Note No. #1

Sub: Approval of Mining Plan (including progressive and final Mine Closure Plan) for Nigahi Expansion OCP (25.00 Mtpa) with 2000m3/Day Overburden processing Plant to generate manufactured sand in project.

Subject matter was placed for consideration and approval of NCL Board in its 288th meeting held on 10/08/2023 at Singrauli, vide Item No. 288/C-2.

In this regard Company Secretary, NCL may kindly be advised to provide decision of Board of Director of NCL on urgent basis, in view of compliance against EDS (Extra Details sought) raised by Astt. Inspector General of Forest vide letter No. F. No. 8-26/20/5/FC-Vol Dated 05/07/2023 and obtaining Environmental Clearance for 25.00 Mtpa.

10/08/2023 7:24 PM

RATANJAY KUMAR SINGH
(GENERAL MANAGER(CORPORATE PLANNING)/HOD)

Note No. #2

Approved.

10/08/2023 7:25 PM

SUNIL PRASAD SINGH
(DIRECTOR(TECHNICAL/PROJECT & PLANNING))

Note No. #3

10/08/2023 7:27 PM

RATANJAY KUMAR SINGH
(GENERAL MANAGER(CORPORATE PLANNING)/HOD)

Note No. #4

11/08/2023 9:57 AM

SUSHANTA KUMAR PANDA
(COMPANY SECRETARY)

Note No. #5

URGENT COMMUNICATION OF BOARD DECISION

Item No. 288/C-2 Approval of Mining Plan (including Progressive and Final Mine Closure Plan) for Nigahi Expansion OCP (25.00 Mtpa with 2000 m3/ Day Overburden Processing Plant to generate Manufactured Sand in Project Area of 3582.723 Ha) as per guidelines of MoC.

In connection with above, it is communicated that above proposal was placed in 288th Board meeting held on 10.08.2023 and Board of Directors, after detailed deliberation, accorded approval to subject proposal, as brought out in the agenda note.

.....

CS

D(T/P&P)

D(T/O)

D(F)

D(P)

CMD

11/08/2023 11:11 AM

NIRMAL SAINI
(COMPANY SECRETARY)

Note No. #6

Notes on above, the proposal for Approval of Mining Plan (including Progressive and Final Mine Closure Plan) for Nigahi Expansion OCP (25.00 Mtpa with 2000 m3/ Day Overburden Processing Plant to generate Manufactured Sand in Project Area of 3582.723 Ha) was placed in 288th Board meeting held on 10.08.2023 and Board of Directors, after detailed deliberation, accorded approval to subject proposal, as brought out in the agenda note. As requested by GM (CP), the urgent communication of the Board approval may be provided for further action.

Submitted for kind approval please.

D(T/P&P)

D(T/O)

D(F)

D(P)

CMD

11/08/2023 11:59 AM

SUSHANTA KUMAR PANDA
(COMPANY SECRETARY)

Note No. #7

Agreed and forwarded.

11/08/2023 1:56 PM

SUNIL PRASAD SINGH
(DIRECTOR(TECHNICAL/PROJECT & PLANNING))

Note No. #8

Agreed and Forwarded.

13/08/2023 12:14 PM

JITENDRA MALIK
(DIRECTOR(TECHNICAL/OPERATION))

Note No. #9

Agreed and Forwarded.

14/08/2023 10:18 AM

RAJNEESH NARAIN
(DIRECTOR(FINANCE))

Note No. #10

Agreed and forwarded.

14/08/2023 1:01 PM

MANISH KUMAR
(DIRECTOR(PERSONNEL))

Note No. #11

Approved.

14/08/2023 4:13 PM

BHOLA SINGH
(CHAIRMAN CUM MANAGING DIRECTOR)

Note No. #12

14/08/2023 4:18 PM

SUSHANTA KUMAR PANDA
(COMPANY SECRETARY)

Mining Plan including Mine Closure Plan (as per latest guidelines of Ministry of Coal)

MINING PLAN
(including Mine Closure Plan)
FOR
NIGAHI EXPANSION OCP

(Coal Production Capacity of 25.00 Mtpa with 2000m^3/Day Overburden Processing Plant to generate Manufactured Sand in Project Area of 3582.723 Ha.)

(Production Capacity of Coal – 25.00 Mtpa)
(Project Area – 3582.723 Ha)

Singrauli Coalfield, Singrauli District,
Madhya Pradesh State

(In line with the Guidelines of MoC vide dated 29-05-2020 & 09-09-2020)

JULY – 2023

Northern Coalfields Limited
PO- Singrauli, Dist- Singrauli, State –MP - 486889
Prepared by: CMPDI, RI-VI, PO- Jayant Colliery,
Dist - Singrauli (MP) 486890

Mass balancing of Coal production, OB excavation & generation of Manufactured Sand (Peak excavation per year) at year wise during the balance period of mine.

EC granted to Nigahi OCP by MoEF&CC vide letter No. J-11015/79/2013-IA-II(M), EC Identification No. EC22A042MP180012 dated 25.07.2022 which has been revalidated on 20.07.2023 vide EC Identification No. EC23A001MP170130.for a production capacity of 22.50 Mtpa in project area of 3018.400 Ha based on the Mining Plan approved by NCL Board in its 276th Board meeting held on 30.05.2022.

The Mining Plan (including Mine Closure Plan) has been prepared for obtaining Environmental Clearance for 25.00 Mtpa for supply of coal to thermal power stations and other consumers to meet the increased energy demand in the country in area of increase from 3018.400 Ha to 3582.723 Ha (additional land area 564.323 Ha).

Balance life of the mine as on 01.04.2023: 18 years i.e. upto FY 2040-41.

The Mass Balance study of Coal Production, OB Excavation & generation of Manufactured Sand (Peak excavation per year) year wise during the balance period of mine for Nigahi OCP is given below:

Consideration as per the EC / Mining Plan for mass balance/ material balance study:

- Coal mined out in a year (Peak during life of the mining activities) = 25 Million Tonne / 16.13 Million cubic meters.
- OB removed in a year (Peak during life of the mining activities) = 235.17 Million Tonne/ 135.00 Million cubic meters.
- Total Mass (Peak material handling during the life of mine) = 260.17 Million Tonne / 151.13 Million cubic meters (approx.) in a year.

Based on Proposed EC for generation of manufactured sand from overburden processing plant scenario, the mass balance study has been carried out (considering the balance life of 18 years from FY 2023-24).

Year wise mass/ material balance: For Production

Year	Coal production as per proposed Mining Plan		Waste/ By Product		Total (Mm^3)	(Coal + OB Volume in Mm^3)
	(Mt)	(Mm^3) (P=1.55 t/m^3)	OB Removal (Mm^3) as per proposed Mining Plan	Generation of Manufactured Sand (Mm^3) from OB as per proposed Sand Plant	Total Volume for Dumping	
2023-24	25.00	16.13	133.12	0.16	132.96	149.25
2024-25	25.00	16.13	135.00	0.31	134.69	151.13
2025-26	25.00	16.13	135.00	0.62	134.38	151.13
2026-27	25.00	16.13	135.00	0.62	134.38	151.13
2027-28	25.00	16.13	135.00	0.62	134.38	151.13
2028-29	25.00	16.13	135.00	0.62	134.38	151.13
2029-30	25.00	16.13	135.00	0.62	134.38	151.13
2030-31	25.00	16.13	135.00	0.62	134.38	151.13
2031-32	25.00	16.13	135.00	0.62	134.38	151.13
2032-33	25.00	16.13	128.00	0.62	127.38	144.13
2033-34	25.00	16.13	122.99	0.62	122.37	139.12
2034-35	25.00	16.13	120.76	0.62	120.14	136.89
2035-36	25.00	16.13	106.03	0.62	105.41	122.16
2036-37	25.00	16.13	104.48	0.62	103.86	120.61
2037-38	20.00	12.90	80.26	0.62	79.64	93.16
2038-39	18.00	11.61	60.75	0.62	60.13	72.36
2039-40	14.00	9.03	45.00	0.62	44.38	54.03
2040-41	7.10	4.58	15.00	0.62	14.38	19.58
Total	409.10	263.95	1996.39	10.39	1986.00	2260.34

Mining Plan including Mine Closure Plan (as per latest guidelines of Ministry of Coal)

MINING PLAN
(including Mine Closure Plan)
FOR
NIGAHI EXPANSION OCP

(Coal Production Capacity of 25.00 Mtpa with 2000m^3/Day Overburden Processing Plant to generate Manufactured Sand in Project Area of 3582.723 Ha.)

(Production Capacity of Coal – 25.00 Mtpa)
(Project Area – 3582.723 Ha)

Singrauli Coalfield, Singrauli District,
Madhya Pradesh State

(In line with the Guidelines of MoC vide dated 29-05-2020 & 09-09-2020)

JULY – 2023

Northern Coalfields Limited
PO- Singrauli, Dist- Singrauli, State –MP - 486889
Prepared by: CMPDI, RI-VI, PO- Jayant Colliery,
Dist - Singrauli (MP) 486890

Index of Chapters of the Mining Plan (Including Mine Closure Plan)

INDEX

List of Plates (**As applicable as per Guidelines dated 09-09-2020**)

LIST OF PLATES

List of Annexures (As applicable as per guidelines dated 09-09-2020)

CHECK LIST

Details		(✓/x)
	Expert-review Report	
Chapter -1	Project Information	✓
Chapter -2	Exploration, Geology, Seam Sequence, Coal Quality and Reserve	✓
Chapter -3	Mining	✓
Chapter -4	Safety Management	✓
Chapter -5	Infrastructure Facilities proposed and their Location	✓
Chapter -6	Land Requirement	✓
Chapter -7	Environment Management	✓
Chapter -8	Progressive & Final Mine Closure Plan	✓
	Annexures and Plates	✓

Justification for Mining Plan (including Mine Closure Plan) for inclusion of Overburden Processing Plant to generate Manufactured Sand

At present the latest Mining Plan (including Mine Closure Plan) prepared for a production capacity of 22.50 Mtpa in an area of 3018.400 Ha has been approved by NCL Board in the 276th Board meeting held on 30.05.2022 and EC for 22.50 Mtpa has been granted by MoEF&CC vide letter No. J-11015/79/2013-IA-II(M), EC Identification No. EC22A042MP180012 dated 25.07.2022 which has been revalidated on 20.07.2023 vide EC Identification No. EC23A001MP170130.

This Mining Plan is prepared based on the Expansion Project Report of Nigahi OCP (15 Mtpa to 25 Mtpa) approved by CIL Board in 414th meeting on 11.11.2020 for an additional capital investment of Rs. 1729.68 crores with approved option-II i.e. total coal departmental & partial OB outsourcing (sanctioned 15 Mtpa+10 Mtpa incremental coal by departmental Surface Miner and incremental OB by outsourcing)

Mining Plan (including Mine Closure Plan) has been prepared for obtaining Environmental Clearance for 25.00 Mtpa for supply of coal to thermal power stations and other consumers to meet the increased energy demand in the country in area of increase from 3018.400 Ha to 3582.723 Ha.(additional land area 564.323 Ha)

Subsequently, as per directives of Ministry of Mines (Sand Mining Framework, 2016) and Ministry of Coal, new initiative for conservation of minerals and to reduce environmental impacts on river ecosystem, production of manufactured sand from the overburden materials at Nigahi Opencast Coal mine has been proposed. This sand generated from overburden processing will be an initiative for converting waste to useful resources. For this an overburden processing plant for generation of manufactured sand with capacity of 2000 m^3/day is proposed to be installed within present project area of Nigahi OCP.

For installation & commissioning of plant for sand segregation from overburden material excavated from revenue land at Nigahi Expn. OCP along with regular coal mining operations with 25 Mtpa production in project area of 3582.723 Ha; in proposed EC has to be obtained from MoEF&CC.

Accordingly Mining Plan (including Mine Closure Plan) has been prepared for inclusion of overburden processing plant for generation of manufactured sand along with coal mining operations.

BRIEF ON OVERBURDEN PROCESSING FOR GENERATION OF MANUFACTURED SAND:

Sand is formed by natural erosion processes over thousands of years. Sand and gravel are mined out worldwide and account for the largest volume of solid materials extracted globally.

These are being extracted at a greater rate than their natural formation rate. Use of sand and gravel in colossal quantities in construction activities, increases dependence on these materials. Ensuring their availability is vital for infrastructure development. Excessive removal of sand from river bed has adverse impacts on river, delta, coastal and marine ecosystem and may significantly distort the natural equilibrium of a stream. Major impacts are evident like loss of land through river / coastal erosion, lowering of water table and decrease in the amount of sediment supply. Sand mining from rivers can also damage private and public properties as well as aquatic habitats. Thus extraction has to be regulated and required environmental safeguards during sand mining are to be ensured.

Use of manufactured sand, artificial sand and alternative technologies in construction materials and processes have to be encouraged for reducing the dependence on naturally occurring sand and gravel.

The overburden materials generated from coal mine of this region consists mainly of alluvial soil, hard rocks viz. Sandstone, shale & their intercalations. Sandstone is the main constituent of overburden material. Sandstone is the rock formed by cementing of sands composed largely of quartz and silicate minerals. Preliminary investigation report suggests 70-80% sand (as per IS-383 (2016)) concentration in overburden material of Nigahi OCP.

This sand if extracted from overburden materials can be alternative to river sand and be utilized as construction material grade sand and in other geotechnical applications. Use of this manufactured sand will help in reducing environmental impacts on the river ecosystem. This Manufactured sand can be made available in all seasons and cost will also be cheaper than river sand. Sand segregation from overburden material in open cast coal mines of NCL will be an important step in this direction. Segregation of sand from overburden material can be achieved along with regular coal mining operations in accordance to permission to be obtained from Regulatory Authorities.

Accordingly, it is proposed for generation of manufactured sand by processing of overburden material excavated from land, which is abundantly available at Nigahi OCP.

In view of above, Mining Plan (including Mine Closure Plan) to include overburden processing plant to generate manufactured sand along with coal mining operations has been prepared. It will help in conservation of minerals and reduce environmental impact on river ecosystem by minimizing the foot prints and dependency on river sand.

Mitigative measures for pollution control will be taken for both the coal mining operations and Sand segregation plant.

Sl. No.	Source of Air Pollution	Control Measures
1	Crushing	Fully covered crusher, chances for leakage will be almost negligible.
2	Vibrating Screen	Will be Covered externally to reduce the air borne dust.
3	Loading	Segregated sand after washing in the hydro-cyclone will become wet.
4	Transportation	Wet segregated sand will be transported via tarpaulin covered trucks

Sl. No.	Source of Water Pollution	Control Measures
1	Hydro-cyclone (washing of sand)	Treated water from ETP situated at Nigahi Project will be used in the hydro-cyclone to separate clay and silt from the OB. The water with clay and silt will be transferred into the thickener which will separate 90% of the total input water for reuse, whereas the balance 10% water with clay will be discharged through pipeline in clay pond for settling. The Clay pond is left for drying. The water left out after evaporation in clay pond will be reused for various purposes in plant. Thus Zero water discharge will be there.

Exercise on mass balance considering the Sand Segregation along with normal mining activity as per proposed EC has been carried out. As per the exercise the total production/Material handling (Coal+OB+Sand in Million Cubic Meter) has been proposed EC capacity of 25.00 Mtpa.

MERITS OF THE PROPOSAL:

The sand segregation plant is proposed to be commissioned within project area of 3582.723 Ha as per Proposed EC along with regular coal mining operations with production capacity of 25.00 Mtpa. It will have following benefits:

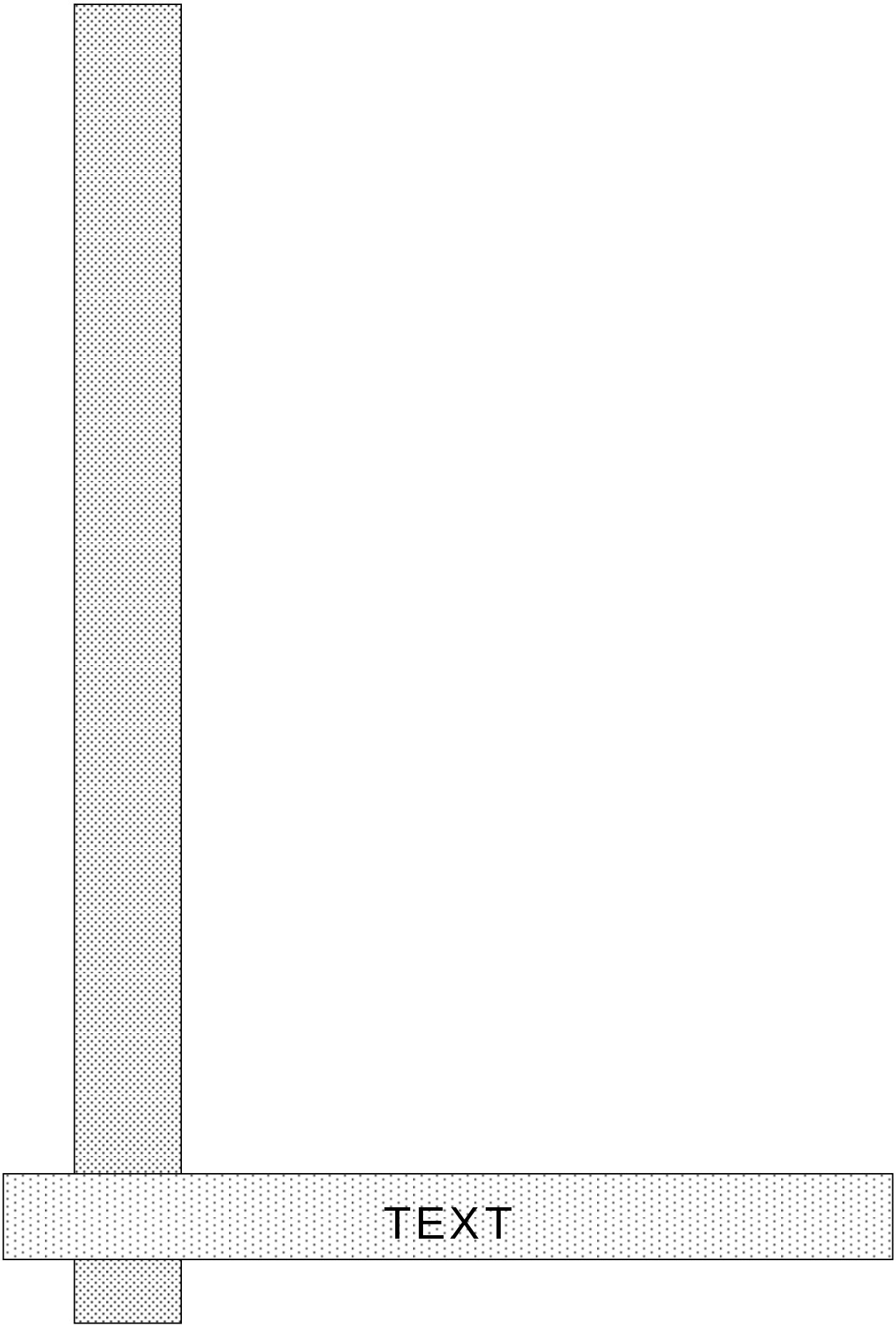
(i) Degradation of land can be minimized.
(ii) Generation of indirect employment from operation of overburden processing plant.
(iii) Reduce the dependency and demand on naturally occurring sand for construction works to a great extent. It will help in conservation of river ecosystem.
(iv) Availability of sand in all seasons. Uninterrupted supply of sand without any seasonal affect throughout the year.
(v) Cost of sand will be substantially cheaper than river sand.

(vi) Conversion of waste (OB material) to useful resource.

(vii) Revenue generation through selling of sand segregated from overburden (Waste) materials as Business Diversification plan for the company.

Conclusion:

Mining Plan (including Mine Closure Plan) has been prepared as per the latest guidelines of Ministry of Coal dated 29.05.2020 & 09.09.2020 for approval of NCL Board. It has been revised for inclusion of Sand Segregation Plant with capacity of 2000 m^3/day along with regular coal mining operations with proposed production capacity of 25.00 Mtpa within project area of 3582.723 Ha as proposed EC.


TEXT

CHAPTER 1
PROJECT INFORMATION

Note: Prepared based on the Expansion Project Report (15 Mtpa to 25 Mtpa) for Nigahi Opencast Project approved by CIL Board in 414th meeting on 11.11.2020 for an additional capital investment of Rs. 1729.68 crores with approved option-II i.e. total coal departmental & partial OB outsourcing (sanctioned 15 Mtpa + 10 Mtpa incremental coal by departmental Surface Miner and incremental OB by outsourcing).

	Parameters	Details
1.1	**INTRODUCTION**	
1.1.1	Name of Coal / Lignite Block	Nigahi North extension Block, Nigahi Dip Extension Block and small part of Block-B Extension Block & Bijul Block.
1.1.2	Name of the Coalfield / Lignite Field	Moher Sub-Basin, Singrauli Coalfield
1.1.3	Base date of Mining Plan / Mine Closure Plan	01.04.2023
1.1.4	Linked End Use Plant	Vindhyachal Super Thermal Power Station (4760 MW) of NTPC
1.1.5	Distance of End use plant from the pit head of the project in “km”	Vindhyachal Super Thermal Power Station (4760 MW) of NTPC is about 20 Km from the mine.
1.1.6	Mode of Coal Transport	Coal by Rail. By rail- 25.00 Mt. (Existing CHP 15 Mtpa + CHP 10 Mtpa Under construction)

1.2 LOCATION, TOPOGRAPHY AND & COMMUNICATION

1.2.1	Location of coal deposit (District and State)	District-Singrauli, State-Madhya Pradesh Nigahi and Nigahi North Extension Geological Block of Moher Sub-Basin of Singrauli Coalfield is locted in Singrauli district, Madhya Pradesh. (Detail of plots are given in Annexure-III) Area is covered under survey of India topo-sheet No.63/L/12.
1.2.2	Communication: PWD roads, railway lines, Air	Nigahi opencast mine is located in Singrauli district of Madhya Pradesh and forms a part of Singrauli coalfield. Singrauli railway station on the Chopan-Katni Branch line is located at a distance of about 12 km from the mine and Shaktinagar Railway station is at a distance of about 10 km from the Nigahi opencast project. Waidhan–Renukut-Varanasi highway passes at distance of about 2 km from the project which is connected by a road. The district headquarter town Waidhan is about 8 km from the Project. Nearest Airport is Varanasi at a distance of about 225 Km. The nearest air strip is at Myorpur, at a distance of about 60 kms from the project.
1.2.3	Availability of power supply, water etc.	**Existing Power Supply Arrangement** The Project is receiving power at 33 kV from Nigahi Sub-station of 132/33 kV MPEB located in Jayant, Distt. Singrauli (M.P). Nigahi Coal Substation is also being fed through 02 nos. 33 kV feeders drawn from OB east Sub-station and the circuit length is around 3 km. The existing CHP loads of are being fed through 3 x 10 MVA, 33 kV/6.6 kV receiving power through double circuit 33 kV feeder emanating from OB east Sub-station.

		Nigahi OB West Sub-Station receives power from Nigahi Sub-Station through double circuit overhead lines of 33 KV and OB East Sub-station receives power from OB West Sub-Station through double circuit overhead line of 33KV. Nigahi OB East and OB West Sub-station supply power to HEMM like draglines, shovels, drills etc. The Coal Sub-stations supplies power to HEMM deployed in coal section, pumping, CHP, workshop etc. Nigahi Colony Sub-station is of capacity of 1X10 MVA, 33/6.6 KV and 1X5 MVA, 33/6.6KV and is being fed from Nawanagar Sub-station of 132/33KV system voltage. The colony Sub-station supplies power to colony, GM office, shopping complex etc. The permanent Water Supply arrangement for Nigahi OCP is linked with Integrated Water Supply Scheme (IWSS). The requirement of water for potable, industrial and firefighting purposes for the existing mine is as follow: a) Potable Water demand - 2480 m^3/d b) Industrial Water demand - 5500 m^3/d c) Fire Fighting Water demand - 1000 m^3/d Total: - 8980 m^3/d Re-usage of water: 85% Source of water: ETP of the mine

1.2.4	Prominent physiographic features, drainage pattern, natural water courses, rainfall data, highest flood level	Nigahi Block is located in the south western portion of Moher Sub-Basin of Singrauli coalfield. The Block is adjacent to Amlohri coal Block in the West and Jayant Block. It stands out as a hilly plateau with elevations of about 400-450 m above mean sea level. Some relief elevations exceed 500m. The climate of the area is tropical with severe summer. The temperature in summer goes as high as 48^{o}C in May-June. In winter the temperature varies from 4^{o}C to 21^{o}C (November-February). Predominant wind direction is south-west. The average monthly wind velocity varies from 2.5 to 4.5 km/hr. The average annual rainfall is around 1000 mm of which 95% precipitation is during the rainy season (June -September).
1.2.5	Important surface features within the project area and major diversion or shifting involved	There is no major diversion or shifting involved.

1.3 DETAILS OF THE ALLOTMENT AGREEMENT

1.3.1	Name of the Allottee	Not Applicable
1.3.2	Details of allotment/ vesting order	
1.3.3	Name and address of the applicant	Nigahi OCP is an operating mine under Northern Coalfields Limited (NCL), a subsidiary of Coal

<table>
<tr><td>1.3.4</td><td>Name of the Previous Allottee of the Block</td><td>India Limited (Maharatna Company), under the Ministry of Coal, Govt. of India. The subject mine falls in Singrauli District of Madhya Pradesh and operating under Nigahi Area of NCL</td></tr>
<tr><td>1.3.5</td><td>Starting date of the Mine as per CMDPA</td><td rowspan="2">Nigahi Opencast Project is operating since 1985-86.</td></tr>
<tr><td>1.3.6</td><td>Rated Capacity as per CMDPA</td></tr>
<tr><td>1.3.7</td><td>Production Schedule as per opening permission (meeting provisions of CMDPA if any)</td><td rowspan="2">Area is notified under CBA Act-1957.</td></tr>
<tr><td>1.3.8</td><td>End Use of Coal/Lignite as per Allotment order if any</td></tr>
<tr><td>1.3.9</td><td>Cardinal Points co-ordinates of the Block boundary</td><td>Latitude and Longitude of the points under which the project is operating is as follows:
<table>
<tr><th colspan="3">Cardinal Points of Leasehold Boundary</th></tr>
<tr><th>Name</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>P1</td><td>24º 11' 2.358" N</td><td>82º 35' 25.178" E</td></tr>
<tr><td>P2</td><td>24º 11' 2.804" N</td><td>82º 35' 28.432" E</td></tr>
<tr><td>P3</td><td>24º 11' 3.181" N</td><td>82º 35' 31.173" E</td></tr>
<tr><td>P4</td><td>24º 11' 3.667" N</td><td>82º 35' 34.715" E</td></tr>
<tr><td>P5</td><td>24º 11' 4.135" N</td><td>82º 35' 38.128" E</td></tr>
<tr><td>P6</td><td>24º 11' 4.601" N</td><td>82º 35' 41.525" E</td></tr>
<tr><td>P7</td><td>24º 11' 5.025" N</td><td>82º 35' 44.615" E</td></tr>
<tr><td>P8</td><td>24º 11' 5.571" N</td><td>82º 35' 47.547" E</td></tr>
<tr><td>P9</td><td>24º 11' 6.049" N</td><td>82º 35' 50.115" E</td></tr>
<tr><td>P10</td><td>24º 11' 6.611" N</td><td>82º 35' 53.133" E</td></tr>
<tr><td>P11</td><td>24º 11' 7.177" N</td><td>82º 35' 56.178" E</td></tr>
<tr><td>P12</td><td>24º 11' 7.721" N</td><td>82º 35' 59.098" E</td></tr>
</table>
</td></tr>
</table>

			P13	24º 11' 8.237" N	82º 36' 1.870" E
			P14	24º 11' 8.837" N	82º 36' 5.096" E
			P15	24º 11' 9.231" N	82º 36' 7.213" E
			P16	24º 11' 9.791" N	82º 36' 10.224" E
			P17	24º 11' 11.053" N	82º 36' 8.810" E
			P18	24º 11' 12.375" N	82º 36' 7.329" E
			P19	24º 11' 14.670" N	82º 36' 8.501" E
			P20	24º 11' 15.139" N	82º 36' 12.428" E
			P21	24º 11' 15.677" N	82º 36' 16.962" E
			P22	24º 11' 16.377" N	82º 36' 22.719" E
			P23	24º 11' 17.139" N	82º 36' 29.274" E
			P24	24º 11' 17.946" N	82º 36' 36.066" E
			P25	24º 11' 18.836" N	82º 36' 43.658" E
			P26	24º 11' 19.699" N	82º 36' 51.149" E
			P27	24º 11' 20.846" N	82º 37' 1.107" E
			P28	24º 11' 21.847" N	82º 37' 9.801" E
			P29	24º 11' 23.172" N	82º 37' 21.324" E
			P30	24º 11' 24.166" N	82º 37' 30.040" E
			P31	24º 11' 25.279" N	82º 37' 39.809" E
			P32	24º 11' 26.390" N	82º 37' 49.557" E
			P33	24º 11' 27.315" N	82º 37' 59.603" E
			P34	24º 11' 21.969" N	82º 38' 0.021" E
			P35	24º 11' 15.658" N	82º 38' 0.513" E
			P36	24º 11' 16.001" N	82º 38' 9.369" E
			P37	24º 11' 16.258" N	82º 38' 17.963" E
			P38	24º 11' 16.491" N	82º 38' 25.756" E
			P39	24º 11' 12.603" N	82º 38' 23.477" E
			P40	24º 11' 8.997" N	82º 38' 14.603" E
			P41	24º 11' 5.180" N	82º 38' 5.211" E
			P42	24º 11' 2.410" N	82º 37' 58.395" E
			P43	24º 10' 55.305" N	82º 37' 58.596" E
			P44	24º 10' 48.858" N	82º 37' 58.778" E
			P45	24º 10' 42.455" N	82º 37' 59.049" E
			P46	24º 10' 36.575" N	82º 37' 59.349" E
			P47	24º 10' 29.844" N	82º 37' 59.628" E
			P48	24º 10' 22.352" N	82º 37' 59.876" E
			P49	24º 10' 10.225" N	82º 38' 0.319" E
			P50	24º 10' 4.746" N	82º 38' 0.764" E
			P51	24º 9' 51.432" N	82º 38' 1.090" E
			P52	24º 9' 51.432" N	82º 38' 1.090" E
			P53	24º 9' 32.807" N	82º 38' 1.854" E
			P54	24º 9' 22.822" N	82º 38' 3.385" E
			P55	24º 9' 12.450" N	82º 38' 4.136" E
			P56	24º 8' 59.638" N	82º 38' 4.875" E

		P57	24º 8' 46.045" N	82º 38' 5.907" E
		P58	24º 8' 29.476" N	82º 38' 7.121" E
		P59	24º 7' 53.635" N	82º 38' 8.787" E
		P60	24º 7' 50.823" N	82º 38' 26.546" E
		P61	24º 7' 52.927" N	82º 38' 39.455" E
		P62	24º 7' 27.115" N	82º 38' 37.974" E
		P63	24º 7' 7.833" N	82º 38' 36.868" E
		P64	24º 6' 37.189" N	82º 38' 39.317" E
		P65	24º 6' 42.385" N	82º 39' 15.151" E
		P66	24º 6' 50.070" N	82º 39' 54.857" E
		P67	24º 6' 43.829" N	82º 39' 59.230" E
		P68	24º 6' 30.225" N	82º 39' 54.958" E
		P69	24º 6' 20.553" N	82º 39' 53.633" E
		P70	24º 6' 14.943" N	82º 39' 28.844" E
		P71	24º 6' 8.901" N	82º 39' 1.575" E
		P72	24º 6' 4.316" N	82º 38' 40.449" E
		P73	24º 5' 57.479" N	82º 38' 9.148" E
		P74	24º 6' 3.653" N	82º 37' 38.278" E
		P75	24º 5' 52.896" N	82º 37' 6.882" E
		P76	24º 6' 12.141" N	82º 36' 57.556" E
		P77	24º 6' 30.171" N	82º 36' 49.173" E
		P78	24º 6' 45.552" N	82º 36' 42.707" E
		P79	24º 7' 1.569" N	82º 36' 37.001" E
		P80	24º 7' 14.919" N	82º 36' 31.709" E
		P81	24º 7' 13.269" N	82º 36' 45.754" E
		P82	24º 7' 32.468" N	82º 36' 40.714" E
		P83	24º 8' 0.146" N	82º 36' 33.446" E
		P84	24º 8' 16.799" N	82º 36' 32.223" E
		P85	24º 8' 48.717" N	82º 36' 22.797" E
		P86	24º 8' 56.302" N	82º 36' 6.767" E
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		P88	24º 9' 29.720" N	82º 35' 35.710" E
		P89	24º 9' 43.213" N	82º 35' 33.281" E
		P90	24º 9' 59.537" N	82º 35' 57.245" E
		P91	24º 10' 20.661" N	82º 35' 48.886" E
		P92	24º 10' 35.238" N	82º 35' 40.599" E
		P93	24º 10' 51.976" N	82º 35' 31.081" E

1.4 DETAILS OF THE PREVIOUS APPROVAL OF MINING PLAN

<table>
<tr><td>1.4.1</td><td>Date of Approval</td><td>The previous Mining plan (22.50 Mtpa) with mine closure plan has been approved by NCL Board in the 276th Board meeting held on 30.05.2022.</td></tr>
<tr><td>1.4.2</td><td>Conditions, if any</td><td>Not applicable.</td></tr>
<tr><td>1.4.3</td><td>Scheduled year of start of production</td><td>Mine is in operation since 1985-86</td></tr>
<tr><td>1.4.4</td><td>Proposed year of achieving the targeted production</td><td>2023-24</td></tr>
<tr><td>1.4.5</td><td>Date of actual commencement of mining operations, if operations already started</td><td>Mine is in operation since 1985-86 and is continuing. The last Mining Plan (22.50 Mtpa) has been approved by NCL Board in the 276th Board meeting held on 30.05.2022.</td></tr>
<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>Not applicable</td></tr>
<tr><td>1.4.7</td><td>Actual Production achieved in last 3 years (Coal in Mte, OB in Mm^3, SR in m^3/te)</td><td>
<table>
<tr><th rowspan="2">Year</th><th colspan="3">Actual Production</th></tr>
<tr><th>Coal (Mte)</th><th>OB (Mm^3)</th><th>SR (m^3/te)</th></tr>
<tr><td>2020-21</td><td>20.66</td><td>73.16</td><td>3.59</td></tr>
<tr><td>2021-22</td><td>21.00</td><td>56.82</td><td>2.71</td></tr>
<tr><td>2022-23</td><td>22.50</td><td>87.48</td><td>3.89</td></tr>
<tr><td>Total</td><td>64.16</td><td>217.46</td><td>3.39</td></tr>
</table>
</td></tr>
<tr><td>1.4.8</td><td>Statutory obligations vis-à-vis compliance status in a tabular form</td><td>Existing coal mining operations are being carried out as per the following:
1. Approved Mining Plan (including Mine Closure Plan): The last Mining Plan has been approved by NCL Board in the 276th Board meeting held on 30.05.2022.</td></tr>
</table>

		approved by NCL Board in the 276th Board meeting held on 30.05.2022. 2. Latest EC has been obtained vide letter No. J-11015/79/2013-IA-II(M), EC Identification No. EC22A042MP180012 dated 25.07.2022 which has been revalidated on 20.07.2023 vide EC Identification No. EC23A001MP170130 with a production capacity of 22.50 Mtpa in an area of 3018.400 Ha.
1.4.9	Reasons for difference between the planned and actual production levels	Not applicable

1.5 PARAMETERS OF APPROVED MINING PLAN VIS-À-VIS PROPOSED MINING PLAN

		Approved Mining Plan	Proposed Mining Plan
1.5.1	Block Area in "Ha"	1442	2006.323
1.5.2	Block Area Projectised "Ha"	Full Area projectized	Full Area projectized
1.5.3	Lease area "Ha"	3018.400	3582.723
1.5.4	Project Area "Ha"	3018.400	3582.723
1.5.5	Life of the Project "Yrs"	9	18
1.5.6	Minimum and Maximum Depth of working "m"	44.60-300	205-315
1.5.7	Net Geological Block "Ha"	1442	2006.323
1.5.8	Production Target "MTPA"	Coal -22.50 Mtpa	Coal-25.00 Mtpa
1.5.9	Seams Available "As per GR"	4 Nos. of Seams 1. Purewa Top 2. Purewa Bottom	4 Nos. of Seams 1. Purewa Top 2. Purewa Bottom

		3. Purewa Merged 4. Turra	3. Purewa Merged 4. Turra
1.5.10	Seams not considered for Mining with Reasons	Kota Seam, Thin seam, not techno - economically feasible to extract	Kota Seam Thin seam, not techno-economically feasible to extract
1.5.11	Gross Geological Reserve “Mt”	555.07	552.11 as on 01.04.2020
1.5.12	Net Geological Reserve “Mt”	504.61	496.90 as Per EPR (25.00 Mtpa) as on 01.04.2020
1.5.13	Blocked Reserve “Mt”	nil	nil
1.5.14	Minable Reserve “Mt”	483.01	473.24 as Per EPR (25.00 Mtpa) as on 01.04.2020
1.5.15	Extractable Reserves “Mt”	483.01	473.24
1.5.16	% of Extraction/ recovery	95.72%	95%
1.5.17	Reserve Depleted (till the base date) Reserves “ Mt”	342.68 (As on 01.04.2023)	342.68 (As on 01.04.2023)
1.5.18	Balance Extractable reserve “Mt”	140.33 (As on 01.04.2023)	409.10 (As on 01.04.2023)
1.5.19	Average Grade	G9	G9
1.5.20	OB in Mm^3	605.07 (As on 01.04.2023)	1996.39 (As on 01.04.2023)
1.5.21	SR m^3/te	4.31	4.88
1.5.22	Mining Technology	Opencast mining deploying Dragline ,	Opencast mining deploying Dragline ,

		shovel-dumper system Surface Miner-dumper	shovel-dumper system Surface Miner-dumper
1.5.23	Coal Beneficiation envisaged	ZNA	NA
1.5.24	Handling of Rejects	NA	NA
1.5.25	Land use pattern “Ha”		
1	Excavation Area	1665.00	2146.170
2	Top Soil Dump	-	-
3	External Dump	418.00	418.00
4	Road, Rail	74.00	74.00
5	Infrastructure area (built-up area),Colony ETP,CHP& Workshop	379.40	403.492
6	Green Belt, Solar Plant, sand plant, undisturbed land, safety zone & others	482	541.061
	Total	**3018.40**	**3582.723**
1.5.26	**Reasons for revision**	Mining Plan (including Mine Closure Plan) has been prepared based on plans and Mine Lease hold boundary of EPR (25.00 Mtpa) for obtaining Environmental Clearance for 25.00 Mtpa for supply of coal to thermal power stations and other consumers to meet the increased energy demand in the country been prepared with a production capacity of 25.00 Mtpa in total	

		land area of 3582.723 Ha(including additional land area of 564.323 Ha).

CHAPTER 2

EXPLORATION, GEOLOGY, SEAM SEQUENCE, COAL QUALITY AND RESERVE

<table>
<tr><th></th><th>Parameters</th><th colspan="2">Details</th></tr>
<tr><td>2.1</td><td colspan="3">DETAILS OF THE BLOCK</td></tr>
<tr><td>2.1.1</td><td>Particulars of adjacent blocks: North, South, East, West</td><td>North: Bijul Block
South: Incrop zone of Turra seam</td><td>East: Mahrauli East & West Block
West: Moher Amlohri Exn. Block</td></tr>
<tr><td>2.1.2</td><td>Location of the Block
District / State</td><td colspan="2">District-Singrauli, State-Madhya Pradesh</td></tr>
<tr><td>2.1.3</td><td>Area of the Block “Ha”</td><td colspan="2">2006.323 Ha</td></tr>
<tr><td>2.1.4</td><td>Area of the geological block projectized “in Ha” (Area of the geological block considered for liquidation of coal reserve)</td><td colspan="2">Full Area</td></tr>
<tr><td>2.1.5</td><td>Balance area yet to be projectized “Ha”</td><td colspan="2">-</td></tr>
<tr><td>2.1.6</td><td>Likely reserve in the area yet to be projectized “in Ha”</td><td colspan="2">-</td></tr>
<tr><td>2.1.7</td><td>Cardinal Points Co-ordinates of the non-coal/lignite bearing area/ existing mine lease outside the allotted Geological Coal Lignite block
(Duly certified in line with para 1.9 of the Guideline, if fresh mining lease required)</td><td colspan="2">
<table>
<tr><th colspan="3">Cardinal Points of Leasehold Boundary</th></tr>
<tr><th>Name</th><th>Latitude</th><th>Longitude</th></tr>
<tr><td>P1</td><td>24º 11' 2.358" N</td><td>82º 35' 25.178" E</td></tr>
<tr><td>P2</td><td>24º 11' 2.804" N</td><td>82º 35' 28.432" E</td></tr>
<tr><td>P3</td><td>24º 11' 3.181" N</td><td>82º 35' 31.173" E</td></tr>
<tr><td>P4</td><td>24º 11' 3.667" N</td><td>82º 35' 34.715" E</td></tr>
<tr><td>P5</td><td>24º 11' 4.135" N</td><td>82º 35' 38.128" E</td></tr>
<tr><td>P6</td><td>24º 11' 4.601" N</td><td>82º 35' 41.525" E</td></tr>
<tr><td>P7</td><td>24º 11' 5.025" N</td><td>82º 35' 44.615" E</td></tr>
<tr><td>P8</td><td>24º 11' 5.571" N</td><td>82º 35' 47.547" E</td></tr>
<tr><td>P9</td><td>24º 11' 6.049" N</td><td>82º 35' 50.115" E</td></tr>
<tr><td>P10</td><td>24º 11' 6.611" N</td><td>82º 35' 53.133" E</td></tr>
<tr><td>P11</td><td>24º 11' 7.177" N</td><td>82º 35' 56.178" E</td></tr>
<tr><td>P12</td><td>24º 11' 7.721" N</td><td>82º 35' 59.098" E</td></tr>
<tr><td>P13</td><td>24º 11' 8.237" N</td><td>82º 36' 1.870" E</td></tr>
</table>
</td></tr>
</table>

	Parameters	***Details***		
		P14	24º 11' 8.837" N	82º 36' 5.096" E
		P15	24º 11' 9.231" N	82º 36' 7.213" E
		P16	24º 11' 9.791" N	82º 36' 10.224" E
		P17	24º 11' 11.053" N	82º 36' 8.810" E
		P18	24º 11' 12.375" N	82º 36' 7.329" E
		P19	24º 11' 14.670" N	82º 36' 8.501" E
		P20	24º 11' 15.139" N	82º 36' 12.428" E
		P21	24º 11' 15.677" N	82º 36' 16.962" E
		P22	24º 11' 16.377" N	82º 36' 22.719" E
		P23	24º 11' 17.139" N	82º 36' 29.274" E
		P24	24º 11' 17.946" N	82º 36' 36.066" E
		P25	24º 11' 18.836" N	82º 36' 43.658" E
		P26	24º 11' 19.699" N	82º 36' 51.149" E
		P27	24º 11' 20.846" N	82º 37' 1.107" E
		P28	24º 11' 21.847" N	82º 37' 9.801" E
		P29	24º 11' 23.172" N	82º 37' 21.324" E
		P30	24º 11' 24.166" N	82º 37' 30.040" E
		P31	24º 11' 25.279" N	82º 37' 39.809" E
		P32	24º 11' 26.390" N	82º 37' 49.557" E
		P33	24º 11' 27.315" N	82º 37' 59.603" E
		P34	24º 11' 21.969" N	82º 38' 0.021" E
		P35	24º 11' 15.658" N	82º 38' 0.513" E
		P36	24º 11' 16.001" N	82º 38' 9.369" E
		P37	24º 11' 16.258" N	82º 38' 17.963" E
		P38	24º 11' 16.491" N	82º 38' 25.756" E
		P39	24º 11' 12.603" N	82º 38' 23.477" E
		P40	24º 11' 8.997" N	82º 38' 14.603" E
		P41	24º 11' 5.180" N	82º 38' 5.211" E
		P42	24º 11' 2.410" N	82º 37' 58.395" E
		P43	24º 10' 55.305" N	82º 37' 58.596" E
		P44	24º 10' 48.858" N	82º 37' 58.778" E
		P45	24º 10' 42.455" N	82º 37' 59.049" E
		P46	24º 10' 36.575" N	82º 37' 59.349" E
		P47	24º 10' 29.844" N	82º 37' 59.628" E
		P48	24º 10' 22.352" N	82º 37' 59.876" E
		P49	24º 10' 10.225" N	82º 38' 0.319" E
		P50	24º 10' 4.746" N	82º 38' 0.764" E
		P51	24º 9' 51.432" N	82º 38' 1.090" E
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		P53	24º 9' 32.807" N	82º 38' 1.854" E
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	Parameters	***Details***		
		P56	24º 8' 59.638" N	82º 38' 4.875" E
		P57	24º 8' 46.045" N	82º 38' 5.907" E
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		P81	24º 7' 13.269" N	82º 36' 45.754" E
		P82	24º 7' 32.468" N	82º 36' 40.714" E
		P83	24º 8' 0.146" N	82º 36' 33.446" E
		P84	24º 8' 16.799" N	82º 36' 32.223" E
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		P92	24º 10' 35.238" N	82º 35' 40.599" E
		P93	24º 10' 51.976" N	82º 35' 31.081" E
2.1.8	Certificate of **Qualified person/ Accredited Mining Plan preparing agency (MPPA)** if the	Not applicable		

	Parameters	***Details***
	project area is confined within the vested/allotted block boundary/existing mining lease and Where the project area extends beyond the block boundary, a **certificate of Qualified person/ Accredited Mining Plan preparing agency (MPPA)**should be supported with a certificate of State Government mines and Geology department must be attached, which should specify (a) intent of the state government for grant of lease beyond the vested geological boundary;(b)non-existence of Coal/ Lignite in the area beyond the vested/allotted geological block boundary/ existing mining lease to rule out the issue of encroachment and use of coal bearing area (beyond the vested / allotted block boundary /existing mining lease in the mining plan. The Project area, Lease area and geological block area in "Ha" shall also be envisaged.	

	Parameters	***Details***
2.1.9	KML file of the Proposed lease area, Project Area and geological block.	It is annexed as 'Annexure III (a) - Google Earth Image (KML of the proposed leasehold boundary) and Annexure III (b) – KML of required additional land.
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 subject mine is an existing and operating mine. Yes
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	Not applicable
2.1.12	Type of the Project (Operating / under Implementation) and year of Starting.	Nigahi Opencast Expansion Project is operating since 1985-86. At present the last Mining Plan prepared for a production capacity of 22.50 Mtpa in an area of **3018.40** Ha has been approved by NCL Board on 30.05.2022 Accordingly, EC for capacity of 22.50 Mtpa has been granted by MoEF&CC.
2.2	**EXPLORATION, GEOLOGY AND ASSESSMENT OF RESERVE**	
2.2.1	Regional geological set up of the area, local geology, structure, stratigraphic sequence, characteristics of the litho-logical	The Nigahi OCP (25.00 Mtpa) has been prepared based on geological report of EPR for Nigahi OCP (25.00 Mtpa) has been envisaged with

<table>
<tr><th></th><th>Parameters</th><th>Details</th></tr>
<tr><td></td><td>units (coal seams / partings / overburden).</td><td>inclusion of remaining small part of Nigahi Block and major part of Nigahi North extension Block, Nigahi Dip Extension Block and very small part of Block-B Extension Block & Bijul Block of Moher Sub-basin of Singrauli coalfield.
Regional Staratigraphy Coal Bearing Formations:
The coal bearing rocks of this block belong to the Barakar formation of Damuda sub-group. The generalized sequence of the block as established by the GSI and IBM and updated by CMPDI is as follows:
<table>
<tr><th>Sl no</th><th>Lithology</th><th>Thickness (m)</th></tr>
<tr><td>1</td><td>Soil & Sub-soil</td><td>0 – 9</td></tr>
<tr><td>2</td><td>Sandstone and Shale</td><td>30.50 – 167.40</td></tr>
<tr><td>3</td><td>Purewa Top Seam</td><td>4.00 – 10.94</td></tr>
<tr><td>4</td><td>Sandstone</td><td>1.00 – 29.35</td></tr>
<tr><td>5</td><td>Purewa Bottom Seam</td><td>8.80 – 14.70</td></tr>
<tr><td>6</td><td>Sandstone</td><td>52.10– 69.60</td></tr>
<tr><td>7</td><td>Turra Seam</td><td>11.08 – 19.20</td></tr>
<tr><td>8</td><td>Sandstone</td><td>18.44 – 23.65</td></tr>
<tr><td>9</td><td>Turra ‘A’ Seam</td><td>0.22 – 1.20</td></tr>
<tr><td>10</td><td>Sandstone</td><td>38.92 – 49.20</td></tr>
<tr><td>11</td><td>Kota Seam</td><td>0.12 – 1.39</td></tr>
</table>
</td></tr>
</table>

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

The Generalized Geological Sequence of Moher Basin (Nigahi & Nigahi Extension Block)

Age		Formation	Lithology
Recent		Alluvium, Soil	Alluvium
Permian	Lower Gondwana	Raniganj (?)	Sand stone, Carb. Shale, Fireclay & Jhingurdah Seam
		Barren Measures (?)	Medium to Coarsegrained sandstone with occasional Red, Green, Shale band.
		Barakar	Medium, Coarse to Very Coarsegrained Sandstone, Carbshales and Thick Coal Seam-Turra, Purewa Seam.
		Talchir	Khakhi to Green Coloured shales, sandyshale, Sandstoneand Boulderbed.
---------- Unconformity ----------			
----------Metamorphics Basement----------			

SEQUENCE OF COAL SEAMS

Lithology	Thickness Range (m)		Remarks
	From	To	
Sand and sub soil	0.00	95.00	In the North western part of the area the Purewa Top and Purewa Bottom seams are merged to form Purewa merged seam in the depth range of 74.3 – 228 m from surface.

<table>
<tr><th></th><th colspan="2">Parameters</th><th colspan="2">Details</th></tr>
<tr><td></td><td colspan="2"><table>
<tr><td>Sandstone with 2 to 3 clay bands and 1 to 2 thin impersistent carbonaceous horizon.</td><td>0.82</td><td>91.85</td><td></td></tr>
<tr><td>Coal Seam : Purewa Top</td><td>0.93</td><td>10.15</td><td>Avg. Thickness: 6.22</td></tr>
<tr><td>Sandstone with thin shale bands</td><td>1.29</td><td>29.35</td><td></td></tr>
<tr><td>Coal Seam : Purewa Bottom</td><td>9.2</td><td>14.46</td><td>Avg. Thickness: 11.79</td></tr>
<tr><td>Coal Seam : Purewa Merged</td><td>15.5</td><td>28.3</td><td>Avg. Thickness: 23.85</td></tr>
<tr><td>Sandstone with thin carb shale</td><td>55.3</td><td>77.8</td><td></td></tr>
<tr><td>Coal Seam : Turra</td><td>4.4</td><td>22.5</td><td>Avg. Thickness: 18.11</td></tr>
</table>
Strike and Dip
The beds have a general ENE-WSW trend with northerly dip. The amout of dip is gerenrally about 2-3 degree.The Area has been postulated free of faults</td></tr>
<tr><td>2.2.3</td><td>Geological Block Area “ Ha”</td><td colspan="2">2006.323</td></tr>
<tr><td>2.2.4</td><td>Status of Exploration of the block</td><td colspan="2">Fully Explored</td></tr>
<tr><td>2.2.5</td><td>Area covered by ‘detailed’ exploration within the block (sq. km)</td><td colspan="2">Full Area</td></tr>
<tr><td>2.2.6</td><td>Whether entire lease area has been covered by ‘detailed’ exploration.</td><td colspan="2">Yes</td></tr>
<tr><td>2.2.7</td><td>No. of boreholes drilled within the block</td><td colspan="2">142</td></tr>
<tr><td>2.2.8</td><td>Whether any further exploration/study is required or</td><td colspan="2">NA</td></tr>
</table>

<table>
<tr><th></th><th>Parameters</th><th>Details</th></tr>
<tr><td></td><td>suggested and time frame in which it is to be completed</td><td></td></tr>
<tr><td>2.2.9</td><td>Year wise future programme of exploration</td><td>Not required</td></tr>
<tr><td>2.2.10</td><td>Overall borehole density within the block (no./ sq. km) approx</td><td>10.45 as per EPR Nigahi (25 Mtpa)</td></tr>
<tr><td>2.2.11</td><td>No of Seams available as per GR (Geological Report)</td><td>Top to Bottom and abbreviations used in this report
1. Purewa Top
2. Purewa Bottom
3. Purewa merged
4. Turra</td></tr>
<tr><td>2.2.12</td><td>Seams not considered for Mining with Reasons</td><td>Kota seam 0.12-1.39 (Very thin)</td></tr>
<tr><td>2.2.13</td><td>Dip of the Seam</td><td>2^{o} to 3^{o}</td></tr>
<tr><td>2.2.14</td><td colspan="2">Seam wise thickness, depth and reserve
As per EPR of Nigahi OCP (25.00 Mtpa) as on 01.04.2020
<table>
<tr><th rowspan="2">Lithology</th><th colspan="2">Thickness Range</th><th colspan="2">Depth of Occurrence from surface</th><th>Mineable Reserve (Mt)</th></tr>
<tr><th>From</th><th>To</th><th>From</th><th>To</th><th></th></tr>
<tr><td>Purewa Top</td><td>4.00m</td><td>10.94m</td><td>30.50m</td><td>105.6m</td><td rowspan="3">261.66</td></tr>
<tr><td>Purewa Bottom</td><td>8.80m</td><td>14.70m</td><td>35.50m</td><td>116.97m</td></tr>
<tr><td>Purewa merged</td><td>17.57m</td><td>27.50m</td><td>77.65</td><td>182.90</td></tr>
<tr><td>Turra</td><td>11.08m</td><td>19.20m</td><td>44.60m</td><td>262.53m</td><td>211.58</td></tr>
<tr><td colspan="5">Total</td><td>473.24</td></tr>
</table></td></tr>
</table>

	Parameters	***Details***
2.2.15	Methodology of reserves estimation (also mention if any software package has been used).	The Project Report i.e EPR Nigahi OCP (25 Mtpa), peak 25.00 Mtpa has been designed in the EPR for Nigahi OCP (25 Mtpa) has been envisaged with inclusion of remaining and major part small part of Nigahi Block of Nigahi North extension Block, Nigahi Dip Extension Block and very small part of Block-B Extension Block & Bijul Block of Moher Sub-basin of Singrauli coalfield to augment the coal reserve for a targeted output of 25.00 Mtpa over the life of 18 years. Plans and cross sections have used for reserve estimation. AUTOCAD software is being used for reserve estimation. Grade Wise, Seam wise and Depth wise Tonnage of coal is calculated using the Detailed Resource Reporting method of MINEX software.
2.2.16	Wt. Average GCV “KCal/kg”	G-9
2.2.17	Gross Geological Reserve of the block “Mte”	552.11 as on 31.03.2020
2.2.18	Net Geological Reserve of the block “Mte”	496.90 as Per EPR(25 Mtpa) as on 31.03.2020
2.2.19	Minable Reserve of the block “Mte” as on	473.24 as Per EPR(25 Mtpa) as on 31.03.2020
2.2.20	Blocked Reserve “Mte	nill
2.2.21	Corresponding extractable reserve of the block “Mte”	473.24

	Parameters	***Details***
2.2.22	Percentage of Extraction	95%
2.2.23	Reserve already depleted (Base date of Mining Plan)	342.67 (upto 31.03.2023)
2.2.24	Balance Reserve (as on Base Date)	409.10 (As on 01.04.2023)

CHAPTER 3

MINING

	Parameters	***Details***
3.1	**MINING METHOD**	
3.1.1	Existing method of mining if the mine is under operation	Nigahi OCP is being worked by combined system of mining using shovel-dumper system, Dragline and Surface Miner in coal.
3.1.2	Proposed method of mining with justification on suitability of method of mining	There is no change in the method of mining for coal extraction and OB removal.
3.1.3	Coal production capacity proposed “Mtpa”	25.00 Mtpa
3.1.4	Justification for optimization of Coal production capacity	Mining Plan (including Mine Closure Plan) has been prepared based on plans and Mine Lease hold boundary of EPR (25.00Mtpa) Provided by Project for obtaining Environmental Clearance for 25.00 Mtpa for supply of coal to thermal power stations and other consumers to meet the increased energy demand in the country been prepared with a production capacity of 25.00 Mtpa (Additional Land Area of 564.323 Ha.)
3.1.5	Calendar year from which the production will start	It is an operating mine.
3.1.6	Year of achieving rated production	2023-24

	Parameters	***Details***
3.1.7	**Tentative Coal Production Plan "MT"**	

Year	Year	Coal (Mt)	OB (Mm3)	SR (m3/t)
2023-24	Yr-1	25.00	133.12	5.32
2024-25	Yr-2	25.00	135.00	5.40
2025-26	Yr-3	25.00	135.00	5.40
2026-27	Yr-4	25.00	135.00	5.40
2027-28	Yr-5	25.00	135.00	5.40
2028-29	Yr-6	25.00	135.00	5.40
2029-30	Yr-7	25.00	135.00	5.40
2030-31	Yr-8	25.00	135.00	5.40
2031-32	Yr-9	25.00	135.00	5.40
2032-33	Yr-10	25.00	128.00	5.12
2033-34	Yr-11	25.00	122.99	4.92
2034-35	Yr-12	25.00	120.76	4.83
2035-36	Yr-13	25.00	106.03	4.24
2036-37	Yr-14	25.00	104.48	4.18
2037-38	Yr-15	20.00	80.26	4.01
2038-39	Yr-16	18.00	60.75	3.38
2039-40	Yr-17	14.00	45.00	3.21
2040-41	Yr-18	7.10	15.00	2.11
	Total	**409.10**	**1996.39**	4.88

3.1.8	**Rated Capacity "Mtpa"**	
	· By OC	25.00 Mtpa
	· By UG	-
	· Overall	25.00 Mtpa
3.1.9	**Life of the mine: "Years"**	
	· By OC	18
	· By UG	-
	· Overall	18

	Parameters	***Details***
3.1.10	Whether the proposed external OB dump site is coal bearing: If so, whether coal/ lignite below waste disposal area is extractable.	No
3.1.11	Whether negative proving for coal/ lignite in the proposed site for OB dump/ infrastructure has been done.	Not required.
3.1.12	Results of any investigation carried out for scientific mining, conservation of minerals and protection of environment; future proposals.	Slope stability study for pit and dump slopes, hydro-geology study and washability study proposed.

	Parameters	***Details***
3.1.13	Type of Equipment/ HEMM proposed	**List of HEMM** The position of major auxiliary & mining and transport equipment existing at the project as on 01.04.2023 vis-à-vis sanctioned provision as per approved option of EPR is given below:

Sl. No.	HEMM	Size/ Capacity	Total EPR (25 Mtpa)	Existing as on 01.04.23
A	**OB Removal**			
1	Dragline	24m^3/88mR	2	2
2	Dragline	20m^3/83mR	2	2
3	Elect. Rope Shovel	20m^3	8	3
4	Elect. Rope Shovel	10m^3	-	5+5*
5	RBH Drill	311mm	4	4
6	RBH Drill	250mm	16	11
7	Rear Dumper	190-210T	58	33
8	Rear Dumper	120T	-	1
9	Rear Dumper	100T	-	
10	Rear Dumper	85T	-	11
11	Dozer	770/850 HP	15	6+1*
12	Dozer	410 HP	-	8+5*
B	**Coal Winning**			
1	Elect. Rope Shovel	10m^3	-	3
2	Diesel Hyd. shovel	10-12 m^3	6	2
3	Surface Miner	900-1000HP (50T Class)	4	2
4	RBH Drill	160mm	8	7
5	Rear Dumper	100T	40	25+9*
6	Dozer	410 HP	7	5

	Parameters	***Details***

C	**Common**			
1	Motor Grader	550 HP	5	
2	Motor Grader	280 HP	-	6+2*
3	Motor Grader	145 HP	-	
4	Crane	120 T	2	2
5	Crane	70-100 T	2	2
6	Crane	40-60 T	2	1
7	Crane	18-20 T	4	2
8	Crane	8-12T	4	6
9	Hyd.Shovel/Back-hoe	3.2/3.8m^3	3	2
10	Hyd.Shovel/Back-hoe	1.2/1.5m^3	-	1
11	FE Loader	10-12m^3	2	1
12	FE Loader	5.74/6.4m^3	-	
13	Wheel Dozer	450HP	4	1
D	**Reclamation**			
1	Dozer	410 HP	5	4
2	Motor Grader	550 HP	2	
3	Motor Grader	280 HP	-	1
4	Hyd. Backhoe	0.9/1.2m^3	-	
5	Tipping Truck	8m^3	5	
6	Water Sprinkler	70KL	8	6
7	Water Sprinkler	28KL	4	3+2#
8	Road Sweeping Machine	-	2	
9	Water Sprinkler (Mist Spray Gun)	-	4	

*Survey-off but use

#Converted water tankers

CHAPTER 4

SAFETY MANAGEMENT

	Parameters	***Details***
4.1	**Safety Management**	
4.1.1	Important safety aspects:	Safety of men and machine deployed in the mining area should be properly taken care of irrespective of whether the mining activities are performed by departmental or by outsourcing means. All the statutory provisions laid down in The Mines Act 1952, Coal Mine Regulation 2017 and specific permission from DGMS relating to mining in general and opencast mining in particular have to be adhered to and implemented in order to maintain day to day safety. **1. Safety aspects for of HEMM / equipment** Special precaution should be taken while deploying workers in the mine. Before employing any person to the mine proper vocation training should be imparted and recommendations of various Safety Conferences should be strictly followed. Some of the major aspects are as follows: **A) For persons:** i) No persons shall be deployed unless he is trained at VTC and holds VTC Certificates. A record of the same shall be maintained. ii) Records in Form-B and Form-D shall be maintained. iii) Records of driving license of operators shall be kept by competent authority and shall be made readily available for inspection by management.

	Parameters	***Details***
		iv) Adequate supervision shall be maintained by competent persons, including officials and technicians. B) **For Machineries:** Provisions of Regulation 109, 110, 216 & 217 of CMR 2017 and DGMS Cir. (Tech.) 1 of 1999 should be strictly adhered to along with the following: i) All machinery and plant used in connection with working of a mine shall be of good design, sound construction, and suitable material, adequate strength, free from patent defect and properly maintained. ii) The owner, agent and manager shall provide adequate training facilities and ensure proper training of persons employed for operation and maintenance of machinery and plant. iii) No person except an engineer or other competent person under his supervision shall undertake any work on machinery and plant in which technical knowledge or experience is required. iv) All the machineries to be deployed in mines shall be so designed as to afford the operator clear and uninterrupted vision all around. v) Every heavy earth moving machineries, including trucks and tippers, used in mine shall be fitted with adequate safety features or devices as specified by DGMS. All equipment shall be provided with audio-visual alarms, proper light for use at night and fitted with suitable type of the fire extinguishers. vi) Truck mounted drill machines designed for tube well drilling for sources of water shall not be used

	Parameters	***Details***
		and only proper type of blast hole drill machine, especially designed for mining purpose, shall be used in the mine. vii) Every heavy earth moving machinery shall be under the charge of a competent person (Operator or Driver), authorized in writing by the Manager. viii) All persons employed or to be employed to operate heavy earth moving machinery shall be trained and their competency shall be evaluated by a Board constituted by the management, who shall be persons who are not connected with imparting of training. ix) A proper record of repair and maintenance along with inspection done by competent authority and defect pointed out shall be maintained and signed by authorized person. x) Only such fitters or mechanics possessing driver's or operator's license, shall be allowed to carry out test-run of heavy earth moving machineries. xi) No person other than the operator or the driver or any person so authorised in writing by the manager shall be allowed to ride on a heavy earth moving machinery **C) General:** i) Every person shall strictly adhere to the provisions of the Act and of the rules and regulations and to any order or direction issued by the manager or an official with a view to the safety or convenience of persons not being inconsistent with the Act, rules and these regulations; nor shall he neglect or refuse to obey such orders or directions.

	Parameters	***Details***
		ii) Every person shall, immediately before proceeding to work and immediately after terminating work at the end of his shift have his name recorded in the appropriate register. iii) Risk Management Plan of tipper/pay loader shall be made and implemented. iv) All operators/drivers so authorised by the Manager shall observe the Regulation 62 and 63 of CMR 2017 and obey the systematic traffics rules prepared by management v) Before deploying workers, they must be trained and briefed about safety aspects in opencast mine. However, during course of execution of the work, if any accident occurs whether major or minor, the matter shall have to be immediately informed to mine management i.e. Colliery Manager/Agent/GM of Area so that Notices of accidents in a accordance of (Reg. 8 of CMR 2017) and Section 23 of The Mines Act 1952 may be given and other necessary steps may be taken in accordance with the Mines Act 1952. vi) Mine authority shall operate transport system in such a way so as to minimize pollution in the mine. **2. STABILITY OF BENCHES, QUARRY HIGHWALLS AND SPOIL DUMPS** During quarry operations, it is necessary to adopt required mining parameters for the stability of benches, high-walls and spoil dumps. It is also mandatory to examine systematically the fencing of mine workings, landslides and cracks between benches. It is required to maintain well-graded and wide roads on benches

	Parameters	***Details***
		keeping the width of working areas sufficient for spreading of blasted rock and movement of the mining and transport equipment. During actual mining operation, systematic observations of the condition of benches, high wall slopes and spoil dumps should be carried out and the dimensions be modified if necessary to suit the local conditions. To ascertain the optimum slope angles for stability of quarry benches, high-walls and spoil dumps, scientific study of slope stability along with hydro-geological study of the area needs to under taken. During actual mining operation, systematic observations of the condition of benches, high wall slopes and spoil dumps should be carried out and the dimensions be modified if necessary to suit the local conditions. Provisions laid down in Reg. 106 and 108 of the Coal Mines regulation 2017 shall be strictly adhered to for the safety of quarry and OB/ spoil dumps. In addition to this, the following precaution should be considered: i) The spoil dump height should not exceed 150m (maximum from ground level as mentioned in EC letter no. J-11015/79/2013-IA.II(M) dated 19.03.2015) with an overall slope of 28^0 or less. In the event of encountering steep floor gradient, floor blasting should be done and the area properly levelled by dozer before spoil dumping. ii) No working or construction should be allowed within the 60m toe of the OB dump. iii) Before dumping the OB on the floor of seam, at least 10m length all along the strike length should be made horizontal at every 50 meter by floor dinting/blasting.

	Parameters	***Details***
		iv) Dump should be created in such a way that there is no chance of accumulation of water in and around the base of dump as it will adversely affect the shear strength of the base material of dump. It must be ensured that there is no stagnant water at the toe of dump and the top of the dump. v) The toe and face of the dump should not be eroded or cut at any point of time to avoid slope failure. A suitable toe wall should be created along the dump periphery. vi) Formation of dumping should be done in square or circular or any regular shape as far as possible. vii) Proper drainage system should be provided to bring down rain water by construction of inclined drain on dump face and catch drain on all benches. viii) During active period of dump, all rain water should be diverted away from mining site as far as possible. ix) Sump and pumping capacity should be sufficient to accommodate peak surface run-off and seepage of water. x) Gabion wall and garland drain should be constructed and maintained to trap the surface run-off and sludge coming from dump. xi) Plantation and grassing should be done on top and slope of the dump respectively. xii) Regular monitoring is required for development of tension crack, gullies, movement of soil mass, stagnation of water and any other unusual occurrence. In case of dump movement, rate of movement of dump should be monitored. Special

	Parameters	***Details***
		attention should be given at curve area/turning area of the dump. **3. PRECAUTIONS AGAINST DANGER OF INUNDATION FROM SURFACE WATER** 1) Adequate protection against any danger of inrush of surface water into the mine or part shall be provided and maintained to the satisfaction of DGMS, whose decision shall be final. 2) The entrance into the mine shall be so designed, constructed and maintained that its lowest point (which means the point at which a body of rising water on surface can enter the mine) shall be not less than 3.0 meters above the highest flood level at that point. 3) Every year, during the rains constant watch shall be kept on the flood levels on the surface of the mine and if at any time the levels cross the highest levels earlier recorded, such levels shall be marked by permanent posts along the edges of water and the new highest levels thus observed shall be recorded with the date as the highest flood level on the plans by an actual survey. 4) If water dams or reservoirs are built across rivers and water courses on the upstream side of the mine, arrangements shall be made for communication between appropriate authorities for the purpose of ascertaining the quantity and timing of water released from the dams which is likely to endanger safety of the mine and arrangement for similar communication shall be made when water level rises on the upstream side which is likely to endanger the mine.

	Parameters	***Details***
		5) The highest flood levels and danger levels at least 1.2 meters below the highest flood level, shall be permanently marked at appropriate places on the surface and whenever water rises towards the danger level at any place, all persons shall be withdrawn from the mine sufficiently in advance and for this purpose adequate arrangements of quick communication to all parts of the mine by effective systems shall be provided and maintained. 6) No working shall be made in the mine at any spot lying within a horizontal distance of 15 meters from either bank of a river or nala. 7) A competent person shall, once at least in every fourteen days during the rainy season and once at least in every thirty days during other periods of the year, examine every protective measure provided under regulations 149, whether in use or not, for their stability, and a report of every such examination shall be recorded. The protective measures and workings shall also be inspected, once at least in every quarter by the Manager personally. A careful assessment is to be made against the danger from surface water before the onset of rainy season. The necessary precautions should be clearly laid down and implemented. A garland drain needs to be provided to drain away the surface rain water from coming into the mine. 8) Standing order for withdrawal of working persons in case of apprehended danger. During heavy rain inspection of vulnerable points is essential. In case

	Parameters	***Details***
		of any danger persons are to be withdrawn to safer places. **4. PROTECTION OF EQUIPMENT DEPLOYED AT BOTTOM HORIZONS FROM FLOODING:** During the heavy monsoon period, the mining operation in the lower-most bench may have to be stopped. Therefore, it is proposed to drown the lower-most bench, which would work as a sump. The water will be pumped out and discharged into the nearby nala/ river after proper sedimentation. For ensuring safety of the equipment while working out bottom horizons with no access to surface profile, the following measures should be taken: i) Drivage of initial trenches if any and coal cutting on bottom benches should be done during the dry period of the year. ii) Ramps should be made for quick shifting of equipment from bottom horizons, liable to be flooded during monsoon period, to the top horizons. **5. PREVENTION OF ELECTRIC SHOCKS**: During mining operations, all the statutory provisions of the Indian Electricity Rules 1956, and Indian Standards for installation and maintenance of electrical equipment etc. should be observed. 1) For protection from electric shocks to persons, all electrical equipment with voltage up to 1000V should be provided with Earth Leakage Relay, which will automatically disconnect electrical circuits.

	Parameters	***Details***
		2) Closed mobile substations and switchgears should be mechanically interlocked which exclude the possibility of opening the door when oil switch and air circuit breakers are in operation. 3) All metal parts of electrical equipment should be properly earthed to avoid failure of insulation. 4) All H.T lines and cables located within the blasting zones should be disconnected during charging & blasting operations. **6. DUST SUPPRESSION & DILUTION OF EXHAUST FUMES:** For precaution against dust, Regulation 143, 144 and 145 of CMR 2017 should be observed. Beside this the following measures should be adopted for dust suppression at all quarry working places, dumps, haul roads, CHP and near other auxiliary mining operations. i) Spraying with water on all working faces & haul roads, by special spraying machines or water-sprinkler. ii) While drilling holes, it is necessary to use dust extraction devices. iii) Installation of local dust suppression and air conditioning devices in cabins of excavators and drilling rigs may be considered. iv) Leveling of spoil dump surface. v) Separate dust suppression arrangement should be provided for CHP. To prevent collection of harmful mixtures in the atmosphere, from the different sections of quarry workings, it is recommended:

	Parameters	***Details***
		To spread out the sources of dust formation and omission of harmful gases throughout the working area of the quarry, the following precautions should be taken: i) Drilling & blasting operations should be timed for periods of maximum wind activity during the day. ii) Dumpers may be provided with purifiers for exhaust gases. **7. MEASURES TO BE TAKEN FOR FIRE FIGHTING AND FIRE PREVENTION:** In addition to statutory provisions as laid down in Reg 135, 139 and 140 of CMR 2017, the measures for firefighting and prevention of fires are as follows: i) Organisation of special cell for systematic observations to examine and prevent fire. ii) Removal of spillage of coal on benches and cleaning of coal horizons to prevent cases of coal heating. iii) Storage of lubricants and cotton waste in enclosed fireproof containers in working places. iv) Provision of fire extinguishers. **8. MEASURES TO BE TAKEN WHILE DRILLING BLASTING:** Following measures should be taken during drilling and blasting operation in the quarry beside the statutory requirements: i) Drilling and Blasting in quarry should be done in accordance with the provisions of Mines Act, rules and regulations and based on the Standing Orders for the safe use of explosives.

	Parameters	***Details***
		ii) Adequate safety measures have to be taken during blasting operation in the quarry so that men/machine is not affected. **9. CONSERVATION** Suitable measures should be taken to minimize coal loss during mining operations. Selective mining of in-seam dirt bands has been proposed. It is proposed not to dump any spoil material over coal bearing area, amenable for mining, at present or even at a future date. **10. SCIENTIFIC STUDIES** The slopes of the quarry and dumps have been proposed on the basis of experience in the adjoining areas. However, to ascertain optimum slope angles for stability of quarry batter and dumps a scientific study need be carried out. Similarly, hydro-geological study of the area is to under taken as none is available at present. Studies should also be carried out to ascertain the pattern of surface drainage, the manner of diversion of water courses to other water courses away from the mining area and the dimension of diversion dams, garland drains and other protective structures to be constructed.

CHAPTER 5
INFRASTRUCTURE FACILITIES

	Parameters	***Details***
5.1	Mine infrastructure required e.g. Equipment maintenance planning, Office buildings, Workshop, Power Supply arrangement, Water supply, etc.	Mine is in operation since 1985-86. All infrastructure like Equipment maintenance planning, Office buildings, Workshop, Power supply arrangement, Water supply etc. are in place. For this expansion, no separate extra arrangement is proposed.
5.2	Power supply & illumination	The Project is receiving power at 33 kV from Nigahi Sub-station of 132/33 kV MPEB located in Jayant, Distt. Singrauli (M.P). Nigahi Coal Substation is also being fed through 02 nos. 33 kV feeders drawn from OB east Sub-station and the circuit length is around 3 km. The existing CHP loads of are being fed through 3 x 10 MVA, 33 kV/6.6 kV receiving power through double circuit 33 kV feeder emanating from OB east Sub-station. Nigahi OB West Sub-Station receives power from Nigahi Sub-Station through double circuit overhead lines of 33 KV and OB East Sub-station receives power from OB West Sub-Station through double circuit overhead line of 33KV. Nigahi OB East and OB West Sub-station supply power to HEMM like draglines, shovels, drills etc. The Coal Sub-

	Parameters	***Details***
		stations supplies power to HEMM deployed in coal section, pumping, CHP, workshop etc. Nigahi Colony Sub-station is of capacity of 1X10 MVA, 33/6.6 KV and 1X5 MVA, 33/6.6KV and is being fed from Nawanagar Sub-station of 132/33KV system voltage. The colony Sub-station supplies power to colony, GM office, shopping complex etc.
5.3	Drainage & Pumping: Assessment of volume of water for Pumping, Pumping Capacity	Pumps, Pipes and Fittings: Pumping system has been designed for the volume of water accumulated in the mine and the target plus five year production considering maximum rainfall in a day as 214mm. Peak Pumping Quantity is worked out to be 1156025 m^3, the de-watering will be 5 day with 20 hr pumping every day. Thus pumping capacity required is 11560 m^3. Drainage of Water on Surface Fresh garland drains shall be made before every monsoon at the peripherally of active edge of the quarry to prevent the surface rain water to enter the quarry. A sedimentation pond/lagoon shall be made between the qualities and mine water will be discharged into it. After sedimentation of suspended particles, the fresh water will be discharged in to river/nalla.
5.4	Coal Handling Arrangement : Brief detail of CHP/ Mode of Dispatch, Coal quality and coal	**COAL HANDLING ARRANGEMENT** Existing CHP of 15 Mtpa (4.2Mtpa Phase-I and 5.8 Mtpa Phase-II and 5 Mtpa Phase-III) has already been constructed and is in operation. Existing CHP broadly has the facilities of four number of receiving and crushing complex, two number of bunkers for storage and reclamation, two silos with rapid loading system, and associated conveyor system.

	Parameters	***Details***
	staking and handling arrangement	Two CHP each of 5 Mtpa namely West (Turra or Purewa coal) & East (Purewa coal) has been proposed. In the West section, it is proposed to install one number semi -mobile primary crushing plant and subsequently one number twin shaft secondary sizer for blasted coal and five nos receiving hoppers (Cap.- 100 Te each) for surface miner coal along with required conveyor system of 1600 TPH rated capacity (peak capacity 1920 TPH). In the East (Purewa coal) section, it is proposed to install five nos receiving hoppers (Cap.- 100 Te each) for surface miner coal along with conveyor system of 1600 TPH capacity (peak capacity 1920 TPH). Total handling capacity of the CHP including existing and pro-posed will be 25 Mtpa (15 Mtpa existing + 10 Mtpa incremental proposed) which will cater the target coal of 25 Mtpa. Incremental CHP (10 Mtpa) is under construction.
5.5	Coal washing and the proposed handling/ disposal of rejects.	NA

CHAPTER 6
LAND REQUIREMENT

<table>
<tr><td></td><td>Parameters</td><td>Details</td></tr>
<tr><td>6.1</td><td colspan="2">LAND REQUIREMENT</td></tr>
<tr><td>6.1.1</td><td>Total Land requirement for the mine in “Ha”</td><td>Break up Additional Land details:
<table>
<tr><th>Land Type</th><th>Area (Ha)</th></tr>
<tr><td>Tenancy land</td><td>188.000</td></tr>
<tr><td>Govt. Non Forest land</td><td>146.975</td></tr>
<tr><td>Forest land</td><td>229.348</td></tr>
<tr><td>Total additional Land</td><td>564.323</td></tr>
<tr><td>Possessed land as on 31.03.2023</td><td>3018.400</td></tr>
<tr><td>Total</td><td>3582.723</td></tr>
</table></td></tr>
</table>

	Parameters	***Details***
6.1.2	Land use of total leasehold Area (3582.723 Ha) during mining	

Type	Land use (Proposed)	Land Use (End of Life)	Land Use (Post Closure)						
			Agriculture Land	Plantation	Water Body (including batter)	Public/ Company Use	Forest Land (Returned)	Undist-urbed Land	Total
Excavation Area	2146.17	0							0
Backfilled Area	0	1755.933		1755.933					1755.933
Excavated Void	0	390.237			390.237				390.237
Without plantation	0	0							0
Top Soil Dump	0	0							0
External Dump	418	418		418					418
Safety Zone	5.32	5.32						5.32	5.32
Others & undisturbed land	126.331	126.331						126.331	126.331
Haul Road between quarries	0	0							0
Road diversion	0	0							0
Diversion/ below River/Nala/ canal	0	0							0
Settling pond	0	0							0
ETP, CHP, workshop Colony area, & Infrastructure area	395.992	395.992		130.992		265			395.992
Road & Railways	74	74				74			74
Sand Plant	7.5	7.5		7.5					7.5
Garland drains	0	0							0
Embankment	0	0							0
Green Belt & Solar Plant	409.41	409.41		409.41					409.41

	Parameters	***Details***

Water Reservoir near pit	0	0							0
Resettlement	0	0							0
Pit head power plant	0	0							0
Water harvesting	0	0							0
Agricultural land	0	0							0
Total	**3582.723**	**3582.723**	**0**	**2721.835**	**390.237**	**339**	**0**	**131.651**	**3582.723**

Land use of Additional Required Area during mining

Type of Land	**Land use during Mining**		
	Safety Zone (Area in Ha)	**Quarry Area (Area in Ha)**	**Total**
Forest	2.36	226.988	229.348
Total Non-forest	2.96	332.015	334.975
Total	**5.32**	**559.003**	**564.323**

6.1.3	Surface features over the block area	Coal Mine and infrastructure.
6.1.4	No. of villages/ Houses to be shifted	Project Displaced Families is 445.
6.1.5	Population to be affected by the project	4000 Project Affected Families
6.1.6	Proposed Rehabilitation programme	Proposed Rehabilitation Programme: The expansion project involves 4000 project affected families (445 Project Displaced Families). The R&R of the PAPs will be done as per R&R policy of Coal India Limited, which is in consonance of National R&R policy.

CHAPTER 7

ENVIRONMENTAL MANAGEMENT

	Parameters	***Details***
7	**ENVIRONMENTAL MANANGEMENT**	
7.1	Commitment from the project proponent that the company will comply Environment and Forest Condition stipulated in the respective clearances	In order to carry out the proposed mining activity in an environmentally sustainable manner, suitable environmental protection measures shall be taken up at different stages of project operation and post closure. A certificate of commitment from Project Proponent that the project will comply with the conditions stipulated in the Environmental Clearance and Forest Clearance is given below. In addition to this, some environmental protection measures have been suggested as a part of mine closure activities, as detailed in the section 8.10 in this report.

Northern Coalfields Limited
(A Mini Ratna Company)
(A subsidiary of Coal India Limited)

NCL

Office of the General Manager,
Nigahi Project

An ISO: 9001, ISO: 14001 & OHSAS: 18001 Certified Company

Phone: 07805- 276040, (FAX) 276306 email: cgmngh@ncl.gov.inwebsite: www.nclcil.in

Ref No: NCL/NGH/GM/23-24/ Date: 13.07.2023

CERTIFICATE

This is to certify that Nigahi Opencast Project (25 MTPA) during its operation will comply with the conditions stipulated in the Environment Clearance and Forest Clearance.

13.07.2023
Project Officer
Nigahi Opencast Project

13/07/2023
Area General Manager
Nigahi Opencast Project

CHAPTER 8

PROGRESSIVE & FINAL MINE CLOSURE PLAN

	Parameters	***Details***
8.1	***Land Degradation and restoration Schedule***	

8.1.1 Tentative Land Degradation and Technical Reclamation (Commutative Area "Ha")

Year/ Stage	Land Degraded Area in Ha				Technically Reclaimed Area			
	Excav	Dump (Ext. + Top soil)	Infra/ others	Total	Backfill	Dump (Ext. + Top soil)	Others	Total
Up to Base year (01.04.2023)	1190.47	418	477.492	2085.96	703.35	418	138.49	1259.842
Y-1	1260.47	418	477.492	2155.96	753.35	418	138.492	1309.842
Y-3	1352.97	418	477.492	2248.46	873.35	418	138.492	1429.842
Y-5	1510.50	418	477.492	2405.99	993.35	418	138.492	1549.842
Y-10	1861.20	418	477.492	2756.69	1343.35	418	138.492	1899.842
Y-15	2020.50	418	477.492	2915.99	1643.35	418	138.492	2199.842
Y-18	2146.17	418	477.492	3041.66	1755.933	418	138.492	2312.425
Post Closure	2146.17	418	477.492	3041.66	1755.933	418	138.492	2312.425

8.1.2 Tentative Biological Reclamation (Cumulative in “Ha”)

Year/Stage	Biologically Reclaimed Area in Ha.					Forest land (Return) in Ha	UnDist-urbed / To be left for Public / company Use	Total
(Life of the mine plus post closure period)	Agriculture	Plantation(Internal + External Dump)	Water Body	Plain Area	Total			
Up to Base year 01.04.2023	-	523.33	-	335	858.33	-	470.651	1328.981
Y-1	-	573.33	-	335	908.33	-	470.651	1378.981
Y-3	-	673.33	-	335	1008.33	-	470.651	1478.981
Y-5	-	773.33	-	335	1108.33	-	470.651	1578.981
Y-10	-	1023.33	-	335	1358.33	-	470.651	1828.981
Y-15	-	1273.33	-	335	1608.33	-	470.651	2078.981
Y-18	-	1473.33	-	335	1808.33	-	470.651	2278.981
Post Closure	-	2173.933	*390.237	547.90	3112.072	-	470.651	3582.723

*including quarry batter

	Parameters	***Details***
8.2	**Post Closure Water Quality management:**	Water quality monitoring will be carried out quarterly during the post closure stage, as per the CPCB Norms and will be compared with the IS 10500:2012 & 2015. The actual end use and treatment measures, if any required will be decided at the post closure stage depending upon the quality of water.
8.3	**Post Closure Air Quality management**	Air quality monitoring will be carried out throughout the life of mine and at post closure stage to assess the impact of proposed activity on the surroundings. No. of location of stations shall be fixed as per the MoEFCC norms and prevailing local factors. Air pollution control measures like development of greenbelt and avenue plantation, mobile water sprinkling along haul roads, fixed water sprinklers at stock yard, Crushers, CHP will be deployed to minimize the impact on surroundings.

8.4 **Waste Management** (Figures in Mm^3) (Tentative)

Year/ Stage	OB Removal in Mm3			External Dump		Internal Backfilling		Embankment	
(Life of the mine plus post closure period)	(Cumulative)			(Cumulative)		(Cumulative)		(Cumulative)	
	Top Soil	OB	Total	Top Soil	OB	Top Soil	OB	Top Soil	OB
Up to Base year	1.952	1169.128	1171.08	1.13	228.745	0.822	940.383	-	-
Y-1	1.982	1302.058	1310.20	1.13	228.745	0.852	1079.473	-	-
Y-3	2.042	1571.068	1580.20	1.13	228.745	0.912	1349.413	-	-
Y-5	2.102	1839.768	1850.20	1.13	228.745	0.972	1619.353	-	-
Y-10	2.702	2504.068	2514.23	1.13	228.745	1.572	2282.783	-	-
Y-15	3.152	3035.038	3024.72	1.13	228.745	2.022	2792.823	-	-
Y-18	3.402	3153.678	3157.08	1.13	228.745	2.272	2924.333	-	-
Post Closure	3.402	3153.678	3157.08	1.13	228.745	2.272	2924.333	-	-

<table>
<tr><th></th><th>Parameters</th><th>Details</th></tr>
<tr><td></td><td colspan="2">Total Top soil to be generated is 3.402 Mm^3, and this total volume of top soil will be utilized for concurrent biological reclamation of dumps and green belt.</td></tr>
<tr><td>8.5</td><td colspan="2">Top Soil Management – (Including Action plan for Top Soil management) (Tentative)
(All Figures are Cumulative and in Mm^3)
<table>
<tr><td>Year/Stage
(Life of the mine plus post closure period)</td><td>Top Soil Removal Plan</td><td colspan="6">Top Soil Used</td></tr>
<tr><td></td><td></td><td>Spreading Over Embankment</td><td>Spreading over Backfill area</td><td>Spreading over External OB Dump area</td><td>Used in Green Belt area & Safety Zone</td><td>Used in land Dismantled</td><td>Total Utilised</td></tr>
<tr><td>Up to Base year</td><td>1.952</td><td>-</td><td>0.822</td><td>1.13</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Y-1</td><td>1.982</td><td>-</td><td>0.852</td><td>1.13</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Y-3</td><td>2.042</td><td>-</td><td>0.912</td><td>1.13</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Y-5</td><td>2.102</td><td>-</td><td>0.972</td><td>1.13</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Y-10</td><td>2.702</td><td>-</td><td>1.572</td><td>1.13</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Y-15</td><td>3.152</td><td>-</td><td>2.022</td><td>1.13</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Y-18</td><td>3.402</td><td>-</td><td>2.272</td><td>1.13</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>Post Closure</td><td>3.402</td><td>-</td><td>2.272</td><td>1.13</td><td>-</td><td>-</td><td>-</td></tr>
</table>
Total Top soil to be generated is 3.402 Mm^3, and this total volume of top soil will be utilized for concurrent biological reclamation of dumps and green belt.</td></tr>
<tr><td>8.6</td><td>Management of Coal Rejects.</td><td>No such coal beneficiation facility is proposed in mine.</td></tr>
<tr><td>8.7</td><td>Restoration of Land used for Infrastructure</td><td>It is proposed to restore land used for infrastructure by technical and biological reclamation by plantation, which will not be used by Public.</td></tr>
<tr><td>8.8</td><td>Disposal of Mining Machinery</td><td>Mining machinery will either be surveyed off or transferred to other projects of NCL based on the balance life of HEMM. Detailed disposal plan will be submitted in</td></tr>
</table>

<table>
<tr><th></th><th>Parameters</th><th>Details</th></tr>
<tr><td></td><td></td><td>Final Mine closure plan at 13th year of mine operation.</td></tr>
<tr><td>8.9</td><td>Safety & Security</td><td>Safety measures proposed during operation and post closure stage include concrete wall along mine boundary, toe wall/gabion wall along OB dumps, fencing around water bodies, garland drains etc. The measures to taken up for safety and security have been discussed in detail in Section 4.1</td></tr>
<tr><td>8.10</td><td colspan="2">Abandonment Cost and Financial Assurance</td></tr>
<tr><td>8.10.1</td><td colspan="2">Abandonment Cost:
Proposed Cost break-up (of Balance Amount) for carrying out progressive and final mine closure activities as per the yardstick of CMPDI formulated based on the mine closure guidelines is as given below:
<table>
<tr><th>Head</th><th>Activities</th><th>Unit</th><th>Quan -tity</th><th>Rate Rs./ unit</th><th>Amt.</th><th>Amount in lakhs</th></tr>
<tr><td rowspan="11">Progressive closure</td><td>Water quality management (ETP & STP etc. operating cost</td><td rowspan="3">LS</td><td></td><td></td><td></td><td rowspan="3">2564.50</td></tr>
<tr><td>Air quality management(Sprinkler, water tanker and other control measures)</td><td></td><td></td><td></td></tr>
<tr><td>Waste management</td><td></td><td></td><td></td></tr>
<tr><td>Filling of void – Rehandling of Crown Dump</td><td rowspan="3">LS</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Top soil management</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Technical and Biological Reclamation of Mined out of land and OB Dump</td><td></td><td></td><td></td><td>22985.53</td></tr>
<tr><td>Plantation over virgin area including green bell</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Manpower Cost and supervision</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Barbed wire fencing around dump</td><td>LS</td><td></td><td></td><td></td><td>1842.64</td></tr>
</table></td></tr>
</table>

	Parameters	***Details***					
		Barbed wire fencing around the pit					
		Retaining wall/Toe Wall around the Dump					
		Garland drain & Catch drains					
		Garland drain around the Dump					
		Cleaning of garland drains and catch drains					
	Dismantling of structure & Disposal / rehabilitation of Mining machinery	Dismantling of workshop	LS				1614.69
		Rehabilitation of the dismantled facilities					
		Dismantling of pumps and pipes					
		Dismantling of stowing bunker					
		Dismantling of UG equipment					
		Rearranging water pipe line to dump top park/agricultural land					
		Dismantling of power lines					
	Technical and Biological Reclamation of mined out land	Filling of Void					5072.01
		Top soil management					
		OB Re-handling for backfilling					
		Terracing, blanketing with soil and vegetation of External OB Dump					
		Peripheral road, gates, view point, cemented steps on bank	LS				
		Expenditure on development of Agriculture land					
		Landscaping and Plantation	LS				1804.65
	Post cost management and supervision	Power cost	LS				607.88
		Post Mining Water quality management					
		Post Mining Air quality management					
		Subsidence monitoring					
		Waste management					
		Manpower cost and supervision					
	Others	Entrepreneurship development (vocational/skill development training for	LS				284.94

	Parameters	***Details***					
		sustainable income of affected people					
		Golden handshake/Retrenchment benefits to 100 employees of OC	LS				1215.76
		Onetime financial grant to societies/institutions/organisations which is dependent on project					
		Provide jobs in other mines of the company					
		Continuation of other services like running of schools etc.					
	Total						**37992.62**

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

ESCROW ACCOUNT	
Nigahi Expansion OCP(25.00 Mtpa)	
Project Area (Ha)	3582.723
Escrow Amount per Ha. For OC Project as on April '2019 (lakhs/ Ha)	9
WPI as on April '2019	121.10
WPI as on June' 2023	149.00
Escrow Amount per Ha. For OC Project as on June 2023 (lakhs/ Ha)	11.07
Current value of corpus as on June' 2023	39660.74
Amount deposited till date in lakhs (31.03.2023)	15351.85
Balance Corpus for which provision is to be made	24308.89
Balance Life of mine	18
Rate of compounding of annual closure cost	5 %
Annual corpus (in Rs. Lakh)	1350.49
Year	Amount in Lakh (Rs.)
1	1350.49
2	1418.02
3	1488.92
4	1563.37
5	1641.53
6	1723.61
7	1809.79
8	1900.28

	Parameters	***Details***
	9	1995.29
	10	2095.06
	11	2199.81
	12	2309.80
	13	2425.29
	14	2546.56
	15	2673.89
	16	2807.58
	17	2947.96
	18	3095.36
	Amt. to be deposited after compounding	**37992.62**

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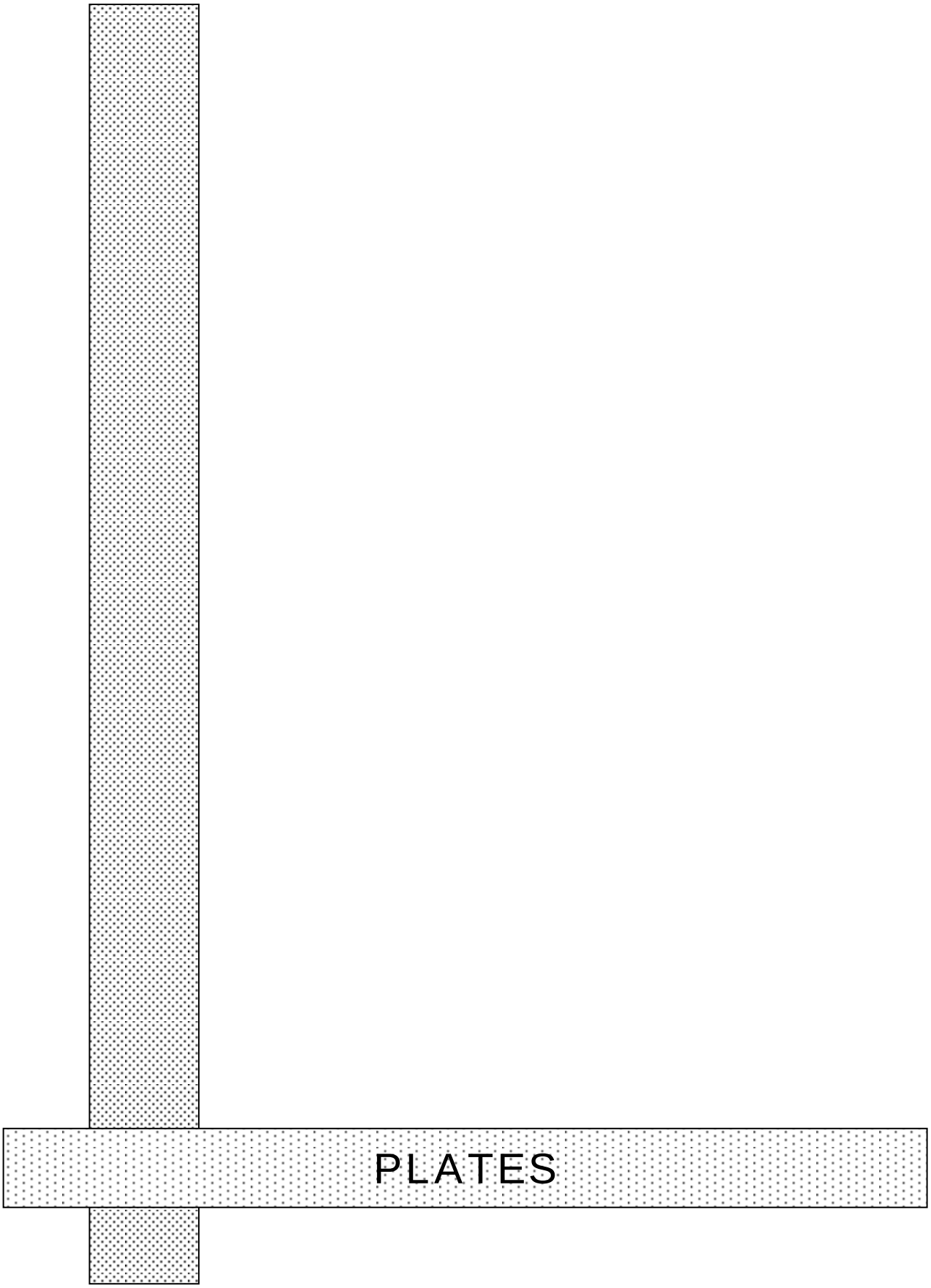
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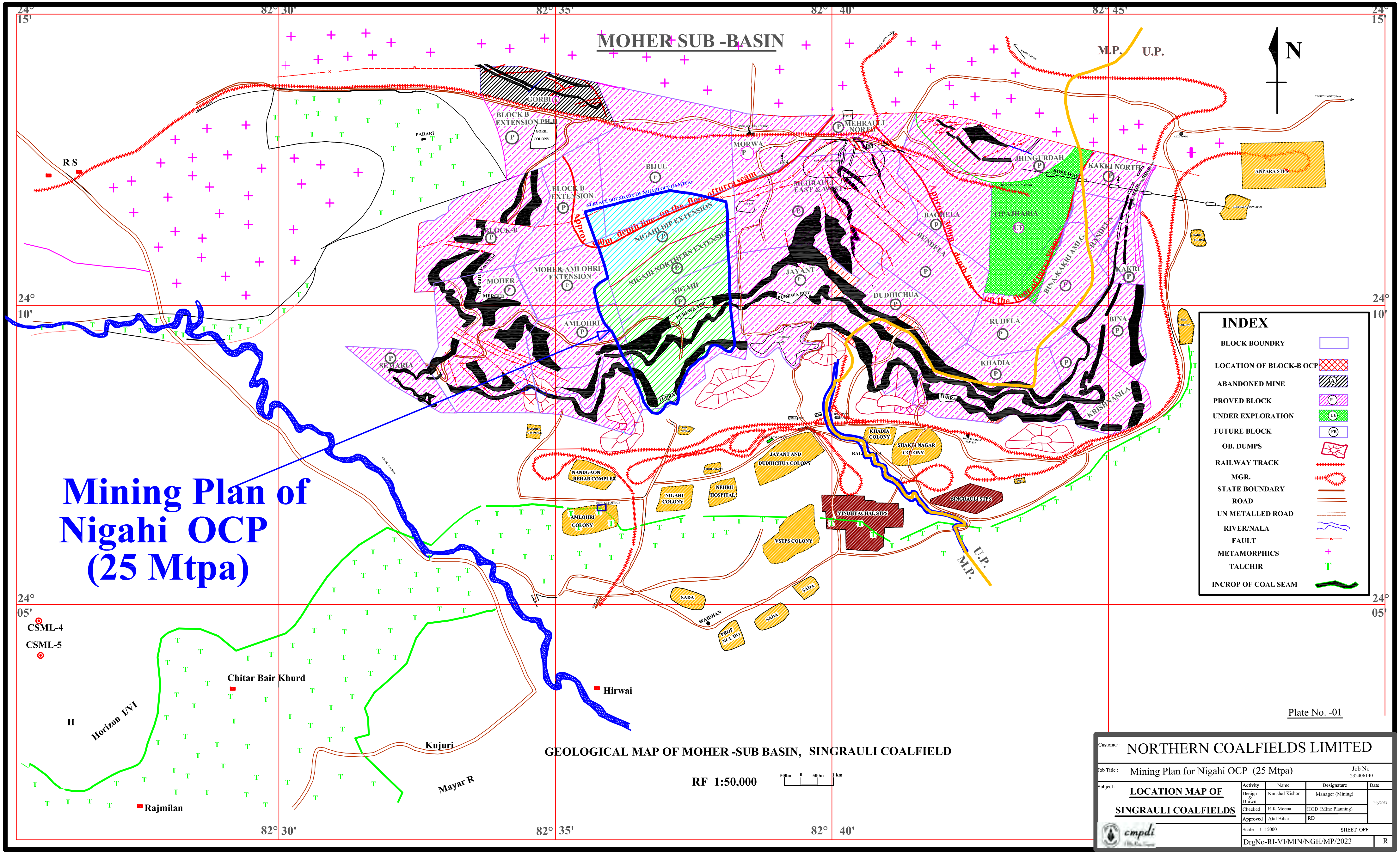

MOHER SUB -BASIN
N
M.P.
U.P.
Mining Plan of
Nigahi OCP
(25 Mtpa)
GORBI
BLOCK B EXTENSION PH-II
BLOCK B EXTENSION
BLOCK-B
BIJUI
MORWA
MEHRAULI NORTH
MEHRAULI EAST & WEST
JHINGURDAH
KAKRI NORTH
TIPAJHARIA
BACHELA
BUNDELA
JAYANT
DUDHICHUA
NIGAHI
NIGAHI DIP EXTENSION
NIGAHI NORTHERN EXTENSION
MOHER-AMLOHRI EXTENSION
MOHER
AMLOHRI
SEMARIA
RUHELA
KHADIA
BINA
KAKRI
BINA-KAKRI AMLG.
KRISHNASHILA
ANPARA STPS
NANDGAON REHAB COMPLEX
AMLOHRI COLONY
NIGAHI COLONY
NEHRU HOSPITAL
JAYANT AND DUDHICHUA COLONY
KHADIA COLONY
SHAKTI NAGAR COLONY
SINGRAULI STPS
VINDHYACHAL STPS
VSTPS COLONY
SADA
PROP NCL HQ
WAIDHAN
PARARI
R S
CSML-4
CSML-5
Chitar Bair Khurd
Hirwai
Horizon I/VI
H
Kujuri
Mayar R
Rajmilan
24° 15'
24° 10'
24° 05'
82° 30'
82° 35'
82° 40'
82° 45'
INDEX
BLOCK BOUNDRY
LOCATION OF BLOCK-B OCP
ABANDONED MINE
PROVED BLOCK
UNDER EXPLORATION
FUTURE BLOCK
OB. DUMPS
RAILWAY TRACK
MGR.
STATE BOUNDARY
ROAD
UN METALLED ROAD
RIVER/NALA
FAULT
METAMORPHICS
TALCHIR
INCROP OF COAL SEAM
GEOLOGICAL MAP OF MOHER -SUB BASIN, SINGRAULI COALFIELD
RF 1:50,000
Plate No. -01
Customer : NORTHERN COALFIELDS LIMITED
Job Title : Mining Plan for Nigahi OCP (25 Mtpa)
Job No 232406140
Subject : LOCATION MAP OF SINGRAULI COALFIELDS
Activity | Name | Designature | Date
Design & Drawn | Kaushal Kishor | Manager (Mining) | July'2023
Checked | R K Meena | HOD (Mine Planning)
Approved | Atal Bihari | RD
Scale - 1 :15000
SHEET OFF
DrgNo-RI-VI/MIN/NGH/MP/2023
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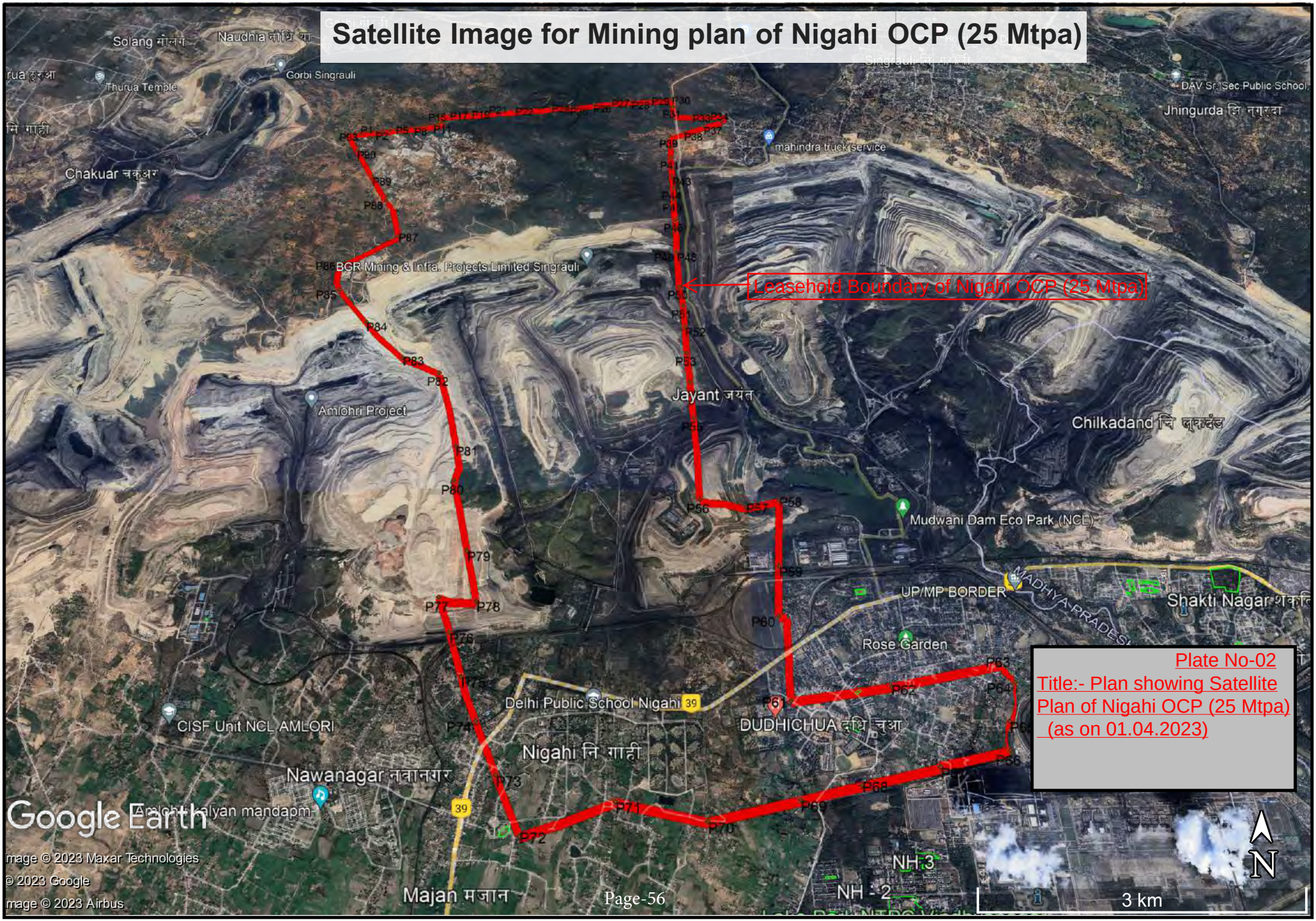
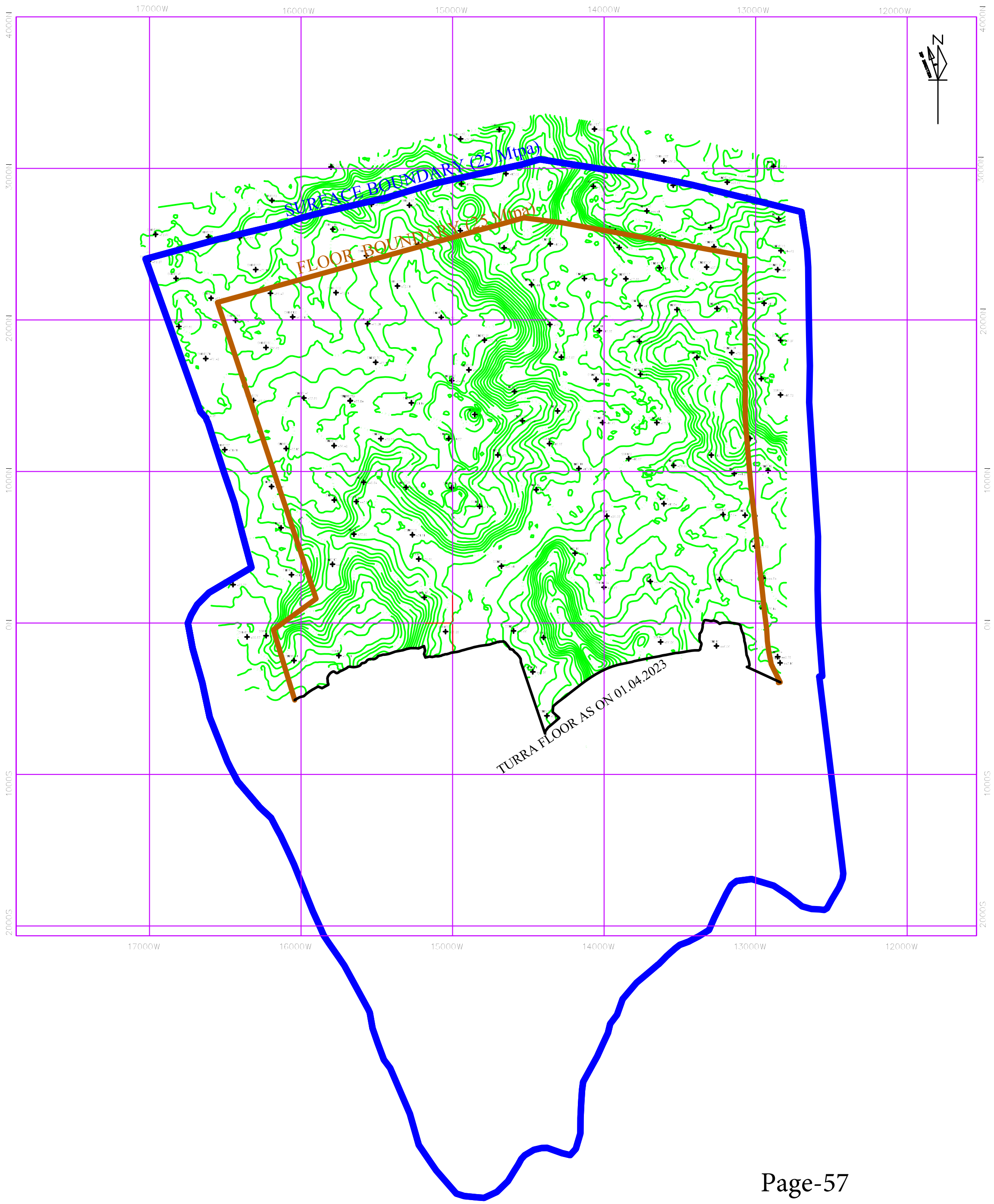
Satellite Image for Mining plan of Nigahi OCP (25 Mtpa)





LEGEND

SL.NO.	PARTICULARS	SYMBOL
1.	SERIES OF BOREHOLES DRILLED IN NIGAHI NORTH EXTENSION	⊕ CSNE009
2.	SUFACE BOUNDARY OF NIGAHI OCP (25Mtpa)	
3.	FLOOR BOUNDARY OF NIGAHI OCP (25Mtpa)	
4.	SURFACE CONTOUR	400
5.	TURRA FLOOR AS ON 01.04.2023	

Plate No. -03

Customer : NORTHERN COALFIELDS LIMITED				
Job Title : Mining Plan for Nigahi OCP (25Mtpa)				Job No 232406140
Subject : Topography & Surface Plan	Activity	Name	Designature	Date
	Design & Drawn	Kaushal Kishor	Manager (Mining)	July'2023
	Checked	R K Meena	HOD (Mine Planning)	
	Approved	Atal Bihari	RD	
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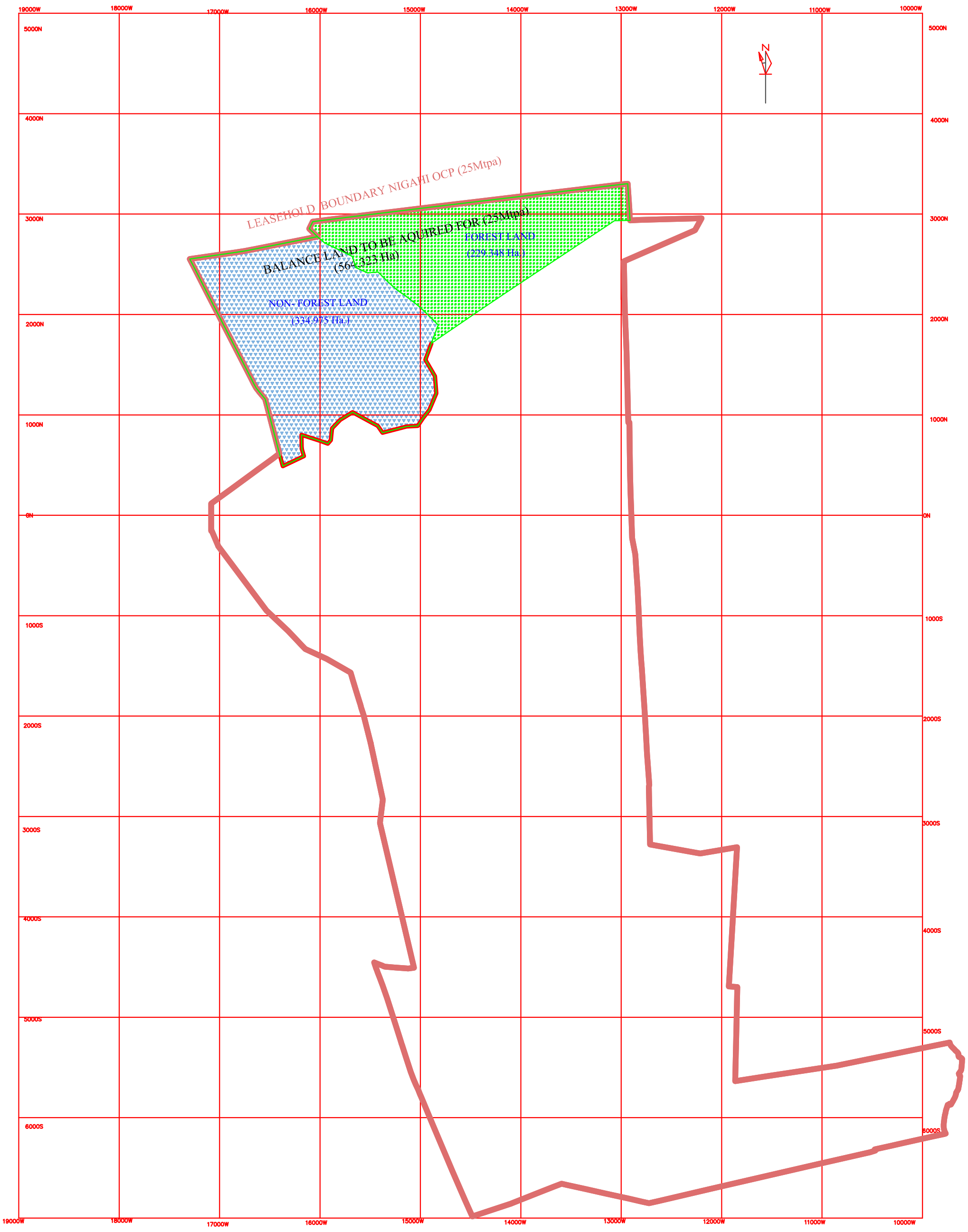

LEGEND

SL.NO.	PARTICULARS	SYMBOL
1.	LEASEHOLD BOUNDARY NIGAHI OCP (25Mtpa)	
2.	564.323 Ha LAND TO BE AQUIRED FOR (25Mtpa)	
3.	FOREST LAND	
4.	NON- FOREST LAND	

Plate No. -04

Customer : NORTHERN COALFIELDS LIMITED

Job Title : Mining Plan for Nigahi OCP (25Mtpa) Job No 232406140

Subject : Plan showing Leasehold boundary and details of land

Activity	Name	Designature	Date
Design & Drawn	Kaushal Kishor	Manager (Mining)	July 2023
Checked	R K Meena	HOD (Mine Planning)	
Approved	Anil Bihari	RD	

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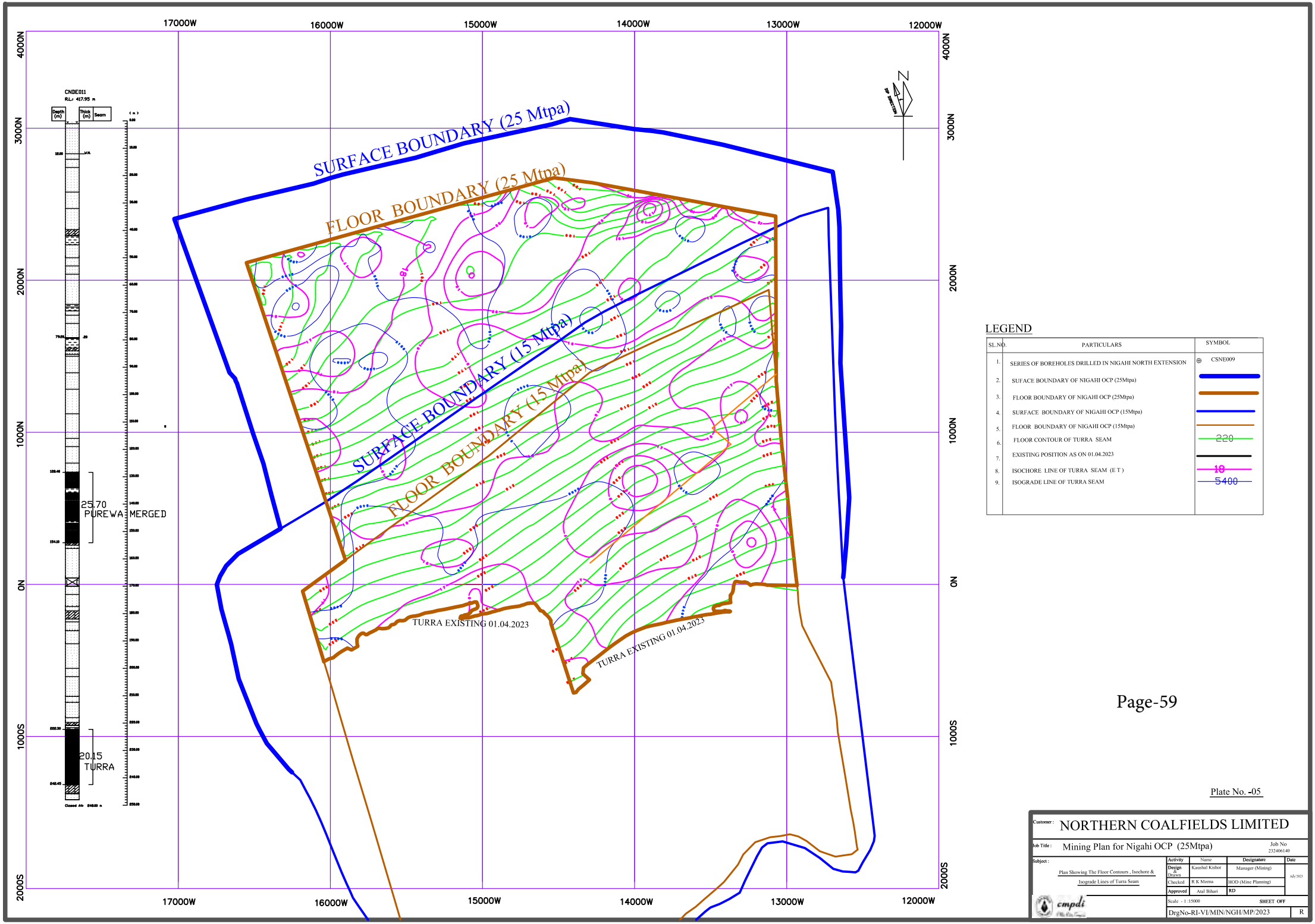

LEGEND

SL.NO.	PARTICULARS	SYMBOL
1.	SERIES OF BOREHOLES DRILLED IN NIGAHI NORTH EXTENSION	⊕ CSNE009
2.	SUFACE BOUNDARY OF NIGAHI OCP (25Mtpa)	
3.	FLOOR BOUNDARY OF NIGAHI OCP (25Mtpa)	
4.	SURFACE BOUNDARY OF NIGAHI OCP (15Mtpa)	
5.	FLOOR BOUNDARY OF NIGAHI OCP (15Mtpa)	
6.	FLOOR CONTOUR OF TURRA SEAM	220
7.	EXISTING POSITION AS ON 01.04.2023	
8.	ISOCHORE LINE OF TURRA SEAM (E T)	10
9.	ISOGRADE LINE OF TURRA SEAM	5400

Plate No. -05

Customer : NORTHERN COALFIELDS LIMITED

Job Title : Mining Plan for Nigahi OCP (25Mtpa) Job No 232406140

Subject : Plan Showing The Floor Contours , Isochore & Isograde Lines of Turra Seam

Activity	Name	Designature	Date
Design & Drawn	Kaushal Kishor	Manager (Mining)	July 2023
Checked	R K Meena	HOD (Mine Planning)	
Approved	Atal Bihari	RD	

Scale - 1 :15000 SHEET OFF

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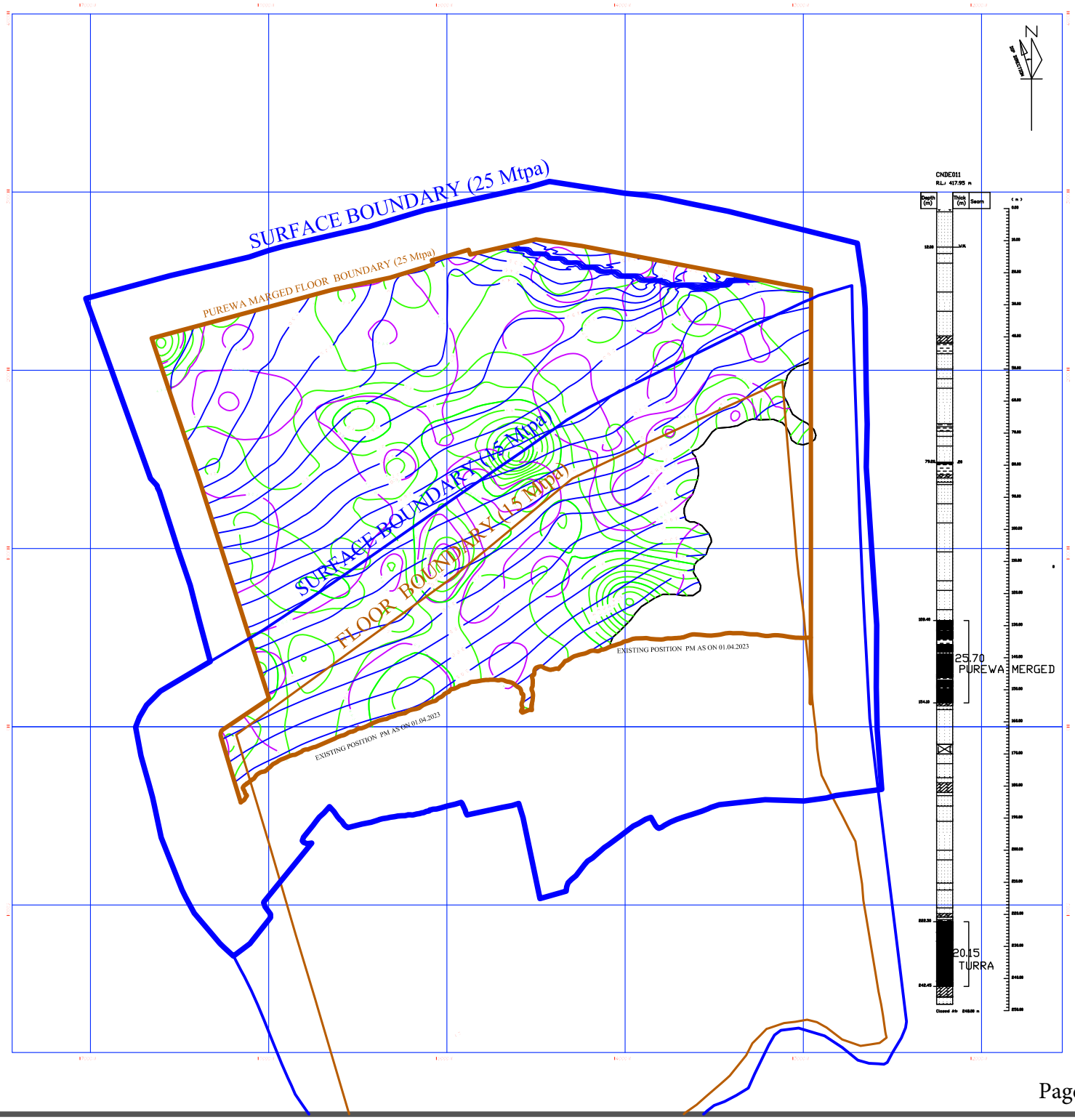

LEGEND

SL.NO.	PARTICULARS	SYMBOL
1.	SERIES OF BOREHOLES DRILLED IN NIGAHI NORTH EXTENSION	CSNE009
2.	SUFACE BOUNDARY OF NIGAHI OCP (25Mtpa)	
3.	PUREWA MARGED & PUREWA BOTTOM FLOOR BOUNDARY OF NIGAHI OCP (25Mtpa)	
4.	SURFACE BOUNDARY OF NIGAHI OCP (15Mtpa)	
5.	FLOOR BOUNDARY OF NIGAHI OCP (15Mtpa)	
6.	FLOOR CONTOUR OF PUREWA MARGED SEAM	320
7.	ISOCHORE LINE OF PUREWA MARGED SEAM	20
6.	ISOGRADE LINE OF PUREWA MARGED SEAM	4500
7.	EXISTING POSITION AS ON 01.04.2023	

Plate No. -06

Customer : NORTHERN COALFIELDS LIMITED

Job Title : Mining Plan for Nigahi OCP (25Mtpa) — Job No 2324006140

Subject : Plan Showing The Floor Contour , Isochore & Isograde Line of Purewa Marged Seam

Activity	Name	Designature	Date
Design	Kaushal Kishor	Manager (Mining)	July'2025
Drawn			
Checked	R K Meena	HOD (Mine Planning)	
Approved	Atul Bihari	RD	

cmpdi

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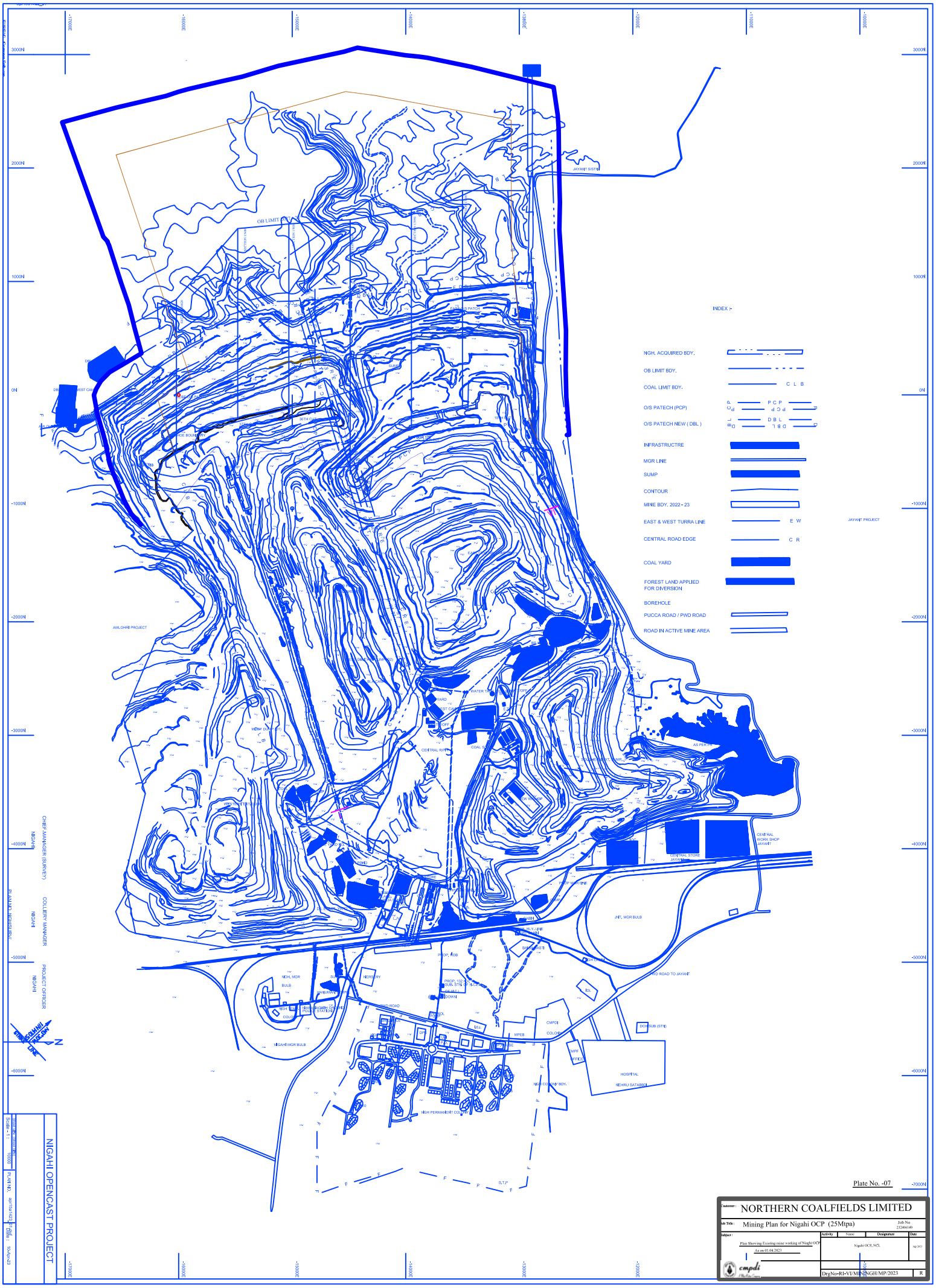
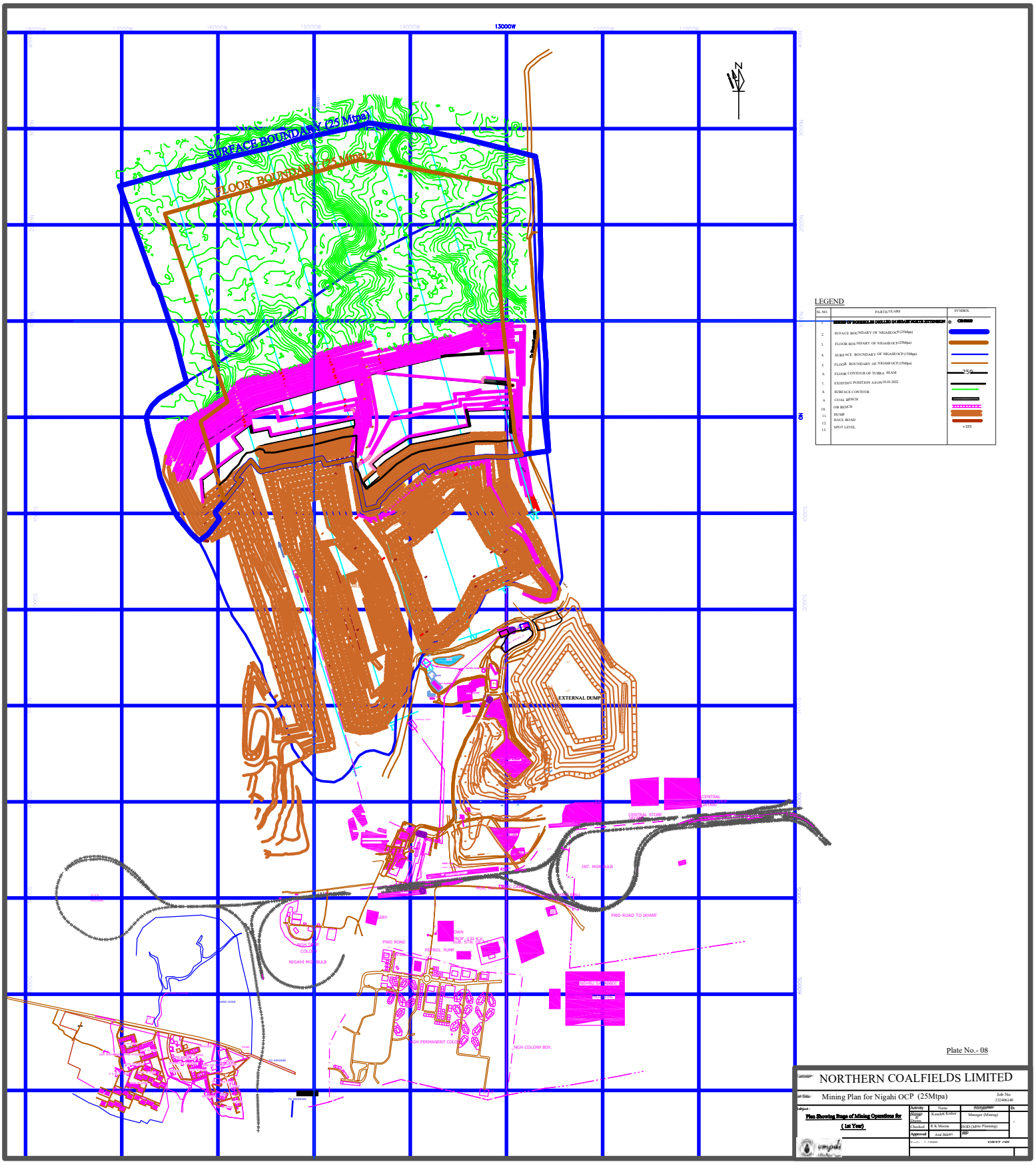
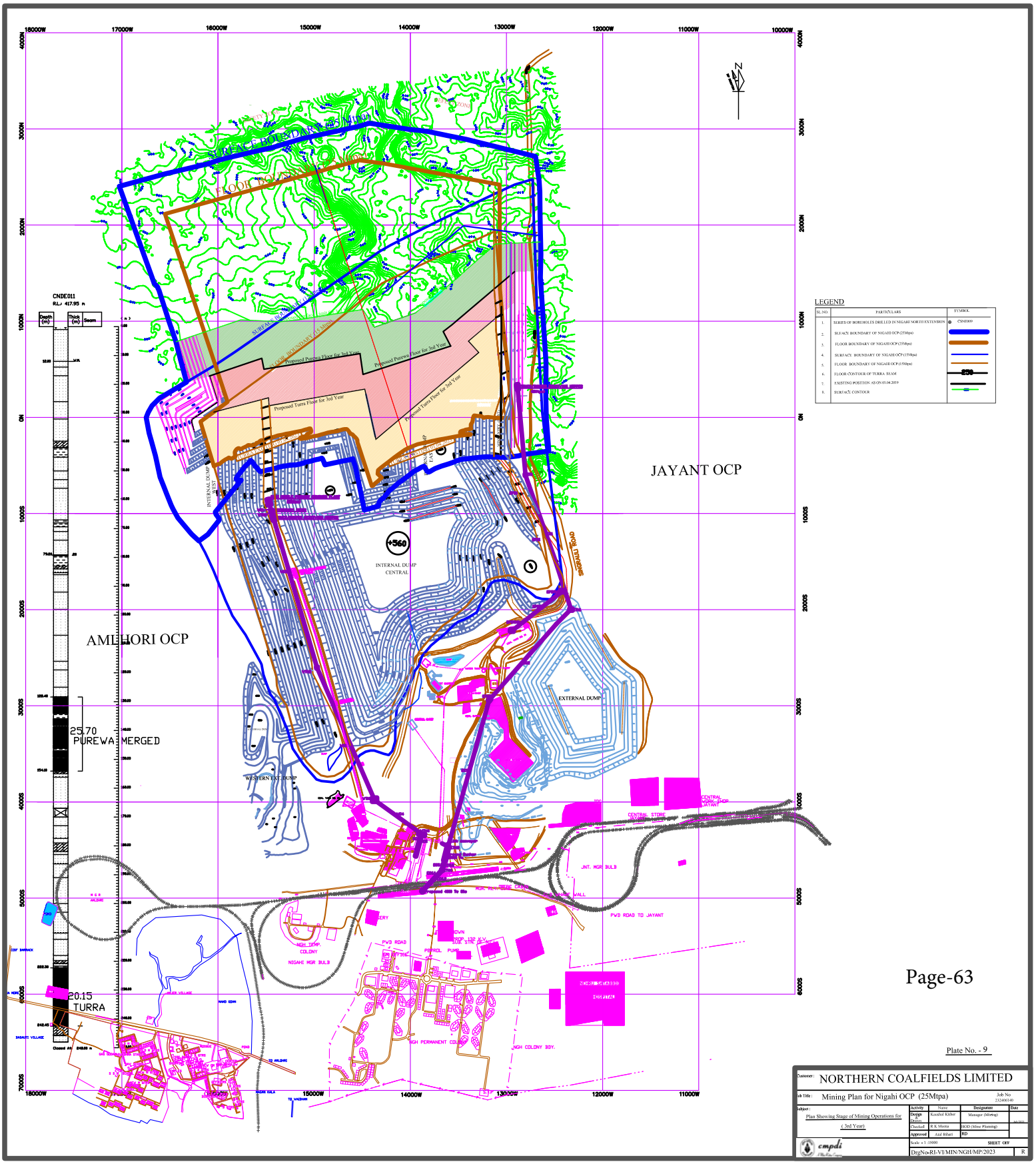
DrgNo-RI-VI/MIN/NGH/MP/2023 — R


INDEX :-
NGH. ACQUIRED BDY.
OB LIMIT BDY.
COAL LIMIT BDY.
O/S PATECH (PCP)
O/S PATECH NEW (DBL)
INFRASTRUCTRE
MGR LINE
SUMP
CONTOUR
MINE BDY. 2022 - 23
EAST & WEST TURRA LINE
CENTRAL ROAD EDGE
COAL YARD
FOREST LAND APPLIED FOR DIVERSION
BOREHOLE
PUCCA ROAD / PWD ROAD
ROAD IN ACTIVE MINE AREA
JAYANT PROJECT
AMLOHRI PROJECT
NIGAHI
CHIEF MANAGER (SURVEY)
COLLIERY MANAGER
PROJECT OFFICER
PLANNED BY
NIGAHI OPENCAST PROJECT
Plate No. -07
Customer : NORTHERN COALFIELDS LIMITED
Job Title : Mining Plan for Nigahi OCP (25Mtpa)
Job No 23240010
Plan Showing Existing mine working of Nigahi OCP
As on 01.04.2023
Nigahi OCP, NCL
DrgNo-RI-VI/MP/NGH/MP/2023
R
Page-61

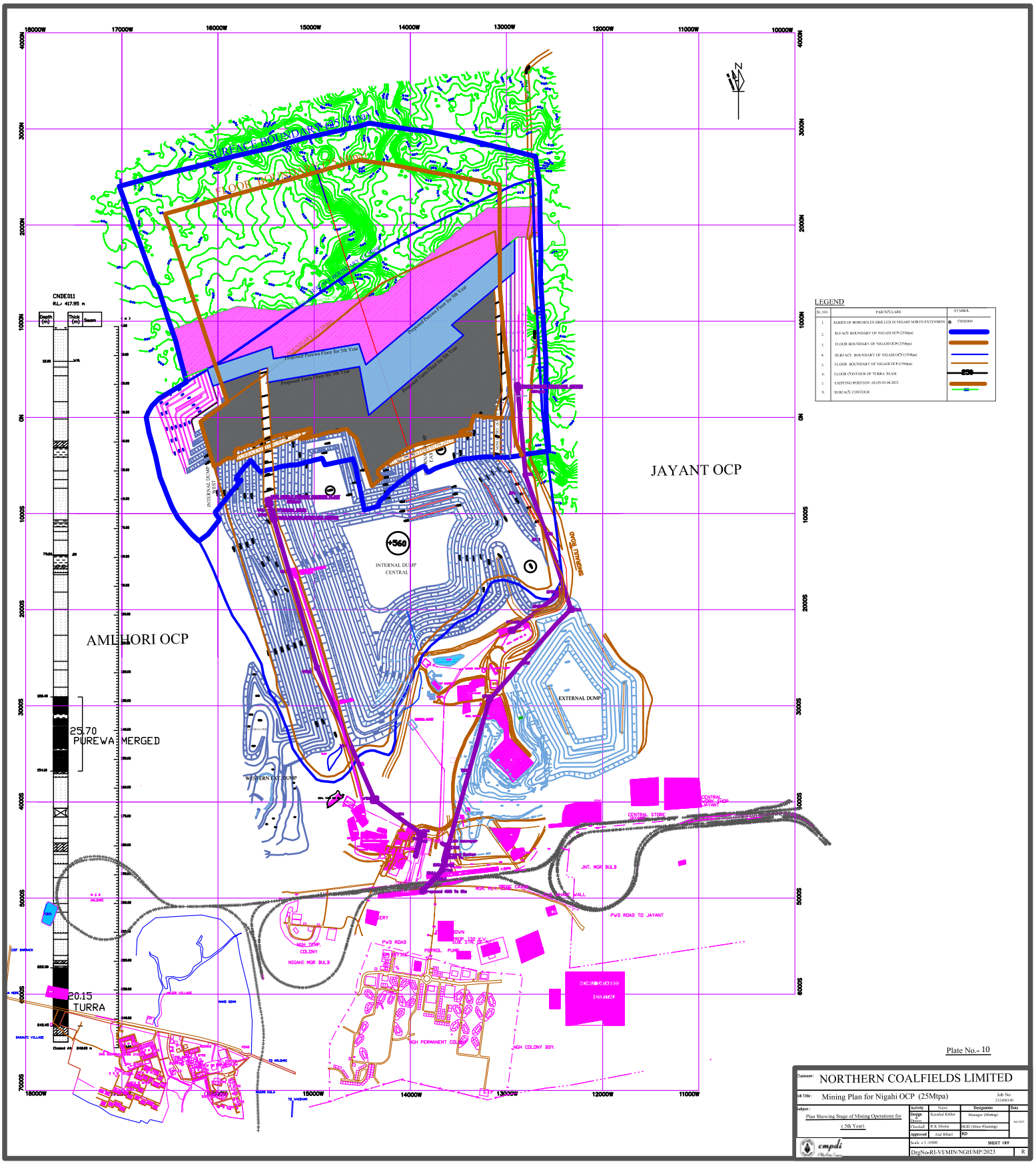

SURFACE BOUNDARY (25 Mtpa)
FLOOR BOUNDARY (25 Mtpa)
EXTERNAL DUMP
LEGEND
Plate No.- 08
NORTHERN COALFIELDS LIMITED
Mining Plan for Nigahi OCP (25Mtpa)
Plan Showing Stage of Mining Operations for
(1st Year)

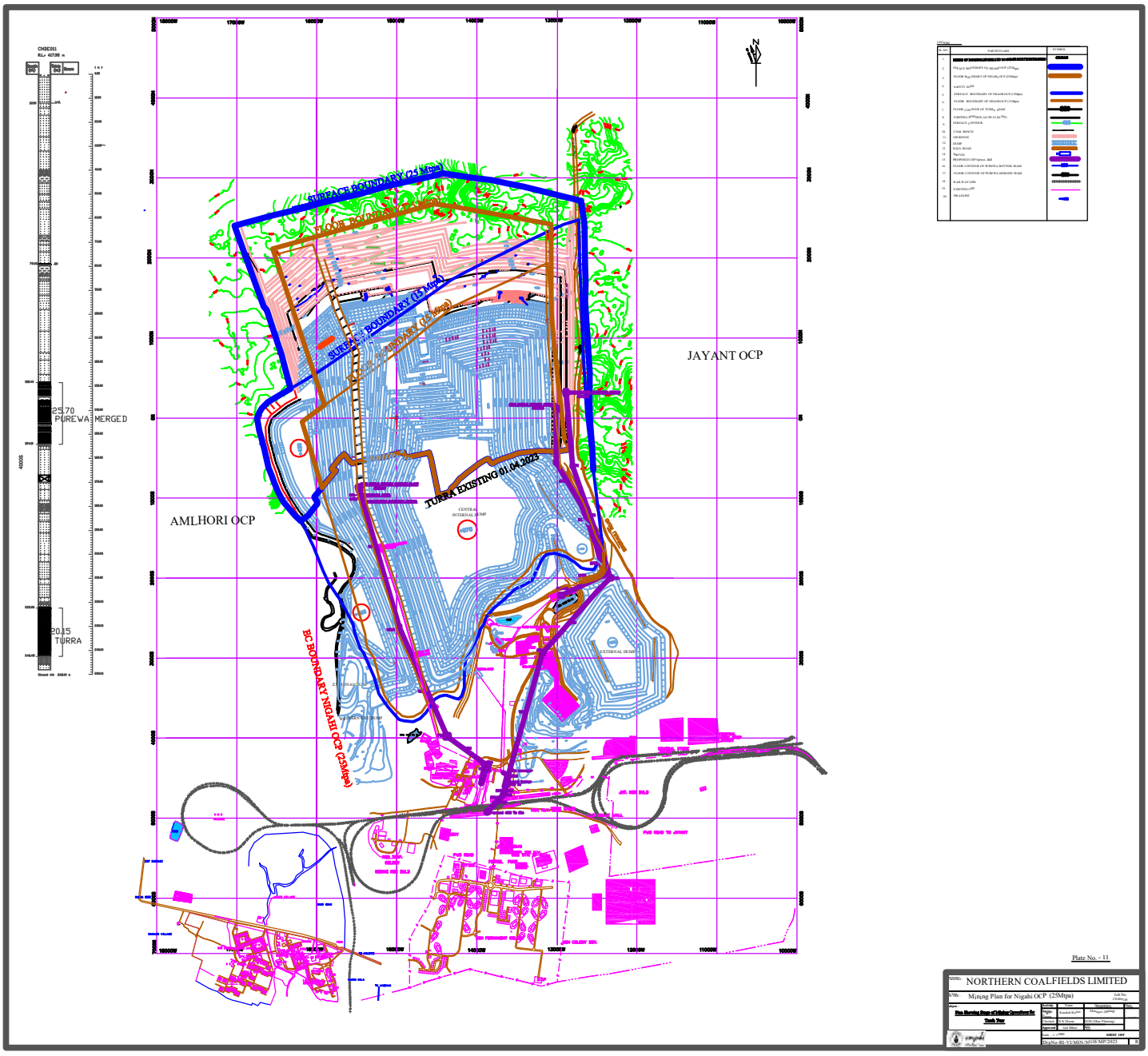


Page-63

Plate No. - 9

Customer : NORTHERN COALFIELDS LIMITED				
Job Title : Mining Plan for Nigahi OCP (25Mtpa)				Job No 2324001401
Subject : Plan Showing Stage of Mining Operations for (3rd Year)	Activity	Name	Designation	Date
	Design	Kaushal Kithor	Manager (Mining)	
	Drawn			
	Checked	R K Mishra	HOD (Mine Planning)	
	Approved	Atul Bhatt	RD	
cmpdi	Scale - 1 :10000		SHEET OFF	
	DrgNo-RI-VI/MIN/NGH/MP/2023			R


LEGEND
JAYANT OCP
AMELIORI OCP
INTERNAL DUMP CENTRAL
EXTERNAL DUMP
WESTERN EXT. DUMP
SINGRAULI ROAD
CENTRAL STORE
PWD ROAD TO JAYANT
NIGAHI COLONY
NGH COLONY BDY.
CNDE011
25.70
PUREWA MERGED
20.15
TURRA
Plate No.- 10
NORTHERN COALFIELDS LIMITED
Mining Plan for Nigahi OCP (25Mtpa)
Plan Showing Stage of Mining Operations for
(5th Year)
cmpdi
DrgNo-RI-VI/MIN/NGH/MP/2023


SURFACE BOUNDARY (25 Mtpa)
FLOOR BOUNDARY (25 Mtpa)
SURFACE BOUNDARY (15 Mtpa)
FLOOR BOUNDARY (15 Mtpa)
JAYANT OCP
AMLHORI OCP
TURRA EXISTING 01.04.2023
BC BOUNDARY NIGAHI OCP (25Mtpa)
CENTRAL INTERNAL DUMP
EXTERNAL DUMP
25.70
PUREWA MERGED
20.15
TURRA
Plate No. - 11
NORTHERN COALFIELDS LIMITED
Mining Plan for Nigahi OCP (25Mtpa)

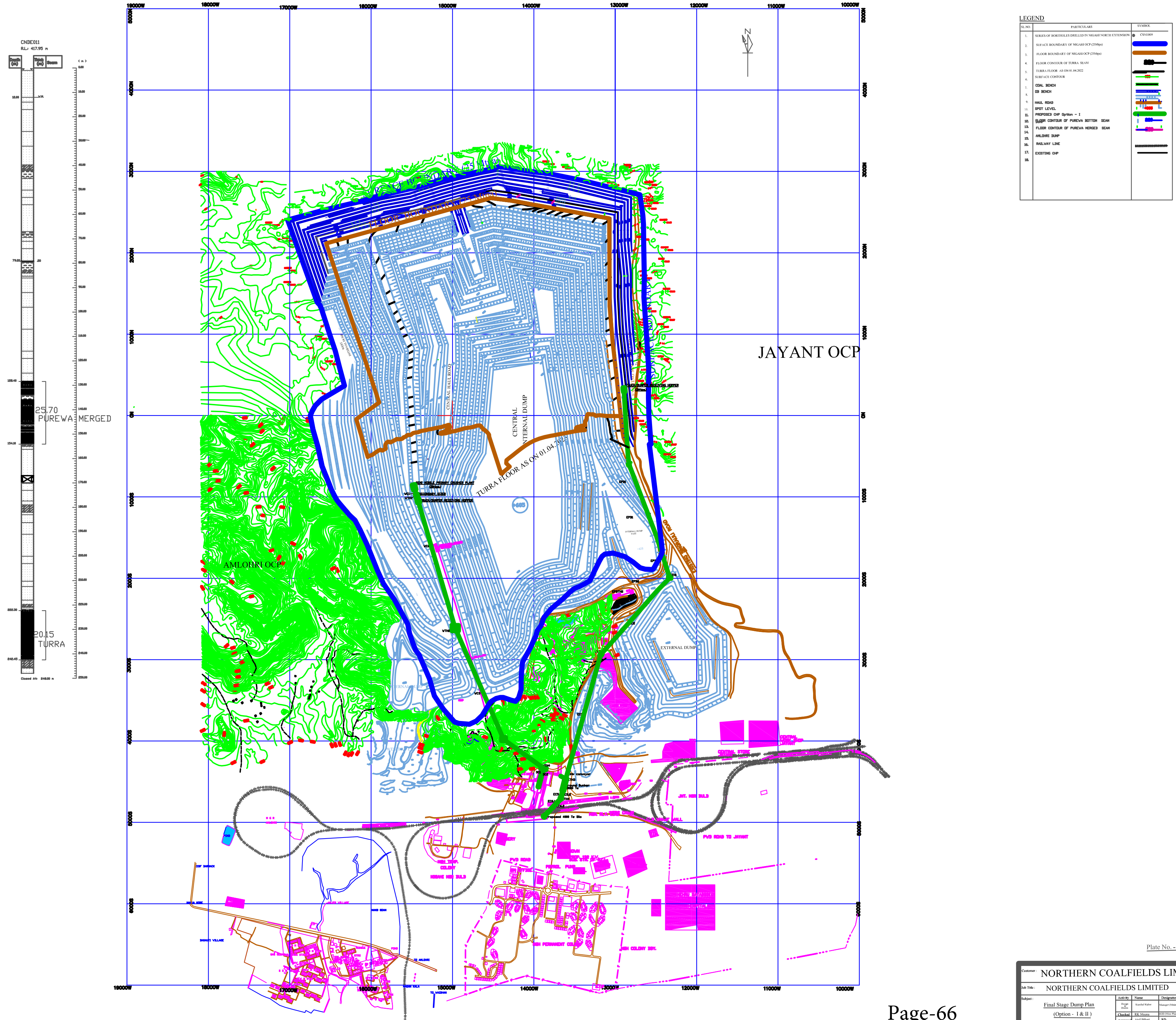
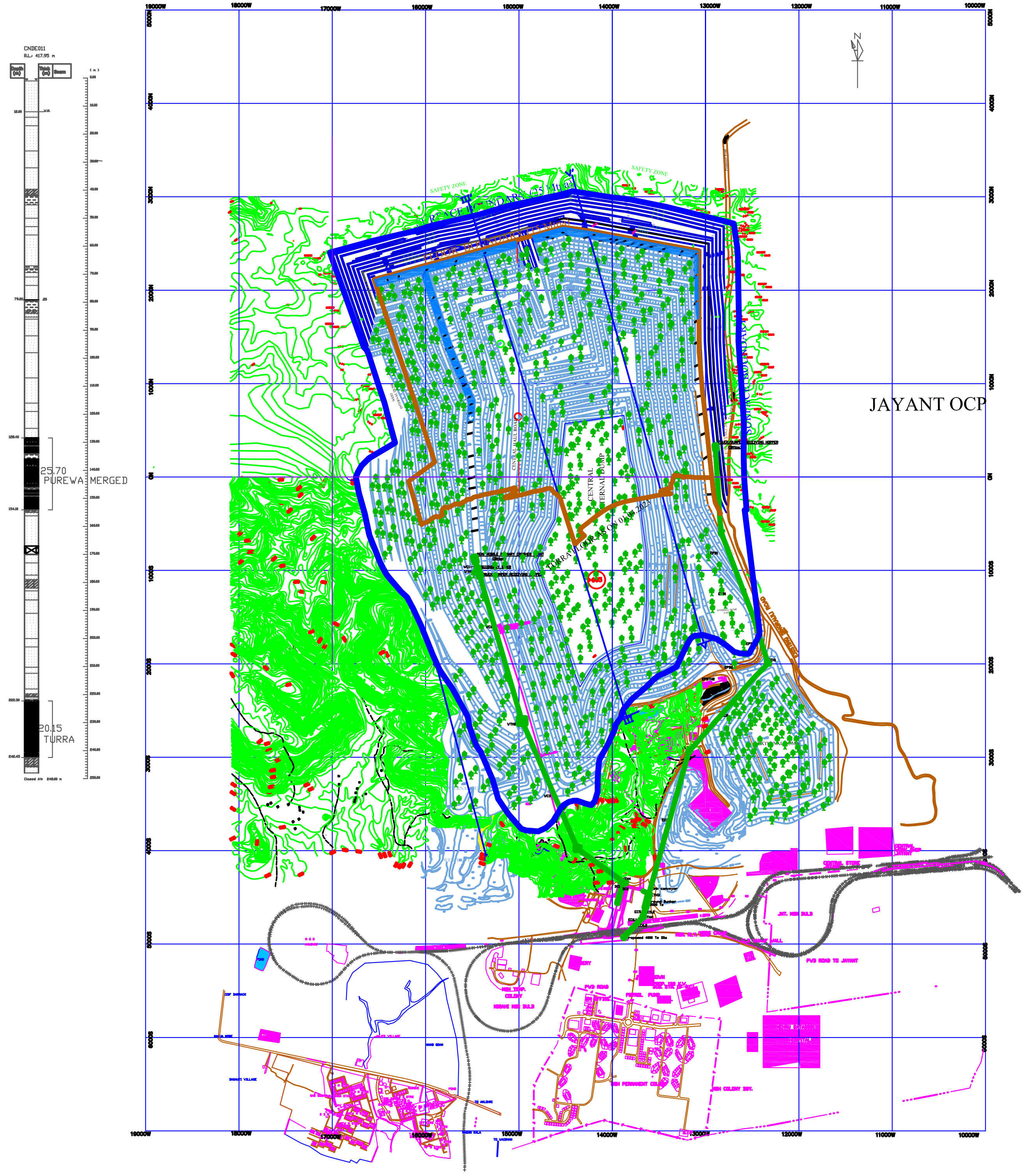


Plate No. - 12

Customer :	NORTHERN COALFIELDS LIMITED			
Job Title :	NORTHERN COALFIELDS LIMITED			Job No 232406140
Subject : Final Stage Dump Plan (Option - I & II)	Activity	Name	Designature	Date
	Design & Drawn	Kaushal Kishor	Manager (Mining)	July'2023
	Checked	RK Meena	HOD (Mine Planning)	
	Approved	Atal Bihari	RD	
cmpdi	Scale - 1 :15000			SHEET OFF
	DrgNo-RI-VI/MIN/NGH/MP/2023			R



LEGEND

SL.NO.	PARTICULARS	SYMBOL
1.	SERIES OF BOREHOLES DRILLED IN NIGAHI NORTH EXTENSION	CSNE009
2.	SUFACE BOUNDARY OF NIGAHI OCP (25Mtpa)	
3.	FLOOR BOUNDARY OF NIGAHI OCP (25Mtpa)	
4.	SAFETY ZONE	
5.	FLOOR CONTOUR OF TURRA SEAM	
6.	TURRA FLOOR AS ON 01.04.2022	
7.	SURFACE CONTOUR	
8.	COAL BENCH	
9.	OB BENCH	
10.		
11.	HAUL ROAD	
12.	SPOT LEVEL	
13.	DUMP PROPOSED CHP Option - I	
14.	FLOOR CONTOUR OF PUREWA BOTTOM SEAM	
15.	FLOOR CONTOUR OF PUREWA MERGED SEAM	
16.	AMLOHRI DUMP	
17.	RAILWAY LINE	
18.	EXISTING CHP	
19.		
20.		

Plate No. - 13

Customer : NORTHERN COALFIELDS LIMITED

Job Title : Mining Plan for Nigahi OCP (25Mtpa)

Job No 232406140

Subject : Plan Showing post land use plan

Activity	Name	Designature	Date
Design & Drawn	Kaushal Kishor	Manager (Mining)	July'2023
Checked	R K Meena	HOD (Mine Planning)	
Approved	Atal Bihari	RD	

cmpdi

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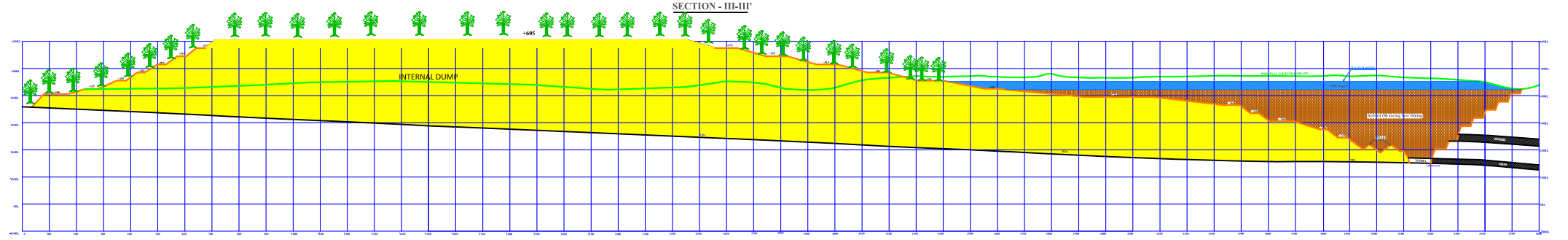
DrgNo-RI-VI/MIN/NGH/MP/2023 R

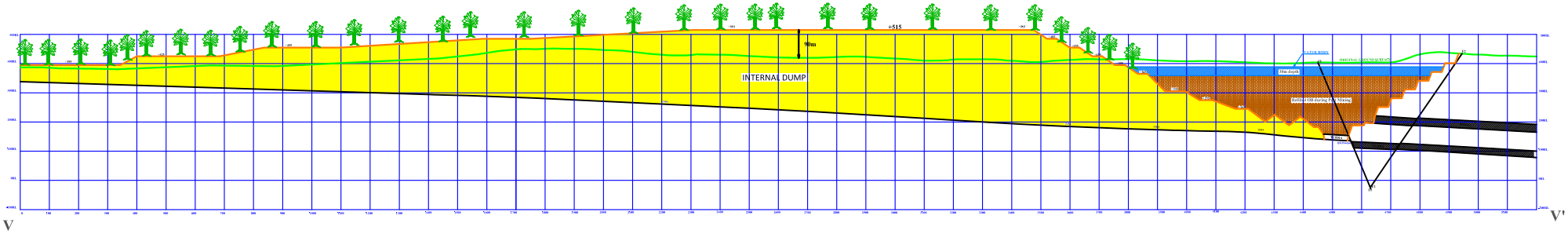
SHOWING DUMP PROFILE AT THE END OF MINING OPERATION

SECTION - III-III'

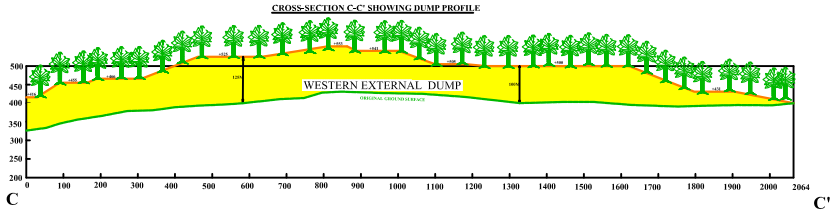


SHOWING DUMP PROFILE AT THE END OF MINING OPERATION

SECTION - V -V '

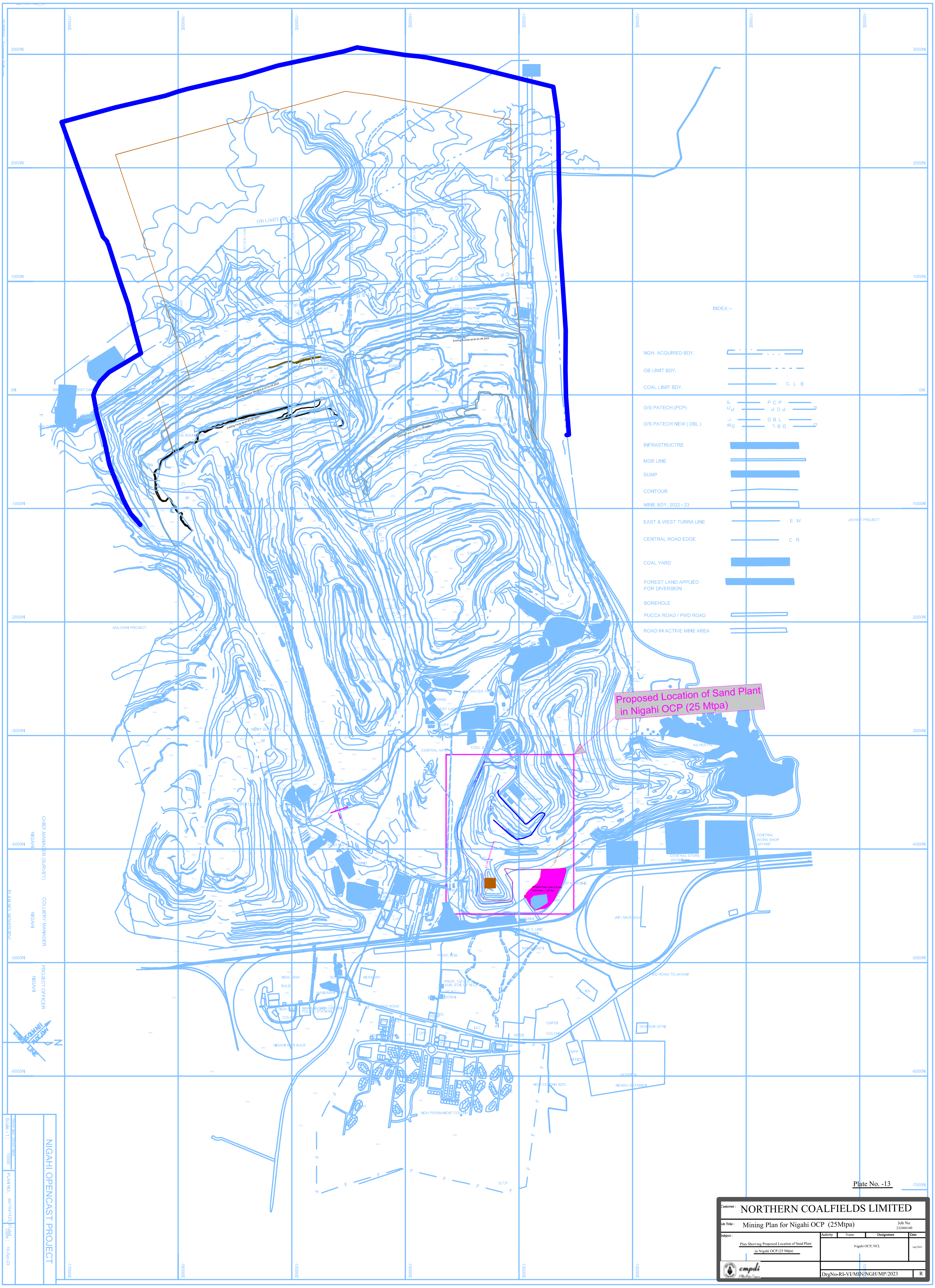


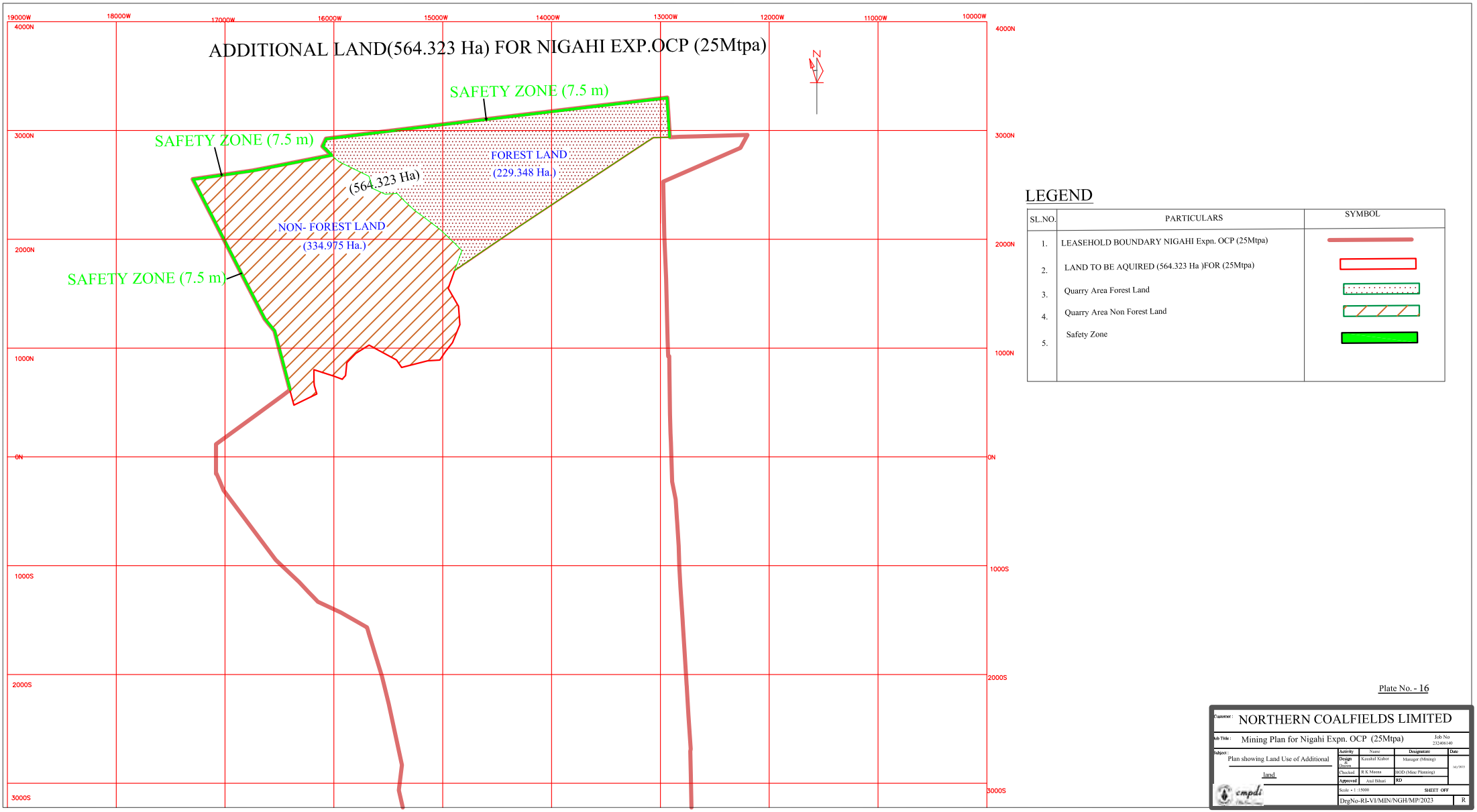
CROSS-SECTION C-C' SHOWING DUMP PROFILE



Customer :	NORTHERN COALFIELDS LIMITED			
Job Title :	Mining Plan for Nigahi OCP (25Mtpa)			Job No 232406140
Subject :	Plan Showing post mining dump profile			
Activity	Name	Designature	Date	
Design & Drawn	Kaushal Kishor	Manager (Mining)	July'2025	
Checked	R K Meena	HOD (Mine Planning)		
Approved	Atal Bihari	RD		
Scale - 1 :15000		SHEET OFF		
DrgNo-RI-VI/MIN/NGH/MP/2023				R

empdi


Proposed Location of Sand Plant in Nigahi OCP (25 Mtpa)
INDEX :-
NGH. ACQUIRED BDY.
OB LIMIT BDY.
COAL LIMIT BDY.
O/S PATECH (PCP)
O/S PATECH NEW (DBL)
INFRASTRUCTRE
MGR LINE
SUMP
CONTOUR
MINE BDY. 2022 - 23
EAST & WEST TURRA LINE
CENTRAL ROAD EDGE
COAL YARD
FOREST LAND APPLIED
FOR DIVERSION
BOREHOLE
PUCCA ROAD / PWD ROAD
ROAD IN ACTIVE MINE AREA
NIGAHI OPENCAST PROJECT
Plate No. -13
Customer : NORTHERN COALFIELDS LIMITED
Job Title : Mining Plan for Nigahi OCP (25Mtpa)
Job No 232406140
Subject : Plan Showing Proposed Location of Sand Plant in Nigahi OCP (25 Mtpa)
Activity
Name
Designature
Date
Nigahi OCP, NCL
July'2023
DrgNo-RI-VI/MIN/NGH/MP/2023
R



LEGEND

SL.NO.	PARTICULARS	SYMBOL
1.	LEASEHOLD BOUNDARY NIGAHI Expn. OCP (25Mtpa)	
2.	LAND TO BE AQUIRED (564.323 Ha)FOR (25Mtpa)	
3.	Quarry Area Forest Land	
4.	Quarry Area Non Forest Land	
5.	Safety Zone	

Plate No. - 16

Customer : NORTHERN COALFIELDS LIMITED				
Job Title : Mining Plan for Nigahi Expn. OCP (25Mtpa)				Job No 232406140
Subject : Plan showing Land Use of Additional land	Activity	Name	Designation	Date
	Design & Drawn	Kaushal Kishor	Manager (Mining)	
	Checked	R K Meena	HOD (Misc Planning)	
	Approved	Atul Bihari	RD	
empdi	Scale - 1 :5000		SHEET OFF	
	DrgNo-RI-VI/MIN/NGH/MP/2023			R

ANNEXURES

Annexure-I

PLAN /CHART SHOWING SCHEDULE OF IMPLEMENTATION OF MINE CLOSURE

S.N.	TYPE OF ACTIVITY	LIST OF AC'ITVTIES	TIME FRAME (YEARS)					
			1st	to	18th	PC1	PC2	PC3
1	PROGRESSIVE CLOSURE	Environmental Monitoring (Air quality, Water quality, Groundwater level and quality, Noise Quality)						
2		Filling of Void- Rehandling of crown dump						
3		Construction and maintenance of Garland Drain around quarry						
4		Construction and Maintenance of soil conservation measures /OB dump & embankment strengthening measure						
5		Operation and Maintenance of Sedimentation Tank and Workshop Effluent Treatment plant in the Project Area						
6		Installation, Operation and Maintenance of dust suppression measures						
7		Landscaping and Plantation in OB Dump .plain land and on other arears within Project Area						
8		Other Mitigative measures pertaining to Air & Water Pollution control, Soil conservation & mitigation of Land degradation etc.						
9		Entrepreneurship Development						
10	FINAL CLOSURE	Post Closure Environmental Monitoring						
11		Dismantling of Industrial and Residential structures within project Area						
12		Stabilization and Blanketing of OB Dump with Green Cover						
13		Grading of Highwall slopes						
14		Construction and Maintenance of Garland Drain in and around OB Dumps and of other soil conservation measures						
15		Man power cost of supervision (Added with Power Cost)						
16		Entrepreneurship Development						
17		Plantation (On Plain Land, OB Dump, Land obtained after dismantling and other area) and Landscaping						
18		Barbed Wire Fencing around the mine						
19		Construction, Operation arid Maintenance of Sedimentation Tank , AMD Treatment Plant in the Project Area						
20		Installation, Operation and Maintenance of dust suppression measures						
21		Other mitigative measures						

ENVIRONMENTAL CLEARANCE

PARIVESH (*Pro-Active and Responsive Facilitation by Interactive, and Virtuous Environment Single-Window Hub*)

Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

To,

The General Manager
NIGAHI PROJECT NORTHERN COALFIELDS LIMITED
Office of the General Manager, Nigahi Project,PO- Nigahi, Distt.-Singrauli,Singrouli,Madhya Pradesh-486884

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the Ministry vide proposal number IA/MP/CMIN/271744/2022 dated 09 Jul 2022. The particulars of the environmental clearance granted to the project are as below.

1.	**EC Identification No.**	**EC22A042MP180012**
2.	**File No.**	J-11015/79/2013-IA-II(M)
3.	**Project Type**	Expansion7
4.	**Category**	A
5.	**Project/Activity including Schedule No.**	1(a) Mining of minerals
6.	**Name of Project**	Nigahi Opencast Project
7.	**Name of Company/Organization**	NIGAHI PROJECT NORTHERN COALFIELDS LIMITED
8.	**Location of Project**	Madhya Pradesh
9.	**TOR Date**	N/A

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 26/07/2022

(e-signed)
Lalit Bokolia
Scientist F
IA - (Coal Mining sector)

Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH.Please quote identification number in all future correspondence.

This is a computer generated cover page.

F. No. J-11015/79/2013-IA-II(M).
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)
*****

2nd Floor Vayu Wing,
Indira ParyavaranBhawan,
Jorbagh Road, N Delhi – 3
Email: lk.bokolia@nic.in Tel: 011-20819417

Dated: 25th July, 2022

To

The General Manager (Nigahi Project),
M/s Nothern Coalfields Ltd,
Project, PO- Nigahi, Distt-Singrauli-486884,
Madhya Pradesh
Email: gmenv@ncl.gov.in ; gmenv_ncl@coalindia.in,
nigahi.environment@gmail.com

Sub: Expansion of Nigahi opencast coal mining project for increase in production capacity from 21 MTPA to 22.5 MTPA (increase of 10% w.r.t 1.5 MTPA) in land area of 3018.4 Ha by Northerns Coalfields Ltd, located in the village Nigahi, Tehsil Singrauli, District Singrauli (M.P.)- Environmental Clearance under OM vide no. F. No. IA3-22/10/2022-IA.III 07.05.2022- [Availing total 50% relaxation of OM dealing with exemption of public hearing under clause 7 (ii) of EIA notification].

Sir,

This has reference to your online proposal No. IA/MP/CMIN/271744/2022 dated 9th July, 2022 submitted to this Ministry for grant of Environmental Clearance (EC) in terms of the provisions with MoEF & CC's Office Memorandum vide no. F. No. IA3-22/10/2022-IA.III (E 177258) dated 07.05.2022 and as per EIA Notification, 2006) of the Environment Impact Assessment (EIA) Notification, 2006 under the Environment (Protection) Act, 1986 for Expansion of Nigahi opencast coal mining project for increase in production capacity from 21 MTPA to 22.5 MTPA (increase of 10% w.r.t 1.5 MTPA) in land area of 3018 Ha by Northerns Coalfields Ltd, located in the village Nigahi, Tehsil Singrauli, District Singrauli (Madhya Pradesh).

2. The proposal was granted EC for production capacity of 15 MTPA in ML area of 3036.4 Ha dated 08.05.2007. Further EC was granted for expansion under Clause 7 (ii) of EIA notification, 2006 on 19.03.2015 as per the O. M. dated 19.12.2012 for 25 % expansion i.e. 18.75 MTPA production capacity in ML area of 2675 Ha and EC was granted on 03.02.2020 as per O.M. dated 15.09.2017 for 12% expansion (total 40%) i.e. 22.5 MTPA in an area of 3018.4 Ha. Presently the proposal is considered by the Ministry at central level in view of the exigency, as per the provisions of O.M. F. No. IA3-22/10/2022-IA.III dated 07.05.2022. Abeyance vide MoEF&CC's OM dated 28.01.2022 on OM no. 22-23/2018-IA.III(Pt.) dated 31.10.2019 on mechanism for consideration of proposal of critically/ severally polluted area. Abeyance on above OM has been lifted vide OM dated 05.07.2022.

3. Based on the submission of Project Proponent, Ministry hereby grants approval to Expansion of Nigahi opencast coal mining project for increase in production capacity from 21 MTPA to 22.5 MTPA (increase of 10% w.r.t 1.5 MTPA) in land area of 3018 Ha by Northern

Coalfields Ltd, located in the village Nigahi, Tehsil Singrauli, District Singrauli (Madhya Pradesh) under the provisions of OM vide no. F. No. IA3-22/10/2022-IA.III 07.05.2022, under the Environment Impact Assessment (EIA) Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards as stated below:-

i. PP shall submit Certified Compliance Report of the EC vide No. F. No. J- J-11015/79/2013-IA-II(M) dated 19th March, 2015 and 3rd February, 2020 granted for total 40% expansion, along with EIA/EMP report, prepared based on standard ToRs for the additional capacity of 10% on PARIVESH portal within six months of enhancement of production beyond 40%.

ii. In view of above (i), Ministry shall ascertain the adequacy of the proposed environmental safeguards and stipulate necessary conditions, if required, which shall be monitored as a part of the EC compliance monitoring.

iii. PP shall obtain necessary prior consent for enhanced capacity from State Pollution Control Board under Air and Water Act.

iv. Environmental quality parameters arising out of proposed expansion shall be within the prescribed norms and the same shall be maintained as per prescribed norms.

v. Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to imposea condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent".

vi. All other terms and conditions as prescribed in Ministry's letter dated 08.05.2007, 19.03.2015 and 03.02.2020 shall remain the same and need to be complied by PP.

Additional Specific conditions as the area falls under Severely Polluted Areas (SPAs)

(i) Transportation of materials by rail/conveyor belt shall be implemented

(ii) Encourage use of cleaner fuels for trucks, If the roads required to be widened upto nearest railway siding, the same be constructed to avoid traffic congestion.

(iii) Increase green belt cover by 40% of the total land area beyond the permissible requirement of 33%, wherever feasible.

(iv) Greenbelt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc. shall be implemented.

(v) Assessment of carrying capacity of mine & road transportation shall be done as per the State Plan/instructions.

(vi) Reuse/recycle of treated wastewater shall be implemented as feasible with latest technology. Zero liquid discharge concept may be adopted.

(vii) PP to install Continuous monitoring station for ambient air quality and also continuous effluent quality in ETP shall be installed. Data so generated shall be linked with respective SPCB and CPCB websites.

(viii) A detailed water harvesting plan may be prepared by the project proponent for water augmentation and submitted to Regional Office of MoEF&CC.

(x) The project proponent shall install STP for generated domestic wastewater and should meet for discharge standards.

(xi) More stringent norms for management of hazardous waste like oil container, ETP sludge etc shall be adopted. The waste generated should be preferably utilized in co-processing.

(xii) Monitoring of compliance of EC conditions may be submitted with third party audit every year.

(xiii) Fund allocation for Corporate Environment Responsibility (CER) which is atleast 1.5 times as per OM of 1st May, 2018 may now be considered as 1.5 times of fund allocated on commitment made during public consultation process for incorporating in EIA-EMP for deliberation of EAC and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.

This issues with the approval of the competent Authority

(Lalit Bokolia)
Director

Copy to:

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi
2. The APCCF, MOEF&CC, Regional Office(EZ), E-5 Arera Colony, Bhopal - 462 016
3. The Secretary, Department of Environment & Forests, Government of Madhya Pradesh, Secretariat, Bhopal
4. The Member Secretary, Jamnagar House, 18/11, Man Singh Road Area, New Delhi, Delhi 110001
5. The Member Secretary, Madhya Pradesh State Pollution Control Board, Paryavaran Parisar, E-5, Arera Colony, Bhopal - 462 016
6. The District Collector, Singrauli, Government of Madhya Pradesh

8. Monitoring File/Guard File/Record File 9. PARIVESH Portal

(Lalit Bokolia)
Director

Validity unknown
Digitally signed by Lalit Bokolia
Scientist F
Date: 7/26/2022 10:47:08 AM


Nigahi OCP
Leasehold Area- 3582.723 Ha
Google Earth image showing
Cardinal Points
P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15 P16 P17 P18 P19 P20 P21 P22 P23 P24 P25 P26 P27 P28 P29 P30 P31 P32 P33 P34 P35 P36 P37 P38 P39 P40 P41 P42 P43 P44 P45 P46 P47 P48 P49 P50 P51 P52 P53 P54 P55 P56 P57 P58 P59 P60 P61 P62 P63 P64 P65 P66 P67 P68 P69 P70 P71 P72 P73 P74 P75 P76 P77 P78 P79 P80 P81 P82 P83 P84 P85 P86 P87 P88 P89 P90 P91 P92
39
39
39


NIGAHI EXPN. OCP
Nigahi Expn. OCP Additional Area
Annexure III(b)
Safety Zone
Forest Area (229.348 Ha)
Non Forest Area (334.975 Ha)
Morwa Road
N
1 km
Google Earth
Image © 2023 Airbus

Annexure-lV

File No. CPAM-34011128/2019-CPAM
Government of India
Ministry of Coal

Room No, 622.A. Shasta Shawan.
New Delhi. dated 9th September, 2020

To,

The Chairman,
CIL, Kolkata

Subject Approving Authority for mining plan for projects of CIL and its subsidiary companies . reg.

I am directed to refer to your letter No. CILCI-1:1307 dated 31.08.2020 on tne Subject cited above and to convey that there Is no change in the existing provisions of approving authority of Mining Plan of CIL and its subsidiary companies which was issued vide this Ministry's letter No. 340121(9y2012-CPAIA dated 31.05.2012.

This has the approval of competent aulhonty.

Yours Sinc rely.

(Millar Singh)
Under Secretary to the Govt. of India
E-mail Id: hitlar.singhB5t§nIc.in

F. No. 34011/28/2019-CPAM
Government of India
Ministry of Coal

Annexure-V

Shastri **Bhawan, New Delhi**
The ..' May 2020

Office Memorandum

Subject: Guidelines for Preparation, Formulation, Submission, Processing, Scrutiny, Approval and Revision of Mining plan for the coal and lignite blocks.

Undersigned is directed to state that the guidelines for formulation of Mining plan and Mine Closure Plan has been amended. It has been decided by the Government that all coal (including lignite) mining operations in India shall henceforth be governed as per modified guidelines enumerated below.

1. **Mining Plan:** All coal (including Lignite) mining operation in India shall henceforth be governed as per these modified guidelines listed below and henceforth, the Mine Closure Plan and Final Mine Closure Plan shall be integral part of Mining Plan. Separate approval of Mine Closure Plan/ Final Closure Plan has been done away with. The Guideline/format for formulation of Mining plan is enumerated at **Appendix ð I.**

1.1. **Implementation of the approved Mining Plans shall be sole responsibility of the mine owner.** Mining operations shall be undertaken in accordance with the duly approved mining plan. The mining plan once approved shall be valid for the balance life of the Mine, provided that any modification(s) of the mining plan is approved by the competent authority and such approval of the modified mining plan shall remain valid for the estimate balance life of the mining plan. Modification of the approved mining plan during the operation of a mining lease also requires prior approval.

1.2. The mining plan shall cover prescription for different phases of life of the mine as stage plan. The Stage plan for 1st year, 3rd year, 5th year, year of achieving rated capacity of the mine, Final year (i.e. at the end of mine life) and post closure shall be submitted at the time of initial submission of mining plan. The project proponent shall submit a **report/information** consisting **a.** compliance status with respect to approval condition of mining plan and grounds specified at para 1.3A; **b.** stage plan for next five years; c. revised balance life of the mine; and **d.** revised calculation of ESCROW amount with respect to revised balance life, to Coal Controller, CCO, Kolkata with a copy of the same to Administrative Section dealing with the allocation/allotment **of the block and section dealing with approval of mining plan at MoC/CCO, for information.** Such report/information must be submitted at least 180(one hundred eighty) days before the expiry of 5 (five) year, starting from the commencement of the Mineral Concession (Amendment) Rules, 2020 or the date of execution of the duly executed mining lease deed, whichever is later. Information desired above must bear certificate of **Qualified Person/ Accredited Mining Plan preparing Agency** and have approval of the respective company board. Non submission of such information during the stipulated time may result in withdrawal of mine opening permission or cancellation of the approved mining **plan, as** may be decided by CCO.

The Mining Plan approved prior to issue of this Guideline will qualify for submission of such report/information at least 180(one hundred eighty) days prior to expiry of 5 (five) year from the date of notification of the Mineral Concession Amendment Rules 2020.

1.3.(A) The mining plan may be modified for **a.** for change in method of mining; **b.** for facilitating increase in sanctioned peak capacity that is in excess of one hundred **and** fifty per cent of the

sanctioned rated capacity; c. change in leased area; d. in the interest of safe and scientific mining; e. conservation of minerals; f. for the protection of environment; g. addition of reserve by way of proving of reserve in the existing lease area; h. for changes in final mine closure conditions; or i. and such other change that may be determined by the Central Government. While submission of revision/ modification of mining plan the reason for revision/ modification shall be specified in writing by the lessee.

(B) Notwithstanding anything contained in clause (A) above, for other minor changes, the project proponent is empowered to make modification with the approval of the respective company board. These minor changes shall cover a. changes in land type within the leased area; b. changes in HEMM deployment plan; and c. changes in location of infrastructure within the leased area. The project proponent shall submit specific report of such minor changes to Coal Controller, CCO, Kolkata with a copy of the same to Administrative Section dealing with the allocation/allotment of the block and section dealing with approval of mining plan at MoC/CCO, for information.

1.4. The Mining Plan submitted for approval shall have prior approval of the concerned Board of the Company.

1.5. The base date of the Mining Plan should be taken as cut-off date on which the extractable reserve, balance life etc. has been quantified.

1.6. The proposed leased area in the Mining Plan shall include the area specified in the mining lease within which mining operations can be undertaken and includes the non-mineralized area required and approved for the activities falling under the definition of mine as referred in The Mines Act 1952.Evacuation route, R&R and Employee Township area outside the block will not be part of the Mining plan.

1.7. Pre-mining land ownership/land type furnished in the mining plan will be of indicative in nature along with data source at its footnote (viz. from topo sheet, cadastral plan etc.).

1.8. The excavation/ mining area envisages in the mining plan must be restricted within the allotted/vested geological block boundary/existing mining lease and if the project area is confined within the allotted block boundary/existing mining lease, a certificate to this effect is to be provided by the Qualified Person/ Accredited Mining Plan preparing Agency preparing the mining plan. The certificate must be made on the Conceptual Plan depicting Cardinal Point Co-ordinates (shape co-ordinates) of the project boundary, Lease boundary and Geological Block boundary (binding co-ordinates given in the vesting order).

1.9. Under provisions of Rule l6 of MCR 1960, State Government is custodian of the exploration data. As such in the cases, where the project area extends beyond the block boundary/existing mining lease the Mines and Geology Department of the concerned State Government shall issue a certificate specifying (a) intent of the State Government for grant of lease beyond the vested geological boundary; (b) non-existence of coal/ lignite in the area beyond the vested/allotted geological block boundary/existing mining lease to rule out the issue of encroachment. 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 their Cardinal Point coordinates) duly certified by custodian agency viz. CMPDIL/ SCCL in case of coal and NLCIL in case of lignite.

Where the project area extends beyond the block boundary/existing mining lease, the certificate issued by the Mines and Geology Department of the concerned State Government must be attached in the Mining Plan.

1.10. In case of allotted/auctioned coal/lignite blocks, the mining plan may be revised for extraction of more coal on year to year basis.

Provided that the mining plan shall be revised for extraction of less coal on year on year basis only under following circumstances: a. if the remaining extractable reserve of the coal mine is less than

3(three) times of the rated Capacity of the current Approved Mining Plan; b. Change in method of mining from Opencast to Underground necessitated due to change in geo-mining conditions. However, revision of Mining Plan for extraction of less coal would be subject to prior approval of the Nominated Authority.

1.11. The approval of the revised Mining Plan shall not result in changes in the terms and conditions or efficiency parameters mentioned in the CMDPA/Allotment Agreement signed at the time of allotment/vesting for the auctioned/allotted blocks without prior approval of the nominated authority or Central Government, as the case may be. However, efficiency parameters mentioned in the CMDPA/Allotment Agreement shall be linked to the rated capacity of the mine.

1.12. The project proponent shall envisage the action plan for exploration and liquidation of the balance reserve yet to be projectised.

1.13. The project proponent shall take all necessary precautions regarding safety of mine workings and persons deployed therein and shall adhere to all the statutory clearances with regards to safety.

1.14. Proposed project area envisaged in the mining plan shall not encroach into any other adjacent coal block unless permitted to do so by the Ministry of Coal in writing.

1.15. The approval of the Mining Plan is without prejudice to the requirement of approvals from competent /prescribed authority under the relevant rules/ regulations etc.

1.16. The project proponent shall submit an undertaking that the mine shall be operated as per the Environment Clearance (EC) & Forestry Clearance (FC) for the project.

1.17. **Statutory Obligation: The** legal obligations, if any, which the lessee is bound to implement, like special conditions imposed while execution of lease deed, approval of Mining Plan, conditions imposed by the Ministry of Environment, Forest and Climate Change (MoEF&CC), Central Pollution Control Board (CPCB),State Pollution Control Board (SPCB), Directorate General of Mines Safety (DGMS) or any other organizations describing the nature of conditions and compliance positions thereof, should be indicated in the Mining Plan.

2. Mine closure Plans: Mine Closure Plans will have two components viz. i) Progressive or Concurrent Mine Closure Plan, and ii) Final Mine Closure Plan. Progressive Mine Closure Plan would include various land use activities to be done continuously and sequentially during the entire period of the mining operations, whereas the Final Mine Closure activities would start towards the end of mine life, and may continue even after the reserves are exhausted and/or mining is discontinued till the mining area is restored to an acceptable level. The Mine closure details of the Mining Plan should be oriented towards the restoration of land back to its original as far as practicable or further improved condition.

2.1. Mining is to be carried out in a phased manner along with reclamation and afforestation work in the mined-out area.

Progressive mine closure plan shall be prepared for a period of every five years from the beginning of the mining operations. These plans would be examined periodically in every five years period and to be subjected to third party monitoring by the agencies approved by the Central Government, like Central Mine Planning and Design Institute Ltd. (CMPDIL), National Environmental Engineering Research Institute (NEERI), Indian Institute of Technology (IIT-ISM) or any other institutes/ organizations/ agencies specified from time to time for the purpose.

2.3. Various project specific activities viz. mined-out land details & their technical and biological restoration plan, water quality management, infrastructure to be retained and demolished, disposal of mining machinery, etc. shall be furnished in the relevant paras. Where the backfilling of the mine void is being carried out as part of regular mining operation, it shall not be included in the list of progressive mine closure activities. However, in case, where the backfilling of mine void is to be carried out specifically for closure of the mine, quantum of such overburden and the mine closure fund earmarked for the purpose must be included in the list of activities to be taken up for mine closure in the mining plan at the time of submission itself.

2.4. The Government may at any time before the closure of mine require certain activities to be included in the mine closure plans, which it may consider necessary for the safety and conservation of environment, or in compliance with any modification/ amendment in the relevant legislation.

2.5. **Abandonment cost:** The total cost for carrying out such activities shall be estimated for assessment of abandonment cost of the mine involving progressive and final mine closure activities such as barbed wire fencing all around the working area, dismantling of structures/demolition and cleaning of sites, rehabilitation of mining machinery, plantation, physical/biological reclamation, landscaping, biological reclamation of left-out overburden dump, filling up of de-coaled void, post environmental monitoring, supervision charges, power cost, protective and rehabilitation measures including their maintenance and monitoring, miscellaneous charges etc. for the specified post closure period.

2.6. **Escrow Account Calculation:** In August 2009 it was estimated that typically closure cost for an opencast mine was around rupees six lakhs per hectare of the total project area and rupees one lakh per hectare for underground project area at the-then price level. Accordingly vide letter dated 7th January 2013 a guideline for mine closure was issued which needed modification in these rates based on the wholesale price index **(WPI)** as notified by Government of India from time to time while preparing the Mining plan and Mine Closure Plan. The escalated rate (based on the current base year i.e. 01.04.2019) is Rupees Nine Lakh per hectare in opencast and Rupees one lakh fifty thousand per hectare for underground Mine. These rates will be considered as Base Rate to be applicable from 01.04.2019, which may change as specified from time to time by the Government of India.

*[Exemplary Calculation: [(Rs 6 lakhs x 1.561 linking factor for base year 2004-05 x WPI 121.1 as on April 2019) / **(WPI** as on August 2009)] = Rupees 8.75 lakh, rounded to Rupees 9 (nine) lakhs per hectare in case of Opencast project].*

Henceforth, these rates will stand modified based on the wholesale price index (WPI) as notified by Government of India from time to time. Annual closure cost is to be computed considering the total project area of the mine multiplied by escalated rate (at the above mentioned rates) and dividing the same by the balance life of the mine in years. An amount equal to the annual cost is to be deposited each year throughout the mine life compounded @5% annually.

[For example if the annual cost works out to Rs 100, then in the first year the amount to be deposited will he Rs 100, in the second year 100x(1 +5%)%1, in the third year 100x(1+5%)^2 and so on.]

Further, in case of the mine, where escrow account is already open, the annual closure cost is to be computed considering the total project area at the above mentioned rates minus the amount already deposited and dividing the same by the balance life of the mine in years and annual cost as arrived should be compounded @5% annually.

2.7. **Financial Assurance:** The Mining Company/ Mine Owner as a part of Financial Assurance will open a Fixed Deposit Escrow account, with the Coal Controller Organization (on behalf of the Central Government) as exclusive beneficiary prior to commencement of any activities on the land/project area of the mine and shall submit the same to Coal Controller Organization (CCO) before the permission is given for opening the mine. The mining company shall cause the payment to be deposited at the rate computed as indicated at Para 2.6. The owner of the company may select the Schedule Bank where the Escrow account is to be opened and inform the same to the Coal Controller, CCO, Kolkata.

2.8. Coal Controller, Kolkata shall get the WPI (used for escalation of closure cost at the time of formulation of Mining plan) updated, at the time of opening of Escrow account. The mine owner/ company including all public/ private sector companies shall deposit the yearly amount in a Schedule Bank in accordance with Para 2.6. Coal Controller, **Kolkata shall also get the**

information, submitted under to para 1.2, verified and get the yearly closure cost modified ith respect **to the latest WPI in accordance with para** 2.6.

2.9. Final Mine Closure: The details of the Mining Plan (covering Final Mine Closure Plan envisaging the details of the updated cost estimates for various mine closure activities and the Escrow Account already set up, shall be submitted to the approving authority for approval at least five years before the intended final closure of the mine.

2.10. Final Mine Closure would be considered to be completed only after acceptance of the third-party audit report by the Coal Controller on the compliance of all provisions of Mine Closure Plan. Any Institute/ Organization/Agency as may be specified by the Government for this purpose may be engaged for Third Party audit to create a self-sustained ecosystem. Failure of restoration within the specified period may result in forfeiture of Escrow Account created as per Para 2.6& 2.7. The details of the Final Mine Closure Plan along with the details of the updated cost estimate for various mine closure activities and escrow account already set up shall be submitted at the time of approval of final mine closure plan.

2.11. **Time** Scheduling for **abandonment:** The Action plan for carrying out all abandonment operations (progressive and final mine closure) should be furnished in the form of bar chart for a period of life of the mine plus post closure period. Post closure period shall be taken as3 (three) years for Underground mines and Opencast mines having stripping ratio lesser than 6(six) MM^3/Te & 5 (five) years for mines having stripping ratio more than 6(six) MM^3/Te.

2.12. **Implementation of the approved Mine Closure Plan shall be sole responsibility of the mine owner.** Mining is to be carried out in a phased manner i.e. continuation of mining activities from one phase to other indicating the sequence of operations depending on the geo-mining conditions of the mine. Up to 50% of the total deposited amount including interest accrued in the ESCROW account may be released after every five years in line with the periodic examination of the Closure Plan as per Para 2.2. The amount released should be equal to expenditure incurred on the progressive mine closure in past five years or 50% whichever is less. The balance amount shall be released to mine owner/leaseholder at the end of the final Mine Closure on compliance of all provisions of Closure Plan. This compliance report should **be duly signed** by the lessee and certify that said closure of mine complied all statutory rules, regulations, orders made by the Central or State Government, statutory organisations, court **etc. and certified** by the Coal Controller.

2.13. **Responsibility** of **the** mine **owner: It** is the responsibility of the mine owner to ensure that the protective measures contained in the mine closure **plan including reclamation and** rehabilitation works have been carried out in accordance with the approved mine closure plan and final mine closure plan.

2.14. The owner shall submit to the Coal Controller a yearly report before I st July of every year setting forth the extent of protective and rehabilitative works carried cut as envisaged in the approved mine closure plans (Progressive and Final Closure Plans).

2.15. The money to be provided per hectare of total Project Area for the purpose is to be deposited every year on commencement of any development activity on the land for the mine after opening a Fixed Deposit Escrow Account prior to obtaining mine opening permission from Coal Controller. Mining company/owners including all Public Sector Undertakings shall deposit the yearly amount in a Scheduled Bank. If the Mine owners fail to deposit the required annual amount in accordance with Para 2.6, 2.7 & 2.8, the Government can withdraw the mining permission.

2.16, The funds so generated are towards the security to cover the cost of closure in case the mine owner fails to complete the relevant closure activities. The prime responsibility of mine closure shall always lie with the mine owner, and in case these funds are found to be insufficient to cover the cost of **final mine closure including the areas** covered in Para 2.3 2.6, 2.7, 2.8 & 2.9 above. The mine owner shall undertake to provide the additional fund equivalent to the gap in

funding before five years of Mine Closure failing which it may be recovered by such other methods as the competent authority may deem fit in this regard.

2.17. **Final Closure Certificate:** The Mine owner shall be required to obtain a mine closure certificate from Coal Controller to the effect the protective, reclamation, and rehabilitation work in accordance with the approved Mining plan covering final mine closure provisions/activities have been carried out by the mine owner for surrendering the reclaimed land to the State Government.

2.18. The balance amount at the end of the final Mine Closure shall be released to mine owner on compliance of all provisions of Closure Plan duly signed by the mine owner to the effect that said closure of mine complied with all statutory rules, regulations, orders made by the Central or State Government, statutory organizations, court etc. and duly certified by the Coal Controller. This should also indicate the estimated extractable coal reserves and coal actually mined out.

2.19. If the Coal Controller has reasonable grounds for believing that the protective, reclamation and rehabilitation measures as envisaged in the approved mine closure plan in respect of which financial assurance was given has not been or will not be carried out in accordance with mine closure plan, either fully or partially, the Coal controller shall give the mine owner a written notice of his intention to issue the orders for forfeiting the sum assured at least thirty days prior to the date of the order to be issued after giving an opportunity to be heard.

3. Formulation of Mining Plan by Qualified Person (QP) or Accredited Mining Plan Preparing Agency (MPPA):

3.1. System of granting Recognition to a person for preparation of mining plan u/s 22C of MCR 1960 & preparation of mining plan only by RQP u/s 228 of MCR 1960 shall be done away with, after commencement of the Mineral Concessions (Amendment) Rules, 2020.

3.2. After commencement of Mineral Concession (Amendment) Rule 2020, no mining plan shall be accepted unless it is prepared by Qualified Person (QP) or Accredited Mining Plan Preparing Agency (MPPA).

3.3. Quality Council of India (QCI) or National Accreditation Board for Education and Training (NABET) shall be engaged for accrediting following entities:

(i) Accredited Prospecting Agency (APA) for undertaking prospecting operations and preparation of geological reports for Coal and Lignite Mines, and

(ii) Mining Plan Preparing Agency (MPPA) for preparation of mining plan (for Coal, Lignite Mines and Sand for Stowing)

3.4. The Quality Council of India (QCI) or National Accreditation Board for Education and Training (NABET)shall grant accreditation in accordance with such standards and procedures as speci fled in schedule VI of Mineral Concession (Amendment) Rule 2020.

3.5. Qualified Agency (QP) or Mining Plan Preparing Agency (MPPA) who prepares mining plan for a block/mine, shall have recognition from the concerned company board that the qualification of the QP or accreditation of the MPPA has been duly verified and is in line with the relevant provision of the MCR 1960.

4 Submission, Processing and Scrutiny of Mining Plan

4.1 **On and from the date of publication of order and upto the min' of period of nine months from the commencement of the Mineral Concession (Amendment) Rules, 2020,** every mining plan submitted for approval/modification shall be accompanied with a non-refundable application fee specified from time to time in this regard, for the project area specified in the mining plan.

4.2 **On and from the *expiry* of period of nine months from the commencement of the Mineral Concession (Amendment) Rules, 2020,** every mining plan submitted for approval/modification

shall be accompanied with a non-refundable application fee specified from time to time in this regard, for the project area specified in the mining plan and peer/expert review done by any accredited mining plan preparing or reviewing agency at their (applicant's) own cost. During examination of the Mining Plan by the internal committee of MoC, if it is felt that a review by expert or by specialized agency is required, the committee may recommend referring the mining plan to such expert/agency with the approval of the MP approving authority. Charges for the expert review shall be borne by the applicant.

4.3 All pages (including cover page, plates and Annexures) shall bear the signature & stamp furnishing details of the QP/Accredited Mining Plan preparing Agency (MPPA) in physical mode of submission and e-signature/digital signature during the online system of submission.

4.4 Ministry of Coal is in process of development of on-line portal for submission and approval of mining plan. system of acceptance of Physical copy shall be continued till the development/operationalization of online portal for submission and approval of mining plan.

4.4.1 Submission to Physical Copy Mining Plan to Ministry of Coal:

4.4.1.1 The project proponent shall submit one soft copy and four hard copies of Mining Plan (draft)-one each to the concerned Administrative Section of the Ministry of Coal for the concerned block, Section of MoC/CCO dealing with approval of Mining plan, Coal Controller, CMPDIL/ Extended office of CCO & the dispatch receipt of the speed post (confirming that the draft Mining Plan has been sent).The contact details and correspondence address of the section dealing with the approval of Mining plan, administrative section for the mine, members of the committee etc. shall be updated time to time, on the website of the Ministry of Coal/Coal Controller Organisation.

4.4.1.2 The project proponent shall incorporate the observation (if any) and submit the mining plan (after incorporating the compliance to the observation) to section of MoC/CCO dealing with approval of Mining plan, concerned administrative section of the Ministry of Coal, Coal Controller and CMPDIL/ Extended office of CCO.

4.4.1.3 **Submission of Mining Plan (after incorporating compliance) to Ministry of Coal:** The project proponent shall submit 04 (Four) hard copies & 01 (one) soft copy of modified Mining Plan and the compliance to the observations along with copy of the dispatch receipt of the Speed Post (confirming that the modified Mining Plan has been sent to section of MoC/ CCO dealing with approval of Mining Plan, concerned administrative section of the Ministry of Coal, Coal Controller, and CMPDIL/ Extended office of CCO).

4.4.1.4 The procedure of submission at Para 4.3.1 will be replaced by process of submission at para 4.3.2 on development of portal for online submission and approval of Mining Plan.

4.4.2 **Online System of Submission of Mining Plan for Approval:**

4.4.2.1 Project proponent shall register online, using registered official mail ID.

4.4.2.2 For the purpose of preparation of Mining plan through a QP or MPPA, project proponent shall share a temporary login with QP/MPPA. This temporary login shall be valid till the preparation and approval of mining plan only.

4.4.2.3 The QP/MPPA shall upload the Mining plan through the temporary login and submit it to the project proponent; QP/MPPA once submits the mining plan to the project proponent, he shall not be able to modify.

4.4.2.4 The Project Proponent shall make payment of processing charges/fees online as specified from time to time by Ministry of Coal;

4.4.2.5 The Project Proponent shall after incorporating relevant company board approvals submit the mining plan to the Approving Authority; The mining plan submitted to approving authority shall become visible to Administrative Section for the respective block, section of MoC/CCO dealing

with approval of Mining plan, members of the Internal Committee, Coal Controller, CMPDIL/ Extended office of CCO, simultaneously. System of SMS alerts shall be available at all stages;

4.4.2.6 Observations of the Committee Members shall be uploaded online and the project proponent shall al so submit Mining Plan, after incorporating compliance, online

5 Scrutiny & Processing of Mining Plan

5.1.1 The current system of getting the mining plan scrutinized through CMPDI, Ranchi shall continue. Ministry of Coal is in process of creating an extended office of Coal Controller Organization at Delhi which shall be delegated with the work of processing and scrutiny of mining Plan. A letter to this effect shall be issued separately.

5.1.2 CMPDIL/Extended office of CCO at Delhi shall scrutinize the mining plan and submit comments to section of MoC/CCO dealing with approval of Mining plan within Fifteen (15) days of receipt of the Mining Plan. Non-submission of comments within the stipulated time may be presumed as "no comment" from CMPDIL/Extended office of CCO; CMPDIL/ Extended office of CCO at Delhi, if consider necessary to make a physical verification of the site/site visit for scrutiny of the mining plan, may make such site visit/physical verification of the site, however, no relaxation in the time line as specified above may be given.

5.1.3 Administrative Section of the Ministry of Coal (dealing with the block) shall scrutinize the mining plan with respect to Vesting order/ allotment order and CMDPA signed with allottee at the time of allotment and submit observations to section of MoC/CCO dealing with approval of Mining plan (till the development of portal for Mining plan approval) within Fifteen (15) days of receipt of the Mining Plan. Non-submission of comments within the stipulated time may be presumed as "no comment" from the administrative section;

5.1.4 Members of the Internal Committee shall examine the mining plan from Technical and administrative angle based on the observations of the Administrative Section (dealing with the respective block) and CMPDIL/Extended office of CCO and the peer/expert review report submitted with the mining plan and submit observations to section of MoC/CCO dealing with approval of Mining plan (till the development of portal for Mining plan approval) within Fifteen (15) days of receipt of the Mining Plan. Non-submission of comments within the stipulated time may be presumed as "no comment" from the administrative section. Members of the internal committee, CMPDIL/Extended office of CCO may raise observation twice only. The observation raised shall be communicated directly to the project proponent for incorporating the same in the mining plan. The project proponent shall make presentation in the meeting of the internal committee for scrutiny.

5.1.5 Section of MoC/CCO dealing with approval of Mining plan shall communicate the observation (if any) to the project proponent for compliance till the development of online system for submission, processing, and approval of mining plan.

5.1.6 Subsequent, to development of online portal for submission, processing, and approval the observations of the internal committee members shall be uploaded directly on the portal, which will be visible to the project proponent, A timeline of 15 days shall be available for the internal committee members to upload the comments. Non-submission of comments within the stipulated time may be presumed as "no comment".

6 Timeline for submission of Compliance:

Once the observation of the Scrutiny of the mining plan is communicated either in hard copy, mail or online, the Project Proponent is required to submit the mining plan after incorporating the compliance to the observation within a period of 15 days of the communication, failing which the mining plan submitted for approval shall be rejected.

Provided that any such application may be entertained after the said period of 15 Days, if the applicant satisfies the approving authority that he had sufficient cause for non-submission of mining plan (after incorporating the compliance) in time. However, in any case this period may not be extended beyond 30 days from the date of receipt of communication of the observation.

7 Approving Authority:

7.1 On and from the date of publication of order and up to the expiry of period of nine months from the commencement of the Mineral Concession (Amendment) Rules, 2020, the powers to approve mining plan for all categories of coal and lignite mines and sand for stowing shall be exercisable by Project Adviser, Ministry of Coal.

7.2 On and from the expiry of period of nine months from the commencement of the Mineral Concession (Amendment) Rules, 2020, the power to approve mining plan for all categories of coal and lignite mines including sand for stowing shall be exercisable by the Coal Controller, CCO, Kolkata, a subordinate office of Government of India in the Ministry of Coal.

7.3 The person delegated to approval of Mining Plan under sub-section (1) of section 26 read with clause (b) of sub-section (2) of section 5 of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957) (hereinafter, the 'Act') may seek help of an Internal committee constituted for the purpose.

7.4 The approving authority shall dispose of the application for approval of the Mining Plans within a period of 30 days from the date of receiving of such application (The Mining Plan received on or before 30th of Current Month will be considered in the ensuing meeting). Provided that the aforesaid period of 30 days shall be applicable only if the Mining Plan is complete in all respect, and in case of any modifications subsequently suggested after the initial submission of the Mining Plan for approval, the said period shall be applicable from the date on which modified mining plan is re-submitted.

8 Internal Committee for Scrutiny of Mining Plan:

8.1 Members of the Internal Committee shall examine the mining plan from Technical and administrative angle based on the observations of the Administrative Section dealing with the respective block & CMPDIL/ Extended office of CCO.

8.2 The internal committee shall recommend the mining plan for "Approval" or "Rejection". In case of recommendation for Rejection, the committee shall record the reason for Rejection.

8.3 Till the opening of CCO office at Delhi, the internal committee shall consist of:

1. Director (Technical), MoC, Member Secretary
2. Director/ Deputy Secretary. MoC of the section dealing with the allocation/allotment of the respective block, Member
3. Coal Controller or his representative, Member
4. Director level officer of CMPDIL, Member
5. **Director/Deputy Secretary, Nominated Authority, Member**

8.4 After opening of CCO office at Delhi, the internal committee shall consist of:

1. Director level officer of CCO having relevant working experience., Member
2. Director/ Deputy Secretary of the section dealing with the respective block, Member
3. Head of Regional Coal Controller Office (having relevant working experience in mine planning), CCO Regional Office New Delhi, Member Secretary
4. Any other technical person having working experience of not less than 15 (fifteen) years in mine planning, Member

9 Communication of Approval:

9.1 In case of allotted/auctioned mine, section dealing with approval of Mining Plan shall communicate the decision of the approving authority within a period of 5 (five) working days in form of a letter confirming "in-principle approval" of the Mining Plan to the project proponent

with a copy of the same to the Nominated Authority, Govt. of India. Final approval of **the Mining Plan in such** cases shall be communicated by the section dealing with approval of Mining **Plan, only on receipt** of **applicable payments and its confirmation from the** Nominated Authority, Govt. of India.

9.2 While for mines other than auctioned/allotted mines, section dealing with approval of Mining Plan shall communicate the decision of the approving authority within a period of 5 working days.

10 Revision:

10.1 Any person aggrieved by any order made or direction issued in respect of mining plan by an officer competent to approval mining plans shall within 30 days of the communication **of** such order or direction, apply to the Secretary (Coal), Ministry of Coal for a revision of such order or direction thereon.

10.2 On receipt of any application for revision the authority shall give the aggrieved person a reasonable opportunity of being heard and may within 30 days confirm, modify or set aside the order or direction and his decision thereon shall be final.

11 **This Guideline** supersedes the previous orders and are without any prejudice to any other **relevant rules and regulations, such as those issued** by the State Governments, Ministry of Environment, Forest and Climate Change, Ministry of Labour and Employment, etc.

(Hitlar Singh)
Under Secretary to the Government of India

To,

All the existing Coal and Lignite block allocates

Copy to: -

1. All Joint Secretaries, MoC.
2. Coal Controller, Coal Controller's Office, 1- Council House Street, Kolkata.
3. CMD, CIL, Newtown, Rajarhat, Kolkata-700156, W.B
4. CMD, NLCIL, Cuddlore, Distt. Neyveli- **607801 (Tamil** Nadu).
5. CMD, Singareni Collieries Company Limited (SCCL), Kothagudem Collieries, Khammam Distt.(A.P).
6. Tech. Director (NIC) - with the request to place it to Website of the Ministry of Coal.

Annexure-VI

LEGEND

SL.NO.	PARTICULARS	SYMBOL
1.	LEASEHOLD BOUNDARY NIGAHI OCP (25Mtpa)	
2.	564.323 Ha LAND TO BE AQUIRED FOR (25Mtpa)	
3.	FOREST LAND	
4.	NON- FOREST LAND	
5.		

Land Requirement

Type of Land	Total Requirement (25Mtpa) Ha.	Acquired as on (31.03.2020) Ha.	Balance to be acquired (Ha.)
Forest	1471.494	1242.146	229.348
Revenue Forest	38.517	38.517	
Total (Forest)	1510.011	1280.663	229.348
Government	355.829	208.854	146.975
Tenancy	1716.883	1528.883	188.000
Total(Non-forest)	2072.712	1737.737	334.975
Total	3582.723	3018.400	564.323

Plate No. 4

Revenue Inspector
Nigahi Project

Nodal Officer (L&R)
Nigahi Project

Colliery Surveyor / Area Survey Officer
Nigahi Project

Area Planning Officer
Nigahi Project

Forest Supervisor
Nigahi Project

Nodal Officer (Env.)
Nigahi Project

Colliery Manager
Nigahi Project

Project Officer
Nigahi Project

Staff Officer (Mining)
Nigahi Project

General Manager
Nigahi Project

Reigonal Directoe
CMPDI, RI- VI

Customer : NORTHERN COALFIELDS LIMITED

Job Title : PFR FOR NIGAHI OCP (25Mtpa) Job No 222306126

Subject :

Land Requirement Plan

नॉर्दर्न कोलफील्ड्स लिमिटेड
(मिनिरत्न कंपनी)
(कोल इण्डिया लिमिटेड की अनुषंगी कंपनी)

एन सी एल
NCL

Northern Coalfields Limited
(A Mini Ratna Company)
(A subsidiary of Coal India Limited)

Office of the General Manager,
Nigahi Project

CIN- U10102MP1985GOI003160
An ISO: 9001, ISO: 14001 & OHSAS: 18001 Certified Company
पोस्ट-निगाहीजनपदसिंगरौली, म. प्र., पिन 486884/ Post- Nigahi Project, Distt- Singrauli, M.P. PIN-486884
Phone: 07805- 276040, (FAX) 276306 email: ngmngh@nclcgm.in website: www.nclcil.in

Ref. No.NCL/NGH/GM/2022-23/175

Date:- 11.03.2023

To,
The District Magistrate Singrauli,
Madhya Pradesh

Subject: Permission for selling of M-sand obtained through Processing of Overburden materials generated from Nigahi Project, NCL.

Sir,

Keeping in view of huge requirement of sand in the Singrauli and nearby district, Northern Coalfields Limited (NCL), a subsidiary of Coal India Limited has taken a new Sustainable Initiative towards producing M-sand by processing the overburden materials removed during the extraction of coal. This initiative has been taken under the directives of the Ministry of Mines (Copy enclosed as Annexure-1) and Ministry of Coal. Under the Sustainable Development Cell (SDC), Ministry of Coal has a continuous thrust on ensuring alternative usage of overburden materials by all the coal companies. As per the DO letter vide ref no. SDC/50/2020-SDC did. 28th May 2021 received from Secretary (Coal), NCL has been asked to expedite its efforts regarding utilization of Overburden materials (Copy enclosed as Annexure-2).

The Overburden materials generated from the mines consists mainly of Sandstones and Shales. Among these two, sandstones predominate. Sandstone is the rock formed by cementing of sands composed of largely of quartz and silicate minerals. IIT Kharagpur undertook study on characterization of OB material and its alternate application; the study found that on an average 89.70% SiO2 and a minimum of 83% sand equivalent was present in the sandstone sample of adjacent mines (having similar stata) (Relevant portion of the study enclosed as Annexure 3). It may further be noted that utilization of OB material has also been mentioned in the conditions under CTE/CTO granted from MoEF & CC for 22.5MTPA coal production for Nigahi OCP.(Copy of concent letters attached as Annexure-4).

Scope at NCL:

As on date, NCL has already produced more than 123 MT of coal and removed in excess of 430 Mcum of Overburden with a stripping ratio of more than 3 in the FY 2022-23. Further with the increase in coal production at NCL, the overburden removal will also increase, hence this alternative utilization of Overburden into sand will not only pave the way restoring natural resources but it will also help in generation of additional space for dump accommodation in internal dumps and may address the issue of shortage of space for dumping which is of grave concern particularly at Nigahi OCP.

Utilization of M-sand:

Construction activities: M-Sand will adhere to IS-383 specifications and can be used in Manufacturing of Cement Concrete, Cement Mortar for brickwork and plaster.

In view of the above, you are hereby requested for giving permission for selling of M-Sand obtained through processing of Overburden materials generated from Nigahi OCP.

Encl: - 1. As above
2. Revenue plan showing location of the site earmarked for OB to sand plant installation, attached as Annexure-5.

Yours faithfully

11/03/2023

Area General Manager
Nigahi Area

Copy for kind information to:

(मिनिरत्न कंपनी)
(कोल इण्डिया लिमिटेड की अनुषंगी कंपनी)

एन सी एल
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1. Director (Tech/Oprn.), NCL HQ
2. Director (Tech/P&P), NCL HQ
3. Chief Manager (Min)/TS to CMD, NCL HQ
4. General Manager (R&D/NI), NCL HQ