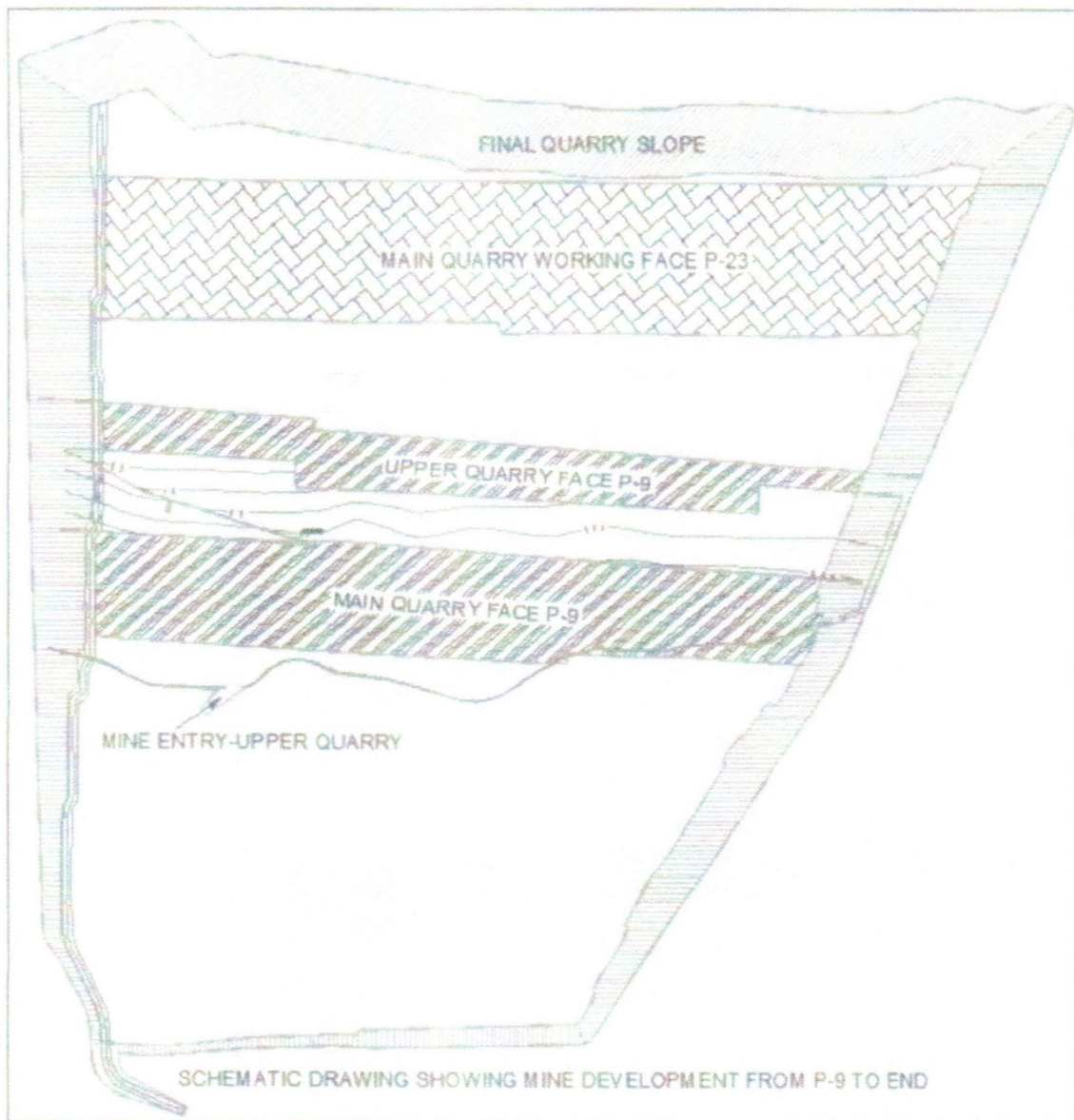


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Quarry parameters

Surface area: 881.28 Ha

Floor area: 686.97 Ha

Thickness range of each seam and parting

Seams / Parting	THICKNESS	
	MIN (m)	MAX (m)
SOIL		17.00
WM		20.55
OB ABOVE XI	3.00	75.90
XI	12.97	16.76
PARTING	2.24	9.11
X	2.64	7.52
PARTING	0.64	25.86
VIII+IX	42.30	46.72

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Seams / Parting	THICKNESS	
	MIN (m)	MAX (m)
IX	20.47	35.26
PARTING	0.38	7.19
VIII	4.36	14.36
PARTING	3.33	30.03
VII B	0.28	7.03
PARTING	7.00	18.59
VII A	0.25	4.60
PARTING	1.24	17.87
VI B	0.13	5.15
PARTING	1.49	13.65
V (A+B)	7.21	12.51
VB	0.49	7.29
PARTING	0.69	8.08
VA	0.49	4.94
PARTING	1.40	10.09
IV B	0.95	8.62
PARTING	2.14	15.18
III (A+D+E)	16.49	27.61
III (D+E)	12.35	15.15
III E	0.65	10.06
III E TOP	0.32	3.03
PARTING	0.45	3.16
III (AT+D+EB)	12.85	17.18
III (D+EB)	7.43	15.26
III E BOT	1.54	3.16
PARTING	0.93	6.14
III (A+D)	8.15	16.36
III D	0.63	8.36
PARTING	0.40	13.51
III A	0.28	7.54
III A TOP	0.15	3.29
PARTING	0.81	3.40
III A BOT	0.13	4.24
PARTING	2.78	21.48
II (D+E)	2.35	16.14
II E	0.20	7.96
PARTING	0.17	7.70
II D	0.06	5.47

Minimum and maximum depth: 23m and 215m respectively

Volume of excavation


Coal: 477.90 Mcum

Waste: 613.18 Mcum (in-situ)

Total: 1091.08 Mcum

Re-handling: 103.72 Mcum

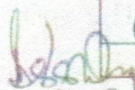
Stripping ratio: 0.93 cum/t

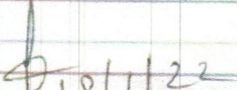

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Volume of internal and external dump, areas & heights

Temporary External Dump			Internal Dump		
Volume (Mcum)	Area (Ha)	Height (m)	Volume (Mcum)	Area (Ha)	Max. Height (m)
103.72	238.09	Max. 88m	613.18	723.66	184.50


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Seam wise calendar programme of excavation


YR/SEAM	XI	X	IX	VIII	VII	VI	V	IV	III	II	I	0	-I	-II	-III	-IV	-V	-VI	-VII	-VIII	-IX	-X	TOTAL
P-1	0.00	0.00	0.54	2.48	0.00	0.00	0.01	0.01	0.09	0.10	0.16	0.40	0.01	0.01	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00
P-2	0.00	0.00	2.51	3.47	0.00	0.00	0.06	0.06	0.38	0.40	0.65	1.58	0.05	0.06	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00
P-3	0.00	0.00	2.79	3.22	0.00	0.01	0.33	0.16	0.95	0.88	1.41	3.29	0.11	0.15	1.66	0.04	0.00	0.00	0.00	0.00	0.00	0.00	15.00
P-4	0.00	0.00	2.78	3.21	0.04	0.07	1.95	0.56	2.14	1.27	1.97	2.92	0.30	0.43	1.98	0.38	0.00	0.00	0.00	0.00	0.00	0.00	20.00
P-5	0.00	0.00	3.44	2.56	0.06	0.09	2.65	0.75	2.91	1.72	2.67	3.98	0.40	0.57	2.69	0.51	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-6	0.00	0.00	3.46	2.55	1.38	0.38	2.29	0.98	2.52	1.33	2.14	3.41	0.73	0.62	2.56	0.65	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-7	0.00	0.00	3.44	2.57	1.47	0.40	2.26	0.99	2.50	1.30	2.12	3.38	0.75	0.61	2.55	0.66	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-8	0.00	0.00	1.72	1.27	1.72	0.45	2.61	1.14	2.83	1.52	2.43	3.86	0.90	0.76	2.97	0.82	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-9	0.00	0.00	3.21	2.39	1.62	0.36	2.24	0.97	2.30	1.34	2.09	3.21	0.84	0.81	2.64	0.98	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-10	0.00	0.00	0.00	0.00	2.07	0.47	2.89	1.25	2.96	1.74	2.69	4.14	1.09	1.04	3.40	1.26	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-11	0.00	0.02	0.98	0.38	1.98	0.44	2.71	1.20	2.81	1.62	2.53	3.90	1.02	0.99	3.21	1.21	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-12	0.03	0.15	8.47	3.32	1.20	0.15	1.43	0.78	1.62	0.81	1.28	1.94	0.54	0.62	1.77	0.89	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-13	0.03	0.15	8.49	3.31	1.21	0.15	1.42	0.78	1.63	0.82	1.28	1.94	0.54	0.61	1.76	0.88	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-14	0.03	0.15	8.49	3.31	1.20	0.15	1.42	0.78	1.63	0.81	1.29	1.94	0.54	0.62	1.76	0.88	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-15	0.03	0.15	8.48	3.31	1.20	0.16	1.42	0.78	1.62	0.81	1.28	1.95	0.54	0.62	1.76	0.89	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-16	0.03	0.15	8.49	3.31	1.21	0.15	1.42	0.78	1.63	0.81	1.28	1.94	0.54	0.61	1.77	0.88	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-17	0.03	0.15	8.49	3.32	1.20	0.15	1.42	0.78	1.62	0.81	1.28	1.94	0.54	0.62	1.76	0.89	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-18	0.03	0.15	8.49	3.31	1.20	0.15	1.42	0.78	1.63	0.81	1.29	1.95	0.54	0.61	1.76	0.88	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-19	0.03	0.15	8.48	3.31	1.21	0.15	1.42	0.78	1.63	0.81	1.28	1.94	0.54	0.62	1.76	0.89	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-20	1.37	0.87	7.90	3.04	1.05	0.12	1.29	0.65	1.59	0.77	1.15	1.81	0.46	0.49	1.61	0.83	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-21	1.81	1.09	7.67	2.95	1.01	0.11	1.24	0.60	1.59	0.76	1.12	1.78	0.44	0.46	1.55	0.82	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-22	1.80	1.09	7.70	2.97	1.01	0.10	1.24	0.60	1.58	0.75	1.12	1.78	0.44	0.45	1.56	0.81	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-23	1.80	1.10	7.69	2.96	1.01	0.11	1.24	0.61	1.59	0.75	1.11	1.77	0.44	0.45	1.55	0.82	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-24	1.80	1.09	7.68	2.95	1.01	0.11	1.24	0.60	1.59	0.76	1.12	1.78	0.44	0.45	1.56	0.82	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-25	1.81	1.09	7.69	2.97	1.01	0.11	1.24	0.60	1.58	0.75	1.11	1.77	0.44	0.46	1.55	0.82	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-26	1.80	1.09	7.69	2.96	1.01	0.10	1.24	0.60	1.59	0.76	1.12	1.78	0.44	0.45	1.56	0.81	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-27	1.80	1.10	7.66	2.97	1.01	0.11	1.24	0.61	1.59	0.75	1.12	1.78	0.44	0.45	1.55	0.82	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-28	1.80	1.09	7.71	2.96	1.01	0.11	1.24	0.60	1.58	0.75	1.11	1.77	0.44	0.45	1.56	0.82	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-29	2.02	1.05	6.97	2.81	0.99	0.08	1.27	0.61	1.60	0.79	1.21	1.96	0.47	0.50	1.78	0.89	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-30	2.52	0.94	5.34	2.49	0.96	0.04	1.32	0.63	1.61	0.85	1.41	2.37	0.54	0.61	2.32	1.05	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-31	2.52	0.95	5.35	2.48	0.95	0.03	1.33	0.64	1.61	0.85	1.41	2.37	0.54	0.60	2.32	1.05	0.00	0.00	0.00	0.00	0.00	0.00	25.00
P-32	2.01	0.76	4.27	1.99	0.77	0.03	1.06	0.50	1.29	0.68	1.13	1.90	0.43	0.48	1.86	0.84	0.00	0.00	0.00	0.00	0.00	0.00	20.00
P-33	1.51	0.57	3.20	1.49	0.57	0.03	0.79	0.38	0.97	0.51	0.85	1.42	0.33	0.36	1.39	0.63	0.00	0.00	0.00	0.00	0.00	0.00	15.00
P-34	0.99	0.37	2.11	0.98	0.38	0.01	0.52	0.25	0.63	0.33	0.55	0.94	0.21	0.24	0.91	0.41	0.00	0.00	0.00	0.00	0.00	0.00	9.83

P denotes Production Year which starts after two years of construction period

Timeframe for commencement of Backfilling & justification thereof

Southern part of the block is narrow. North-south stretch below proposed quarry limit is around 1000 m and width is about 1500m. Out of this 1500 m by 1000 m land, appreciable area is forest. Permanent infrastructure is not proposed within 300m of quarry limit. Provision has been made for infrastructure avoiding forest area as much as possible. Requirement of external dumping was estimated 103.72 Mcum. North & west are restricted by Singhada Jhor and private mining block respectively. Hingula OCP in adjacent east has been planned for expansion and land scarcity is also acute for that project. Forest land stretches further east and dumping space is not available anywhere towards south and east within 5 km.

It was also found that seam thicknesses rapidly increase from central part towards north with commensurate decrease in parting thicknesses. The split


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sections of many seams also combine. This geological change improves stripping ratio drastically towards north.

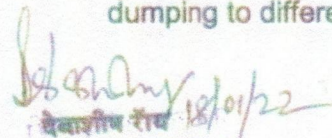
Taking advantage of reduced stripping ratio from production year-12, the overburden required to be kept in external dump can be kept temporarily towards northern side within block boundary can be re-handled back to quarry void simultaneously with in-situ OB generation. In Departmental Variant, the excess capacity of HEMM due to reduction in stripping ratio have been utilized for re-handling, spanning from Year P-13 up to Year P-25 at average rate of 8.99 Mcum per year.

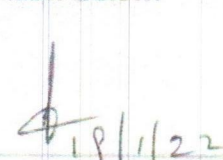
Top level of this dump is 200 m AMSL, formed in three tiers, each with a maximum height of 30 m. Individual tiers will be maintained at 37° with overall angle lying between 27° and 28°. It is advised to conduct slope stability studies for prediction of safe overall slope angle. Slope failure prediction radars have been provided for full time online monitoring.


A safety distance of 100m has been kept between toe of temporary external dump and surface excavation of operating quarry. Schedule has been made in such a manner that quarry advance and re-handling of temporary external dump are synchronized, not to be interfered by each other.

By the end of Year P-25, when re-handling of external dump is completed, the internal dump is required to be filled up to 160m level above MSL. With further reduction in stripping ratio, OB of internal dump in tier 130-160m can be pushed inside quarry void towards north-east up to surface level. As the surrounding surface level is about 130m, the backfilled and reclaimed quarry can be handed over to the State Government or original owners for agricultural purpose. Quantity of OB in internal dump tier 130-160m is 61.65 Mcum in-situ equivalent and will be handled in 5 years starting on Year P-34 to finish on 2nd year of post-closure.

The swell factor considered for OB of the dumps is 1.15 considering long term compaction. All figures given here are in-situ equivalent. Year wise schedule of dumping to different locations is given in table below.


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3.1.8 Rate Capacity "Mtpa"

By OC: 25.00

By UG: Nil

Overall: 25.00

3.1.10 Whether the proposed external OB dump site is coal/lignite bearing: If so, whether coal/lignite below waste disposal area is extractable

No land is required for permanent external dump.

Due to non-availability of land nearby, OB otherwise required to be taken to external dump, will be kept within future excavation area towards north. This OB will be re-handled into mine void in future.

3.1.11 Whether negative proving for coal/lignite in the proposed site for OB dump/infrastructure has been done

No. There will not be any permanent external dump.

Stripping ratio lines and start of lowest coal seam in infrastructure area are shown below.

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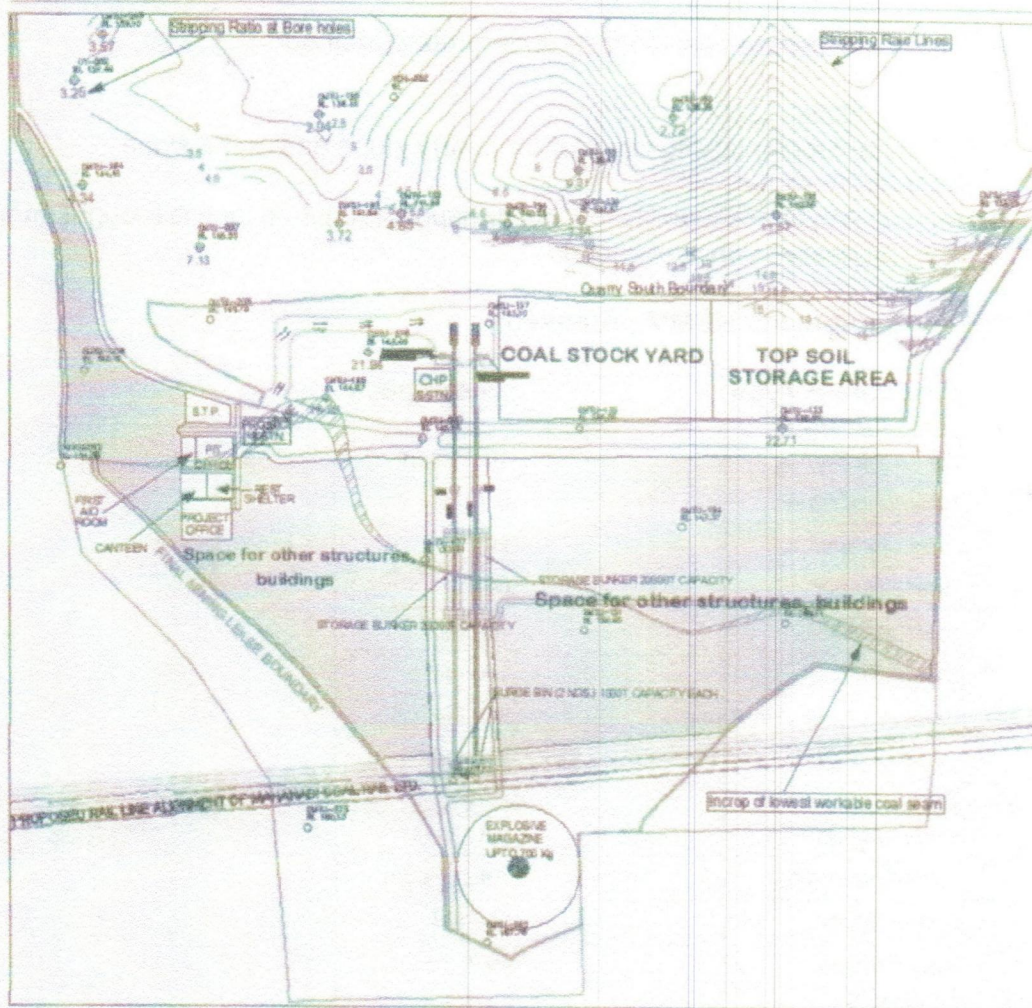
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Data is available in two bore holes in area south of proposed quarry. Stripping ratios are 21.94 and 22.71. From trend of stripping ratio lines, it is evident that south of proposed quarry area is uneconomical. However, if in future, part of this area becomes economical, receiving hoppers, coal stock yard and top soil storage area will be re-located for whatever coal can be extracted.

3.1.12 Results of any investigation carried out for scientific mining, conservation of minerals and protection of environment: future proposals

Investigations carries out:

1. Remodeling geological structure and re-assessment of coal resource as per GCV, which has increased coal resource
2. Reduction in geological loss, which has increased mineable reserve
3. Social Impact Assessment Study by Rural Development & Management Studies (IRDMS), Bhubaneswar
4. Wild Life Conservation Plan
5. Study of hydrological impact due to proposed diversion of Singhada Jhor and Ghurudia Nala

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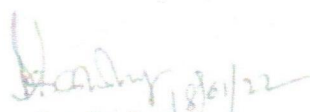
6. Alternative mining possibility by underground method

Future proposals:

1. Empirical Slope stability analysis for quarry slope and dump slope
2. Washability study
3. In-pit conveyor applicability for coal transport if required land is brought under physical possession well ahead

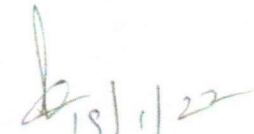
3.1.13 Type of Equipment/ HEMM proposed

	Equipment Type	Size/Specs
A:	<u>OVERBURDEN</u>	
1.	Hydraulic Shovel	10-11 cum
2.	Hydraulic Shovel	6-7 cum
3.	Rear Dumper	100 T
4.	Rear Dumper	60 T
5.	Electric Drill	250 mm
6.	Diesel Drill	160 mm
7.	Crawler Dozer with Ripper	850 HP
8.	Crawler Dozer	410 HP
B:	<u>COAL</u>	
1.	Surface Miner	50t Class
2.	Front End Loader	7.4-7.7 cum
3.	Wheel Dozer	450 HP
4.	Rear Dumper	60 T
C:	<u>COMMON</u>	
1.	Rough Terrain Crane	75 T
2.	Tyre Mounted Telescopic Crane	25 T
3.	Pick-n-Carry Crane	10 T
4.	Fork Lift Truck	5 T
5.	Water Sprinkler	28 KL
6.	Diesel Hyd. Backhoe	1.5 cum
7.	Truck Mounted Mobile Canon/Atomizer	
8.	Tyre Handler for up to 100T Dumper	
9.	Vibratory Compactor	10t
10.	Motor Grader	280 HP
11.	Fire Tender	14 KL
12.	Fuel Bowser	20 KL



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महाप्रबंधक (उत्खनन)

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Project Officer


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Chapter – 4

SAFETY MANAGEMENT

4.1.1 SAFETY MANAGEMENT

Major risks and uncertainties

INNUNDATION

Singhada Jhor River flows along the northern boundary. It is perennial in nature though remains almost dry in summer season. Width of the river is about 30m and depth is about 5m.

HFL is available at a road bridge at about 3km upstream and at northern boundary of adjacent Hingula working open cast mine at about 2km downstream. HFL has been interpolated from these two available figures for this OCP.

Embankment has been proposed 3m above HFL along Singhada Jhor with side slope at 1:2 (1vertical: 2 horizontal) and top width of 10m. Necessary steps will be taken to make it stable for long time. Watchman will be posted during heavy down pour to monitor water level. Temporary OB dump is placed south of this embankment which surely will prevent any inrush of water for 23 years.

Ghurudia nala flowing across the property from south west to north east will be diverted along eastern boundary. Catchment area has been studied and flow estimated. Section of diversion will be capable of handling one and half times of historical maximum rainfall.

ADJACENT WORKING

Surface barrier of 15m will be maintained at western boundary between adjacent mines. Barrier width is 45m at eastern boundary from 500KV DC power line. Equal barrier has been kept from adjacent Hingula mine also.

GEO-MINING DISTURBANCES

No threat is perceived from geo-mining disturbances. This area is also not prone to earthquake.

SLOPE STABILITY

Quarry slope design is shown in the next drawing. Quarry depth at this drawing is 120m. Average slope will be about 40° for depth up to 50m and may be about 35° for depth of about 200m.

Chapter-4 Safety Management

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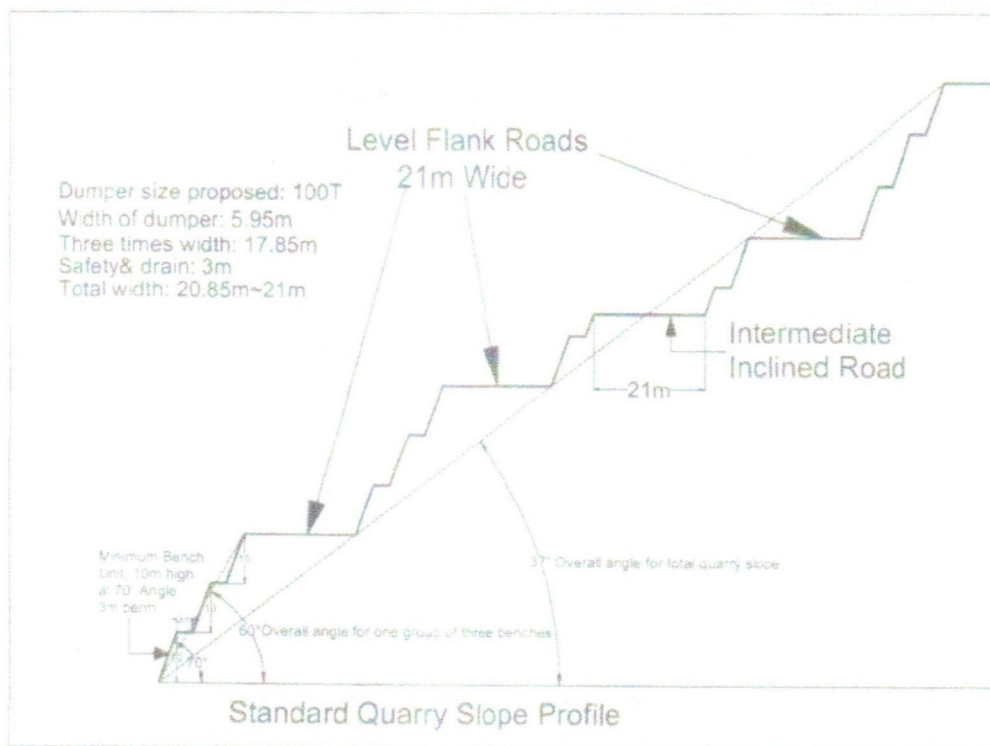
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महाप्रबंधक (उत्खनन)

सी.एम.पी.डी.आर्इ.एल., क्षेत्रीय संस्कार-7

18/01/22
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Project Officer
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एम. सि. एल. सुभद्रा क्षेत्र

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For OB dumps, tires will be maintained with height of 30m each and maximum 90m above ground level. Intermediate berms will be 30m wide. Overall slope angle will be 26-28 degrees.

The Project Proponent commits to undertake empirical slope stability study before mine starts and filed data based study during mining at regular intervals.

FIRE

Use of surface miner reduces chance of crack formation in coal strata and chance of spontaneous fire is greatly reduced.

Total coal handling system is mechanized with rapid loading system on rail. Coal at stock will remain for very short period. Fire-fighting truck and fog canons have been proposed as mitigating measures.

DISASTER MANAGEMENT

It will be taken care at three levels. At level-1, proper planning will be done to reduce accidents. At level-2, monitoring and awareness campaign will be carried out. Even after that any accident happens, damages to workers will be taken care by mine's safety department, rescue department and at Central Hospital about 20km away.

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Chapter-4 Safety Management
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Mining Plan & Mine Closure Plan – Subhadra OCP
Modification-1, February 2021



4.1.2 A Commitment from the Company Board that entire mining operation will be carried out as per the Statutory provision given under Mines Act 1952, Coal Mine Regulation 2017 and wherever specific permission will be required the company will approach the concerned authorities.

Declaration of Commitment is attached as Annexure-VI.

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Chapter – 5

INFRASTRUCTURE FACILITIES

5.1 MINE INFRASTRUCTURE REQUIRED

ELECTRICAL

- In-coming 33 kV power line
- Project sub-station
 - 6.6 kV to electrical HEMM
 - 3.3 kV & 415V to mine pumps
 - 11 kV/415v/230V to mine illumination
 - 11 kV/230V to buildings
 - All power distribution network
- CHP sub-station
- Control rooms
- Electrical Repair Workshop & Store

MECHANICAL


- Coal receiving hoppers 20 numbers, 100t each and access road Feeder breaker and conveyors with transfer points
- Ground bunkers for temporary storage, 2 numbers, 20,000 t each
- Surge bins 2 numbers with pre-weigh hoppers
- Rail sidings 4 numbers with shunt-back system
- Repair workshop and store

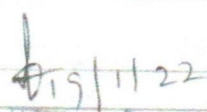
COMMON

- Project Office, Pit Office, Rest Shelter, First-aid Center, Canteen, wash room
- Sewage Treatment Plant, Effluent Treatment Plant
- Approach road, roads to infrastructure, roads for maintenance
- Water supply arrangement to mobile sprinklers, fixed sprinklers, workshops, offices, workers' quarters (if any)

6.2 Power Supply and Illumination

Incoming arrangement: Through one number of 33kV double circuit overhead transmission line drawn from the 120 MVA, 132KV/33KV Nandira sub-station of MCL for length of 15 km.


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Project Sub-station

- 3X10 MVA, 33/6.6 kV
- Two numbers of transformers each of 33/6.6 kV, 10 MVA capacity

The major functional components at the proposed project substation are comprised of:

- Outdoor installations
- Indoor installations
- 6.6 kV Outdoor Type Switch Board
- 160 kVA 33 kV/415v Station Transformer
- 63 kVA 33 kV / 230v (L-L) Lighting Transformer

Protection of Substation

Control

Vacuum Circuit Breakers conforming to IS: 2516 (current) will be used for incoming feeder control and primary control of the 10 MVA transformers. The secondary of 10 MVA transformers will be grounded through suitably rated resistor for restricted earth neutral system and will be provided with relays for protection from earth fault.

Protection against lightning

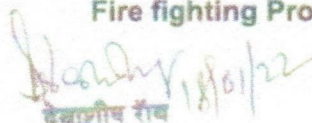
Station class lightning arrestors conforming to IS: 3070 and IS: 15086 will be provided on 33 kV side and 6.6 kV side in the substation outdoor switch yard for protection against lightning and will be connected to separate earth pits. Shield wires will be provided over the outdoor yard equipment and will be connected to separate earth pits for protection against direct lightning strokes.

Earthing

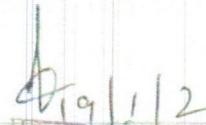
In order to maintain the earth resistance of the substation below 1 ohm, sufficient numbers of earth pits will be provided in the substation premises. All these earth pits will be interconnected. Substation earthing will conform to IS: 3043 (current).


Outdoor switchyard will have mat earthing system. The earth pits shall be constructed as per Indian Standard.

Fire fighting Protection for 33/6.6 KV 10 MVA Power Transformers


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Chapter-5 Infrastructure


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The automatic nitrogen injection firefighting system has been proposed for the 10 MVA transformers including the conservation tanks, the bushings and the bottom area.

POWER FACTOR IMPROVEMENT

In order to maintain a high system power factor of around 0.98, three sets of 6.6 kV capacitor banks each having a capacity of 2600 kVAR at project substation will be provided in the 6.6 kV switch boards.

QUARRY POWER SUPPLY DISTRIBUTION

Separate 6.6 kV overhead lines with ACSR 'DOG/ wolf' conductors will be drawn for feeding power to HEMMs (shovels & drills), pump houses, quarry lighting, workshop and colony etc. At required locations power will be tapped by providing pole mounted Isolator and cables to feed power to corresponding HEMM equipment through field switch.

Three numbers of 3-panel 6.6 kV outdoor type switchboard, five numbers of 4-panel 6.6 kV outdoor type switchboard and three numbers of 5-panel 6.6 kV outdoor type switchboard provided near main pump houses.

For power supply to face pumps and other LT pumps, one number of 100 kVA 6.6/0.415 kV and two numbers of 350 kVA 6.6/0.415 kV unitized substations have been provided.

ILLUMINATION

Quarry illumination: 200/180W LED flood/street light mounted on fixed supports.

Permanent illumination inside the quarry: 200/180W LED flood/street light fittings.

The haul roads for trucks and dumpers: 150 W LED flood/street light fittings.

13 nos. of 20 meters high mast lighting tower with control panel for quarry lighting consisting of 8 numbers of 300 W LED flood/street light fittings for working zones.

18 nos. of 18 m height self-supporting trolley mounted, steel wheel telescopic tilting tower cum search light consisting of 8 numbers of 300 W LED flood/street

light fittings for illumination of quarry lighting and spoil dump illumination at strategic locations.

13 nos. of portable Inflatable light & generator set with tower height 4 m to 5 m and generator motor 1.2 kVA, tank capacity 5 liters, 220V, 400 W light brightness

40000 lumen, engine 4 stroke with inbuilt trolley & telescopic support has been provided for quarry lighting.

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महाप्रबंधक (उत्खनन)

सी.एस.पी. उपनिर्देशक-5, संरचना

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प्रकल्प अधिकारी

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6.3 Drainage & pumping

Make of water and pump specification

Based on continuous rainfall of 155mm and with proper back filling, the make of water has been assessed. Five days pumping time has been envisaged to dewater the backlog due to heavy downpour as stipulated above.

Requirement of pump has been shown in the table below:

Sl. No.	Particulars	Total Required
1	Centrifugal pump cap-120 lps, head-150 m , power-300 kw with electrical , 6.6 kV	5
2	Centrifugal pump cap-180 lps, head-200 m , power-490 kw with electrical , 6.6 kV	5
3	Centrifugal pump cap-225 lps, head-250 m , power-900 kw with electrical , 6.6 kV	8
4	Slurry pump cap-70lps. head-54 m , power-75kw, with electrical at 415 V	2
5	Slurry pump capacity 16 lps. head-35 m,power-30kW, with electrical 415 V	2
6	Centrifugal face pump cap-38 lps. head-30 m, power-15kw with electrical 415 V	4
7	Diesel pump, capacity 80 lps, head 120m	2

Selection of pumps

The different additional pumps has been provided as below:

Main pumps

Main pumps will handle the quantity of water inflow during a day of peak rainfall in monsoon in excess of the capacity of the sump.

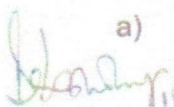
The additional main pump selected for is as under:

Discharge	120 lps	Head	150 m
Power	300 kW	Voltage	6.6 kV
Population	5 (4+1)		


These pumps will work as main pump during initial period. In later stage it will be utilised as stage pumping to feed main sump.


The other additional main pump selected as is under: -

a)	Discharge	180 lps
	Head	200 m
	Power	490kW
	Voltage	6.6kV
	Population	5 (4+1)


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The final stage main pump selected as is under:

Discharge	225 lps
Head	250 m
Power	900kW
Voltage	6.6 V
Population	8 (6+2)

These pumps will work as main pump during the entire life of the project. These pumps will be installed in the main sump.

Face pumps

Water stagnated on the haul roads, near the working faces and from undesirable water pockets, will be handled by the face pumps of the following specifications.

Discharge	38 lps
Head	30 m
Power	15 kW
Voltage	415 V
Population	4

Other pumps

During rainfall, the water inflow into the sump will contain clay & silt. To handle slurry water, four numbers of slurry water pumps of 70 lps capacity, 54 m head & power 75 kW and 16 lps capacity, 35 m head & power 30 kW have been provided in the quarries.

5.4 Coal handling arrangement

The coal handling arrangement shall have the following provisions:

- 25 Mty of coal produced will be carried by tipping trucks / dumpers and unloaded into any of the 20 nos. over ground truck receipt hoppers of 100 t capacity each situated at two different places and very small amount of coal produced by feeder breaker (2 nos.) of capacity 400t.


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MCL, Subhadra Area for the dispatch of 25 Mty coal, series of Belt conveyors have been installed.

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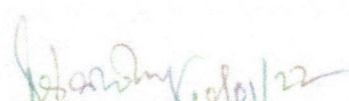
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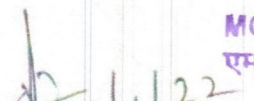
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- Two nos. of over ground bunker of 20000t capacity each and dispatching through the Rapid loading system (RLS). The coal dispatch system will be done through 2 nos. of rapid loading system.
- Necessary Dust suppression and firefighting system with other ancillary has also been proposed.

The surface layout plan has shown mine entries, truck receiving hopper complex, belt conveyors, over ground bunker, Rapid loading system etc. The quality of coal is Grade G-13 (GCV).


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Chapter – 6

LAND REQUIREMENT

6.1 LAND REQUIREMENT

6.1.1 Total land requirement for the mine in “Ha”

Land Type		Area
Tenancy	Agricultural	661.70
	Township	0.000
	Grazing	0.000
	Barren	0.000
	Water Bodies	6.280
	Road	0.250
	Community/other use	28.27
Govt. Non Forest	Agricultural	138.80
	Township	0.000
	Grazing	58.67
	Barren/other use	92.64
Forest	Reserve	0.75
	Protected	0.00
	Revenue	124.49
Mining Lease Area		1111.85

Source: Signed table of above information by SO (L&R), SO (Survey) & P.O. of the project sent via email dated 30-09-2020.

6.1.2 ‘During Mining’ Land Use Details

Type	Land use (Proposed)	Land Use (End of Life)	Land Use (Post Closure)						
			Agricultural land	Plantation	Water Body	Public/ Company Use	Forest Land (Returned)	Unplanted	Total
Excavation Area	881.28	881.28							
Backfilled Area	715.24	715.24	532.72	182.52					715.24
Excavated Void Without plantation	130.68	130.68						130.68	130.68
Water harvesting	35.36	35.36			35.36				35.36
Top Soil Dump	8.97	8.97	8.97						8.97
Coal Stock Yard	9.76	9.76	9.76						9.76
External Dump	24.17	24.17	24.17						24.17
Safety Zone	11.79	11.79		11.79					11.79
Haul Road between quarries	Nil	Nil							0.00
Road diversion	Nil	Nil							0.00
Nala Diversion & Settling pond	8.42	8.42				8.42			8.42
Roads, buildings & infrastructure Sub-total	Road: 15.72	Road: 15.72				15.72			143.50
	Township: 25.86	Township: 25.86				25.86			
	Infra: 101.92	Infra: 101.92	101.92						
Personalization	Shown in green belt	Shown in green belt							0.00
Garland drains	Negligible	Negligible							0.00
Embankment	11.49	11.49				11.49			11.49

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Mining Plan & Mine Closure Plan – Subhadra OCP
Modification-1, January 2022



Type	Land use (Proposed)	Land Use (End of Life)	Land Use (Post Closure)						Total
			Agricultural land	Plantation	Water Body	Public/ Company Use	Forest Land (Returned)	Unplanted	
Green Belt	6.89	6.89		6.89					6.89
Water Reservoir near pit	Nil	Nil							0.00
UG entry	None	None							0.00
Undisturbed/ mining right for UG	Nil	Nil							0.00
Explosive Magazine	5.58	5.58		5.58					5.58
Pit head power plant	Nil	Nil							0.00
Agricultural land	Nil	Nil							0.00
Total	1111.85	1111.85	667.54	206.78	35.36	61.49	0.00	130.68	1111.85

6.1.3	Surface features over the block area	Mostly agricultural land interspersed by forest plots, grazing land and habitations, scattered all over. Two PWD roads connect habituated areas. Cart roads are spread throughout the block.
6.1.4	No. of villages/House to be shifted	9 villages
6.1.5	Population to be affected by the project	1870 families
6.1.6	Proposed Rehabilitation program	R&R program is attached as Annexure-X
6.2	DETAILS OF LEASE	
6.2.1	Status of Lease	Acquired under CBA (A&D) Act-1957 in the year 2007 & 2013
6.2.2	Existing Lease Area "Ha"	1111.85 Ha
6.2.3	Period for which Mining Lease has been granted/is to be renewed/is to be applied for	40 years
6.2.4	Date of expiry of earlier Mining Lease, if any	Not applicable
6.2.5	Whether the lease boundary/required boundary / required boundary is same as mentioned in the allotment order	Lease boundary proposed is same as Project boundary and is within allotted block boundary
6.2.6	Lease Area (applied/ required) as per the Mining Plan under consideration (Ha)	1111.85
6.2.7	Whether the applied lease area falls within the allotted block	Yes
6.2.8	Area (Ha) of lease which falls outside the delineated Block Boundary/ Existing Mining Lease	Not applicable
6.2.9	Details of outside area:	
	• Whether forms part of any other coal block	Not applicable
	• Whether it contains any coal/lignite reserves	Not applicable
	• Purpose for which it is required, e.g. roads/ OB dumps/ service buildings/ colony/ safety zone/ others (specify)	Not applicable

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Mining Plan & Mine Closure Plan – Subhadra OCP
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6.2.10	Whether some part(s) of the allotted block has not been applied for mining lease	Yes
	- Total area in Ha of such part(s)	33.05
	- Total reserves in such part(s), (Mt)	Not estimated as are is non-coal bearing.
	- Brief reasoning for leaving such part(s)	14.20 Ha lies in Durgapur Reserve Forest area, non-coal bearing and not required for mining purpose. 11.33 Ha is in non-coal bearing area, small part of large village Balichandrapur, which will not be acquired and not required for mining use. 7.52 Ha comes under State Highway-63 & area south of it, which is non-coal bearing and not envisaged for use at present.

[Signature]

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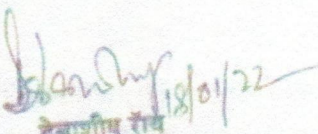
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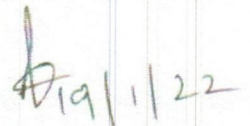
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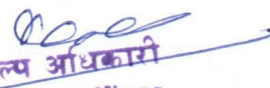
ENVIRONMENTAL MANAGEMENT

7.1 ENVIRONMENTAL AMANAGEMENT

	Parameters	Details
7.1	Commitment from the project proponent that the company will comply Environment and Forest condition stipulated in the respective clearance	Declaration by GM Subhadra Area has given written commitment that the company will comply Environment and Forest conditions stipulated in the respective clearances. The same is attached as Annexure-VI


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Chapter – 8

PROGRESSIVE & FINAL MINE CLOSURE PLAN

8.1 LAND DEGRADATION AND RESTORATION SCHEDULE

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

Year/Stage (Life of the mine plus post closure period)	Land Degraded				Technically Reclaimed Area			
	Excavation	Dump (Extn. + Top soil)	Infra/ others	Total	Backfill	Dump (Extn. + Top soil)	Others	Total
Up to Base Year*	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Y-1, Cons-1 2022-23	0.00	8.97	102.75	111.72	0.00	0.00	0.00	0.00
Y-3, Prod-1 2024-25	79.89	63.01	212.82	355.72	0.00	0.00	0.00	0.00
Y-5, Prod-3 2026-27	192.15	200.62	210.99	603.76	0.00	9.49	0.00	9.49
Y-10, Prod-8 2031-32	467.25	255.04	209.16	931.45	80.13	238.09	0.00	318.22
Y15, Prod-13 2036-37	560.80	247.48	207.36	1015.64	169.55	238.09	0.00	407.64
Y-20, Prod-18 2041-42	648.93	241.32	205.49	1094.75	276.93	206.07	0.00	483.00
Y-25, Prod-23 2046-47	768.83	121.42	205.49	1095.74	380.56	27.19	0.00	407.75
Y-30, Prod-28 2051-52	865.06	25.19	205.49	1095.74	587.42	27.19	0.00	614.61
Y-36, Prod-34 2057-58	881.28	8.97	205.49	1095.74	687.48	27.19	0.00	714.67
Post closure								
Y-39, PC-3 2060-61	881.28	8.97	205.49	1095.74	723.66	36.16	123.29	883.11

Total lease: 1111.85 ha. Area not degraded includes area for explosive magazine with safety, parts of residential colony and areas in-between lease and quarry boundaries.

8.1.2 Tentative Biological Reclamation (Cumulative in "Ha")

Year/Stage (Life of the mine plus post closure period)	Biologically Reclaimed Area					Forest land (Return)	Undisturbed to be left for public/ com use	Total
	Agriculture	Plantation	Water Body	Public/ Company Use	Total			
Up to Base Year*	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Y-1, Cons-1 2022-23	Nil	19.13	0.00	0.00	19.13	Nil	Nil	19.13
Y-3, Prod-1 2024-25	Nil	28.69	2.00	0.00	30.69	Nil	Nil	30.69
Y-5, Prod-3 2026-27	Nil	47.82	2.40	17.07	67.29	Nil	Nil	67.29
Y-10, Prod-8 2031-32	Nil	111.64	2.88	17.07	131.59	Nil	Nil	131.59
Y15, Prod-13 2036-37	Nil	175.44	3.46	17.07	195.97	Nil	Nil	195.97
Y-20, Prod-18 2041-42	Nil	229.68	4.15	17.07	250.90	Nil	Nil	250.90
Y-25, Prod-23 2046-47	Nil	274.36	4.98	17.07	296.41	Nil	Nil	296.41
Y-30, Prod-28 2051-52	Nil	346.23	5.97	17.07	369.27	Nil	Nil	369.27
Y-36, Prod-34 2057-58	Nil	390.91	7.17	17.07	415.15	Nil	Nil	415.15
Post closure								
Y-39, PC-3 2060-61	621.09	223.93	32.37	75.22	952.61	Nil	Nil	952.61

Areas not degraded will be heavily planted and biologically reclaimed.

8.2 Existing water bodies

Singhada Jhor River flows west to east along northern boundary. The southern meandering encroaches quite large area and it is proposed to straighten that part for coal extraction.

Ghurudiala flows across the property and meets Singhada Jhor near north-east. This seasonal and is proposed to be diverted by south and then by east. As it comes through adjacent Utkal-C and Utkal-B1 blocks, it is expected that this nala will be diverted at further upstream by owners of adjacent blocks.

महाप्रबंधक (उत्खनन)

Chapter-8: Mine Closure

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Project Officer

MCL, Subhadra Area
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Other small streams entering into the property from east are proposed to be diverted by Hingula Expansion OCP.

There are ponds and wells all around the property. One small reservoir towards south is shown in topographical map used for irrigation. With resettlement of villages, these will not be required anymore.

Water coming from outside property will be diverted without using to original destination, Singhada Jhor River. Settling pond is proposed just before release of water into the river.

8.3 Post Closure Water Quality Management

The development of the open pits, stockpiles, waste rock dumps, CHP and infrastructure often interrupt some of the natural drainage paths. Interference with drainage patterns may result in deprivation of water to drainage systems downstream of the mining developments or localised shadowing effects on some vegetation which may be reliant on intermittent flows. Furthermore, chemical reactions in waste rock have the potential to be detrimental to plant growth and to result in contamination of both surface and groundwater. In addition, mining and processing operations, transport, store and use a range of hazardous materials including fuels, process reagents, lubricants, detergents, explosives, solvents and paints. If these materials are not properly managed, they may have the potential to cause atmospheric, soil or water contamination and could potentially pose ongoing risks to human health and the environment.

In proposed project, Singada Jhor and other seasonal stream are flowing through mine boundary. It is therefore necessary to take proper diversion of stream during the operation so the downstream users may not be affected.

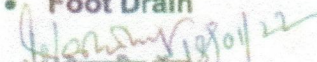
At the time of mine closure all the activity must have been stopped and hence chances of contamination are very less but it is again necessary to monitor the ground water quality and river water quality so that any change in quality can be detected.


8.3.1 Drainage arrangement for external OB dump


- **Catch Drain**

An open drain of appropriate size is provided on all terraces at the foot of next bench to receive the storm water from upper benches. This is then discharge to the lower benches through masonry chute, thus minimizing gully formation in the slope of external dump.

- **Foot Drain**


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Chapter-8: Mine Closure


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A foot drain of proper size is provided around the external OB dump (portion exposed to outside only). This drain collects run-off from dump and direct it to settling tank/sedimentation pond before discharge to nearby natural watercourses.

8.3.2 Drainage arrangement for internal OB dump

- During working stage, the run-off is collected from internal dump by foot drain for diverting to mine sump for pumping.
- In the post-mining period, the drainage pattern of the reclaimed area will be such that the run-off will be diverted to final void of the quarry as a measure for water harvesting.

8.3.3 Post Closure Air Quality Management

Legislative Framework

Air quality is managed through a framework established under Environmental Protection Act 1986. There are two notification under which air quality standards are governed in coal mining area:

- Notification No. GSR 742(E), Dt: 25th September 2000 also known as coal mine standards
- Notification No. GSR 826(E), Dt: 16th November 2009 also known as National Ambient Air Quality Standard.

Since at the time of closure of mine, no mining activity is taking place, so, coal mine standard is not applicable and only NAAQS-2009 is applicable. In relation to the coal mine projects the key contaminant of concern is particulate matter. Relevant air quality objective in relation to particulate matter at sensitive receptor is $PM_{10} < 100 \mu g/m^3$, $PM_{2.5} < 60 \mu g/m^3$ respectively. Loose soil through wind erosion may only be the source of particulate matter at the time of closure. To deal with wind erosion problem, technical reclamation and biological reclamation of overburden (OB) is the best way. In biological reclamation of external OB dumps and internal OB dumps they are stabilized by covering and planting of native plants and grasses. The area must be regularly monitored at least monthly once to check the status of air quality in initial period of closure.

8.4 Waste Management (Figures in Mcum) (Tentative)

Year (Life of the mine plan post closure period)	OB Removal (Cumulative)			External Dump (Cumulative)		Internal Backfilling (Cumulative)		Embankment (Cumulative)	
	Top soil	OB	Total	Top soil	OB	Top soil	OB	Top soil	OB
Up to Base Year*	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Y-1, Cons-1	2022-23	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

Year/Stage (Life of the mine plus post closure period)	OB Removal (Cumulative)			External Dump (Cumulative)		Internal Backfilling (Cumulative)		Embankment (Cumulative)	
	Top soil	OB	Total	Top soil	OB	Top soil	OB	Top soil	OB
Y-3, Prod-1 2024-25	0.84	9.81	10.65	0.84	9.57	Nil	0.24	Nil	Nil
Y-5, Prod-3 2026-27	1.56	49.76	51.32	1.52	33.92	Nil	15.88	0.04	0.15
Y-10, Prod-8 2031-32	1.61	202.16	203.77	1.35	87.49	0.22	114.71	0.04	0.15
Y-15, Prod-13 2036-37	2.90	318.02	320.92	2.43	88.13	0.43	237.83	0.04	0.15
Y-20, Prod-18 2041-42	3.07	401.54	404.61	2.38	38.83	0.65	366.25	0.04	0.15
Y-25, Prod-23 2046-47	3.08	479.61	482.69	0.25	0.00	2.79	479.90	0.04	0.15
Y-30, Prod-28 2051-52	3.11	544.95	548.06	0.25	0.00	2.85	545.21	0.04	0.15
Y-36, Prod-34 2057-58	3.14	610.04	613.18	0.25	0.00	2.85	609.89	0.04	0.15
Post closure									
Y-39, PC-3 2060-61	3.14	610.04	613.18	0.00	0.00	3.10	609.89	0.04	0.15

8.5 Top Soil Management (Including Action plan for Top Soil Management) (Tentative): (All Figures are cumulative and in MM³)

Year/Stage (Life of the mine plus post closure period)	Top soil removal plan	Top Soil Used				
		Spreading over embankment	Spreading over backfill area	Spreading over external OB dump area	Used in Green Belt area	Total utilized
Up to Base Year*	Nil	Nil	Nil	Nil	Nil	Nil
Y-1, Cons-1 2022-23	0.00	0.00	0.00	0.00	0	0.00
Y-3, Prod-1 2024-25	0.84	0.00	0.00	0.00	0.00	0.00
Y-5, Prod-3 2026-27	1.56	0.04	0.00	1.07	0.00	1.11
Y-10, Prod-8 2031-32	1.61	0.04	0.22	0.90	0.00	1.16
Y-15, Prod-13 2036-37	2.90	0.04	0.51	1.90	0.00	2.45
Y-20, Prod-18 2041-42	3.07	0.04	0.83	1.75	0.00	2.62
Y-25, Prod-23 2046-47	3.08	0.04	0.86	0.15	0.00	2.63
Y-30, Prod-28 2051-52	3.11	0.04	1.08	0.00	0.00	2.66
Y-36, Prod-34 2057-58	3.14	0.04	1.29	0.00	0.00	2.69
Post closure						
Y-39, PC-3 2060-61	3.14	0.04	2.15	0.00	0.00	3.14

No permanent external dump is proposed and temporary surface dump will be re-handled from Yr-13. Running stock of top soil at stock yard is 0.45 Mcum.

8.6 Management of Coal Rejects

There may be rejects from coal seams while extracting with surface miner. Quantity has not been estimated but percentage of such reject generated in adjacent Hingula mine is 8-9%. Such reject will be dumped in specified area within internal dump. Height of such reject stack will not be more than 10m. Such reject area will be quickly covered with other non-combustible OB material. Such stacks will not be continued more than 50m in the direction of backfilling advance. After filling with non-combustible OB for 100m, a new stack may be formed. Objectives of such operation are –

1. Prevent spontaneous combustion by not allowing such rejects to come in contact of air for long time
2. Prevent dump slope failure by not causing slippage plane to form

8.7 Restoration of Land used for Infrastructure

Sl	Type of infrastructure	Status post final closure
1	Rail corridor of MCRL	This will be owned and maintained by separate companies and will continue to serve coal blocks at south-west area of Talcher coal field. The siding lines will be dismantled.
2	Coal handling Plant	To be dismantled totally

[Signature]
प्रकल्प अधिकारी
Project Officer

Sl	Type of infrastructure	Status post final closure
3	Workshops & Stores	To be dismantled totally
4	Surface Roads	To be handed over to State Government in good condition who is supposed to maintain also.
5	Offices & ancillary buildings	As life of buildings are considered 60 years, these will be in useable condition. These may be handed over to any organization interested with acceptance of renovation and maintenance at their own expense
6	Electric poles, cables, sub-stations	These will be used by other nearby projects of MCL if suitable. Rest will be disposed of as per extant rules of the company.
7	Workers' quarters	As life of buildings are considered 60 years, these will be in useable condition. These may be handed over to any organization interested with acceptance of renovation and maintenance at their own expense

8.8 Disposal of Mining Machinery

Disposal will be as per rules laid down by the holding company Coal India Limited, whose one subsidiary is MCL, who is owner of the mine.

8.9 Safety & Security

Measures to be implemented to prevent access to surface opening for underground working, excavation, etc.

8.10 Abandonment Cost and Financial Assurance

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

	Head	Unit	Quantity	Rate Rs/unit	Amount "Rs Cr"
Progressive Closure	Drinking Water Quality Management for life of 36 years	No/Yr	36	9295	
	Surface Water Quality Management	No/Yr	8	9551	
	Effluent Water Quality Management	No/Yr	48	2387	
	Water Quality Management Total				1.89
	Air Quality Management	No/Yr	96	37592	12.99
	Waste Management	Rs/cum	Regular activity, so not considered		
	Barbed Wire fencing around dump	Rs/m	Not proposed		
	Barbed wire fencing around the pit	Rs/m	13000	700	0.91
	Filling of void – Re-handling of crown dump	Rs/cum	23.99 Mcum	77	184.72
	Top soil management	Rs/cum	3.14 Mum	5.00	3.14
	Technical & Biological reclamation of mined out of land and OB dump	Rs/Ha	470.69	500000	23.53
	Plantation over virgin area including green belt	Rs/Ha	109.97	340000	3.74
	Manpower cost and supervision	Persns/Yr	11	400000	15.84
	Toe wall around the dump	Rs/m	9252	3300	3.05
	Garland drain	Rs/m	17464	4000	6.99
	Garland drain around the dump	Rs/m	9252	4000	3.70
	Any other activity - River & Nala Diversion	Rs/m	6172	38577	23.81
	Dismantling of workshop	Rs/sqm	504401	630	32.20
	Rehabilitation of the dismantled facilities	To be sold as scrap			
	Dismantling of pumps and pipes / other facilities	Rs/sqm	3500	630	0.22

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Modification-1, February 2021



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	Head	Unit	Quantity	Rate Rs/unit	Amount "Rs Cr"
	Dismantling of stowing bunker, provisioning of pumps for bore well pumping arrangement		Not Required		
	Dismantling of UG equipment		Not Required		
	Rearranging water pipeline to dump top, park/agricultural land	LS	LS	LS	0.25
Safety & security	Barbed wire fencing around dump	Rs/m	Not proposed		
	Barbed wire fencing around the pit		0.91 crs as given above		
	Barbed wire fencing with masonry pillars	Rs/m	Not proposed		
	Concrete wall with masonry pillars around the pit	Rs/m	3867	3700	1.43
	Securing air shaft and bore well pump		Not Required		
	Securing of incline		Not Required		
	Concrete wall fencing around the water body		Not Required		
	Boundary wall around the water body		Not Required		
	Stabilization (viz benching, pitching etc) of side walls of the water body		Not Required		
	Toe wall around the dump		3.05 crs as given above		
	Garland drain		0.40 crs as give above		
	Garland drain around the dump		4.06 crs as given above		
	Drainage channel from main OB dump	Rs/m	500	4000	0.20
Technical & biological reclamation of mined out land and OB dump	Filling of void		No proposal to bring OB from outside		
	Top soil management		Rs.38.00 crs as given above		
	OB re-handling for backfilling		Rs.474.71 crs as given above		
	Terracing, blanketing with soil and vegetation of external dump	LS			2.75
	Peripheral road, gates, view point, cemented steps on bank	LS			5.00
	Expenditure on development of agricultural land	LS			5.00
	Landscaping and plantation	Rs/ha	300	500000	15.00
Post closure management and supervision	Power cost	Rs/kW/Yr	300	26000	2.34
	Post mining Surface water quality management	No/Yr	8	9551	0.02
	Post mining Effluent water quality management	No/Yr	48	2387	0.03
	Total of water quality management				0.05
	Post mining air quality management	No/Yr	96	37592	1.08
	Subsidence monitoring for 5 years		Not Required		
	Waste management (levelling, grading, plantation)	Rs/ha	300	1500000	45.00
	Filling of void – Re-handling of crown dump	Rs/cum	37.66 Mcum	77	289.98
	Manpower cost and supervision	Rs/Pers/Yr	25	400000	3.00
	Entrepreneurship development (vocational/skill development training) for sustainable income of affected people	Rs/Pers	148	100000	4.75
	Golden handshake/retraining benefits to 100 employees of OC	MDO mode of mine operation, Company staff will be re-deployed in other facilities of MCL			
	Golden handshake/retraining benefits to 200 employees of UG		Not Required		
	Onetime financial grant to societies/institutions/organizations which is dependent on the project	Rs/Inst/Org	14	500000	0.70
	Provide jobs in other mines of the company	Own staff to be retained and re-deployed			
	Continuation of other services like running of schools etc.	Rs/Sch/Yr	1	500000	0.50
TOTAL					693.54

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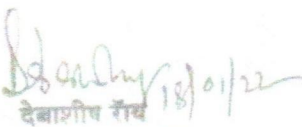
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8.10.2 Financial Assurance: Amount to be deposited in Escrow account

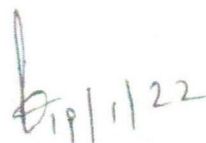
(As a security against the mine activities to be carried out for the closure of the mine)

WPI as on	Apr-19	121.1
WPI as on base date-extrapolated	Apr-22	126.3
Escalated rate of Closure cost		10429
	UG	OC
Base Rate of Closure Cost "Rs, Crs./Ha"		0.0900
Closure Cost "Rs, Crs./Ha"		0.0939
Project Area "Ha"		1111.85
Amount to be deposited into Escrow Account "Rs,		104.3594
Amount already deposited into Escrow Account		0.00
Net Amount to be deposited into Escrow Account		104.3594
Rate of compounding of Annual Closure Cost		5.00%
Balance Life of the project "in Yrs"		36
Annual Closure Cost "Rs. Cr."		2.8989
"In Crs"		277.82

Year	OC	Year	UG	Total
Rupees in Lakhs				
1	289.8871			289.8871
2	304.3815			304.3815
3	319.6006			319.6006
4	335.5806			335.5806
5	352.3596			352.3596
6	369.9776			369.9776
7	388.4765			388.4765
8	407.9003			407.9003
9	428.2953			428.2953
10	449.7101			449.7101
11	472.1956			472.1956
12	495.8054			495.8054
13	520.5957			520.5957
14	546.6255			546.6255
15	573.9568			573.9568
16	602.6546			602.6546
17	632.7873			632.7873
18	664.4267			664.4267
19	697.6480			697.6480
20	732.5304			732.5304
20	732.5304			732.5304
22	807.6147			807.6147
23	847.9954			847.9954
24	890.3952			890.3952
25	934.9150			934.9150
26	981.6608			981.6608
27	1030.7438			1030.7438
28	1082.2810			1082.2810
29	1136.3951			1136.3951
30	1193.2149			1193.2149
31	1252.8756			1252.8756
32	1315.5194			1315.5194
33	1381.2954			1381.2954
34	1450.3602			1450.3602
35	1522.8782			1522.8782
36	1599.0221			1599.0221
Total	27781.7189			27781.7189


देवाशीष राय

महाप्रबंधक (उत्खनन)
सी.एम.पी.डी.आई.एल., क्षेत्रीय संस्थान-7


8/11/22

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Project Officer
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प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा

ANNEXURE-I

(Copy of Allotment Order)

Government of India

Ministry of Coal

O/o the Nominated Authority

Shastri Bhawan, New Delhi

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

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

In re: **Utkal A Coal Mine** (the "mine") particulars of which is specified in **Annexure 1**

Order no.: **NA-103/1/2021-NA**

Date: **November 18, 2021**

In favour of: **Mahanadi Coalfields Limited** incorporated in India under the Companies Act, 1956 with corporate identity number **U10102OR1992GO003038**, whose registered office and principal place of business is at Jagruti Vihar, Hurta, Sambalpur, Odisha 768020 India (the "allottee")

For: **Sale of Coal**

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

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

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

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

AND WHEREAS the allottee has furnished a performance bank guarantee dated July 09, 2021 for an amount equal to INR 5,54,40,00,000.00 (Indian Rupees Five Hundred Fifty Four Crore and Forty Lakh) issued by State Bank of India in accordance with the provisions of sub-section (6) and sub-section (12) of section 8 of the Act and sub-rule (4) of rule 13 of the rules.

AND WHEREAS the allottee has entered into an allotment agreement dated June 17, 2021 ("Allotment Agreement") (as amended) with the nominated authority in accordance with the provisions of sub-rule (5) of rule 13.

NOW, THE NOMINATED AUTHORITY DOES ORDER:

- I. On and from November 18, 2021 ("allotment date") and in accordance with sub-section (4) of section 8 read with sub-section (12) of section 8 of the Act, with respect to the mine, the following shall stand fully and absolutely transferred and vested in the allottee, namely:

(Signature)

(Signature)
Allotment Order for Utkal A Coal Mine



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(Signature)

**प्रकल्प अधिकारी
Project Officer**

**MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र**

Ann-I: Copy of Allotment Order

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देवाशीष राय

सहायक (उत्खनन)

सी.एम.पी.डी.आई.एल., क्षेत्रीय संस्थान-7

**प्रकल्प अधिकारी
Project Officer**

**MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र**

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Modification-1, January 2022



- (a) all the rights, title and interest of the prior allottee in and over the land and mine infrastructure free from all encumbrances;
 - (b) entitlement to a mining lease to be granted by the State Government with the terms and conditions of Allotment Agreement forming a part of it on making an application;
 - (c) all statutory licences, permits, permissions, approvals or consents as per rules, required to undertake coal mining operations in the mine, if already issued by the Central Government, to the prior allottee on the same terms and conditions as were applicable to the prior allottee, as listed in the **Annexure 2**;
 - (d) entitlement to any statutory licence, permit, permission, approval or consent required to undertake coal mining operations in the mine, if already issued by the Central Government, to the prior allottee on making an application on the same terms and conditions as were applicable to the prior allottee, as listed in the **Annexure 3**;
 - (e) entitlement to any statutory licence, permit, permission, approval or consent required to undertake coal mining operations in the mine, if already issued by the State Government, to the prior allottee on making an application on the same terms and conditions as were applicable to the prior allottee, as listed in the **Annexure 4**;
 - (f) rights appurtenant to the approved mining plan of the prior allottee;
 - (g) any subsisting contract in relation to coal mining operations, to which the prior allottee was a party and which is assumed, adopted and continued by the allottee and listed in the **Annexure 5** shall stand novated (by virtue of a deemed consent from the relevant party(ies)), in accordance with the provisions of sub-section (1) of section 11 of the Act in favour of the allottee for the residual term or residual performance of such contract;
2. The allottee may seek any change in the terms and conditions attached to such licence, permit, permission, approval or consent by making an application in accordance with applicable laws;
 3. Hereinafter, the allottee shall be entitled to take possession of the mine as specified in **Annexure 1** without let or hindrance.
 4. This allotment order is liable to be cancelled in accordance with the provisions of sub-rule (6) of rule 13.

(By the nominated authority)



18/01/22
देबाशीष गौय

महाप्रबंधक (उत्खनन)

सी.एम.पी.डी.आई.एल., क्षेत्रीय संस्थान-7

Ann-I: Copy of Allotment Order for Likal A Coal Mine

19/1/22

प्रकल्प अधिकारी

Project Officer

MCL, Subhadra Area

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18/01/22

प्रकल्प अधिकारी

Project Officer

MCL, Subhadra Area

एम. वि. एल., सुभद्रा क्षेत्र

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Mining Plan & Mine Closure Plan – Subhadra OCP
Modification-1, January 2022



Annexures:

Annexure 1: Particulars of the mine

Part A – Description of the mine

Name of Coal Mine	Utikal A
Latitude	20° 55' 56.225" N - 20° 58' 47.344" N
Longitude	84° 58' 42.383" E - 85° 00' 50.476" E
Coal Field	Talcher Coalfield
Villages	Kankarei, Chhotaberani, Golagadia, Kaunsadhipa, Rajharan, Balichandrapur, Pirakhaman, Baghuabola, Bhalugadia and Kumunda
Tehsil/ Taluka/ Block	Chhendipada & Talcher
District	Angul
State	Odisha



298
169

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8000

18/01/22
देवाशीष रॉय

महाप्रबंधक (उत्खनन)
श्री. एम. पी. डी. आर्. एल., क्षेत्रीय संस्थान-7
Allotment Order for Utikal A Coal Mine

18/01/22

प्रकल्प अधिकारी
Project Officer

MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

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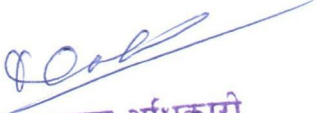
Mining Plan & Mine Closure Plan – Subhadra OCP
Modification-1, January 2022

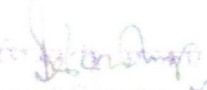


Part B – Description of Land in relation to the mine


Type of Land	Land Acquired (acres)
Utkal-A	
Forest Land	-
Government Land	-
Private Land	-
West of Gopalprasad West	
Forest Land	-
Government Land	439.885
Private Land	128.00




प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम्. सि. एल. सुभद्रा क्षेत्र


देबाशीष रॉय
प्रहाप्रबंधक (उत्खनन)
सी.एम.पी.डी.आई.एल., क्षेत्रीय संस्थान-7

Allotment Order for Utkal A Coal Mine


19/1/22
प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम्. सि. एल. सुभद्रा क्षेत्र

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Mining Plan & Mine Closure Plan – Subhadra OCP
Modification-1, January 2022

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

C1- Mine Infrastructure: Immovable Assets

Nil

C2- Mine Infrastructure: Land for Compensatory Afforestation

Type of Land: Freehold Land for Compensatory Afforestation

Nil

Type of Land: Leasehold Land for Compensatory Afforestation

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

C3- Mine Infrastructure: Resettlement and Rehabilitation Land

Type of Land: Resettlement and Rehabilitation Freehold Land

Nil

Type of Land: Resettlement and Rehabilitation Leasehold Land

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



Debarshi Roy
देवशीष रॉय
महाप्रबंधक (उत्खनन)
सी.एम.पी.डी.आई.एल., क्षेत्रीय संस्थान-7

Allotment Order for Ukhal A Coal Mine

Ann-I: Copy of Allotment Order

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8/1/22
प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

8/1/22
प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

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Mining Plan & Mine Closure Plan – Subhadra OCP
Modification-1, January 2022



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

S. No	Statutory Clearance	Ministry	Letter No.	Date
1.	Approval of Mining Plan and Mine Closure Plan a) Approval of the Mining Plan of Gopalprasad Opencast Project (capacity 15.0 Mty) in the name of MJSI Coal Ltd. b) Approval of Mine Closure Plan for Gopal Prasad OCP (15 MTY) dated March 2011	Ministry of Coal	No. 43012(1)/2008-CPAM No. 34012 (4)/2011-CPAM	23-04-2009 10-01-2013
2.	Utkal-A Block Order by the Central Government under Section 4(1) of the CBA Act, 1957 in 1012.80 acres (approx.) 409.87 ha (approx.) of lands Order by the Central Government under Section 7(1) of the CBA Act, 1957 in 1010.715 acres (approx.) 409.03 ha (approx.) of lands Order by the Central Government under Section 9(1) of the CBA Act, 1957 in 1010.715 acres (approx.) 409.03 ha (approx.) of lands Order by the Central Government under Section 11(1) of the CBA Act, 1957 Gopalprasad West Block Order by the Central Government under Section 4(1) of the CBA Act, 1957 in 4695.52 acres (approx.) 1900.25 ha (approx.) of lands Order by the Central Government under Section 7(1) of the CBA Act, 1957 Order by the Central Government	Ministry of Coal	S.O. 831 S.O. 398 S.O. 311(E) S.O. 2314 S.O. 1979 S.O. 2671	Issued on 18-03-2011 (published in Gazette of India on 26-03-2011) Issued on 17-01-2012 (published in weekly Gazette of India on 28-01-2012) Issued on 31-01-2013 (published in Gazette of India on 01-02-2013) Issued on 29-10-2013 (published in weekly Gazette of India on 02-11-2013) Issued on 30-06-2003 (published in weekly Gazette of India on 19-07-2003) Issued on 15-10-2004 (published in Gazette of India on 23-10-2004)

प्रकल्प अधिकारी
Project Officer

MCL, Subhadra Area

एम. सि. एल.



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Ann-1: Copy of Allotment Order

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महाप्रबंधक (उत्खनन)
सी.एम.पी.डी.आई.एल., क्षेत्रीय संस्थान-7

18/01/22
प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. क्षेत्र

Mining Plan & Mine Closure Plan – Subhadra OCP
Modification-1, January 2022



S. No	Statutory Clearance	Ministry	Letter No.	Date
	under Section 9(1) of the CBA Act, 1957 in 2527.46 acres (approx.)/ 1022.85 ha (approx.) of lands		S.O. 155	Issued on 11-01-2007 (published in weekly Gazette of India on 20-01-2007)
	Order by the Central Government under Section 11(1) of the CBA Act, 1957		S.O. 2928	Issued on 25-09-2007 (published in weekly Gazette of India on 06-10-2007)



महाप्रबंधक (उत्खनन)
सी.एस.पी.डी.आई.एल., क्षेत्रीय संस्थान-7
18/01/22

18/1/22
प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

Allotment Order for Ukhal A Coal Mine

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12/11/22

Mining Plan & Mine Closure Plan – Subhadra OCP
Modification-1, January 2022



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

Nil

प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
प्र. नि. एल. सुभद्रा क्षेत्र

[Signature]

प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
प्र. नि. एल. सुभद्रा क्षेत्र

019/11/22

Benefits to landless encroachers

1	Ex-gratia of Rs. 1,20,000/- (Equivalent to Indra Awas Yojana) and cost of Structure
2.	Additional incentive of Rs. 25,000/-, Rs. 15,000/- & Rs. 10,000/- for shifting within the stipulated time period of 1 months, 2 month & 3 months.

Where 20 or more PDFs are resettled on their own choice at a place other than MCL resettlement site

Basic amenities like boundary wall, roads, drainage, supply of electricity and water are being provided by MCL. Provided that the expenses relating to infrastructure facilities are need based. [132nd meeting of Board of Directors of MCL, dtd. 16th September 2011.]

Staff Officer (LSR)
MCL, Subhadra Area

प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

देवाशीष रॉय
महाप्रबंधक (उत्खनन)
सी.एम.पी.डी.आई.एल., क्षेत्रीय संस्करण-7

प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

RESETTLEMENT PLAN

As per the initial assessment 1853 families will be displaced due to Subhadra OCP (25 Mty., peak capacity 25.00 Mty.). The Collector, Angul was requested in writing to provide 300 Ac of Govt land to develop R&R site for the PDFs of Subhadra Area. As per his instruction, It has been communicated by Tahasildar-Chhendipada vide. **Letter No. 6854 dtd.21.08.2020** the required quantum of sparable Govt. land i.e. 0.10 Ac/ PDFs is not available with the District administration which can serve our purpose & As per R & R policy cash in lieu of plots is to be provided to the PDFs.

(D) Cash grant in lieu of Plot :- The Project Displaced families who want to shift their own choice place, they can opted for Cash grant in lieu of Rehabilitation plot for better Re-settlement and peaceful evacuation of villagers. The details of cash compensation in lieu of Rehabilitation Plot and other assistance provided by MCL are as under:-

Benefit Details	MCL
Homestead Land will be provided in well developed R&R Colony /or Assistance for self-relocation in lieu of plot	Subject to availability, 0.10 Ac. plot to each displaced families in the R&R colony provided with basic amenities like roads, drainage system, water supply, electricity, boundary wall, playgrounds, market buildings, school buildings, worship place, community centre, pond, health centre, shopping centre, veterinary and tanks / or Cash compensation in lieu of plots Rs. 6,00,000/- Per displaced families (w.e.f. 01.11.2016) (against Rs. 91,000/- w.e.f. 25.05.2021 as per ORRp-2006)
House Building Assistance	Rs. 2,73,000/- (As per ORRp,2006 -7 th Biennial Revision)
Subsistence grant	Rs. 43,680/- (@Rs. 3640/- per month up to period of 1yr.)
Transport Allowance	Rs. 3,640/- per Displaced family
Assistance for temporary shed	Rs. 18,200/-
Incentive for early shifting	
Total	[6,00,000+ 2,73,000+43,680+3,640+18,200]= Rs. 9,38,520/-

Additional incentive for early vacation & handing over home/ homestead & agricultural land

Shifting within 01 month	Rs. 1.00 Lakhs
Shifting within 02 month	Rs. 75,000/-
Shifting within 03 monts	Rs. 50,000/-
Incentive Amount (w.e.f. 30.12.2019)	Rs. 10.00 Lakhs incentive only to those villages in which all displaced families accept cash in lieu of plot and shift to their places of own choice

[Signature]
प्रकल्प अधिकारी
Project Officer

MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

प्रकल्प अधिकारी
Project Officer

MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

[Signature]
देबाशीष रॉय
महाप्रबंधक (उत्खनन)
सी.एम.पी.डी.आई.एल., क्षेत्रीय संस्करण-7

subject to no objection from the legal heirs of the person who initially opted for annuity.

(C) Benefit for PAFs who have not been given employment by the Company (except. Cat. I & ii)

Award of coal transportation work up to the value of Rs. 10.00 Crores is given to partnership firm of Project Affected Persons who are not given employment in the company. *

A "Family" is defined as the person and his or her spouse, minor sons, unmarried daughters, minor brothers or unmarried sisters, father, mother and other members residing with him or her and dependent on him or his/ her livelihoods.

The following categories are treated as a separate family for the purpose of extending rehabilitation benefits under this policy:

- i) A major son/ major grandson irrespective of his marital status.
- ii) Major unmarried daughter/ major unmarried granddaughter/ major unmarried sister.
- iii) Physically and mentally handicapped challenged person with more than 40% disability irrespective of age and sex: (duly certified by the authorized Medical Board).
- iv) Minor orphan, who has lost both his/ her parents
- v) A widow or a woman divorcee

देवाशीष राय
महाप्रबंधक (उत्खनन)
सी.एम.पी.डी.आई.एल., क्षेत्रीय संस्करण-7

4/1/22
प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. लि. एल. सुभद्रा क्षेत्र

प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. लि. एल. सुभद्रा क्षेत्र

The order of preference will be as follows:

- (i) Category-i: Displaced families losing all land including homestead land.
- (ii) Category-ii: Displaced families losing more than 2/3rd of agricultural land and homestead land.
- (iii) Category-iii: Families losing all agricultural land but not homestead land.
- (iv) Category-iv: Displaced families losing more than 1/3rd of agricultural land and homestead land.
- (v) Category-v: Displaced families losing only homestead land but not agricultural land.
- (vi) Category-vi: Families losing agricultural land in part but not homestead land.

The Project authority will make special efforts to facilitate skill up-gradation of the nominated member of the displaced family to make him/her 'employable' in their project.

(B) Cash Grant in lieu of Employment :-(1) Onetime Cash Compensation

The Board of directors of MCL approved Rs.16 lakhs for all eligible (Cat-I & II) (w.e.f. 01.11.2016) (as against Rs. 9,10,000/- in State Govt. as per ORRP,2006- 7th Biennial Revision)) as cash compensation in lieu of employment under priority categories as per the provision of State R&R Policy.

(2) Annuity

The Category- A & B of ORRP Policy,1989 & 1998 and Category-I & II of ORRP Policy, 2006 land oustees who are considered for employment will be entitled for annuity amount of Rs.12,000/- per month with Rs.1000/- once in 2 years to cover inflation if opted for annuity scheme of MCL till the age of 60 yrs of land oustees. (w.e.f. 06.03.2020, MCL has increased the annuity amount from Rs. 12000/- to Rs. 21,000/-)

In case of death of land oustees at any age before 60 yrs., the annuity amount of 75% for the balance years will be provided to his/her spouse on the condition that she/he not employed in MCL as land oustee or otherwise. In the event of his/her spouse/nominee, one major son or major unmarried daughter or widow of son or grandson (son's son) will be eligible for the benefits for the balance annuity

प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

देवा नि. नं. 18/01/22

महाप्रबंधक (उत्खनन)
ज.एम.पी.डी.आई.एल., क्षेत्रीय कार्यालय-7

18/01/22

प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

REHABILITATION PLAN

A. Subhadra OCP (25 MTY, Peak Capacity 25 MTY)

The following villages will be affected due to Subhadra OCP (25 MTY, Peak Capacity 25.00 MTY), which includes near about 697 Ha. Tenancy land.

Sl.No.	Name of Villages	No. of families to be affected/displaced (Homestead land & structure)	Remark
01	Kankarei	683	All the figures are as per PR of 25MTY. Actual figure can be assessed after socio- economic study.
02	Chhotabereni	116	
03	Kaunsidhipa	48	
04	Pirakhaman	109	
05	Golagadia	103	
06	Raijharan	523	
07	Kumunda	161	
08	Balichandrapur	49	
09	Baghuabola	61	
10	Bhalugadia	Covered under Hingula Area.	
	Total :	1853	

1853 families have been identified for displacement due to Subhadra OCP (25 MTY, Peak Capacity 25.00 MTY). Compensation against land and structure & other interests like well, pond etc. in the aforementioned villages except Bhalugadia is to be provided as per provisions of CBA (A&D) Act, 1957 & RFCT-LARR Act- 2013 & guidelines provided by MoC. The structure & tree compensation shall be prepared as per SOR-2013 & as per rate provided by Horticulture deptt. of dist. Angul. The R&R benefits will be provided as per norms under R&R Policy -2006 of Govt. of Odisha.

(A). Employment :-

Employment will be provided to the affected/displaced families as per eligibility norms under Odisha R&R Policy-2006. Displaced and other affected families shall be eligible for employment, by MCL. For the purpose of employment, each family will nominate one member of the family.

The Project proponent will give preference to the nominated members of the displaced and other affected families in the matter of employment.

प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

सहायक प्रबंधक (उत्खनन)
सी.एम.पी.डी.आई.एल., क्षेत्रीय संस्करण-7

प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

REHABILITATION & RESETTLEMENT PLAN

**SUBHADRA OCP,
SUBHADRA AREA (25MTY)**

MAHADI COALFIELDS LIMITED

[Signature] 18/1/22
देवाजी राय

महाप्रबंधक (उत्खनन)
सी.एस.पी.डी.आई.एल., क्षेत्रीय संस्करण-7

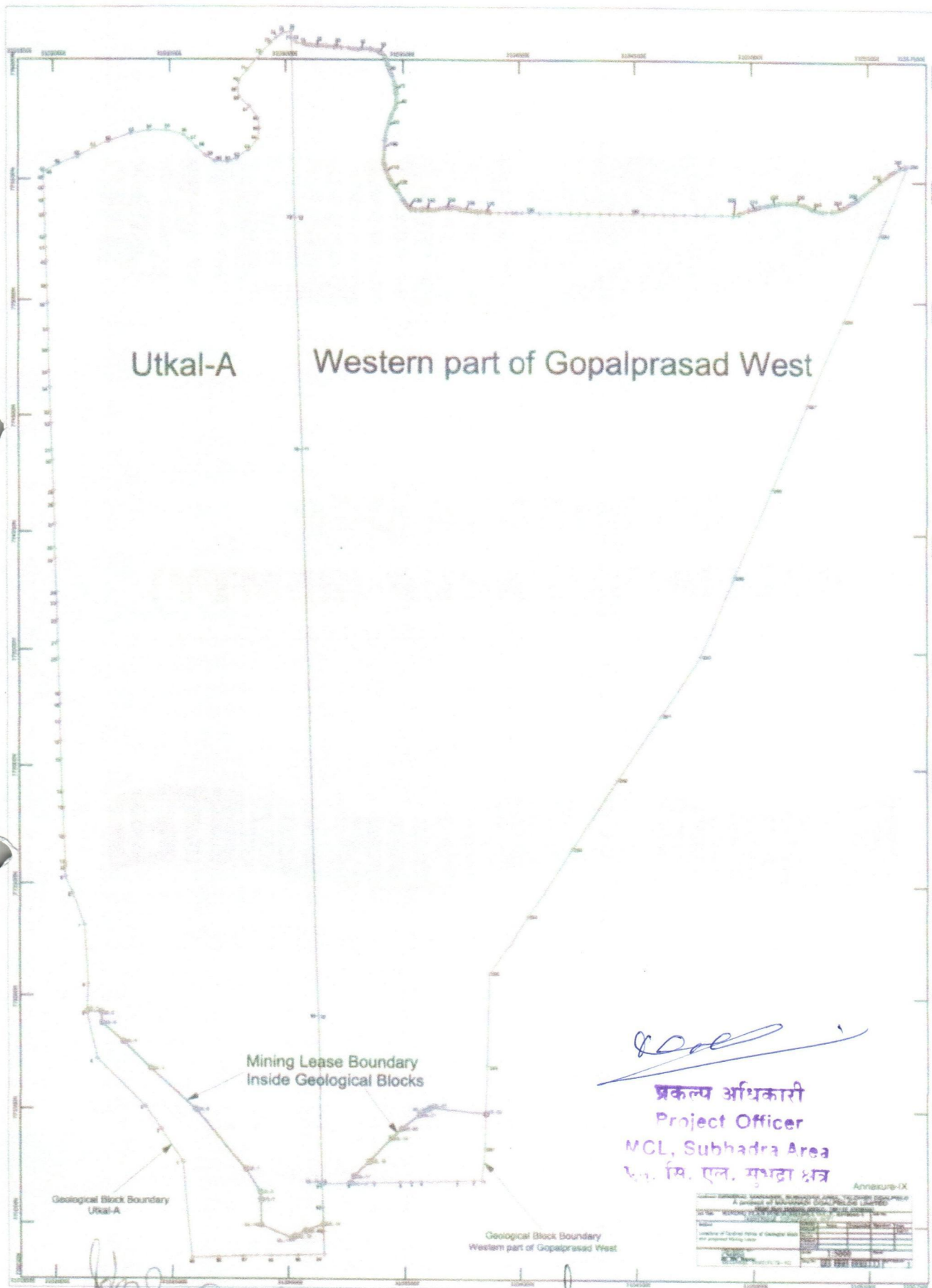
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प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

[Signature]

प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

316
187



[Signature]
प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
प्र. सि. एल. सुभद्रा क्षेत्र

Annexure IX

A list of minerals in the area of the project

Sl. No.	Mineral	Quantity	Unit
1	Iron Ore	1000	MT
2	Coal	1000	MT
3	Other Minerals	1000	MT

[Signature]
देवाशीष राय 18/01/22
महाप्रबंधक (उत्खनन)
सी.एम.पी.डी.आई.एल., क्षेत्रीय संस्करण-7

[Signature]
प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area

ANNEXURE-VIII

(Change of name of the Mine)

महानदी कोलफील्ड्स लिमिटेड
महानदी कोलफील्ड्स लिमिटेड
Mahanadi Coalfields Limited
(A subsidiary of Coal India Limited)

महाप्रबंधक (परियोजना एवं योजना) का कार्यालय
Office of the General Manager (P&P)
At/Po: Jagruti Vihar, Buri, MCL
Dist: Sambalpur - 768 020 (Odisha)
CIN: U10102OR1992GOI003038
Ph: +91 (663) 254 2808 / Fax: +91 (663) 254 2767.
e-mail: gm-p&p@mcl.coalindia.in; gmproject@mcl.coalindia.in
gm-p&p.mcl.coalindia.in
Website: www.mahanadicoal.in



क्रमांक एम.सी.एल. मुख्यालय/सम्बलपुर/महाप्रबंधक (परियोजना एवं योजना) 19 539-H दिनांक: 26-Sep-19

सेवा में,
क्षेत्रीय निदेशक,
क्षेत्रीय संस्थान- 7,
सेंट्रल माईन प्लानिंग एंड डिजाइन इंस्टिट्यूट लिमिटेड (सी.एम.पी.डी.आई.एल.),
सामंतपुरी (गान्धी पार्क के नजदिक), आर. आर. एल. भुवनेश्वर - 751 013 (ओडिशा)

विषय: Preparation of Project Report and Mining plan of Subhadra OCP(25 MTY).

संदर्भ: 1. Letter No: MCL/HQ/EE/2019/2454 Dtd 20.09.2019

2. MOM: MCL/SBP/DTOP/2019/271, Dtd. 24.09.2019

महोदय,

Please find enclosed herewith the Office Order and MOM referred above, regarding the opening of new Area and project in MCL combining Utkal-A and West part of Gopalprasad(W). The Project Report of Gopalprasad west OCP (25 MTY) which is under preparation at RI-VII, CMPDI, to be named as Subhadra OCP (25 MTY). The new timeline for preparation of Project Report and Mining Plan for Subhadra OCP has been mentioned in the Minutes enclosed.

Therefore, you are requested to prepare the reports as per the new timeline and submit at the earliest for Competent Approval.

संलग्न: यथोपरि

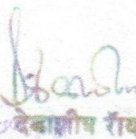
प्रतिलिपि:

कार्यालय कापी

मो प्रो (सुभद्रा क्षेत्र)

भवदीय

महाप्रबंधक(परियोजना एवं योजना)

 18/01/22

महाप्रबंधक (उत्खनन)

सी.एम.पी.डी.आई.एल., क्षेत्रीय संस्थान-7

18/01/22

प्रकल्प अधिकारी
Project Officer

MCL, Subhadra Area

एम. सि. एल. सुभद्रा क्षेत्र


प्रकल्प अधिकारी
Project Officer

MCL, Subhadra Area

एम. सि. एल. सुभद्रा क्षेत्र

ANNEXURE-VII

SI	Activity	Start from	Duration
A	Progressive Closure Activities		
1.	Avenue Plantation		
	a. In 7.5m safety zone	Yr-1	3 years
	b. Along surface roads	Yr-1	3 years
	c. Around structures like CHP, Workshop, Offices, Quarters	Yr-1	3 years
2.	Landscaping with recreational activities	Yr-3	5 years
3.	Top soil management	Yr-1	36 years
4.	OB dump stabilization – temporary OB dump	Yr-2	11 years
5.	Garland drains, Foot drains, retaining walls	Yr-2	11 years
6.	Plantation on re-handled OB dump	Yr-14	2 years
7.	Fencing along lease boundary	Yr-1	36 years
8.	Fencing around open pit	Yr-1	36 years
9.	Establish STP and ETP, operate and maintain	Yr-2	36 years
10.	Backfilling with grading & stabilization	Yr-5	32 years
11.	Plantation on final slope of backfilled OB dump	Yr-5	32 years
12.	Air & Water Quality monitoring	Yr-1	36 years
B	Final Closure Activities		
1.	Re-handling of backfilled OB top to fill void further	Yr-31	3 years
2.	Gradation of backfill top, spread top soil, add fertilizer, arrange for irrigation to make it fit for agriculture	Yr-37	3 years
3.	Dismantling of CHP, Workshops, Stores, Scrap yard, siding lines, ETP plant	Yr-37	2 years
4.	Leveling and grading on infrastructure	Yr-37	2 years
5.	Plantation on reclaimed infrastructure area	Yr-39	1 year
6.	Strengthening of fencing around open pit	Yr-37	1 year
7.	Stabilization, plantation & grass carpeting of backfilled OB dump slope	Yr-37	3 years
8.	Renovation and handing over office buildings for future use	Yr-37	3 years
9.	Arrangement for converting final void to reservoir and pumping system for maintenance of plantations	Yr-37	3 years
10.	Air & Water Quality monitoring	Yr-37	3 years
11.	Entrepreneurship development (vocational/skill development training) for sustainable income of affected people	Yr-37	3 years

Annexure-VII

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प्रकल्प अधिकारी
Project Officer

MCL, Subhadra Area
एन. सि. एल. सुभद्रा क्षेत्र

प्रकल्प अधिकारी
Project Officer

MCL, Subhadra Area
एन. सि. एल. सुभद्रा

देवाशीष राय

महाप्रबंधक (अखण्ड)

सी.एम.पी.डी.आई.एल., क्षेत्रीय संस्कार-7

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Mining Plan & Mine Closure Plan – Subhadra OCP
Modification-1, January 2022



ANNEXURE-VI

(Undertaking – Environment Protection)

Annexure- 6

<p>ମହାନଦୀ କୋଲଫିଲ୍ଡସ୍ ଲିମିଟେଡ୍ Mahanadi Coalfields Limited (A subsidiary of Coal India Limited)</p>	<p>Office of the General Manager (Subhadra Area) NEAR BIJU MAIDAN PO/Dist: Angul – 759122 (Odisha) Website: www.mcl.co.in Email Id: gmsubhadraarea@gmail.com gm-subhadra.mcl@coalindia.in</p>	
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**CERTIFICATE OF COMMITMENT REGARDING ENVIROMENT &
FOREST CLEARANCE CONDITIONS.**

This is to certify that the Subhadra OCP, Subhadra Area will comply all Environment & Forest conditions as stipulated in respective clearances issued from Ministry of Environment, Forest & Climate change, New Delhi.

General Manager
Subhadra Area

प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

देवाशीष राय
महाप्रबंधक (उत्खनन)
सी.एम.पी.बी.आई.एल., क्षेत्रीय संस्थान-7

19/1/22
प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

ANNEXURE-V

(Copy of Earlier Approval)

No. 43012/(1)/2008-CPAM
Government of India
Ministry of Coal
Shastri Bhawan

New Delhi, Dated 23rd April, 2009

To,
The Chief Executive Officer,
MJSJ Coal Ltd.,
At/PO – South Balanda,
Distt. Angul,
ORISSA - 759116


**Subject :- Approval of the Mining Plan of Gopalprasad Opencast
Project (capacity 15.0 Mty) in the name of MJSJ Coal Limited.**

Sir,

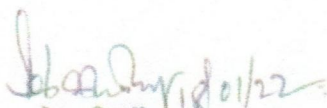
You may please refer to letter No. CMD/MCL/ES/5580 dated 13.03.2009 on the subject mentioned above. This is to convey the approval of Mining Plan of Gopalprasad Opencast Project (capacity 15.0 Mty) of MJSJ Coal Limited / a subsidiary of Mahanadi Coalfields Ltd. subject to following conditions :-

- i) The mining company shall take all necessary precautions regarding safety of mine workings persons deployed therein.
 - ii) The approval of the Mining Plans is without prejudice to the requirement of approval from competent/prescribed authority under relevant rules / regulations etc.
2. Four copies of the approved mining plan are enclosed herewith.

Yours faithfully,

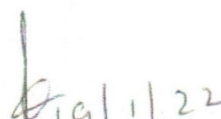

(P.R. Mandal)
23/4/2009
Adviser (Projects)

Copy to : Chairman-cum-Managing Director
Mahanadi Coalfields Limited,
AT/P.O. Jagriti Vihar, Burla, Distt. Sambalpur
ORISSA


देबाशीष राय
महाप्रबंधक (उत्खनन)


सी.एम.पी.डी.आई.एल., क्षेत्रीय संस्वान-7

Copy of Earlier Approval


4/11/22

प्रकल्प अधिकारी
Project Officer

MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र


प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

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एम. सि. एल. सुभद्रा क्षेत्र

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Mining Plan & Mine Closure Plan - Subhadra OCP
Modification-1, January 2022



File No. CPAM-34011/28/2019-CPAM

Government of India

Ministry of Coal

Room No. 622-A, Shastri Bhawan,
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. CIL:CH:1307 dated 31.08.2020 on the 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. 34012/(9)/2012-CPAM dated 31.05.2012.

This has the approval of competent authority.

Yours Sincerely,

Hitlar Singh
(Hitlar Singh)

Under Secretary to the Govt. of India

E-mail id: hitlar.singh85@nic.in

Debasish Roy
18/9/22

देबाशीष रॉय
महाप्रबंधक (उत्खनन)

मि. सी. एस. पी. डी. आई. एल., क्षेत्रीय संस्करण-7

Approval of The Company Board

Ann-IV

19/11/22

प्रकल्प अधिकारी
Project Officer

MCL, Subhadra Area

एम. सि. एल. सुभद्रा क्षेत्र

19/11/22
प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र

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Mining Plan & Mine Closure Plan – Subhadra OCP
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Annexure 4: Particulars of statutory licences, permits, permissions, approvals or consents issued by the State Government to be obtained on application by the allottee.

Nil

प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र



Allotment Order for Ukai A Coal Mine

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Ann-I: Copy of Allotment Order

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9/1/22

देवाशीष रॉय
महाप्रबंधक (उत्खनन)
सी.एम.पी.डी.आई.एल. लेवीय संस्थान-7

प्रकल्प अधिकारी
Project Officer
MCL, Subhadra Area
एम. सि. एल. सुभद्रा क्षेत्र