494" N	86° 58' 44.882" E
G-24	23° 49' 27.226" N	86° 58' 47.283" E
G-25	23° 49' 26.849" N	86° 58' 48.787" E
G-26	23° 49' 26.674" N	86° 58' 49.275" E
G-27	23° 49' 25.889" N	86° 58' 50.886" E
G-28	23° 49' 25.208" N	86° 58' 51.952" E
G-29	23° 49' 24.418" N	86° 58' 53.041" E
G-30	23° 49' 23.589" N	86° 58' 53.462" E
G-31	23° 49' 23.024" N	86° 58' 51.414" E
G-32	23° 49' 21.915" N	86° 58' 48.633" E
G-33	23° 49' 21.062" N	86° 58' 48.067" E
G-34	23° 49' 18.087" N	86° 58' 54.026" E
G-35	23° 49' 17.038" N	86° 58' 56.156" E
G-36	23° 49' 14.007" N	86° 58' 59.598" E
C41'	23° 49' 13.007" N	86° 59' 01.034" E
G-37	23° 49' 12.207" N	86° 59' 02.859" E
G-38	23° 49' 11.526" N	86° 59' 03.908" E
G-39	23° 49' 11.003" N	86° 59' 05.007" E
G-40	23° 49' 10.385" N	86° 59' 06.864" E
G-41	23° 49' 09.967" N	86° 59' 08.083" E
G-42	23° 49' 09.704" N	86° 59' 09.025" E
G-43	23° 49' 09.566" N	86° 59' 10.582" E
G-44	23° 49' 09.518" N	86° 59' 12.781" E
G-45	23° 49' 09.288" N	86° 59' 14.667" E
[illegible]	23° 49' 08.937" N	86° 59' 16.421" E
[illegible]	23° 49' 08.605" N	86° 59' 17.783" E

Prepared By Indian Mine Planners and Consultants On 23/02/2023

ID	Latitude (N)	Longitude (E)
G-48	23° 49' 08.029" N	86° 59' 19.082" E
G-49	23° 49' 08.316" N	86° 59' 21.397" E
G-50	23° 49' 08.118" N	86° 59' 22.032" E
G-51	23° 49' 07.945" N	86° 59' 23.198" E
G-52	23° 49' 07.532" N	86° 59' 24.365" E
G-53	23° 49' 06.814" N	86° 59' 26.189" E
G-54	23° 49' 06.167" N	86° 59' 27.475" E
G-55	23° 49' 05.152" N	86° 59' 29.409" E
C4"	23° 49' 04.095" N	86° 59' 31.175" E
G-56	23° 49' 03.752" N	86° 59' 31.747" E
G-57	23° 49' 02.718" N	86° 59' 33.179" E
G-58	23° 49' 02.202" N	86° 59' 34.007" E
G-59	23° 49' 01.595" N	86° 59' 35.676" E
G-60	23° 49' 00.924" N	86° 59' 37.766" E
G-61	23° 49' 00.537" N	86° 59' 38.931" E
G-62	23° 48' 59.582" N	86° 59' 44.712" E
C9'	23° 48' 59.304" N	86° 59' 46.153" E
G-63	23° 48' 57.771" N	86° 59' 54.087" E
G-64	23° 48' 55.749" N	86° 59' 59.387" E
G-65	23° 48' 55.572" N	87° 00' 00.021" E
G-66	23° 48' 55.418" N	87° 00' 00.962" E
G-67	23° 48' 55.233" N	87° 00' 02.007" E
G-68	23° 48' 55.147" N	87° 00' 03.207" E
G-69	23° 48' 55.022" N	87° 00' 04.474" E
C20	23° 48' 54.919" N	87° 00' 05.605" E
C21	23° 48' 54.794" N	87° 00' 07.204" E
C22	23° 48' 54.673" N	87° 00' 07.953" E
G-70	23° 48' 54.045" N	87° 00' 08.738" E
C22'	23° 48' 54.174" N	87° 00' 09.655" E
C23	23° 48' 53.882" N	87° 00' 10.384" E
G-71	23° 48' 53.469" N	87° 00' 10.982" E
G-72	23° 48' 52.712" N	87° 00' 12.003" E
C24	23° 48' 51.008" N	87° 00' 13.219" E
C24'	23° 48' 50.764" N	87° 00' 14.038" E
C24''	23° 48' 49.477" N	87° 00' 14.998" E
C25	23° 48' 50.319" N	87° 00' 10.911" E
C25'	23° 48' 49.059" N	87° 00' 05.694" E
C26	23° 48' 48.649" N	87° 00' 04.302" E
C26'	23° 48' 48.006" N	87° 00' 02.534" E
C27	23° 48' 47.349" N	87° 00' 00.481" E
C27'	23° 48' 46.005" N	86° 59' 56.109" E
C27''	23° 48' 44.008" N	86° 59' 52.626" E
C28	23° 48' 44.467" N	86° 59' 51.605" E
G-73	23° 48' 43.424" N	86° 59' 47.095" E
G-74	23° 48' 41.896" N	86° 59' 43.158" E
G-75	23° 48' 41.477" N	86° 59' 41.767" E
G-76	23° 48' 41.068" N	86° 59' 40.054" E
G-77	23° 48' 40.466" N	86° 59' 38.459" E
G-78	23° 48' 39.831" N	86° 59' 35.981" E
G-79	23° 48' 38.594" N	86° 59' 31.808" E
G-80	23° 48' 37.553" N	86° 59' 28.346" E
G-81	23° 48' 36.574" N	86° 59' 25.202" E
G-82	23° 48' 35.509" N	86° 59' 21.894" E
G-83	23° 48' 34.412" N	86° 59' 18.492" E
G-84	23° 48' 33.778" N	86° 59' 16.727" E
G-85	23° 48' 32.575" N	86° 59' 14.443" E
G-86	23° 48' 33.522" N	86° 59' 11.425" E
G-87	23° 48' 34.008" N	86° 59' 10.018" E
G-88	23° 48' 34.748" N	86° 59' 08.225" E
G-89	23° 48' 35.501" N	86° 59' 06.332" E
G-90	23° 48' 36.081" N	86° 59' 05.022" E
G-91	23° 48' 37.178" N	86° 59' 03.105" E
G-92	23° 48' 38.812" N	86° 59' 00.907" E
G-93	23° 48' 40.404" N	86° 58' 58.593" E
G-94	23° 48' 42.167" N	86° 58' 55.974" E
G-95	23° 48' 43.221" N	86° 58' 54.408" E
C36	23° 48' 43.995" N	86° 58' 53.496" E
	23° 48' 45.035" N	86° 58' 52.007" E

Prepared By Indian Mine Planners and Consultants On 23/02/2023

ID	Latitude (N)	Longitude (E)
G-96	23° 48' 45.931" N	86° 58' 51.228" E
G-97	23° 48' 46.425" N	86° 58' 50.363" E
G-98	23° 48' 46.941" N	86° 58' 49.241" E
G-99	23° 48' 47.285" N	86° 58' 48.376" E
G-100	23° 48' 47.801" N	86° 58' 46.482" E
G-101	23° 48' 48.855" N	86° 58' 42.578" E
G-102	23° 48' 49.736" N	86° 58' 39.094" E
G-103	23° 48' 50.058" N	86° 58' 37.715" E
G-104	23° 48' 50.789" N	86° 58' 33.857" E
G-105	23° 48' 51.283" N	86° 58' 30.116" E
G-106	23° 48' 51.498" N	86° 58' 28.527" E
G-107	23° 48' 51.777" N	86° 58' 26.633" E
G-108	23° 48' 52.001" N	86° 58' 24.505" E
A25	23° 48' 52.486" N	86° 58' 21.162" E
A25'	23° 48' 52.873" N	86° 58' 16.557" E
A26	23° 48' 53.108" N	86° 58' 12.465" E
A26'	23° 48' 52.914" N	86° 58' 08.888" E
G-109	23° 48' 52.617" N	86° 58' 04.515" E
G-110	23° 48' 55.501" N	86° 58' 03.014" E
G-111	23° 48' 58.896" N	86° 58' 01.406" E
G-112	23° 49' 01.553" N	86° 58' 00.037" E
G-113	23° 49' 03.885" N	86° 57' 58.731" E
G-114	23° 49' 09.162" N	86° 57' 56.159" E
G-115	23° 49' 14.053" N	86° 57' 53.064" E
G-116	23° 49' 17.135" N	86° 57' 51.997" E
G-117	23° 49' 21.004" N	86° 57' 50.066" E
G-118	23° 49' 22.299" N	86° 57' 49.465" E
A31'	23° 49' 22.953" N	86° 57' 49.087" E
G-119	23° 49' 23.997" N	86° 57' 48.483" E
G-120	23° 49' 24.479" N	86° 57' 48.094" E
G-121	23° 49' 26.462" N	86° 57' 46.923" E
G-122	23° 49' 28.346" N	86° 57' 45.789" E
G-1	23° 49' 30.448" N	86° 57' 44.983" E

Annexure 2B

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ANNEXURE-IIB

Certification of Project Area, Proposed Mining Lease area and Geological Block area

This is Certified that the Cardinal Points considered for preparation of the Mine Plan and Mine Closure Plan of Gourangdih-ABC(Ist Modification) Coal Mine situated in Raniganj Coalfield, Paschim Bardhman district of West Bengal State , is in line with the Allotment order F.No 103/6/2016/NA dated September 29,2016. The block does not encroach any other adjacent block. All proposed mining activities, overburden dumping area and infrastructure locations are proposed within allocated cardinal points *coordinates and the lease obtained by the block allottee M/s West Bengal Mineral Development* and Trading Corporation Ltd .

The vested cardinal points area as per Allotment Order for geological block

Latitude 23^0 28' 30" – 23^0 49' 45" N

Longitude 86^0 57' 45" - 87^0 00 ' 15" E

Lease Area	:	356.575 Ha
Project Area	:	356.575 Ha
Geological Block area	:	370.00 Ha

The coordinates of the lease acquired for the Project purpose by the project proponent as per previous Approved Mine Plan(2011) are given as below :

GOURANGDIH - ABC GEOLOGICAL BLOCK BOUNDARY CO-ORDINATES

ID	LATITUDE	LONGITUDE
G-1	23° 49' 30.448" N	86° 57' 44.983" E
G-2	23° 49' 32.894" N	86° 57' 48.115" E
G-3	23° 49' 33.005" N	86° 57' 49.255" E
G-4	23° 49' 34.129" N	86° 57' 50.531" E
A44	23° 49' 35.286" N	86° 57' 53.294" E
G-5	23° 49' 35.411" N	86° 57' 53.592" E
A45	23° 49' 35.896" N	86° 57' 55.085" E

BLOCK - A PROJECT BOUNDARY CO-ORDINATES

PILLAR _ID	LATITUDE	LONGITUDE
A1	23° 49' 33.001" N	86° 58' 22.156" E
A1'	23° 49' 33.495" N	86° 58' 22.128" E
A2	23° 49' 43.691" N	86° 58' 21.392" E
A3	23° 49' 45.153" N	86° 58' 21.111" E
A4	23° 49' 45.489" N	86° 58' 21.967" E
A5	23° 49' 44.893" N	86° 58' 36.871" E
A6	23° 49' 41.267" N	86° 58' 38.634" E

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G-6	23° 49' 36.237" N	86° 57' 56.578" E
A46	23° 49' 36.475" N	86° 57' 57.739" E
A47	23° 49' 36.564" N	86° 57' 58.446" E
A48	23° 49' 36.563" N	86° 57' 59.456" E
G-7	23° 49' 36.532" N	86° 58' 00.146" E
G-8	23° 49' 36.217" N	86° 58' 00.129" E
A50	23° 49' 36.069" N	86° 58' 00.852" E
A51	23° 49' 36.186" N	86° 58' 02.528" E
A52	23° 49' 36.224" N	86° 58' 04.278" E
A53	23° 49' 36.066" N	86° 58' 06.512" E
A54	23° 49' 35.757" N	86° 58' 08.539" E
G-9	23° 49' 35.257" N	86° 58' 11.083" E
G-10	23° 49' 34.062" N	86° 58' 14.431" E
G-11	23° 49' 33.967" N	86° 58' 18.111" E
G-12	23° 49' 33.838" N	86° 58' 18.695" E
G-13	23° 49' 33.689" N	86° 58' 19.592" E
G-14	23° 49' 33.586" N	86° 58' 20.659" E
A1'	23° 49' 33.495" N	86° 58' 22.128" E
G-15	23° 49' 33.023" N	86° 58' 26.152" E
G-16	23° 49' 32.916" N	86° 58' 28.851" E
G-17	23° 49' 32.493" N	86° 58' 31.388" E
G-18	23° 49' 32.294" N	86° 58' 32.096" E
G-19	23° 49' 29.145" N	86° 58' 31.788" E
G-20	23° 49' 28.052" N	86° 58' 36.229" E
G-21	23° 49' 28.376" N	86° 58' 36.874" E
G-22	23° 49' 27.808" N	86° 58' 41.173" E
A12''	23° 49' 27.787" N	86° 58' 41.429" E
G-23	23° 49' 27.494" N	86° 58' 44.882" E
G-24	23° 49' 27.226" N	86° 58' 47.283" E
G-25	23° 49' 26.849" N	86° 58' 48.787" E
G-26	23° 49' 26.674" N	86° 58' 49.275" E
G-27	23° 49' 25.889" N	86° 58' 50.886" E
G-28	23° 49' 25.208" N	86° 58' 51.952" E
G-29	23° 49' 24.418" N	86° 58' 53.041" E

A7	23° 49' 39.601" N	86° 58' 38.996" E
A8	23° 49' 38.913" N	86° 58' 39.037" E
A9	23° 49' 38.029" N	86° 58' 40.112" E
A10	23° 49' 34.059" N	86° 58' 41.167" E
A11	23° 49' 32.013" N	86° 58' 41.161" E
A11'	23° 49' 30.492" N	86° 58' 41.249" E
A12	23° 49' 29.481" N	86° 58' 41.255" E
A12'	23° 49' 27.987" N	86° 58' 41.402" E
A12''	23° 49' 27.787" N	86° 58' 41.429" E
A13	23° 49' 27.525" N	86° 58' 41.466" E
A13'	23° 49' 27.044" N	86° 58' 42.272" E
A14	23° 49' 27.003" N	86° 58' 43.406" E
A15	23° 49' 26.653" N	86° 58' 46.724" E
A16	23° 49' 21.277" N	86° 58' 42.817" E
A17	23° 49' 18.036" N	86° 58' 36.751" E
A18	23° 49' 17.433" N	86° 58' 31.028" E
A19	23° 49' 15.884" N	86° 58' 28.194" E
A20	23° 49' 12.442" N	86° 58' 25.081" E
A21	23° 49' 08.528" N	86° 58' 25.437" E
A22	23° 49' 03.839" N	86° 58' 25.344" E
A23	23° 48' 55.709" N	86° 58' 26.982" E
A24	23° 48' 53.365" N	86° 58' 27.149" E
A25	23° 48' 52.486" N	86° 58' 21.162" E
A25'	23° 48' 52.873" N	86° 58' 16.557" E
A26	23° 48' 53.108" N	86° 58' 12.465" E
A26'	23° 48' 52.914" N	86° 58' 08.888" E
A27	23° 48' 52.805" N	86° 58' 04.719" E
A28	23° 49' 01.709" N	86° 58' 00.342" E
A28'	23° 49' 04.019" N	86° 57' 59.093" E
A29	23° 49' 09.211" N	86° 57' 56.301" E
A29'	23° 49' 14.126" N	86° 57' 53.821" E
A29''	23° 49' 17.244" N	86° 57' 52.023" E
A29'''	23° 49' 21.169" N	86° 57' 50.382" E
A30	23° 49' 22.438" N	86° 57' 49.762" E

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G-30	23° 49' 23.589" N	86° 58' 53.462" E
G-31	23° 49' 23.024" N	86° 58' 51.414" E
G-32	23° 49' 21.915" N	86° 58' 48.633" E
G-33	23° 49' 21.062" N	86° 58' 48.067" E
G-34	23° 49' 18.087" N	86° 58' 54.026" E
G-35	23° 49' 17.038" N	86° 58' 56.156" E
G-36	23° 49' 14.007" N	86° 58' 59.598" E
C41'	23° 49' 13.007" N	86° 59' 01.034" E
G-37	23° 49' 12.207" N	86° 59' 02.859" E
G-38	23° 49' 11.526" N	86° 59' 03.908" E
G-39	23° 49' 11.003" N	86° 59' 05.007" E
G-40	23° 49' 10.385" N	86° 59' 06.864" E
G-41	23° 49' 09.967" N	86° 59' 08.083" E
G-42	23° 49' 09.704" N	86° 59' 09.025" E
G-43	23° 49' 09.566" N	86° 59' 10.582" E
G-44	23° 49' 09.518" N	86° 59' 12.781" E
G-45	23° 49' 09.288" N	86° 59' 14.667" E
G-46	23° 49' 08.937" N	86° 59' 16.421" E
G-47	23° 49' 08.605" N	86° 59' 17.783" E
G-48	23° 49' 08.029" N	86° 59' 19.082" E
G-49	23° 49' 08.316" N	86° 59' 21.397" E
G-50	23° 49' 08.118" N	86° 59' 22.032" E
G-51	23° 49' 07.945" N	86° 59' 23.198" E
G-52	23° 49' 07.532" N	86° 59' 24.365" E
G-53	23° 49' 06.814" N	86° 59' 26.189" E
G-54	23° 49' 06.167" N	86° 59' 27.475" E
G-55	23° 49' 05.152" N	86° 59' 29.409" E
C4''	23° 49' 04.095" N	86° 59' 31.175" E
G-56	23° 49' 03.752" N	86° 59' 31.747" E
G-57	23° 49' 02.718" N	86° 59' 33.179" E
G-58	23° 49' 02.202" N	86° 59' 34.007" E
G-59	23° 49' 01.595" N	86° 59' 35.676" E

A31	23° 49' 23.018" N	86° 57' 49.458" E
A31'	23° 49' 22.953" N	86° 57' 49.087" E
A32	23° 49' 20.796" N	86° 57' 45.553" E
A32'	23° 49' 21.491" N	86° 57' 44.665" E
A33	23° 49' 21.691" N	86° 57' 44.448" E
A34	23° 49' 22.095" N	86° 57' 44.089" E
A35	23° 49' 24.237" N	86° 57' 42.779" E
A36	23° 49' 25.572" N	86° 57' 42.015" E
A37	23° 49' 27.063" N	86° 57' 41.506" E
A38	23° 49' 29.832" N	86° 57' 41.483" E
A39	23° 49' 30.768" N	86° 57' 41.243" E
A40	23° 49' 31.897" N	86° 57' 41.595" E
A41	23° 49' 32.218" N	86° 57' 45.563" E
A42	23° 49' 34.774" N	86° 57' 47.583" E
A43	23° 49' 35.284" N	86° 57' 49.189" E
A44	23° 49' 35.286" N	86° 57' 53.294" E
A45	23° 49' 35.896" N	86° 57' 55.085" E
A46	23° 49' 36.475" N	86° 57' 57.739" E
A47	23° 49' 36.564" N	86° 57' 58.446" E
A48	23° 49' 36.563" N	86° 57' 59.456" E
A49	23° 49' 36.429" N	86° 58' 00.881" E
A50	23° 49' 36.069" N	86° 58' 00.852" E
A51	23° 49' 36.173" N	86° 58' 02.528" E
A52	23° 49' 36.224" N	86° 58' 04.278" E
A53	23° 49' 36.066" N	86° 58' 06.512" E
A54	23° 49' 35.757" N	86° 58' 08.539" E
A55	23° 49' 34.946" N	86° 58' 10.918" E
A56	23° 49' 34.379" N	86° 58' 14.285" E
A57	23° 49' 33.579" N	86° 58' 18.634" E
A1	23° 49' 33.001" N	86° 58' 22.156" E

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G-60	23° 49' 00.924" N	86° 59' 37.766" E
G-61	23° 49' 00.537" N	86° 59' 38.931" E
G-62	23° 48' 59.582" N	86° 59' 44.712" E
C9'	23° 48' 59.304" N	86° 59' 46.153" E
G-63	23° 48' 57.771" N	86° 59' 54.087" E
G-64	23° 48' 55.749" N	86° 59' 59.387" E
G-65	23° 48' 55.572" N	87° 00' 00.021" E
G-66	23° 48' 55.418" N	87° 00' 00.962" E
G-67	23° 48' 55.233" N	87° 00' 02.007" E
G-68	23° 48' 55.147" N	87° 00' 03.207" E
G-69	23° 48' 55.022" N	87° 00' 04.474" E
C20	23° 48' 54.919" N	87° 00' 05.605" E
C21	23° 48' 54.794" N	87° 00' 07.204" E
C22	23° 48' 54.673" N	87° 00' 07.953" E
G-70	23° 48' 54.045" N	87° 00' 08.738" E
C22'	23° 48' 54.174" N	87° 00' 09.655" E
C23	23° 48' 53.882" N	87° 00' 10.384" E
G-71	23° 48' 53.469" N	87° 00' 10.982" E
G-72	23° 48' 52.712" N	87° 00' 12.003" E
C24	23° 48' 51.008" N	87° 00' 13.219" E
C24'	23° 48' 50.764" N	87° 00' 14.038" E
C24''	23° 48' 49.477" N	87° 00' 14.998" E
C25	23° 48' 50.319" N	87° 00' 10.911" E
C25'	23° 48' 49.059" N	87° 00' 05.694" E
C26	23° 48' 48.649" N	87° 00' 04.302" E
C26'	23° 48' 48.006" N	87° 00' 02.534" E
C27	23° 48' 47.349" N	87° 00' 00.481" E
C27'	23° 48' 46.005" N	86° 59' 56.109" E
C27''	23° 48' 44.008" N	86° 59' 52.626" E
C28	23° 48' 44.467" N	86° 59' 51.605" E
G-73	23° 48' 43.424" N	86° 59' 47.095" E
G-74	23° 48' 41.896" N	86° 59' 43.158" E
G-75	23° 48' 41.477" N	86° 59' 41.767" E
G-76	23° 48' 41.068" N	86° 59' 40.054" E

BLOCK - C PROJECT CO-ORDINATES

ID	LATITUDE	LONGITUDE
C1	23° 49' 28.619" N	86° 59' 04.672" E
C1'	23° 49' 27.878" N	86° 59' 10.126" E
C2	23° 49' 27.052" N	86° 59' 14.465" E
C3	23° 49' 23.956" N	86° 59' 21.797" E
C4	23° 49' 14.458" N	86° 59' 25.614" E
C4'	23° 49' 07.644" N	86° 59' 29.205" E
C4''	23° 49' 04.095" N	86° 59' 31.175" E
C5	23° 49' 03.299" N	86° 59' 31.616" E
C6	23° 49' 01.514" N	86° 59' 35.268" E
C7	23° 49' 00.327" N	86° 59' 38.084" E
C7'	23° 48' 59.069" N	86° 59' 41.047" E
C8	23° 48' 58.068" N	86° 59' 44.129" E
C9	23° 48' 58.473" N	86° 59' 44.999" E
C9'	23° 48' 59.304" N	86° 59' 46.153" E
C10	23° 48' 59.519" N	86° 59' 46.383" E
C11	23° 49' 01.423" N	86° 59' 48.003" E
C12	23° 49' 06.081" N	86° 59' 49.786" E
C13	23° 49' 08.488" N	86° 59' 52.218" E
C14	23° 49' 09.192" N	86° 59' 57.119" E
C15	23° 49' 08.482" N	87° 00' 02.254" E
C16	23° 49' 07.111" N	87° 00' 05.404" E
C17	23° 49' 06.122" N	87° 00' 06.062" E
C18	23° 49' 04.487" N	87° 00' 07.461" E
C19	23° 49' 01.777" N	87° 00' 07.461" E
C20	23° 48' 54.919" N	87° 00' 05.605" E
C21	23° 48' 54.794" N	87° 00' 07.204" E
C22	23° 48' 54.673" N	87° 00' 07.953" E
C22'	23° 48' 54.174" N	87° 00' 09.655" E
C23	23° 48' 53.882" N	87° 00' 10.384" E
C24	23° 48' 51.008" N	87° 00' 13.219" E
C24'	23° 48' 50.764" N	87° 00' 14.038" E
C24''	23° 48' 49.477" N	87° 00' 14.998" E

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G-77	23° 48' 40.466" N	86° 59' 38.459" E
G-78	23° 48' 39.831" N	86° 59' 35.981" E
G-79	23° 48' 38.594" N	86° 59' 31.808" E
G-80	23° 48' 37.553" N	86° 59' 28.346" E
G-81	23° 48' 36.574" N	86° 59' 25.202" E
G-82	23° 48' 35.509" N	86° 59' 21.894" E
G-83	23° 48' 34.412" N	86° 59' 18.492" E
G-84	23° 48' 33.778" N	86° 59' 16.727" E
G-85	23° 48' 32.575" N	86° 59' 14.443" E
G-86	23° 48' 33.522" N	86° 59' 11.425" E
G-87	23° 48' 34.008" N	86° 59' 10.018" E
G-88	23° 48' 34.748" N	86° 59' 08.225" E
G-89	23° 48' 35.501" N	86° 59' 06.332" E
G-90	23° 48' 36.081" N	86° 59' 05.022" E
G-91	23° 48' 37.178" N	86° 59' 03.105" E
G-92	23° 48' 38.812" N	86° 59' 00.907" E
G-93	23° 48' 40.404" N	86° 58' 58.593" E
G-94	23° 48' 42.167" N	86° 58' 55.974" E
G-95	23° 48' 43.221" N	86° 58' 54.408" E
C36	23° 48' 43.995" N	86° 58' 53.496" E
C37	23° 48' 45.035" N	86° 58' 52.007" E
G-96	23° 48' 45.931" N	86° 58' 51.228" E
G-97	23° 48' 46.425" N	86° 58' 50.363" E
G-98	23° 48' 46.941" N	86° 58' 49.241" E
G-99	23° 48' 47.285" N	86° 58' 48.376" E
G-100	23° 48' 47.801" N	86° 58' 46.482" E
G-101	23° 48' 48.855" N	86° 58' 42.578" E
G-102	23° 48' 49.736" N	86° 58' 39.094" E
G-103	23° 48' 50.058" N	86° 58' 37.715" E
G-104	23° 48' 50.789" N	86° 58' 33.857" E
G-105	23° 48' 51.283" N	86° 58' 30.116" E
G-106	23° 48' 51.498" N	86° 58' 28.527" E
G-107	23° 48' 51.777" N	86° 58' 26.633" E
G-108	23° 48' 52.001" N	86° 58' 24.505" E

C25	23° 48' 50.319" N	87° 00' 10.911" E
C25'	23° 48' 49.059" N	87° 00' 05.694" E
C26	23° 48' 48.649" N	87° 00' 04.302" E
C26'	23° 48' 48.006" N	87° 00' 02.534" E
C27	23° 48' 47.349" N	87° 00' 00.481" E
C27'	23° 48' 46.005" N	86° 59' 56.109" E
C27''	23° 48' 44.008" N	86° 59' 52.626" E
C28	23° 48' 44.467" N	86° 59' 51.605" E
C29	23° 48' 46.417" N	86° 59' 47.997" E
C30	23° 48' 47.303" N	86° 59' 45.025" E
C31	23° 48' 47.725" N	86° 59' 42.792" E
C32	23° 48' 47.038" N	86° 59' 40.548" E
C32'	23° 48' 35.377" N	86° 59' 18.667" E
C33	23° 48' 34.302" N	86° 59' 16.189" E
C34	23° 48' 33.871" N	86° 59' 13.043" E
C35	23° 48' 34.861" N	86° 59' 10.017" E
C35'	23° 48' 43.306" N	86° 58' 54.797" E
C36	23° 48' 43.995" N	86° 58' 53.496" E
C37	23° 48' 45.035" N	86° 58' 52.007" E
C37'	23° 48' 49.321" N	86° 58' 52.617" E
C37''	23° 48' 52.753" N	86° 58' 53.075" E
C38	23° 48' 54.345" N	86° 58' 53.028" E
C39	23° 48' 57.511" N	86° 58' 52.513" E
C40	23° 49' 01.314" N	86° 58' 52.858" E
C41	23° 49' 07.236" N	86° 58' 57.643" E
C41'	23° 49' 13.007" N	86° 59' 01.034" E
C42	23° 49' 14.373" N	86° 59' 01.387" E
C43	23° 48' 54.174" N	87° 00' 09.655" E
C44	23° 48' 53.882" N	87° 00' 10.384" E
C45	23° 48' 51.008" N	87° 00' 13.219" E
C46	23° 48' 50.764" N	87° 00' 14.038" E
C1	23° 48' 49.477" N	87° 00' 14.998" E

Corp Office: GE-61, Rajdanga Main Road, Behind Gateway Hotel, EM Bye Pass, Kolkata - 700107
Phone: (033) 40733609: Cell: , 09836003124, 7909060885
Website: www.impcon.co.in, E-mail:impcon.kolkata@gmail.com

INDIAN MINE PLANNERS & CONSULTANTS * QCI-NABET Mining Plan Preparing Agency (MPPA) * ISO 9001 : 2015

INDIAN MINE PLANNERS & CONSULTANTS

(Geology, Mining, Environment & Allied Engineering)
ISO 9001:2015 Certified
QCI-NABET
Accredited Prospecting Agency (APA), Mining Plan Preparing Agency (MPPA),
EIA Consultant Organisation (ECO) & Exploration Agencies in Mineral Sector (AEA)

A25	23° 48' 52.486" N	86° 58' 21.162" E
A25'	23° 48' 52.873" N	86° 58' 16.557" E
A26	23° 48' 53.108" N	86° 58' 12.465" E
A26'	23° 48' 52.914" N	86° 58' 08.888" E
G-109	23° 48' 52.617" N	86° 58' 04.515" E
G-110	23° 48' 55.501" N	86° 58' 03.014" E
G-111	23° 48' 58.896" N	86° 58' 01.406" E
G-112	23° 49' 01.553" N	86° 58' 00.037" E
G-113	23° 49' 03.885" N	86° 57' 58.731" E
G-114	23° 49' 09.162" N	86° 57' 56.159" E
G-115	23° 49' 14.053" N	86° 57' 53.064" E
G-116	23° 49' 17.135" N	86° 57' 51.997" E
G-117	23° 49' 21.004" N	86° 57' 50.066" E
G-118	23° 49' 22.299" N	86° 57' 49.465" E
A31'	23° 49' 22.953" N	86° 57' 49.087" E
G-119	23° 49' 23.997" N	86° 57' 48.483" E
G-120	23° 49' 24.479" N	86° 57' 48.094" E
G-121	23° 49' 26.462" N	86° 57' 46.923" E
G-122	23° 49' 28.346" N	86° 57' 45.789" E

INDIAN MINE PLANNERS & CONSULTANTS QCI-NABET Mining Plan Preparing Agency (MPPA) ISO 9001:2015

(Pramod P. Gupta)
Project Coordinator, MPPA
Indian Mine Planners and Consultants
NABET/APA-MPPA/IA/002 Dated Jan 28 2021

Corp Office: GE-61, Rajdanga Main Road, Behind Gateway Hotel, EM Bye Pass, Kolkata-700107
Phone: (033) 40733609: Cell: , 09836003124, 7909060885
Website: www.impcon.co.in, E-mail:impcon.kolkata@gmail.com

Annexure 2C

Government of West Bengal
Department of Industry, Commerce and Enterprises
MINES BRANCH
4, Abanindranath Tagore Sarani (Camac Street)
Kolkata – 700 016

No.591-CI/O/MIN/GEN-COL/03/2016 Date:-29/09/2022

From: The Deputy Secretary
to the Government of West Bengal

To : The Chairman & Managing Director
West Bengal Mineral Development & Trading Corporation Ltd.
WBIIDC Building, 3rd Floor, DJ-10, DJ Block
Sector-II, Bidhannagar, Kolkata-700091

Sub: Grant of long term Mining Lease for Coal in favour of West Bengal Mineral Development & Trading Corporation Ltd. over an area of about 143.31 Ha in respect of Gourangdih ABC Coal Mine located in three different Mouzas namely Panuria (J.L. No.10), Daskiyari (J.L. No. 03), Kantapahari (J.L. No. 09), Jamgram (J.L. No. 20), Aligunj (J.L. No. 11) under P.S. Baraboni, Dist:- Paschim Bardhaman

Sir,

I am directed to refer to your application dated 18.01.2020 on the subject mentioned above and to state that in exercise of the powers conferred by sub-section (3) of section 10 of the Mines and Minerals (Development and Regulation) Act, 1957 with the prior approval of the Government of India, Ministry of Coal under sub-section (1) of Section 5 of the said Act, the Governor has been pleased to consider grant of mining lease for Coal in respect of the under mentioned area for a period of 30 (thirty) years in favour of West Bengal Mineral Development & Trading Corporation Ltd. in terms of Allotment Order no. **F. No. 103/6/2016/NA** dated **29th September, 2016** and Administrative approval No. **F. No. 13016/01/2017-CBA-II** dated **12th January, 2018** of the Ministry of Coal, Government of India subject to fulfillment of and compliance with the following conditions and execution of an Indenture of lease in terms of relevant provisions of law within a period of **two (2) years** from the date of issue of this order.

District	Police Station	Mouza(s)	J.L No(s)	Plot No(s)	Granted area in Ha.
Paschim Bardhaman	Baraboni	Panuria	10	As per Annexure attached	143.31
		Daskiyari	3		
		Kantapahari	9		
		Jamgram	20		
		Aliganj	11		

The effective area of the entire coal block is 370 Ha. However, the total mining area comprising of sector A & C, as per mining plan is 214Ha, for which Grant Order has already been issued by this department vide G.O. No. 143-C1/O/MIN/GEN-COL/03/2016 dated 23.02.2018. The total project area consists of mining area, safety zone, OB dumping area, areas for setting up mining infrastructure, establishment of rehabilitation colony etc. The present application for Grant Order of 143.3 Ha, which is earmarked for OB dumping, needs to be included in the mining lease hold area following MMDR Amendment Act, 2016. Hence, this Grant Order is issued in respect of the same project for the purpose of OB dumping and subsequently, on submission of all statutory clearances and compliance of all terms & conditions a single mining lease may be granted on execution of an indenture of mining lease over the total area of (213.3+143.3) or 356.6 Ha merging both grant orders.

1.

(a) The Corporation shall have to raise annually a minimum quantity of Coal from the mining area as per mining plan approved by the Ministry of Coal, Government of India and give a written undertaking to that effect and also to incorporate a clause to that effect in the Indenture of lease to be executed;

(b) The Corporation shall have to deposit a sum of Rs. 1,000.00 (Rupees One Thousand) only on account of preliminary expenses for the mining lease under the head "0853-Non-Ferrous Mining and Metallurgical Industries-00-102-Mineral Concession Fees, Rent and Royalties-001-Mineral

Concession Fees-16-Other Fees" and such further sums on this account as may later-on be asked for by the Government within one month from the date of demand of such deposit;

(c) The Corporation shall be required to deposit a sum of Rs. 10,000/-(Rupees Ten thousand) only, before execution of the lease, as security for due observance of the terms and conditions of the lease under the head "K-Deposits and advances (b)-Deposits not bearing interests-8443-Civil Deposits-00-103-Security Deposits-001-Earnest/Security Money-07-Deposits" which shall be refundable after expiry of the period of the lease , unless the whole or a part of it is withheld and/ or forfeited by the Government, for any default on the part of the company including default in payment of amount due to the Government.

(d) Terms and conditions as proposed in Allotment Order no. **F. No. 103/6/2016/NA** dated **29th September, 2016** and as also approval of mining plan no. **13016/77/2006-CA-I(Part)** dated **28.06.2011** have to be incorporated in form 'K' of the mining lease before the same is executed between the State Government and the allocatee company.

(e) The corporation shall take all necessary precautions regarding safety of mine workings, persons deployed therein and shall take such other measures in the interest of overall safety and welfare of the workers as may be specified from time to time and in compliance with the statutory and other requirements.

(f) Additional land, if needed to be acquired, shall not encroach on any other coal block;

(g) Allocation/mining lease of the coal block will be liable to be cancelled, inter alia on the following grounds:

(i) Unsatisfactory progress in the development and execution of coal mining project.

(ii) Breach of any of the conditions as specified in the Allotment Order.

(iii)Any activity, if found to be detrimental to public order/ public hygiene/ environmental protection/ ecological balance.

(h) The block boundary of Gourangdih ABC Coal Mine, as per the approved mining plan, is detailed below and the same has to be incorporated in the Indenture of lease:

The Gourangdih ABC Coal Mine covers an area of about 143.31 Hectares. The geographic location of the mine is given below:

Latitude : 23°48'30" (N) – 23°49'45" (N) and

Longitude : 86°57'45" (E) – 87°00'15" (E)

The limits of this block are as follows:

On the North by: Part of Mouza Panuria (J.L. No. 10), Mouza Aliganj (J.L. No. 11) and part of Mouza Jamgram (J.L. No. 20).

On the South by: Mouza Baradang (J.L. No. 7), part of Panuria (J.L. No. 10) and part of Mouza Kantapahari (J.L. No. 09).

On the East by: Mouza Aliganj (J.L. No. 11) and part of Mouza Jamgram (J.L. No. 09).

On the West: Part of Mouza Panuria (J.L. No. 10).

2. The corporation will be required to incorporate the above conditions in the Indenture of lease in addition to the terms and conditions stipulated in the Allotment Order and also letter of approval of mining plan when the same is executed between the State Government and West Bengal Mineral Development & Trading Corporation Ltd. and a copy of Lease Deed to be sent to the Ministry of Coal for information and necessary record.

3. The corporation will be required to prepare draft Mining Lease Deed in durable papers neatly. While preparing the draft Mining Lease, care should be taken to leave sufficient space in between two lines in order to permit, if necessary, corrections therein. The draft Mining Lease Deed should also be compared very carefully before submission thereof to the State Government for approval.

4. The corporation is required to submit in compliance with this order a draft Mining Lease Deed, together with a Treasury Challan of Rs. 1,000/- (Rupees One Thousand) only, on account of

Preliminary Expenses and other particulars stated afore to this Department within ***a period of 2 (two) months*** from the date of issue of this order.

5. (i) The deed of lease, after execution shall be registered by the allottee corporation at their own costs; the corporation is not authorized to start any mining operation in the allocated mining area before registration of the lease deed and also fulfillment of other criteria as required under the extant Laws and Rules in this regard.

(ii) In the event of non-execution of the lease deed within the stipulated period in compliance with the aforesaid conditions, the order, sanctioning the lease, shall be liable to be revoked.

6. This Grant Order is also subject to the following conditions:-

A. <u>Specific Conditions</u>

(i) No mining operation shall be undertaken in the forest land until clearance has been obtained under the provisions of FC Act, 1980 and Environment Clearance as required under the Environmental Impact Assessment Notification, 1994 as amended up-to-date. Both the clearances are to be obtained from the M.O.E.F & C.C., Government of India and submitted to the State Government for further necessary action.

(ii) No mining operation in the mining area shall be undertaken till the consent of the land owners has been obtained for the granted area in question as per M.M.D.R. Act, 1957 and M.C. Rules, 1960 and till the land is transferred to the allottee corporation after completion of the process of acquisition of land in the prescribed manner where such acquisition is involved and long term settlement is obtained in respect of Land Vested with the Government from the competent authority and compliance of such other directions of the Government as may be specified in due course and the process has to be completed before the indenture of lease is executed.

(iii) The Corporation is also required to submit Rehabilitation and Resettlement Package (R. R. Package) duly approved by the competent authority before execution of the Indenture of Lease. The Corporation is also required to submit all the required documents with

regard to compensation etc. in compliance with the provisions of Rule 72 of the M.C. Rules, 1960 before the execution of the Lease Deed.

(iv) The corporation shall comply with the terms and conditions as contained in the Allotment Order No. **F. No. 103/6/2016/NA** dated **29th September, 2016**.

(v) The corporation shall also comply with the terms and conditions as specified in the environment clearance for the Gourangdih ABC Coal Mine as and when it will be issued from the M.O.E.F & C.C. Government of India.

(vi) The allottee corporation shall carry on coal mining in mining area in accordance with the provisions of the Mines and Minerals (Development and Regulation) Act, 1957, Mineral Concession Rules, 1960 and any other applicable laws.

(vii) Mining operations in mining area shall be undertaken in accordance with the approved mining plan bounded by area which shall not encroach upon any adjacent coal block/mine.

(viii) Any violation of any of the terms and conditions shall render the lease liable to be cancelled.

(ix) The coal mining activities must be commenced within one month after execution of lease deed.

(x) The corporation will be required to submit before execution of mining lease, the necessary clearance certificates from the competent authority whenever necessary under the relevant Acts/ Rules & Environment Protection Act, 1986, Environmental Impact Assessment Notification, 1994 and its subsequent amendments and any other law/ Rules/ Regulations/ Government Orders in force or issued from time to time.

(xi) No mining operation in mining area will be taken up till submission of 'No Objection Certificate' regarding Exploration Permission for use of explosive issued by the Indian Bureau of Mines, Government of India and "No objection" issued by the State Government;

B. General Conditions

(i) This grant order is also subject to the following conditions and should be fulfilled at the time of submission of draft Mining Lease Deed.

(a) The Corporation will have to submit valid and up-to-date I.T.C. and G.S.T certificates from the Competent Authority in original.

(b) The Corporation will have to submit Royalty Clearance Certificate from the Competent Authority in original.

(ii)

(a) In the event it is subsequently detected that the entire area or a part of the area granted in Mining Lease falls within 'FOREST' or is covered by any prohibitory Act/ Rules/ Regulation/ Government Orders the company will forthwith surrender the lease to the Government and the corporation will have no claim for compensation for such surrender of lease;

(b) For actual operation of quarrying or digging 10 (ten) yards clear margin shall be kept from the outer boundary of the adjacent plot or plots and maintained throughout the operation and the company shall have to give a written undertaking to the effect.

(c) During the period of the lease, the State Government in the Industry, Commerce and Enterprises Department/ or any agency/ body authorized shall have the authority to stop Mining in case it is detected that mining will be prejudicial to public safety/ mines safety/hazardous to environment and/ or over all climatic/ geographical interest.

(d) The Corporation will have to make such precautionary measures, as may be necessary or prescribed by the Government, the company as to prevent danger and damage to the lives and properties of private persons and of public as well;

(e) The State Government shall have the authority to cancel or revoke or alter at anytime, the Mining Lease either on bed or foreshore of any river in the interest of river management and/ or protection or environment or elsewhere on the recommendation of the concerned Department of the Government or otherwise after observing due process.

(f) No Mining operation in mining area at any point within a distance of 200 (two hundred) meters from any hydraulic structure, bridge, reservoir, canal, road, other public works or buildings shall be allowed except with the previous permission in writing of State Government in Irrigation and Waterways Department and/ or Public Works (Roads) Department and subject to such technical vetting as may be considered necessary by the Government;

(g) No Mining in mining area shall be allowed within specified distance of road bridges within which Mining/ excavation/ quarrying etc. has been banned by the State Government by Notification/ Orders/ directions issued from time to time in the interest of safety of the bridge concerned.

(h) Extraction of minerals should be done beyond a distance of at least 5 (five) kilometers from the barrage axis/ dam axis so far as river/ stream if any, close thereby/ vicinity exists.

7. The Corporation is requested to submit a sketch map showing the plot wise granted area along with a pathway distinctly and duly vetted by the District Land and Land Reforms Officer, Paschim Bardhaman along with the draft mining lease deed to this Department.

8. The Corporation is requested to submit a Geo-reference Map distinctly demarcated boundary of the granted area containing geographical co-ordinates duly vetted by CMO/DL & LRO concerned.

The Corporation is not authorized to take up any mining operation in mining area till submission of Environmental Clearance Certificate from the Government of India, approved mining Plan and execution of lease deed as also fulfillment of other statutory terms and conditions.

This has the approval of the Competent Authority of this Department.

Yours faithfully,

Deputy Secretary
to the Government of West Bengal

No. 591 /1(6)-CI/O/MIN/GEN-COL/03/2016 Date:-29/09/2022

Copy forwarded for kind information and necessary action to:

1. The Secretary, Ministry of Coal, Government of India, Shastri Bhawan, New Delhi
2. The D.M.M., W.B., 4, Abanindranath Sarani (Camac Street), Kolkata- 16
3. The D.L.L.R.O., Paschim Bardhaman, P.O. & Dist. Paschim Bardhaman
4. The Chief Mining Officer, W.B., Court Road, Asansol, Dist. Paschim Bardhaman
5. The Director General of Mines Safety in India, P.O. & Dist. Dhanbad, Jharkhand
6. P.A. to Secretary, Industry, Commerce and Enterprises Department

Deputy Secretary

Annexure-3A1

WEST BENGAL MINERAL DEVELOPMENT & TRADING CORPORATION LTD.
(A Govt. of West Bengal Undertaking)

CIN : U14219WB1973SGC028707
Regd. Office : WBIIDC Building, 3rd Floor
DJ-10, Sector-II, Salt Lake, Kolkata-700091
Phone : 033-2359-0073
Email : wbmdtcltd@gmail.com
Website : mdtcl.wb.gov.in

EXTRACT OF THE RESOLUTION PASSED THROUGH CIRCULATION BY THE BOARD OF DIRECTORS OF WBMDTC LTD. ON 17.02.2023

SUB: REVISION IN THE APPROVED MINING PLAN OF GOURANGDIH ABC COAL MINE

Ref: RESOLUTION BY CIRCULATION NO. 2/2023, DT. 15.02.2023

"Resolved that;

1. The Board undertakes that, the Revised Mining Plan and Mine Closure Plan of Gourangdih ABC Coal Mine, Raniganj Coal Field, Paschim Bardhaman District, West Bengal is prepared with the correct set of data to the best of the Board's knowledge approves the Revised Mining Plan and Mine Closure Plan from its end.
2. The Board authorizes M/S Indian Mine Planner & Consultants, Kolkata, whose certificate of accreditation under the QCI-NABET Scheme for Prospecting/Exploration & Mining Plan Preparing Agency, has been duly verified by WBMDTCL, to prepare the Revised Mining Plan and Mine closure Plan of Gourangdih ABC Coal Mine.
3. The Board accepts the Revised Mining Plan and Mine Closure Plan of Gourangdih ABC Coal Mine and recommends its approval by the MoC, GoI.
4. Sri Arun Acharya Advisor (Coal) ,WBMDTCL is authorized and delegated by board who shall make application, submission and presentation on behalf of the company for processing the Revised MP-MCP.
5. The Board undertakes that the mine will be developed as per the approval of the mining plan from Ministry of coal and all other approvals, as required will be obtained from relevant authorities.
6. The Board commits that the entire mining operation will be carried out as per the Statutory provision given under Mines Act 1952, Coal Mine Regulation 2017, EP Act 1986 and FC Act 1980 and & wherever specific permission will be required the company will approach the concerned authorities.
7. The Board assures that the financial requirement will be fulfilled for implementation of the coal mining Project.
8. The Board hereby undertakes that Reclamation and Rehabilitation work shall be carried out in accordance with the Approved Mine Closure Plan and any modifications/amendments which may be made in the Mine Closure Plan by Ministry of Coal, from time to time.

CERTIFIED TO BE TRUE
Rudip 17.02.2023
(COMPANY SECRETARY)

WEST BENGAL MINERAL DEVELOPMENT AND TRADING CORPORATION LIMITED
WBIIDC BUILDING, 3rd FLOOR, DJ-10, DJ BLOCK
SECTOR-II, SALT LAKE KOLKATA

WEST BENGAL MINERAL DEVELOPMENT & TRADING CORPORATION LTD.
(A Govt. of West Bengal Undertaking)

CIN : U14219WB1973SGC028707
Regd. Office : WBIIDC Building, 3rd Floor
DJ-10, Sector-II, Salt Lake, Kolkata-700091
Phone : 033-2359-0073
Email : wbmdtcltd@gmail.com
Website : mdtcl.wb.gov.in

9. The Board also undertakes that the protective measures contained in the mine closure plan including reclamation and rehabilitation works will be carried out in accordance with the approved mine closure plan and final mine closure plan and undertakes to submit a yearly report before 1st July of every year to the Coal Controller setting forth the extent of protective and rehabilitative works carried out as envisaged in the approved mine closure plans (Progressive and Final Closure;

10. The Board also undertakes that WBMDTCL will obtain a mine closure certificate from Coal Controller to the effect that the protective, reclamation and rehabilitation works carried out in accordance with the approved mine closure plan/ final mine closure plan and will surrender the reclaimed land to the Government of West Bengal."

CERTIFIED TO BE TRUE
17.02.2023
(COMPANY SECRETARY)

WEST BENGAL MINERAL DEVELOPMENT
AND TRADING CORPORATION LIMITED
WBIIDC BUILDING, 3rd FLOOR, DJ-10, DJ BLOCK
SECTOR-II, SALT LAKE, KOLKATA-700091

Annexure 4

Speed Post

No.13016/77/2006-CA-I (Part)
Government of India
Ministry of Coal
....

New Delhi, 28th June, 2011

To,

M/s Gourangdih Coal Limited,
Tower-A, 3rd Floor, DLG IT Park,
8, Major Arterial Road, Block-AF,
New Town, Kolkata- 700 156

Subject: **Approval of Mining Plan (April 2011) for Gourangdih ABC coal block submitted by M/s Gourangdih Coal Limited - Reg.**

Sir,

I am directed to refer to your letter no.GCL/ MP./ MoC/2010/ 19 dated 3rd December, 2010 submitting therewith Revised Mining Plan (April 2011) and Mine Closure Plan (May 2011) and to say that the Revised Mining Plan (April- 2011) including Mine Closure Plan (May – 2011) has been considered and the approval of the Central Government thereon is hereby conveyed under Section 5(2)(b) of the Mines & Minerals(Development & Regulation) Act, 1957 subject to the following conditions:-

(i) The mining company shall take all necessary precautions regarding safety of mine workings, persons deployed therein.
(ii) Mining Lease to be acquired shall not encroach into any other coal block.
(iii) The approval of the Mining Plan is without prejudice to the requirement of approvals from competent/prescribed authority under the relevant rules/regulations etc.

2. Two copies of the approved Mining Plan duly signed by the competent authority are returned herewith with the request that a copy of the approved Mining Plan may be submitted to the concerned State Government for necessary action and also a photocopy of the approved Mining Plan may be sent to the Coal Controller for monitoring the block.

Yours faithfully,

(V.S. Rana)
Under Secretary to the Govt. of India

Encl: as above
Copy to:

(i) The Under Secretary, CPAM Section, Ministry of Coal for information and record.
(ii) The Director, Coal Controller, 1- Council House Street, Kolkata.

Annexure-5

Annexure-V

Chart showing the Schedule of Mine Closure Activities(Progressive &Final Closure) with duration , Gourangdih -ABC Coal Mine Raniganj CF

Sl. No.							Progressive Period									Post Closure		
Sl. No.			Unit	Qty	Rate	Rs in lakh	1Yr	3rd Yr	5th Yr	10th Yr	12th Yr	15th Yr	20th Yr	25st Yr	27th Yr	1	2	3
	Head	Activities			Rs/lakh		Stage-1	Stage-2	Stage-3	Stage-4	OC Final	Stage-5	Stage-6	Stage-7	Stage-8			
1	Progressive closure	Water quality management	Yr	27	3.0	81.00												
2		Air quality management	Yr	27	4.0	108.00												
3		Waste Management	Mcum	2	100.0	200.00												
4		Barbed wire fencing around dump	m	6800	0.002	13.60												
5		Barbed wire fencing around the Pit	m	8000	0.002	16.00												
6		Filling of Void - Rehandling of Crown Dump (External dump)	Mcum	4	200.0	800.00												
7		Top Soil management	Mcum	2	200.0	400.00												
8		Technical & Biological reclamation of Mines out land & OB dump plantation	Ha	214	2.5	535.00												
9		Plantation over virgin area including green belt	Ha	350	2.5	875.00												
10		Manpower Cost and supervision	Yr	27	50.0	1350.00												
11		Toe Wall around the dump	m	6000	0.0025	15.00												
12		Garland drain	m	8500	0.002	17.00												
13		Garland drain around the dump	m	6700	0.002	13.40												
14		Any Other Activity	LS															
	FINAL MINE CLOSURE																	
1	Dismantling of infrastructure & Disposal / rehabilitation of Mining machinery	Dismantling of workshop/CHP/Mine facilities etc	LS	LS		25.00												
2		Rehabilitation of the dismantled facilities	LS	LS		10.00												
3		Dismantling of pumps and Pipes / HEMM/P & M	LS	LS		25.00												
4		Dismantling of stowing bunkers, provisions for bore well pumping arrangement																
5		Dismantling of UG equipment																
6		Rearranging water pipelines to dump top park / Agricultural land				20.00												
7		Dismantling of Power lines		LS		25.00												
8		Barbed wire fencing around dump		LS		20.00												
9		Barbed wire fencing around pit		LS		20.00												
10	Safety and security	Barbed wire fencing with masonary piliar				30.00												
11		Concrete wall with masonary pillar around the pit				25.00												
12		Securing air shaft and installation of borewell pumps																
13		Securing of incline																
14		Concrete wall fencing around the water body				35.00												
15		Boundary wall around the water body		LS		15.00												
16		Stabilisation (viz benching, pitching etc) of side walls of the water body		LS		25.00												
17		Toe Wall around the dump		LS		25.00												
18		Garland drain				15.00												
19		Garland Drain around the dump	m			10.00												
20		Drainage Channel from main OB dump	m			10.00												
21		Any Other Activity		LS														
22	Technical & Biological Reclamation of Mined out area and OB Dump	Filling of Void	Mcum	42	25.0	1050.00												
23		Top Soil management	Mcum	2	250.0	500.00												
24		OB rehandling for back filling	Mcum	3	350.0	1050.00												
25		Terracing, Blanketing with soil and vegetation for Ext. OB dump	Ha	50	1.5	75.00												
26		Peripheral road, gates, view point, cemented steps on bank				10.00												
27		Expenditure on development of Agriculture land	Ha	48.5	4.0	194.00												
28		Landscaping and Plantation	Ha	LS		40.00												
29	Post Closure management and supervision	Power cost	Yr	3	12.0	36.00												
30		Post Mining Water quality management	Yr	3	3.0	9.00												
31		Post Mining Air quality management	Yr	3	4.0	12.00												
32		Subsidence monitoring for 5 years	Yr	5		20.00												
33		Waste Management	LS	1		50.00												
34		Manpower Cost and supervision	Yr	3	30.0	90.00												
35		Any Other Activity	LS	LS		20.00												
36		Entrepreneurships development, vocational / skill development training for sustainable income of affected people	LS	LS		50.00												
37		Golden Handshake / Retrenchment benefits to employees of OC	LS															

38	Others activities	Golden Handshake / Retrenchment benefits to employees of UG	LS															
39		One time financial grant to Society / Institutions / Organisations which is dependent upon the project	LS	LS		60.00												
40		Provide jobs in other mines of the company	LS															
41		Continuation of other services like running of schools etc.	LS	LS		60.00												
42		Any Other Activity	LS	LS		20.00												

Annexure 6

bharatkosh.gov.in
Government of India Receipt Portal

RECEIPT

Transaction Ref.No. 1403230033656 Dated: Mar 16 2023 11:03PM

Received from M/S. WEST BENGAL MINERAL DEVELOPMENT AND TRADING CORPORATION LTD with Transaction Ref.No. 1403230033656

Dated Mar 16 2023 11:03PM the sum of INR 89144 (Eighty-Nine Thousand One Hundred Forty-Four Only) through Internet based Online payment in the account of

Coal and Lignite, , Mining Plan Processing Fees of Gourangdih ABC Coal Mine.

Disclaimer:- This is a system generated electronic receipt, hence no physical signature is required for the purpose of authentication

Printed On: 20-03-2023 12:51:07

Courtesy :- Controller General of Accounts

Annexure 7

TO WHOM IT MAY CONCERN

The Mining Plan & Mine Closure Plan of Gourangdih ABC Coal Mine Coal Mine formulated by Mining Plan Preparing Agency-Indian Mine Planners and Consultants, QCI Number- NABET/APA-MMPA/IA/002 which was sent for expert review to Mining Plan Preparing Agency-Min Mec Consultancy Pvt Ltd, QCI Number- NABET/APA-MPPA/IA/004 .

The Mining Plan & Mine Closure Plan of Gourangdih ABC Coal Mine Coal Mine has been review from Technical and administrative angle and has found to be prepared in line with the guideline for formulation, processing, scrutiny and approval of Mining Plan and Mine Closure Plan circulated vide OM dated 29th May 2020. The subject mining plan is found to be in order and is recommended for consideration of the Approving Authority for approval.

.

Digital Signature

Min Mec Consultancy Pvt Ltd

A-121, Paryavaran Complex, IGNOU Road New Delhi

NABET/APA-MPPA/IA/004

9811030881

Additional Annexure-8

ANNEXURE III

MD

Government of West Bengal
Department of Industry, Commerce and Enterprises
MINES BRANCH
4, Abanindranath Tagore Sarani (Camac Street)
Kolkata – 700 016

No. 143 -CI/O/MIN/GEN-COL/03/2016 Dated, Kolkata, the 23rd February, 2018

From: The Joint Secretary to the Government of West Bengal

To : The Managing Director,
West Bengal Mineral Development & Trading Corporation Ltd.,
13, Nellie Sengupta Sarani (Lindsay Street), 2nd Floor, Kolkata – 87.

Sub: Grant of long term Mining Lease for Coal in favour of West Bengal Mineral Development & Trading Corporation Ltd. over an area of about 213.27 Ha in respect of Gourangdih ABC Coal Mine located in three different Mouzas namely Panuria (J.L. No.10), Kantapahari (J.L. No. 09), Jamgram (J.L. No. 20), under P.S. Baraboni, Dist. : Paschim Bardhaman.

Sir,

I am directed to refer to your application dated 07.12.2017 on the subject mentioned above and to state that in exercise of the powers conferred by sub-section (3) of section 10 of the Mines and Minerals (Development and Regulation) Act, 1957 with the prior approval of the Government of India, Ministry of Coal under sub-section (1) of Section 5 of the said Act, the Governor has been pleased to consider grant of mining lease for Coal in respect of the under mentioned area for a period of 30 (thirty) years in favour of West Bengal Mineral Development & Trading Corporation Ltd. in terms of Allotment Order no. **F. No. 103/6/2016/NA** dated **29th September, 2016** and Administrative approval No. **F. No. 13016/01/2017-CBA-II** dated **12th January, 2018** of the Ministry of Coal, Government of India subject to fulfillment of and compliance with the following conditions and execution of an Indenture of lease in terms of relevant provisions of law within a period of **two(2) years** from the date of issue of this order.

Important.
1) Copy to Advisor.
2) Take follow up actions.
05/3/18.
Exe. Dir.
Seen.
5/3/2018

P.T.O.

District	Police Station	Mouza	J.L. No.	Plot No(s).	Granted area in Hectares.
Paschim Bardhaman	Baraboni	Panuria	10	As depicted in the demarcated map duly vetted by the Competent Authority, Paschim Bardhaman	213.27
		Kantapahari	9		
		Jamgram	20		

(a) The Company shall have to raise annually a minimum quantity of Coal from the area as per mining plan approved by the Ministry of Coal, Government of India and give a written undertaking to that effect and also to incorporate a clause to that effect in the Indenture of lease to be executed;

(b) The Company shall have to deposit a sum of Rs. 1,000.00 (Rupees One Thousand) only on account of preliminary expenses for the mining lease under the head "0853-Non-Ferrous Mining and Metallurgical Industries-00-102-Mineral Concession Fees, Rent and Royalties-001-Mineral Concession Fees-16-Other Fees" and such further sums on this account as may later-on be asked for by the Government within one month from the date of demand of such deposit;

(c) The Company shall be required to deposit a sum of Rs. 10,000/-(Rupees Ten thousand) only, before execution of the lease, as security for the due observance of the terms and conditions of the lease under the head "K-Deposits and advances (b)-Deposits not bearing interests-8443-Civil Deposits-00-103-Security Deposits-001-Earnest/Security Money-07-Deposits" which shall be refundable after expiry of the period of the lease , unless the whole or a part of it is withheld and/ or forfeited by the Government, for any default on the part of the company including default in payment of amount due to the Government.

(d) Terms and conditions as proposed in Allotment Order no. **F. No. 103/6/2016/NA** dated **29th September, 2016** and as also approval of mining plan no. **13016/77/2006-CA-I(Part)** dated **28.06.2011** have to be incorporated in form 'K' of the mining lease before the same is executed between the State Government and the allocatee company.

(e) The mining company shall take all necessary precautions regarding safety of mine workings, person deployed therein and shall take such other measures in the interest of overall safety and welfare of

P.T.O.

the workers as may be specified from time to time and in compliance with the statutory and other requirements.

(f) Additional land, if needed to be acquired, shall not encroach on any other coal block;

(g) Allocation/mining lease of the coal block will be liable to be cancelled, inter alia on the following grounds:

(i) Unsatisfactory progress in the development and execution of coal mining project.

(ii) Breach of any of the conditions as specified in the Allotment Order.

(iii)Any activity, if found to be detrimental to public order/ public hygiene/ environmental protection/ eco-logical balance.

(h) The block boundary of Gourangdih ABC Coal Mine, as per the approved mining plan, is detailed below and the same has to be incorporated in the Indenture of lease:

The Gourangdih ABC Coal Mine covers an area of about 213.27 Hectares. The geographic location of the mine is given below:

Latitude : 23°48'30" (N) – 23°49'45" (N) and

Longitude : 86°57'45" (E) – 87°00'15" (E)

The limits of this block are as follows:

On the North by: Part of mouza Panuria (J.L. No. 10), mouza Aliganj (J.L. No. 11) and part of mouza Jamgram (J.L. No. 20).

On the South by: Mouza Baradang (J.L. No. 7), part of Panuria (J.L. No. 10) and part of mouza Kantapahari (J.L. No. 09).

On the East by: Mouza Aliganj (J.L. No. 11) and part of mouza Jamgram (J.L. No. 09).

On the West: Part of mouza Panuria (J.L. No. 10).

P.T.O.

2. The company will be required to incorporate the above conditions in the Indenture of lease in addition to the terms and conditions stipulated in the Allotment Order and also letter of approval of mining plan when the same is executed between the State Government and West Bengal Mineral Development & Trading Corporation Ltd. and a copy of Lease Deed be sent to the Ministry of Coal for information and necessary record.

3. The company will be required to prepare draft Mining Lease Deed in durable papers neatly. While preparing the draft Mining Lease, care should be taken to leave sufficient space in between two lines in order to permit, if necessary, corrections therein. The draft Mining Lease Deed should also be compared very carefully before submission thereof to the State Government for approval.

4. The company is required to submit in compliance with this order a draft Mining Lease Deed, together with a Treasury Challan of Rs. 1,000/- (Rupees One Thousand) only, on account of Preliminary Expenses and other particulars as aforesaid to this Department within ***a period of 2 (two) months*** from the date of issue of this order.

5. (i) The deed of lease, after execution shall be registered by the allocatee company at their own costs; the company is not authorised to start any mining operation in the allocated area before registration of the lease deed and also fulfillment other criteria as required under the extant Law and Rules in this regard.

(ii) In the event of non-execution of the lease deed within the stipulated period in compliance with the conditions as aforesaid, the order sanctioning the lease shall be liable to be revoked.

6. This Grant Order is also subject to the following conditions:-

A. <u>Specific Conditions</u>

(i) No mining operation shall be undertaken in the forest land until clearance has been obtained under the provisions of FC Act, 1980 and Environment Clearance as required under the Environmental Impact Assessment Notification, 1994 as amended up-to-date. Both the clearances are to be obtained from the M.O.E.F & C.C., Government of India and submitted to the State Government for further necessary action.

P.T.O.

(ii) No mining operation shall be undertaken till the consent of the land owners has been obtained for the granted area in question as per M.M.D.R. Act, 1957 and M.C. Rules, 1960 and till the land is transferred to the allocatee company after completion of the process of acquisition of land in the prescribed manner where such acquisition is involved and long term settlement obtained in respect of Land Vested with the Government from the competent authority and compliance of such other directions of the Government as may be specified in due course and the process has to be completed before the indenture of lease is executed.

(iii) The Company is also required to submit Rehabilitation and Resettlement Package (R. R. Package) duly approved by the Collector of District before the execution of the Indenture of Lease. The Company is also required to submit all the required documents with regard to compensation etc. in compliance with the provisions of Rule 72 of the M.C. Rules, 1960 before the execution of the Lease Deed.

(iv) No mining operation shall be undertaken till the area outside the lease for topsoil dumps, OB dumps, area for mineral storage, roads, township have been acquired and compensation, if any, are paid as per the State Government norms and rehabilitation exercise, wherever applicable, is completed as per Government Policy.

(v) The company shall comply with the terms and conditions as contained in the Allotment Order No. **F. No. 103/6/2016/NA** dated **29th September, 2016**.

(vi) The company shall also comply with the terms and conditions as specified in the environment clearance for the Gourangdih ABC Coal Mine as and when it will be issued from the M.O.E.F & C.C, Government of India.

(vii) The allocatee company shall carry on coal mining in accordance with the provisions of the Mines and Minerals (Development and Regulation) Act, 1957, Mineral Concession Rules, 1960 and any other applicable laws.

P.T.O.

(viii) Mining operations shall be undertaken in accordance with the approved mining plan bounded by area which shall not encroach upon any adjacent coal block/mine.

(ix) Any violation of any of the terms and conditions shall render the lease liable to be cancelled.

(x) The coal mining activities must be commenced within one month after execution of lease deed.

(xi) The company shall be required to do the coal mining in accordance with the provisions of Mines & minerals (Development & Regulation) Act, 1957 and Mineral Concession rules, 1960 and subject to the provisions of other relevant statutes/ Rules/ Regulations/ Government Orders etc.

(xii) The company will be required to submit before execution of mining lease, the necessary clearance certificates from the competent authority whenever necessary under the relevant Acts/ Rules & Environment Protection Act, 1986, Environmental Impact Assessment Notification, 1994 and its subsequent amendments and any other law/ Rules/ Regulations/ Government Orders in force or issued from time to time.

(xiii) No mining operation will be taken up till submission of 'No Objection Certificate' regarding Exploration Permission for use of explosive issued by the Indian Bureau of Mines, Government of India and " No objection" issued by the State Government;

B. <u>General Conditions</u>

(i) This grant order is also subject to the following conditions and should be fulfilled at the time of submission of draft Mining Lease Deed.

(a) The Company will have to submit valid and up-to-date I.T.C. and GST certificates from the Competent authority in original.

(b) The Company will have to submit Royalty Clearance Certificate from the competent authority in original.

P.T.O.

(c) The Company will have to submit required documents/papers for grant of Mining Lease.

(ii)

(a) In the event it is subsequently detected that the entire area or a part of the area granted in Mining Lease falls within 'FOREST' or is covered by any prohibitory Act/ Rules/ Regulation/ Government Orders the company will forthwith surrender the lease to the Government and the company will have no claim for compensation for such surrender of lease;

(b) For actual operation of quarrying or digging 10 (ten) yards clear margin shall be kept from the outer boundary of the adjacent plot or plots and maintained throughout the operation and the company shall have to give a written undertaking to the effect.

(c) During the period of the lease, the State Government in the Industry, Commerce and Enterprises Department/ or any agency/ body authorised shall have the authority to stop Mining in case it is detected that mining will be prejudicial to public safety/ mines safety/hazardous to environment and/ or over all climatic/ geographical interest.

(d) The Company will have to make such precautionary measures, as may be necessary or prescribed by the Government, the company as to prevent danger and damage to the lives and properties of private persons and of public as well;

(e) The State Government shall have the authority to cancel or revoke or alter at anytime, the Mining Lease either on bed or foreshore of any river in the interest of river management and/ or protection or environment or elsewhere on the recommendation of the concerned Department of the Government or otherwise after observing due process.

(f) No Mining operation at any point within a distance of 200 (two hundred) meters from any hydraulic structure, bridge, reservoir, canal, road, other public works or buildings shall be allowed except with the previous permission in writing of State Government

P.T.O.

in Irrigation and Waterways Department and/ or Public Works (Roads) Department and subject to such technical vetting as may be considered necessary by the Government;

(g) No Mining shall be allowed within specified distance of road bridges within which Mining/ excavation/ quarrying etc. has been banned by the State Government by Notification/ Orders/ directions issued from time to time in the interest of safety of the bridge concerned.

(h) Extraction of minerals should be done beyond a distance of at least 5 (five) kilometers from the barrage axis/ dam axis so far as river/ stream if any, close thereby/ vicinity exists.

7. The Company is requested to submit a sketch map showing the plot wise granted area along with a pathway distinctly and duly vetted by the District Land and Land Reforms Officer, Paschim Bardhaman along with the draft mining lease deed to this Department.

8. The Company is requested to submit a Geo-reference Map distinctly demarcated boundary of the granted area containing geographical co-ordinates duly vetted by CMO/DL & LRO concerned.

9. The Company is not authorised to take up any mining operation till submission of Environmental Clearance Certificate from the Government of India, approved mining Plan and execution of lease deed as also fulfillment of other terms and conditions specified hereinbefore.

Yours faithfully

23/2/2018

Joint Secretary

to the Government of West Bengal

P.T.O.

No. 143 /1(9)-CI/O/MIN/GEN-COL/03/2016 Dated, Kolkata, the 23rd February, 2018

Copy forwarded for information and necessary action to:-

1. The Secretary, Ministry of Coal, Government of India, Shastri Bhawan, New Delhi. This has a reference to his letter No. F. No. 13016/01/2017-CBA-II dated 12th January, 2018.
2. The Nominated Authority & Joint Secretary , Ministry of Coal, GoI, World Trade Tower, New Delhi-110 001.
3. The D.L.L.R.O., Paschim Bardhaman, P.O. & Dist. Paschim Bardhaman.
   -He is requested to kindly intimate immediately the rate of surface rent and water rate per acre per annum to be charged in connection with this lease.
4. The D.M.M., W.B., 4, Abanindranath Sarani (Camac Street), Kolkata- 16
5. The Chief Mining Officer, W.B., Court Road, Asansol, Dist. Paschim Bardhaman. This has a reference to his Memo No. 264/CMO dated 7th August, 2017.
6. The Coal Controller, Ministry of Coal, GoI, 1, Council House Street, Kolkata-700 001.
7. The Director General of Mines Safety in India, P.O. & Dist. Dhanbad, Jharkhand.
8. P.A. to Principal Secretary, Industry, Commerce and Enterprises Department.
9. P.A. to Secretary, Industry, Commerce and Enterprises Department.

Joint Secretary

P.T.O.

LAND SCHDULE

Sl No.	Mouza	J.L. No.	Plot No.	Area in Acres/ Hectare
1.	Panuria	10	R.S. Plot Nos. 237, 238, 249, 250, 251, 252, 261(P), 271(P), 274(P), 275(P), 276(P), 277(P), 278(P), 281(P), 282(P), 286(P), 288(P), 294(P), 295(P), 301(P), 302(P), 2277, 2278, 2279(P), 2281(P), 2269(P), 2270(P), 2273(P), 2274(P), 2276(P), 2276/2935(P), 2276/2936, 2276/2966, 2276/2967, 239(P), 248(P), 250/2702, 253(P), 550(P), 589(P), 590(P), 591(P), 592(P), 600(P), 611(P), 615(P), 617(P), 618, 619, 620(P), 621(P), 622, 624, 625, 627, 628, 629, 630, 632(P), 633, 634, 635, 636, 637, 638(P), 639, 640(P), 641, 642, 643(P), 644, 645, 646, 647, 649, 650, 651, 652(P), 653, 654, 655, 656, 657, 658, 659, 661(P), 663(P), 664, 665(P), 667(P), 668(P), 681(P), 682(P), 683(P), 684(P), 685(P), 686(P), 687(P), 688(P), 689(P), 690(P), 693(P), 694, 695(P), 696(P), 699(P), 700(P), 701, 702, 703(P), 704(P), 705(P), 706(P), 767(P), 768, 769(P), 771(P), 772, 773, 774, 775(P), 776(P), 777(P), 782(P), 705/2746(P), 632/2743(P), 632/2744(P), 633/2745(P), 634/2690, 636/2691, 749/2695(P), 763(P), 768/2749, 770(P), 780(P), 2176(P), 2200(P), 2201(P), 2203(P), 2204, 2205, 2206(P), 2207, 2208, 2209, 2210, 2211, 2212 to 2228, 2229(P), 2230(P), 2231(P), 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239(P), 2245(P), 2246(P), 2253(P), 2254(P), 2255, 2256, 2257(P), 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265(P), 2267, 2268, 2268/2941, 2233/2725, 2253/2717(P), 2266(P), 2290/2721(P), 2236/2884, 2290/2918(P), 2187(P), 1352, 1353, 1365(P), 1366, 1370 to 1382, 1384(P), 1452(P), 1454 to 1459, 1461(P), 1462, 1463, 1464, 1465, 1466, 1468, 1469, 1470(P), 1471(P), 1475(P), 1485(P), 1487(P), 1491, 1492, 1493(P), 1494(P), 1495(P), 1496, 1497, 1498, 1499(P), 1501(P), 1504(P), 1505(P), 1506(P), 1508(P), 1542(P), 1623(P), 1624(P), 1625 to 1634, 1635(P), 1636 to 1660, 1661(P), 1665(P), 1666 to 1830, 1831(P), 1832 to 1882, 1884 to 1915, 1916(P), 1917 to 1955, 1956(P), 1957(P), 1958(P), 1959, 1960, 1962, 1963, 1965, 1966(P), 1967(P), 2446(P), 2450, 2451, 2452, 2453, 2454(P), 2455, 2456(P), 2460(P), 2461, 2462, 2463, 2464, 2465, 2466(P), 2467 to 2678, 1316(P), 1351(P), 1354(P), 1355(P), 1362(P),	392.19 Acres 158.719 Ha

P.T.O.

			1362/2728(P), 1364(P), 1366/2729, 1368(P), 1383(P), 1385(P), 1439(P), 1441(P), 1442(P), 1451(P), 1453(P), 1460(P), 1467(P), 1490(P), 1832/2680, 1957/2727(P), 2449(P), 2466/2708, 2466/2709, 2466/2710, 2483/2682, 2484/2711, 2487/2712, 2488/2713, 2561/2679, 2592/2681, 1831/2782, 1897/2783, 1903/2784, 1903/2785, 1967/2786(P), 1673/2927.	
2.	Kantapahari	9	R.S. Plot Nos. 1, 2, 4(P), 5(P), 6, 7, 8, 9, 10, 11, 12(P), 13, 93(P), 94(P), 95, 97, 98, 99, 101(P), 102(P), 103(P), 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 127, 128, 129, 130(P), 131(P), 132(P), 133(P), 141(P), 338(P), 340(P), 341(P), 343, 344(P), 345(P), 346, 347, 349, 350(P), 351(P), 352, 353(P), 387(P), 388(P), 141/715(P), 141/716(P), 141/717(P), 16/710(P), 12/749(P), 109/698, 109/699, 109/700, 9/701, 12/746, 12/747(P), 12/748.	106.90 Acres 43.262 Ha
3.	Jamgram	20	L.R. Plot Nos. 178(P), 179(P), 180(P), 181(p), 183(P), 184(P), 185(P), 186, 187, 188(P), 189(P), 190, 192(P), 178/5828, 187/5829, 2265, 2266, 2265/5640, 2267(P), 2268(P).	27.89 Acres 11.287 Ha

Total area: 213.27 Hactare

Additional Annexure-9

GOVERNMENT OF WEST BENGAL
DIRECTORATE OF FORESTS

Office of the Principal Chief Conservator of Forests (Wildlife)
& Chief Wildlife Warden, West Bengal
Bikash Bhawan, North Block, Third Floor, Saltlake City, Kolkata – 700 091.
Tel No. 2334-6900/2358-3208, Fax. 91-033-2334-5946
e-mail.: pccfwl-wb@nic.in/pccfwloffice.fd-wb@bangla.gov.in, Visit us at www.wildbengal.com

Memo No.: 3362 / WL / 2M-33(Pt-II)/ 2021 **Date:** 23 / 11 / 2022

To: The Chairman
State Environment Impact Assessment Authority (SEIAA)
Department of Environment, Govt. of West Bengal.

Sub: Wildlife Conservation Plan of Gourangdih ABC Coal Mine - reg.

Ref.: 1. General Manager (Projects), WBMDTCL's memo no. MDTC/PM-5/144/Env/2879 dated 11/10/2022.
2. APCCF & CCF, South-East Circle's letter no. 3105/SEC/2M-10 dated 21/10/2022.

Sir,

The Wildlife Conservation Plan for Gourangdih ABC Opencast Coal Mining Project is approved from this end for seeking Environment Clearance.

Encl.: as stated

Yours faithfully,
23/11/22
(Debal Ray)
Principal Chief Conservator of Forests, Wildlife
& Chief Wildlife Warden, West Bengal

Memo No.: 3362(3) / WL / 2M-33(Pt-II)/ 2021 **Date:** 23 / 11 / 2022

Copy forwarded for information to :-

1. The General Manager (Project), West Bengal Mineral Development & Trading Corporation Ltd.
   E-mail: wbmdtcltd@gmail.com / wbmdtcl.gabc@gmail.com
2. The Chief Conservator of Forests, South-East Circle, West Bengal.
3. The Divisional Forest Officer, Durgapur Division, West Bengal.

23/11/22
(Debal Ray)
Principal Chief Conservator of Forests, Wildlife
& Chief Wildlife Warden, West Bengal

Sarita/WL(IIq)

235

28/10/22 Se

CF/WL & P/P.Pt-I. 31/10

CONSERVATOR OF FORESTS
Reg No. 6677/WL
Case No.
Date 09.11.2022
PRINCIPAL ★ W.B. ★ WILDLIFE

GOVERNMENT OF WEST BENGAL
DIRECTORATE OF FORESTS
OFFICE OF THE CHIEF CONSERVATOR OF FORESTS,
SOUTH – EAST CIRCLE, WEST BENGAL
WEBEL IT Park, (Phase-I), 3rd Floor, WEBEL Office (Near City Centre)
Gandhi More, Durgapur-08. E-mail: ccfsewb@gmail.com

No: 3105 **/SEC/2M-10** **Dated: 21.10.2022**

To: The Principal Chief Conservator of Forests,
Wildlife & Chief Wildlife Warden,
West Bengal

Sub: Wildlife Conservation Plan of Gourangdih ABC Coal Mine-Diversion of 109.459 ha of forest land for open cast mining project at Gourangdih ABC Coal Mine in favour of WB Mineral Development and Trading Corporation-Impact of project on wildlife and mitigation measures.

Ref: I) Your office letter no: 2405/WL/2M-33 (Pt-II)/2021 DATED 16.08.2022. 166/e
II) DFO, Durgapur Division's letter no: 3826/8 dated 19.10.2022.
III) This office letter no: 2451/SEC/2M-10 dated 22.07.2022.

Sir,

With reference to above, I am sending herewith the Wildlife Conservation Plan of Gourangdih ABC Coal Mine for your kind and approval and necessary action.

Encl: Copy of Wildlife Conservation Plan (in duplicate).

(Kalyan Das, IFS)
APCCF & Chief Conservator of Forests
South-East Circle, WB

No: **/SEC/2M-10** **Dated: 21.10.2022**

Copy forwarded for kind information to:
The Addl. Principal Chief Conservator of Forests & Nodal Officer, FCA, WB. This has a reference to the Principal Chief Conservator of Forests, Wildlife & Chief Wildlife Warden, WB's letter no: 1129/WL/2M-33(Pt.II)/2021 dated 05.05.2022 and 2405/WL/2M-33 (Pt-II)/2021 dated 16.08.2022 and meeting held on 06.05.2022 at Aranya Bhawan. 142/e 166/e

Sd/- Kalyan Das

APCCF & Chief Conservator of Forests
South-East Circle, WB

No: **/SEC/2M-10** **Dated: 21.10.2022**

Copy forwarded for kind information:

I) The Divisional Forest Officer, Durgapur Division.
II) General Manager (Projects), West Bengal Mineral Development & Trading Corporation Ltd. Salt Lake, Kolkata.

Sd/- Kalyan Das

APCCF & Chief Conservator of Forests
South-East Circle, WB

Additional Annexure-10

Annexure-10

Compliance of Observations /Feedback by Expert/Peer Review of M/s Min Mec. Consultancy Pvt Ltd, MPPA on APP00239

Section No.	Feedback / Remarks	Status	Correction / Remarks
1.2.4	HFL is to be mentioned	Approve	There is no major water stream present in or [illegible] area, as such No HFL is applicable. Ajay River which is about 2.2 km North [illegible] of the project which has [illegible] Danger level of [illegible]

Section No.	Feedback / Remarks	Status	Correction / Remarks
1.2.8	Schedule year of start of production as per AMP is to be mentioned	Approve	Complied

Section No.	Feedback / Remarks	Status	Correction / Remarks
1.5.6	What are A and C if they refer to any specific areas or the quantities the same are to be mentioned	Approve	A, C are g block sectors suitably addressed.
1.5.9	In AMP seam I is also available but the same is not shown in the proposed MP. The nomenclatures of other seams have also been changed and to be explained	Approve	Suitably rectified
1.5.[illegible]	[illegible] Extractable reserve is shown [illegible] already depleted [illegible] however already depleted reserve or its corresponding OB [illegible]	Approve	Suitably addressed. The depleted reserves is considered in the earlier AMP which has been considered and the same has been [illegible] due to present reserves table format [illegible] plan.
1.5.2.6	It is also to be explained [illegible]	Approve	[illegible] approved [illegible] was only area of fresh excavation in the geological block area. Now Project area [illegible] the lease area.

Section No.	Feedback / Remarks	Status	Correction / Remarks
3.1.2	The transportation of OB and coal shall be done by 65 T and 35 T dumpers at para 3.1.2 where as in para under 3.1.13, it is 60 T and 36 T.	Approve	Rectified as suggested

Section No.	Feedback / Remarks	Status	Correction / Remarks
3.1.13	The Table 3.1.13 and 3.1.14 do not match. It appears that the AMP provisions have been shown at 3.1.13 instead of the proposed provision.	Approve	The Table has been suitably rectified

Section No.	Feedback / Remarks	Status	Correction / Remarks
5.5.3	Following seems to be a typing error 80 be 250 m 350 kW head 33kVs	Approve	Rectified
6.1.3	Relevant information to be provided	Approve	Complied

6.2.5	The answer given is "No, the additional lease area proposed outside the geological block for temporary external dumps and infrastructures in about 89.7 ha. However, it appears that the co-ordinates given with allotment (refer annexure IIB) covers the lease boundary. Further, Lease Granted and Lease required shown as 356.575Ha (ref. Para 6.2.2 and 6.2.6). Above need to be reexamined, and to be modified, if necessary.	Approve	Compliedas suggested
6.2.7	The wordings are contradictory, in the sentence, and need to be redrafted. Sector II should be demarcated in the Plan also.	Approve	Complied
6.2.8	The reference of 3.3.1 Ho is not appropriate, as it pertains to only a part of the lease. It appears that a further lease was also granted. Any reference should be with respect to the geological block or the allotted block and the total required lease.	Approve	Rectified
6.10.1	Looking at the table under para 8.4 there appears to be any PMC (reclaiming) at OB for backfilling during 28th to 30th year yet the cost of 3 Mcum of OB rehandling for backfill has been considered This need to be explained and reconciled	Approve	The volume of rehandling/dozing grading levelining has been considered a part of technical and biological reclamation form interburned area as post mine closure activity
Annexure/Plate	Plate 22 - Water body in the west shown in the G Pit, but not on the e-Pit. This needs to be looked into.	Approved	Complied as suggested
Plate	All Plates As the scale of the Plan cannot be visualized in a pdf file A representative scale should be drawn on each plate	Approve	Suitably rectified as applicable.

Additional Annexure-11

Annexure-11

GOVERNMENT OF WEST BENGAL
DIRECTORATE OF MINES & MINERALS
4, ABANINDRANATH TAGORE SARANI, KOLKATA-700 016.

1492 MD No. 2C-699/23/142

Date: 10/04/2023

To:
The Chairman & Managing Director
West Bengal Mineral Development & Trading Corporation Limited,
WBIIDC Building, 3rd Floor, DJ-10, Sector-II,
Salt Lake City, Kolkata-700 091.

Sub: Recommendation for Non-Coal bearing land in connection with additional area of 80.7 Hectares in Gourangdih ABC Open Cast Coal Project allotted to WBMDTCL.

Ref: Your Office Letter No.(s) 1. MDTC/PM-5/144(MP_Rev)/792, dated: 27/03/2023, and 2. MDTC/PM-5/144(Mine Plan Revision)/191, dated: 24/01/2023

Sir,

In response to the above referred communication received from your office, this is stated that additional area **totaling 80.7 Hectares** in 04(Four) land parcels identified through DGPS Survey as detailed below lies outside the allotted Geographical Block Boundary of the Gourangdih ABC Open Cast Coal Mine-

No.	Area name	Area (in Ha)
1.	Area-1	5.1
2.	Area-2	22.4
3.	Area-3	34.6
4.	Area-4	18.6
	Total:	80.7 Ha.

It is further stated that, based upon the evidences e.g. i) MECL Geological Report (1981, Pg. 31) pertaining to the area, ii) approved Mining Plan of 2011, iii) Data from Khoirabad OCP & Debu Quarry and considering all other available Geological & Mining Records, it may be inferred that the above referred additional area of **80.7 Ha** is Non-Mineable Coal bearing land and may be recommended for using as overburden dump area and for other mining infrastructures in respect of Gourangdih ABC open cast coal mine project and also may be included in the Revised Mining Plan for the purpose of grant of EC and other statutory clearances.

The above recommendation shall abide by future observations, if any, in this regard by an authorized custodian agency.

Yours faithfully,

10/04/23

DIRECTOR OF MINES & MINERALS

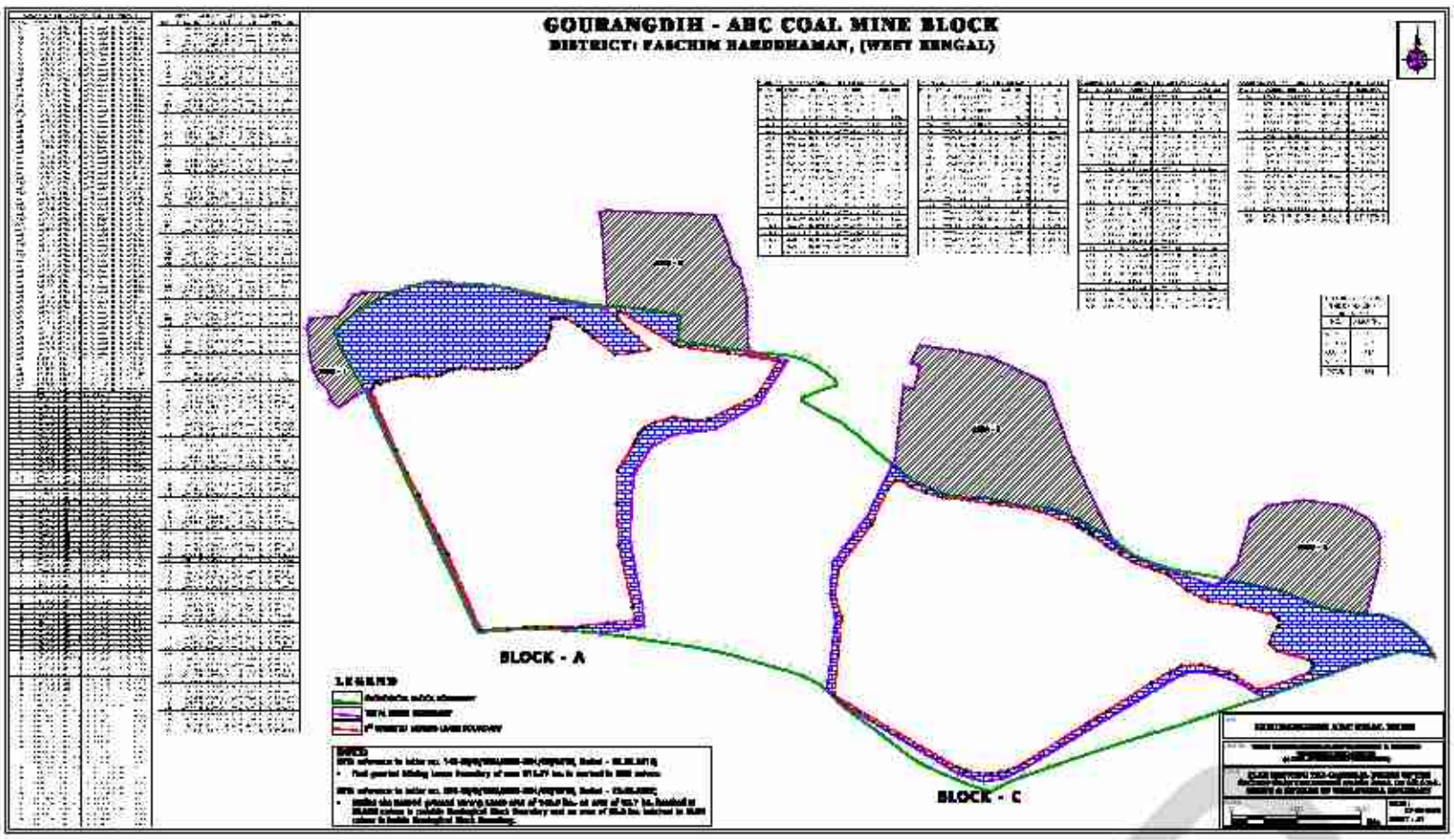
No. 2C-699/23/142(1/1)

Date: 10/04/2023

Copy forwarded for information to the Special Secretary, Mines Branch, Dept. of I.C & E, Shilpa Sadan, 4, Cantac Street, Kolkata-700 016

DIRECTOR OF MINES & MINERALS

Annexure-11 Contd.



Prepared By Indian Mine Planners and Consultants On 23/02/2023

Additional Annexure-12

Annexure-12

Compliance to the Observations of Scrutiny Committee On Mine Plan Mine Closure Plan of Gourangdih ABC Coal Mine (APP00239)(Modification-01) , Raniganj Coalfield of M/s. WBMDTCLtd.

S.No	Parameters	Final Observation Details	Compliance
6 Input Sheet	a. Targeted capacity b.Peak rated capacity (150% of the rated capacity)	Peak Capacity and rated capacity to be stated.	The peak capacity is 3.75 MTPA and the rated capacity is 2.50 MTPA . these figures have been incorporated (non appearance may be a portal issue).
1.5.1	Block Area in "Ha"	The area projectized is less than the geological block area. To be explained/corrected.	The area projectized in the instant Mine Plan and Mine Closure Plan is 291.48 ha which is less than the geological block area of 370 ha on account of the following : • 78.52 ha of Sector-B has not been projectized in the approved mine plan as the area is thickly populated with villages habitants, and the same has not been considered in the instant Mining Plan also . Hence the area projectized is less than geological block area. (Refer plate-5, 7 and 12)
1.5.3	Lease area "Ha"	Why the lease area was less in the previously approved mining plan?	The existing mine plan was approved in 2011,the lease area proposed in the approved Mining Plan was for excavation area of 213.27(i.e 214) Ha for mining purpose only, Now the mining lease has been considered as per definition of "leased area" MMDR Amendment 2016 3(a) and definition of "mine" Sec 2(1)(i) Mines Act'1952, for 356.575 Ha i.e Excavation area (242.82Ha which includes old Khoirabad colliery in the geol. block), Top Soil Dump(4.07Ha),External Dump (47.069Ha), Safety Zone (10.03Ha) & others (52.586Ha) Out of the above 356.575 Ha,

			forest land is 109.459Ha and rest 247.116 Ha is non forest land. Lease form state govt. is also available for the same (Plz refer Annexure-2C and Annexure-8.
1.5.10	Seams not considered for Mining with Reasons	Seam BI has not be considered for mining. Isochore plan to be furnished (if given in GR).	Geological block boundary has been demarcated excluding the incrop of seam BI. As per GR (Para 4.02.19, Page 31) " ***In view of its uneconomical thickness on the up dip side and along its in crop position as also marked increase parting , the seam has bot been considered viable as for multi seam opencast proposition along with B-II & B-III or even as a single seam OC mining***" . There is no Isochore plan available in the GR provided in the mine dossier . This seam has also been not considered in the approved Mine Plan and Mine Closure Plan.

4.02.19 In view of its uneconomical thickness on the up-dip side and along its incrop position as also marked increase in the parting, (where the seam is better developed), the seam has not been considered viable as for multiseam opencast proposition along with Seam B-II to B-VII, or even as a single seam opencast working.

Description and Quality of Coal Seams

Sl. No.	Particulars of deposit	Thickness range (m)	Quality (UHV/Grade)	Remarks
1	Seam B- I	0.24 - 2.52	(5491-5193)/ (C- F)	In crabbent deposit"
2	Parting	5.45-37.75		
3	Seam B- II	5.68-25.07	(5772-5242)/ (F-G)	Consists of with varying thickness
4	Parting	7.36-23.33		
5	Seam B- III (Bottom)	0.67-7.33	(2759-3022)/ (D-E)	Consistent
6	Parting	1.45-13.58		
7	Seam B- III (Top)	0.97-4.92	(1958-3890)/ (F-G)	Consistent
8	Parting	0.41-10.38		
9	Seam B- IV	1.32-7.92	(2758-4415)/ (D-F)	External ely worked out by U/G
10	Parting	3.65-18.55		
11	Seam B- V	3.32-9.89	(3545-5484)/ (E-F)	"PARA I A VA" found within F2, F4 & F4. U/G development in eastern and western part.
12	Parting	34.30-69.81		
13	Seam B- VI	3.02-8.65	(3843-4153)/ (D-E)	Burnt in patches. Worked in the e ast by O/C & U/G
14	Parting	9.74-23.70		
15	Seam B- VII	0.27-1.46	3670/E	

* The seam exhibits wide range of thickness varying from 0.24m to 2.52m the thickness of 1.2m and above occurs only in two patches away from each other in the central and Western part of the block. the parting of the seam with overlying B-II seam also shows marked variation. The parting shows marked increase on the west and northeast of GRD 9 also increases towards north west till it rocks a maximum of 37.15m in GRD17. In view of its uneconomical thickness on the updip side and along its incrop position as also marked increase in the parting, the seam has not been considered viable as for multi-seam opencast proposition along with seam B-II to B-VII as per the GR.

3.5 **GEOLOGICAL MODELLING:**

MECL has drilled 57 boreholes within the block during the course of detailed exploration. The boreholes were generally spaced

Plan Prepared by me

Gourangadih Coal Limited

1.5.24	Handling of Rejects	1.5.25: Excavation area has been increased (without change in extractable reserves and OB) as compared to the earlier approved mining plan. To be explained.	The excavation area considered in the approved mine plan was 213.27 Ha (i.e 214 Ha appx). In the instant mine plan area considered includes also the old excavated de-coaled area of Khoirabad mine(29.55 Ha north western of geol block), which shall be used for access trench for Sector-A and utilize the same for internal dumping from start of the mine in the instant mining plan. In the Approved Mine Plan , the use of old area was also mentioned for use of internal dumping but the area of excavation was considered only fresh excavation area i.e 214 Ha. As such, there is no change in reserves and OB for Khoirabad de-coaled area.
2.1.10	Whether the proposed project area is confined within the allotted block boundary/existing mining lease, if not, the reason for deviation from allotted block boundary, may be given.	Documentary evidence shall be furnished regarding non coal bearing status for the areas which are within the project area but outside the geological block,	The copy of the state govt geology department is attached for kind reference as Additional Annexure-11
2.2.14	Seam wise thickness, depth and reserve	22.09 Mt reserves have been declared uneconomic. To be explained.	The reserve quantity of 22.09 Mt is put under un-economic column as such, it is blocked reserves under thickly populated village (Gourangdih and Panuria) in the Sector-B of the geological block and has been not been considered in Approved mine plan 2011 (please refer table 4.4 as given hereunder) and kept out of instant mining plan also . Sector-B is covered with thick habitations not willing to shift elsewhere , as such ,land not feasible to obtain for mining purpose at present. At latter stage, if villagers agree to vacate the area the Mine plan may be revised at suitable period and be processed for competent approval.

2.2.15	Methodology of reserves estimation (also mention if any software package has been used).	(a) What is the minimum thickness of coal seam considered for extraction? (b) There is mention of existing underground workings and 7.55 Mt has been deducted on account of it. Was this also considered in the previously approved mining plan?	(a)The minimum thickness considered for extraction is 1.2m as per approved Mine Plan and reserves assessment made in GR(para 5.03.01), the same has been retained in the instatnt Mining Plan. The same has been mentioned at para 2.2.15 of Chapter-2 (b) Yes , The same was mentioned in the approved Mining Plan and considered in the instant mining plan(Table 4.4,) as given below :

5.03.00 BASIC ASSUMPTIONS :

5.03.01 The following assumptions have been made in reserves estimation.

1) Minimum workable thickness of the individual seam has been considered as 1.20 m.

Table 4.4

Net Geological Reserves in Batter, Barrier, Already Extracted and Net Geological Reserve under Built-up area.

SEAM	Net Geological Reserve in Batter and Barrier (MT)						Already Extracted	Net Geological Reserve under Built-up Area (MT)
	Quarry – A			Quarry – C				
	Batter	Barrier	Total	Batter	Barrier	Total		
B-II	3.005	1.6	4.605	6.24	4.67	10.91	6.75	12.76
B-III (Bottom)	0.75	0.54	1.29	1.17	1.03	2.2	0.63	2.07
B-III (Top)	0.535	0.4	0.935	0.93	0.45	1.28	0.08	1.76
B-IV	0.57	0.38	0.95	2.22	1.02	3.24	0.09	1.96
B-V	0.88	0.6	1.48	0.86	0.69	1.55	0	1.31
B-VI	0.46	0.25	0.71	0.98	0.65	1.63	0	2.16
B-VII	0.14	0.12	0.26	0.07	0.031	0.101	0	0.07
TOTAL	6.34	3.89	10.23	12.37	8.541	20.911	7.55	22.09

A consolidated table showing the NET Geological Reserves within the block as per GR, Net Reserves sterilised or not available, Net Available Geological Reserve and Net Mineable Reserve is given in 4.5.

3.1.1	Existing method of mining if the mine is under operation	Was mention of existing mined out area and illegal mining there in the approved mining plan?	The incrop region in the north eastern corner and Khoirabad in the north western corner of the geological block have been

			quarried out prior to the allocation of the block. Mining activities have been prevalent in the block. The exposed quarry coal face has not been backfilled making scope of illegal mining. Please refer plat-5 and 12. The extract para of approved mine plan is given as below:
	1.2 MINING STATUS OF THE BLOCK 1.2.1 The Gourangdih ABC Block has been exploited by both underground and opencast mining since long. This is one of the areas where Eastern Coalfield Limited was engaged in exploitation of coal till recently. Due to insufficient geological information mining activities in different time period were scattered. The few boreholes drilled by the erstwhile coal companies, as well as information from the abandoned underground mining activities were not adequate to provide enough data for long term mine planning of the block.		
3.1.2	Proposed method of mining with justification on suitability of method of mining.	(a) OB of Gourangdih-A is initially proposed to be dumped in the de-coaled area of Khoirabad Colliery? To be explained (b) All dump is eventually proposed to be rehandled inside the quarry. The internal dump has been proposed up to ground level only. The calculations, regarding dump accommodation inside the quarry, may be rechecked. (c) What is the depth of the water body proposed during post closure period.	(a) Yes, the same was proposed in the approved mine plan also. The existing Khoirabad colliery is within the allocated geological block area lying north western corner of the block. (b) The observations have been re-examined and suitable complied . There is an area in the geological block in the incrop region which has been already mined by adjoining block owner ECL the same area will also be utilized. Accordingly the internal dumping profile has been made. (c) The depth of water body shall kept in line of EC conditions and presently the depth is proposed approximately 27-28m with suitable safety and security provisions. The related plates 8,1420,21E and 22 have been corrected.

			The waste management calculation is given as below :
	Waste Management and backfilling – Gourangdih A and C Quarry Backfilling the Quarry with Waste up to surface level form the **Quarry- A (Max depth 120m base FRL m)** Total waste (OB) = 64.64 Mm^3 Coal ,24.46 Mt (1.61 spgr) ie = 15.192 Mm^3 Total Void created = 81.83 Mm^3 Waste available @15% swelling considering compaction during back-filling also = 64.64 x 1.15 = 76.636 Mm^3 Void left out after backfilling above volume = 81.83-76.636 Mm^3 = 5.194 Mm^3 **Depth of void with an area of about 18.55 Ha, = 28.00 m(appx)** **Quarry- C (Max depth 210m base FRL(-)90m** Total waste (OB) = 112.73 Mm^3 Coal ,37.08 Mt (1.61 spgr) ie = 23.03 Mm^3 Total Void created = 135.76 Mm^3 Waste available @15% swelling considering compaction during backfilling also = 112.73 x 1.15 = 129.64 Mm^3 Void left out after backfilling above volume = 135.76-129.64 Mm^3 = 6.12 Mm^3 **Depth of void with an area of about 22.38 Ha, = 27.35 m(appx)** **Total Void area (Q-A plus Q-C) = (18.55+ 22.38) Ha** **= 40.93 Ha** **Depth of Void in Quarry A @28 m and Quarry C 27.35m respectively**		
3.1.10	Whether the proposed external OB dump site is coal/ lignite bearing: If so, whether coal/lignite below waste disposal area is extractable.	(a) OB of Gourangdih-A is initially proposed to be dumped in the de-coaled area of Khoirabad Colliery? To be explained (b) Certificate by State Govt. is not found in Anneure-2A.	(a) Yes. The approved mine plan (2011) also proposed OB dumping in de-coaled from Gourangdih-A. The existing Khoirabad Colliery is within the allocated geological block of 370 ha of Gourangdih-ABC coal block except a small portion(5.1 Ha) in the north western corners as can be visualized form Annexure -11. (b) Annexure-2A is cardinal points in excel format already uploaded. The certificate of State Govt is now attached as Annexur-11 for kind considerations for out side area for mining lease .

6.1.1	Total Land requirement for the mine in "Ha"	Total of values to be provided.	Total land requirement is 356.575 ha and complied suitably in the para 6.1.1.
8.10.1	Abandonment Cost: Cost of Activities to be taken up for closure of the mine	Expenditure proposed for mine closure activities is less than the total amount deposited in the escrow account. To be explained/corrected.	The provisions has been revised and corrected and incorporated in the table of 8.10.1. Annexure-5 suitably revised.

Additional Annexure-13

Annexure-13

Compliance of the Observations /clarification sought by the Internal Committee constituted under MMDR Act 1957 on proposal for revision of approved Mining Plan and Mine Closure Plan of Gourangdih ABC Coal Mine of WBMDTCL , Raniganj Coalfield.
(APP00239) Modification -01, held on 08/05/2023

Sr No	Observation	Compliance of the Observations
01	Certain areas of the geological block have not been projectized. The reasons for not projectizing shall be elaborated (all such areas to be marked on the plan and reasons for not projectizing shall be elaborated for each such area).	The coal block was allotted to PP by the MoC, GoI in September, 2016. The "Mine Dossier" provided at the time of allotment of the mine by the N.A, MoC, GoI, contained, *inter alia*, the duly approved Mining Plan (June-2011) which was prepared by Prior Allottee and approved by the Ministry. The present proposal for revision of the said approved Mining Plan as per direction of MoEFCC does not envisage any revision of the already approved project area of the said approved Mining Plan (June-2011). Unprojectised areas are shown in hatched in the attached Plate No. 5A. The areas have not been projectised due to dense population and heavily built-up areas. The same areas were also left in the approved Mining Plan due to the same reason of dense population and heavily built.
02	According to para 1.9 of MoC OM dated 29.05.2020 regarding mining plan The application for issue of certificate from the Mines and Geology Department of the State Government must be supported with proof of the non-existence of coal/lignite in the area under reference (along with Cardinal point coordinates) duly certified by custodian agency viz. CMPDIL/SCCL in case of coal and NLCIL in case of lignite. The same shall be furnished as an annexure.	The coal block was allotted to PP by the MoC, GoI in September, 2016. The "Mine Dossier" provided at the time of allotment of the mine by the N.A, MoC, GoI, contained, *inter alia*, the duly approved Mining Plan (June-2011) which was prepared by Prior Allottee and approved by the Ministry. The present proposal for revision of the said approved Mining Plan as per direction of MoEFCC does not envisage any revision of the already approved project area of the said Mining Plan (June-2011). The Mine Dossier provided by the NA, MoC did not contain a separate document/ certificate towards 'proof of the non-existence of coal/lignite in the area under reference', which, if any, might have been considered at the time of the earlier approval of the mining plan which was provided in the said Mine Dossier. Hence, the requirement of such a document/ certificate from the PP, who is the Subsequent Allottee of the mine, may not be needed at this stage.
		However, as desired, a request letter vide No. 149 MD/2C-699/23 dated 17.04.2023 has been issued by the Director of Mines and Minerals, Government of West Bengal to CMPDIL, Ranchi for issuing the certificate.
03	Presence of old underground workings have been mentioned in the mining plan. Precautions proposed to be taken against these shall be elaborated in the mining plan.	All necessary safety precautions as required as per statutes shall be taken while working by open cast. Necessary parting of around 6 mtrs thick overburden shall be left above UG workings and loading operation shall not be started till the blasted area is fully compacted to prevent any chance of pot holing and declared free from any fire and safe by the blasting officer. All precaution shall be taken as per gazette notification dated 1st October 2018 regarding blasting where underground working is present against Regulation 202 of CMR and all other statute shall to be followed.
04	The changes proposed in the mining plan as compared to the earlier approved mining plan shall be furnished as an annexure. The production schedule proposed shall be compared with that of the approved mining plan.	The Changes proposed in the revised mining plan for compliance of the observation made by EAC / MOEFCC in connection with the EC proposal of the mine, as compared to the earlier approved mining plan, are as follows:

Para	Particular	Approved MP	Proposed MP'23
1.5.3	Lease Area (Ha)	214.0 (Required)	356.5750 (Acquired as Project/lease area) .The AMP proposed only mine excavation area
1.5.19	Average Grade	F	4547 (G10) k cal/kg
8.4	Waste Management	Delayed Backfilling and reclamation delayed	Early backfilling and utilising the old quarry area, improved reclamation activities and waste management
	External OB dumping Height	15-90m	5-30m for better ecology and safety to adjoining village
	Fleet size	The fleet size was lower and population was higher	Revised as per Table 3.13 for efficient/productive and environmental friendly mine operation

					Complete back filling of excavated void	The waste will be insufficient to complete backfilling as such small water lagoon are kept for ground water recharge(plate-22)		

Comparison of Calendar Plan of production of Coal and OBR as per Earlier Approved Mining Plan & Proposed Revision of Mining Plan is appended below:

Year	Approved Mining Plan		Proposed Mining Plan	
	Coal	OB	Coal	OB
01	0.50	2.50	0.50	2.50
02	1.50	5.20	1.50	5.20
03	2.50	7.25	2.50	7.25
04	2.50	7.25	2.50	7.25
05	2.50	7.25	2.50	7.25
06	2.50	7.25	2.50	7.25
07	2.50	7.25	2.50	7.25
08	2.50	7.25	2.50	7.25
09	2.50	7.25	2.50	7.25
10	2.50	7.25	2.50	7.25
11	2.50	7.25	2.50	7.25
12	2.50	7.25	2.50	7.25
13	2.50	7.25	2.50	7.25
14	2.50	7.25	2.50	7.25
15	2.50	7.25	2.50	7.25
16	2.50	7.25	2.50	7.25
17	2.50	7.25	2.50	7.25
18	2.50	7.25	2.50	7.25
19	2.50	7.25	2.50	7.25
20	2.50	7.25	2.50	7.25
21	2.50	7.25	2.50	7.25
22	2.50	7.25	2.50	7.25
23	2.50	7.25	2.50	7.25
24	2.50	7.25	2.50	7.25
25	2.46	6.59	2.46	6.59
26	1.50	4.55	1.50	4.55
27	0.58	1.03	0.58	1.03

05	Surface features, land boundaries etc. outside the project area and not a part of mining plan shall be removed from the plans.	Revised Plans (Plate-5,5A,7,8,12,14A,20,21A,21B,21C,21D & 21E,22 &23) removing the surface features outside the Project Area is uploaded in portal .
06	The road diversion route shall be properly shown on the plan What is the width of the safety barrier kept between the diverted road and quarry/ external dump/ toe of internal dump above ground level What is the width of the safety barrier kept between the project boundary and quarry/ external dump/ toe of internal dump above ground level	Initially the road shall be diverted temporarily along the southern boundary and in the final stage of mining the road shall be diverted back to its near original position over the internal OB dump. It shall be taken care that at no stage the distance between the mine boundary and road is below 45m (Plate-8, 12,14A,20,21E,22 & 23) No road proposed /available around the external dumps . A barrier of 45m-60 m are proposed form the temporary external dumps which shall be rehandled and backfilled . The active face will be maintained about 100m or more form the toe of internal waste/dumps complying the provisions of Reg. 108 CMR 2017. All the statutory provisions of the DGMS, SPCB shall be complied by the project proponent during operation of the mine.
07	As per the CMDPA, the scheduled date of mine opening permission is 29.05.2020. However, in the proposed mining plan 2023-24 is taken as the 1st year of operation with achievement of PRC in the 3rd year i.e. 2025-26. To be explained/ corrected.	The Forest Clearance (FC) and Environmental Clearance (EC) for the mine have not yet been obtained from the MoEFCC, GoI, for various reasons beyond control of the Project Proponent. Hence, there has been a delay in operationalizing the mine as per timeline (Efficiency Parameter) of CMDPA. For granting EC and FC, the MoEFCC, inter alia, requires approval of the revised Mining Plan. Since the other observations / clarifications sought by MoEFCC, GoI, as of now in connection with the FC and EC applications have been complied with, the Project Proponent is hopeful that the mine would be operationalized in FY 23-24 subject to early approval of the revised Mining Plan & and achieve its target production in 3rd year (2025-26) as appended below:

Year	Proposed Mining Plan	
	Coal MT	OB Mcum
01 (2023-24)	0.50	2.50
02(2024-25)	1.50	5.20
03 (2025-26)	2.50	7.25

			04 (2026-27)	2.50	7.25	
			05 (2027-28)	2.50	7.25	
			06(2028-29)	2.50	7.25	
			07(2029-30)	2.50	7.25	
			08(2030-31)	2.50	7.25	
			09(2031-32)	2.50	7.25	
			10(2032-33)	2.50	7.25	
			11(2033-34)	2.50	7.25	
			12(2034-35)	2.50	7.25	
			13(2035-36)	2.50	7.25	
			14(2036-37)	2.50	7.25	
			15(2037-38)	2.50	7.25	
			16(2038-39)	2.50	7.25	
			17(2039-40)	2.50	7.25	
			18(2040-41)	2.50	7.25	
			19(2041-42)	2.50	7.25	
			20(2042-43)	2.50	7.25	
			21(2043-44)	2.50	7.25	
			22(2044-45)	2.50	7.25	
			23(2045-46)	2.50	7.25	
			24(2046-47)	2.50	7.25	
			25(2047-48)	2.46	6.59	
			26(2048-49)	1.50	4.55	
			27(2049-50)	0.58	1.03	

GOVERNMENT OF WEST BENGAL
DIRECTORATE OF MINES & MINERALS
4, ABANINDRANATH TAGORE SARANI, KOLKATA-700 016.

No. 149 MD/2C-699/23 Date: 17/04/2023

To:
The General Manager (Exploration)
Central Mine Planning & Design Institute Limited
Kanke Rd, CMPDI Complex, Exploration Building
Gondwana Place, Ranchi,
Jharkhand - 834008

Sub: Application for issue of certificate for Non-Coal bearing land in connection with Additional area of 80.7 Hectares in Gourangdih ABC Open Cast Coal Project allotted to WBMDTCL.

Ref: Para 1.9 of Ministry of Coal, Office Memorandum No. F. No. 34011/28/2019-CPAM, dated: 29/05/2020.

Sir/Madam,

This is to inform you that, **Gourangdih ABC Coal Block** was allotted to **West Bengal Mineral Development & Trading Corporation Ltd** (WBMDTCL) by **Ministry of Coal, GoI, vide letter No. F. No. 103/6/2016/NA, dated: 29/09/2016** along with the then approved Mining Plan (defining Geological Block Boundary) of M/s Himachal EMTA Power Ltd. and JSW Steel Ltd. and subsequently Coal Mining Lease has been granted to **WBMDTCL vide Dept. of I C & E, GoWB's Memo No(s). 143-CI/O/MIN/GEN-COL/03/2016, dated: 23/02/2018 over an area of 213.27 Hecatres**, covering A-, B-& C- sectors of Gourangdih ABC Coal Block. Now, in view of the surface constraints in the Built-up areas, Multi-seam Open Cast Coal project has been planned only in Gourangdih A-& C – sectors leaving Sector-B, which has not been found feasible for Coal mining owing to presence of dense population and heavy built up areas.

Therefore, as per compliances of the observations of EAC, MoEF &CC, GoI, in their 6th meeting held on 13/01/2021 regarding Gourangdih **ABC Coal Mine**, PS Barabani, District Paschim Bardhaman, West Bengal, it has become necessary to revise and obtain re-approval of the Mining Plan regarding the Overburden dumping area and area for essential mine infrastructures outside the Geological Block boundary of the mines. **Now, as per Para-1.9 of Ministry of Coal, Office Memorandum (referred above), the following 02 documents are required for this purpose: -**

1. **Letter of Intent of the State Govt. for grant of lease beyond the vested Geological Block Boundary, which has been duly complied by granting additional lease area of 143.31 Hectares vide Dept. of I C & E letter no. 591-CI/O/MIN/GEN-COL/03/2016, dated: 29/09/2022.**
2. **Non-existence of Coal in the additional area (as mentioned in Pt. 1) beyond the allotted Geological Block Boundary.**

Now, after conducting DGPS Survey in the 04- separate Additional Areas totaling to 80.7 Hectares, their split up as per the **enclosed Map of Gourangdih ABC Coal Block**, is given as follows: -

No.	Area name	Area (in Ha)
1.	Area-1	5.1
2.	Area-2	22.4
3.	Area-3	34.6
4.	Area-4	18.6
Total:		80.7 Ha.

(Continued to next page)

Now, based upon the MECL Geological Report (1981, Pg. 31), of the area, Approved mining Plan of 2011, data from Khoirabad OCP & Debri's Quarry and as per the Regional plan, Metamorphic rocks are exposed in the North of the Gourangdih ABC Sectors and in the Northern boundary of the Block, which is also the Northern end of Raniganj Coal Basin of Gondwana Formation, and from the available Geological & Mining Records, it can be inferred that, the annexed additional area of **80.7 Ha, is basically Non-Mineable Coal bearing land, since the B-1 Coal seam "has uneconomical thickness on the up-dip side along its in crop position, as also marked increase in the parting and is restricted as very limited patchy in crops in Southern part of the said additional area". Hence, the additional area of Mining Lease granted to WBMDTCL does not overlap with any adjacent coal block.**

Under this backdrop, being the custodian agency, you are hereby requested **to issue a Certificate regarding Non-Coal bearing land in the additional area of 80.7 Hectares in Gourangdih ABC Open Cast Coal Project allotted to WBMDTCL.**

Enclosure: 1. Hard Copy Map with Cardinal Points of Additional Area.
2.Soft copy of earlier approved Mining Plan of M/s Himachal EMTA Power Ltd and JSW Steel Ltd. in 2011 defining Geological Block Boundary.

Yours faithfully,

17/04/23

DIRECTOR OF MINES & MINERALS.

No. MD/2C-699/23/ Date: 17/04/2023.

Copy forwarded for information to: -

1. The Special Secretary, Dept. of I C & E, Shilpa Sadan, 4, Camac Street, Kolkata-700 016.
2. The Executive Director, West Bengal Mineral Development & Trading Corporation Limited, WBIIDC Building, 3rd Floor, DJ-10, Sector-II, Salt Lake City, Kolkata-700 091.

DIRECTOR OF MINES & MINERALS

Additional Annexure-14

Compliance of the observations made by the Internal Committee for approval of Mining Plan / Mine Closure Plan in its internal meeting held on 15.06.2023 to consider the proposal for revision of the approved Mining Plan of Gourangdih ABC Coal Mine of West Bengal Mineral Development and Trading Corporation Limited.

Sl No	Observation	Compliance
01	(a) Observation 1 Certain areas of the geological block have not been projectized. The reasons for not projectizing shall be elaborated (all such areas to be marked on the plan and reasons for not projectizing shall be elaborated for each such area). Note There are certain areas within the geological block, not hatched in Plate 5A, which have not been projectized. It shall be corrected/ explained. The quarries approved in the earlier mining plan shall be compared with the quarries proposed in the instant mining plan (a plan showing the quarries in the two cases superimposed shall be furnished).	The areas not projectized for the purpose of liquidation of coal in the proposed revised mining plan are the same areas as those of the earlier approved mining plan. All such areas have been hatched in the corrected Plate 5A, as directed. The north east and the north west corners of the geological block are de-coaled areas with old abandoned opencast quarries. Hence, these areas have not been considered for liquidation of coal both in the earlier approved Mining Plan as well as in the instant revision proposal. Other areas within the geological block which are not projectised for the purpose of liquidation of coal due to dense population and heavy built up areas have also been hatched in corrected Plate 5A. Exactly these same areas are also not projectised for the purpose of liquidation of coal in the earlier approved mining plan exactly due to the same reason of dense population and heavy built up. Relevant extracts of the earlier Approved Mining Plan are given in the note **(#1)** below. The surface limits of quarries as per the approved mining plan and the proposed revised mining plan have been superimposed and shown in the plan (Plate 5A). It will appear that there is no difference between the two surface limits and both completely overlap with each other.

	(b) Observation 2 According to para 1.9 of MoC OM dated 29.05.2020 regarding mining plan The application for issue of certificate from the Mines and Geology Department of the State Government must be supported with proof of the non-existence of coal/lignite in the area under reference (along with Cardinal point coordinates) duly certified by custodian agency viz. CMPDIL/SCCL in case of coal and NLCIL in case of lignite. The same shall be furnished as an annexure.	The CMPDIL certificate is given at **Enclosure-1** with this compliance report. Kindly also refer to note **(#2)** below. Reference is also drawn in this context to Sl. No. E(e) of the "Summarized Data" table at Page No. (xxii) of the approved Mining Plan which states as follows; *(e)* — *Whether the proposed external OB dump site is coal/ lignite bearing: -If so, whether coal/lignite below waste disposal area is extractable* — *No* Copy of the relevant page of the approved Mining Plan is given at **Enclosure-2** for ready reference. It will appear that the Mining Plan as a whole as well as the specific page (No. xxiii) containing the above referred statement has been approved and thereby endorsed by the Under Secretary, Ministry of Coal with signature and seal. It is pertinent to mention here that the coal mine was allotted to WBMDTCL by the MoC, GoI in September, 2016. The approved Mining Plan (June-2011) which was prepared by Prior Allotee and duly approved by the Ministry of Coal is an annexure to and thereby an inalienable part of the Allotment Order dated 29.09.2016 issued by the Nominated Authority, MoC, GoI. The instant proposal for revision of the said approved Mining Plan as per direction of EAC, MoEFCC does not envisage any exclusion from/ inclusion to the already approved project area of the said approved Mining Plan (June-2011). Reasons/ certificates in respect of inclusion/ exclusion of any and all part(s) of the already approved project area must have been considered and approved by the appropriate authority of the Ministry of Coal earlier at the time of approving and thereby endorsing the Mining Plan in 2011.

02	Observation 6, Annexure 13 (a) The safety distance between the toe of the external dumps/ deck of internal dump above the ground level and the diverted roads shall be as per Reg 108 (5), CMR-2017. (b) Diverted road has been proposed over mined out area. Proper precautions, including scientific study, shall be done to ensure safety.	(a) Noted and agreed. (b) Noted and agreed

Note (#1): Relevant extracts of the Approved Mining Plan

Approved Mining Plan Page No.	*Section No.*	*Relevant extracts*
E-15	*4.3.1*	*... Gourangdih-B being the most thickly populated and built up area, the underlying seams were not worked and are mostly virgin. Mining activity may not be possible in this area due to presence of two densely populated villages namely Gourangdih and Panuria...*
E-16	4.4.3	*... The remaining thickly populated and heavily built up areas like Gourangdih and Panuria villages in the middle of the property is named as Gourangdih-B which has been kept out of the preview of any mining activity. However, in future if the residents of that area agreed to shift to other place further expansion of mine may be considered.*
I-5	1.5	In view of the surface constraints of built up areas, Gourangdih ABC block has been considered in three sub blocks namely, Gourangdih – A, Gourangdih – B and Gourangdih – C for mine planning. Opencast mining will be done for the seams from B-II – B-VII in Gourangdih – A and Gourangdih – C quarries. It will not be feasible to work Gourangdih – B as this area is heavily built up and densely populated.

Note (#2): Notes on the CMPDIL Certificate (Enclosure-1) in respect of project areas outside geological block boundary.

The CMPDIL Certificate, inter alia, observes as follows;

(i) No boreholes have been drilled in the proposed areas.
(ii) Based on the projected geological data available in the nearby boreholes, incrop of lowermost coal seam is likely to occur in the proposed areas whose thickness may range from 0.50 to 1.35m.
(iii) Proposed area outside the western boundary is coal bearing and fall within the Khairabad Colliary.
(iv) In future exploration may be required to ascertain the extent & mineability of coal seam.

The following comments may please be noted in the context of the above observations of CMPDIL;

CMPDIL observation (i)	**No boreholes have been drilled in the proposed areas.**
WBMDTCL Comment (i)	• The Geological Report (GR) of the coal block was part of the "Mine Dossier" provided to WBMDTCL by the Nominated Authority, Ministry of Coal with the allotment of the coal mine. • The GR was prepared by Mineral Exploration Corporation Limited, a Government of India Enterprise at the instance of CMPDIL. • Vide para 6.02.03 page 85 (Copy given at **Enclosure – 3** for ready reference) of the GR, it is recommended as follows; *"The area to the south of the present block deserves exploration to prove the underground potentiality of seams B-I to B-VIII which is likely to outcrop in this part. On the basis of the present exploration the seams B-I to B-VII are expected to yield 10.22 million tonnes of 'Indicated category coal reserves, upto 400 meters beyond F13 – F13 Fault, which from the southern limit of Gourangdih ABC Sector."* Since all the 'proposed areas' referred to in the observation fall in the rise side of the coal seams along northern and north-western limits of the Gourangdih ABC sector. Hence it was not considered necessary by MECL/CMPDIL to drill boreholes in these areas. Thus,no boreholes have been drilled or recommended by MECL in these areas.
CMPDIL observation (ii)	**Based on the projected geological data available in the nearby boreholes, incrop of lowermost coal seam is likely to occur in the proposed areas whose thickness may range from 0.50 to 1.35m**
WBMDTCL Comment (ii)	• Vide para 3.02.03 page-25 of the GR (Copy given at **Enclosure – 4** for ready reference) it is stated as follows; *"In the nomenclature and grouping of seams, normal practice in vogue has been followed. Accordingly the seams are numbered from older to younger horizons with a prefix 'B' eg. B-I, B-II, etc. ('B' standing for Barakar seam)..."* Hence, the "lowermost coal seam" mentioned in the CMPDIL observation refers to the oldest seam B-I. • Vide para 3.05.01 page-26 of the GR (Copy given at **Enclosure – 5** for ready reference), it is stated as follows; *"Seam folio plans have been prepared for 8 seams viz. B-I to B-VII. The folio plans include Iso-chore of 1.2 metres and at interval of one metre from 2m and above, alongwith Iso-grade. Though the seam folio of B-I seam is prepared but it does not fall within the quarriable proposition."* • Vide para 4.02.03 page-29 of the GR (Copy given at **Enclosure – 6** for ready reference), it is stated in connection with B-I seam as follows; *"This is the oldest coal seam in the Barakar sequence of the area. The seam though intersected in 28 boreholes shows irregular development from the point of view of mineability."* • Vide para 4.02.19 page-31 of the GR (Copy given at **Enclosure – 7** for ready reference), it is stated in connection with B-I seam as follows;

	"In view of its uneconomical thickness on the up-dip side and along its incrop position as also marked increase in the parting, (where the seam is better developed), the seam has not been considered viable as for multiseam opencast proposition along with Seam B-II to B-VII, or even as a single seam opencast working." Thus, the present observation of CMPDIL with regard to the "likely" occurrence of incrop of B-I Seam in proposed areas and its likely thickness must be viewed suitably in the proper context of the findings of the comprehensive GR of MECL/CMPDIL as follows; a) The "lowermost coal seam" i.e. Seam B-I shows irregular development and hence does not fall within the quarriable proposition even *inside* the fully explored block boundary of Gourangdih ABC, and b) Seam B-I has not been considered viable for multiseam opencast proposition along with Seam B-II to B-VII, or even as a single seam opencast working even *inside* the fully explored block boundary of Gourangdih ABC. c) The approved Mining Plan also does not envisage mining of B-I seam.
CMPDIL observation (iii)	Proposed area outside the western boundary is coal bearing and fall within the Khairabad Colliery
WBMDTCL Comment (iii)	Khairabad Colliery is a decoaled and abandoned colliery of Eastern Coalfields Limited
CMPDIL observation (iv)	In future exploration may be required to ascertain the extent & mineability of coal seam
WBMDTCL Comment (iv)	Since the lowermost coal seam B-I has been found to be irregular and inconsistent and hence has not been considered either for multiseam or single seam working even within the fully explored part of the coal block, it may not make any logical sense to conduct further exploration of the seam in the rise side beyond the northern limit of the coal block to prove its extent and mineability in that area. The GR also has envisaged and recommend further exploration for the seam only beyond F13-F13 Fault which form the southern limit of the block to prove its UG potentiality.

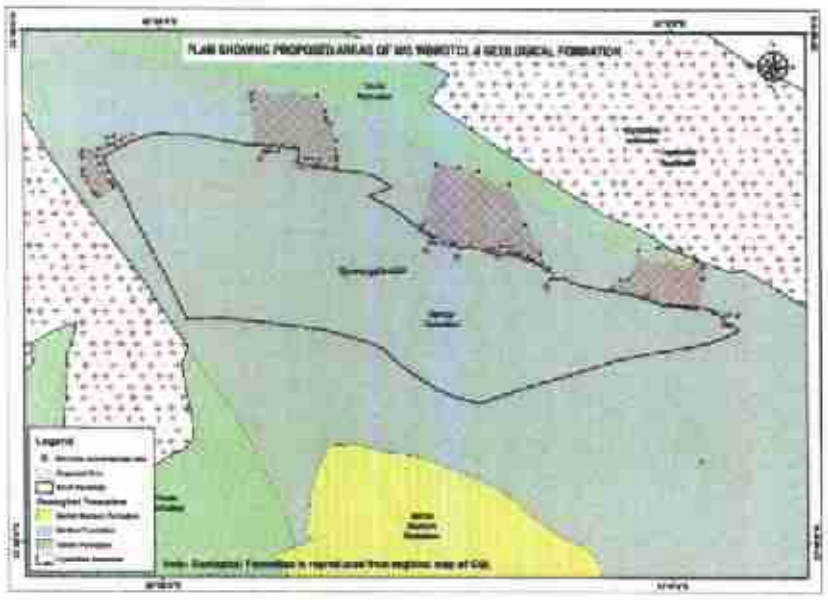
cmpdi
A Mini Ratna Company

Central Mine Planning & Design Institute Limited

TO WHOM IT MAY CONCERN

Ref. No: i. Work Order No.: Email dated 07.06.2023
ii. CMPDI Job No: 511023064
iii. Email of M/s WBMDTCL, dated 07.06.2023

M/s WBMDTCL has submitted Work Order through email dated 07.06.2023 for certification of non-coal bearing land in connection with additional area of 80.7 ha in Gourangdih ABC Open Cast Project. M/s WBMDTCL has submitted required data vide email dated 07.06.2023. Proposed areas outside the block boundary of Gourangdih ABC have been shown in plan along with the co-ordinates of the proposed areas. It may be noted that coordinates of few points of Proposed area-3 are not matching with the area shown in the plan. However, broadly 4 proposed areas have been studied with respect to geological information available at CMPDI. The plan showing the proposed 4 areas along with relevant geological information is attached below.



This is to certify that:

(i) No boreholes have been drilled in the proposed areas.

(ii) Based on the projected geological data available in nearby boreholes, incrop of lowermost coal seam is likely to occur in the proposed areas along the northern boundary whose thickness may range from 0.50 to 1.35m.

(iii) Proposed area outside the western boundary is coal bearing and fall within the Khairabad colliery.

(iv) In future exploration may be required to ascertain the extent & mineability of coal seam.

Certified by

11/07/2023
General Manager (Geology)
सी.एम.पी.डी.आई.लि., राँची-8
C.M.P.D.I. Ltd., Ranchi-8

11/7/23
GM (Exploration)
महा प्रबन्धक (गवेषण)
GENERAL MANAGER (EXP')
सी.एम.पी.डी.आई.लि., राँची-8
C.M.P.D.I. LTD., RANCHI-8

	by Underground	
	* Seam wise details of items (f) to (t) included in Chapter 4	
E.	**MINING**	
a)	Existing and proposed method of mining (Opencast for OB & coal separately with dragline/ shovel / surface miners/ manual/ etc.) (Underground by longwall / bord & pillar / continuous miners/LHD/ SOU manual/ etc.)	OPENCAST OB – Shovel-dumper combination with 5m³ hydraulic shovel, 60 Te dumper trucks, Drilling & Blasting. Coal – Shovel dumper combination.
b)	The Peak capacity as well in addition to targeted capacity in mtpa when the mine is fully developed and the year in which proposed to be achieved by Opencast by Underground Total	In the 3rd year 2.50 MT NIL 2.5 MT
c)	Life of the mine by Opencast by Underground Overall	27 Years Nil 27 Years

d) Indicate quantum of production and expected grade as in table below :-

Year	Coal (MT)	OB (Mm³)	ROM Grade
1.	0.50	2.50	F
2.	1.50	5.20	F
3.	2.50	7.25	F
4.	2.50	7.25	F
Total for full lease period of 27 years	61.54	179.37	

Detailed calendar programme of coal production year wise and seam wise along with OB removal furnished in Chapter 7.

e)	Whether the proposed external OB dump site is coal / lignite bearing: - If so, whether coal/lignite below waste disposal area is extractable	No

Plan prepared by me

(S C CHATTERJEE)

Recognised Competent Person u/s 22 (C) of Mineral Conservation Rules 1988 by Ministry of Coal & Mines, Govt. of India, Coal vide No. 450(E) dated 17 10 2002 valid for recognition for 10 yrs

6.02.00 RECOMMENDATIONS :

6.02.01 The intensity of boreholes in the block is over 8 per sq.km. of area. (excluding Incmop proving boreholes). Most of the faults have been proved with fair accuracy. Thus the lay and disposition of most of the seams have been established leading to reliable assessment of the reserves. However, in the south-western part very limited data is available on the disposition of seams and extent faults, F 11, F 12 and F 13. This can be achieved by drilling a few structural boreholes in this part.

6.02.02 Though incmop positions of various seams have been proved along certain cross-section lines and by some incmop holes, certain amount of drilling may be required for to ascertain precise incrop position of certain seams such as B-VI and B-VII. This work can be undertaken alongwith the proving of the weathered mantle in detail.

6.02.03 The area to the south of the present block deserves exploration to prove the underground potentiality of seams B-I to B-VII as also the seam B-VIII which is likely to outcrop in this part. On the basis of the present exploration the seams B-I to B-VII are expected to yield 40.22 million tonnes of 'Indicated category coal reserves, upto 400 metres beyond F 13 - F 13 Fault, which form the southern limit of Gourangdih ABC Sector.

thickness, quality, parting, splitting and coalescing nature of seams horizons etc. No proper correlation could be made in respect of the various local coal horizons developed within the sequence between B-I and B-II seams.

3.02.03 In the nomenclature and grouping of seams, normal practice in vogue has been followed. Accordingly the seams are numbered from older to younger horizons and with a prefix 'B' eg. B-I, B-II, etc. ('B' standing for Barakar seam). The split sections comprising independent and persistent horizons occuring close-by have been termed as 'Top' and 'Bottom' seams. (eg. B-III Top, B-III Bottom). Accordingly the 8 persistent coal seams have been numbered as B-I, B-II, B-III (Top), B-III (Bottom), B-IV, B-V, B- VI and B-VII Seams. No nomenclature has been assigned to the impersistant coal horizons occuring between the B-I and B-II Seams in the Lower Barakar sequence.

3.02.04 The Graphic seam correlation chart and seam correlation table of the coal seams are given respectively in Plate-V and VI.

3.03.00 BASIS FOR THICKNESS AND QUALITY DETERMINATION

3.03.01 The assessment of the thickness, quality and general characters of coal seams have been arrived at, based mainly on the analytical results of the coal core samples supplied by the Coal Survey Laboratory, Raniganj (CFRI) and M/s ESSAR'S (India) Pvt. Limited.

3.03.02 The Gouranghi coals are low in moisture and high in ash content, with caking index generally ranging between 4 & 6 and considered non-coking type. However in certain cases C.I. as high as 11 to 19 has been recorded (Ref. Appendix-V).

3.03.03 While determining the quality of the coal seams, bands containing below 35% ash content have been considered as 'Coal', with ash content between 35% and 55% as 'Shaly Coal', while bands with 55% to 75% ash and 0.05 m. or more in thickness are taken as 'Dirt Bands'. The bands having ash content more than 75% are considered as non-combustible bands or obvious dirts and have been excluded from Inband analysis.

....26/-

3.03.04 For the purpose of correlation and structural interpretation of the pyrolitised seam, the pyrolitised portion and intervening mica-peridotite veins have been considered within the seam thickness. However, for the purpose of quality and reserve assessment the same has been excluded.

3.03.05 While assessing the thickness of individual seams, 'Split sections' with over 0.90 m. thickness and with less than 3.0 m. of intervening parting have been grouped together and considered as one seam.

3.03.06 Since all the major seams in the area (B-II to B-VI and locally B-VII) excepting Seam B-I, are considered to have quarriable potentiality, within the stipulated coal to overburden ratio of 1:5, for the purpose of iso-chore the seam thickness have been computed by inclusion of dirt bands having thickness upto 1.0 m. but excluding the non-combustible bands irrespective of their thickness.

3.04.00 SEAM STRUCTURE

3.04.01 Seam structure of various seams have been drawn on 1:50 scale, based on the analytical results, as received from the analyst. It also includes roof and floor details, based on visual lithologs.

3.04.02 The seam structure includes 'Band by Band' analytical data on Moisture, Ash, Volatile Matter and, where available, Fixed Carbon contents, as received from the analyst. 'Over-all' analyses of the seam/sections are also given alongwith the seam-structure.

3.05.00 SEAM FOLIO

3.05.01 Seam folio plans have been prepared for 6 seams viz. B-I to B-VII. The folio plans include iso-chore of 1.2 metres and at interval of one metre from 2 m. and above, alongwith iso-grade. Though the seam folio of B-I seam is prepared but it does not fall within the quarriable proposition.

....27/-

CHAPTER - IV

4.00.00 DESCRIPTION AND QUALITY OF COAL SEAMS

4.01.00 GENERAL

4.01.01 As mentioned earlier 8 correlatable and laterally persistant coal seams have been identified in the Barakar column of Gourangdih area. These alongwith the local coal horizons developed between the B-I and B-II seam are described in the following paragraphs.

4.02.00 B-I SEAM

4.02.01 REFERENCE TO DOCUMENTATION :

Graphic Seam Correlation Chart	:	Plate VII
Seam Correlation Table	:	Plate VIII
Isoparting plan with overlying Seam	:	Plate X
Seam Subsidence plan	:	Plate XI
Analytical Data		
a) Band by Band	:	Appendix - IV & IV A
b) Seam overalls	:	Appendix - V

4.02.02 GENERAL

4.02.03 This is the oldest coal seam of the Barakar sequence of the area. The seam though intersected in 28 boreholes shows irregular development from the point of view of its mineability.

4.02.04 INTERSECTION OF SEAMS

4.02.05 The borehole intersections of the seam are given in Table No. IV-1 below :

Table : IV-1

Borehole Intersection of B - I Seam

Nature of intersection	No. of BHs.	Borehole No. (GD-)
Full seam thickness	27	1 to 3, 6 to 15, 17, 24, 25, 27 31, 35, 39, 41, 44, 47 to 49, 68 & 69
Not intersected due to fault	4	22, 34, 50, 51
Not intersected due to closure of boreholes in younger strata	26	4, 18, 23, 26 to 30, 32, 33, 36 to 38, 40, 42, 43, 45, 46, 56 to 64 and 66

4.02.14 QUALITY :

4.02.15 The quality of seam-overall is available in six boreholes viz: GRD-1, 2, 9, 24, 25 and 41 is given below :

Table : IV-3

Quality of S - I Seam

Analytical parameters (AT 60 % RH & 40°C)	No. of Boreholes	Maximum	Minimum
Moisture (%)	2	(2.3)	(0.6)
Ash (%)	6	41.5	(24.7)
Volatile Matter (%)	2	(25.4)	(21.7)
Fixed Carbon (%)	2	(49.3)	(48.0)
Useful Heat Value (K cal/kg)	6	(5491)	3183

(Figures in parenthesis indicate Ex-hand analysis)

4.02.16 The caking index of the seam as determined in B.E.No. GRD-1 and 25 ranges between 12 to 14.

4.02.17 REMARKS :

4.02.18 As mentioned earlier the seam with thickness of over 1.2 m is developed in two patches in the central and western part of the block. The parting of the seam with the overlying S-II seam also shows marked variation, as is evident from the isoparting map. The parting shows marked increase to the west and northeast of GRD-9, and gradual increase towards north-west till it reaches a maximum of 37.75 m in GRD-17.

4.02.19 In view of its uneconomical thickness on the up-dip side and along its incrop position as also marked increase in the parting, (where the seam is better developed), the seam has not been considered viable as for multiseam opencast proposition along with Seam S-II to S-VII, or even as a single seam opencast working.

4.02.20 GRADE :

4.02.21 Grade of the coal seam ranges from 'C' to 'F' category.

4.02.22 RESERVES :

4.02.23 Net 'Indicated' reserves 2.55 million tonnes.

Additional Annexure-15

Compliance of the observations made by the Internal Committee for approval of Mining Plan / Mine Closure Plan in its internal meeting held on 31.07.2023 to consider the proposal for revision of the approved Mining Plan of Gourangdih ABC Coal Mine of West Bengal Mineral Development and Trading Corporation Limited.

Sl. No.	Observations	Compliance
1	It has been observed that following observation of the Internal Committee, communicated vide MoM of IC meeting dated 08.05.2023 has not been made Sl. No. 02, Annexure-13 According to 1.9 of MoCOM dated 29.05.2020 regarding mining plan, the application for issue of certificate from the Mines and Geology Department of the State Government must be supported with proof of the non-existence of the coal/lignite in the area under reference (along with Cardinal point co-ordinates) duly certified by custodian agency viz. CMPDI/SCCL in case of coal and NLCIL in case of lignite. The same shall be furnished as an annexure. (Note The certificate attached cannot be taken as proof of the non-existence of the coal in the area under reference).	Further to the compliance (Additional Annexure-14) of the observations made in this regard in the MoM of IC meeting dated 15.06.2023, it is submitted as follows; i) The Geological Report (GR) was prepared by CMPDIL/ MECL in 1981 and the Mining Plan was prepared by the Prior Allottee and duly approved by MoC in 2011. Both the GR and the Approved Mining Plan (AMP) were entrusted to WBMDTCL by the Nominated Authority, MoC with the Allotment Order in September 2016. The project area envisaged in the AMP falls inside the allocated co-ordinates of the Allotment Order (29.09.2016) as well as of the Administrative Approval (12.01.2018) given by MoC for granting ML. Accordingly, WBMDTCL has made applications for necessary statutory clearances, viz. ML, FC, EC etc. on the basis of the said AMP (2011). ii) The instant proposal for Revised Mining Plan (RMP) does not envisage any change in the said approved project area of AMP. iii) The State Government has already granted LoI for ML and the FC and EC proposals are also at their final stages of approval by MoEFCC subject to approval of this RMP. iv) At this stage, insistence upon proof of non-existence of coal/lignite in the area under reference would delay the various approvals and thereby operationalisation of the project by another over two years. In view of the above and for early operationalisation of the mine WBMDTCL hereby undertakes as follows; a) As recommended in the CMPDIL certificate, WBMDTCL shall carry out detailed exploration of the project areas falling outside the geological block within 1(one) year of mine operation and submit GR of the areas to CMPDIL and MoC. b) OB dumping in the said areas shall commence only after confirming the absence of coal in those areas. The Committee may kindly consider approval of the Revised Mining Plan with above and suitable other condition(s) as may be considered necessary.

2	The plan containing co-ordinates of the block area allotted to the project proponent bearing initials of MoC official (submitted during prior approval of the Central Government, refer Annexure-8) shall be furnished as an annexure (reference Sl. No. 01, Annexure-13). The project proponent shall make desired changes in the mining plan and upload on SWCS portal for further processing.	Copy of the State Government's Memo No. 421-CI/O/MIN/GEN-COL/03/2016 dated 05.06.2017 seeking Administrative approval of the Central Government is given at **Enclosure – 1**. Copy of the Administrative approval in F. No. 13016/01/2017-CBA-II dated 12.01.2018 granted by the Central Government (MoC) is also given at **Enclosure – 2** for reference, please. Desired changes/corrections in the mining plan/plates have been made and uploaded on SWCS portal.

ENCLOSURE-1

Government of West Bengal
Department of Industries, Commerce & Enterprises
4, Abanindranath Tagore Sarani (Camac Street), Kolkata-700 016
Mines Branch

No.421 -CI/O/MIN/GEN-COL/03/2016 Dated Kolkata the 5th June, 2017

From: The Joint Secretary to the Government of West Bengal.

To : The Secretary,
Government of India,
Ministry of Coal,
Shastri Bhawan,
New Delhi-110 001

Sub: Administrative approval of the Central Govt. under Section 5(1) of the M.M. (D & R) Act, 1957 for granting of Mining Lease for coal in respect of Gourangdih ABC Coal Mine in favour of M/s. West Bengal Mineral Development & Trading Corporation Ltd. (WBMDTCL) in three different mouzas under P.S. Baraboni, Dist Burdwan for an area of 214 Hectares.

Ref: F.No. 103/06/2016/NA Dated Feb, 2017 of Nominated Authority, Ministry of Coal, Govt. of India.

Sir,

Kindly refer to the captioned subject. I am directed to forward herewith State Govt.'s Recommendation in the Prescribed Proforma, in connection with the Mining Lease applied by WBMDTC Ltd. for according prior approval of the Central Government for granting of the said Mining Lease.

This is in terms of advice given by office of Nominated Authority, Ministry of Coal, Govt. of India vide No. 103/06/2016/NA.

Enclo : As stated.

Yours faithfully,

Joint Secretary

No.421/1(6) -CI/O/MIN/GEN-COL/03/2016 Dated Kolkata the 5th June, 2017

Copy forwarded for information and necessary action to the:

1. Nominated Authority, Ministry of Coal , Government of India, 131, Ground floor, World Trade Centre, Babar Road, New Delhi-110 001. This has a reference to his letter No. F. No. 103/06/2016/NA dated Feb, 2017.
2. District Magistrate, Paschim Bardhaman, Kanyapur, Asansol, Vivekananda Sarani ,Near HLG Hospital, PIN- 713 305
3. D.L.& L.R.O., O/o S D L & L R O, Paschim Bardhaman, ADDA Market Complex, G. T. Road, Near Asansol South PS, PIN- 713 301
4. D.M.M., W.B., 4, Abanindranath Tagore Sarani(Camac Street), Kolkata- 700 016.
5. Managing Director, West Bengal Mineral Development & Trading Corporation Ltd., 13, Nellie Sengupta Sarani (Lindsay Street), 2nd Floor, Kolkata – 87.
6. Chief Mining Officer, W.B., Court Road, Asansol, Dist.Burdwan.

Deputy Secretary

PROFORMA FOR RECOMMENDING GRANT OF MINING LEASE (M.L.)

1.		Name of the applicant (s)	:	M/s. West Bengal Mineral Development and Trading Corporation Ltd., 13, Nellie Sengupta Sarani (Lindsay Street), 2nd floor, Kolkata-87.
2.		Date of application of each party and whether the applications were complete in all respects as required under rule.	:	Date of Application: 28.10.2016 The application is complete in all respects as required under rule.
3.	a	Whether the application is for ML/ PL/ Reconnaissance Permit	:	The application is for Mining Lease.
	b.	Whether the area has been prospected as per provisions of Sec 5(2) of MMDR Act, if so details thereof indicating proven reserves and grade of ore applied for. (A copy of the prospecting report to be enclosed.)	:	Yes, the area of Gourangdih ABC Coal Mine, which is located in the Raniganj Coalfield, has been prospected in detail by the Mineral Exploration Corporation Limited (MECL), a Govt. of India Enterprise. MECL has submitted the Geological Report on Exploration for Coal in Gourangdih Block ABC Sector, Raniganj Coalfield, Burdwan District in West Bengal in March 1981. As per the geological report, the net Geological Reserve is 129.15 MT for the whole ABC Sector of the Coal Block. However, as per the approved Mining Plan and Mine Closure Plan that has been transferred by the Ministry of Coal in favour of West Bengal Mineral Development and Trading Corporation Limited, the extractable reserves by open cast mining is 68.37 MT only for Gourangdih A & C leaving Sector B due to huge built up area there. The details are given in the approved Mining Plan and Mine Closure Plan.
4.	a.	Whether the application is for fresh grant or renewal. In case of renewal or 2nd renewal of subsequent renewal (details of earlier renewals to be given).	:	The application is for fresh grant.
	b.	In case of renewal, date of expiry of last renewal.	:	Not Applicable.
	c.	In case of renewal under Sec. 8 (3) of the MMDR, Act. Justification be given clearly in separate sheet.	:	Not Applicable.
5.		Period for which ML/PL/RP or renewal: a. applied for b. recommended	: :	 Thirty (30) years with option of renewal. Thirty (30) years.
6.	i.	Mineral(s) applied for which of them are scheduled minerals	:	Coal. It is specified mineral as per First Schedule to MMDR Act, 1957.
	ii.	In case of grant of ML for Limestone grade of the same be indicated.	:	Not Applicable.
	iii.	Section of MMDR Act or M.C. Rules, under which approval of the Central Govt. is required.	:	In terms of Section 5 (1) of the MMDR Act, 1957, approval of Central Government is required. However, the present coal mine has

				already been allocated by the Central Government in the Ministry of Coal vide its allocation letter No. F.No. 103/6/2016/NA dated 29.09.2016 under clause (c) of sub-rule (2) of rule 7 and sub-rule (1) of rule 13 of the Coal Mines (Special Provisions) Act, 2015.
7.		Total area held by the applicant under PL/ML/RP (excluding the instant proposal) in: i) the State for which the application has been made ii) other States (A copy of application submitted by the applicant in Form-I/ Form-A to be enclosed)	: : :	i) In West Bengal: a) For Apatite mineral in mouza Beldih, District Purulia in 33.38 acres (Major Mineral). b) For Black Stone in mouza Palsara, District Purulia in 28 acres (Minor Mineral). c) For Black Stone in mouza Palsara, District Purulia in 20.5 acres (Minor Mineral). d) For Quartz & Feldspar in mouza Mirmi, District Purulia in 9.09 acres (Minor Mineral). e) For Fireclay in mouza Malti, District Purulia in 48 acres (Minor Mineral). f) For Black Stone in mouza Pachami, District Birbhum in 495 acres (Minor Mineral). ii) In other States: Nil
8.		Particulars of area applied for	:	The applied area comprises several plots falling in 3 mouzas namely (i) Jamgram, J. L. No. 20, (ii) Kantapahari, J. L. No. 09 and (iii) Panuria, J. L. No. 10, all falling under P.S. Barabani, Dist. Burdwan. The area applied for has been stated to be 214 hectares equivalent to 528.60 acres. The approved Mining Plan and mine Closure plan also mentioned the required lease area as 214 Hectare for Gourangdih A & C sector leaving the sector B due to huge built up area there. The applied area is virgin and available for grant of Mining Lease. A part of the area is under Forest Cover (92.53 Ha).
9.		Area recommended clear demarcation with Survey Nos. Khasra Nos. as well as longitude and latitude to be indicated. In case of scheduled minerals the map of the area applied/ recommended to be sent in triplicate.	:	The whole of the applied area which is more or less 214 hectares, as demarcated on the cadastral map is recommended for grant. The coal mine lies between latitude $23^0$48'30"N and $23^0$49'45"N and longitudes $86^0$57'45"E and $87^0$00'15"E. As per Office records there is no existing mining lease for any mineral within the present applied area. The present application is recommended for granting mining lease, however, since there is Forest cover, the applicant has to produce clearance certificate as required under Forest (Conservation) Act, 1980 and Environmental Clearance as required under the Environmental Impact Assessment

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				Notification, 1994, as amended up-to-date before execution of the Mining Lease.
10.		Whether the application has been submitted in time	:	Yes.
11.		The party to whom the grant is recommended. If not sole applicant, why preference is given, comparative statement of merits of each applicant to be given as required under 11(3) of the MMDR Act.	:	Grant is recommended in favour of West Bengal Mineral Development and Trading Corporation Limited (WBMDTC Ltd.).
12.	i.	Where relaxation under Sec. 6(1)(a)(b), 11 and 31 of MMDR Act and Rule 59 of M.C. Rules is required. Reason and justification in support of the request should be given, (separate sheet).	:	No such relaxation is required.
	ii.	Where the area recommended in the proposal is not compact and contiguous, the reasons recorded by the State Government under Sec. 6(1)© of the MMDR Act, 1957 may be indicated.	:	Not Applicable.
13.	a)	Whether the area recommended is available for grant.		The whole of the present applied area is not covered under any mining leases. As such, whole of the applied area, which is being recommended, is available for grant.
	b.	Whether the area is reserved for exploitation by public sector? If so, number and date of reservation notification be indicated.	:	Not reserved, however Ministry of Coal, Government of India has allocated the present coal mine to the present applicant, which itself is a PSU. The mine has been allocated vide Order No. F.No. 103/6/2016/NA dated 29.09.2016 of the Ministry of Coal, Government of India.
	c.	Whether any Public Sector Undertaking has also applied or shown interest in the area, if so, give details thereof and also enclose copy of the letter received.	:	No Undertaking excepting the present applicant WBMDTCL, a Public Sector Undertaking of the Government of West Bengal.
	d.	Whether the area is surrounded by or adjacent to the lease held by any public sector undertakings including State Undertaking and if so, whether such undertakings comments were obtained. (Copy of comments to be given.)	:	There are existing Mining Leases of Eastern Coalfields Limited in the close vicinity. However, Ministry of Coal, Government of India has allocated the present mine to the applicant. (Copy of the allocation Order is enclosed).
14.	i.	Where PL/ML/RP is recommended in favour of a unit for industrial use, complete details of	:	The mining lease is recommended in favour of the present applicant PSU company of the

		annual capacity, requirement, financial worthiness, technical strength of the company and total reserve of the ore and the area proposed to be given on lease may be indicated.		Govt. of West Bengal for sale of coal. The geological reserve, details of annual capacity and other technical and financial particulars of the project are given in the Mining Plan and Mine Closure Plan approved by the Ministry of Coal, Government of India. Whole of the area applied for may be given on lease.
	ii.	Where PL/ML/RP is recommended in favour of applicant for other than industrial use, complete details of the financial and technical worthiness of the applicant may be indicated.	:	Central Government in the Ministry of Coal has allocated the coal mine to the present applicant for sale of coal. The geological reserve, details of annual capacity and other technical and financial particulars of the project are given in the Mining Plan and Mine Closure Plan approved by the Ministry of Coal, Government of India. Whole of the area applied for may be given on lease.
15.		Where applications could not be disposed of within the prescribed time limit gives reason thereof.	:	Does Not arise.
16.		Whether any Revision Application/ Writ Petition is pending in respect of whole or part of the area covered by this proposal, if so give details.	:	No.
17.		In case of ML proposals relating to district Bellary of Karnataka State, please indicate whether a mining plan duly approved by Indian Bureau of Mines inter alia containing a plan for dumping of waste material in a scientific manner in lease area has been obtained by the applicant? (Copy of the mining plan to be enclosed.)	:	Not Applicable.

Certified that the information given above are correct to the best of my knowledge and based on official records.

Date: 05/06/2017

Place: Kolkata

Signature :

Name : UTPAL BHADRA

Designation: UTPAL BHADRA, W.B.C.S (Exe.)
Joint Secretary
Deptt.of Industry,Commerce and Enterprises
Govt. of West Bengal

ENCLOSURE-2

F.No. 13016/01/2017-CBA-II
Government of India
Ministry of Coal
*****

Shastri Bhawan, New Delhi
Dated the 12th January, 2018

12/1/18

To
The Joint Secretary,
Government of West Bengal,
Department of Industries, Commerce & Enterprises
4, Abanindranath Tagore Sarani (Camac Street), Kolkata-700016

Subject: Administrative approval of the Central Government under Section 5(1) of the MM(D&R) Act, 1957 for granting of Mining Lease for coal in respect of Gourangdih ABC coal mine in favour of M/s West Bengal Mineral Development & Trading Corporation Ltd. (WBMDTCL)-reg.

Sir,

I am directed to refer to Government of West Bengal's (GoWB) letter no. 121-CI/O/MIN/GEN-COL/03/2016 dated 05.06.2017 requesting for according prior approval of the Central Government under Section 5(1) of the MM(D&R) Act, 1957 for granting of Mining Lease for coal in respect of Gourangdih ABC coal mine in favour of M/s West Bengal Mineral Development & Trading Corporation Ltd. (WBMDTCL) and to say that the request of the GoWB on the matter has been considered.

2. As per the Allotment Order No. 103/6/2016/NA dated 29.09.2016, co-ordinates of the Gourangdih ABC coal mine are as under:

Latitude 23°48'30" N & 23°49'45" N

Longitude 86°57'45" E & 87°00'15" E

3. Hence, considering the request of GoWB, the approval of the Central Government is accorded under Section 5(1) of the MM(D&R) Act, 1957 for granting mining lease for coal in respect of Gourangdih ABC coal mine in favour of WBMDTCL for the bounding co-ordinates as mentioned above at para 2.

4. The above approval as mentioned at Para 3 shall be subject to the following terms and conditions:

a. The allocatee company shall carry on coal mining in accordance with the provisions of the Mines and Minerals (Development and

Regulation) Act, 1957, Mineral Concession Rules, 1960 and any other applicable laws.

b. The provisions of the Allotment Agreement shall be included in the Form K before the lease deed is executed.

c. Mining operations shall be undertaken in accordance with the approved mining plan bounded by area which shall not encroach upon any adjacent coal block/mine.

d. Any violation of any of the terms and conditions shall render the lease liable to be cancelled.

5. A copy of the lease deed executed may invariably be sent to this Ministry for information and record.

Yours faithfully,

(Rishan Ryntathiang)
Under Secretary to the Government of India
Tel. No. 23073936

Copy to:

Nominated Authority, Ministry of Coal

Additional Annexure-16

Compliance of the observations made by the Internal Committee for approval of Mining Plan / Mine Closure Plan in its internal meeting held on 01.09.2023 to consider the proposal for revision of the approved Mining Plan of Gourangdih ABC Coal Mine of West Bengal Mineral Development and Trading Corporation Limited.

Sl No	Observations	Compliance
1	The project proponent has proposed to carry out detailed exploration of the project areas falling outside the block area within 1 (one) year of mine opening to confirm the absence of coal in those areas and that no OB dumping in the area will commence till then (refer Sl.No.1, Annexure-15). In view of this, no mining activity shall be proposed in any area outside the block area, but inside the project area, within the first year of mine opening. The mining plan shall be modified accordingly.	Accepted and the stage plan for first year (Plate 21A_REV) has been modified accordingly showing no mining activity in any area outside the block area, but inside the project area, within the first year of mine opening.
	All proposed exploration activity to confirm the absence of coal in the areas outside the block but within the project area shall be completed as soon as possible. In case of occurrence of coal in the area, a revised mining plan, with no proposed dumping in the area shall be submitted not later than one year of opening of mine.	Noted and shall be complied with.
2	Confirmation by project proponent shall be given that the co-ordinates of the project area and block area proposed in the mining plan is the same as that approved in the earlier approved mining plan.	Confirmed that the co-ordinates of the project area and block area proposed in the mining plan is the same as that approved in the earlier approved mining plan.

Additional Annexure-17

WEST BENGAL MINERAL DEVELOPMENT & TRADING CORPORATION LTD
(A Govt. of West Bengal Undertaking)

CIN : U14219WB1973SGC028707
Regd. Office : WBIIDC Building, 3rd Floor,
DJ-10, Sector-II, Salt Lake, Kol-700091.
Phone : 033-2359-0073
Email : wbmdtcl.gabc@gmail.com
www.mdtcl.wb.gov.in

Memo No. : MDTC/PM-5/144(MP Rev.)/2456 Date: 15.09.2023

To
The Member Secretary,
Internal Committee under MMDR Act 1957
for approval of Mining Plan / Mine Closure Plan,
Ministry of Coal, Government of India.

Sub: Undertaking in respect of Gourangdih ABC Coal Mine of West Bengal Mineral Development and Trading Corporation Limited (WBMDTCL).

Ref: MoM of the Internal Committee Meeting held on 13.09.2023 to consider Mining Plan and Mine Closure Plan of Gourangdih ABC Coal Mine.

Sir,

In reference to above, it is hereby undertaken as follows;

1. That no mining activity will be carried out in any area outside the block area, but inside the project area, within the first year of starting of the Gourangdih ABC Coal Mine.
2. That the mining plan has been modified accordingly and has been uploaded on SWCS portal.
3. That detailed exploration to confirm the absence of coal in the areas outside the block but within the project area will be carried out by WBMDTCL and completed as soon as possible.
4. That In case of occurrence of coal in the area, a revised mining plan, with no proposed dumping in the area will be submitted not later than one year of starting of the mine.
5. That dumping in the area outside allocated block boundary within project area will commence only after submission of non-existence of coal certificate from CMPDI and LoI from State Government.

In view of the above, the revised mining plan and mine closure plan of Gourangdih ABC Coal Mine may kindly be approved.

Thanking you,

Yours faithfully,

Arun Acharya 15.09.2023
(Arun Acharya)
Authorised Signatory

Additional Annexure-18

Compliance of the observations made in the Meeting of the Internal Committee constituted under MMDR Act 1957 for approval of Mining Plan / Mine Closure Plan was held on 13/09/2023 through Video Conference (VC) to consider Mining Plan and Mine Closure Plan for Gourangdih ABC Coal Mine of M/s West Bengal Mineral Development and Trading Corporation Limited.

Ref: MoM of the meeting of the Internal Committee held on 13/09/2023 [Copy as downloaded from SWCS Portal at 07.20PM on 14.09.2023 is attached for ready reference]

Sl. No	Observation	Compliance	
1.	The following observations, communicated vide MoM of IC meeting held on 01.09.2023, have not been complied appropriately 1. The project proponent has proposed to carry out detailed exploration of the project areas falling outside the block area within 1 (one) year of starting the mine to confirm the absence of coal in those areas and that no OB dumping in the area will commence till then (refer Sl.No.1, Annexure-15). In view of this, no mining activity shall be proposed in any area outside the block area, but inside the project area, within the first year of mine starting. The mining plan shall be modified accordingly. All proposed exploration activity to confirm the absence of coal in the areas outside the block but within the project area shall be completed as soon as possible. In case of occurrence of coal in the area, a	a)	The undertaking in Memo No. Memo No. : MDTC/PM-5/144(MP Rev.)/888 dated 14.09.2023 has been submitted at Annexure - 17 , to the following effect; 1. That no mining activity will be carried out in any area outside the block area, but inside the project area, within the first year of starting of the Gourangdih ABC Coal Mine. 2. That the mining plan has been modified accordingly and has been uploaded on SWCS portal. 3. That detailed exploration to confirm the absence of coal in the areas outside the block but within the project area will be carried out by WBMDTCL and completed as soon as possible. 4. That In case of occurrence of coal in the area, a revised mining plan, with no proposed dumping in the area will be submitted not later than one year of starting of the mine. 5. That dumping in the area outside allocated block boundary within project area will commence only after submission of non-existence of coal certificate from CMPDI and LoI from State Government

	revised mining plan, with no proposed dumping in the area shall be submitted not later than one year of starting of mine. Dumping in the area outside allocated block boundary within project area shall commence only after submission of non-existence of coal certificate from CMPDI and LoI from state govt. An undertaking shall be submitted as above. ((Note (a) The undertaking shall be submitted. (b) The plan has been furnished as compliance. However, the coal extraction, dump adjustment vis--vis the changed dump area during the first year shall be justified/ corrected in plan and text part.))	b)	• **Coal extraction during first year:** As stated in Table – 3.1.7 (Tentative Coal Production Plan), 0.50 MT of coal would be produced from Gourangdih -A in the first year of operation. The mining operation proposed to be started first in Gourangdih-A quarry from the north-west. The mining operation will start from the existing Khoirabad face. B-II seam being the thickest among all will contribute the major share of production. The other overlying seams will be worked on advancing the quarry. The quarry will be advancing along the strike as well as towards the dip as shown in Plate -21A. • **Dump adjustment during first year:** As per the revised plan for 1st year, the temporary topsoil dump (~0.15 MCM) will be made inside Gourangdih-A block area towards the eastern part as shown in revised plate 21A. It will cover an area of ~2.44 Ha with 10 meters height and 37^0 slope. The hard OB (~2.35MCM) will be dumped in the part of de-coaled Khoirabad OCP falling inside the block as shown in revised plate 21A. This will cover ~12.88Ha with 30 meters height in three benches and a slope of 37^0. Necessary modifications in the revised plate 21A & in Text (3.12 (Top soil & Waste Management) & 8.1.1) have been made.

Enclo: Copy of MoM of the meeting of the Internal Committee held on 13/09/2023 as downloaded from SWCS Portal on 14.09.2023.

Meeting of the Internal Committee constituted under MMDR Act 1957 for approval of Mining Plan / Mine Closure Plan was held on 13/09/2023 through Video Conference (VC) to consider Mining Plan and Mine Closure Plan for Gourangdih ABC Coal Mine of M/s West Bengal Mineral Development and Trading Corporation Limited

A. Following members of the Internal Committee attended the meeting:

1. Shri. Joginder Singh, OSD , Member
2. Shri. MARAPALLY VENKATESHWARLU, Director Technical, Member
3. Shri. AJITESH KUMAR, Deputy Secretary (NA), Member
4. Shri. Ashish Verma, Senior Manager (Mining), Member Secretary

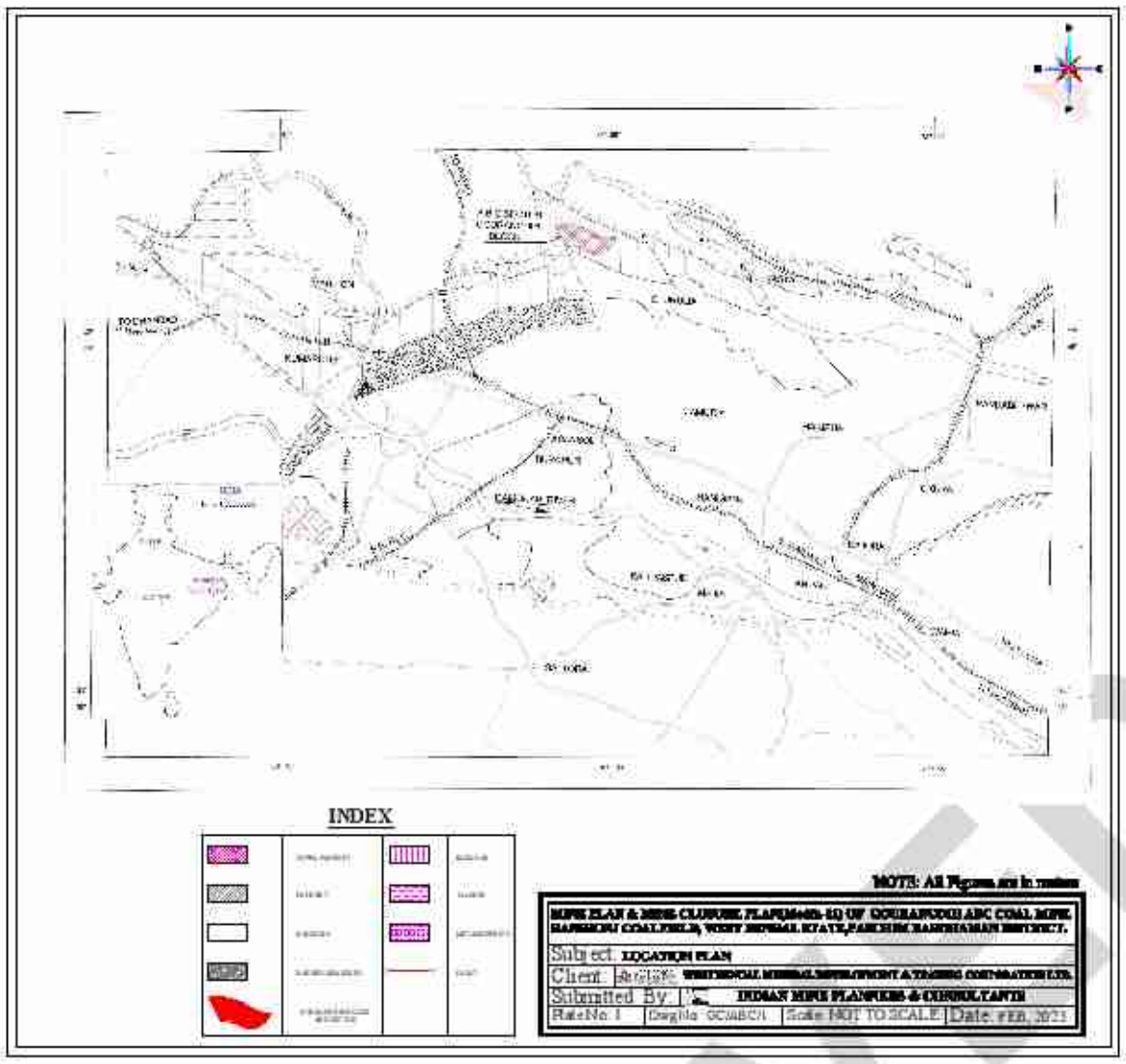
B. From the Project Proponent side, the following persons had joined the meeting through video conferencing :

C. After due deliberation the Mining Plan & Mine Closure Plan (Application No APP00239) was recommended for additional clarification from the project proponent.

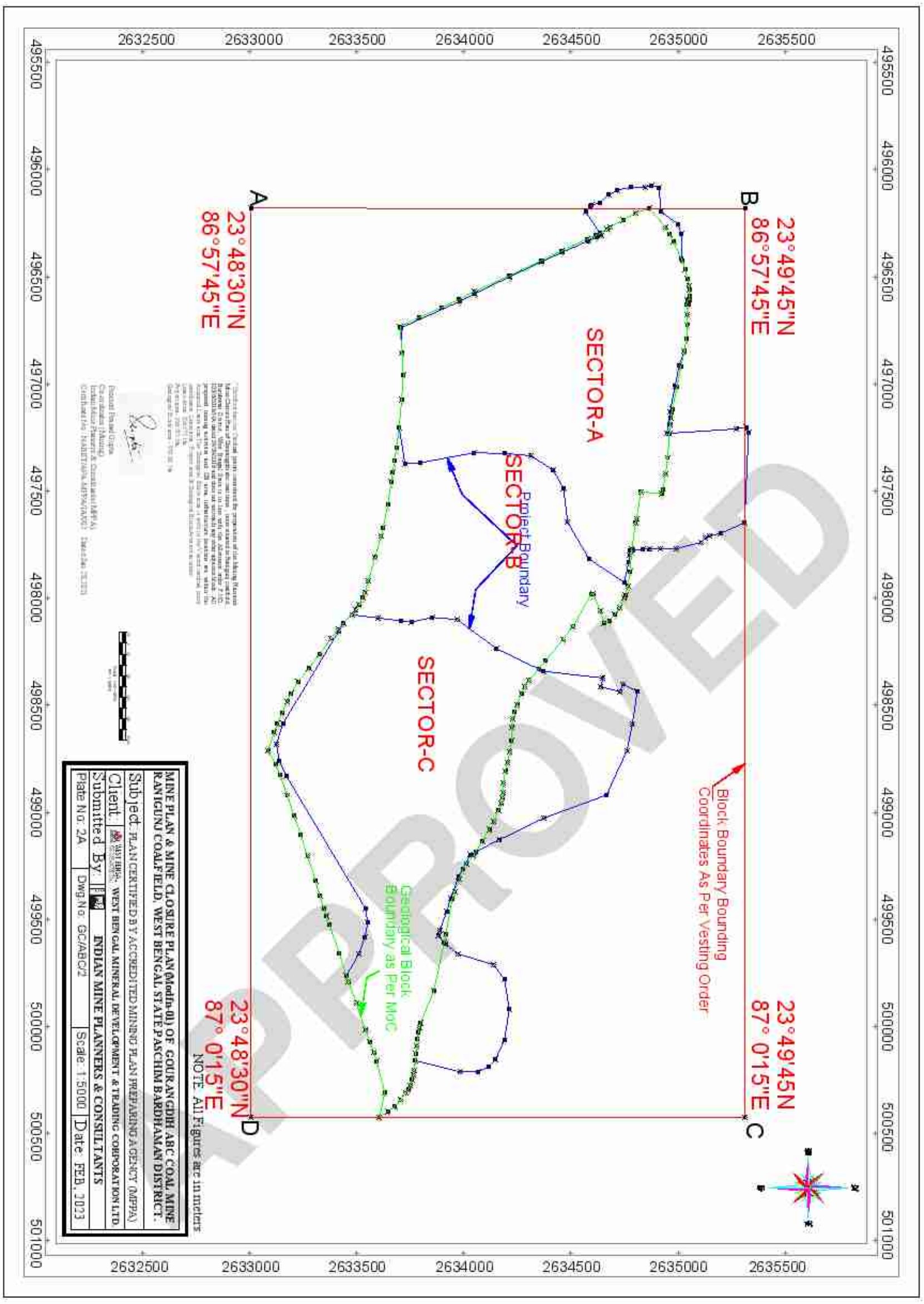
1 - The following observations, communicated vide MoM of IC meeting held on 01.09.2023, have not been complied appropriately 1. The project proponent has proposed to carry out detailed exploration of the project areas falling outside the block area within 1 (one) year of starting the mine to confirm the absence of coal in those areas and that no OB dumping in the area will commence till then (refer Sl.No.1, Annexure-15). In view of this, no mining activity shall be proposed in any area outside the block area, but inside the project area, within the first year of mine starting. The mining plan shall be modified accordingly. All proposed exploration activity to confirm the absence of coal in the areas outside the block but within the project area shall be completed as soon as possible. In case of occurrenceof coal in the area, a revised mining plan, with no proposed dumping in the area shall be submitted not later than one year of starting of mine. Dumping in the area outside allocated block boundary within project area shall commence only after submission of non-existence of coal certificate from CMPDI and LoI from state govt. An undertaking shall be submitted as above.((Note (a) The undertaking shall be submitted. (b) The plan has been furnished as compliance. However, the coal extraction, dump adjustment vis--vis the changed dump area during the first year shall be justified/ corrected in plan and text part.))

Plan/Plates

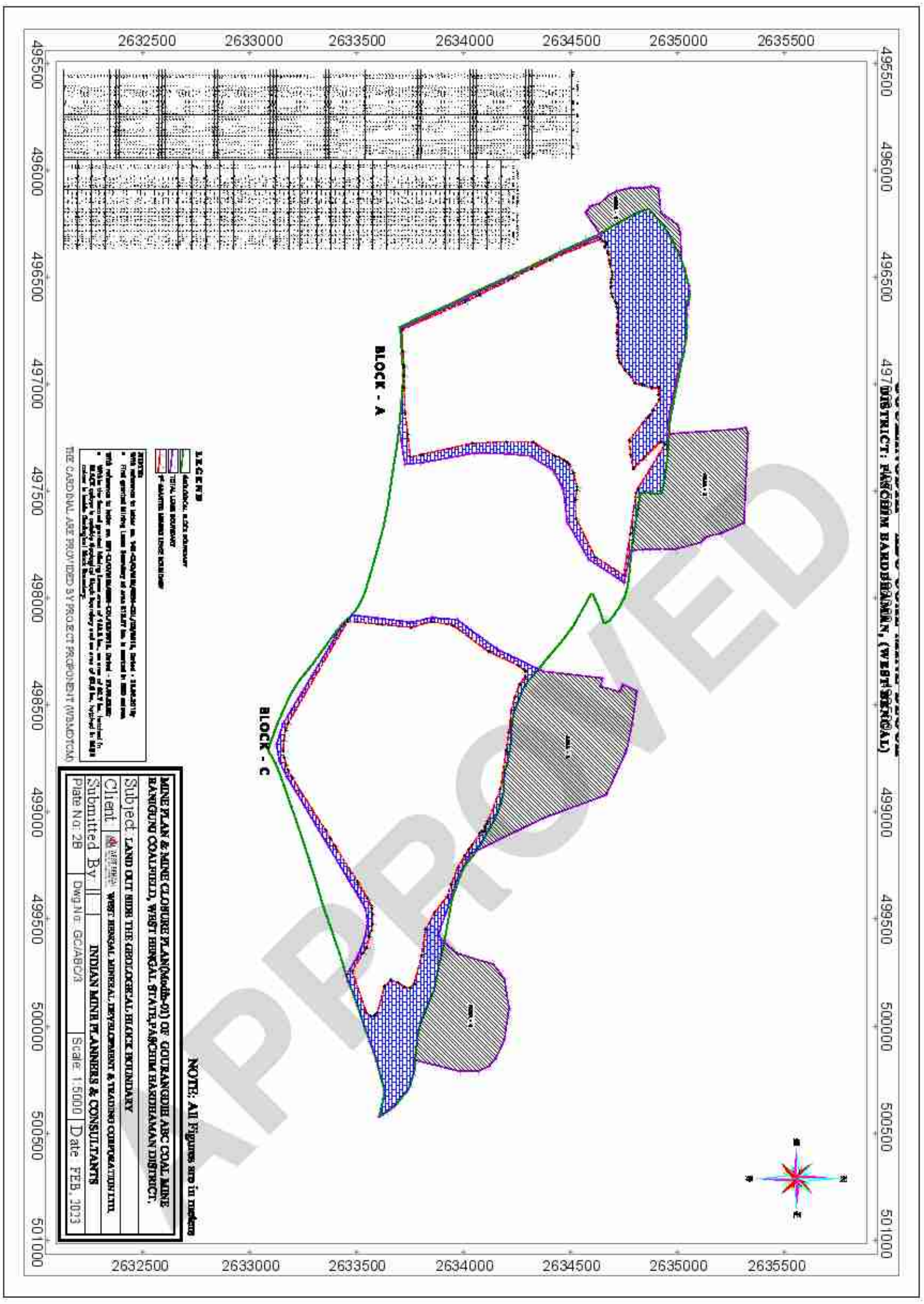
Plate 1



Plan / Plate 2A



Plan / Plate 2B

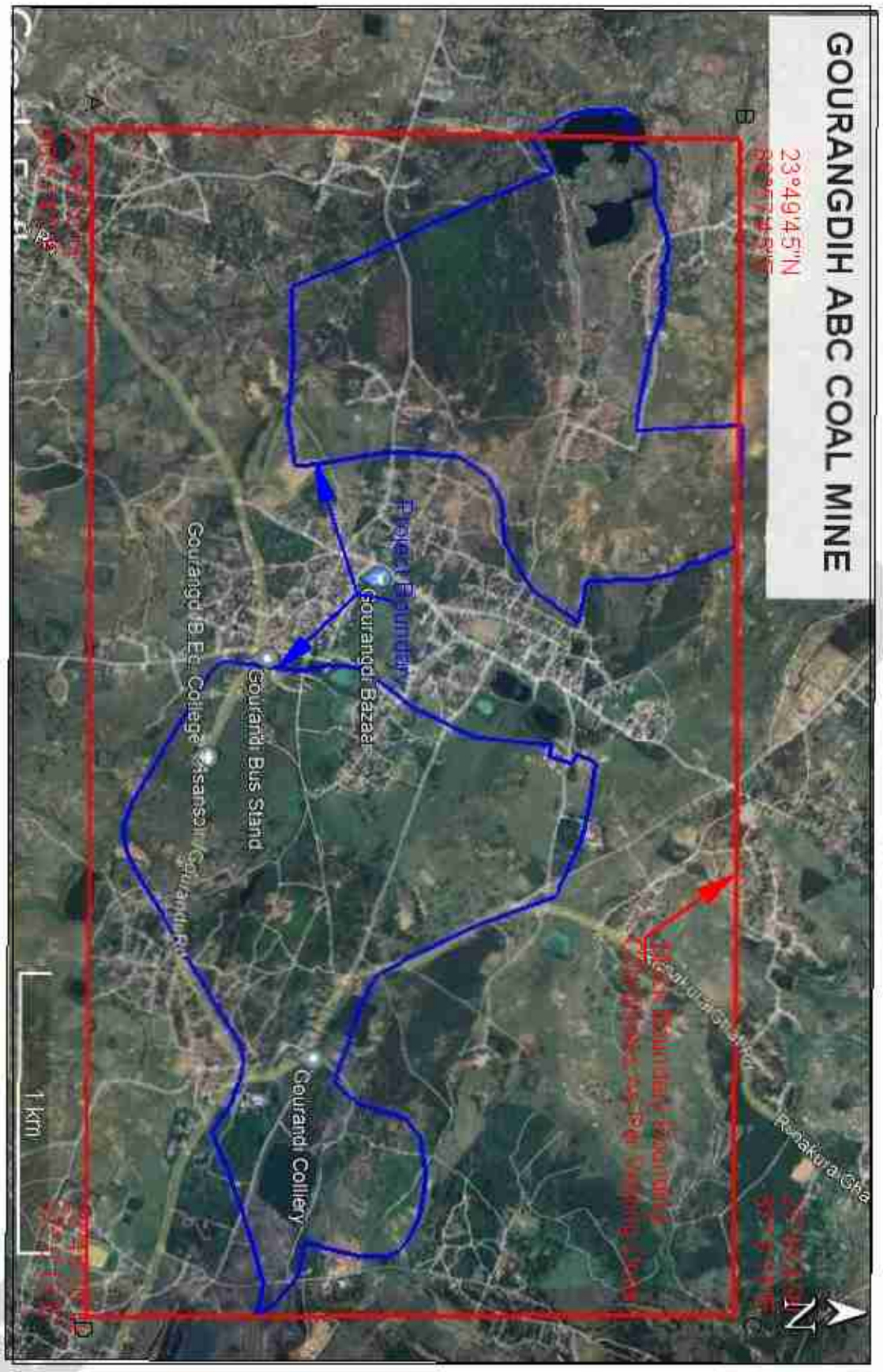


Plan / Plate 3A (Lease Area)

NOTE: All Figures are in meters

MINE PLAN & MINE CLOSURE PLAN(Modified) OF GOURANGDIH ABC COAL MINE RANIGUNJ COALFIELD, WEST BENGAL STATE,PASCHIM BARDHAMAN DISTRICT.	
Subject: ML FILE OF THE PROPOSED LEASE AREA	
Client: WEST BENGAL MINERAL DEVELOPMENT & TRADING CORPORATION LTD.	
Submitted By: INDIAN MINE PLANNERS & CONSULTANTS	
Plate No: 3A	Dwg No: GC/ABC/4
SCALE	Date: FEB, 2023

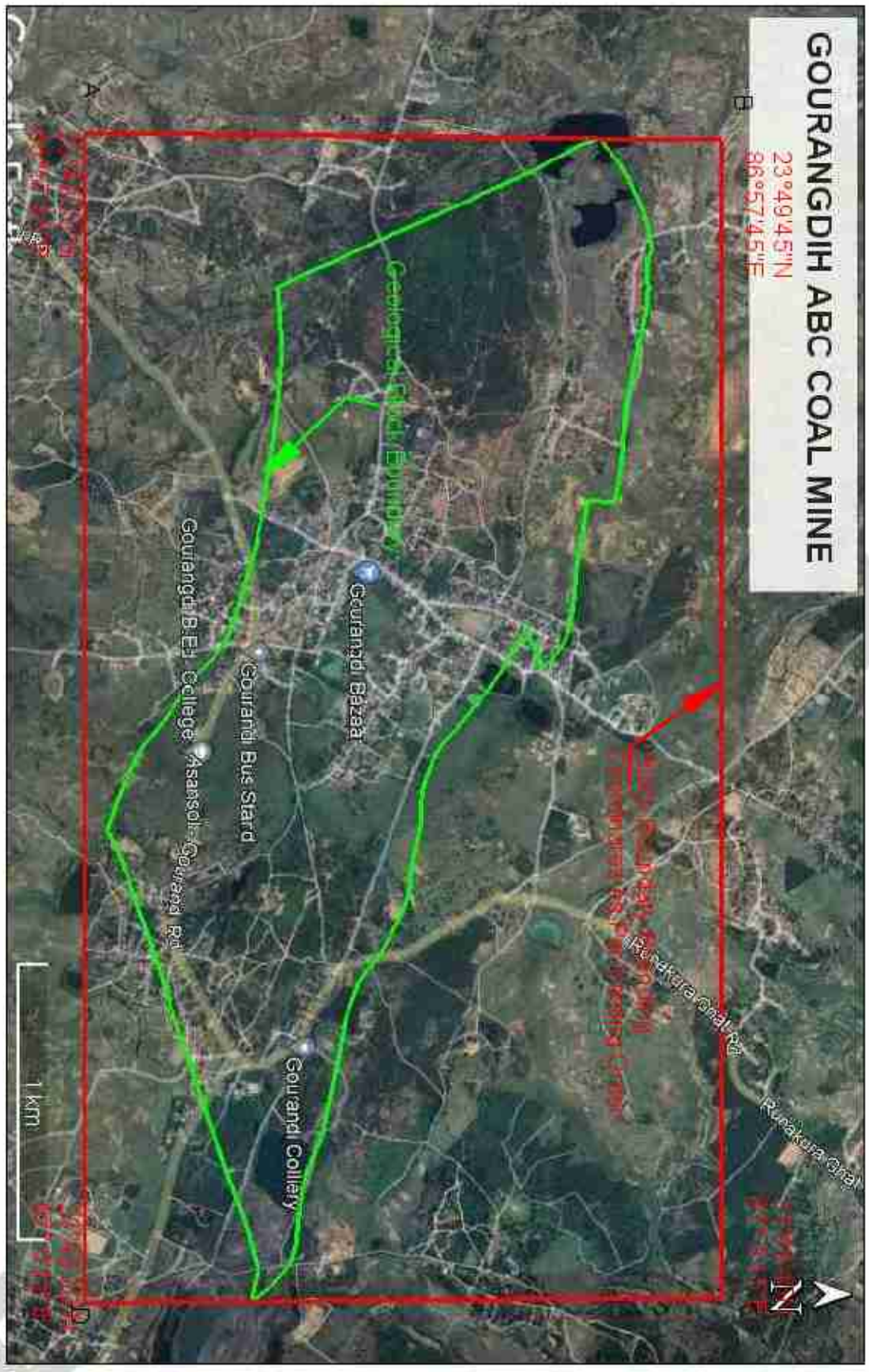
Plan / Plate 3B (Project Area))



NOTE: All Figures are in meters

MINE PLAN & MINE CLOSURE PLAN(Model-01) OF GOURANGDIH ABC COAL MINE, RANIGUNJ COALFIELD, WEST BENGAL STATE, PASCHIM BARDHAMAN DISTRICT.	
Subject: EML FILE OF THE PROJECT AREA	
Client: WEST BENGAL MINERAL DEVELOPMENT & TRADING CORPORATION LTD.	
Submitted By: INDIAN MINE PLANNERS & CONSULTANTS	
Plate No: 3B	Dwg No: GC/ABC/5
SCALE	Date: FEB, 2023

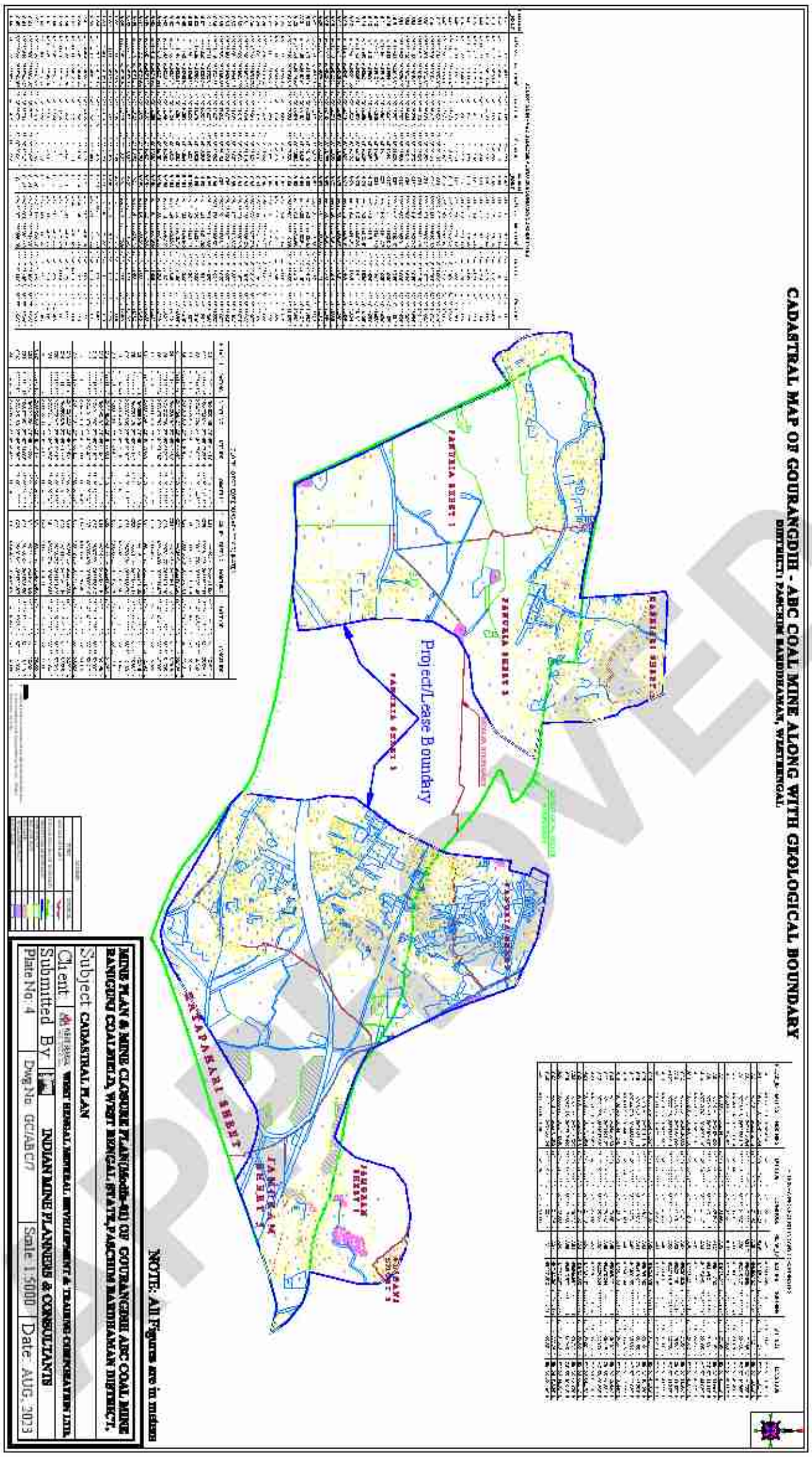
Plan / Plate 3C (Geological Block))



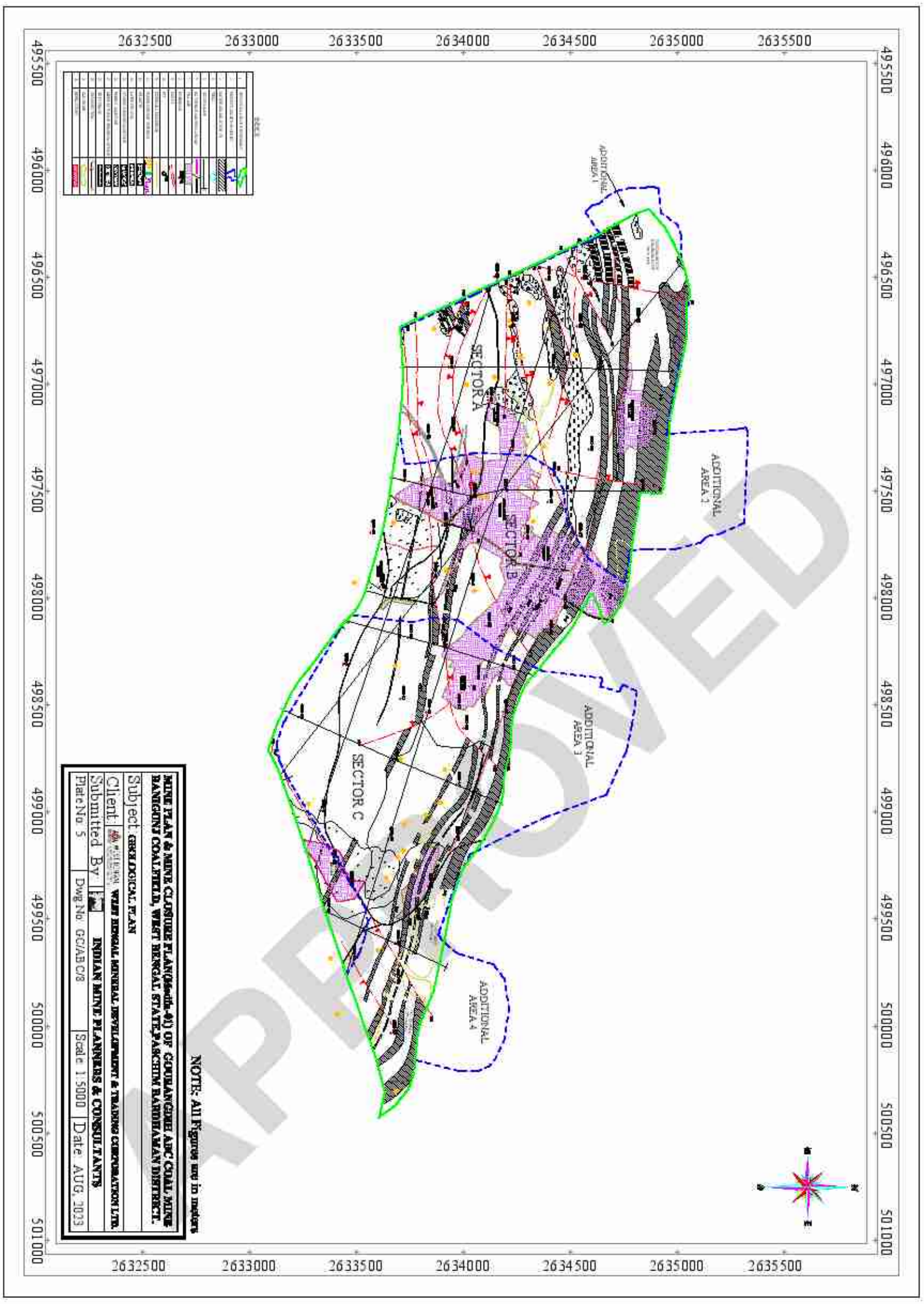
NOTE: All Figures are in meters

MINE PLAN & MINE CLOSURE PLAN(Modified) OF GOURANGDIH ABC COAL MINE RANIGUNJ COALFIELD, WEST BENGAL STATE,PASCHIM BARDHAMAN DISTRICT.	
Subject: RML FILE OF THE GEOLOGICAL BLOCK BOUNDARY	
Client: WEST BENGAL MINERAL DEVELOPMENT & TRADING CORPORATION LTD.	
Submitted By: INDIAN MINE PLANNERS & CONSULTANTS	
Plate No: 3C	Dwg.No: GC/ABC/6
SCALE	NOT TO SCALE
Date: FEB, 2023	

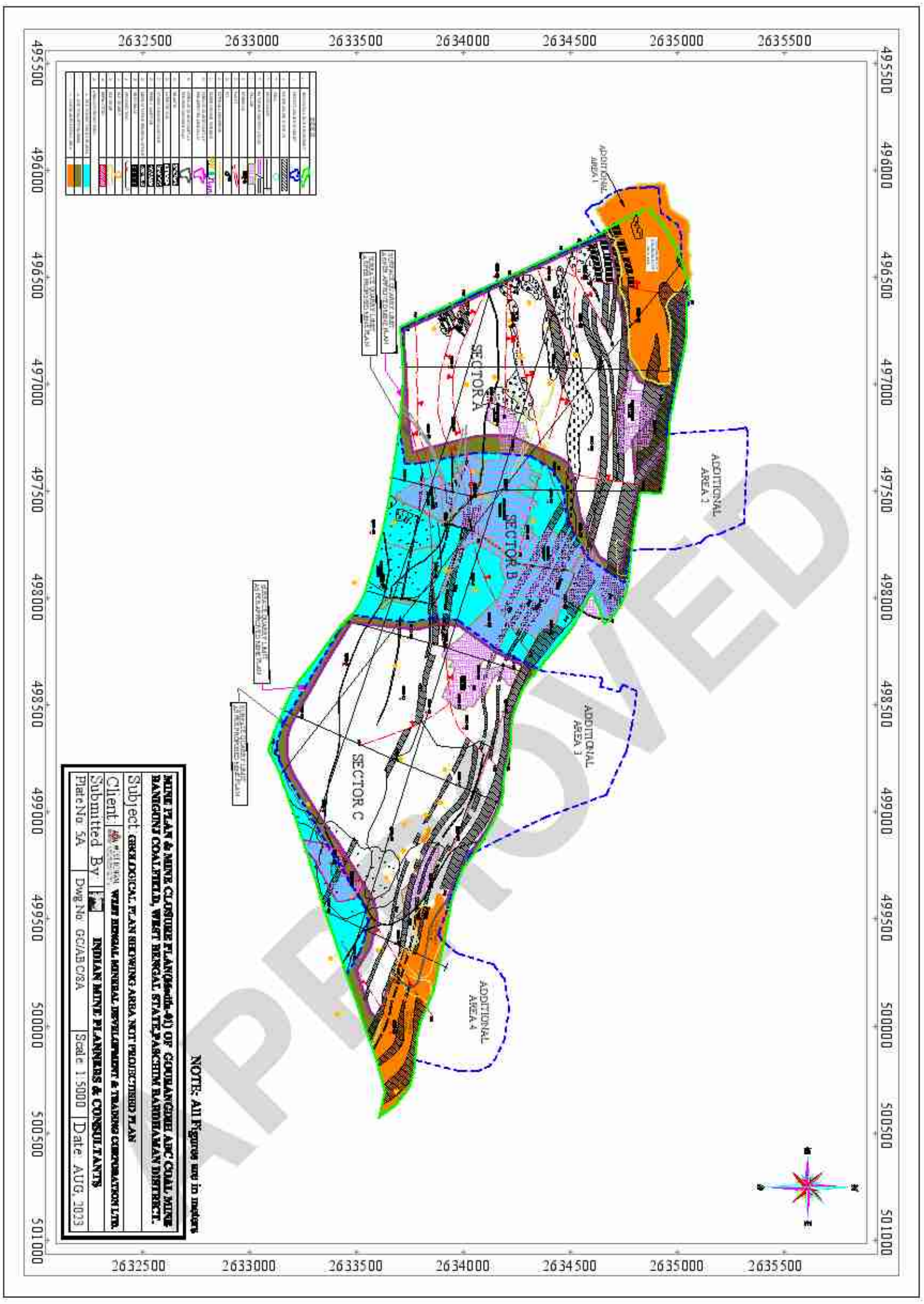
Plan / Plate 4



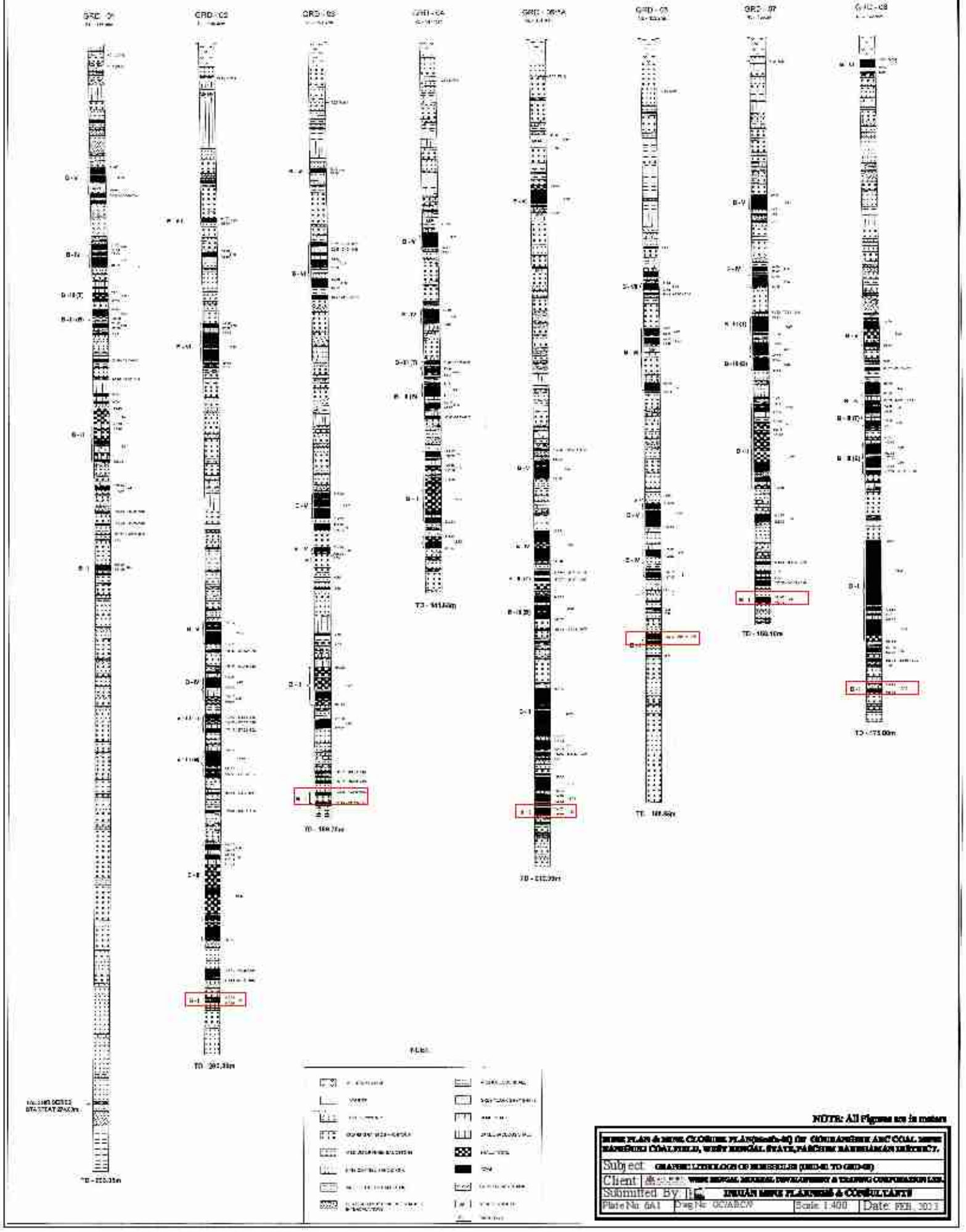
Plan / Plate 5A1



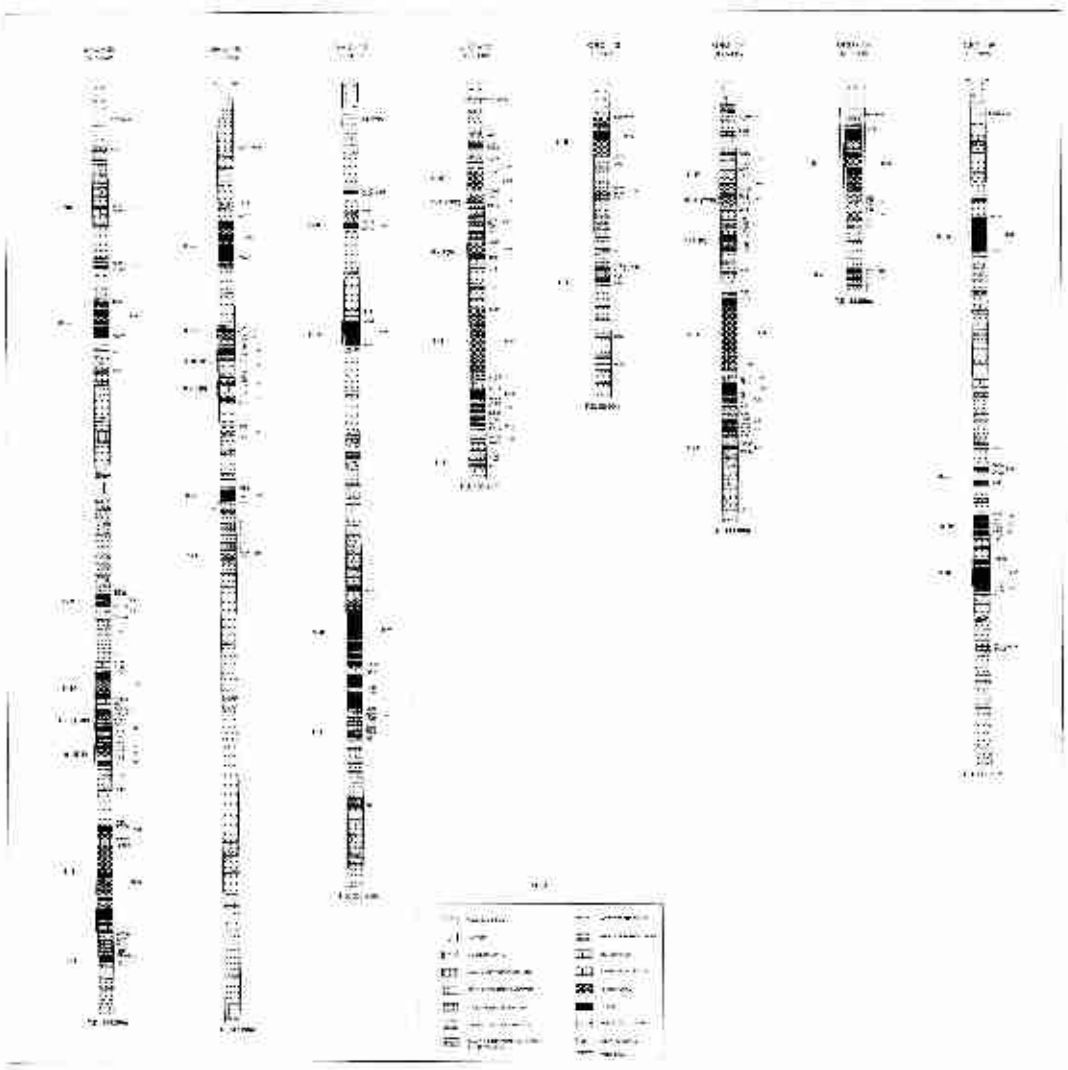
Plan / Plate 5A2



Plan / Plate 6A1



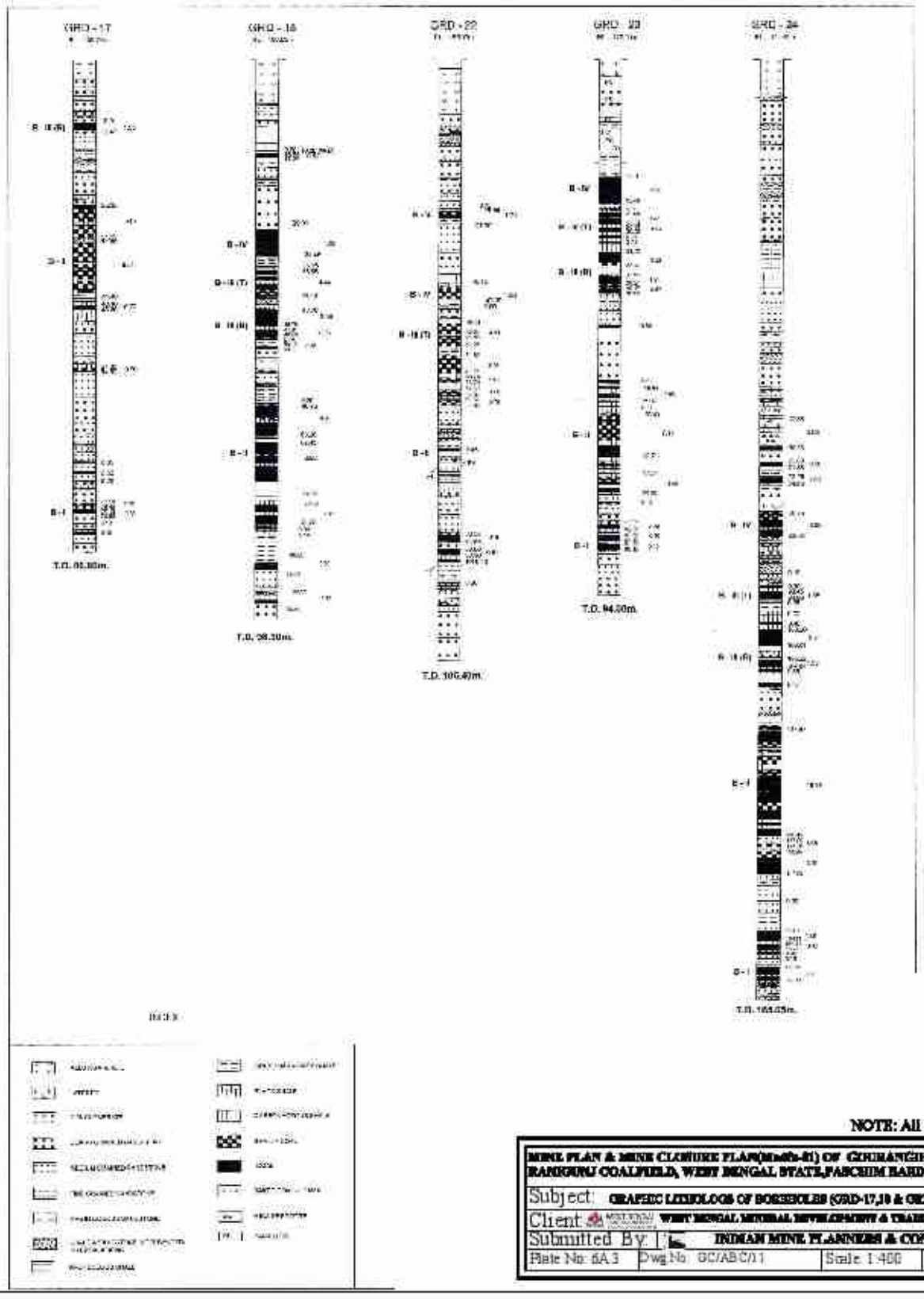
Plan / Plate 6A2



NOTE: All Figures are in meters

MINE PLAN & MINE CLOSURE PLAN(Modified) OF COURANGDIH ABC COAL MINE RANIGANJ COALFIELD, WEST BENGAL STATE,PASCHIM BARDHAMAN DISTRICT.			
Subject: GRAPHIC LITHOLOGS OF BOREHOLES (GBID-09 TO GBID-18)			
Client: WEST BENGAL MINERAL DEVELOPMENT & TRADING CORPORATION LTD.			
Submitted By: INDIAN MINE PLANNERS & CONSULTANTS			
Plate No: 6A2	Dwg No: GC/ABC/10	Scale: 1:400	Date: FEB, 2023

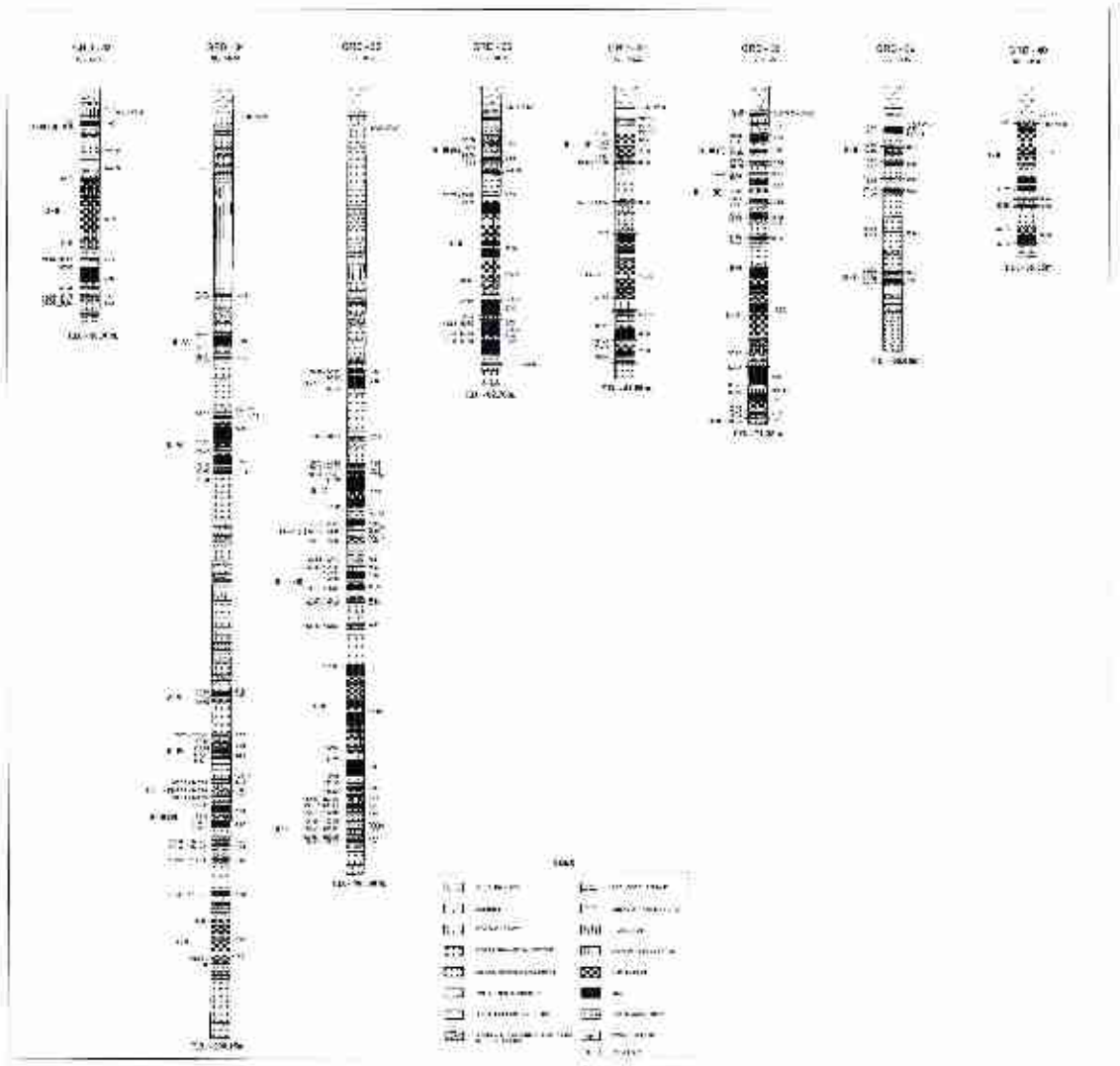
Plan / Plate 6A3



NOTE: All Figures are in meters

MINE PLAN & MINE CLOSURE PLAN(Modified) OF GURMAHISHI ABC COAL MINE, RANIGANJ COALFIELD, WEST BENGAL STATE,PASCHIM BARDHAMAN DISTRICT.			
Subject: GRAPHIC LITHOLOGS OF BOREHOLES (GRD-17,18 & GRD-22,23,24)			
Client: WEST BENGAL MINERAL DEVELOPMENT & TRADING CORPORATION LTD.			
Submitted By: INDIAN MINE PLANNERS & CONSULTANTS			
Plate No: 6A3	Dwg No: GC/ABC/01	Scale 1:400	Date: FEB, 2023

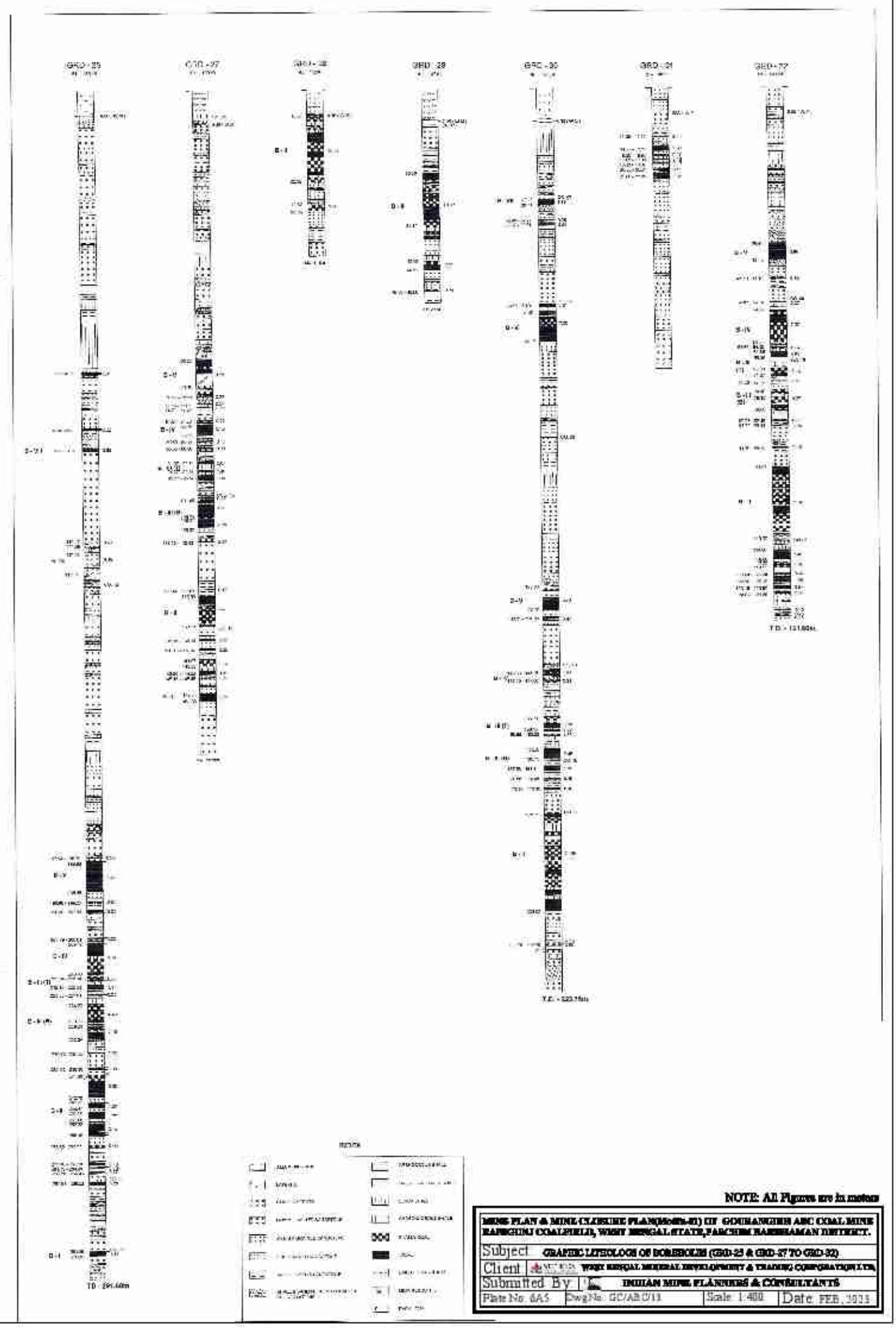
Plan / Plate 6A4



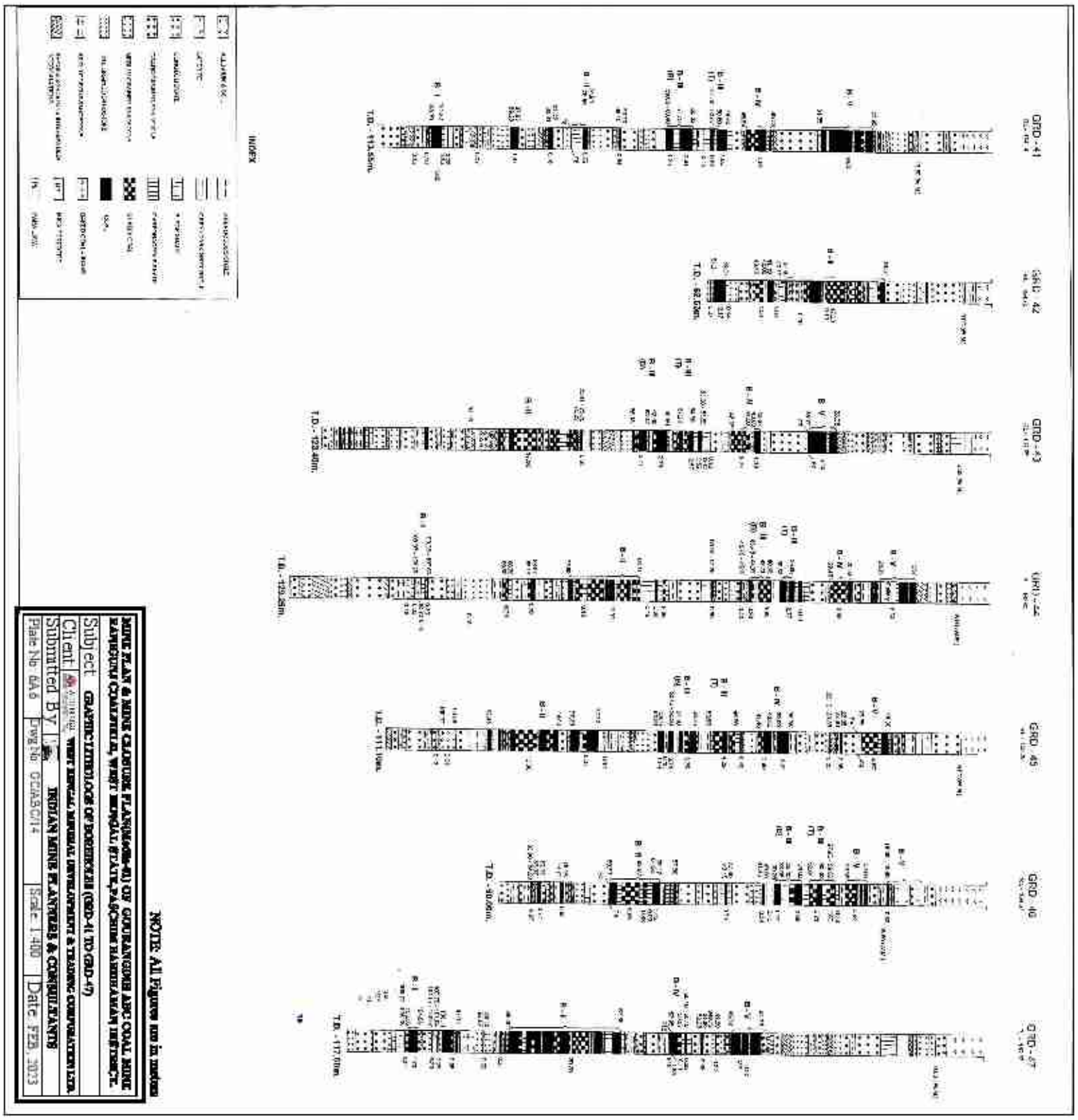
NOTE: All Figures are in metres

MINE PLAN & MINE CLOSURE PLAN(Modified) OF GOURANGDIH ABC COAL MINE RANIGANJ COALFIELD, WEST BENGAL STATE,PASCHIM BARDHAMAN DISTRICT.			
Subject: GRAPHIC LITHOLOGS OF BOREHOLES (GBD-39 TO GBD-48)			
Client: WEST BENGAL MINERAL DEVELOPMENT & TRADING CORPORATION LTD.			
Submitted By: INDIAN MINE PLANNERS & CONSULTANTS			
Plate No. 6A4	Dwg No. GC/ABC/11	Scale 1:400	Date: FEB, 2023

Plan / Plate 6A5



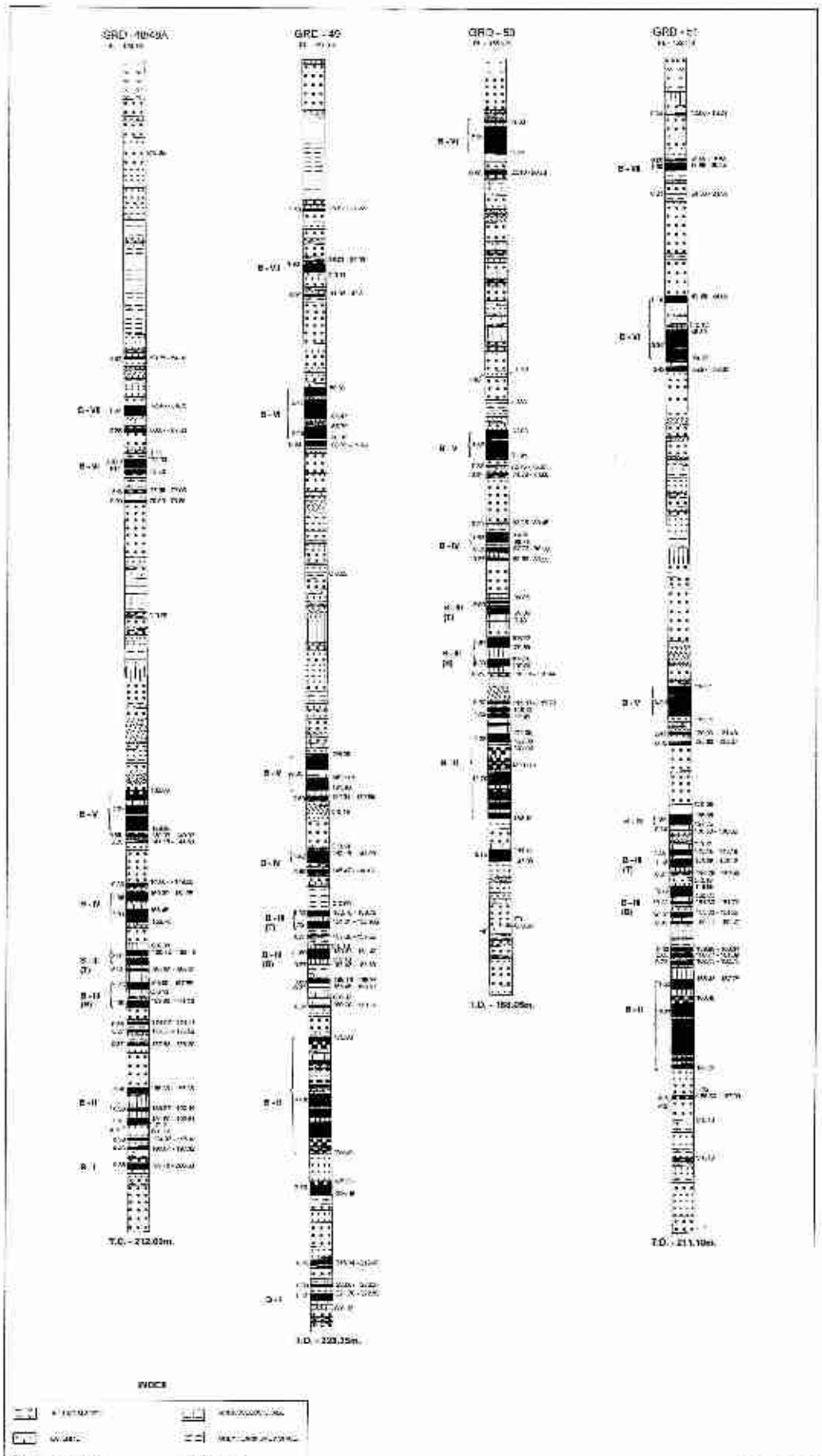
Plan / Plate 6A6



NOTE: All Figures are in metres

MINE PLAN & MINE CLOSURE PLAN(2020-40) OF GOURANGDIH ABC COAL MINE RANIGUNJ COALFIELD, WEST BENGAL, STATE, PA&CHIM BARDHAMAN DISTRICT.	
Subject	GRAPHICS/TOPOLOGY OF BOREHOLES (GRD-41 TO GRD-47)
Client	WEST BENGAL MINERAL DEVELOPMENT & TRADING CORPORATION LTD.
Submitted By	INDIAN MINE PLANNERS & CONSULTANTS
Plate No 6A6	Drwg No GDIA3C/14 / Scale 1:400 / Date FEB, 2023

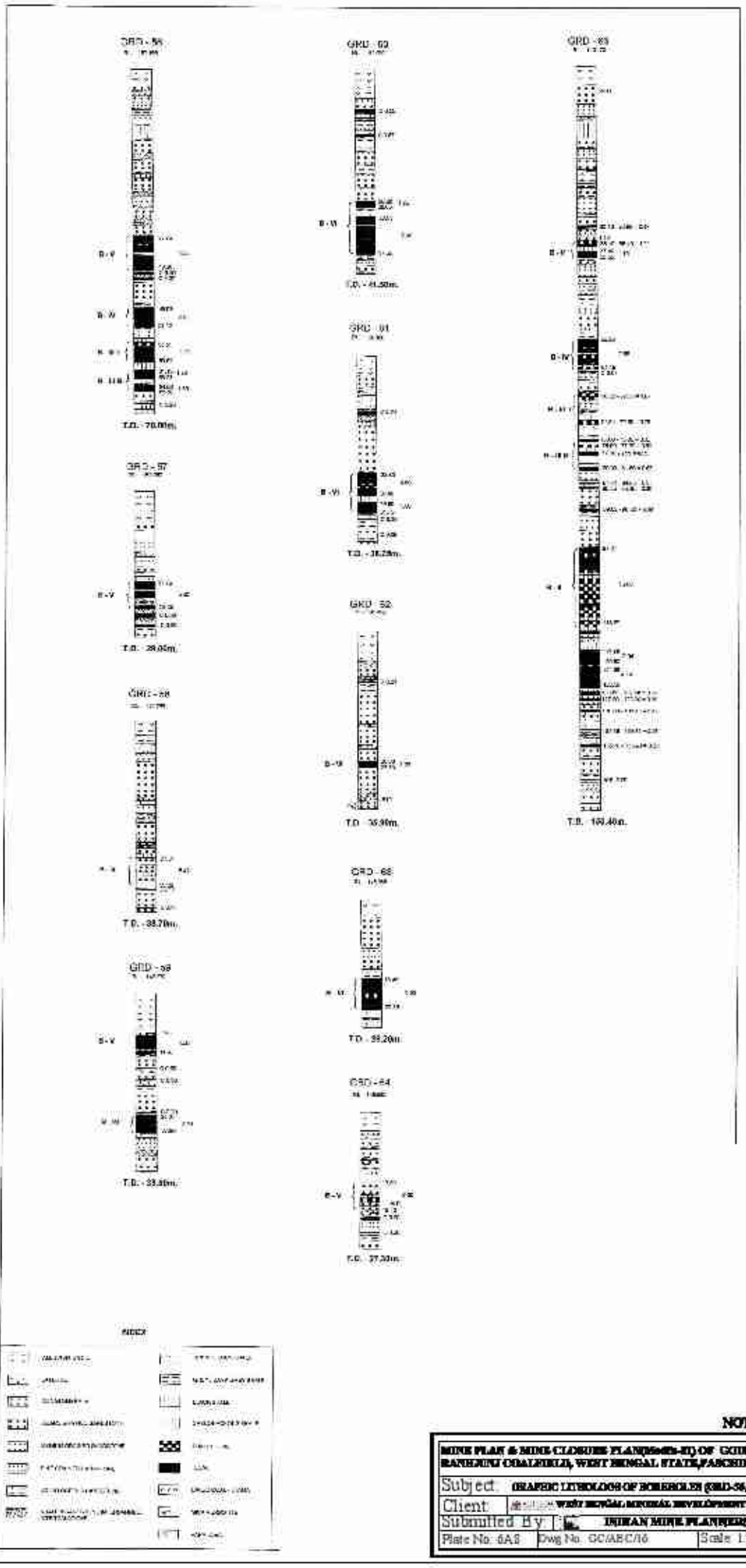
Plan / Plate 6A7



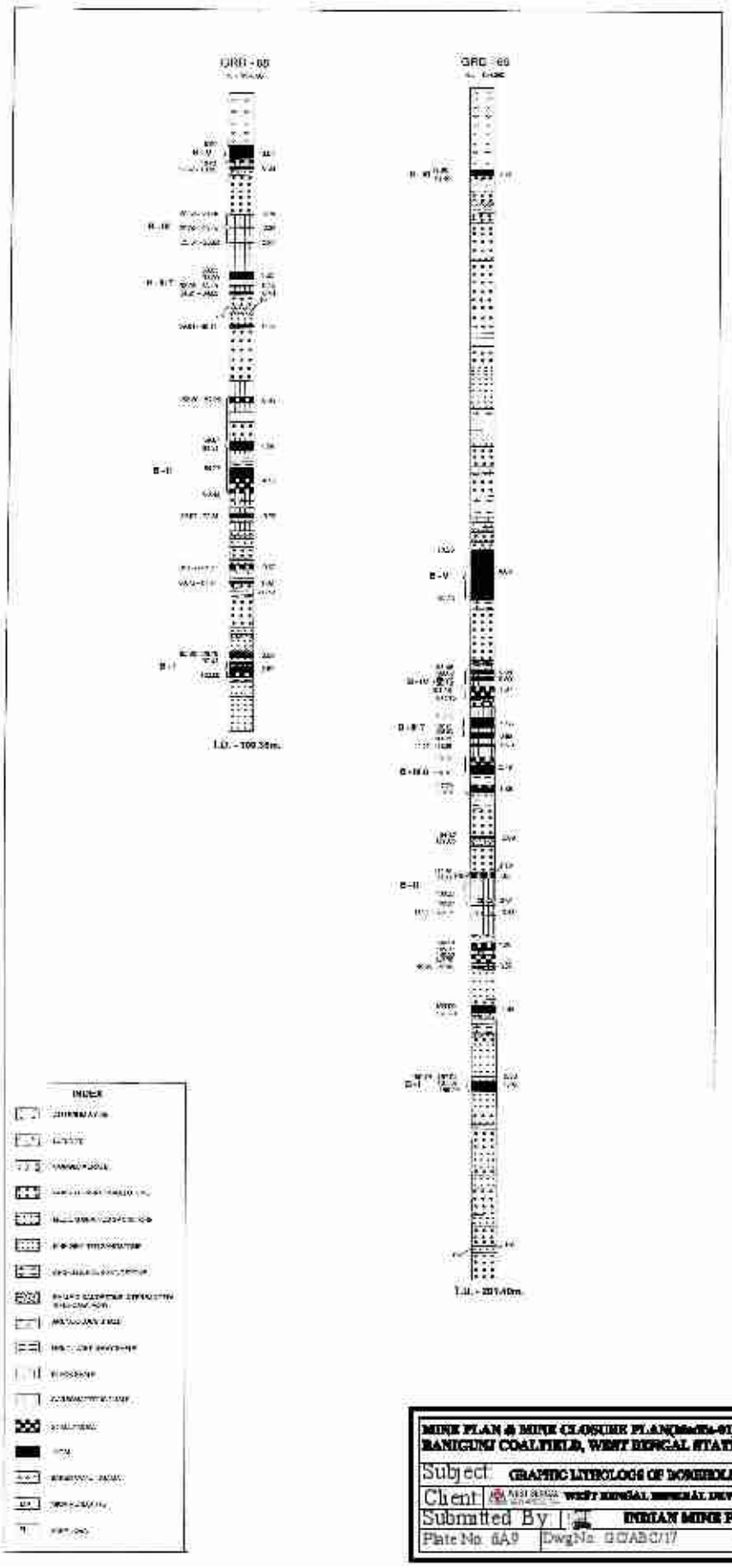
NOTE: All Figures are in meters

MINE PLAN & MINE CLOSURE PLAN(Modle-II) OF GOURANGDIH ABC COAL MINE, RANIGANJ COALFIELD, WEST BENGAL STATE,PASCHIM BARDHAMAN DISTRICT.			
Subject	GRAPHIC LITHOLOGS OF BOREHOLES (GRD-46/46A TO GRD-57)		
Client	WEST BENGAL MINERAL DEVELOPMENT & TRADING CORPORATION LTD.		
Submitted By:	INDIAN MINE PLANNERS & CONSULTANTS		
Plate No. 6A7	Dwg No GCIABC/15	Scale: 1:400	Date: FEB, 2023

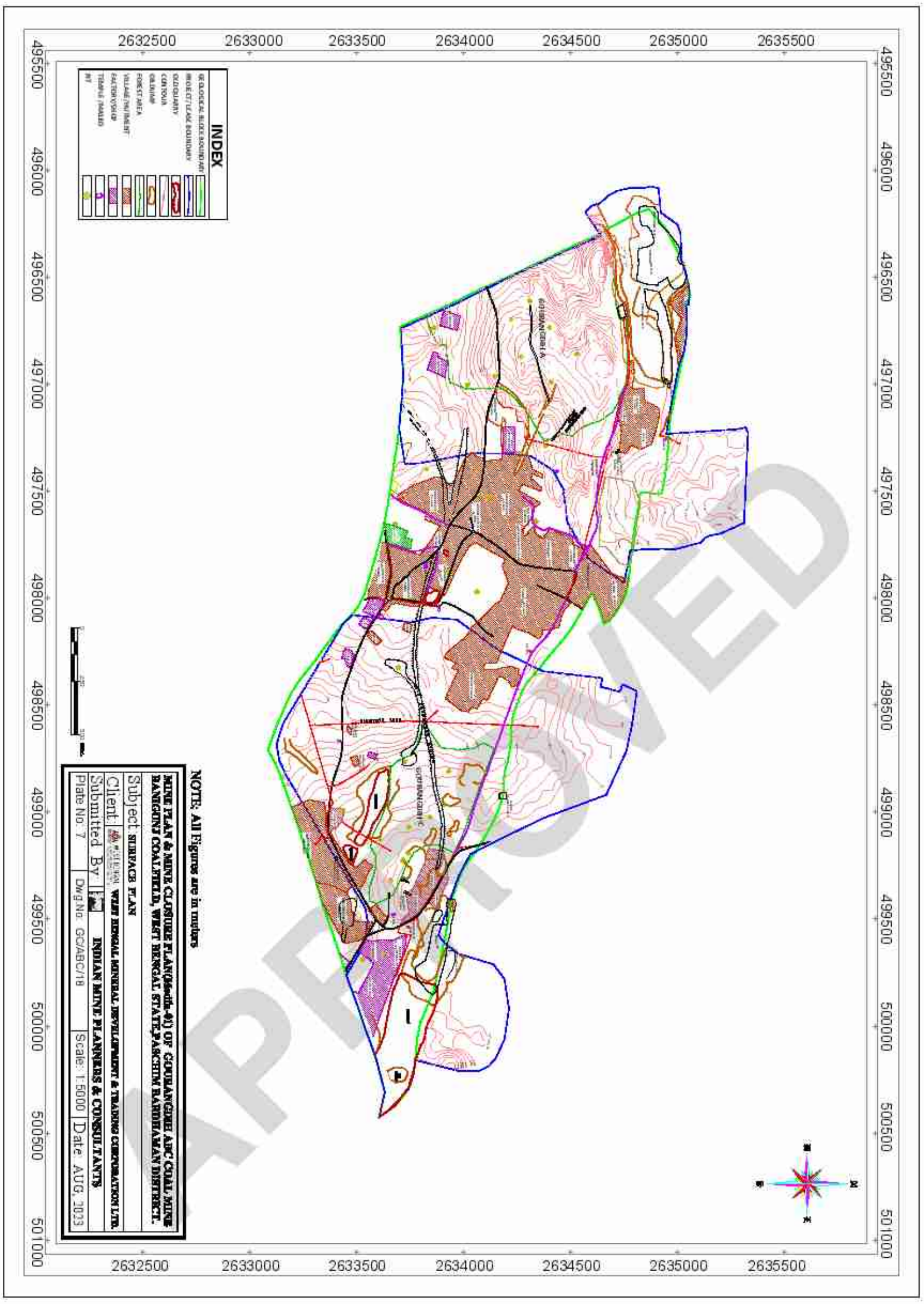
Plan / Plate 6A8



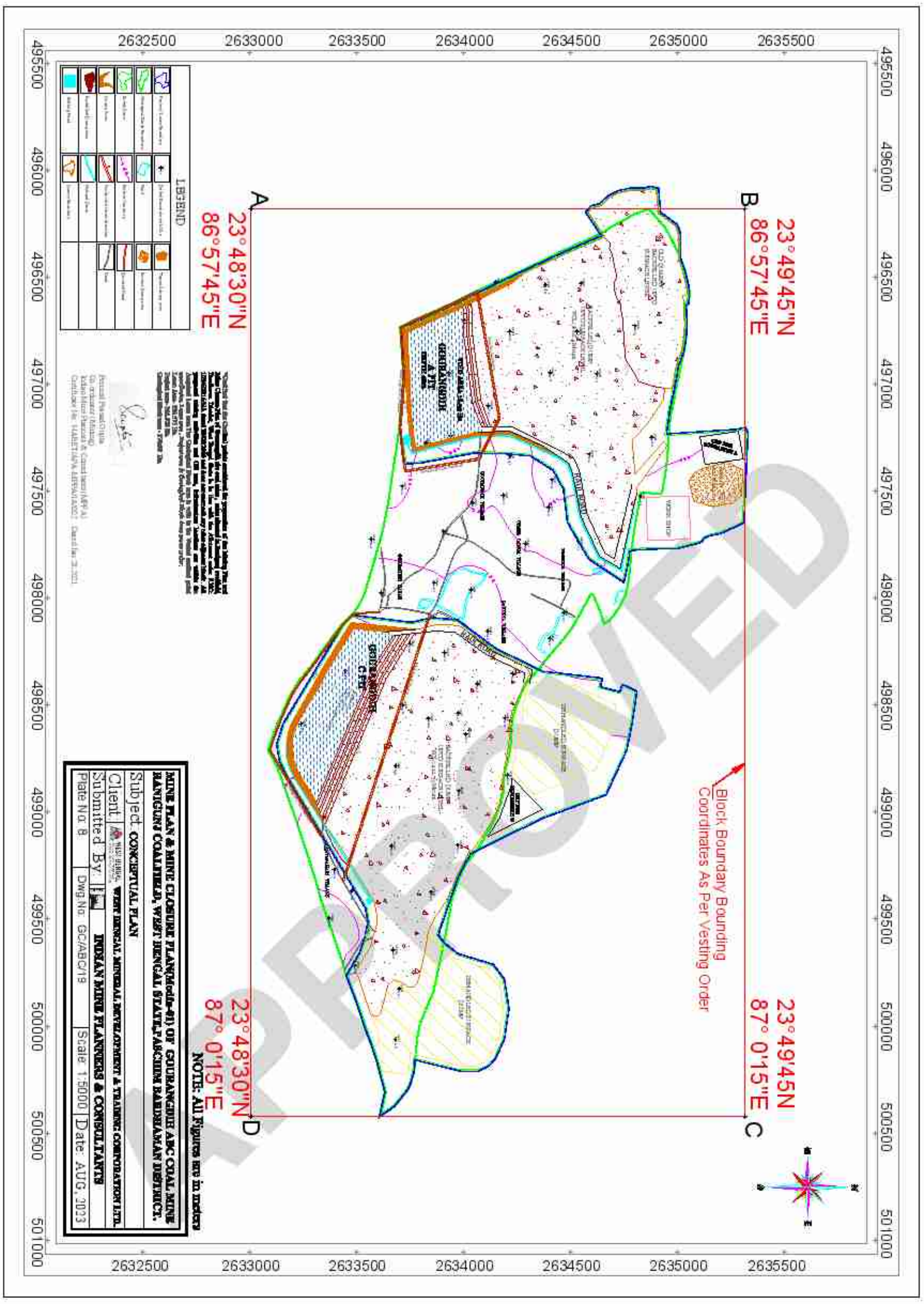
Plan / Plate 6A9



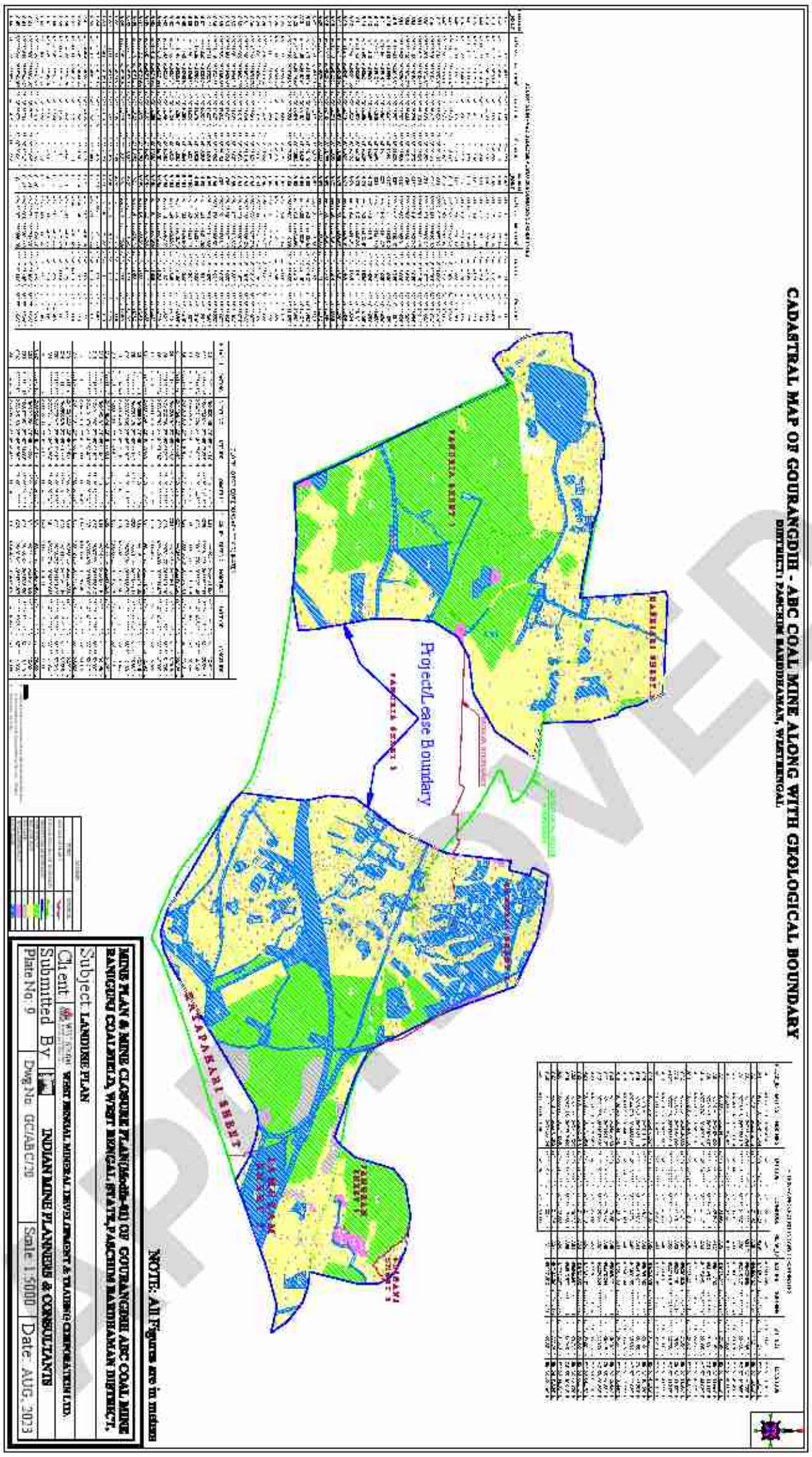
Plan / Plate 7



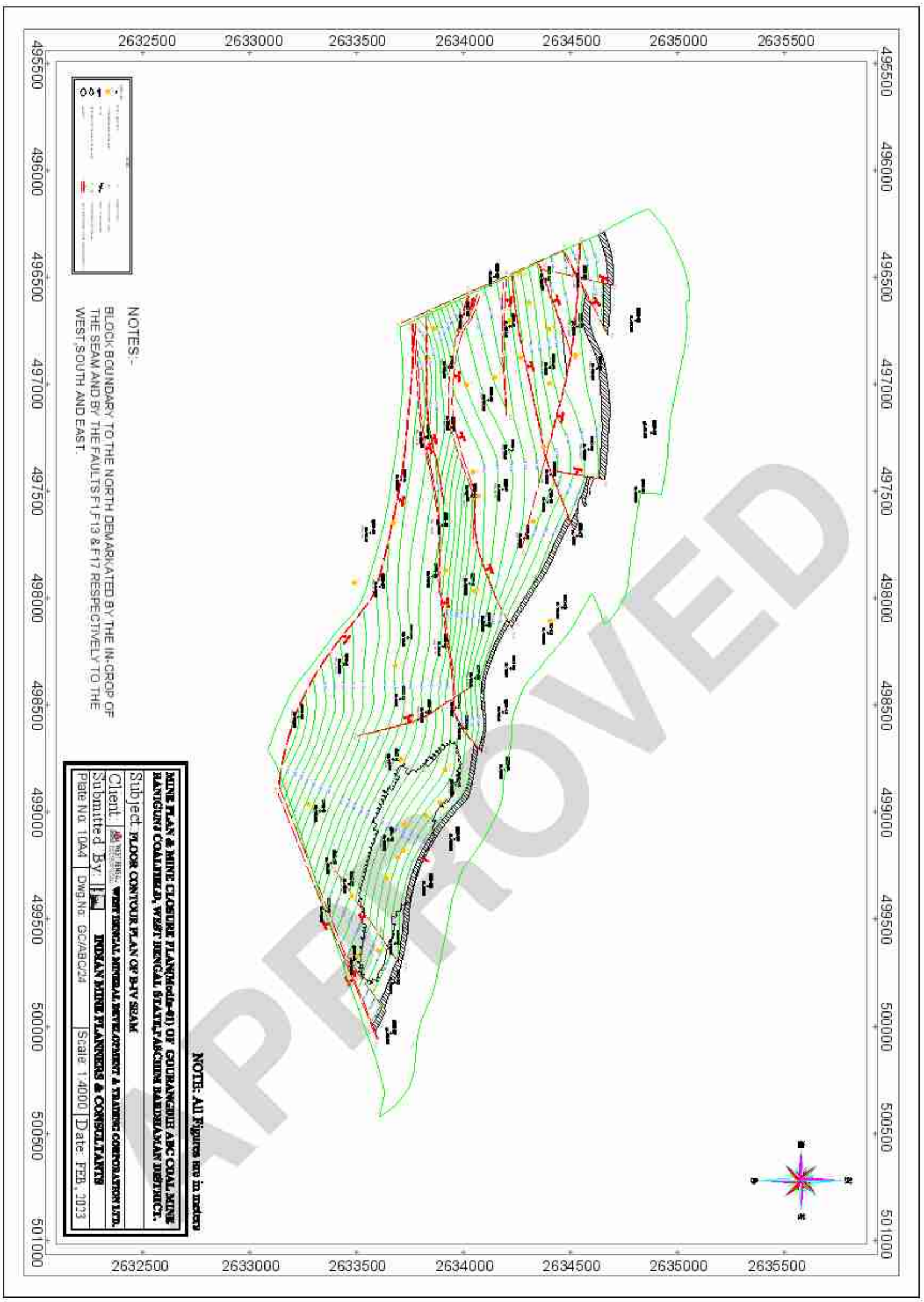
Plan / Plate 8



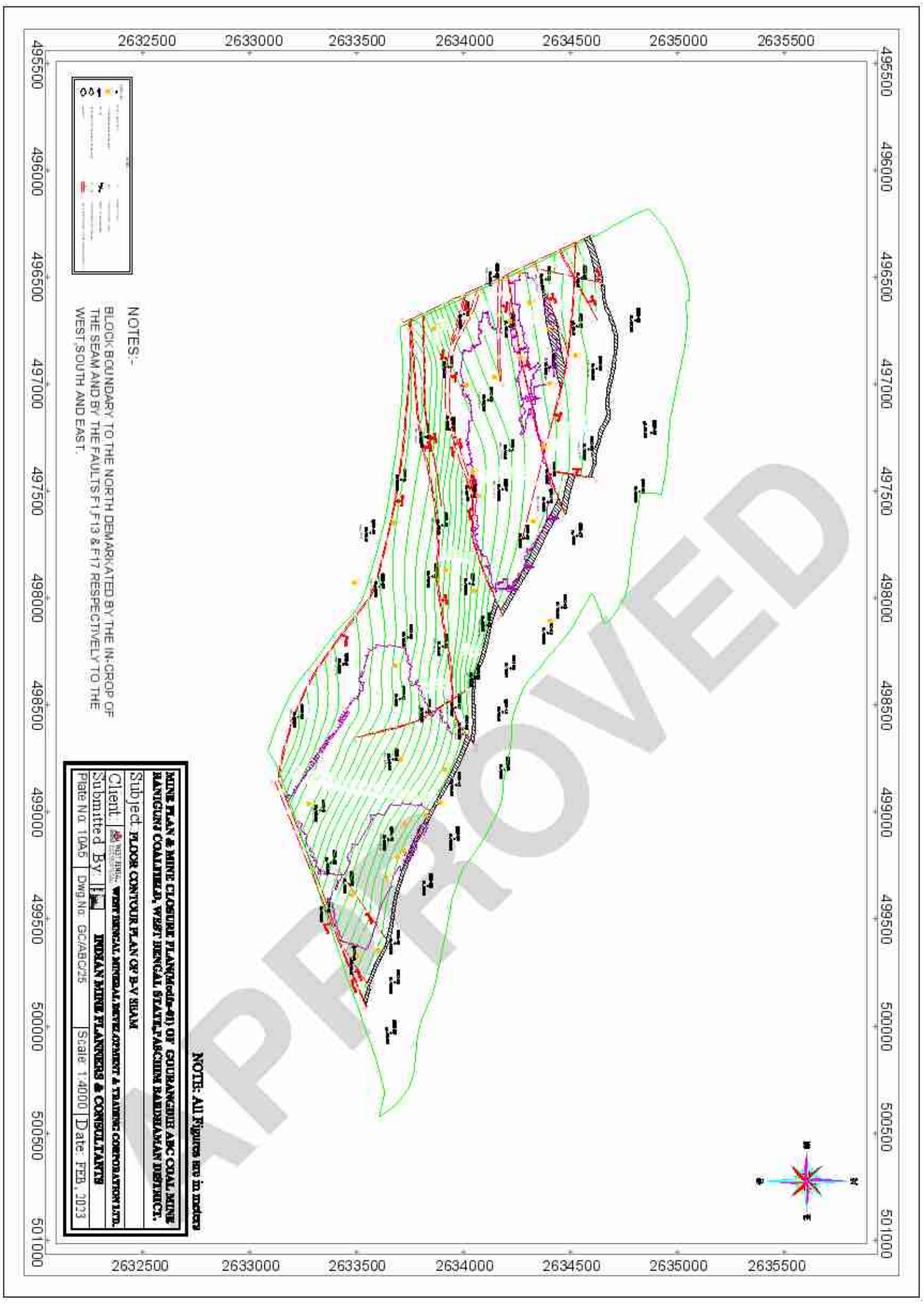
Plan / Plate 9



Plan / Plate 10A1

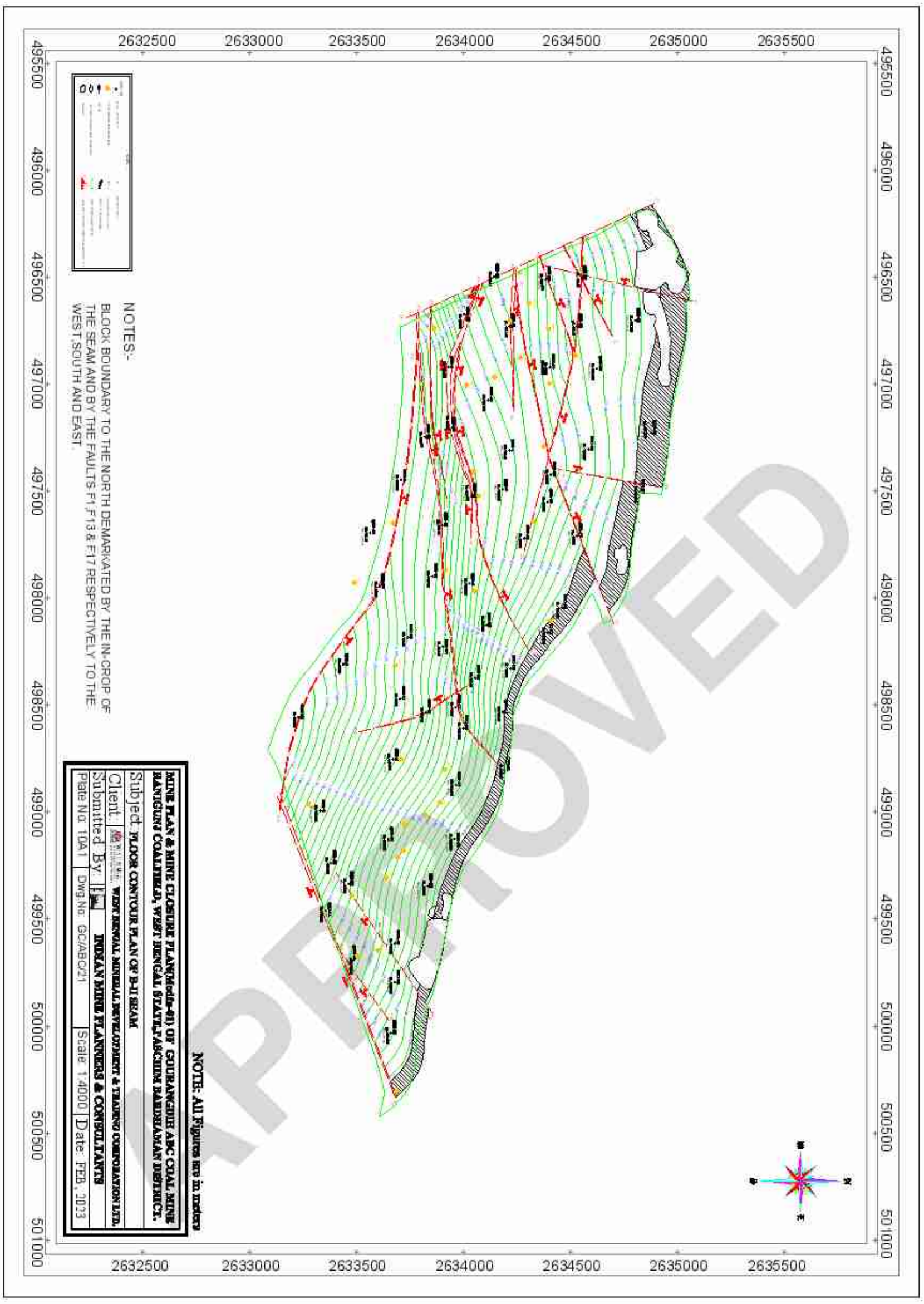


Plan / Plate 10A2

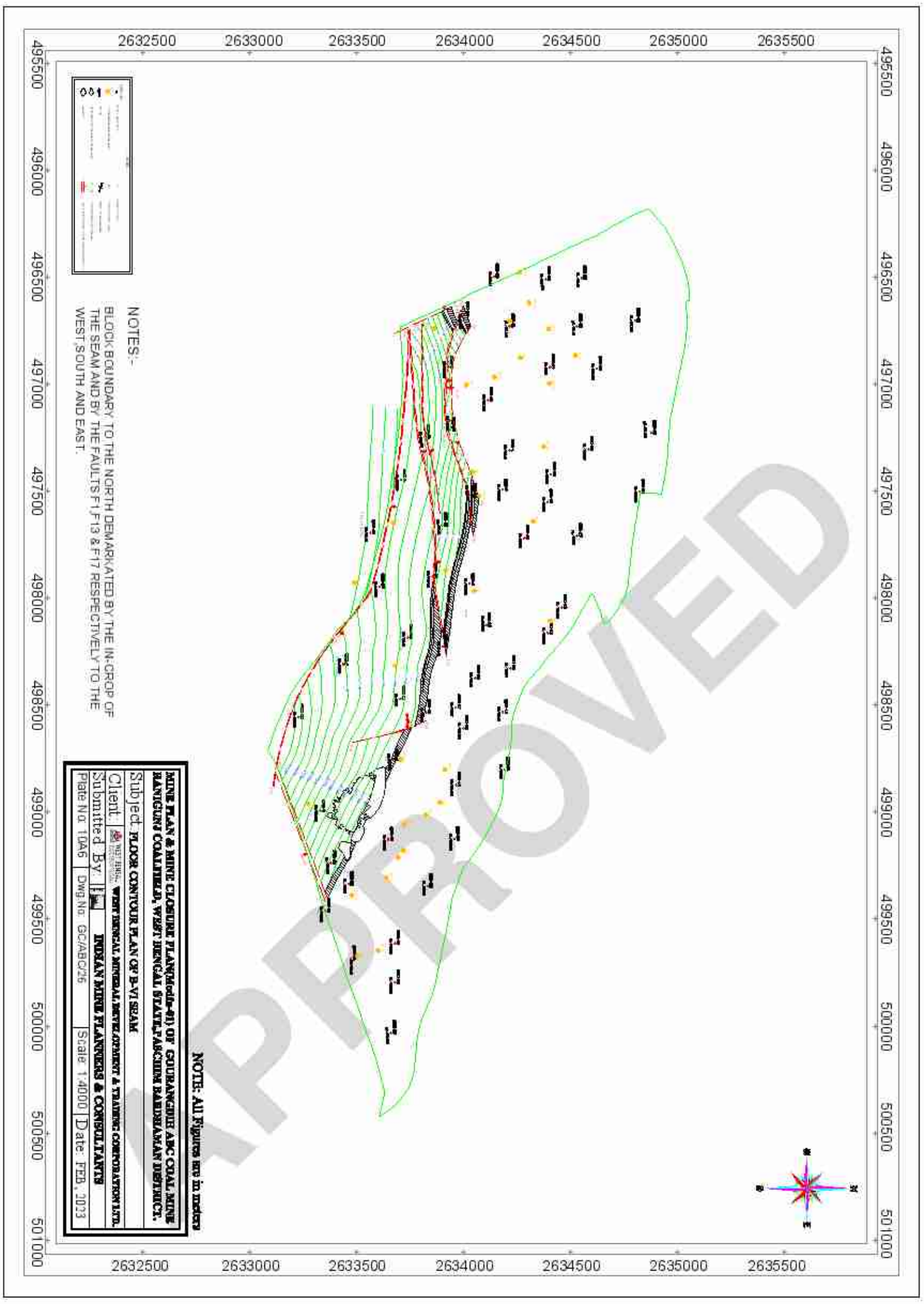


Prepared By Indian Mine Planners and Consultants On 23/02/2023

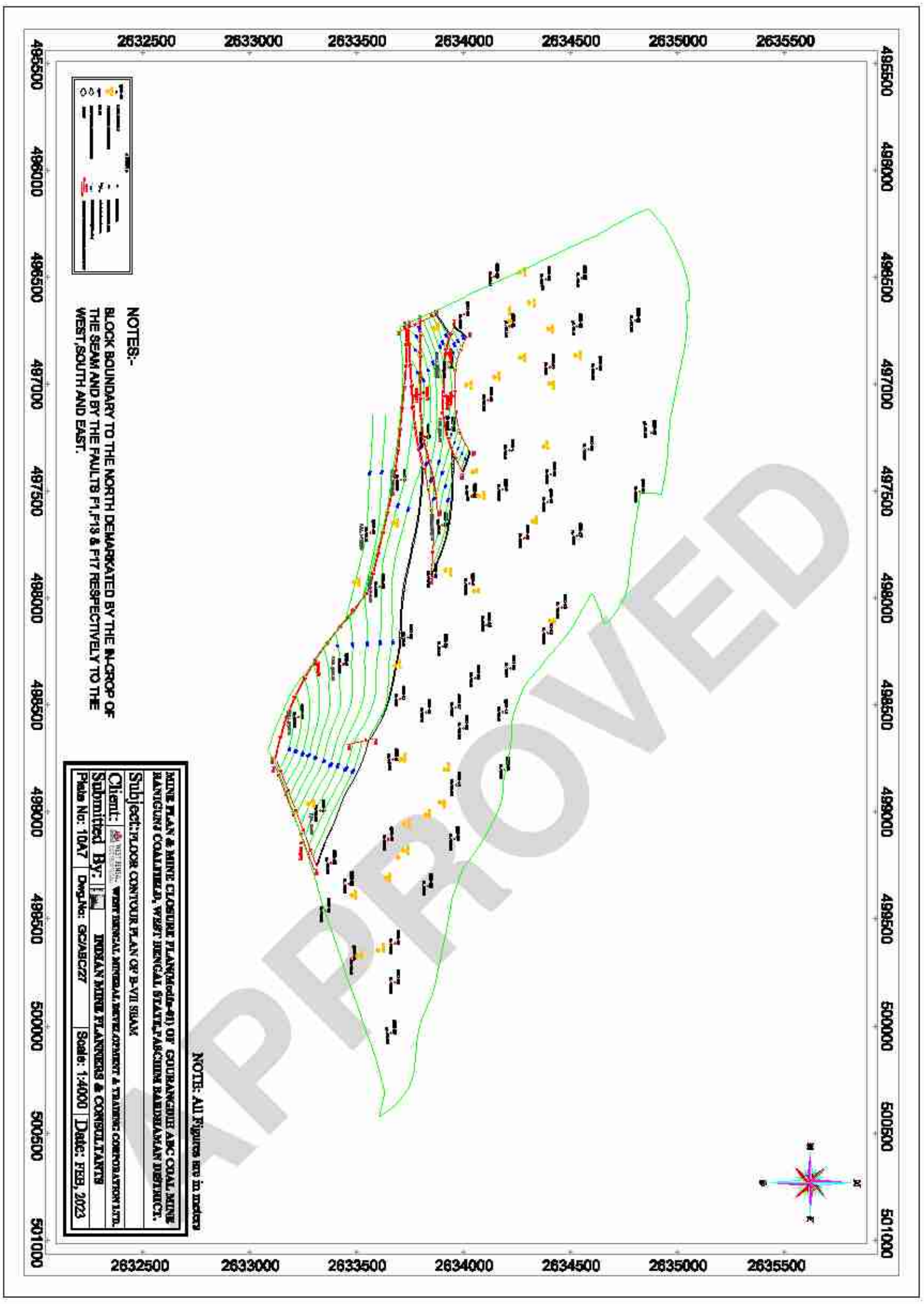
Plan / Plate 10A3



Plan / Plate 10A4

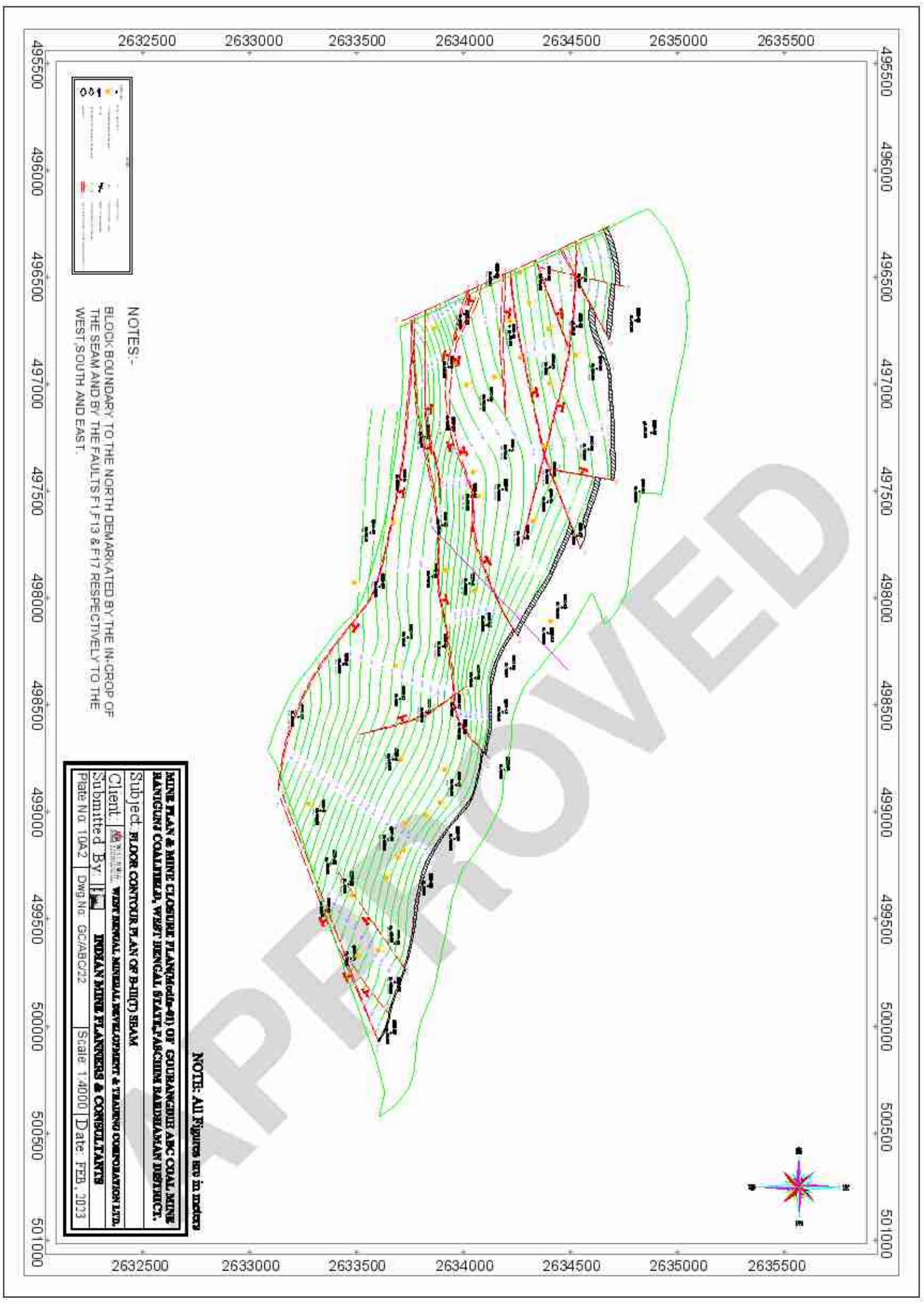


Plan / Plate 10A5

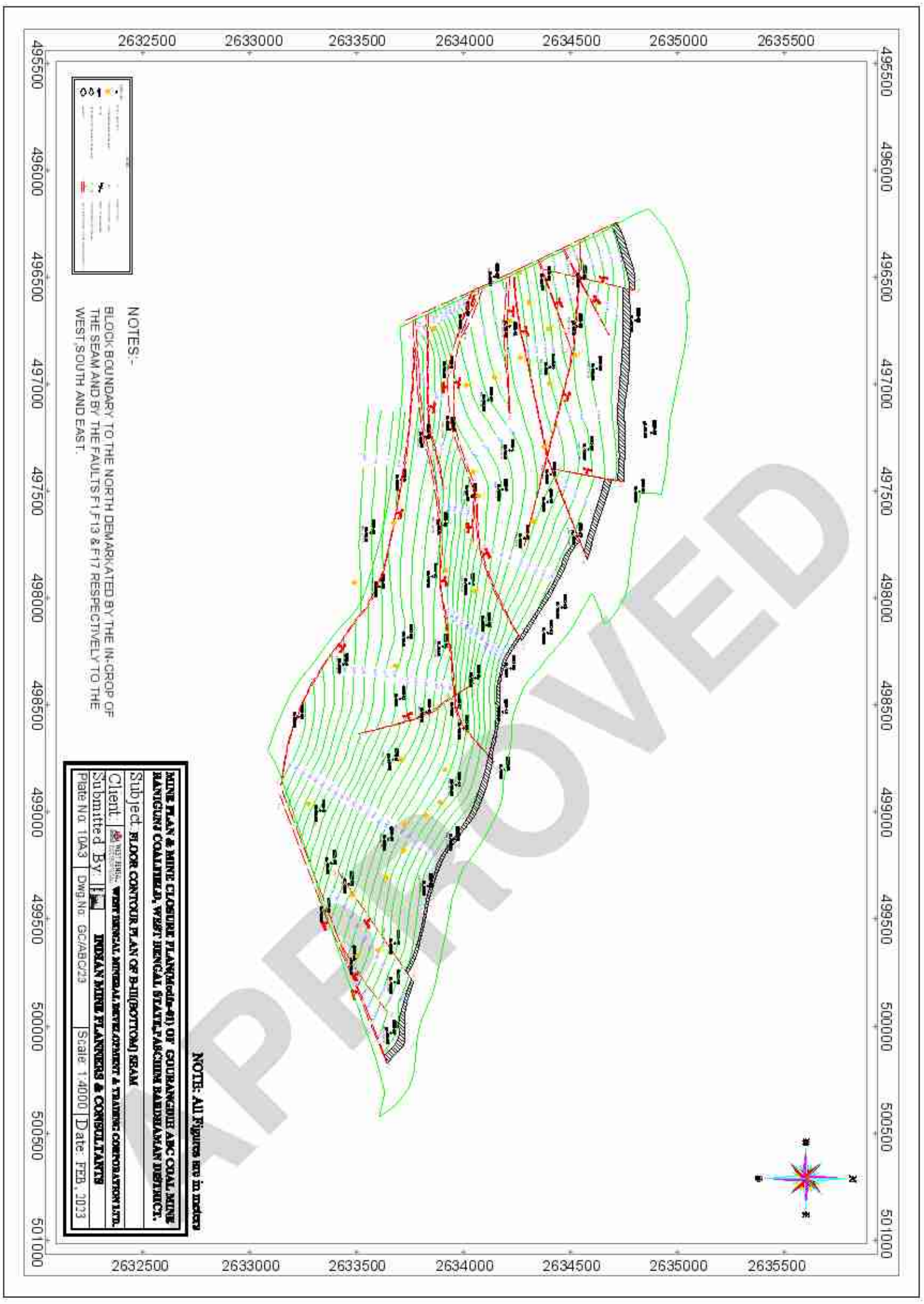


Prepared By Indian Mine Planners and Consultants On 23/02/2023

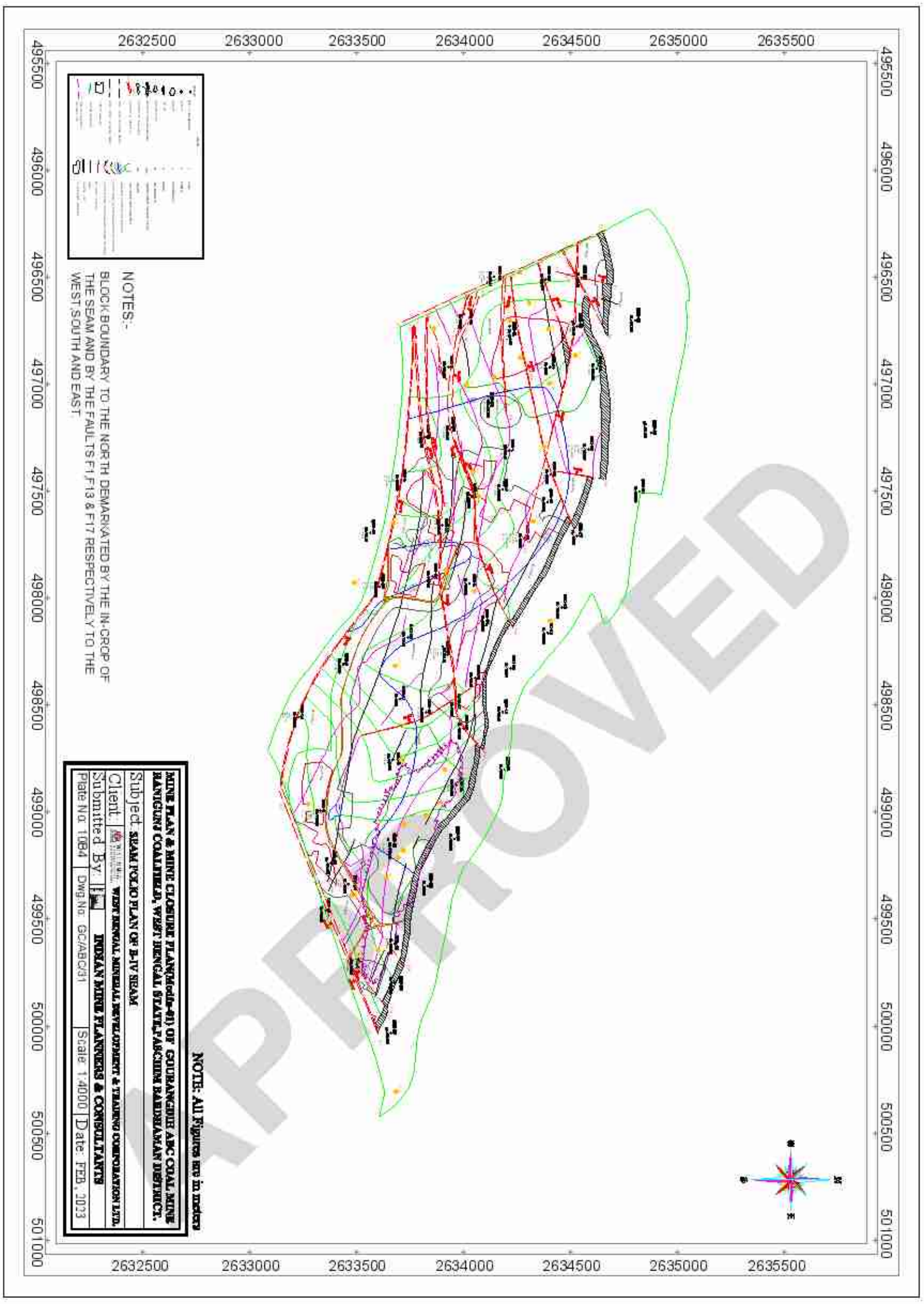
Plan / Plate 10A6



Plan / Plate 10A7

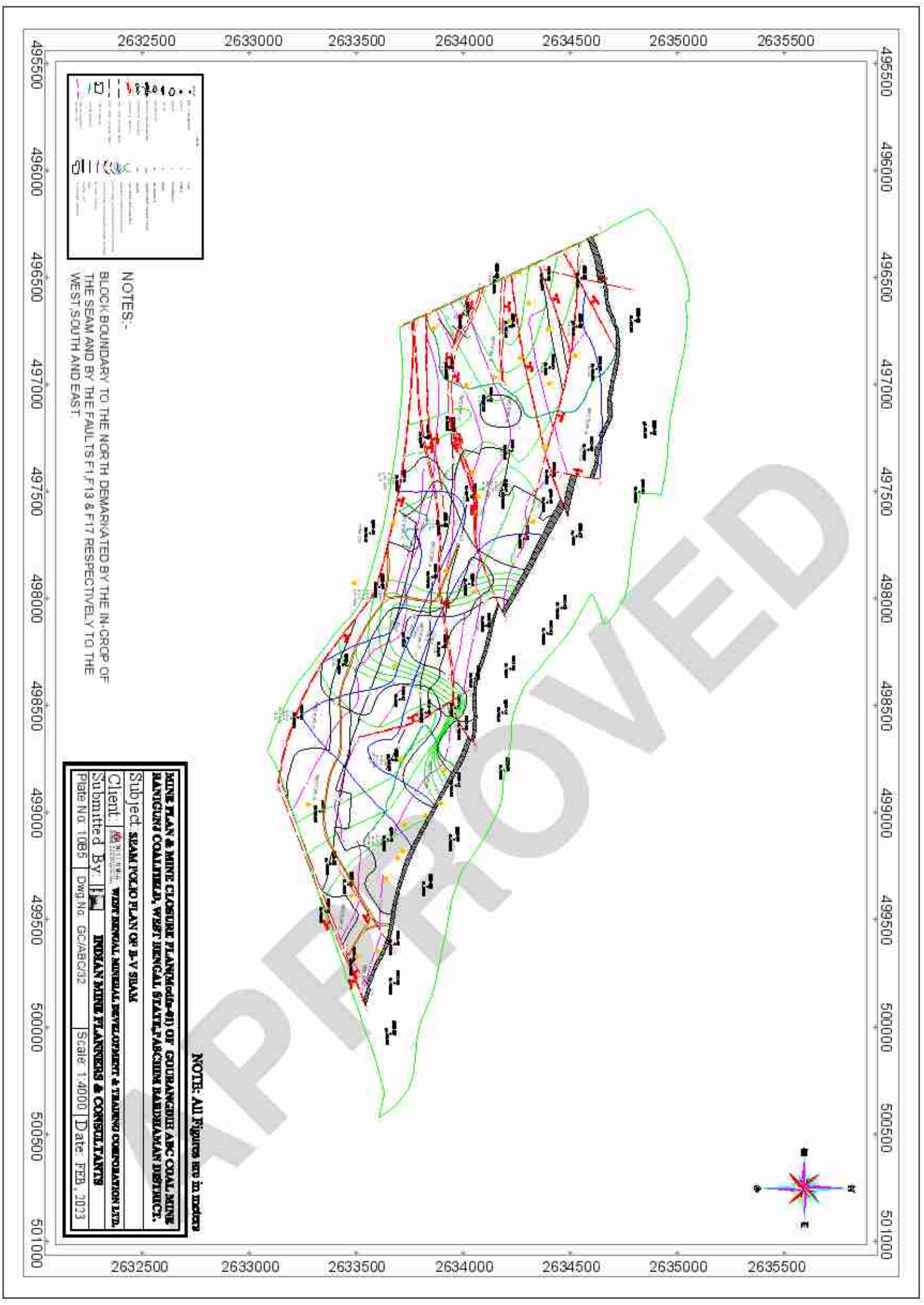


Plan / Plate 10B1

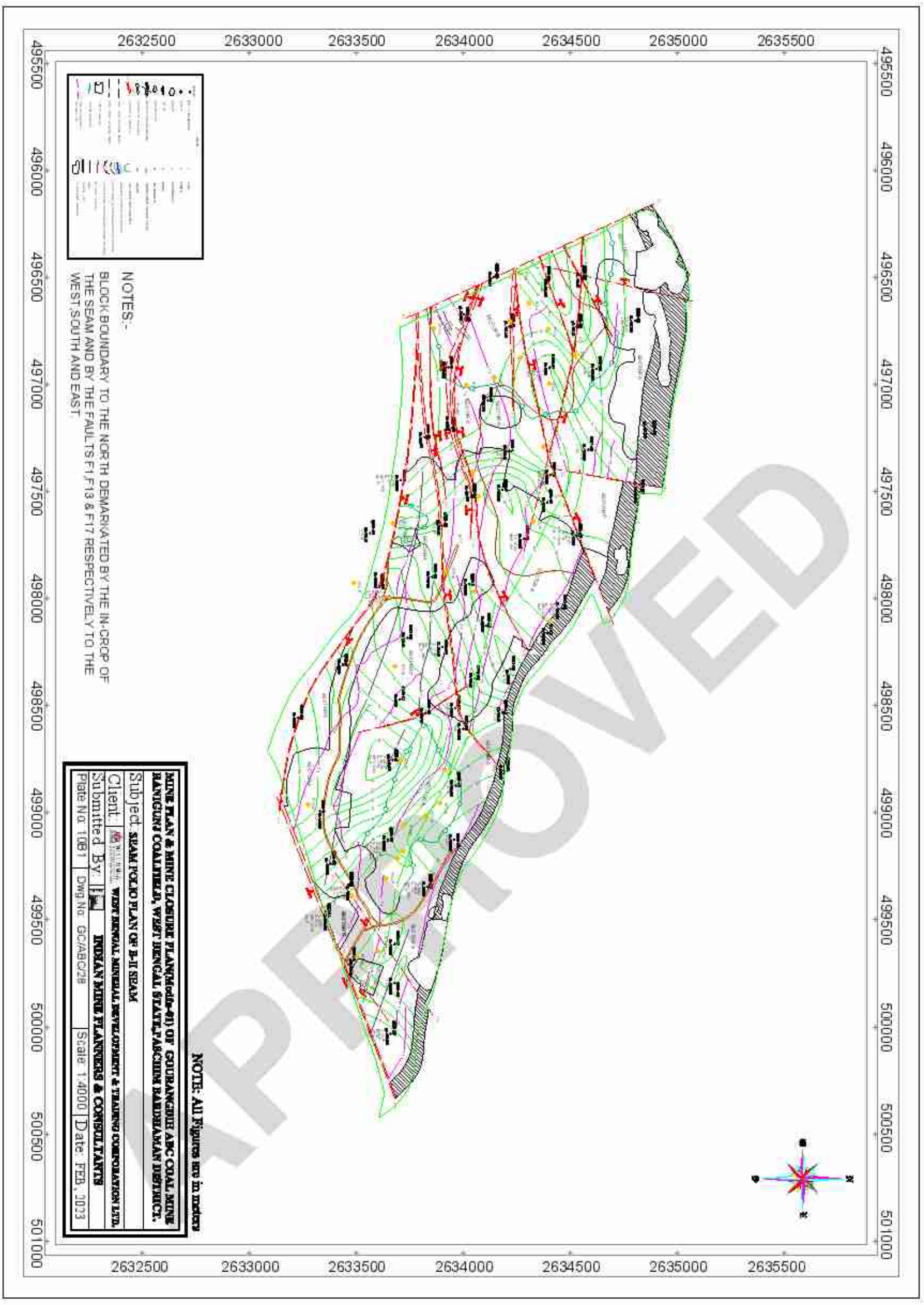


Prepared By Indian Mine Planners and Consultants On 23/02/2023

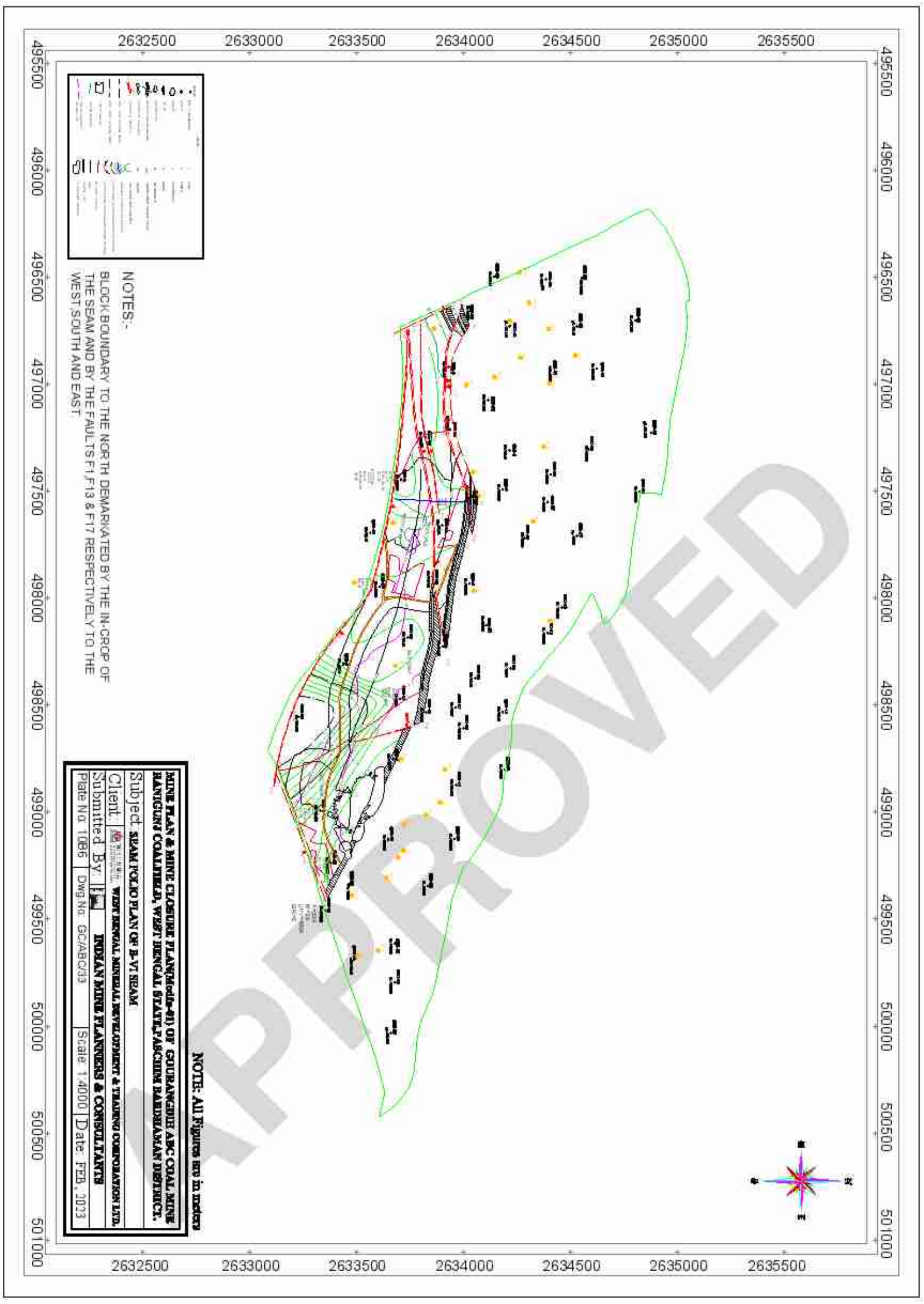
Plan / Plate 10B2



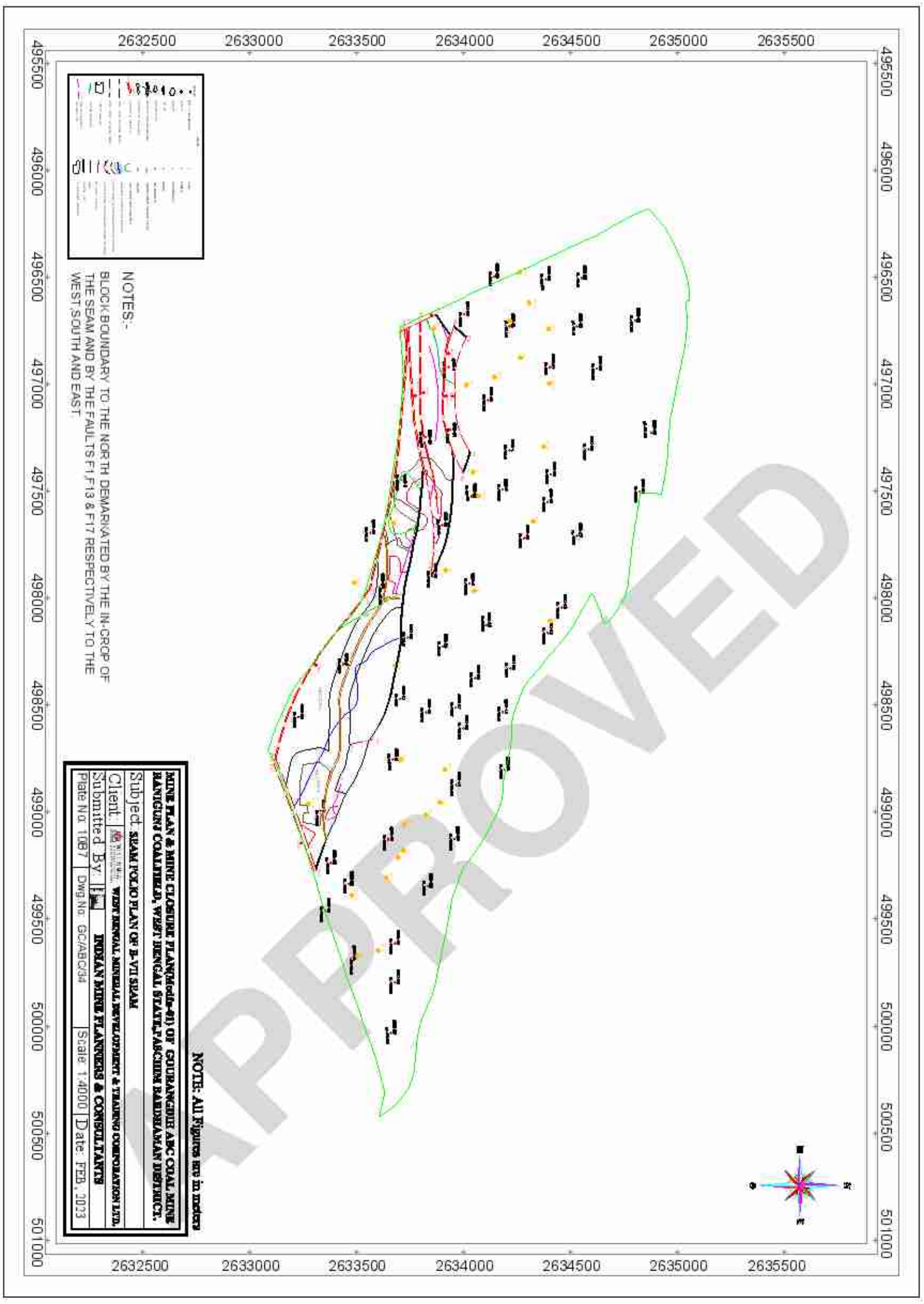
Plan / Plate 10B3



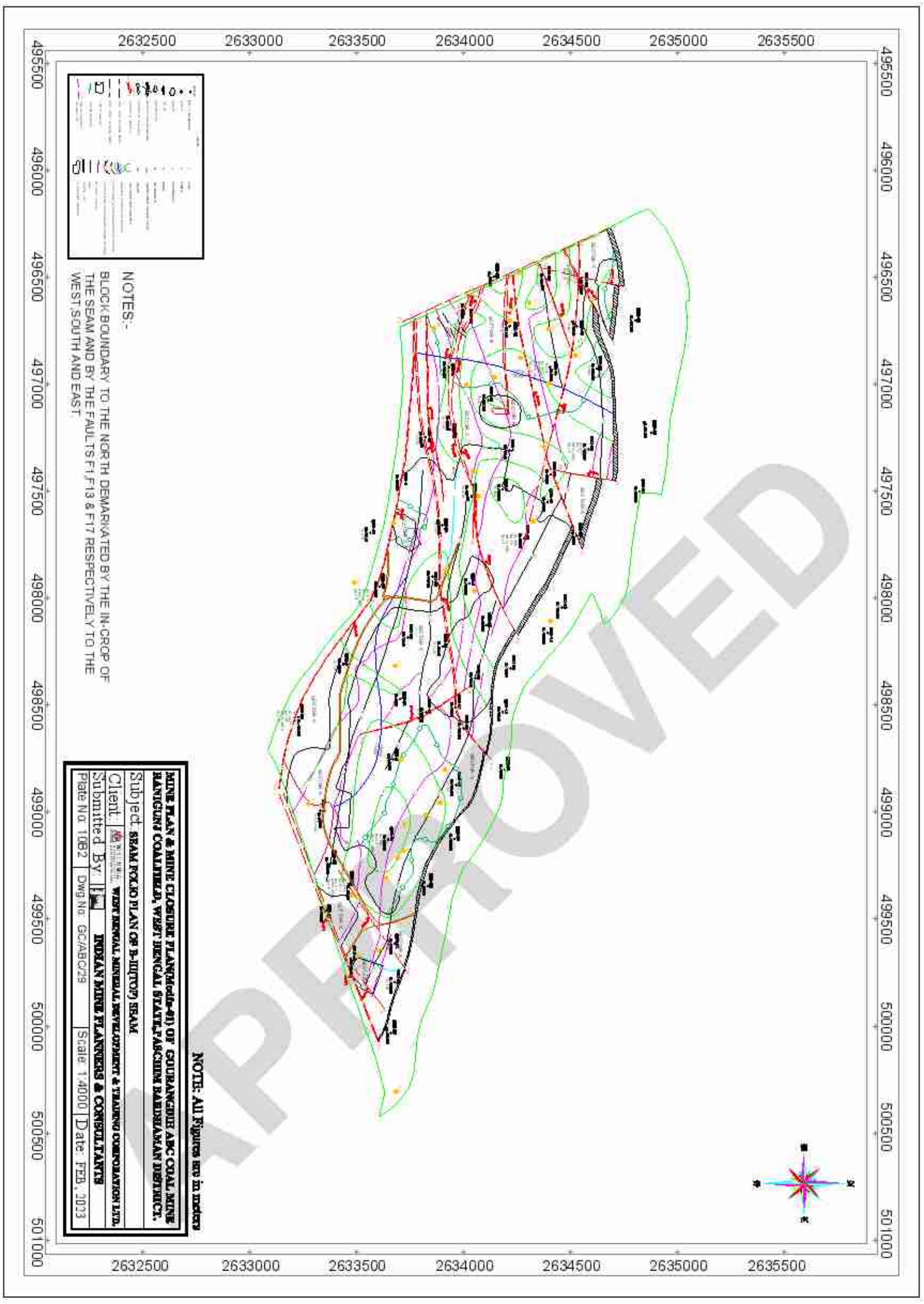
Plan / Plate 10B4



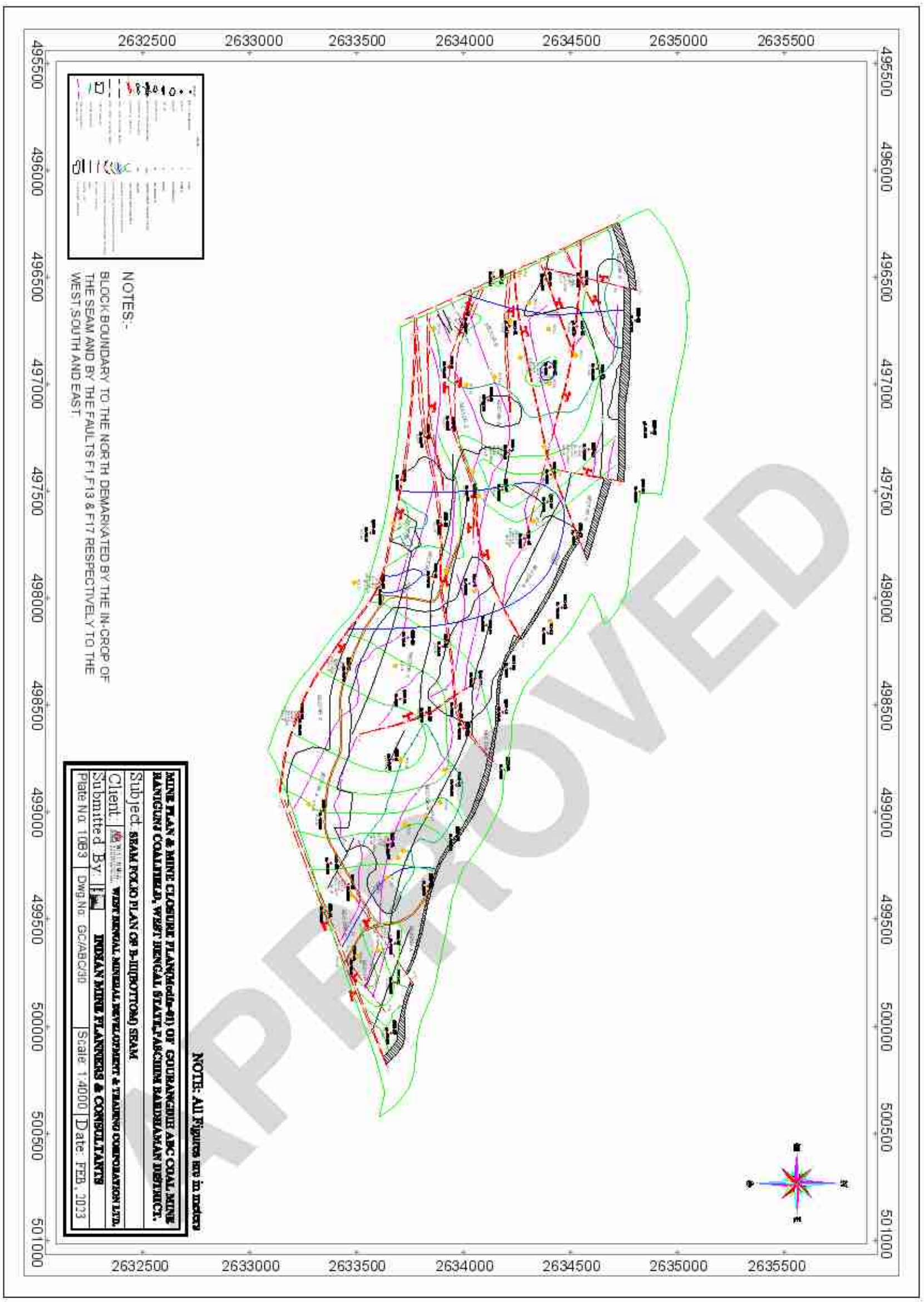
Plan / Plate 10B5



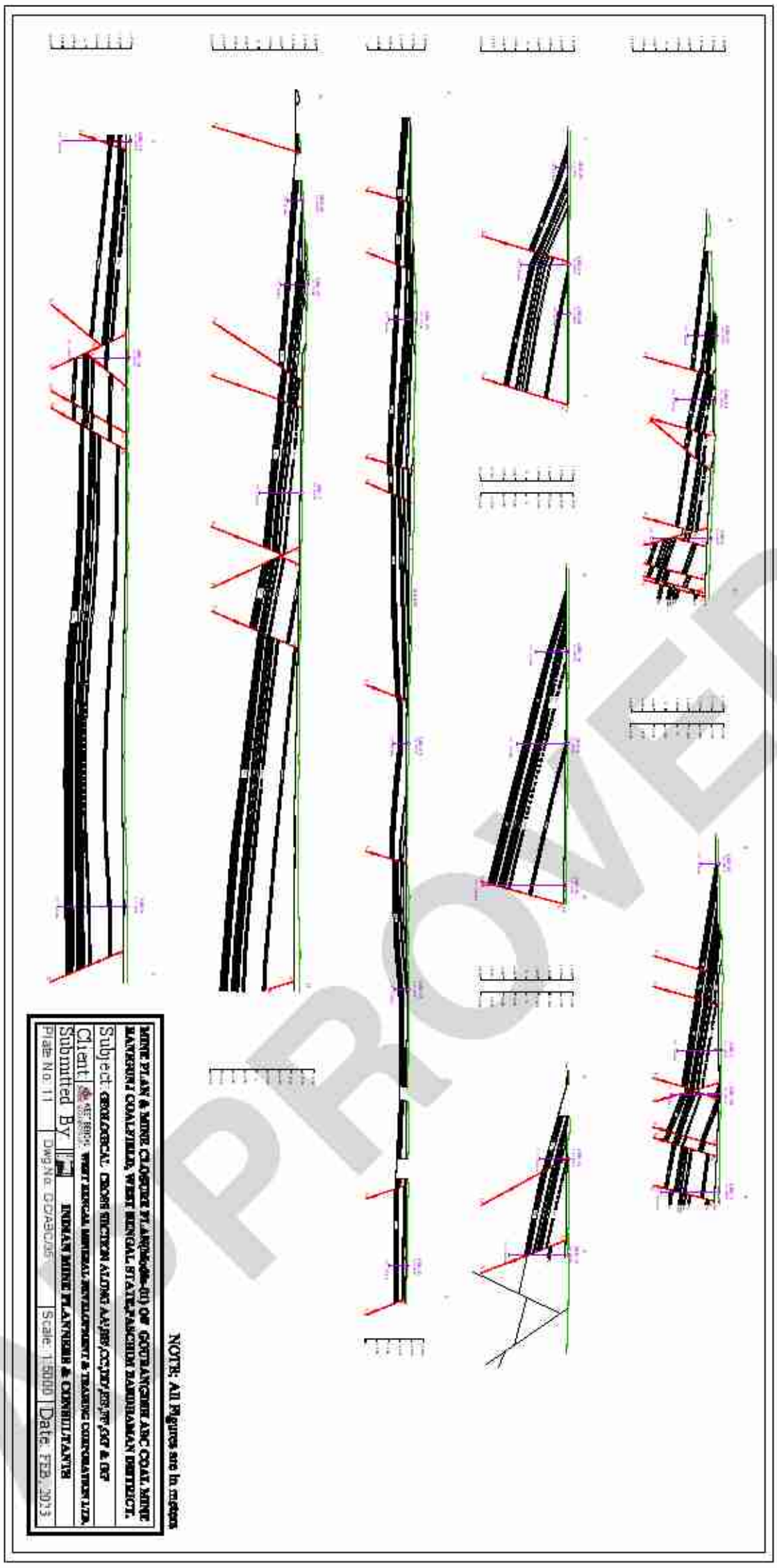
Plan / Plate 10B6



Plan / Plate 10B7



Plan / Plate 11A1



MINE PLAN & MINE CLOSURE PLAN(Modified) OF GOTBANGSHI ADC COAL MINE
RANGRUM COALFIELD, WEST BENGAL STATE,PASCHIM BARDHAMAN DISTRICT.

Subject: GEOLOGICAL CROSS SECTION ALONG AA,BB,CC,DD,EE,FF,GG & HH

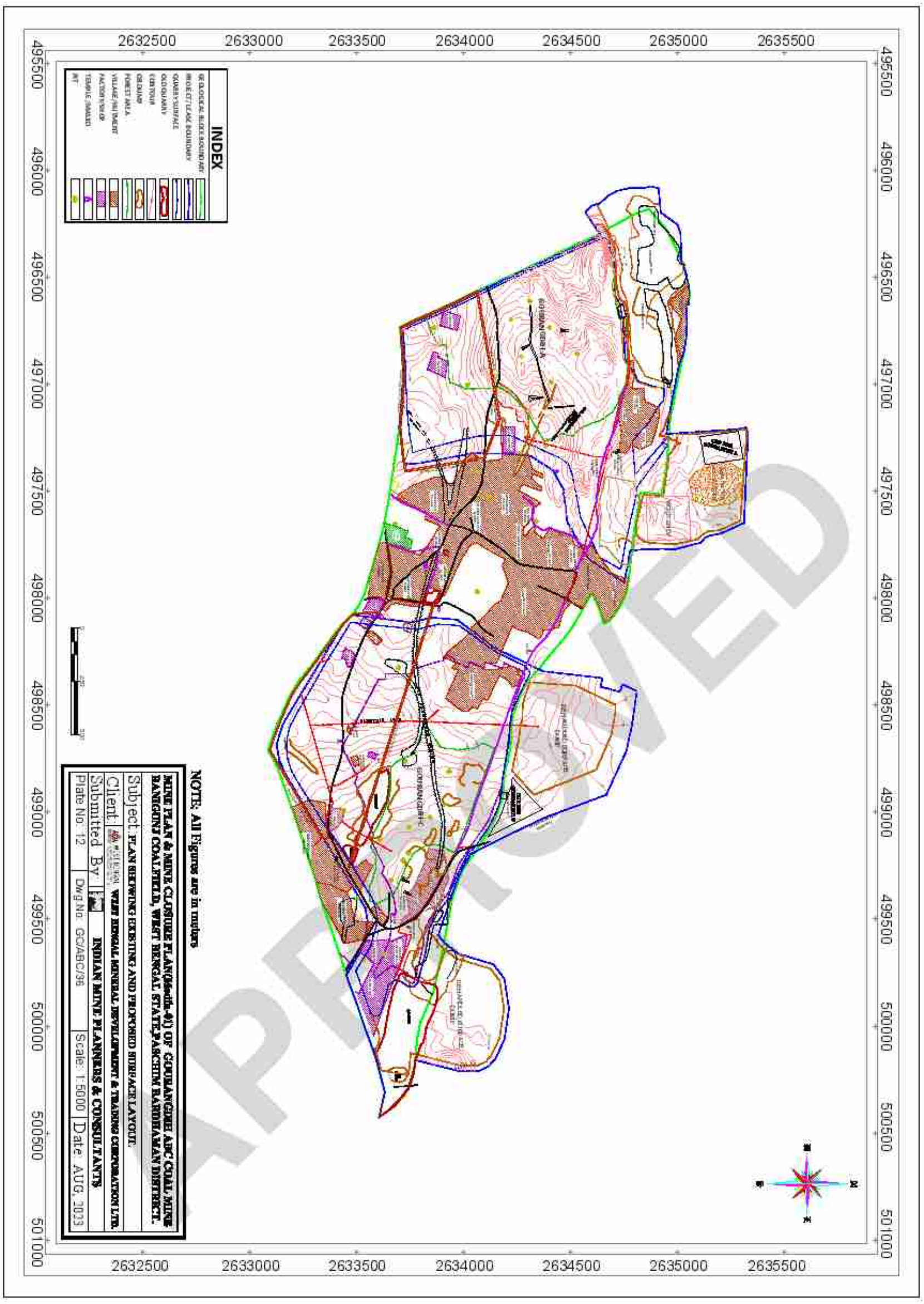
Client: WEST BENGAL MINERAL DEVELOPMENT & TRADING CORPORATION LTD.

Submitted By: INDIAN MINE PLANNERS & CONSULTANTS

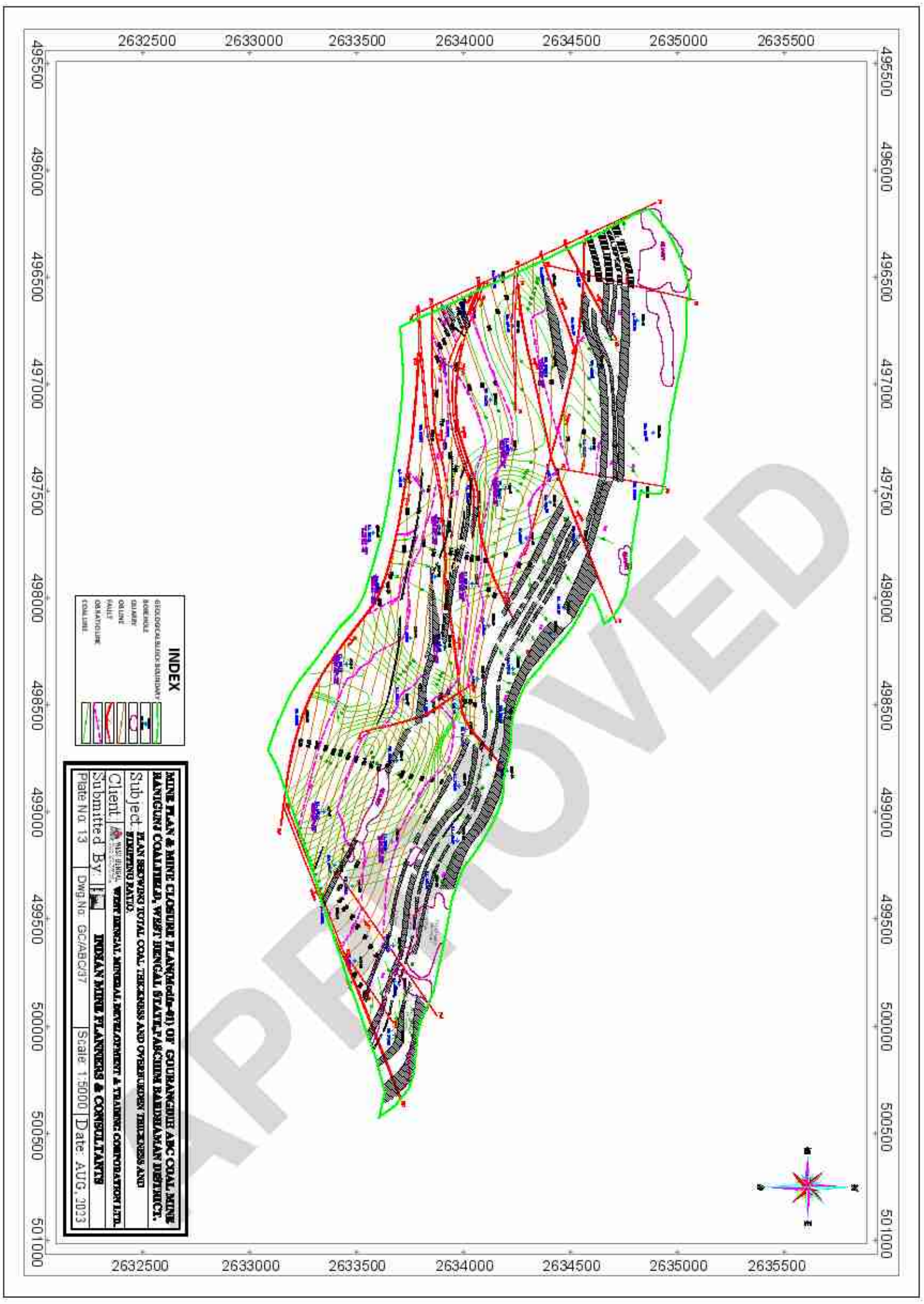
Plate No: 11 | Dwg No: GCA&CP5 | Scale: 1:5000 | Date: Feb, 2023

NOTE; All Figures are in meters

Plan / Plate 12

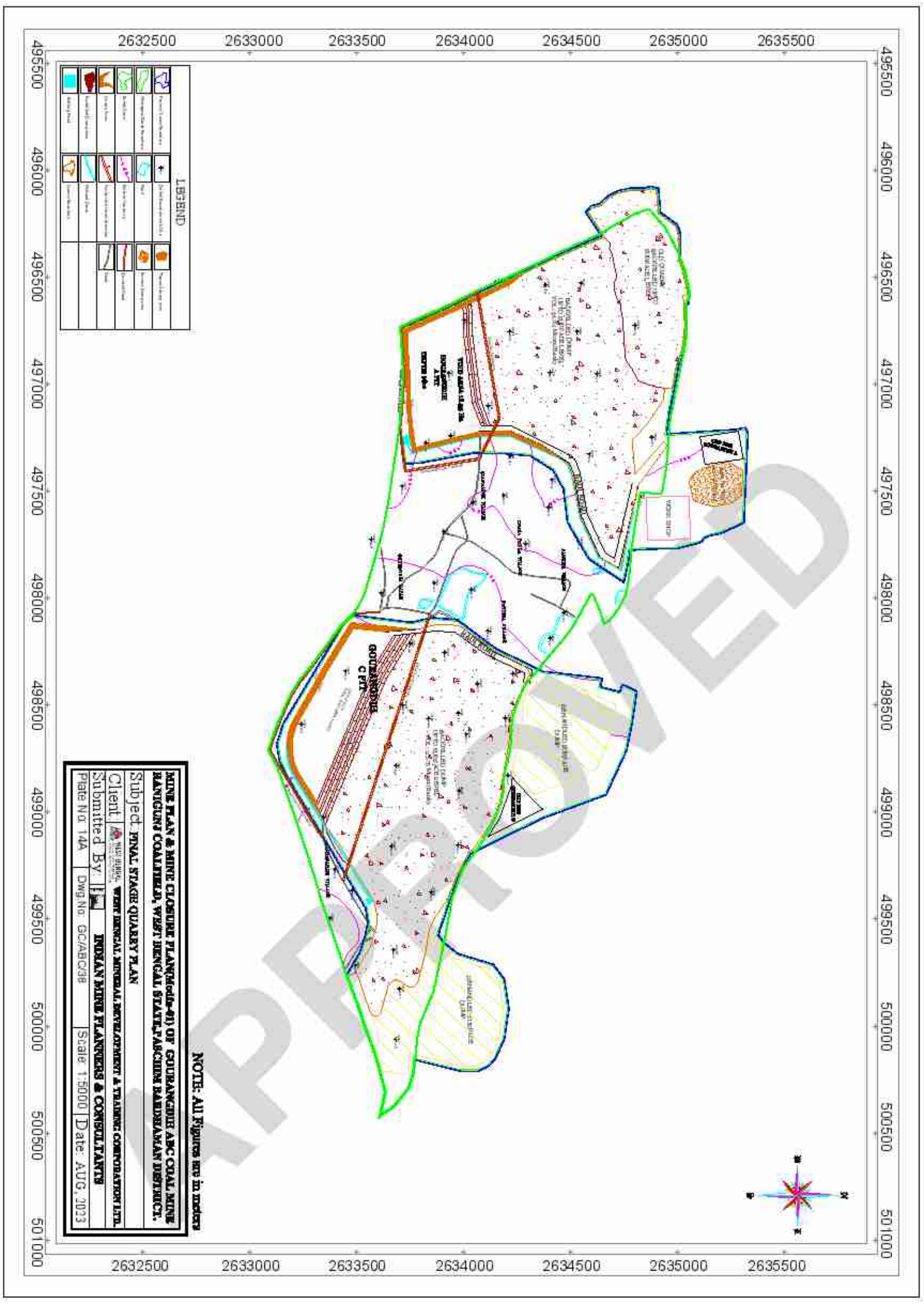


OC Plate-13

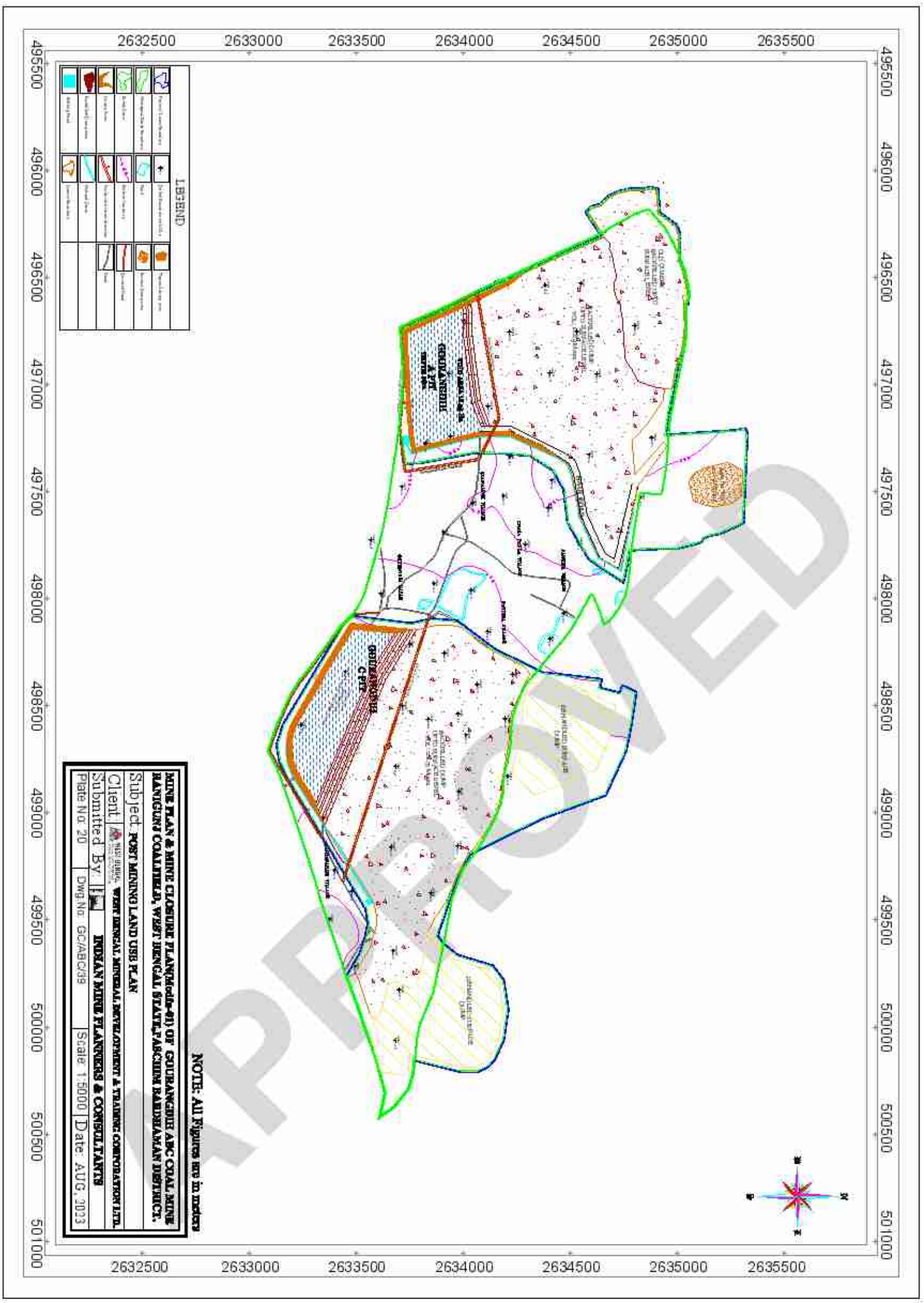


Prepared By Indian Mine Planners and Consultants On 23/02/2023

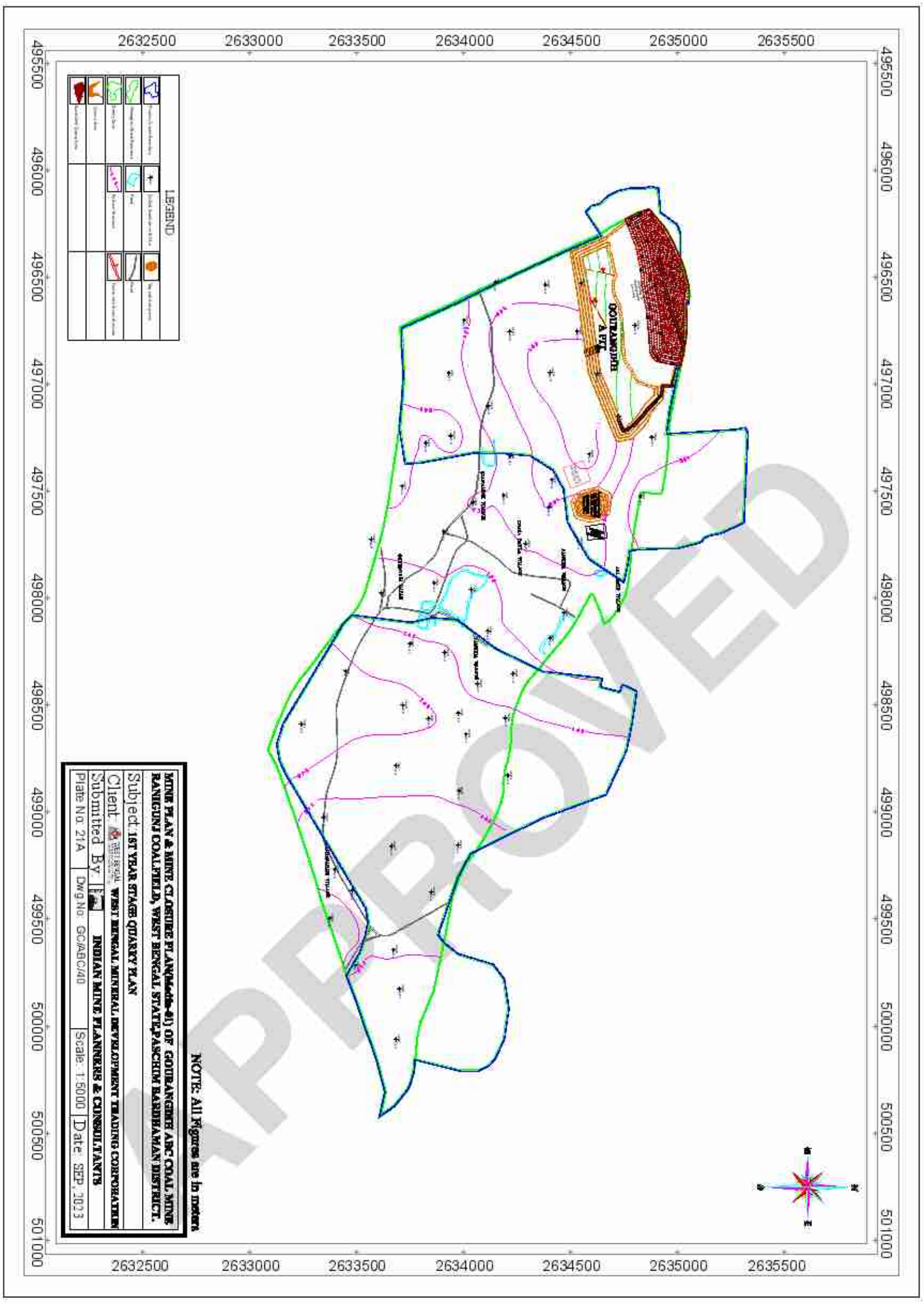
OC Plate-14



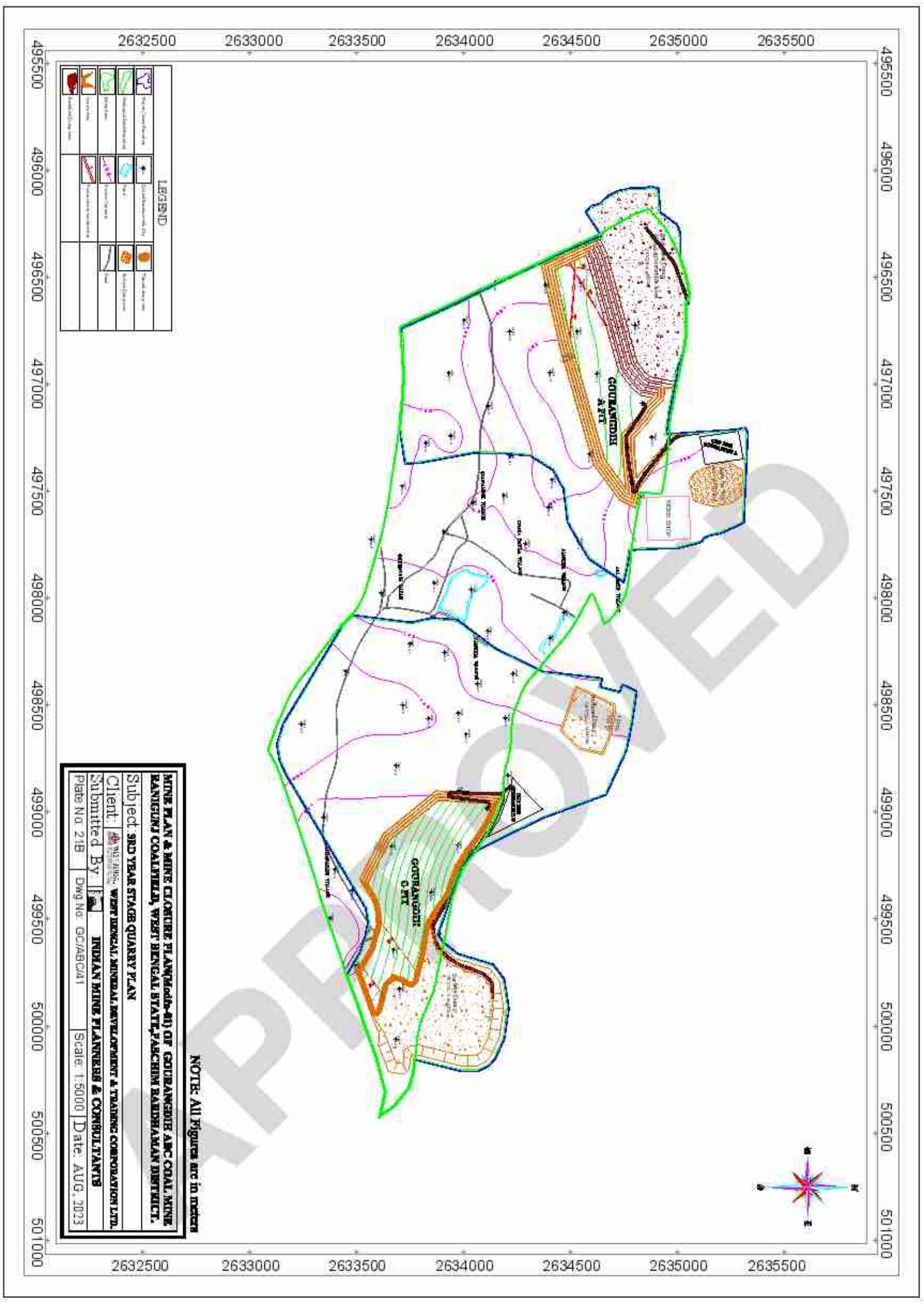
Plan / Plate 20



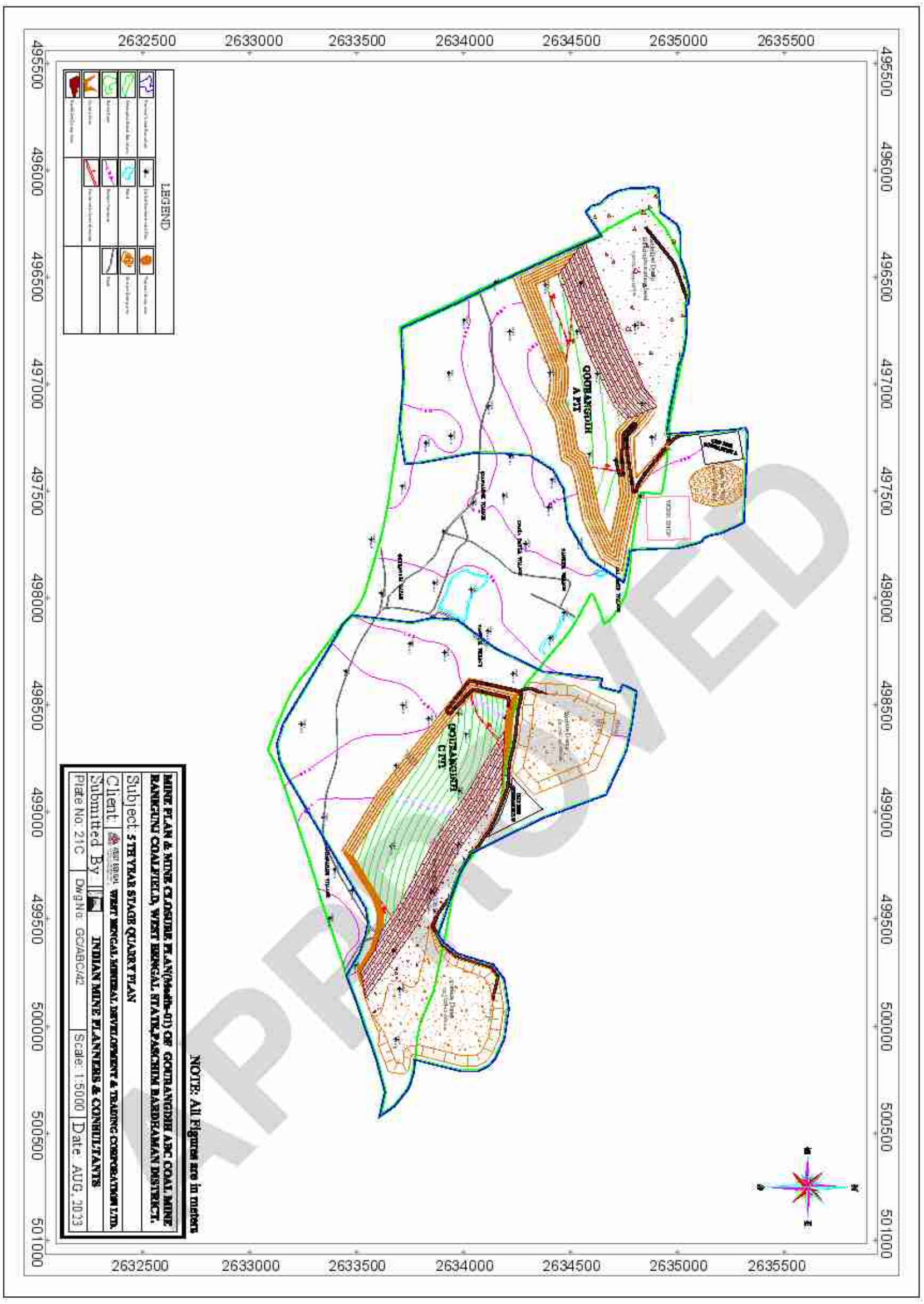
Plan / Plate 21A



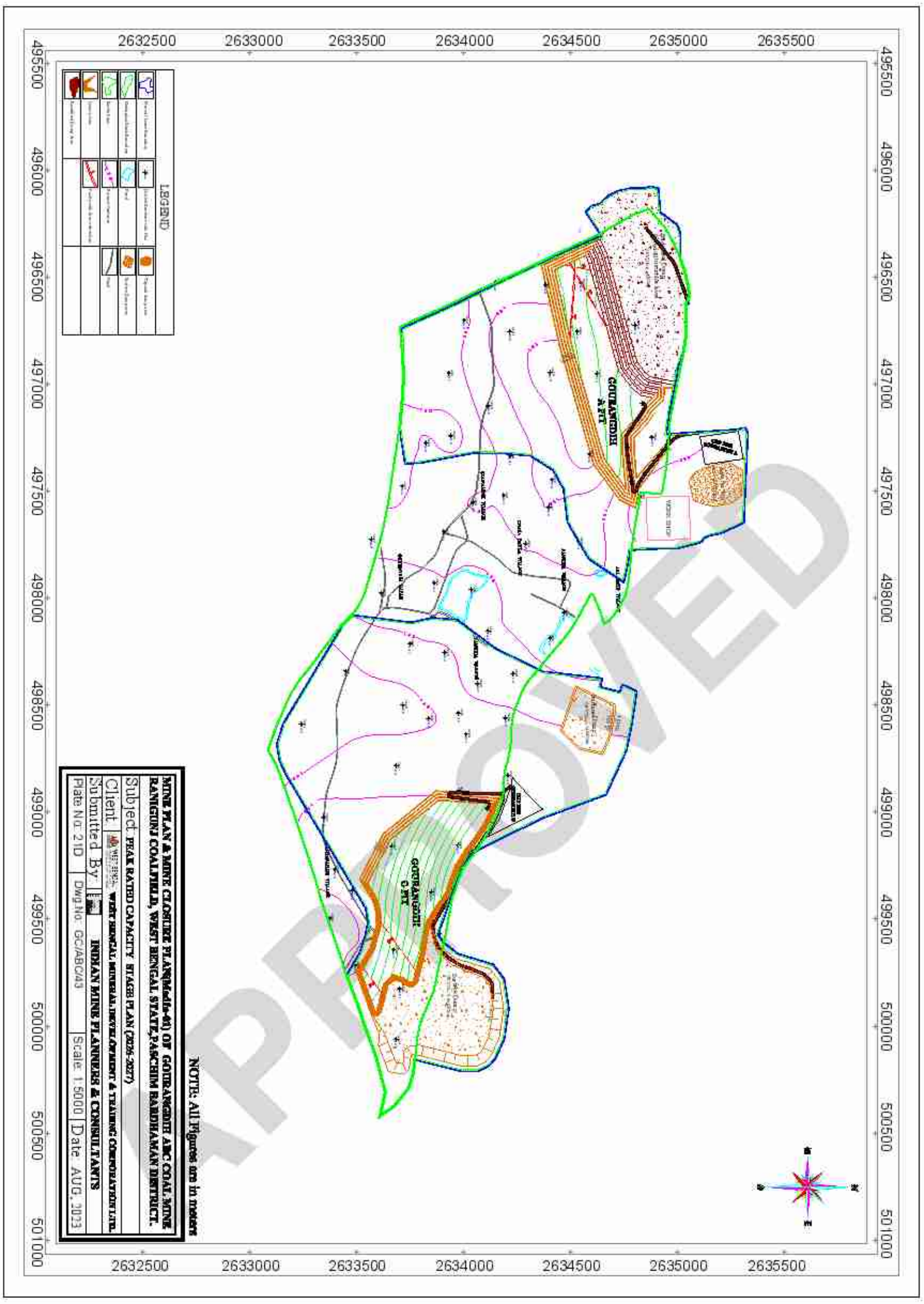
Plan / Plate 21B



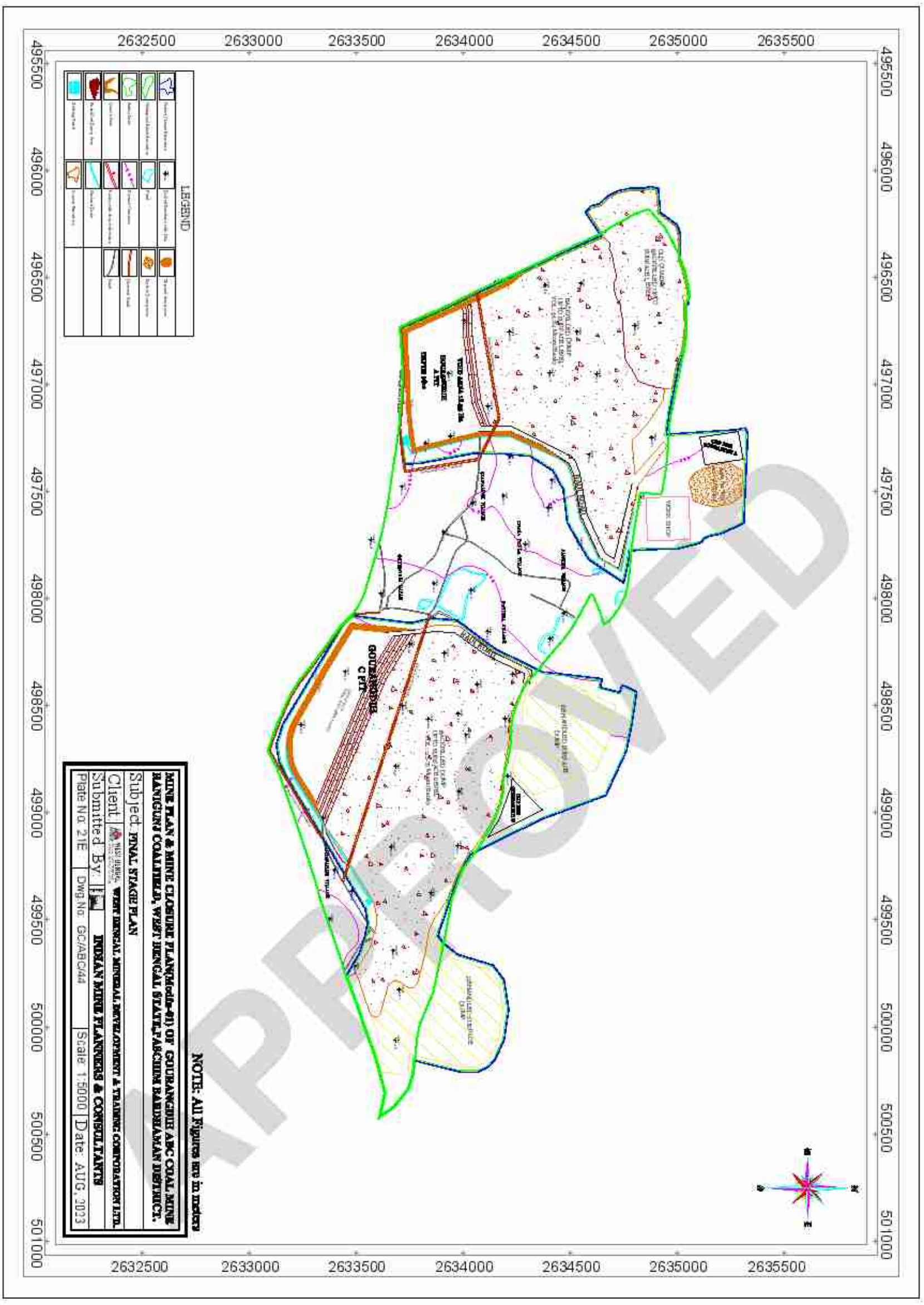
Plan / Plate 21C



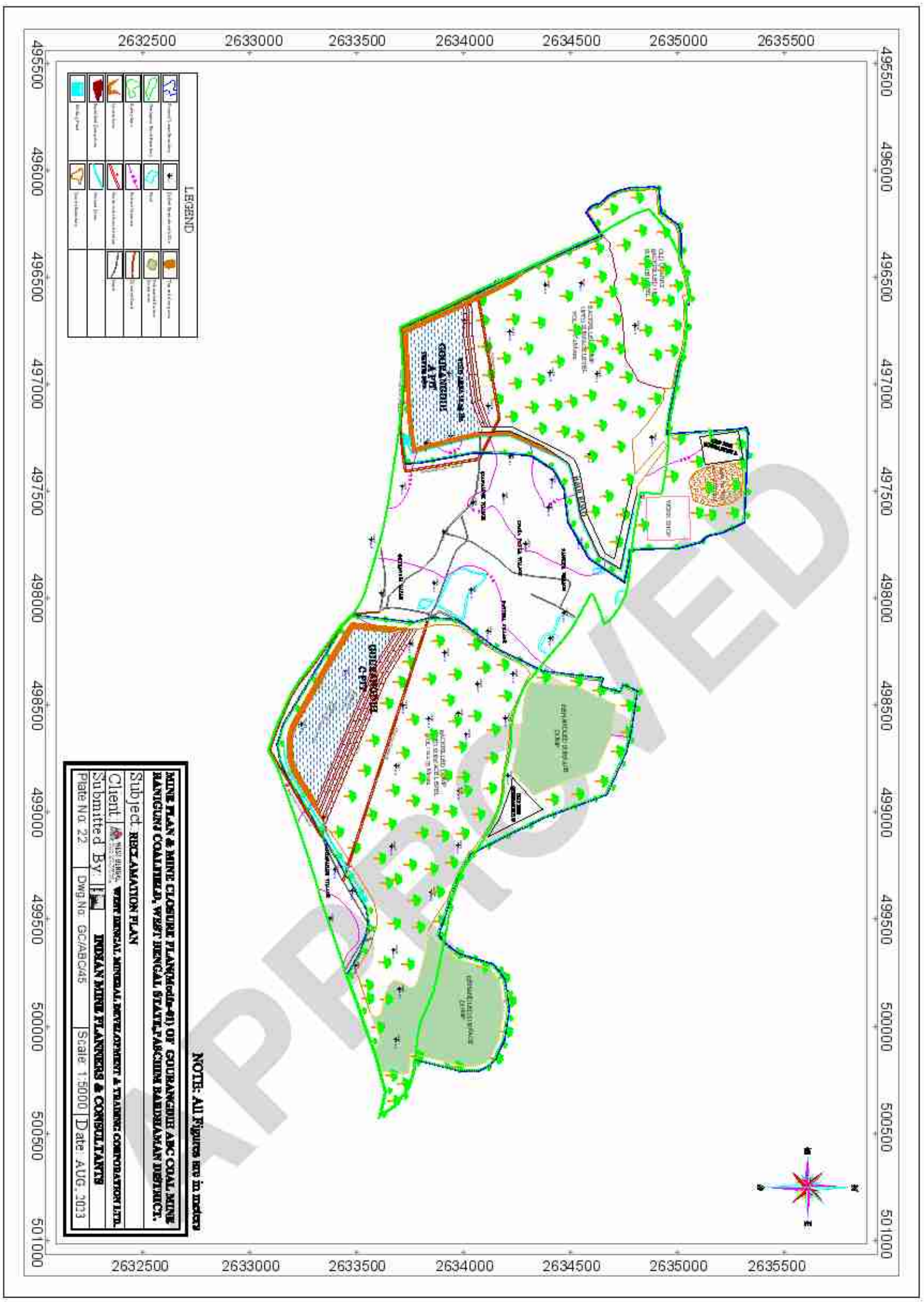
Plan / Plate 21D



Plan / Plate 21E



Plan / Plate 22



Additonal Plan / Plates-23