



वसुधैव कुटुम्बकम्  
ONE EARTH • ONE FAMILY • ONE FUTURE

**CENTRAL COALFIELDS LIMITED**  
**सेंट्रल कोल्फील्ड्स लिमिटेड**  
(A Miniratna Subsidiary Company of Coal India Limited)  
कोल इंडिया लिमिटेड की अनुषांगी, एक मिनी रत्न कम्पनी  
Darbhanga House, Ranchi - 834029  
Area: Kathara, PO-Kathara, Dist Bokaro, 829116  
CIN No. U10200JH1956GOI000581  
OFFICE OF PROJECT OFFICER, SWG-GVP PH II, KATHARA  
P.O-SAWANG COLLIERY, PIN-829128  
Website <http://www.centralcoalfields.in>  
Email: [gmkh.ccl@coalindia.in](mailto:gmkh.ccl@coalindia.in)  
Email: [projectofficeswg@gmail.com](mailto:projectofficeswg@gmail.com)

Ref: PO/SWG/2A/5712

Date:- 2A-12-24

To,  
The Regional Officer,  
Regional Office (ECZ)  
Ministry of Environment, Forest and Climate Change  
Bungalow No- A-2, Shyamali Colony, Doranda  
Ranchi, Jharkhand 834002

Registered Post

**Sub- Submission of Six monthly EC Compliance (April 2024 to September 2024) and monitoring reports of Govindpur Phase-II OCP of Kathara Area, CCL**

**Reference:**

1. EC Letter no.- J-11015/490/2008-IA.II(M) dated 24 Dec 2014

Respected Sir,

It is to inform that we are submitting Six monthly EC Compliance (April 2024 to September 2024) report for the conditions stipulated in the Environment Clearance of Govindpur Phase-II OCP of Kathara Area, CCL with monitoring data report. The copy of the compliance report is also being sent in the soft format through E-Mail ([ro.ranchi-mef@gov.in](mailto:ro.ranchi-mef@gov.in)) for your kind perusal.

Thanking you

Yours faithfully

  
24.12.2024  
Project Officer  
Govindpur Phase-II OCP

- Enc:- 1) Six Monthly Compliance Report  
2) All Annexures

**Copy for Kind Information:-**

1. The Member Secretary, JSPCB HEC colony, CTI Colony, Sector-3, Dhurwa, Ranchi 834004
2. The Regional Officer, JSPCB H.I.G.-I Sardar Patel Nagar, Dhanbad-826001
3. The HOD(Env & Forest), CCL HQ, Ranchi
4. The General Manager, Kathara Area
5. The S.O.(Env.), Kathara Area
6. The Office copy

**SIX MONTHLY REPORTS  
OF  
EMP CLEARANCE  
J-11015/490/2008-IA.II (M)  
FOR THE PERIOD APRIL 2024 TO SEPTEMBER 2024**



**APRIL 2024 TO SEPTEMBER 2024**

**GOVINDPUR PH-II OCP OF KATHARA AREA  
CENTRAL COALFIELDS LIMITED  
(A Miniratna Company)**

Status of compliance of the terms and conditions given in the Environmental clearance letter no J-11015/490/2008-IA.II(M) dated 24<sup>th</sup> December, 2014 issued by MOEF, Govt. of India, New Delhi for expansion of production capacity of Govindpur Ph-II OCP in Kathara Area from 2.20 MTPA to 2.5 MTPA for the period from APRIL 2024 TO SEPTEMBER 2024.

#### SPECIFIC CONDITIONS

SL.No	Condition	Status
i)	Grant of EC is only for non-forest area plus forest area within the mining lease for which FC is available. No mining activities will be allowed in the forest area for which FC is not available.	No mining operations are undertaken in forest land for which FC is not available.
ii)	The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.	Production from the mine will not exceed that limit. (Production of 2023-24 is 0.944 MT)
iii)	No mining operations shall be undertaken in 45.083 ha of forest land until prior clearance has been obtained under the provisions of FC Act, 1980.	Agreed
iv)	Mining shall be carried out as per statute from the streams/nallah flowing within the lease and maintaining a safe distance from River Konar flowing along the lease boundary.	Mining is being done as per statute and plan for project report prepared by CMPDIL. Mining is being done at a safe distance i.e. 100 m from Konar River flowing along the lease boundary.
v)	No washery shall be established within the ML without prior environmental clearances from this Ministry.	No Washery has been established.
vi)	Topsoil shall be stacked properly with proper slope at earmarked site(s) and shall not be kept active and shall be used for reclamation and development of green belt.	At present, no top soil is being mined out. Wherever top soil will be available will be stacked properly for reclamation purpose.
vii)	The commitment and action plan submitted by the proponent shall be complied within one year from the date of the issue of the EC and report be submitted to the MoEF. The EAC shall review the compliance report.	As per Minutes of the 21 <sup>st</sup> EAC (Thermal & Coal Mining projects) meeting held on 18 <sup>th</sup> - 19 <sup>th</sup> September, 2014 in New Delhi, the proponent submitted the action taken report vis-à-vis the Compliance to the Commitment made during the Public Hearing, which was deliberated in the EAC meeting(21.10.3). Attached as <b>Annexure- I</b>
viii)	Fixed sprinkler system shall become operational from June 2014.	Fix water sprinklers has been made operational. Photographs attached as <b>Annexure- II</b>
ix)	The proponent shall ensure that colony people are supplied with treated drinking water.	Drinking water is supplied after proper treatment through filter plant.
x)	Piezometers should be installed and made functional by June, 2014	Piezometer has been installed in Filter Plant, Zero Point. Photographs are attached as <b>Annexure-III</b>
xi)	The Sewage Treatment Plant shall be operational in 300 days from the issue of the EC.	At colony, sewages are treated by septic tank and soak-pit method. Photographs of ETP enclosed as <b>Annexure-IV</b> and An MOU dt. 22/04/2017 between CCL and Mecon Limited for awarding the works related to



		construction of new STP in respect of Govindpur Project. Construction work of STP is in progress. Photographs of STP construction work are attached as <b>Annexure-V</b>
xii)	The baseline survey and evaluation of projects for CSR be completed within one year.	EIA/EMP report related to baseline survey & evaluation of the projects for CSR is attached as <b>Annexure- VI</b>  CSR works for last year and work proposed in current year enclosed as <b>Annexure VII</b>
xiii)	Monitoring of land use pattern shall be carried out and report submitted within one year.	Monitoring of land use pattern was carried out in year 2024 and is attached as <b>Annexure-VIII</b> .
xiv)	Monitoring of AAQ shall be done every month and report be submitted to the SPCB and the RO, MoEF concerned.	Monitoring of AAQ is done Quarterly and report is submitted to the SPCB and the RO, MoEF along with six monthly compliance reports. Monitoring Report is attached as <b>Annexure -IX</b>
xv)	PM <sub>2.5</sub> shall be monitored from April 2014.	PM <sub>2.5</sub> is monitored and reports are enclosed as <b>Annexure-IX</b>
xvi)	Environment Officers exclusively for environment related works be posted for monitoring and mitigation purpose.	Environment Officer for environment related works are posted for monitoring and mitigation purpose.
xvii)	Coal transportation in pit shall be done by dumper, Surface to Siding by trucks and siding to loading by wagon.	Coal transportation in pit is being done by dumpers, Surface to siding by trucks and siding to loading by wagon.
xviii)	The production of coal shall be within the same Mining Lease area.	Mining is being done as per statute and plan for project report.
xix)	The OB shall be completely re-handled at the end of the mining.	It will be executed as per the plan submitted in the EIA.
xx)	Final mine void depth will not be more than 40 m. The void area will be converted into water body. The rest of the area will be back filled up to the ground level and covered with about a meter thick top soil and put to use.	Mine is currently operational. The Project Proponent will adhere the condition laid down in point "xx".
xxi)	Garland drains shall be provided.	Garland land of 2 km length constructed in financial year 2023-24. Cleaning of Garland drains done before monsoon 2024. Photographs of garland drain enclosed as <b>Annexure X</b>
xxii)	The land after mining shall be brought back for agriculture purpose.	The land after mining will be done as per EIA.
xxiii)	Mine water should be treated for discharge into the lagoon. The quality of lagoon water shall be regularly monitored and mitigation measures taken.	Mine water is settled in sumps then it is discharged in lagoon.
xxiv)	The CSR cost should be Rs 5 per Tonnes of Coal produced which should be adjusted as per the annual inflation.	CSR fund is calculated and spent as per company CSR policy of company.
xxv)	Everybody in the core area should be provided with mask for protection against fugitive dust emissions.	Dust masks are provided to all workers working in the dusty areas.



xxvi)	Dust mask to be provided to everyone working in the mining area.	Dust masks are provided to all workers working in the dusty areas.
xxvii)	The supervisory staff should be held personally responsible for ensuring compulsory wearing of dust mask in the core area.	The supervisory staff is responsible for ensuring compulsory wearing of dust mask in the core area.
xxviii)	People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mine area.	We have established periodical medical examination system with occupational health check facilities initial medical examination for occupational diseases is done at the time of new recruitment and periodical medical examination of 1/5 total manpower is done every year. Camp details, PME report with 2 workers enclosed as <b>Annexure XI</b>
xxix)	The mining area should be grounded by green belt having thick closed thick canopy of the tree cover.	Green belt has been developed around the mining area. Photographs are attached as <b>Annexure-XII</b>
xxx)	The embankment constructed along the river boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side and stabilized with plantation so as to withstand the peak water flow and prevent mine inundation.	Appropriate embankment has been provided along the side of the river/nallah flowing adjacent to mine.
xxxi)	There shall be no overflow of OB into the river and into the agricultural fields and massive plantation of native species shall be taken up in the area between the river and the project.	There is no overflow of OB into the river & agricultural land as it has been stacked at earmarked areas.
xxxii)	OB shall be stacked at one earmarked external OB dumpsite(s) only. The ultimate slope of the dump shall not exceed 28°. Monitoring and management of existing reclaimed dumpsites shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its concerned Regional office on yearly basis.	OB is being stacked at earmarked OB dumpsite(s) only (inside the mine lease boundary). Monitoring and management of vegetation will be done after reclamation.  Compliance status is being submitted to the Ministry of Environment & Forests and its concerned Regional office in every six months.
xxxiii)	Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted and maintained properly. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall	Photographs of Catch drain are enclosed as <b>Annexure-XIII</b> . Construction of a new siltation pond under process.  The total sump capacity is 2,77,200 cub mtrs. Adequate time is given for settlement of silt. Every year sump is being shifted as quarry progresses. Sump dimension is  360m x 55m x 14m  The collected water is being utilized for watering the mine area, roads, green belt development. Regular drain cleaning is being done before break of monsoon.



	also provide adequate retention period to allow proper settling of silt material.	Garland land of 2 km length constructed in financial year 2023-24. Cleaning of Garland drains done before monsoon 2024. Photographs of garland drain enclosed as <b>Annexure X</b>
xxxiv)	Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check runoff and siltation shall be based on the rainfall data.	1.05 km Toe wall has been constructed. Stone pitching has already been done to check run-off and siltation based on the rainfall data. Photographs attached as <b>Annexure-XIV</b>
xxxv)	Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.	There is no CHP in the project so no crusher is required.
xxxvi)	Drills shall be wet operated.	Wet drill is undertaken
xxxvii)	The project authorities shall undertake regular repairing and tarring of roads used for mineral transportation. A 3-tier green belt comprising of a mix of native species shall be developed all along the major approach roads,	Regular repairing and tarring of roads are done & being maintained.
xxxviii)	Controlled blasting shall be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.	Control blasting is under taken in daytime under supervision of the blasting officer, proper blast design is prepared to control ground vibration and arrest fly rocks and boulders.
xxxix)	A Progressive afforestation plan shall be implemented covering an area of 197.26 ha at the end of mining, which includes reclaimed External OB dump area (87 ha), Internal OB dump area (18.03 ha), industrial infrastructure (3.12 Ha).and Green belt (89.11 ha) and in township located outside the lease by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha. Massive plantation shall be carried out in open spaces inland around the mine and a 3-tier avenue plantation along the main approach roads to the mine.	The density of plantations under taken is 2500 plants per ha. So far 219.78 ha of area have already been planted in the nearby areas. Plantations, as stipulated, will be under taken time to time. Total plantation = 219.78 ha (170 ha in Sawang Colliery & 49.78 ha in Govindpur Project). Species of plants are Sisam, Gambhar, Bakain, Mahua, Bamboo, Karange, Sal, Kathal, Mango etc. However, after post mining stage afforestation shall be done on backfilled areas, ext. OB dump etc.  Photographs of progressive afforestation are attached as <b>Annexure-XV</b>
xl)	An estimated total 28.66 Mm <sup>3</sup> of OB will be generated during the entire life of the mine. Out of which 24.00 Mm <sup>3</sup> of OB will be dumped in one external OB Dumps an earmarked area covering 87ha of land with height of 60m. 4.66Mm <sup>3</sup> of will be one internal OB dump in covering an area of 16.53 ha with height of 0-10m above ground	Photographs of grassing & vegetation on OB dumps are attached as <b>Annexure. XVI</b>



	level. The maximum height of external OB dump for hard OB will not exceed 90m and that for soft OB shall not exceed 60 m. The maximum slope of the dump shall not exceed 28 degrees. Monitoring and management of reclaimed dump sites shall continue till the vegetation becomes self-sustaining and compliance status shall be submitted to MOEF and its Regional Office on yearly basis.	
xli)	The proponent should prepare restoration and reclamation plan for the degraded area. The land to be used in a productive and sustainable manner.	The restoration and reclamation plan for degraded area have been made & submitted in EIA.
xlii)	Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.	Compensatory Ecological & Restoration of wasteland, other degraded land OB dump have been done over an area of 219.78 ha (170 ha in Sawang Colliery & 49.78 ha in Govindpur Project) with density of 2500/ha saplings.
xliii)	The mining should be phased out in sustainable manner. No extra over burden dumps are permitted.	Mining will be phased as submitted in EIA. No extra OB dumps will be formed.
xliv)	No groundwater shall be used for mining operations. Rainwater harvesting structures including check dams for recharge of ground water shall be erected within and around the ML in case the water table shows a declining trend. Additional water if any required during mining operations shall be met from mine sump water or from rainwater.	No ground water (bore well) is used for mining operations. Photographs of existing rain water harvesting are attached as <b>Annexure- XVII</b>  Construction of rainwater harvesting structures is in progress whose work order is attached as <b>Annexure- XVIII</b>
xlvi)	The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	Water is supplied to nearby villages by pipeline through filter plant.

xlvi)	Of the total quarry area of 76.42 ha. the backfilled quarry area of 18.03 ha shall be reclaimed with plantation and a void of 39.71 ha at a depth of 30-40 m which is proposed to be converted into a water body shall be gently sloped and the upper benches shall be terraced and stabilized with plantation/afforestation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.	Of the total quarry area of 76.42 ha. the backfilled quarry area of 18.03 ha will be reclaimed with plantation  Void of 39.71 ha at a depth of 30-40 m will be converted into a water body shall be gently sloped and the upper benches shall be terraced and stabilized with plantation.										
xlvi)	Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board quarterly within one month of monitoring.	Water level (from surface) monitored in 03 villages wells is given below- <table><tr><th>Name of village/locality</th><th>Water level measured from surface</th></tr><tr><td></td><td>Oct '2024</td></tr><tr><td>Sawang, 1-B colony</td><td>10'</td></tr><tr><td>Sawang, Officer colony</td><td>15'</td></tr><tr><td>Sawang, 1-C colony</td><td>06'</td></tr></table>	Name of village/locality	Water level measured from surface		Oct '2024	Sawang, 1-B colony	10'	Sawang, Officer colony	15'	Sawang, 1-C colony	06'
Name of village/locality	Water level measured from surface											
	Oct '2024											
Sawang, 1-B colony	10'											
Sawang, Officer colony	15'											
Sawang, 1-C colony	06'											
xlvi)	The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring indicates a decline in water table. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	Rain water harvesting has been constructed in Samudayik Bhawan, Sawang and at Project office, Sawang. Photographs are attached as <b>Annexure-XVII</b>										
xlvi)	Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.	<ul style="list-style-type: none"><li>At colony sewages are treated by septic tank and soak-pit method. STP is being constructed at Govindpur Colony. Photographs of STP construction work are attached as <b>Annexure-V</b></li><li>Industrial wastewater (workshop and wastewater from the mine) is properly collected and treated in Effluent treatment Plant commissioned in 2022.</li><li>Oil &amp; Grease trap is included in ETP</li><li>Photographs are attached as <b>Annexure-IV</b></li></ul>										
1)	Besides carrying out regular periodic health check-up of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check-up for	We have established periodical medical examination system with occupational health check facilities initial medical examination for occupational diseases is done at the time of new recruitment and periodical medical examination of 1/5 total manpower is done every year.  PME Target- 151 Achieved-162 (Departmental)										



	Occupational diseases and hearing impairment, if any, through a specialized agency /institution within the District/State and the results reported to this Ministry and to DGMS.	PME Target- 88 Achieved- 88 (Outsourcing) (in 2023)
li)	A project specific R&R prepared for the project shall be implemented. R&R for a cost of not less than Rs. 252.52 lakhs shall be completed within an agreed time schedule. Land ousters shall be compensated as per the norms laid out R&R Policy of CIL or the National R&R Policy or R&R Policy of the State Government whichever is higher.	Implemented as per R&R Plan for the project.
lii)	For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1: 5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time series), and the report submitted to MOEF and its concerned Regional office	Land Restoration / Reclamation Monitoring Report based on Satellite Data for the Year 2024 is attached as <b>Annexure VIII</b>
liii)	A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests within 6 months of grant of Environmental Clearance.	A copy of Final mine Closure Plan along with details of Corpus Fund has been submitted to the ministry of Environment & Forests. Mine Closure Plan is attached as <b>Annexure-XIX</b>
liv)	The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine.	Local Panchayats are consulted to identify socio-economic and welfare measures under CSR.
lv)	The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent.	The Commitment made by the proponent to the issues raised during Public Hearing is continuously being implemented by the Proponent.

Ivi)	<p><b>Corporate Environment Responsibility:</b></p> <p>a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.</p> <p>b) The Environment Policy shall prescribe for standard operating process / procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.</p> <p>c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.</p> <p>d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances /violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.</p>	<ul style="list-style-type: none"> <li>• A Corporate Environment Policy of Coal India Limited is available in the Company's website.</li> <li>• A Nodal Officer is posted at unit level and an Area Environment Officer is posted at Area Level to ensure the compliance of EC conditions. A Separate Environment cell is created at Head Quarter Level. HOD (E&amp;F) reports directly to the head of the company.</li> </ul>
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**(B). GENERAL CONDITIONS**

i.	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.	There will be no change in mining technology and scope of working without prior approval of the ministry of Environment and Forests.
ii.	No change in the calendar plan of production for quantum of mineral coal shall be made.	There will be no change in the calendar plan of production for quantum of mineral coal.
iii.	Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM10, PM2.5, SO2 and NOx monitoring. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc carried out at least once in six months.	<p>It is being under taken by CMPDI on Quarterly basis. The results of monitoring reports are enclosed.</p> <p>AAQ monitoring report is attached as <b>Annexure-IX</b></p>
iv.	<p>Data on ambient air quality (PM10, PM 2.5, SO2 and NOx) and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly submitted to the Ministry including its concerned</p> <p>Regional Office and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random</p>	<p>Data on ambient air quality (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>) and other monitoring data are regularly submitted as enclosure with the Six-Monthly Compliance Report. AAQ monitoring report is attached as <b>Annexure-IX</b></p>




	verification of samples through analysis from independent laboratories	
	recognized under the EPA rules, 1986 shall be furnished as part of compliance report.	
v.	Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.	Adequate measures have been taken; noise levels are regularly monitored and kept below 85 dBA with work environment. Ear plugs / muffs are provided to mine workers for regular use. Quarterly measuring report is enclosed as <b>Annexure- XX</b>
vi	Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.	<ul style="list-style-type: none"> <li>Industrial wastewater (workshop and wastewater from the mine) is properly collected and treated in Effluent treatment Plant commissioned in 2022.</li> <li>Oil &amp; Grease trap is included in ETP</li> <li>Photographs are attached as <b>Annexure-IV</b></li> </ul>
vii.	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.	<p>Registers are being maintained for keeping records of PUCC which is attached as <b>Annexure-XXI</b></p> <p>Photographs of the vehicles used for transportation of minerals covered with tarpaulins are attached as <b>Annexure-XXII</b></p>
viii.	Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State  Pollution Control Board and data got analyzed through a laboratory recognized under EPA Rules, 1986.	<p>Environmental laboratory with monitoring and analyzing equipment's is operative in CMPDIL, which is a recognized laboratory and we are taking the services of CMPDIL for above purpose.</p> <p>AAQ monitoring report is attached as <b>Annexure-IX</b></p>
ix.	Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.	Dust masks have been issued to exposed workmen. Occupational health monitoring is done by initial Medical Examination and periodic medical examination through our trained Doctors in our hospitals/dispensaries. PME reports of workers are attached as <b>Annexure XI</b>
x.	Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.	<p>We have established periodical medical examination system with occupational health check facilities initial medical examination for occupational diseases is done at the time of new recruitment and periodical medical examination of 1/5 total manpower is done every year.</p> <p>PME Target- 151 Achieved-162 (Departmental) PME Target- 88 Achieved- 88 (Outsourcing) (In 2023)</p>





	A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the company.	Separate environmental cell has been established There is an Area Environmental Officer to look after the environmental problems.
xii.	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its concerned Regional Office.	Year-wise expenditure is attached as <b>Annexure- XXIII</b>
xiii.	The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the ministry of Environment & Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> .	The advertisement about environment clearance has been published in local newspaper, Hindustan and English newspaper on 16.04.2024. Advertisement is attached as <b>Annexure- XXIV</b>
xiv.	A copy of the environmental clearance letter shall be marked to concern Panchayats/Zila Parishad, Municipal Corporation or Urban local body and local NGO, if any, from whom any suggestion /representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.	Representation has been given to local Panchayats. Copy of EC letter submitted to local panchayat and a receipt copy is attached as <b>Annexure- XXV</b>
xv.	A copy of the environmental clearance letter shall be shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Sector and Collector's Office/Tehsildar's Office for 30 days.	Copy of environmental clearance has been submitted at JSPCB Ranchi.
xvi.	The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM10, PM2.5, SO2 and NOx(ambient) and critical sectoral	All data is being displayed at the entrance of the project premises and mines office. EC letter is already uploaded on the company's website.

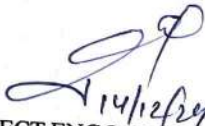



	parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.	
xvii.	The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Office s of CPCB and the SPCB.	Six monthly compliance reports are being submitted regularly.
xviii.	The Regional Office of this Ministry located in the Region shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/ information/monitoring reports.	Full cooperation to the Regional office of MoEF in monitoring of the stipulated conditions by providing the requisite data/ information/ monitoring reports.
xix	The Environmental statement for each financial year ending 31 March in Form -V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEF by e-mail.	The Environmental statement for each financial year ending 31 March in Form-V is submitted to Jharkhand State Pollution Control Board every year before 30 <sup>th</sup> September. Environment statement is attached as <b>Annexure-XXVI</b>

  
OFFICER(SURVEY)  
GVP PH-II OCP


  
NODAL OFFICER(E&F)  
GVP PH-II OCP

  
PROJECT ENGG. (CIVIL)  
GVP PH-II OCP

  
PROJECT ENGG. (E&M)  
GVP PH-II OCP

  
PROJECT ENGG. (EXC)  
GVP PH-II OCP

  
MANAGER  
GVP PH-II OCP

  
PROJECT OFFICER  
GVP PH-II OCP

**MINUTES OF THE 21<sup>st</sup> EAC (THERMAL & COAL MINING PROJECTS) MEETING HELD  
ON 18<sup>th</sup> -19<sup>th</sup> September, 2014 IN NEW DELHI**

The 21<sup>st</sup> EAC (Thermal & Coal mining projects) Meeting was held on 18<sup>th</sup> -19<sup>th</sup> September, 2014 in New Delhi to consider the proposals in coal mining sector. The list of participants of EAC and the proponents are given at Annexure-1 and 2 respectively.

**B. Confirmation of Minutes:** The Committee confirmed the Minutes of the 19<sup>th</sup> EAC meeting held on 13<sup>th</sup> -14<sup>th</sup> August, 2014. However, clarity is required to be sought from the proponents on status of forest land for which the FC is under process with regard to Kusmunda Opencast expansion project of M/s South Eastern Coalfields Ltd and Coal Washery (4.0 MTPA in an ML area 13.706 ha) of M/s Vedanta Washery and Logistic Solutions Pvt. Ltd., Dist. Raigarh, Chhattisgarh.

**C. The following proposals were considered:**

**21.1 Ghogha-Surka Lignite Mine (2.25 MTPA in 1355 ha) and Khadsaliya-I (1 MTPA in 711.42.47 ha) and Khadsaliya-II Lignite Mine (0.75 MTPA in 914.14.92 ha) of M/s Gujarat Power Corp. Ltd., Dist. Bhavnagar, Gujarat - EC based on TOR granted on 23.03.2011, amended on 30.05.2011 -Further Consideration.**

21.1.1 The proposal is for Ghogha-Surka Lignite Mine (2.25 MTPA in 1355 ha) and Khadsaliya-I (1 MTPA in 711.42.47 ha) and Khadsaliya-II Lignite Mine (0.75 MTPA in 914.14.92 ha) of M/s Gujarat Power Corp. Ltd., Dist. Bhavnagar, Gujarat. The proposal was last considered in 12<sup>th</sup> EAC meeting held on 27<sup>th</sup> - 28<sup>th</sup> February, 2014. The Committee had sought following additional information for further consideration:

- i. Necessary affidavit bearing testimony to the fact that the coal from this mine will be exclusively used for Padwa Power Plant would be submitted.
- ii. The Clearances from CRZ angle should be submitted.
- iii. The details of approved mine plan and mine closure plan be submitted.
- iv. Flu gas De-Sulfurization (FGD) Plant be installed in the Power Plant for sulphur removal.
- v. The feasibility of conveyor system for transport of lignite from mine CHP to Common delivery point of Ghogha be studied and details submitted.
- vi. Details of issues raised in the Public Hearing along with the Commitment, Action Plan and Budgetary Provisions.
- vii. A detailed CSR Action Plan along with budgetary provision be submitted.
- viii. A detailed explanation on ingress of sea water to the mine be submitted along with the expert opinion from Roorkee University.
- ix. The accreditation of BISAG be submitted along with the proof of evidence.
- x. The details of disposal of brine after the treatment of saline water be submitted.
- xi. The feasibility of providing housing to contractual labourers at mine site be examined and report submitted.
- xii. The details on impact of mine on mangroves be submitted.
- xiii. A sub EIA on the impact of mine activity on river /canal be prepared.
- xiv. The details of internal dumping along with commitment from the top management for corrective action be submitted.
- xv. The details of OB handling be given including refilling into the mine void and details of final state of internal dumps and mine voids..
- xvi. The reason and source of increase in PM10 be examined & information submitted along with mitigatory measures.



- xxiv. The Gram Panchayat has passed a resolution unanimously on 22.07.14 in favour of the project and issued their consent vide a NOC dated 25.07.2014. This having being identified as the last requirement the EC now should be granted.
- xxv. The project will provide direct and indirect employment opportunities for their livelihood and further improvement in their lives will come from companies CSR activities like health care, education, potable water, infrastructure & sanitation. This has been enumerated in the CSR action plan submitted to MOEF vide letter dtd. 14.10.2011.

21.9.5 The Committee after hearing to the proponent requested the Member Secretary to prepare a detailed Note and place it in the next meeting for internal discussion.

**21.10 Govindpur Phase-II OCP for a capacity of 2.20 MTPA (nominal) and 2.50 MTPA (Peak) M/s Central Coalfields Limited, dist. Hazaribag, Jharkhand - EC under 7(ii) of EIA Notification 2006.**

21.10.1 The proposal is for Environment Clearance under 7(II) of EIA notification for Govindpur Phase-II OCP for a capacity of 2.20 MTPA (nominal) and 2.50 MTPA (Peak) M/s Central Coalfields Limited, dist. Hazaribag, Jharkhand. The proponent made the presentation and informed that:

- Govindpur Ph-II Opencast Project is an operating coal mine under Kathara Area of Central Coalfields Limited, which was started after obtaining Environmental Clearance vide letter no J-11015/490/2008-IA.II(M) dated 18.01.2011 for a normative capacity of 1.20 MTPA & peak capacity of 1.50 MTPA within lease area of 274.95 Ha.
- Environment Clearance for Expansion (Under 7(ii) of EIA Notification, 2006) of Govindpur Ph-II OC Coal Mining Project of (from 1.5 MTPA to 1.875 MTPA in an ML area of 229.867 ha (274.95 ha - 45.083 ha = 229.867 ha; of M/s Central Coalfields Ltd. dist. Hazaribag, Jharkhand was granted vide letter no. J-11015/490/2008-IA.II (M) dated 20<sup>th</sup> May, 2014.
- Applied under one time production capacity expansion of upto 50% in the existing operation as per office memorandum No.J-11015/30/2004- IA.II (M) dated 07.01.2014.
- The latitude and longitude of the project are 23° 48' 30" to 23° 49' 30" N and 85° 51' 15" to 85° 52' 45" E respectively.
- Joint Venture: There is no Joint venture.
- Coal Linkage: Coal will be supplied to Power houses and other miscellaneous consumers.
- The land usage of the project will be as follows:

Land use details:

S.N.	LAND USE	Within ML Area (ha)	Outside ML Area (ha)	TOTAL
1.	Agricultural land	0.00	0.00	0.00
2.	Forest land	148.167	0.00	148.167
3.	Wasteland	0.00	0.00	0.00
4.	Grazing land	0.00	0.00	0.00
5.	Surface water bodies	21.43	0.00	21.43
6.	Settlements	0.00	0.00	0.00
7.	Others (specify)	60.27	0.00	60.27
	<b>TOTAL</b>	<b>229.87</b>	<b>0.00</b>	<b>229.87</b>

Pre-Mining:

S.N	LAND USE	Within ML Area (ha)	Outside ML Area (ha)	TOTAL
1.	Agricultural land	0.00	0.00	0.00
2.	Forest land	148.167	0.00	148.167
3.	Wasteland	0.00	0.00	0.00
4.	Grazing land	0.00	0.00	0.00
5.	Surface water bodies	21.43	0.00	21.43
6.	Settlements	0.00	0.00	0.00
7.	Others (specify)	60.27	0.00	60.27
	<b>TOTAL</b>	<b>229.87</b>	<b>0.00</b>	<b>229.87</b>

Post- Mining:

S.No.	Land use during Mining	Land Use (ha)				
		Plantation	Water Body	Public use	Undisturbed	Total
1	External OB Dump+ Internal OB Dump	87.00+12.03	4.50	0.00	0.00	103.53
2	Excavation	6.00	35.21	0.00	18.68	59.89
3	Roads			19.30		19.30
4	Built up Area	3.12	0.00	0.00	0.00	3.12
5	Green Belt					
6	Undisturbed Area	44.03	14.00	0.00	0.00	89.11
	<b>Total</b>	<b>197.26</b>	<b>39.71</b>	<b>19.30</b>	<b>18.68</b>	<b>229.87</b>

Core area :

S No.	Land use category	15th Year	20th Year
1	Quarry & Internal Dump	76.42	Mine Lagoon 35.21
			Plantation On Internal Dump 12.03
			Lagoon at Internal Dump Lower Benches 4.50
			Plantation 6.0
			Batter 18.68
2	OB Dump	87.00	Plantation
3	Infrastructure/ Workshop/ CHP	3.12	Plantation after dismantling
4	Road	19.30	Public Use
5	Unworked Area & Safety Zone	44.03	Plantation
	<b>Total</b>	<b>229.87</b>	-

- iv. The total geological reserve is 29.62 MT. The mineable reserve 19.53 MT, extractable reserve is 19.53 MT. The per cent of extraction would be 65.93 %.
- v. The coal grade is E. The stripping ratio is 1.47 m<sup>3</sup>/tonne. The average Gradient is 16 – 23 deg. There will be 7 seams with thickness ranging from 1 m to 23 m.
- vi. The total estimated water requirement is 910 m<sup>3</sup>/day. The level of ground water ranges from 3.77 m to 6.00 m.
- vii. The Method of mining would be Opencast with shovel-dumper combination.



- viii. There is one external OB dump with Quantity of 24.00 million m<sup>3</sup> out of total OB of 28.66 million m<sup>3</sup> in an area of 87 ha with height of 60 meter above the surface level and one internal dump with Quantity of 4.66 Mbcm in an area of 16.53 ha.
- ix. The final mine void would be in 35.21 Ha with depth of 100 m and the Total quarry area is 76.42 Ha. Backfilled quarry area of 18.03 Ha shall be reclaimed with plantation. A void of 39.71 ha with depth of average 60-70 m which is proposed to be converted into a water body
- x. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- xi. The life of mine is 13 years including 2013-14.
- xii. **Transportation:** Coal transportation in pit by Dumpers, Surface to Siding by trucks and loading at siding into railway wagons.
- xiii. There is R & R involved. However number of PAFs are nil as this an expansion proposal within same ML area.
- xiv. **Cost:** Total capital cost of the project is Rs. 142.11 Crores. CSR Cost Rs. 5 per tonne of coal produced. R&R Cost Rs 252.52 lakh. Environmental Management Cost Rs. 4333.47 Lakhs.
- xv. **Water body:** Konar River marks the western limit of mining area and also forms the main drainage of the area. It lies more than 400m away from mine edge. Montico nallah flowing from north to south marks the eastern limit of mine and joins Konar River towards South of the Project. It is 60-70 m away from mine edge.
- xvi. **Approvals:** Board's approval obtained on 23.12.2009. Mining plan has been approved on 23.12.2009. Mine Closure Plan approval on 24.02.2012.
- xvii. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xviii. **Forestry issues:** Total forest area involved 148.167 ha for mining. Stage -II FC obtained vide letter no. 8-28/2003-FC, dated 02.03.2009.
- xix. Total **afforestation** plan shall be implemented covering an area of 197.26 ha at the end of mining. Green Belt over an area of 89.11 ha. Density of tree plantation 2500 saplings/ Ha. of plants.
- xx. There are no court cases/violation pending with the project proponent.

**21.10.2 EC Compliance report:** The Compliance Monitoring Report for Govindpur Phase-II OCP project has been sent by the MoEF, Regional Office, Bhubaneswar vide letter no.103-392/08/EPE dated 21.02.2014. The Committee has noted that EC conditions w.r.t no. of sprinklers; peizometers for monitoring of ground water; sewage treatment plant; satellite imagery; monitoring of heavy metals etc. were partly complied for which the proponent had submitted an Action Plan for compliance.

21.10.3 The proponent submitted the action taken report vis-à-vis the Compliance to the Commitment made during the Public Hearing, which was deliberated in the EAC meeting.

**21.10.4 The Committee after deliberations recommended the project for granting Environment Clearance subject to following specific conditions:**

- i. The OBD to be rehandled. The depth of the void be reduced to 40 meter by reahndling the external OB dump. The proponent to submit the changed post mining land use to the Ministry and also a regular air quality monitoring be carried out.
- ii. The commitment and action plan be complied within one year from the date of the issue of the EC and submit the report to the MoEF. The EAC shall review the compliance report.
- iii. Fixed sprinkler system will become operational from June 2014.
- iv. It should be ensured that colony people are supplied with treated drinking water.
- v. Piezometers should be installed and made functional by June, 2014.
- vi. The Sewage Treatment Plant shall be operational in 300 days.

**PHOTOGRAPHS OF FIXED WATER SPRINKLER**









## Photographs of Piezometer





**PHOTOGRAPHS OF EFFLUENT TREATMENT PLANT**







## Photographs of STP



SL. NO.	ACTIVITY	% OF TOTAL MINE CLOSURE COST	AMOUNT IN LAKH (RS.)
	Landscaping of the clear land for improving its esthetic	0.30	9.34
F	<b>Plantation</b>		
	Plantation over area obtained after dismantling	0.50	15.56
	Plantation around the fencing	0.20	6.22
	Plantation over the cleared off external OB Dump	0.02	0.62
G	<b>Monitoring/ Testing of paramaters for three years</b>		
	Air Quality	0.22	6.85
	Water Quality	0.20	6.22
H	<b>Enterpreneurship Development</b> (Vocational/ skill development training for sustainable income of affected people	0.26	8.09
I	<b>Miscellaneous</b> and other mitigative measures	2.00	62.24
J	<b>Manpower</b> cost for supervision	0.80	24.90
	<b>Total</b>	<b>100.00</b>	<b>3111.92</b>

#### Bio-Environment Conservation at Govindpur Ph-II OCP

The mine has been started very recently, how ever the work of reclamation, as given in the condition, is in progress. The plantation is done as per laid down norms i.e. 2500 per ha.

So far 314.53 Ha of area has already been planted in the nearby areas. Plantation, as stipulated, will be under taken from time to time. Total plantation = 314.53 Ha (including area of Sawang Colliery) and 24 km along road. Species of plants are sisam, gambhar, Bakain, Mahua, Bambu, Karange, Sal, Kathal, Mango etc. However after post mining stage afforestation shall be done on backfilled areas, ext. OB dump etc.

#### Socio-Economic Issues:

The project has given a boost to the economy of the area by providing primary and secondary employment to local people. The infra-structural facilities provided by the project is benefitting local villagers also. The mine closure activity is likely to significantly reduce the impact of industrial activity on the land apart from increasing the green cover and surface water availability. The standard of living of the local inhabitants has improved significantly due to indirect employment and service opportunities.



### Resettlement & Rehabilitation of PAPs

As per earlier proposals of Govindpur Ph-II OCP (1.20 MTPA normative capacity & 1.50 MTPA peak capacity), no PAFs were proposed to be rehabilitated. However, employment to land losers was proposed for acquisition of 101.67 Ha of tenancy land, out of which 47.25 Ha has been acquired & balance 54.42 Ha is under process. Employment to 58 land losers has been given and another 67 land losers are expected to get employment as per CIL policy.

### Corporate Social Responsibility

Corporate Social Responsibility (CSR) is taken up at Govindpur Ph-II OCP together with other projects at Kathara Area level. Different villages falling in core zone and adjoining areas are benefited through CSR activities run at Area level. The nature of benefits include maintenance of ponds and community buildings, well digging and renovation, road repair, renovation of schools and construction of boundary wall, medical camps, water supply, skill development for employment generation etc. The current financial outgo on this head is Rs 150.00 Lakh per annum for 2013-14. The expenditure on CSR activities in Kathara Area in last few years is given below:

Year	Amount Spent (Rs. Lakh)
2007-08	19.85
2008-09	22.48
2009-10	41.04
2010-11	42.05
2011-12	48.21
2012-13	163.91
2013-14 (proposed)	150.00

As per new CSR Policy of CIL, the fund for CSR activities is proposed to be allocated from 5% of retained earnings of previous year subject to a minimum of Rs 5 / Tonne of coal production of previous year. This area is moderately populated and the local bodies including MP & MLA are involved in the implementation of CSR activities.

### Proposed Budget Allocation to Areas For CSR Activities for 2013-14

S.No	Name of Area	2013-14 (Rs.lakh)
1.	Argada	66
2.	Barka Sayal	121
3.	B&K	104
4.	Dhori	268
5.	Hazaribagh	150
6.	Kathara	150
7.	Kuju	100
8.	Magadh & Amprapali	100
9.	N.K.	161
10.	Piparwar	665

## ANNEXURE-VII

## CSR ANNUAL REPORT 2023-24

Sl. No.	Area	Sector	District of Implementation	Project Name	Project Cost	PO No.	Expenditure in current F.Y. 2023-24 (in Rs.)		Cumulative expenditure till 31.03.2024 (in Rs.)	No. of Beneficiaries	Start date of project	End Date of project	Project status (ongoing/completed)	Remarks
							Expense in 2023	Liability booked						
1	Kathara	Sanitation	Bokaro	Allocation of funds for Swachhata related CSR activities	243985	1900014609, 1900014768	243985	0	243985	1000	25-Jun-23	05-Jul-23	Completed	
2	Kathara	Skill Development	Bokaro	Procurement of 2 Nos. Sanitary Napkin Manufacturing Machine for distribution to Women SHGs for self-employment of rural women	1250000	5000035920, 1900030176, 1900030177	1250000	0	1250000	500	04-Jul-23	25-Aug-23	Completed	
3	Kathara	Sanitation	Bokaro	Swachhata Hi Seva 2023	194598	1900030177	194598	0	194598	1000	15-Sep-23	05-Oct-23	Completed	
4	Kathara	Sanitation	Bokaro	Construction of toilet, near Community Hall Govindpur A Panchayat.	431360.82	5600057893	431250.87	0	431250.87	100	01-Jul-23	30-Jul-23	Completed	
5	Kathara	Drinking Water	Bokaro	Construction of Well in Govindpur E Panchayat	434019.73	5600057913	433926.43	0	433926.43	120	01-Jul-23	30-Jul-23	Completed	
6	Kathara	Rural Development	Bokaro	Ghat besides Damodar River near Asanpanti Niche Mohalla.	519532.96	5600059512	519437.36	0	519437.36	80	26-Aug-23	29-Sep-23	Completed	
7	Kathara	Education	Bokaro	Grant in Aid to CCL Aided Schools	1332000	5700257275, 5700258289, 5700257271	1332000	0	1332000	550	01-Nov-23	20-Dec-23	Completed	
8	Kathara	Health	Bokaro	Awareness on Blood Donation and Organizing Blood Donation Camps at different locations under command area	172660	5800209736, 5800209737	172660	0	172660	200	15-Sep-23	15-Nov-23	Completed	
9	Kathara	Drinking Water	Bokaro	Handpump in Gaga Village, Kanikro Panchayat.	73293.47	56000060709	73148.47	0	73148.47	60	06-Jun-23	26-Jun-23	Completed	
10	Kathara	Drinking Water	Bokaro	Handpump in Gaga Village, Arqua Panchayat.	64156.09	5600062935	64156.07	0	64156.07	60	21-Sep-23	15-Oct-23	Completed	
11	Kathara	Education	Bokaro	Providing 560 Nos. of Books for district administration operated library and other community libraries of Bokaro District as recommended by DDC, Bokaro under CSR-2023-24	407809	5800221949	407809	0	407809	400	28-Sep-23	15-Jan-24	Completed	
12	Kathara	Education	Bokaro	Distribution of Library Books to various Schools	157631	5800227549	157631	0	157631	100	16-Oct-23	17-Jan-24	Completed	
13	Kathara	Drinking Water	Bokaro	Construction of Well in Samachiyi Panchayat	409218.6	560006553	409218.6	0	409218.6	100	28-Oct-23	25-Nov-23	Completed	
14	Kathara	Sports	Bokaro	Distribution of Sports Items to nearby Villages	105000	5800237063, 5800237065	105000	0	105000	200	15-Oct-23	15-Feb-24	Completed	
15	Kathara	Drinking Water	Bokaro	Construction of Deep Bore Wells with solar power operated Submersible pump set, Pump house, Recharge pit etc. For drinking water at Bhama Shah Dharmshala, Palihari Gurudh of Kathara Area Under CSR Scheme 2022-23 of CCL at Kathara Area	706194.14	5600064702	667472.44	0	667472.44	200	24-Sep-23	22-Dec-23	Ongoing	First on account bill paid
16	Kathara	Rural Development	Bokaro	Construction of Chabutra with cover shed near Shiv Mandir, Krieko	333355.98	5600068042	266746.07	0	266746.07	100	21-Sep-23	20-Oct-23	Ongoing	Under rectification
17	Kathara	Sanitation	Bokaro	Construction of Toilet in Mother Teresa Public School	429586.72	5600065481	419954.5	0	419954.5	300	23-Dec-23	06-Feb-24	Completed	

*[Signature]*

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10/4/24





CSR ANNUAL REPORT 2023-24														
Sl. No.	Area	Sector	District of Implementation	Project Name	Project Cost	PO No.-	Expenditure in current F.Y. 2023-24 (In Rs.)		Cumulative expenditure till 31.03.2024 (In Rs.)	No. of beneficiaries	Start date of project	End Date of project	Project status (ongoing/completed)	Remarks
							Expense in 2023	Liability booked						
18	Kathara	Rural Development	Bokaro	Construction of Shed near Surjaadi Talab in Tun Tola and Yaday Tola	1084600.16	5600065470, 5600068036	1057248.5	0	1057248.5	250	21-Dec-23	20-Mar-24	Ongoing	First on account bill paid
19	Kathara	Sanitation	Bokaro	Construction of Toilet in Saraswati Shishu Mandir, Gomia	375603.26	5600065098	358988.56	0	358988.56	200	23-Dec-23	21-Feb-24	Completed	
20	Kathara	Sanitation	Bokaro	Construction of Toilet in UMS, Sarhachya	420665.51	5600065229	411036.89	0	411036.89	250	08-Jan-24	08-Mar-24	Completed	
21	Kathara	Sports	Bokaro	Distribution of Sports Items to Schools of Kathara Area	152800	5800236819	152800	0	152800	300	15-Oct-23	11-Feb-24	Completed	
22	Kathara	Health	Bokaro	Community Awareness Programme on Preventive Healthcare, Water and Sanitation	173185	5800234906, 5800234908	173185	0	173185	500	15-Oct-23	25-Feb-24	Completed	
23	Kathara	Education	Bokaro	Establishment of Community Library and Career Development Centres in Gomia Block	596250	5800236089, 5800236049	596250	0	596250	500	17-Oct-23	22-Mar-24	Completed	
24	Kathara	Education	Bokaro	Establishment of Community Library and Career Development Centres in Bermo Block	596021	5800236037, 5800236039, 5800236086	596021	0	596021	500	17-Oct-23	22-Mar-24	Completed	
25	Kathara	Health	Bokaro	Promotion of Yoga in Schools of Kathara Area	188425	5800240580, 5800240618	188401	0	188401	250	02-Mar-24	28-Mar-24	Completed	
26	Kathara	Rural Infrastructure	Bokaro	Provision of chairs, plastic stools and dani for supporting women SHGs of Kathara area	225880	5800240376, 5800240381, 5800240384	225880	0	225880	400	02-Oct-24	28-Mar-24	Completed	
27	Kathara	Health	Bokaro	Health related activities under CSR for the year 2023-24	120000	5800221090, 5800235985, 5800235974	119920	0	119920	250	01-Dec-23	25-Mar-24	Completed	
				Reversals		5600047682	-190.74		-190.74					
				Grand Total	11218131.44		11028534.02	0	11028534.02					

AFM  
Kathara Area

SO(P&P)  
Kathara Area

16/4/24

SO(Civil)  
Kathara Area

16/4/24

SO(P&A)  
Kathara Area

16/4/24

By: Manager(CO)  
Kathara Area

16/4/24

General Manager  
Kathara Area

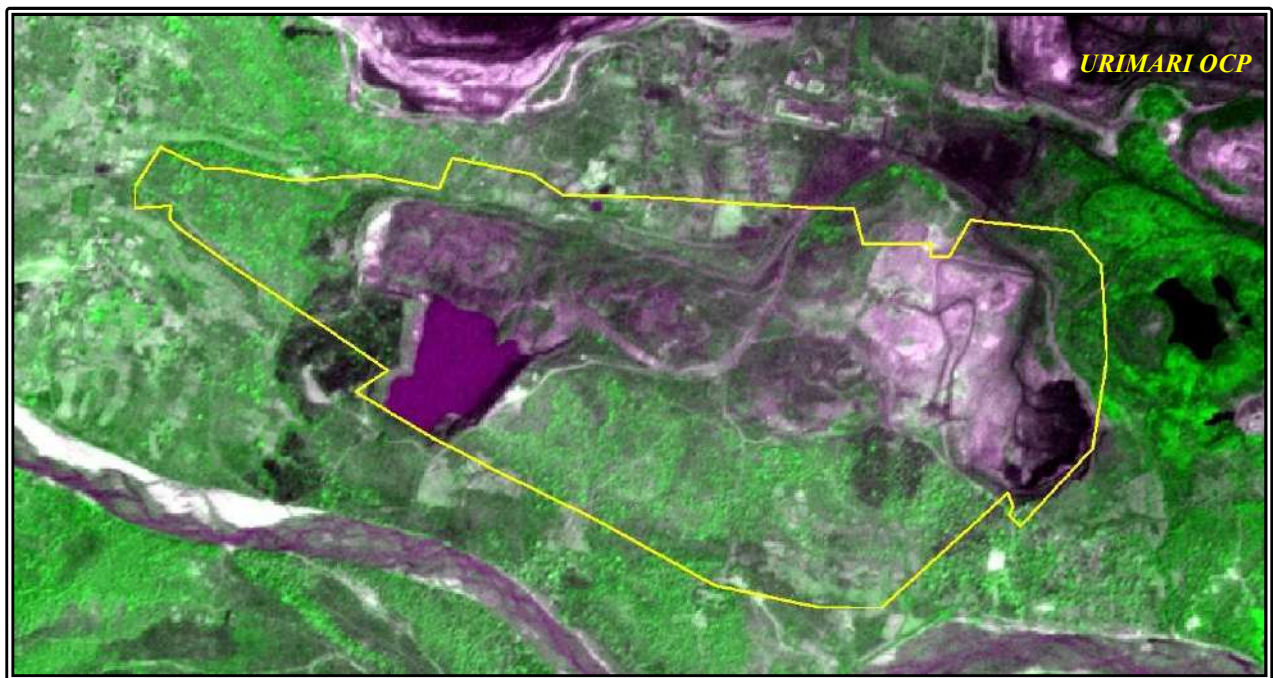
# CSR PLANNED FOR 2024-25

Sl. No.	Area	Sector	Name of the Activity	Project Cost in Lakhs	Project Cost per Year	Expected Expenditure in 2024-25 (Rs in Lakhs)	Name of District	Name of Block	Name of Panchayat	Expected/Targeted Beneficiaries/Categories				Item no. under Sch. VII	Project Duration	<25KM	Abstract (Brief) about the project*	Manner of Execution Direct (Self including contractual)/ Implementing Agency (eg. Society, Trust, IA etc.) / Self (District Administration)
										Total	SC	ST	OBC			Y/N		
1	Kathara	Health	Awareness on Blood Donation and Organizing Blood Donation Camps at different locations under command area	1.90	1.90	1.90	Bokaro	Gomia & Bermo	Various	200	50	40	60	I	1 Year	Y	Organizing Blood Donation Camps at different locations under command area	Self
2	Kathara	Rural Development	Construction of Guard Wall in Pond near Bhurkundwa Basti	7.50	7.50	6.00	Bokaro	Gomia	Kathara	200	50	40	60	I	1 Year	Y	Ensuring environmental sustainability	Self
3	Kathara	Sanitation	Providing 100 Nos. of Hand Washing Units (Happy Tap) for 100 Aanganbadis of Bokaro District as recommended by D.C. Bokaro	10.00	10.00	10.00	Bokaro	Gomia & Bermo	Various	4000	1000	800	1200	I	1 Year	Y	Hand Washing Solution for Aanganwadi Students	Self
4	Kathara	Sanitation	Construction of 500 m Drain with Cover in Khetko, Partand	14.00	14.00	12.00	Bokaro	Petarwar	Khetko	1500	400	200	700	I	1 Year	Y	Preventive Health and Sanitation	Self
5	Kathara	Health	Training for establishment of Mini Sanitary Napkin Unit	18.00	18.00	18.00	Bokaro	Various	Various	50	15	10	20	I	1 Year	Y	Preventive Health and Sanitation	IA
6	Kathara	Health	Supply of Flavored milk(200 ml) to 3350 children of Government school in command area of Kathara Area through District administration on depository mode.	96.00	96.00	75.00	Bokaro	Bermo, Gomia , Petarwar	Various	3350	600	600	1500	I	1 Year	Y	200ML of milk to be provided to student of Government school to tackle issue related to Anemia, Underweight etc through District Administration.	Self (District Administration)
7	Kathara	Education	Electrical Wiring in Kathara High School and High School, Hosir	6.50	6.50	5.00	Bokaro	Gomia & Bermo	Kathara & Hosir	1000	250	100	400	II	1 Year	Y	Improvement in Education Infrastructure	Self
8	Kathara	Education	Construction of Toilet in 1. Utkramit Uccha Vidyalaya, Champi 2. Utkramit Vidyalaya, Bandh 3. +2 High School, Penk 4. SSA NPA Chataniya Jhirkey 5. Radha Krishna Vidya Mandir, New Minus, Sawane	35.00	35.00	25.00	Bokaro	Petarwar	Champi	100	25	10	40	II	1 Year	Y	Construction of pucca toilets	Self
9	Kathara	Education	Water RO/Cooler & Electric FanS at Various Schools/Colleges	21.00	21.00	21.00	Bokaro	Gomia & Bermo	Various	5000	1250	500	2000	II	1 Year	Y	Improvement in Education Infrastructure	Self
10	Kathara	Skill Development/ Livelihood	Tailoring Training	20.00	20.00	20.00	Bokaro	Various	Various	50	15	10	20	II	1 Year	Y	Skill Development	IA
11	Kathara	Skill Development/ Livelihood	Mushroom Cultivation and Training	20.00	20.00	20.00	Bokaro	Various	Various	50	15	10	20	II	1 Year	Y	Skill Development	IA
12	Kathara	Environment	Construction of Deep borewells with solar power operated summersible pumpset, pump house, recharge pit etc for drinking water near Lal Chowk, Govindpur A	12.50	12.50	8.00	Bokaro	Bermo	Govindpur A	200	50	25	60	IV	1 Year	Y	Making Safe Drinking Water available	Self
13	Kathara	Environment	Construction of Deep borewells with solar power operated summersible pumpset, pump house, recharge pit etc for drinking water in Koriabeda, Kaccho	12.50	12.50	8.00	Bokaro	Nawadih	Kaccho	200	50	25	60	IV	1 Year	Y	Making Safe Drinking Water available	Self
14	Kathara	Promotion of Sports	Promotion of Rural Sports through organizing training camps and conducting Volleyball Competitions	8.00	8.00	8.00	Bokaro	Various	Various	400	100	80	150	VII	1 Year	Y	Promotion of Sports	Self
15	Kathara	Rural Development	Construction of Guard Wall near Kamal Tola	6.00	6.00	5.00	Bokaro	Gomia	Bandh	200	50	40	60	X	1 Year	Y	Ensuring environmental sustainability	Self
16	Kathara	Rural Development	Erection of Overhead Line in Ambatola	6.00	6.00	6.00	Bokaro	Petarwar	Champi	200	50	40	60	X	1 Year	Y	Erection of Overhead Line in Ambatola	Self
			<b>TOTAL</b>	<b>294.90</b>	<b>294.90</b>	<b>248.90</b>												



सेंट्रलकोलफील्ड्स लिमिटेड के ५ मिलियन घन मीटर(कोल+ अधिभार) से कम उत्पादन क्षमता वाले सात(७) खुली खदानों की भूमि पुनरुद्धार हेतु २०२३ के उपग्रह डाटा के आधार पर निगरानी का प्रतिवेदन

**Land Restoration / Reclamation Monitoring of Seven Open Cast Coal Mines of Central Coalfields Limited producing less than 5 million m<sup>3</sup> (Coal+ OB) based on Satellite Data for the Year 2023**



Submitted to

**Central Coalfields Limited**

**March 2024**



सेंट्रलकोलफील्ड्स लिमिटेड के ५ मिलियन घन मीटर(कोल+ अधिभार) से कम उत्पादन क्षमता वाले सात(७) खुली खदानों की भूमि पुनरुद्धार हेतु २०२३ के उपग्रह डाटा के आधार पर निगरानी का प्रतिवेदन

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**March - 2024**

**Remote Sensing Cell  
Geomatics Division  
CMPDI, Ranchi**





## दस्तावेजनियंत्रणपत्रक

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## कार्यकारी सारांश

### १.० परियोजना

सेंट्रलकोलफील्ड्स लिमिटेड के ५ मिलियन घनमीटर (कोल+ अधिभार) से कम उत्पादन क्षमता वाले सात(७) खुली खदानों के भूमि पुनरुद्धार हेतु वर्ष २०२३ के उपग्रह डाटा पर आधारित तीन वर्ष के अंतराल पर नियमित निगरानी।

### २.० उद्देश्य

भूमि पुनरुद्धार (लैंड रिक्लेमेशन) का उद्देश्य कुल पट्टाक्षेत्र में बैकफील, वृक्षारोपण, सामाजिक वानिकी, सक्रिय खनन क्षेत्र, जल निकाय (वाटरड्रेनेज) बंजर भूमि, कृषि भूमि और जंगल के विभिन्न प्रकार के वितरण प्रणाली के क्षेत्र का आकलन करने के लिए है। यह अध्ययन केवल उपरोक्त सभी खुली खदानों के भूमि पुनरुद्धार (लैंड रिक्लेमेशन) का निगरानी के प्रगति का आकलन में मदद करेगा बल्कि पर्यावरण संरक्षण के लिए आवश्यक उपचारात्मक उपायों को क्रियान्वित करने में भी सहायता करेगा।

### ३.० मुख्य निष्कर्ष

- कुल ७ ओपनकास्ट परियोजनाएं अर्थात अमलो, तारमी, उरीमारी, गोविंदपुर, टोपा, झारखंड और न्यू गिद्दी-सी, वर्ष २०२३-२४ के दौरान वर्ष २०२३ के उपग्रह डेटा के आधार पर भूमि सुधार निगरानी के लिए विचार किया गया।
- सीसीएल द्वारा प्रदान किए गए ईसी के अनुपालन में ४ ओपनकास्ट परियोजनाओं यानी तारमी, उरीमारी, टोपा और झारखंड ओसी के खनन पट्टा क्षेत्र को संशोधित किया गया है।
- यह ध्यान रखना महत्वपूर्ण है कि लीजहोल्ड सीमा में बदलाव के परिणामस्वरूप तकनीकी और जैविक पुनर्ग्रहण के साथ-साथ ग्रीन कवर के तहत क्षेत्रों में बड़ा बदलाव आया है। अमलो, गोविंदपुर और गिद्दी-सी ओसी परियोजनाओं की लीजहोल्ड सीमा में कोई बदलाव नहीं हुआ है।
- सात (७) खुली खदान परियोजनाओं के कुल खदान पट्टाक्षेत्र १७७३.१५ हेक्टेयर में से वर्ष २०२३ के दौरान निगरानी के लिए अमलो, तारमी, उरीमारी, गोविंदपुर, टोपा, झारखंड और न्यू गिद्दी-सी पर विचार किया गया। कुल उत्खनन क्षेत्र केवल १११८.७८ हेक्टेयर है। जिसमें से ८८.४० हेक्टेयर क्षेत्र (७.९०%) को जैविक रूप से पुनः प्राप्त किया गया है, २७६.६७ हेक्टेयर क्षेत्र (२४.७३%) को बैक फ़िल किया गया है और ७५३.७९ हेक्टेयर क्षेत्र



(६७.३७%) सक्रिय खनन के अंतर्गत है। विश्लेषण से यह स्पष्ट है कि खुलीखदान परियोजनाओं का ३२.६३% क्षेत्र पहले ही पुनः प्राप्त किया जा चुका है और शेष ६७.३७% क्षेत्र सक्रिय खनन के अंतर्गत है।

- निगरानी के लिए ली गई सीसीएल के तहत सात परियोजनाओं के पुनर्ग्रहण के तहत कुल क्षेत्र में से ७.९०% जैविक पुनर्ग्रहण (बैकफिल्ड क्षेत्र पर वृक्षारोपण) के तहत है और २४.७३ % तकनीकी पुनर्ग्रहण (बैकफिलिंग के तहत क्षेत्र) के तहत है।
- वर्ष २०२३ के लिए ७ खदानों की लीजहोल्ड के भीतर उत्पन्न हरित आवरण १६६.१४ हेक्टेयर है, जो कुल १७७३.१५ हेक्टेयर क्षेत्र का ९.३७% है।
- वर्ष २०२३ के लिए, १७७३.१५ हेक्टेयर के कुल पट्टा क्षेत्र में से, पुनर्ग्रहण के तहत क्षेत्र ३६५.०७ हेक्टेयर है। जबकि वर्ष २०२० के लिए, ३६११.१५ हेक्टेयर के कुल पट्टा क्षेत्र में से, पुनर्ग्रहण के तहत क्षेत्र ५०९.१० हेक्टेयर है।
- सीसीएल की ७ परियोजनाओं में से, उरीमारी ओसीपी भूमिसुधार (४६.९८%) के मामले में शीर्ष पर है, इस के बाद झारखंड ओसीपी (४१.३३%) और गोविंदपुर ओसीपी (३४.३९%) हैं।
- इस रिपोर्ट और निष्कर्षों को आगे की निगरानी और सुधार संबंधी गतिविधियों के लिए आधार माना जाएगा।

## **Executive Summary**

### **1.0 Project**

Land restoration/reclamation monitoring of 7 opencast coal mines of Central Coalfields Ltd. (CCL) producing less than 5 million cu. m. (Coal+OB) per year based on satellite data at an interval of three years.

### **2.0 Objective**

Objective of the land restoration/reclamation monitoring is to assess the area of backfilled, plantation, social forestry, active mining area, water bodies, and distribution of wasteland, agricultural land and forest land in the leasehold area of the various opencast projects. This will help in assessing the progressive status of mined out land reclamation and to take up remedial measures, if any, required for environmental protection.

### **3.0 Salient Findings**

- Total 7 opencast projects Viz. Amlo, Tarmi, Urimari, Govindpur, Topa, Jharkhand and New Giddi-C were considered for Land reclamation monitoring based on satellite data of the year 2023 during the year 2023-24.
- Mine leasehold area of 4 opencast projects i.e. Tarmi, Urimari, Topa and Jharkhand OC has been modified in compliance with EC as provided by CCL.
- It is important to note that change in leasehold boundary has resulted in major change in areas under Technical and Biological reclamation as well as Green Cover. There is no change in leasehold boundary of Amlo, Govindpur and Giddi-C OC projects.
- Out of the total mine leasehold area of 1773.15 hectares of the 7 OC projects of CCL Viz. Amlo, Tarmi, Urimari, Govindpur, Topa, Jharkhand and New Giddi-C; total excavated area is only 1118.78 Ha. Out of which 88.40 Ha area (7.90%) has been biologically reclaimed, 276.67 Ha area (24.73%) is under backfilling and 753.71 Ha area (67.37%) is under active mining. It is evident from the analysis that 32.63% area of the



above mentioned 7 OC projects have already been under reclamation and balance 67.37% area is under active mining.

- Of the total area under reclamation of seven projects under CCL taken for monitoring, 7.90% is under biological reclamation (plantation on backfilled area) and 24.73% is under technical reclamation (area under backfilling).
- Green cover generated within leasehold of 7 mines for year 2023 stands at 166.14 hectare which is 9.37% of total 1773.16 hectare area.
- For the year 2023, out of total leasehold area of 1773.15 Ha, area under reclamation is 365.07 Ha. whereas for the year 2020, 509.10 Ha area was under reclamation w.r.t. 3611.15 Ha. of total leasehold area of 7 mines.
- Out of 7 projects of CCL, Urimari OCP ranks on top for land reclamation (46.98%) followed by Jharkhand OCP (41.33%) and Govindpur OCP (34.39%).
- This report and the findings will be considered as basis for further monitoring and reclamation related activities.

**TABLE-1**  
**Status of Land Reclamation in Central Coalfields Limited based on Satellite Data for the Year 2023**

*(Projects producing less than 5 mcm of Coal+OB annually)*

*(Area in Hectare)*

Sl.No.	Project	Total Leasehold Area		Technical Reclamation		Plantation						Area under Active Mining		Total Excavated Area		Total Area under Plantation (% Green Cover Generated in Leasehold)		Total Area under Reclamation	
						Biological Reclamation		Other Plantations											
				Area under Backfilling		Plantation on Excavated / Backfilled Area		Plantation on External Over Burden Dumps		Social Forestry, Avauue Plantation Etc.									
1	2	3		4		5		6		7		8		9 (=4+5+8)		10 (=5+6+7)		11(=4+5)	
		2020	2023*	2020	2023	2020	2023	2020	2023	2020	2023	2020	2023	2020	2023	2020	2023	2020	2023
1	Amlo	247.59	247.59	39.51	31.01	14.58	15.23	15.27	18.02	1.53	2.00	39.62	120.38	93.71	166.62	31.38	35.25	54.09	46.24
				42.16%	18.61%	15.56%	9.14%					42.28%	72.25%			12.67%	14.24%	57.72%	27.75%
2	Tarmi	590.00	258.70	23.06	34.11	11.85	5.46	12.62	8.51	0.46	0.46	25.11	75.85	60.02	115.42	24.93	14.43	34.91	39.57
				38.42%	29.55%	19.74%	4.73%					41.84%	65.72%			4.23%	5.58%	58.16%	34.28%
3	Urimari	1443.50	243.09	91.58	73.61	48.80	17.62	0.06	0.00	42.67	0.88	63.74	102.97	204.12	194.20	91.53	18.50	140.38	91.23
				44.87%	37.90%	23.91%	9.07%					31.23%	53.02%			6.34%	7.61%	68.77%	46.98%
4	Govindpur	274.95	274.95	66.56	58.79	17.50	12.58	2.03	1.46	0.22	0.00	60.02	136.18	144.08	207.55	19.75	14.04	84.06	71.37
				46.20%	28.33%	12.15%	6.06%					41.66%	65.61%			7.18%	5.11%	58.34%	34.39%
5	Topa	520.91	276.66	20.89	10.62	3.75	2.53	43.81	5.89	14.22	12.72	55.71	108.72	80.35	121.87	61.78	21.14	24.64	13.15
				26.00%	8.71%	4.67%	2.08%					69.33%	89.21%			11.86%	7.64%	30.67%	10.79%
6	Jharkhand	323.88	261.84	91.21	61.14	38.25	34.98	0.33	0.32	2.48	0.96	48.93	136.45	178.39	232.57	41.06	36.26	129.46	96.12
				51.13%	26.29%	21.44%	15.04%					27.43%	58.67%			12.68%	13.85%	72.57%	41.33%
7	New Giddi-C	210.32	210.32	31.22	7.39	10.34	0.00	3.02	19.96	5.83	6.56	26.78	73.16	68.34	80.55	19.19	26.52	41.56	7.39
				45.68%	9.17%	15.13%	0.00%					39.19%	90.83%			9.12%	12.61%	60.81%	9.17%
TOTAL		3611.15	1773.15	364.03	276.67	145.07	88.40	77.14	54.16	67.41	23.58	319.91	753.71	829.01	1118.78	289.62	166.14	509.10	365.07
				43.91%	24.73%	17.50%	7.90%					38.59%	67.37%			16.33%	9.37%	61.41%	32.63%

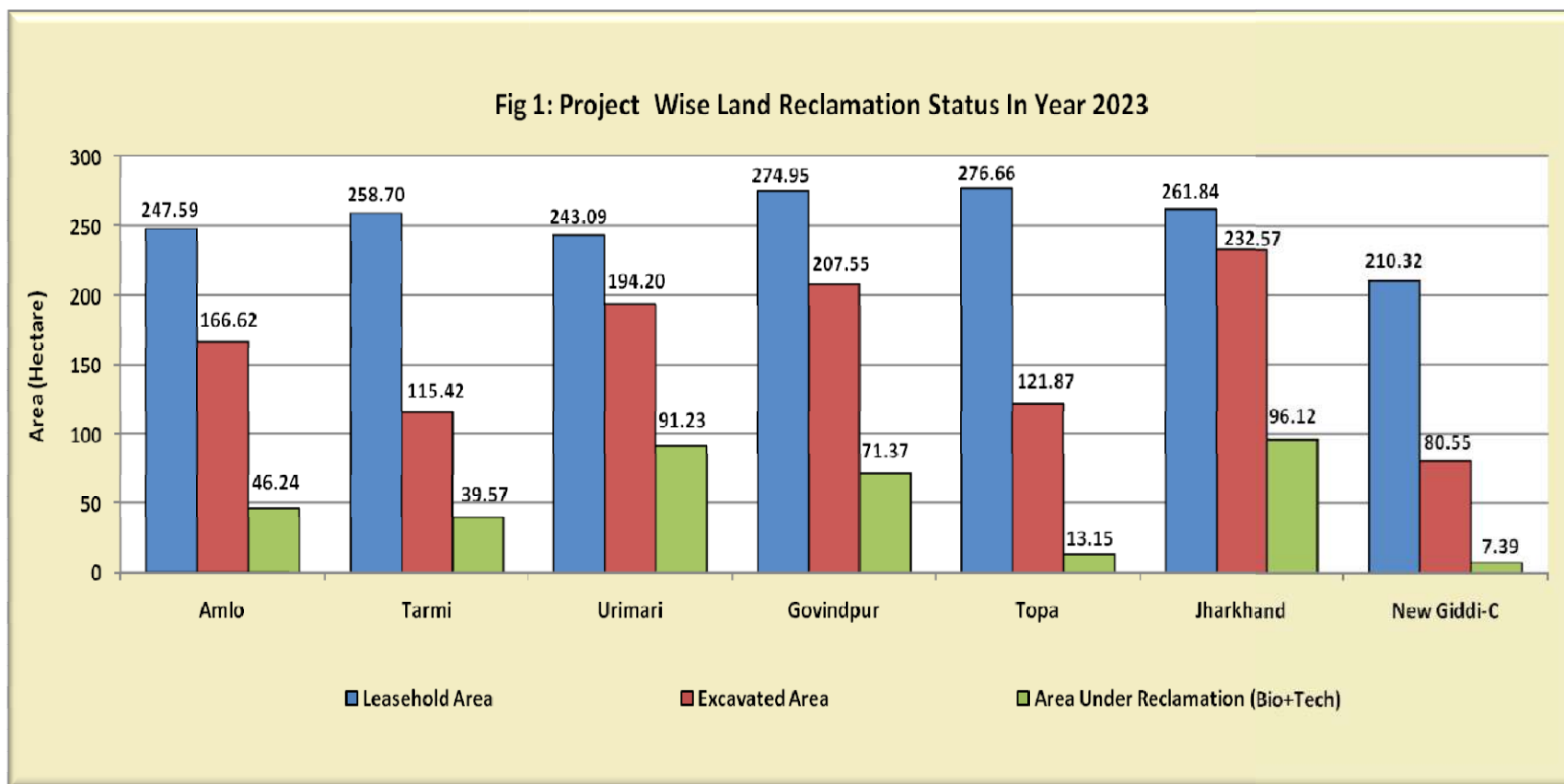
*(% is calculated with respected to Excavated Area as applicable)*

*\*Leasehold Area of projects for year 2023 has been changed as per notified EC boundary provided by CCL*

Note: In reference of the above Table, different parameters are classified as follows:

1. Area under Biological Reclamation includes Areas under Plantation done on Backfilled Area Only.
2. Area under Technical Reclamation includes Area under Backfilling only
3. Area under Active Mining Includes Coal Quarry, Advance Quarry Site and Quarry filled with water etc., if any.
4. Social Forestry and Plantation on External OB Dumps are not included in Biological Reclamation and are put under separate categories as shown in the above Table.
5. (%) calculated in the above Table is in respect to Total Excavated Area except for "Total Area under Plantation" where % is in terms of "Leasehold Area".





**Figure 1:** Project wise status of Land Reclamation in CCL for the year 2023

## **Background**

- 1.1** Land is the most important natural resource which embodies soil, water, flora, fauna and total ecosystem. All human activities are based on the land which is the scarcest natural resource in our country. Mining is a site specific industry and it could not be shifted anywhere else from the location where mineral occurs. It is a fact that surface mining activities do effect the land environment due to ground breaking. Therefore, there is an urgent need to reclaim and restore the mined out land for its productive use for sustainable development of mining. This will not only mitigate environmental degradation, but would also help in creating a more congenial environment for land acquisition by coal companies in future.
- 1.2** Keeping above in view, Coal India Ltd. (CIL) issued a work order vide letter no. CIL/WBP/Env/2009/2428 dated 29.12.2009 to Central Mine Planning & Design Institute (CMPDI), Ranchi, for monitoring land reclamation status of all the opencast coal mines having production of more than 5 million m<sup>3</sup> per annum (coal + OB taken together per annum) based on remote sensing satellite data, regularly on annual basis for sustainable development of mining. Further, a revised work order was issued vide letter no. CIL/WBP/Env/2011/4706 dated 12.10.2012 from Coal India Limited for the period 2012-13 to 2016-17 which was subsequently followed by another work order vide letter no. CIL/WBP/Env/2017/DP/8477 dated 21.09.2017 from Coal India Limited for the period 2017-18 to 2021-22 for land reclamation monitoring of opencast projects and vegetation cover monitoring of 19 major coalfields. According to this work order, all mines in CIL with output capacity of 5 million cu. m (coal +OB) shall be monitored every year and all mines below this capacity shall be monitored at an interval of 3 years. All coalfields in CIL shall also be monitored at an interval of 3 years as per a defined plan. Further, a revised work order was issued vide letter no. CIL/ENV/2022-23/W.O/10899 dated 06.07.2022 from Coal India Limited for the period 2022-23 to 2023-24. According to this work order, 76 OC projects having more than 5 million cu. m (coal +OB) per



annum capacity shall be monitored every year and also land reclamation monitoring of 45 OCPs having less than 5 million cu. m (coal +OB) per annum capacity, totaling 121 OC mines and vegetation cover mapping of 7 coalfields for 2023-24, covering all the subsidiaries of Coal India Ltd. The result of land reclamation status of all such mines to be put on the website of CIL, ([www.coalindia.in](http://www.coalindia.in)), CMPDI ([www.cmpdi.co.in](http://www.cmpdi.co.in)) and the concerned coal companies in public domain. Detail report to be submitted to Coal India and respective subsidiaries.

- 1.3** Land reclamation monitoring of all open cast projects will have to comply the statutory requirements of Ministry of Environment & Forest (MoEF). Such monitoring will not only facilitate in taking remedial measures against environmental degradation, but also enable Coal companies to utilize the reclaimed land for further socio-economic benefits in a planned way.
- 1.4** Present report is embodying the finding of the study based on satellite data of the year 2023 carried out for 7 OC project of capacity less than 5 mcm (coal +OB) for Central Coalfields Ltd.

## **2.0 Objective**

Objective of the land reclamation/restoration monitoring is to assess the area of backfilled, plantation, OB dumps, social forestry, active mining area, settlements and water bodies, distribution of wasteland, agricultural land and forest land in the leasehold area of the project. This is an important step taken up for assessing the progressive status of mined land reclamation and for taking up remedial measures, if any, required for environmental protection.





**3.2 Satellite Data Processing:** Satellite data are processed using ERDAS IMAGINE v2022 s/w digital image processing s/w. Methodology involves the following major steps:

- **Rectification & Geo-referencing:** In accuracies in digital imagery may occur due to 'systematic errors' attributed to earth curvature and rotation as well as 'non-systematic errors' attributed to satellite receiving station itself. Raw digital images contain geometric distortions, which make them unusable as maps. Therefore, geo-referencing is required for correction of image data using ground control points (GCP) to make it compatible to Sol toposheet.

- **Image enhancement:**

To improve the interpretability of the raw data, image enhancement is necessary. Local operations modify the value of each pixel based on brightness value of neighbouring pixels using ERDAS IMAGINE v 2022 s/w and enhance the image quality for interpretation.

- **Training set selection**

Training set requires to be selected, so that software can classify the image data accurately. The image data are analysed based on the interpretation keys. These keys are evolved from certain fundamental image-elements such as tone/colour, size, shape, texture, pattern, location, association and shadow. Based on the image-elements and other geo-technical elements like land form, drainage pattern and physiography; training sets were selected/identified for each land use/cover class. Field survey was carried out by taking selective traverses in order to collect the ground information (or reference data) so that training sets are selected accurately in the image. This was intended to serve as an aid for classification.

- **Classification and Accuracy assessment**

Image classification is carried out using the maximum likelihood algorithm. The classification proceeds through the following steps: (a) calculation of statistics [i.e. signature generation] for the identified training areas, and (b) the decision boundary of maximum probability based on the mean vector, variance, covariance and correlation matrix of the pixels. After evaluating the statistical parameters of the training sets, reliability test of training sets is conducted by measuring the statistical separation between the classes that resulted from computing divergence matrix. The overall accuracy of the classification was finally assessed with reference to ground truth data.

- **Area calculation**

The area of each land use class in the leasehold is determined using ERDAS IMAGINE v 2022 s/w.

- **Overlay of Vector data base**

Vector data base created based on secondary data. Vector layer like drainage, railway line, leasehold boundary, forest boundary etc. are superimposed on the image as vector layer in the Arc GIS database.

- **Pre-field map preparation**

Pre-field map is prepared for validation of the classification result

### **3.3 Ground Truthing:**

Selective ground verification of the land use classes is carried out in the field and necessary corrections if require, are incorporated before map finalization.

### **3.4 Land reclamation database on GIS:**

Land reclamation database is created on GIS platform to identify the temporal changes identified from satellite data of different cut-off dates.

#### 4.0 Land Reclamation Status of Central Coalfields Ltd.

Following 7 OC Projects producing less than 5 million m<sup>3</sup> (Coal +OB) of Central Coalfields Ltd. Have been taken up during the year 2023 for land reclamation monitoring:

- Amlo
- Tarmi
- Urimari
- Govindpur
- Topa
- Jharkhand
- New Giddi-C

**4.1** Area statistics of different land use classes present in OC projects in the year 2023 is given in Table 2. Land use maps derived from the satellite data is given in Plate No. 1 to 7. Land use statuses are shown in fig. 3-9 and field photographs showing plantation and backfilled area in mining project is shown in Photos 1-4.

**4.2** Study reveals that out of total mine leasehold area of 1773.15 hectares of the 7 OC projects of CCL mentioned above taken for this study in 2023-24; total excavated area is 1118.78 hectare, out of which 88.40 hectare area (7.90%) has been planted (*Biologically Reclaimed*), 276.67 hectare area (24.73%) is under backfilling (*Technically Reclaimed*) and balance 753.71 hectare (67.37%) is under active mining.

**4.3** It has been also observed that for projects Amlo, Govindpur and New Giddi-C, area under technical reclamation has gone down in 2023 as compared to the year 2020 as more area have come under mining operations.



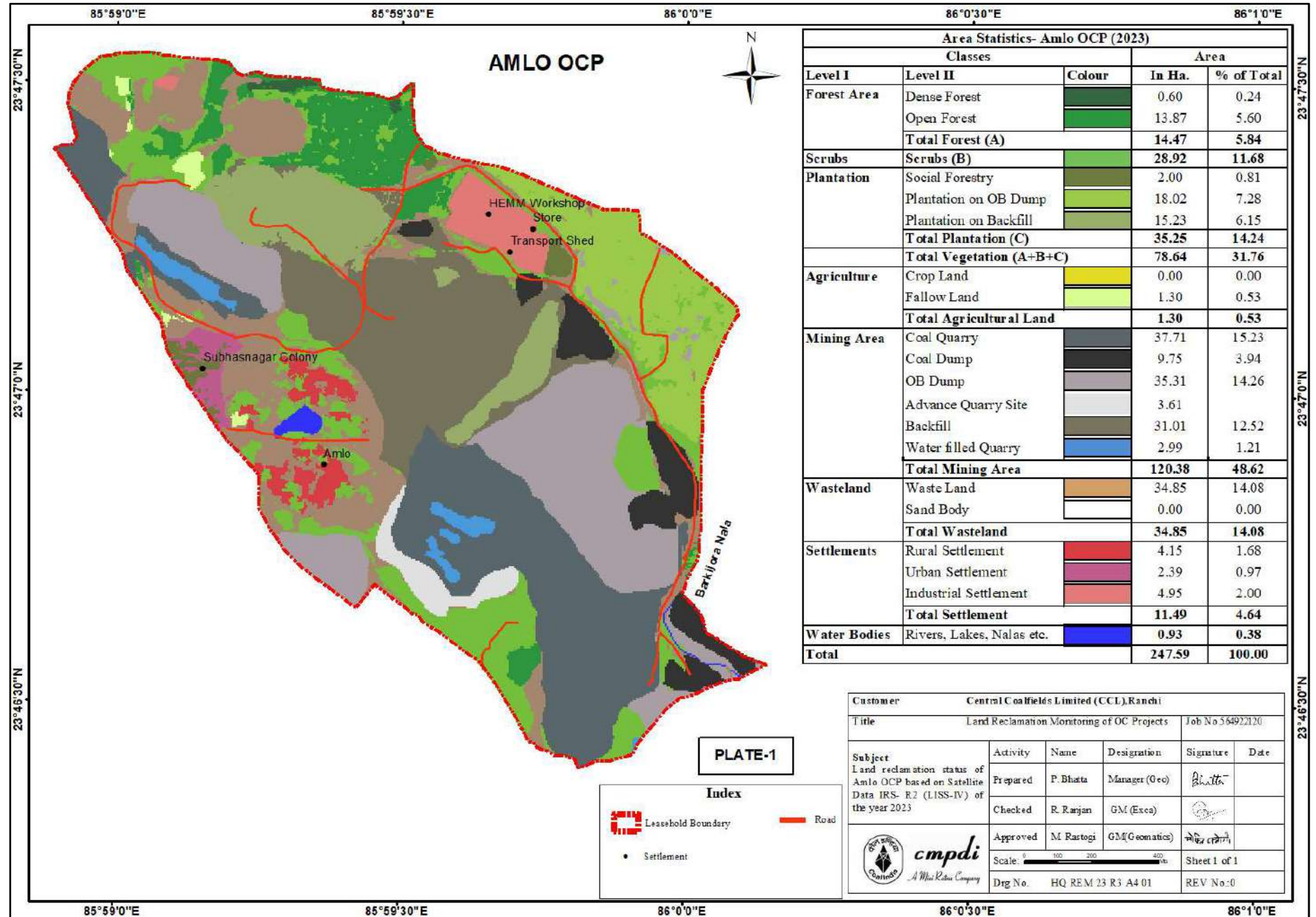
- 4.4** In Amlo opencast project, there is increase of 0.65 Ha area under plantation on Backfill area, 2.75 Ha area under plantation on over burden. Overall there is rise of 3.87 hectare area i.e. 1.57% more of green cover generated in the leasehold than year 2020.
- 4.5** In New Giddi-C OC project, plantation on over burden has increased almost 6.5 fold from 3.02 Ha to 19.96 Ha within 3 years' time span. 7.33 hectare more area of green cover is generated within the leasehold compared to 19.19 hectare area in year 2020.
- 4.6** There is decrease of 4.92 Ha and 10.34 Ha areas under plantation on backfill respectively in Govindpur and New Giddi-C OC which is due to increase in active mining area.
- 4.7** Out of 7 projects of CCL taken for this study, Urimari OC mine ranks on top for land reclamation (46.98%) followed by Jharkhand OC mine (41.33%) and Govindpur Open Cast mine (34.39%).

TABLE: 2

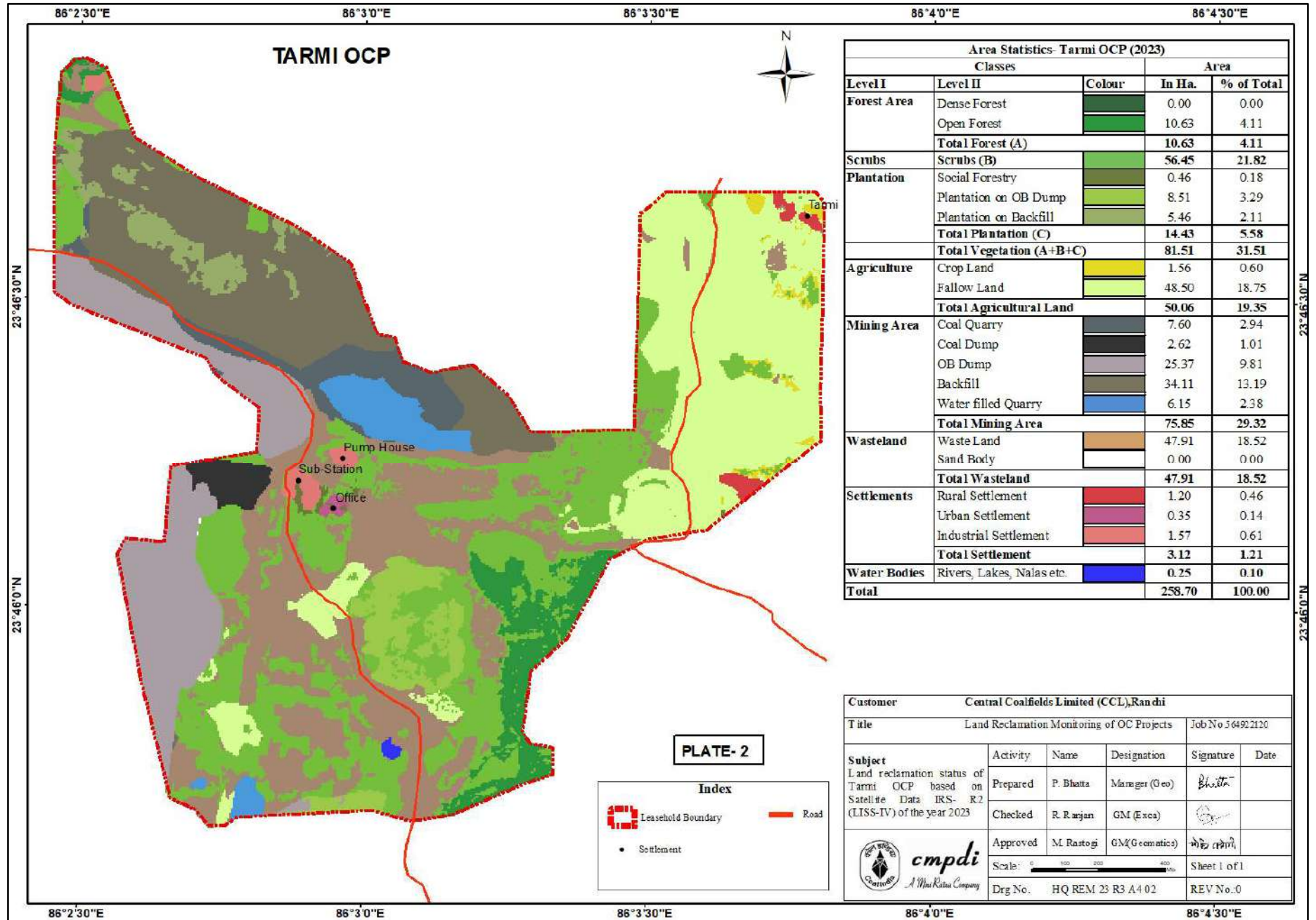
Project wise Area Statistics of Land Use / Reclamation in OC Mines producing less than 5 mcm (Coal+OB) annually of CCL based on Satellite data of the Year 2023

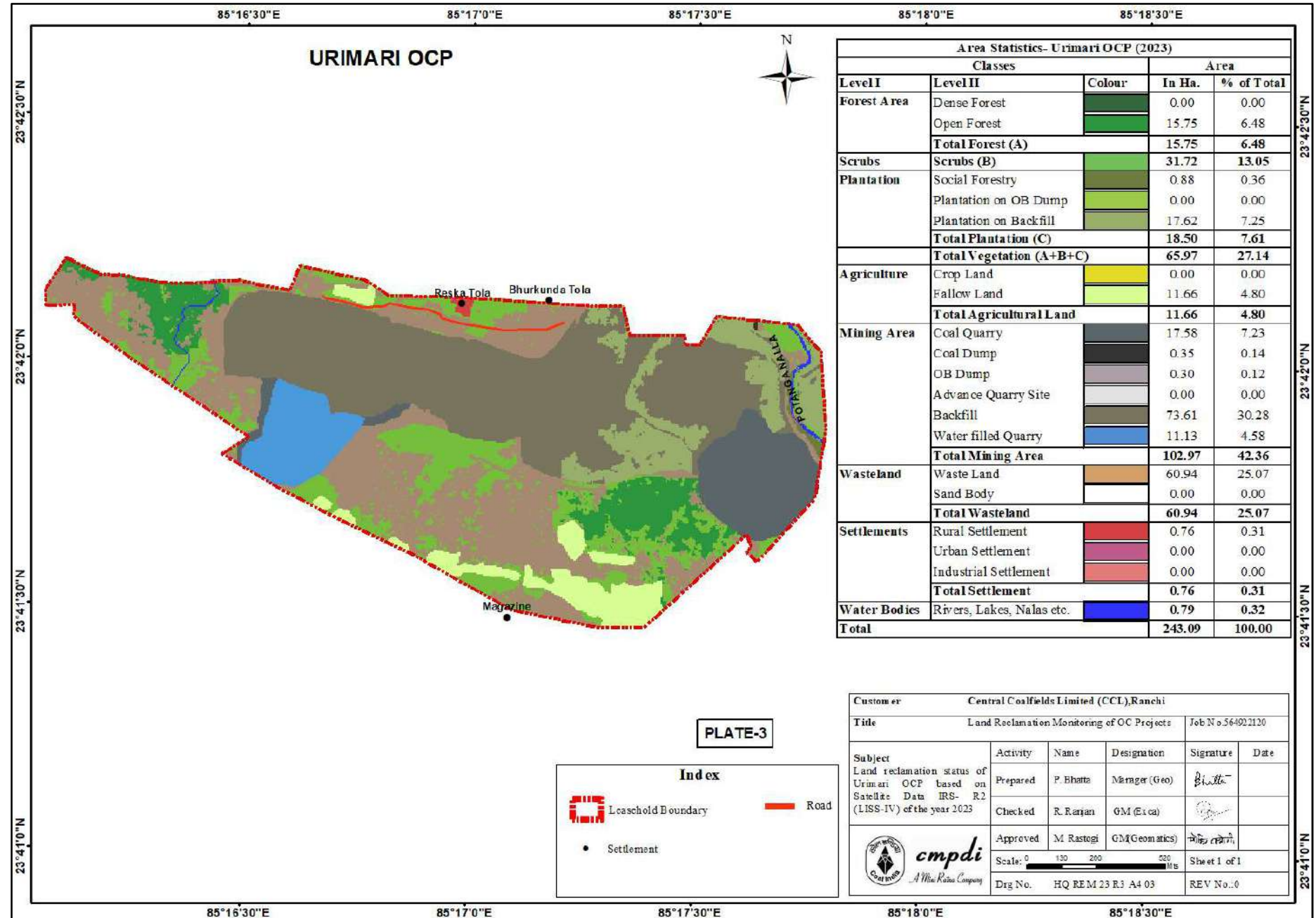
(Area in Hactare)

	LAND USE / COVER CLASSES	CLR. CODE	AMLO		TARMI		URIMARI		GOVINDPUR		TOPA		JHARKHAND		NEW GIDDI-C		TOTAL	
			Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%
FORESTS	Dense Forest		0.60	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.03
	Open Forest		13.87	5.60	10.63	4.11	15.75	6.48	0.00	0.00	0.00	0.00	4.87	1.86	0.00	0.00	45.12	2.54
	<b>Total Forest (A)</b>		<b>14.47</b>	<b>5.84</b>	<b>10.63</b>	<b>4.11</b>	<b>15.75</b>	<b>6.48</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>4.87</b>	<b>1.86</b>	<b>0.00</b>	<b>0.00</b>	<b>45.72</b>	<b>2.58</b>
PLANTATION	Scrubs (B)		28.92	11.68	56.45	21.82	31.72	13.05	93.31	33.94	45.26	16.36	34.11	13.03	48.86	23.23	<b>338.63</b>	<b>19.10</b>
	Social Forestry (C)		2.00	0.81	0.46	0.18	0.88	0.36	0.00	0.00	12.72	4.60	0.96	0.37	6.56	3.12	<b>23.58</b>	<b>1.33</b>
	Plantation on External OB Dump		18.02	7.28	8.51	3.29	0.00	0.00	1.46	0.53	5.89	2.13	0.32	0.12	19.96	9.49	54.16	3.05
PLANTATION	Plantation on Backfill / Excavated Area (Biological Reclamation)		15.23	6.15	5.46	2.11	17.62	7.25	12.58	4.58	2.53	0.91	34.98	13.36	0.00	0.00	88.40	4.99
	<b>Total Area under Plantation (Green Cover) (D)</b>		<b>35.25</b>	<b>14.24</b>	<b>14.43</b>	<b>5.58</b>	<b>18.50</b>	<b>7.61</b>	<b>14.04</b>	<b>5.11</b>	<b>21.14</b>	<b>7.64</b>	<b>36.26</b>	<b>13.85</b>	<b>26.52</b>	<b>12.61</b>	<b>166.14</b>	<b>9.37</b>
	<b>Total Vegetation (A to D)</b>		<b>78.64</b>	<b>31.76</b>	<b>81.51</b>	<b>31.51</b>	<b>65.97</b>	<b>27.14</b>	<b>107.35</b>	<b>39.05</b>	<b>66.40</b>	<b>24.00</b>	<b>75.24</b>	<b>28.74</b>	<b>75.38</b>	<b>35.84</b>	<b>550.49</b>	<b>31.05</b>
ARE UNDER ACTIVE MINING	Coal Quarry		37.71	15.23	7.60	2.94	17.58	7.23	65.01	23.64	54.67	19.76	58.06	22.17	18.02	8.57	258.65	14.59
	Coal Dump		9.75	3.94	2.62	1.01	0.35	0.14	3.23	1.17	5.94	2.15	1.51	0.58	3.73	1.77	27.13	1.53
	Advance Quarry Site		3.61	1.46	0.00	0.00	0.00	0.00	0.00	0.00	6.72	2.43	0.00	0.00	2.49	1.18	12.82	0.72
	Quarry Filled With Water		2.99	1.21	6.15	2.38	11.13	4.58	9.15	3.33	3.24	1.17	9.19	3.51	12.53	5.96	54.38	3.07
	<b>Total Area under Active Mining (F)</b>		<b>54.06</b>	<b>21.84</b>	<b>16.37</b>	<b>6.33</b>	<b>29.06</b>	<b>11.95</b>	<b>77.39</b>	<b>28.14</b>	<b>70.57</b>	<b>25.51</b>	<b>68.76</b>	<b>26.26</b>	<b>36.77</b>	<b>17.48</b>	<b>352.98</b>	<b>19.91</b>
TECHNICAL RECLAMATION	Barren OB Dump (G)		35.31	14.26	25.37	9.81	0.30	0.12	0.00	0.00	27.53	9.95	6.55	2.50	29.00	13.79	124.06	7.00
	Area under Barren Backfilling (Technical Reclamation)		31.01	12.52	34.11	13.19	73.61	30.28	58.79	21.38	10.62	3.84	61.14	23.35	7.39	3.51	276.67	15.60
	<b>Total Area under Technical Reclamation (H)</b>		<b>31.01</b>	<b>12.52</b>	<b>34.11</b>	<b>13.19</b>	<b>73.61</b>	<b>30.28</b>	<b>58.79</b>	<b>21.38</b>	<b>10.62</b>	<b>3.84</b>	<b>61.14</b>	<b>23.35</b>	<b>7.39</b>	<b>3.51</b>	<b>276.67</b>	<b>15.60</b>
WASTE LANDS	<b>Total Area under Mining Activity (F+G+H)</b>		<b>120.38</b>	<b>48.62</b>	<b>75.85</b>	<b>29.33</b>	<b>102.97</b>	<b>42.35</b>	<b>136.18</b>	<b>49.52</b>	<b>108.72</b>	<b>39.30</b>	<b>136.45</b>	<b>52.11</b>	<b>73.16</b>	<b>34.78</b>	<b>753.71</b>	<b>42.51</b>
	Waste Lands		34.85	14.08	47.91	18.52	60.94	25.07	15.17	5.52	63.06	22.79	21.69	8.28	25.84	12.29	269.46	15.20
	Fly Ash Pond / Sand Body		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WATERBODIES	<b>Total Wasteland (I)</b>		<b>34.85</b>	<b>14.08</b>	<b>47.91</b>	<b>18.52</b>	<b>60.94</b>	<b>25.07</b>	<b>15.17</b>	<b>5.52</b>	<b>63.06</b>	<b>22.79</b>	<b>21.69</b>	<b>8.28</b>	<b>25.84</b>	<b>12.29</b>	<b>269.46</b>	<b>15.20</b>
	Reservoir, nallah, ponds		0.93	0.38	0.25	0.10	0.79	0.32	0.00	0.00	1.45	0.52	1.27	0.49	0.00	0.00	4.69	0.26
	<b>Total Waterbodies (J)</b>		<b>0.93</b>	<b>0.38</b>	<b>0.25</b>	<b>0.10</b>	<b>0.79</b>	<b>0.32</b>	<b>0.00</b>	<b>0.00</b>	<b>1.45</b>	<b>0.52</b>	<b>1.27</b>	<b>0.49</b>	<b>0.00</b>	<b>0.00</b>	<b>4.69</b>	<b>0.26</b>
AGRICULTURE	Crop Lands		0.00	0.00	1.56	0.60	0.00	0.00	5.35	1.95	0.00	0.00	5.71	2.18	0.00	0.00	12.62	0.71
	Fallow Lands		1.30	0.53	48.50	18.75	11.66	4.80	9.38	3.41	0.00	0.00	2.82	1.08	29.03	13.80	102.69	5.79
	<b>Total Agriculture (K)</b>		<b>1.30</b>	<b>0.53</b>	<b>50.06</b>	<b>19.35</b>	<b>11.66</b>	<b>4.80</b>	<b>14.73</b>	<b>5.36</b>	<b>0.00</b>	<b>0.00</b>	<b>8.53</b>	<b>3.26</b>	<b>29.03</b>	<b>13.80</b>	<b>115.31</b>	<b>6.50</b>
SETTLEMENTS	Urban Settlement		2.39	0.97	0.35	0.15	0.00	0.00	0.00	0.00	21.96	7.94	10.92	4.17	1.62	0.77	37.24	2.10
	Rural Settlement		4.15	1.68	1.20	0.46	0.76	0.31	0.77	0.28	14.31	5.17	0.000	0.00	4.35	2.07	25.54	1.44
	Industrial Settlement		4.95	2.00	1.57	0.61	0.00	0.00	0.75	0.27	0.76	0.27	7.74	2.96	0.94	0.45	16.71	0.94
	<b>Total Settlement (L)</b>		<b>11.49</b>	<b>4.65</b>	<b>3.12</b>	<b>1.22</b>	<b>0.76</b>	<b>0.31</b>	<b>1.52</b>	<b>0.55</b>	<b>37.03</b>	<b>13.38</b>	<b>18.66</b>	<b>7.13</b>	<b>6.91</b>	<b>3.29</b>	<b>79.49</b>	<b>4.48</b>
<b>Grand Total (A to L)</b>			<b>247.59</b>	<b>100.00</b>	<b>258.70</b>	<b>100.00</b>	<b>243.09</b>	<b>100.00</b>	<b>274.95</b>	<b>100.00</b>	<b>276.66</b>	<b>100.00</b>	<b>261.84</b>	<b>100.00</b>	<b>210.32</b>	<b>100.00</b>	<b>1773.15</b>	<b>100.00</b>

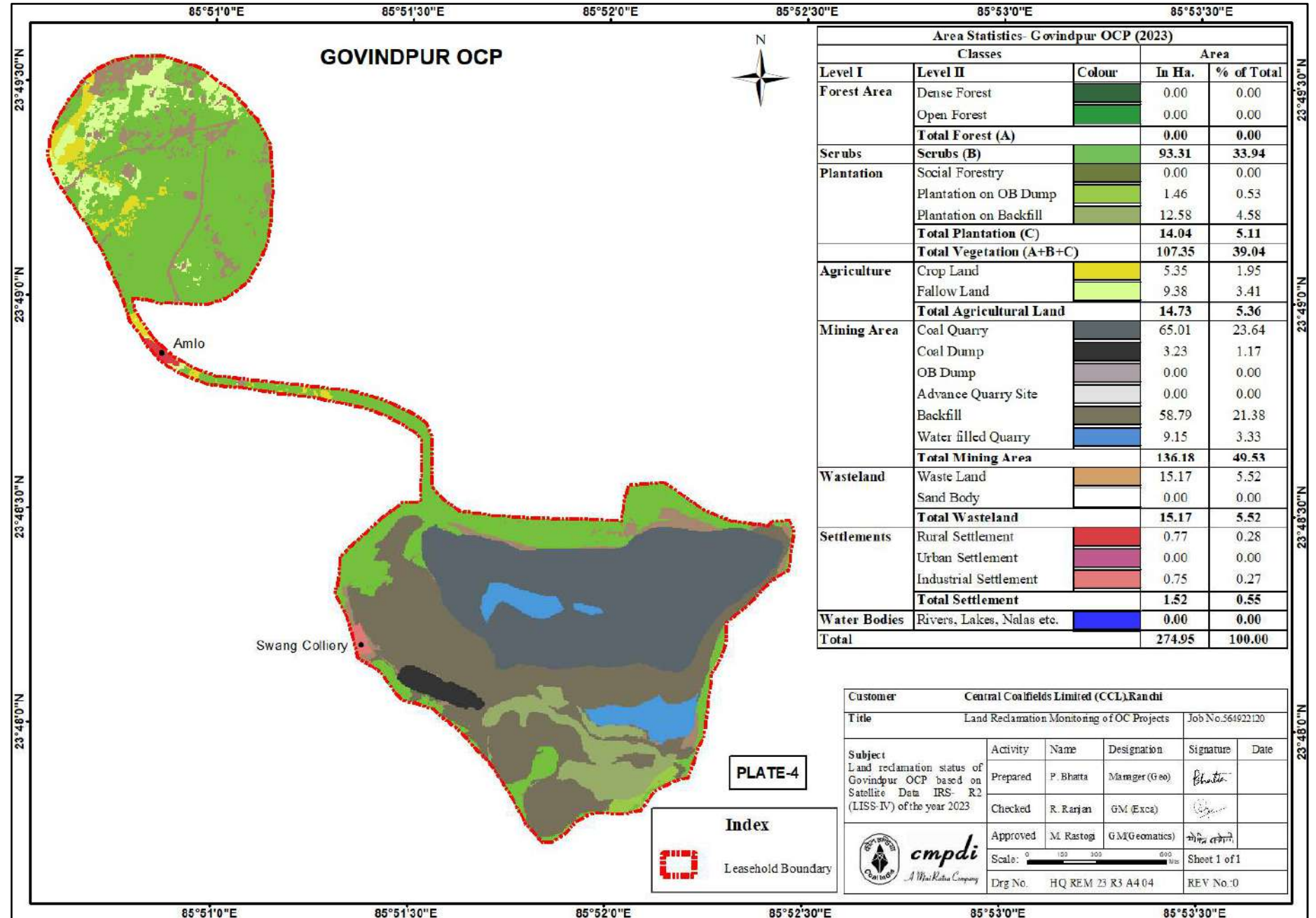




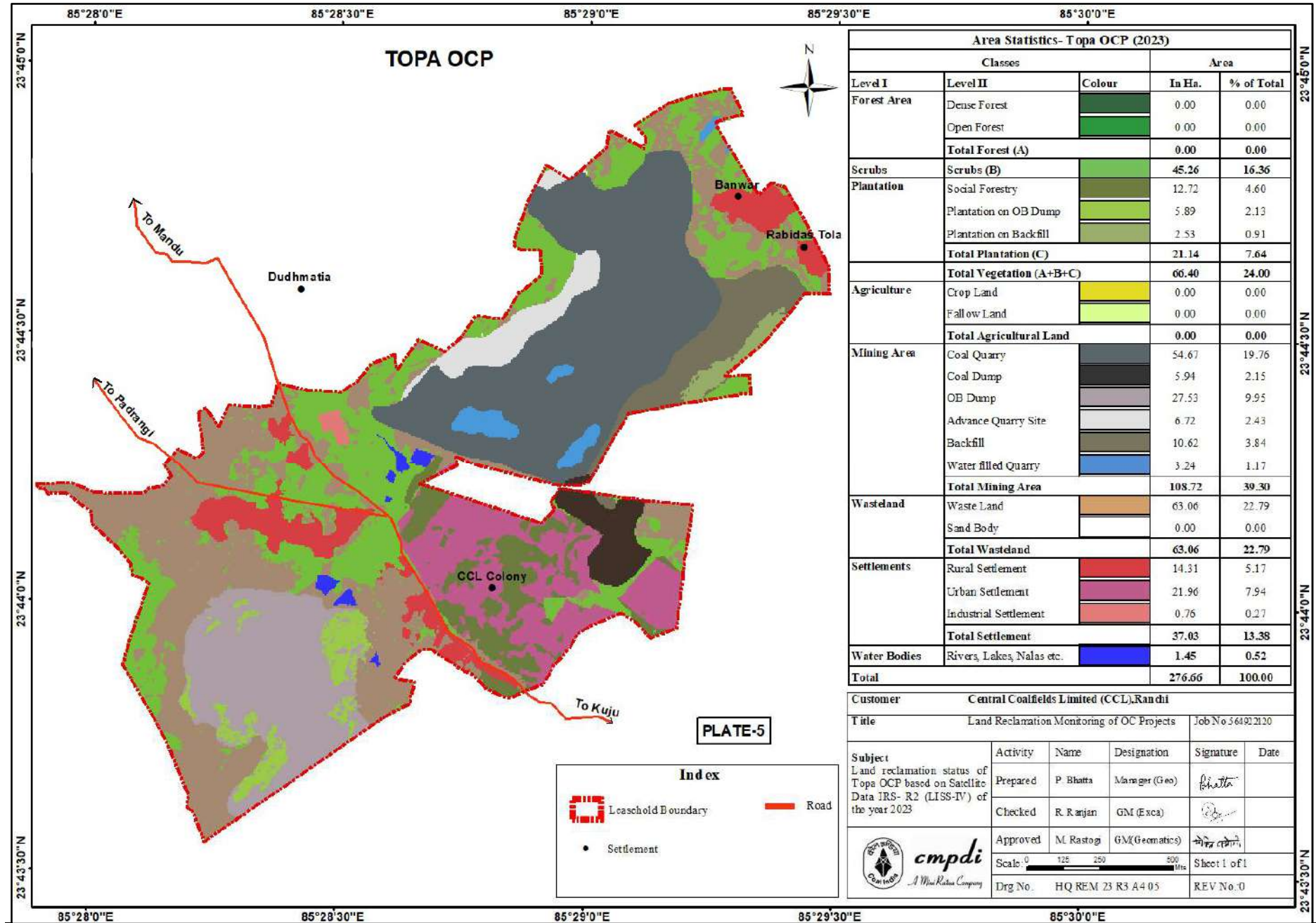


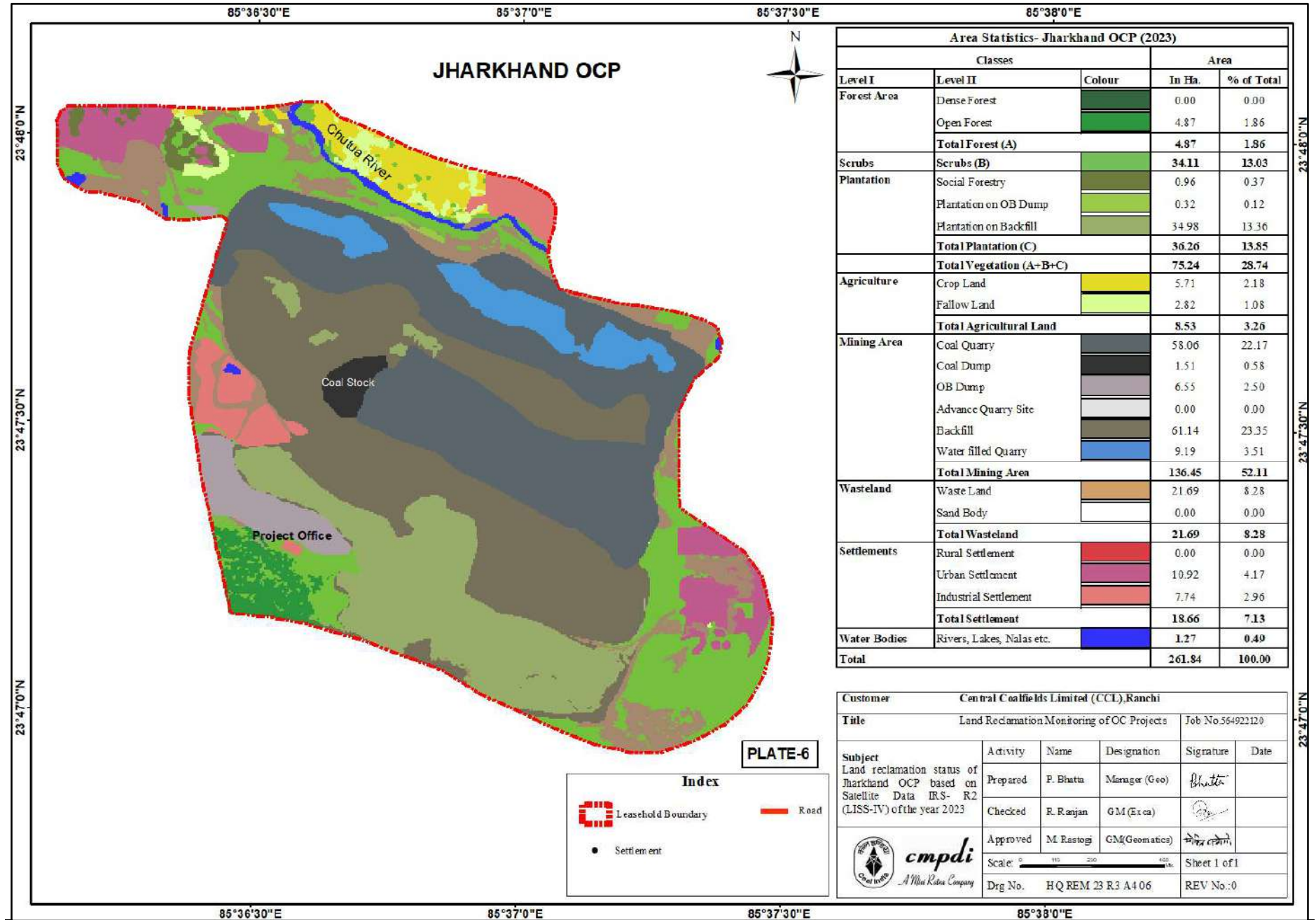




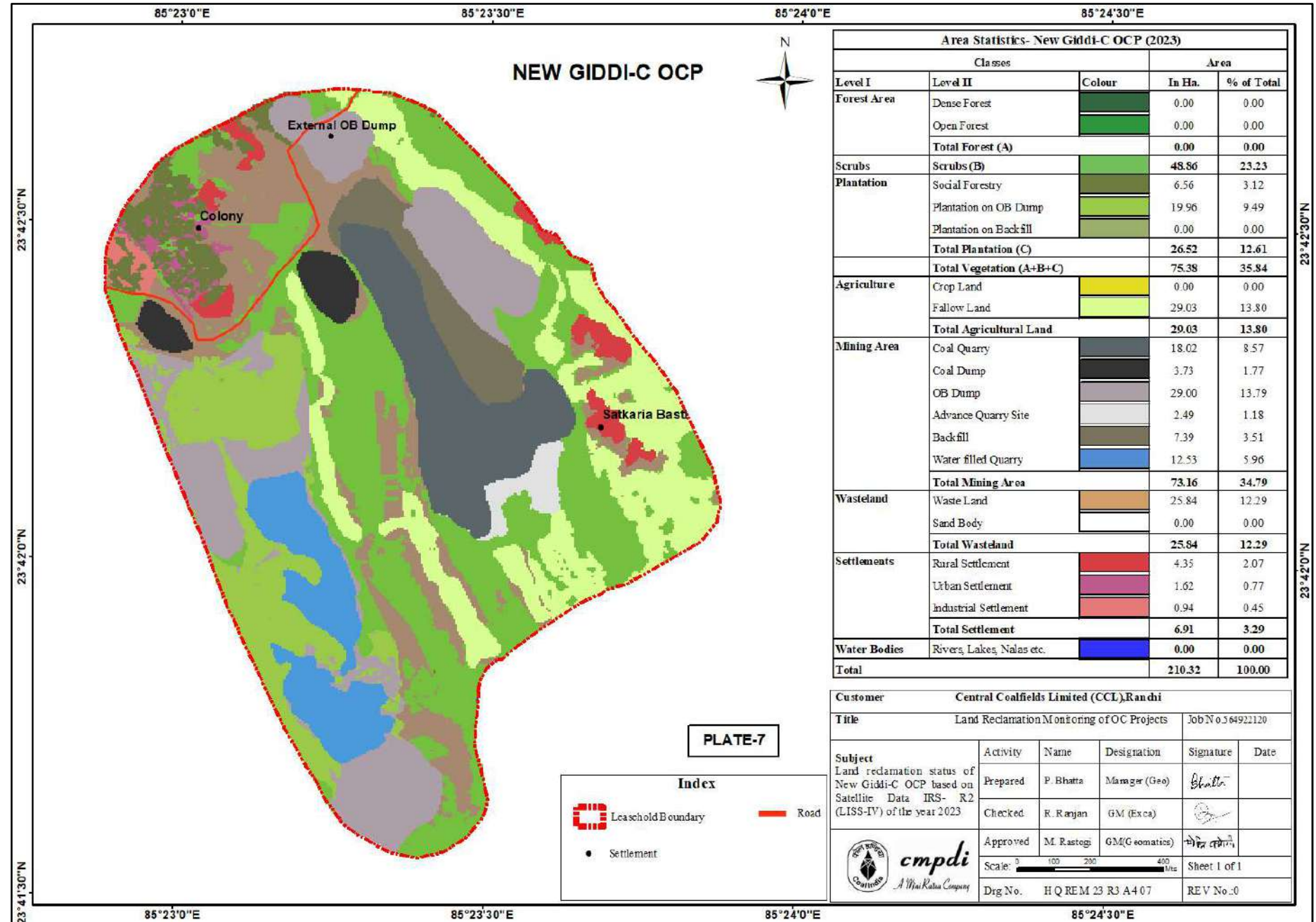














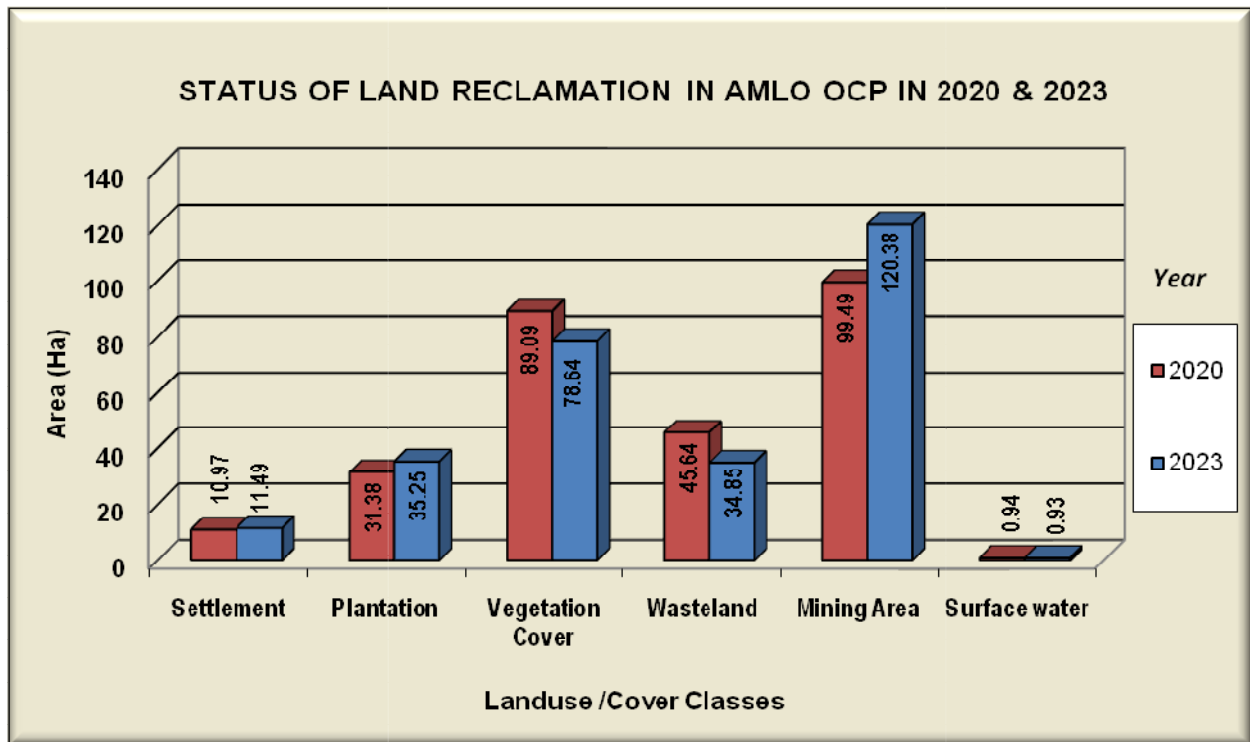


Figure -3: Bar Chart of Land Reclamation Status in Amlo OCP

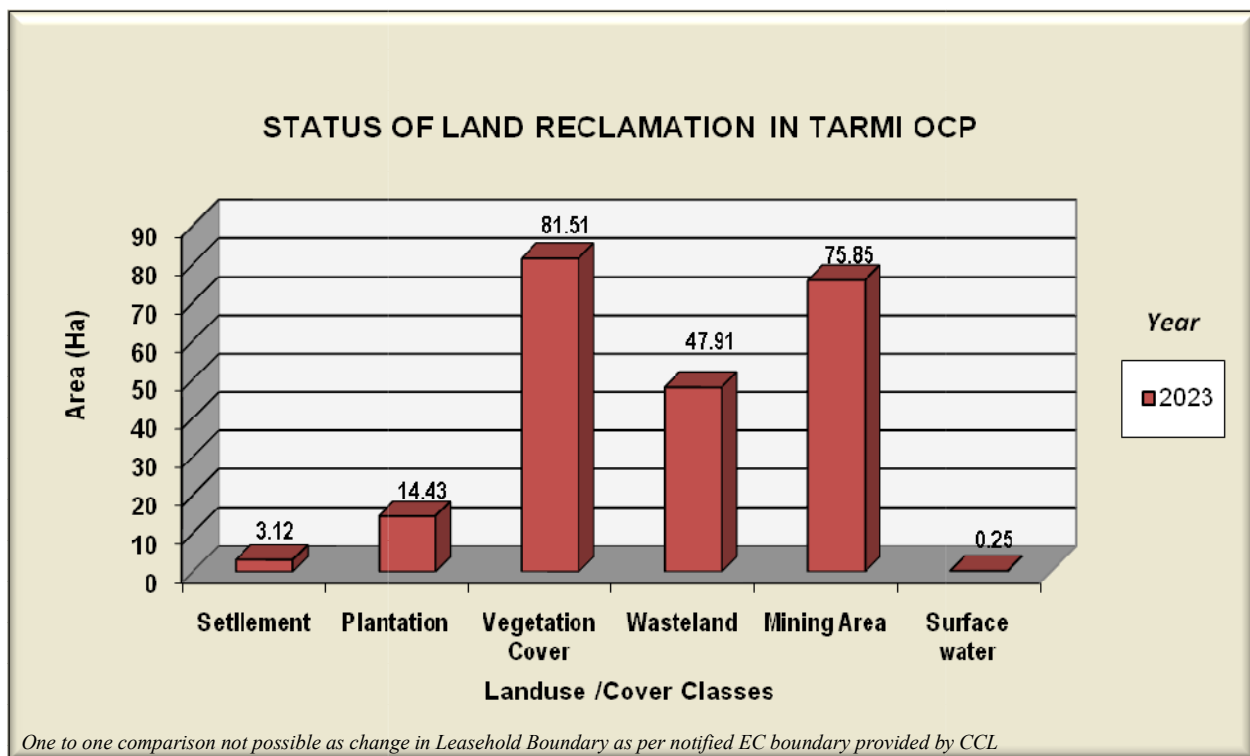


Figure -4: Bar Chart of Land Reclamation Status in Tarmi OCP

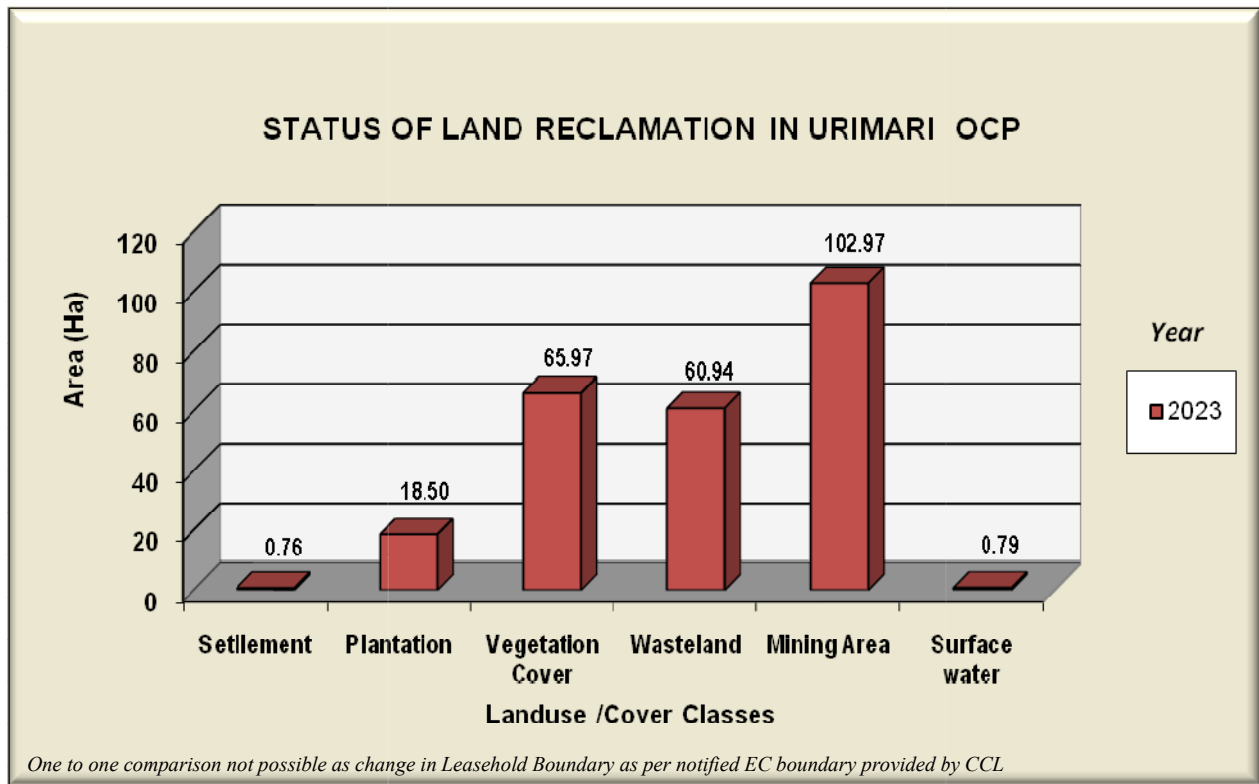


Figure -5: Bar Chart of Land Reclamation Status in Urimari OCP

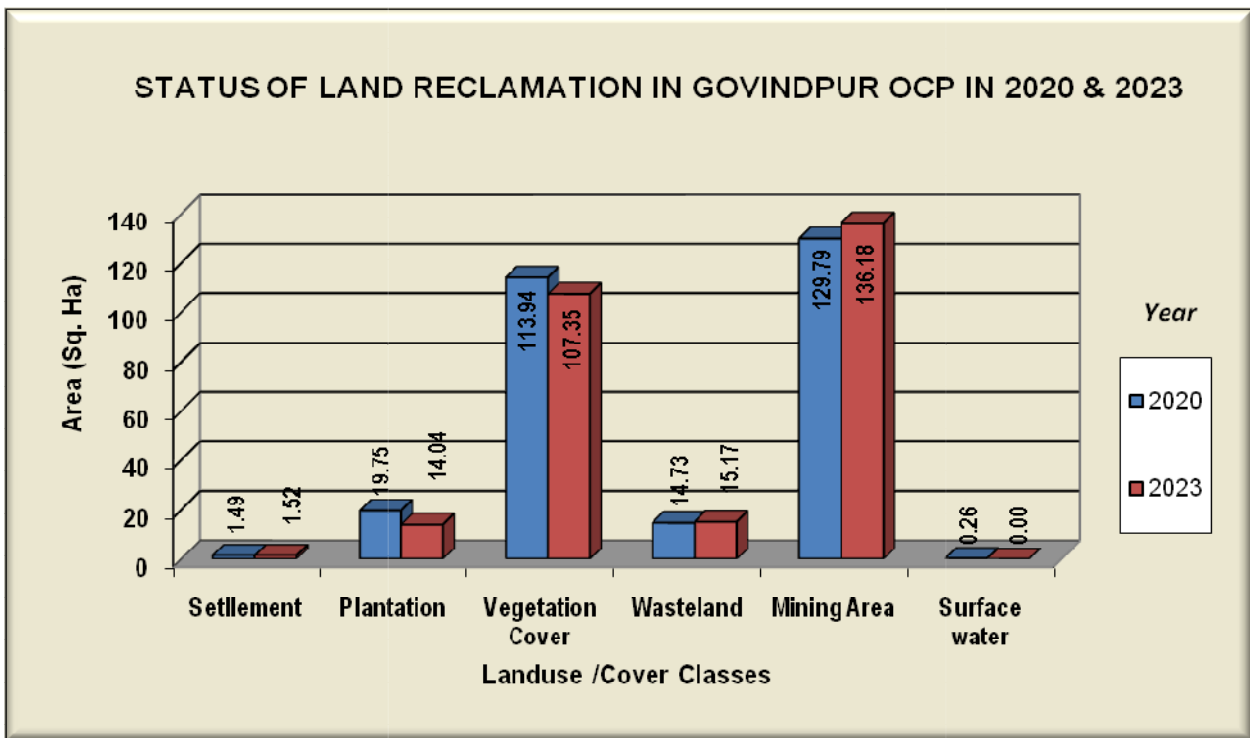


Figure -6: Bar Chart of Land Reclamation Status in Govindpur OCP

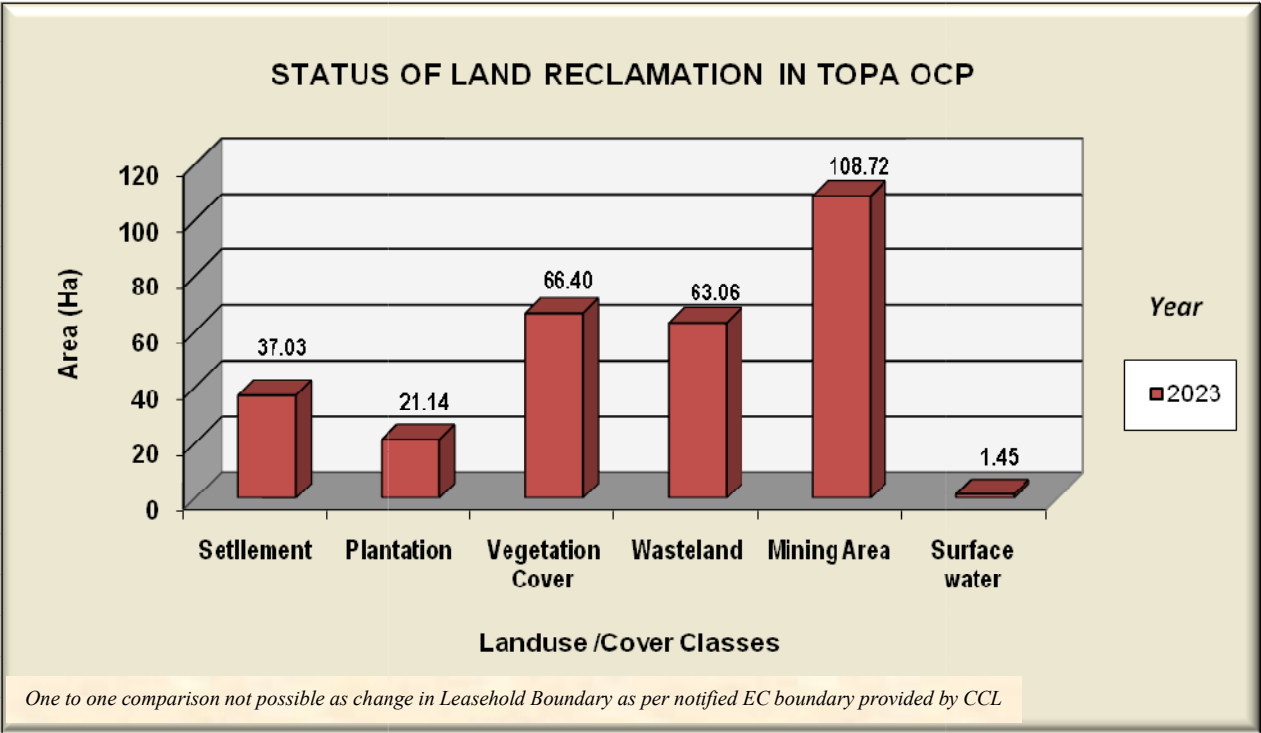


Figure -7: Bar Chart of Land Reclamation Status in Topa OCP

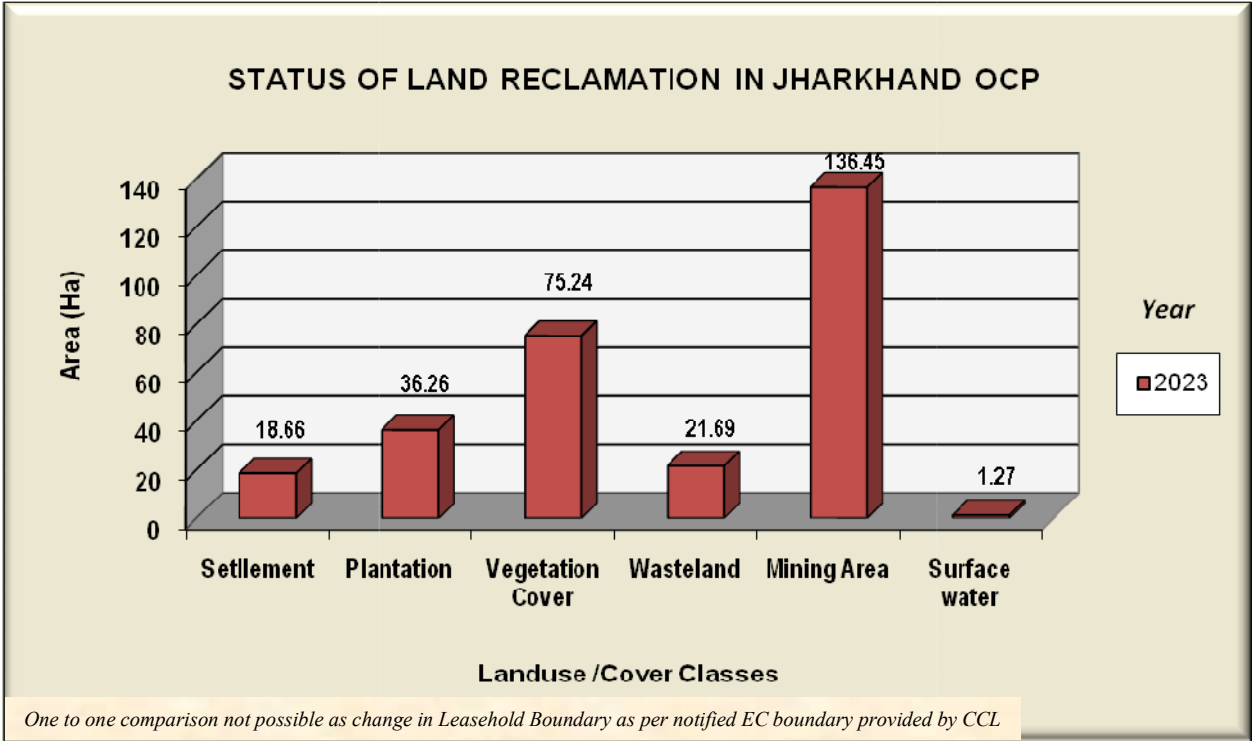


Figure -8: Bar Chart of Land Reclamation Status in Jharkhand OCP



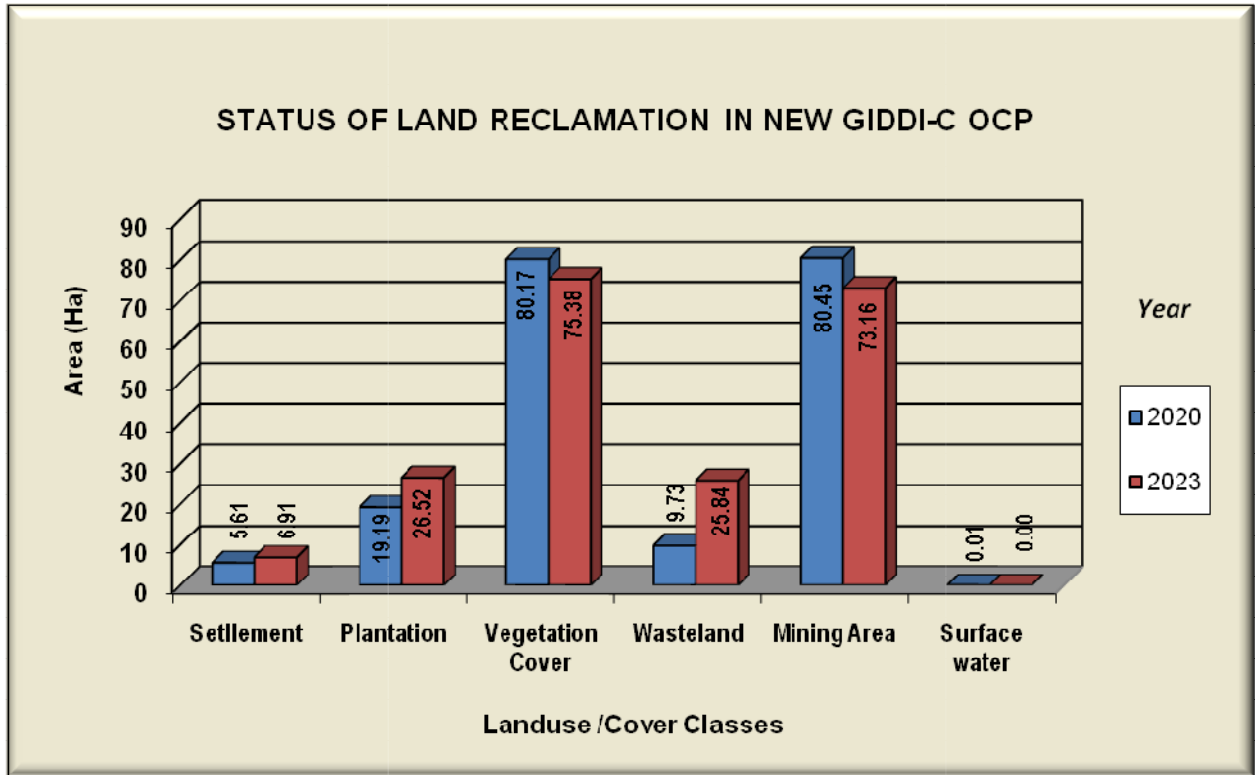


Figure -9: Bar Chart of Land Reclamation Status in New Giddi-C OCP



**Photo 1:** Plantation Site in Amlo OCP



**Photo 2:** Plantation on External OB Dump in Tarmi OCP





**Photo 3:** Overview of Urimari Opencast Project



**Photo 4:** Plantation on Backfill in Jharkhand OCP



शब्द-कोष		
1	Land Reclamation	भूमिपुनरुद्धार
2	Over Burden	अधिभार
3	Monitoring	निगरानी
4	Report	प्रतिवेदन
5	Executive Summary	कार्यकारीसारांश
6	Opencast Mine	खुलीखदान
7	Objective	उद्देश्य
8	Methodology	कार्यप्रणालीअथवाप्रक्रिया
9	Table	तालिका
10	List of Tables	तालिकाओंकीसूची
11	Map	मानचित्र
12	Social Forestry	सामाजिकवानिकी
13	Plantation	पौधारोपण
14	Million	घनमीटर
15	Background	पृष्ठभूमि
16	Planning	योजनाबद्ध
17	Assess	आकलन
18	Status	स्थिति
19	Regularly	निरंतर
20	Satellite	उपग्रह
21	Subsidiary	अनुषांगिक
22	Production	उत्पादन
23	Biological Reclamation	जैविकपुनरुद्धार
24	Technical Reclamation	तकनीकीपुनरुद्धार
25	Leasehold Area	पट्टाक्षेत्र
26	Excavated Area	उत्खननक्षेत्र
27	Active mining	सक्रियखनन

28	Environmental Protection	पर्यावरणसंरक्षण
29	Remedial Measure	उपचारात्मकउपाय
30	Interval	अंतराल
31	Systematic Error	व्यवस्थितत्रुटियाँ।
32	Error	अशुद्धियाँ
33	Curvature	वक्रता
34	Geometric	ज्यामितिक
35	Distortion	विरूपण
36	Plantation	पौधारोपण
37	Capacity	क्षमता
38	Software	सॉफ्टवेयर
39	Class	वर्ग
40	Accuracy	सटीकता
41	Statistical Separation	सांख्यिकीयपृथक्करण
42	Cubic meter	घनमीटर
43	Depicted	दर्शायागया
44	Percentage	प्रतिशत
45	Salient Findings	मुख्यनिष्कर्ष
46	Methodology	पद्धति
47	Data Procurement	डाटाक्रय
48	Satellite data Processing	उपग्रहडेटाप्रसंस्करण
49	Rectification and geo-referencing	सुधारऔरभूसन्दर्भ-
50	Image enhancement	छविगुणबृद्धि -
51	Training set selection	प्रशिक्षणसेटकाचयन
52	Classification and Accuracy assessment	वर्गीकरणऔरमूल्यांकनकीसटीकता
53	Area calculation	क्षेत्रगण-ना
54	Temporal	लौकिक
55	Processing	प्रसंस्करण

56	Overlay of Vector data base	वेक्टर डेटा बेस का आरोपन
57	Area calculation	क्षेत्र गणना-
58	Pre-field map preparation	क्षेत्र जाने के पहले नक्शे की तैयारी
59	Ground Truthing	भू-सत्यापन
60	Ground Information	भू-सूचना
61	Interpretation	व्याख्या
62	Eco-system	पारिस्थितिकी तंत्र
63	Minor	मामुली
64	Water Drainage	जलनिकाय
65	Interval	अंतराल
66	Maximum	अधिकतम
67	Coal field	कोयला क्षेत्र
68	Design	परिकल्पना
69	Superimpose	आरोपित
70	Update	अद्यतनीकरण/नवीनीकरण
71	Cumulative	संचयित
72	Embankment	तटबंध
73	Cluster	खुली तथा भूमिगत खदानों के समूह



## ABBREVIATIONS

Sol	Survey of India
MoEF& CC	Ministry of Environment, Forest & Climate Change
CIL	Coal India Limited
ECL	Eastern Coalfields Limited
BCCL	Bharat Coking Coal Limited
CCL	Central Coalfields Limited
WCL	Western Coalfields Limited
SECL	South Eastern Coalfields Limited
NCL	Northern Coalfields Limited
MCL	Mahanadi Coalfields Limited
NEC	North Eastern Coalfields
CMPDIL	Central Mine Planning & Design Institute Ltd
NRSC	National Remote Sensing Centre
R2/ R2A	Resource-Sat Satellites
LISS - 4	Linear Imaging and Self Scanning Sensor
FCC	False Colour Composite
OCP	Opencast Project
UGP	Underground Project
OB	Over Burden
GCP	Ground Control points
GIS	Geographic Information System
WGS-84	World Geodetic System
UTM	Universal Transverse Mercator

## GLOSSARY

Sl.	Term	Definition
1.	Land Reclamation	To manage, reclaim and restore mined out/ degraded land as close as possible to its original stage
2.	Over Burden	The material that lies above the coal seam/ deposit
3.	Monitoring	A process of evaluation to check or keep record for a period of time.
4.	Opencast Coal Mine	Open-pit mining, also known as opencast mining, is a surface mining technique that extracts minerals from an open pit in the ground.
5.	Social Forestry	Social forestry is the management and protection of forests and afforestation of barren and deforested lands with the purpose of helping environmental, social and rural development. Plantation (Social/ Avenue or other) carried out outside mining area.
6.	Biological Reclamation	Plantation on Backfilled areas (Stabilized Internal Dumps)
7.	Technical Reclamation	Area under backfilling (Over burden dumped inside the mine voids) in mining area.
8.	Green Cover Generation	Total Plantation carried out in the lease area of Project. This include Plantation on Backfill, Plantation on OB and Social Forestry
9.	Leasehold Area	The area, for which lease is granted for the purpose of undertaking mining and allied operations
10.	Excavated area	Mined out area which includes active mining, area under backfilling and plantation on backfilled areas
11.	Active Mining	Mining areas which include Coal Quarry, Advance Quarry, Quarry Filled with Water etc.
12.	Environmental Protection	It is the practice of protecting the natural environment by individuals, organizations and governments. Its objectives are to conserve natural resources and the existing natural environment and, where possible, to mitigate damage and reverse trends.
13.	Remedial Measure	Any measure or action required or undertaken to investigate, monitor, clean up, remove, treat, prevent, contain or otherwise remediate the presence or release of any hazardous substance or activity.
14.	Systematic Error	Every measurement differing from the true measurement in the same direction, and even by the same amount in some cases

15.	Geometric Distortion	It refers to the improper positioning of any image with respect to their true geographic position when viewed in a properly scaled common image display plane.
16.	Land Use/Cover Class	Land cover is what covers the surface of the earth and land use describes how the land is used.
17.	Accuracy	The closeness of agreement between a measured quantity value and a true quantity value.
18.	Environmental Clearance	Environmental Clearance (EC) for any developmental projects like coal mining projects etc. has been made mandatory by the Ministry of Environment, Forests and Climate Change (MoEF&CC) through its Notification issued on 27.01.1994 under the provisions of Environment (Protection) Act, 1986.
19.	Rectification and Geo-referencing	Geo-referencing is the assigning of absolute location of a data point or data points. Geo-rectification refers to the removal of geometric distortions between sets of data points, most often the removal of terrain, platform, and sensor induced distortions from remote sensing imagery
20.	Image Enhancement	It is the process of modifying digital images so that the results are more suitable for processing or further image analysis.
21.	Training set selection	It is a portion of a data set used to fit or train a model for prediction or classification of values that are known in the training set, but unknown in other (future) data
22.	Image Classification	It refers to the task of extracting information classes from a multiband raster image. The resulting raster from image classification can be used to create thematic maps.
23.	Temporal Changes	The 'temporal change' means the change in any entity with a period of time.
24.	Ground Truthing	Collection of primary/ basic information from ground realities for satellite image interpretation and thematic mapping.
25.	Cluster	Group of opencast and/ or underground mines clubbed together for administrative purposes.
26.	Arc GIS	GIS Software used for Map preparation
27.	ERDAS IMAGINE	Satellite Image Data Classification Software





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**TEST REPORT**

<b>06/24 Test Report No. 1939</b>	<b>Job No. 094323120</b>	<b>Year</b>	<b>FY2024-25</b>
Type of Sample	Ambient Air	Quarter Ending	Jun-24
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/ Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results:-

**Area :** Kathara **Project:** Govindpur Phase II OCP **Stations:** Zero point of Gvp ph II OCP

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters ( in $\mu\text{g}/\text{m}^3$ )					Wind Direction (from) & Weather
				Total Particulate Matter ( $\text{PM}_{10} + >\text{PM}_{10}$ )TPM	Particulate Matter ( $\text{PM}_{10}$ )	Particulate Matter ( $\text{PM}_{2.5}$ )	Sulphur Dioxide ( $\text{SO}_2$ )	Nitrogen Oxides (as $\text{NO}_x$ )	
<b>Apr-24 1st FN</b>	06/06/24-07/06/24	15-04-2024	15/04/24-19/04/24	290	128	38	< 25	< 6	West Sunny
<b>Apr-24 2nd FN</b>	24/04/24-25/04/24	02-05-2024	02/05/24-04/05/24	290	117	43	< 25	< 6	East Sunny
<b>May-24 3rd FN</b>	08/05/24-09/05/24	16-05-2024	16/05/24-20/05/24	312	142	46	< 25	< 6	East Sunny
<b>May-24 4th FN</b>	21/05/24-22/05/24	04-06-2024	04/06/24-07/06/24	287	155	48	< 25	< 6	East Sunny
<b>Jun-24 5th FN</b>	10/06/24-11/06/24	17-06-2024	17/06/24-20/06/24	319	158	52	< 25	< 6	West Rain
<b>Jun-24 6th FN</b>	22/06/24-23/06/24	01-07-2024	01/07/24-04/07/24	295	149	49	< 25	< 6	East Sunny

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**TEST REPORT**

<b>06/24 Test Report No. 1940</b>	<b>Job No. 094323120</b>	<b>Year</b>	<b>FY2024-25</b>
Type of Sample	Ambient Air	Quarter Ending	Jun-24
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/ Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results:-

**Area :** Kathara **Project:** Govindpur Phase II OCP **Stations:** Project Office

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters ( in $\mu\text{g}/\text{m}^3$ )					Wind Direction (from) & Weather
				Total Particulate Matter ( $\text{PM}_{10} + >\text{PM}_{10}$ )TPM	Particulate Matter ( $\text{PM}_{10}$ )	Particulate Matter ( $\text{PM}_{2.5}$ )	Sulphur Dioxide ( $\text{SO}_2$ )	Nitrogen Oxides (as $\text{NO}_x$ )	
<b>Apr-24 1st FN</b>	07/07/24-08/07/24	15-04-2024	15/04/24-19/04/24	205	146	52	< 25	< 6	West Cloud
<b>Apr-24 2nd FN</b>	25/04/24-26/04/24	02-05-2024	02/05/24-04/05/24	213	121	46	< 25	< 6	East Sunny
<b>May-24 3rd FN</b>	12/05/24-13/05/24	16-05-2024	16/05/24-20/05/24	224	131	58	< 25	< 6	East Sunny
<b>May-24 4th FN</b>	22/05/24-23/05/24	04-06-2024	04/06/24-07/06/24	248	138	63	< 25	< 6	North Sunny
<b>Jun-24 5th FN</b>	11/06/24-12/06/24	17-06-2024	17/06/24-20/06/24	259	130	53	< 25	< 6	South Rain
<b>Jun-24 6th FN</b>	23/06/24-24/06/24	01-07-2024	01/07/24-04/07/24	278	122	59	< 25	< 6	East Sunny

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**TEST REPORT**

<b>06/24 Test Report No. 1941</b>	<b>Job No. 094323120</b>	<b>Year</b>	<b>FY2024-25</b>
Type of Sample	Ambient Air	Quarter Ending	Jun-24
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/ Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results:-

**Area :** Kathara **Project:** Govindpur Phase II OCP **Stations:** Lahariantand Village

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters ( in $\mu\text{g}/\text{m}^3$ )					Wind Direction (from) & Weather
				Total Particulate Matter ( $\text{PM}_{10} + >\text{PM}_{10}$ )TPM	Particulate Matter ( $\text{PM}_{10}$ )	Particulate Matter ( $\text{PM}_{2.5}$ )	Sulphur Dioxide ( $\text{SO}_2$ )	Nitrogen Oxides (as $\text{NO}_x$ )	
<b>Apr-24 1st FN</b>	07/07/24-08/07/24	15-04-2024	15/04/24-19/04/24	135	48	20	< 25	< 6	West Cloud
<b>Apr-24 2nd FN</b>	25/04/24-26/04/24	02-05-2024	02/05/24-04/05/24	127	52	23	< 25	< 6	East Sunny
<b>May-24 3rd FN</b>	12/05/24-13/05/24	16-05-2024	16/05/24-20/05/24	119	61	24	< 25	< 6	East Sunny
<b>May-24 4th FN</b>	22/05/24-23/05/24	04-06-2024	04/06/24-07/06/24	141	55	27	< 25	< 6	North Sunny
<b>Jun-24 5th FN</b>	11/06/24-12/06/24	17-06-2024	17/06/24-20/06/24	153	59	29	< 25	< 6	South Rain
<b>Jun-24 6th FN</b>	23/06/24-24/06/24	01-07-2024	01/07/24-04/07/24	132	58	26	< 25	< 6	East Sunny

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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### TEST REPORT

<b>06/24 Test Report No. 1942</b>	<b>Job No. 094323120</b>	<b>Year</b>	<b>FY2024-25</b>
Type of Sample	Ambient Air	Quarter Ending	Jun-24
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/ Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

### TEST RESULT

The sample has been tested with the following results:-

**Area :** Kathara **Project:** Govindpur Phase II OCP **Stations:** Kamatia Village

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters ( in $\mu\text{g}/\text{m}^3$ )					Wind Direction (from) & Weather
				Total Particulate Matter ( $\text{PM}_{10} + >\text{PM}_{10}$ )TPM	Particulate Matter ( $\text{PM}_{10}$ )	Particulate Matter ( $\text{PM}_{2.5}$ )	Sulphur Dioxide ( $\text{SO}_2$ )	Nitrogen Oxides (as $\text{NO}_x$ )	
<b>Apr-24 1st FN</b>	07/07/24-08/07/24	15-04-2024	15/04/24-19/04/24	142	68	41	< 25	< 6	West Cloud
<b>Apr-24 2nd FN</b>	25/04/24-26/04/24	02-05-2024	02/05/24-04/05/24	124	59	25	< 25	< 6	East Sunny
<b>May-24 3rd FN</b>	12/05/24-13/05/24	16-05-2024	16/05/24-20/05/24	154	64	36	< 25	< 6	East Sunny
<b>May-24 4th FN</b>	22/05/24-23/05/24	04-06-2024	04/06/24-07/06/24	152	71	36	< 25	< 6	North Sunny
<b>Jun-24 5th FN</b>	11/06/24-12/06/24	17-06-2024	17/06/24-20/06/24	149	59	28	< 25	< 6	South Rain
<b>Jun-24 6th FN</b>	23/06/24-24/06/24	01-07-2024	01/07/24-04/07/24	162	60	27	< 25	< 6	North Sunny

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**TEST REPORT**

<b>06/24 Test Report No. 1943</b>	<b>Job No. 094323120</b>	<b>Year</b>	<b>FY2024-25</b>
Type of Sample:	Noise	Quarter Ending	Jun-24
Customer	CCL		
Testing/ Sampling Protocol:	'The noise pollution (Regulation and Control), Rules,2000, LQR 34		
Remarks:			

**TEST RESULT**

The sample has been tested with the following results:-

**Area :** **Kathara** **Project:** **Govindpur Phase II OCP**

Station Name	Noise Level dB(A) Leq					
	Apr-24 1st FN	Apr-24 2nd FN	May-24 3rd FN	May-24 4th FN	Jun-24 5th FN	Jun-24 6th FN
	Day/Night	Day/Night	Day/Night	Day/Night	Day/Night	Day/Night
Date of recording	06-04-2024	24-04-2024	08-05-2024	16-05-2024	10-06-2024	22-06-2024
<b>1. Zero Point of Gvp ph II OCP</b>	52.4/47.9	50.9/48.5	51.7/49.6	61.1/58.1	61.2/55.8	50.2/40.1
Date of recording	07-04-2024	25-04-2024	12-05-2024	16-05-2024	11-06-2024	23-06-2024
<b>2. Project Office</b>	54.3/51.1	50.4/48.7	50.9/48.8	55.1/50.7	56.4/51.6	51.5/48.3
Date of recording	07-04-2024	25-04-2024	12-05-2024	16-05-2024	11-06-2024	23-06-2024
<b>3. Lahariatand Village</b>	55.2/48.4	51.6/49.2	51.3/49.9	53.6/42.1	53.1/42.4	49.2/40.1
Date of recording	07-04-2024	25-04-2024	12-05-2024	16-05-2024	11-06-2024	23-06-2024
<b>4. Kamatia Village</b>	55.3/48.2	51.8/49.5	51.5/49.7	51.1/43.2	51.6/43.2	51.4/41.2

Ambient Air Quality Standards in respect of Noise as per 'The noise pollution (Regulation and Control), Rules,2000		
Time Frame	Limits in dB(A) Leq	
	Day Time 6.00 AM to 10.00 PM	Night Time 10.00 PM to 6.00 AM
Industrial Area	75	70
Commercial Area	65	55
Residential area	55	45
Silence Zone	50	40

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**TEST REPORT**

<b>06/24 Test Report No. 1944</b>	<b>Job No. 094323120</b>	<b>Year</b>	<b>FY2024-25</b>
Type of Sample:	<b>Effluent Water</b>	Quarter Ending	Jun-24
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/ Sampling Protocol:	<b>MOEF -SCH-VI STANDARDS, Class 'A', LQR 33</b>		
Remarks & Observation:	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent		

**TEST RESULT**

The sample has been tested with the following results:-

**Area:** Kathara      **Project:** Govindpur Phase II OCP      **Stations:** Workshop Effluent

Analysis Results of FN Effluent Water							
Parameters →				<b>COD</b>	<b>O &amp; G</b>	<b>pH value</b>	<b>TSS</b>
Detection Limit				<b>4</b>	<b>2</b>	<b>0.2</b>	<b>10</b>
MOEF -SCH-VI, STANDARDS, Class 'A'				<b>250</b>	<b>10</b>	<b>5.5 to 9.0</b>	<b>100</b>
Month	Date of Sampling	Date of Receipt of Sample	Date of Analysis	Value in mg/l, except pH			
<b>Apr-24 1st FN</b>	09/04/24	15/04/24	15/04/24-30/04/24	124	2.8	7.6	232
<b>Apr-24 2nd FN</b>	27/04/24	02/05/24	02/05/24-16/05/24	132	3	7.5	215
<b>May-24 3rd FN</b>	15/05/24	16/05/24	16/05/24-03/06/24	120	2.4	7.8	189
<b>May-24 4th FN</b>	23/05/24	04/06/24	04/06/24-14/06/24	148	2.6	7.4	211
<b>Jun-24 5th FN</b>	12/06/24	17/06/24	17/06/24-01/07/24	156	3.2	7.2	264
<b>Jun-24 6th FN</b>	26/06/24	01/07/24	01/07/24-15/07/24	116	2.6	7.7	96
<b>BIS Standard &amp; Method</b>				APHA, 23rd Edition, Closed Reflux, Titrimetric Method, 2017	IS 3025/39:1991, R : 2003, Partition Gravimetric	IS-3025/11:1983, R-1996, Electrometric	IS 3025/17:1984, R :1996, Gravimetric Method

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**TEST REPORT**

<b>06/24 Test Report No. 1945</b>	<b>Job No. 094323120</b>	<b>Year</b>	<b>FY2024-25</b>
Type of Sample:	<b>Surface Water</b>	Quarter Ending	<b>Jun-24</b>
Customer	CCL	Date of Receipt:	<b>15-04-2024</b>
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	<b>15.04.24-04.06.24</b>
Testing/ Sampling Protocol:	LQR 33		
Remarks & Observation:	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent		

**TEST RESULT**

The sample has been tested with the following results:-

<b>Area :</b>	<b>Kathara</b>	<b>Project:</b>	<b>Govindpur Phase II OCP</b>
<b>Stations:</b>		<b>Date of Sampling:</b>	
	1. Intake of Filter Plant		<b>08-04-2024</b>
	2. Konar River U/S near Filter Plant		<b>08-04-2024</b>
	3. Konar River D/S near Ganibudih Basti		<b>08-04-2024</b>

Sl.No	Parameter	Sampling Stations				Detection Limit	BIS Standard & Method
		1	2	3	4		
<b>1</b>	Arsenic (as As), mg/l	<0.002	<0.002	<0.002		0.002	IS 3025/37:1988 R : 2003, AAS-VGA, Method
<b>2</b>	BOD (3 days 27°C), mg/l	2.2	<2.0	<2.0		2.00	IS 3025 /44: 1993, R: 2003 3 day incubation at 27°C
<b>3</b>	Cadmium(as Cd), mg/l	<0.0004	<0.0004	<0.0004		0.0004	APHA, 23rd Edition AAS-GTA Method, 2017
<b>4</b>	Chlorides (as Cl <sup>-</sup> ), mg/l	8	6	6		2.00	IS-3025/32:1988, R-2007, Argentometric Method
<b>5</b>	Copper (as Cu), mg/l	<0.02	<0.02	<0.02		0.02	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)
<b>6</b>	Disolved Oxygen	6	6.7	6.5		0.10	IS 3025/38: 1989, R:2003, Winkler Azide Method
<b>7</b>	Fluoride (as F <sup>-</sup> ) mg/l	0.32	0.32	0.32		0.02	APHA, 23rd Edition, SPADNS Method, 2017
<b>8</b>	Hexavalent Chromium, mg/l	<0.01	<0.01	<0.01		0.01	APHA, 23rd Edition, 2017 Diphenylcarbohydrazide,
<b>9</b>	Iron (as Fe), mg/l	<0.04	<0.04	<0.04		0.04	IS 3025 /53: 2003, R : 2009, AAS (Air-Ac-Flame)
<b>10</b>	Lead (as Pb), mg/l	<0.001	<0.001	<0.001		0.001	APHA, 23rd Edition AAS-GTA Method, 2017
<b>11</b>	Nitrate (as NO <sub>3</sub> <sup>-</sup> ), mg/l	1.62	1.31	1.32		0.50	APHA, 23rd Edition, UV - Spectrophotometric, 2017
<b>12</b>	pH value	8.1	8	8		1.0	IS-3025/11:1983, R-1996, Electrometric Method
<b>13</b>	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH), mg/l	<0.001	<0.001	<0.001		0.001	APHA, 23rd Edition, 2017, 4-Amino Antipyrine Method,
<b>14</b>	Selenium (as Se), mg/l	<0.0005	<0.0005	<0.0005		0.0005	IS 3025/56:2003 AAS-VGA Method
<b>15</b>	Sulphate (as SO <sub>4</sub> <sup>-2</sup> ) mg/l	11	8	9		2.00	APHA, 23rd Edition Turbidity Method, 2017
<b>16</b>	Total Dissolved Solids, mg/l	109	131	315		25.00	IS 3025 /16:1984 R : 2006, Gravimetric Method
<b>17</b>	Total Suspended Solids, mg/l	28	26	36		10.00	IS 3025 /17:1984, R :1996, Gravimetric Method
<b>18</b>	Zinc (as Zn), mg/l	0.007	0.006	0.006		0.005	IS 3025 /49: 1994, R : 2009, AAS (Air-Ac-Flame)

Analysed By

Authorized Signatory

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**TEST REPORT**

<b>06/24 Test Report No. 1946</b>	<b>Job No. 094323120</b>	<b>Year</b>	<b>FY2024-25</b>
Type of Sample:	<b>Drinking Water</b>	Quarter Ending	<b>Jun-24</b>
Customer	CCL	Date of Receipt:	<b>15-04-2024</b>
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	<b>15.04.24-04.06.24</b>
Testing/ Sampling Protocol:	<b>IS:10500 Drinking Water Standards, LQR 33</b>		
Remarks & Observation:	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent		

**TEST RESULT**

The sample has been tested with the following results:-

**Area :** **Kathara**  
**Stations:**

**Project:**

**Govindpur Phase II OCP**  
**Date of Sampling:**

1. Well at Officer Colony
2. Well at Swang Basti
3. Well at Ganjudih Basti
4. Well at Khurgarha Village

**08-04-2024**  
**08-04-2024**  
**08-04-2024**  
**08-04-2024**

Sl. No	Parameter	Sampling Stations				Detection Limit	IS:10500 Standards	Standard / Test Method
		1	2	3	4			
1	Boron (as B), mg/l	<0.20	<0.20	<0.20	<0.20	0.20	0.5, Max	APHA, 23rd Edition Carmine Method; 2017
2	Cadmium (as Cd), mg/l	<0.0004	<0.0004	<0.0004	<0.0004	0.0004	0.003, Max	APHA, 23rd Edition AAS-GTA Method; 2017
3	Calcium (as Ca), mg/l	52.8	57.6	16	67.2	1.60	75, Max	IS-3025/40:1991, EDTA
4	Chloride (as Cl <sup>-</sup> ), mg/l	58	142	14	140	2.00	250, Max	IS-3025/32:1988, R-2007, Argentometric Method
5	Copper (as Cu), mg/l	<0.02	<0.02	<0.02	<0.02	0.02	0.05, Max	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)
6	Fluoride (as F <sup>-</sup> ) mg/l	0.60	1.16	0.48	1.11	0.02	1.0, Max	APHA, 23rd Edition, SPADNS Method; 2017
7	Free Residual Chlorine, mg/l	<0.02	<0.02	<0.02	<0.02	0.02	0.2, Min	APHA, 23rd Edition, DPD Method; 2017
8	Iron (as Fe), mg/l	<0.04	<0.04	<0.04	<0.04	0.04	0.3, Max	IS 3025 /53: 2003, R : 2009 AAS (Air-Ac-Flame)
9	Lead (as Pb), mg/l	<0.001	<0.001	<0.001	<0.001	0.001	0.01, Max	APHA, 23rd Edition AAS-GTA Method; 2017
10	Manganese (as Mn), mg/l	<0.01	<0.01	<0.01	<0.01	0.01	0.1, Max	IS-3025/59:2006, AAS (Air-Ac-Flame) Method
11	Nickel (as Ni), mg/l	0.006	0.006	<0.003	<0.003	0.003	0.02, Max	APHA, 23rd Edition, 3120 B, ICP Method; 2017
12	Nitrate (as NO <sub>3</sub> <sup>-</sup> ), mg/l	13.1	74.2	34.9	78.5	0.5	45, Max	APHA, 23rd Edition, UV-Spectrophotometric; 2017
13	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Qualitative	Agreeable	IS 3025 /05:1983, R-2012, Qualitative
14	pH value	7.6	7.9	6.7	7.8	1.0	6.5 to 8.5	IS-3025/11:1983, R-1996, Electrometric Method
15	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH), mg/l	<0.001	<0.001	<0.001	<0.001	0.001	0.001, Max	APHA, 23rd Edition, 4-Amino Antipyrine; 2017
16	Selenium (as Se), mg/l	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.01, Max	IS 3025/56:2003 AAS-VGA Method
17	Sulphate (as SO <sub>4</sub> <sup>-2</sup> ) mg/l	92	174	10	166	2.00	200, Max	APHA, 23rd Edition. Turbidity Method; 2017
18	Total Alkalinity (CaCO <sub>3</sub> ), mg/l	284	254	40	296	4.00	200, Max	IS-3025/23:1986,R: 2009, Titration Method
19	Total Arsenic (as As), mg/l	<0.002	<0.002	<0.002	<0.002	0.002	0.01, Max	IS 3025/ 37:1988 R : 2003, AAS-VGA: 1998
20	Total Chromium (as Cr), mg/l	<0.002	<0.002	<0.002	<0.002	0.002	0.05, Max	APHA, 23rd Edition, 3120 B, ICP Method; 2017
21	Total Dissolved Solids, mg/l	538	846	150	855	25.00	500, Max	IS 3025 /16:1984 R : 2006, Gravimetric
22	Total Hardness (CaCO <sub>3</sub> ), mg/l	280	396	52	452	4.00	200, Max	IS-3025/21:1983, R-2009, EDTA Method
23	Turbidity, NTU	1	1	1	1	1.0	1.0, Max	IS-3025/10:1984 R-1996, Nephelometric Method
24	Zinc (as Zn), mg/l	<0.005	<0.005	0.011	<0.005	0.005	5.0, Max	IS 3025 /49: 1994, R : 2009, AAS (Air-Ac-Flame)

Analysed By

Authorized Signatory

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## TEST REPORT

<b>06/24 Test Report No. Metal / 08</b>	<b>Job No. 094323120</b>	<b>2024-25</b>
Type of Sample	Ambient Air	Quarter Ending
Customer	CCL	Date of Receipt of Sample:
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:
Sampling Protocol:	USEPA IO-3.2: 1999, LQR 32	06/05/24-15/06/24
Remarks & Observation:	All samplers placed 1.5 m above ground level	

### TEST RESULT

The sample has been tested with the following results:-

<b>Area :</b>	<b>Kathara</b>	<b>Project:</b>	<b>Govindpur Phase II OCP</b>
<b>Stations:</b>	1. Zero Point of Gvp ph II OCP 2. Project Office 3. Lahariatand Village 4. Kamatia Village	<b>Date of Sampling:</b>	06-07/04/2024 07-08/04/2024 07-08/04/2024 07-08/04/2024

S.No	Test Parameters	Units	Test Result				Meth od detect ion Limit	Limit (NAAQS-2011)	Test Method
Stations:			1	2	3	4			
1	Conc. of As in Air	ng/m <sup>3</sup>	1.44	1.04	0.94	0.81	0.1	6.00	USEPA IO-3.2:1999
2	Conc. of Ni in Air	ng/m <sup>3</sup>	2.32	4.59	2.61	3.45	0.1	20.00	USEPA IO-3.2:1999
3	Conc. of Pb in Air	µg/m <sup>3</sup>	0.042	<0.005	0.006	0.020	0.005	1.0	USEPA IO-3.2: 1999
4	Conc. of Cu in Air	ng/m <sup>3</sup>	0.27	0.21	0.32	0.30	0.1	-	USEPA IO-3.2: 1999
5	Conc. of Cd in Air	ng/m <sup>3</sup>	0.035	<0.02	0.046	0.040	0.02	-	USEPA IO-3.2: 1999
6	Conc. of Cr in Air	ng/m <sup>3</sup>	0.14	0.14	0.14	0.15	0.1	-	USEPA IO-3.2: 1999
7	Conc. of Hg in Air	ng/m <sup>3</sup>	<0.005	<0.005	<0.005	<0.005	0.005	-	USEPA IO-3.2: 1999



### TEST REPORT

06/24 Test Report No. 1920	Job No. 094323120	Year	FY2024-25
Type of Sample	Ambient Air	Quarter Ending	June-24
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/ Sampling Protocol:	IS 5182 (part 14): 2000, R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

### TEST RESULT

The sample has been tested with the following results:-

**Area :** Kathara **Project:** Govindpur Phase II OCP **Stations:** Zero point of Gvp ph II OCP

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters NAAQS (8 Hourly Average)			Wind Direction (from) & Weather
				Ammonia (in $\mu\text{g}/\text{m}^3$ )	CO (in $\text{mg}/\text{m}^3$ )	Ozone (in $\mu\text{g}/\text{m}^3$ )	
April'24 1st FN	06/04/24	06/04/24	06/04/24	<20	0.681	<19.62	W to E
April'24 2nd FN	24/04/24	24/04/24	24/04/24	<20	0.735	<19.62	E to W
May.'24 3rd FN	08/05/24	08/05/24	08/05/24	<20	0.647	<19.62	E to W
May.'24 4th FN	21/05/24	21/05/24	21/05/24	<20	0.657	<19.62	E to W
June '24 5th FN	10/06/24	10/06/24	10/06/24	<20	0.638	<19.62	W to E
June '24 6th FN	22/06/24	22/06/24	22/06/24	<20	0.736	<19.62	E to W

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

Analysed By

Authorized Signatory

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**TEST REPORT**

<b>06/24 Test Report No. 1921</b>	<b>Job No. 094323120</b>	<b>Year</b>	<b>FY2024-25</b>
Type of Sample	Ambient Air	Quarter Ending	June-24
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/ Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results:-

**Area :** Kathara **Project:** Govindpur Phase II OCP **Stations:** Project Office

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters NAAQS (8 Hourly Average)			Wind Direction (from) & Weather
				Ammonia (in $\mu\text{g}/\text{m}^3$ )	CO (in $\text{mg}/\text{m}^3$ )	Ozone (in $\mu\text{g}/\text{m}^3$ )	
<b>April'24 1st FN</b>	07/04/24	07/04/24	07/04/24	<20	0.562	<19.62	W to E
<b>April'24 2nd FN</b>	25/04/24	25/04/24	25/04/24	<20	0.541	<19.62	E to W
<b>May.'24 3rd FN</b>	12/05/24	12/05/24	12/05/24	<20	0.602	<19.62	E to W
<b>May.'24 4th FN</b>	21/05/24	21/05/24	21/05/24	<20	0.636	<19.62	N to S
<b>June '24 5th FN</b>	11/06/24	11/06/24	11/06/24	<20	0.614	<19.62	S to N
<b>June '24 6th FN</b>	23/06/24	23/06/24	23/06/24	<20	0.598	<19.62	E to W

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**TEST REPORT**

<b>06/24 Test Report No. 1922</b>	<b>Job No. 094323120</b>	<b>Year</b>	<b>FY2024-25</b>
Type of Sample	Ambient Air	Quarter Ending	June-24
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/ Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results:-

**Area :** Kathara **Project:** Govindpur Phase II OCP **Stations:** Lahariantand Village

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters NAAQS (8 Hourly Average)			Wind Direction (from) & Weather
				Ammonia (in $\mu\text{g}/\text{m}^3$ )	CO (in $\text{mg}/\text{m}^3$ )	Ozone (in $\mu\text{g}/\text{m}^3$ )	
<b>April'24 1st FN</b>	07/04/24	07/04/24	07/04/24	<20	0.554	<19.62	W to E
<b>April'24 2nd FN</b>	25/04/24	25/04/24	25/04/24	<20	0.530	<19.62	E to W
<b>May.'24 3rd FN</b>	12/05/24	12/05/24	12/05/24	<20	0.541	<19.62	E to W
<b>May.'24 4th FN</b>	21/05/24	21/05/24	21/05/24	<20	0.529	<19.62	N to S
<b>June '24 5th FN</b>	11/06/24	11/06/24	11/06/24	<20	0.485	<19.62	S to N
<b>June '24 6th FN</b>	23/06/24	23/06/24	23/06/24	<20	0.519	<19.62	E to W

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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**TEST REPORT**

<b>06/24 Test Report No. 1923</b>	<b>Job No. 094323120</b>	<b>Year</b>	<b>FY2024-25</b>
Type of Sample	Ambient Air	Quarter Ending	June-24
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/ Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32		
Remarks & Observation:	All samplers placed 1.5 m above ground level		

**TEST RESULT**

The sample has been tested with the following results:-

**Area :** Kathara **Project:** Govindpur Phase II OCP **Stations:** Kamatia Village

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters NAAQS (8 Hourly Average)			Wind Direction (from) & Weather
				Ammonia (in $\mu\text{g}/\text{m}^3$ )	CO (in $\text{mg}/\text{m}^3$ )	Ozone (in $\mu\text{g}/\text{m}^3$ )	
April'24 1st FN	07/04/24	07/04/24	07/04/24	<20	0.488	<19.62	W to E
April'24 2nd FN	25/04/24	25/04/24	25/04/24	<20	0.490	<19.62	E to W
May.'24 3rd FN	12/05/24	12/05/24	12/05/24	<20	0.461	<19.62	E to W
May.'24 4th FN	21/05/24	21/05/24	21/05/24	<20	0.472	<19.62	N to S
June '24 5th FN	11/06/24	11/06/24	11/06/24	<20	0.496	<19.62	S to N
June '24 6th FN	23/06/24	23/06/24	23/06/24	<20	0.468	<19.62	N to S

**Note:**

1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

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## Photographs of Garland Drain









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1. General development
2. Height.....Cms.
3. Weight.....Kg.
4. Eyes :
  - (i) Visual actuality – Distant vision (with or without glasses)
    - Right eye.....Left Eye.....
  - (ii) Any organic disease of eyes
  - \*(iii) Night blindness
  - \*(iv) Colour blindness
  - (v) Squint

(\*To be tested in special cases)
5. Ears :
  - (i) Hearing : Right ear.....Left ear.....
  - (ii) Any organic diseases
6. Respiratory system :
 

Chest measurement

  - (i) After full inspiration.....cms.
  - (ii) After full expiration.....cms.
7. Circulatory system :
 

Blood Pressure 120/80 mm Hg

Pulse 82 bpm
8. Abdomen :
  - \* Tenderness
  - \* Liver
  - \* Spleen
  - \* Tumour
9. Nervous System :
  - \* History of Fits or epilepsy
  - \* Paralysis
  - \* Mental Health
10. Locomotor System
11. Skin
12. Hernia
13. Hydrocele
14. Any other Abnormality
15. Urine :
  - \* Reaction
  - \* Albumin
  - \* Sugar
16. Skiagram of chest :
17. Any other test considered necessary by the examining authority
18. Any opinion of specialist considered necessary :

Date :

Place :

Signature of the Examining



FORM "O"

(See Rule 29 F (2) and 29L)  
REPORT OF MEDICAL EXAMINATION UNDER RULE 29B  
(TO BE ISSUED IN TRIPLICATE)\*\*

Certificated No.

11498372  
DOB 11/5/1984

DA 19/5/2011

Certified that Shri/Shrimati Suman Kr Ambedkar Sri Brindeghurani  
employed as mining saradar mine, Form B No. Harijona has  
been examined for an initial/periodical\* medical examination. He/She\* appears to be  
years of age. The findings of the examining authority are given in the attached sheet. It is considered that  
Shri/Shrimati\* Suman Kr Ambedkar

(a)\* is medically fit for any employment in mines:

(b)\* is suffering from.....and is medically unfit for

(i) any employment in mine, or

(ii) any employment below ground, or

(iii) any employment or work.....

(c)\* is suffering from.....and should get this disability\* cured/controlled  
and should be again examined within a period of.....months.\* He/She will

appear for re-examination with the result of test of.....

appear for-examination with the result of test of.....

\*and the opinion of.....specialist from.....

He/She\* may be permitted / not permitted to carry on his duties during this period.

Spinnometry Not Done

25/5/2023

Signature of the examination authority



Place : CHD

Date : 25/05/2023

Name and designation in Block Letters

\* Delete whatever is not applicable.

\*\* One copy of the certificate shall be handed over to the person concerned and another copy shall be sent to the  
Manager or the mine concerned by registered post and the third copy shall be retained by the examining authority.

Report of the Examination Authority

(To be filled in for every medical examination whether initial or periodical or re-examination after cure/control of disability)

Annexure to Certificate No.....as a result of medical examination  
on.....

Identification mark.....

Suman Kr Ambedkar  
Left thumb impression of the candidate



1. General development
2. Height \_\_\_\_\_ Cms.
3. Weight \_\_\_\_\_ Kg.
4. Eyes:

(i) Visual actuality - Distant vision (with or without glasses)

Right eye \_\_\_\_\_ Left Eye \_\_\_\_\_

(ii) Any organic disease of eyes

\* (iii) Night blindness

\* (iv) Colour blindness

(v) Squint

(\* To be tested in special cases)

5. Ears:

(i) Hearing: Right ear \_\_\_\_\_ Left ear \_\_\_\_\_

(ii) Any organic diseases

6. Respiratory system:

Chest measurement

(i) After full inspiration \_\_\_\_\_ cms.

(ii) After full expiration \_\_\_\_\_ cms.

7. Circulatory system:

Blood Pressure

Pulse

8. Abdomen:

\* Tenderness

\* Liver

\* Spleen

\* Tumour

9. Nervous System:

\* History of Fits or epilepsy

\* Paralysis

\* Mental Health

10. Locomotor System

11. Skin

12. Hernia

13. Hydrocele

14. Any other Abnormality

15. Urine:

\* Reaction

\* Albumin

\* Sugar

16. Skiagram of chest:

17. Any other test considered necessary by the examining authority

18. Any opinion of specialist considered necessary:

Date:

Place:

Signature of the Examining



## **PHOTOGRAPHS OF GREEN BELT DEVELOPED**









**PHOTOS OF CATCH DRAIN AND SILTATION POND**







**TOE WALL**

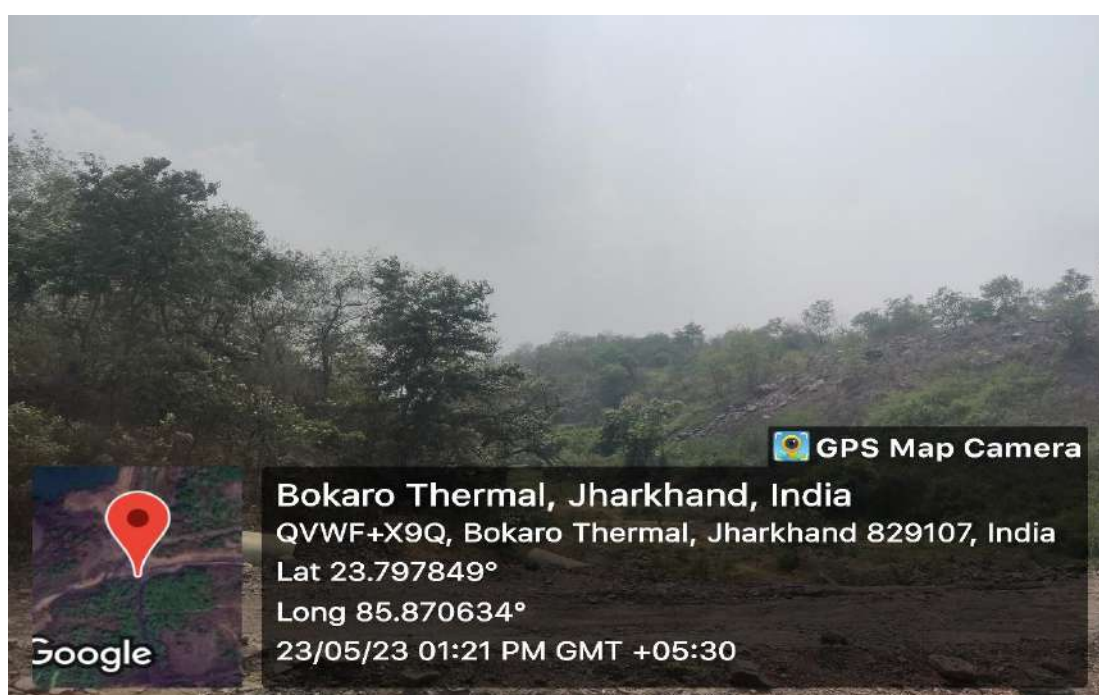
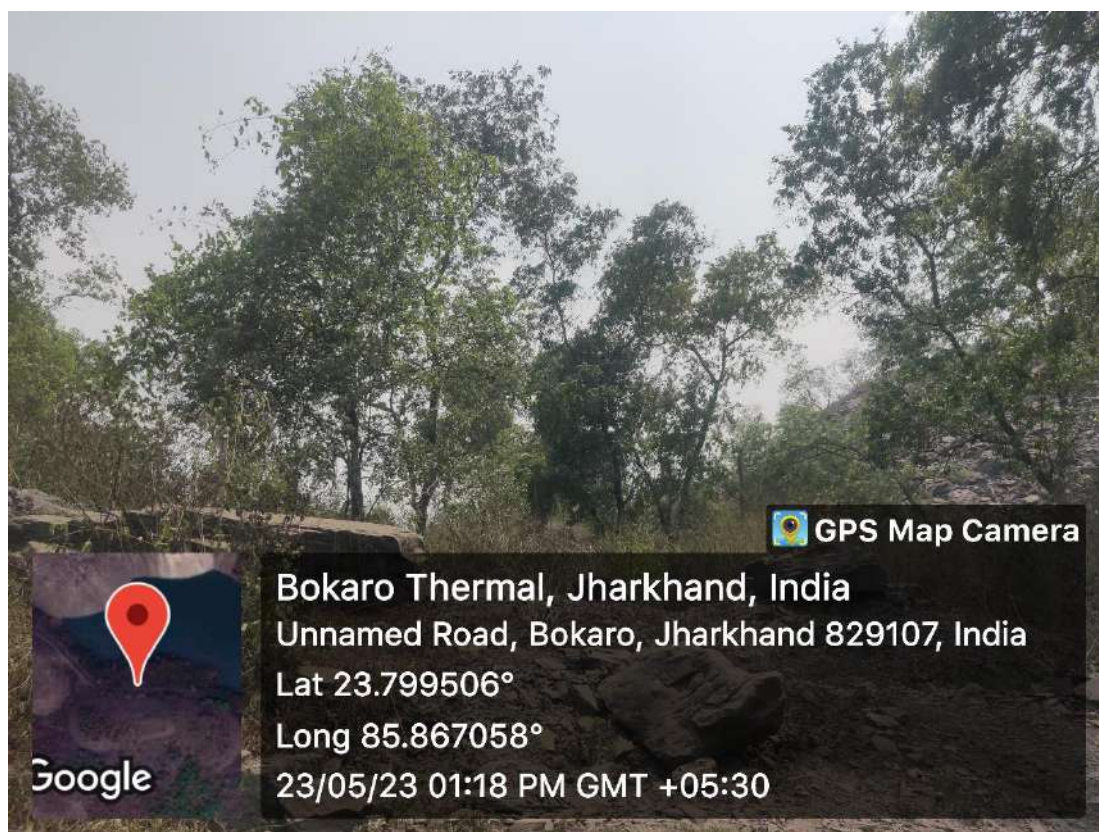








**PHOTOGRAPHS OF PROGRESSIVE AFFORESTATION**









**PHOTOGRAPHS OF GRASSING & VEGETATION ON OB DUMP**









**RAIN WATER HARVESTING**





**Central Coalfields Limited**  
**Office of the General Manager, Kathara Area.**  
**Post:- Kathara, Dist:- Bokaro, Jharkhand, 829116.**

Article of agreement made this day of 19 Feb 2024, between Central Coalfields Limited, company registered under the Indian Companies Act, 1956 its registered office at Darbhanga House, Ranchi of the one part( hereinafter referred to the company which expression where the context as admits shall include its successors in interest and assigns), M/S **BIRENDRA SAHU, GOVINDPUR BAISHAKHI COLONY PO BOKARO THERMAL(829107), BOKARO, JHARKHAND** of the other part hereafter referred to the contractor/contractors which expression where the context so admits shall include its heirs, executors, administrators legal representative, successors in business and assign.

Whereas the company invited tender for the work:- **“Construction of Rain water Harvesting System at Govindpur Project Office and Govindpur Hospital, under Govindpur PH-II OCP, Kathara Area”** vide E-Tender notice No. NIT No:- 47 of 2023-24, vide e-tender notice No:- **PO/SO (C)/SWG-GVP PH-II/E-Tender/23-24/47, Dt: 12.12.2023**

And whereas the contractor/contractors submitted tender and deposited **Rs. 19,600.00 (Rupees, Nineteen Thousand Six Hundred and Paise Zero)**, only as earnest money vide PRN No: - **3064361010271**, and Bank UTR No: - **151143875** and whereas the tender of the contractor/ contractors has/have been accepted and the earnest money has been treated as security deposit. Further amount of **Rs. 26,377.00 (Rupees Twenty Six thousand Three Hundred Seventy Seven and Paise Zero)**, only deposited as Performance security money vide **B.D. No:- 318836 dated:- 17.02.2024** For **Rs. 26,377.00**. The contractor/ contractors has / have agreed to retention by the company the total security of **Rs. 45,977.00 (Rupees, Forty five thousand Nine hundred seventy seven and Paise Zero)** only (including E/M and Performance S/M) as security for the due fulfillment to the contract to the satisfaction of the company. A sum of **Rs. 2, 05,885.85 (Rupees, Two Lakh Five thousand Eight hundred Eighty Five and Paise Eighty Five)**, only has been deposited towards **Additional Performance Security** in the form of **B.G/FDR A/C No:- (i) 42712050892 dated:- 17.02.2024 for Rs.1,05,000.00 (ii)41981476158 dated:-17.02.2024 for Rs.51,000.00 (iii)41981501084 dated:-17.02.2024 for Rs.50,000.00 = Rs.2,06,000.00 of Rs.2,05,885.85**. All running on A/C bill shall be paid 95% of work value. The 5% deduction towards retention money will be second part of security deposit will be refunded after issue of no defect certificate.

*Birendra Sahu*  
Contractor

*[Signature]*  
Staff Officer (Civil)  
Kathara Area



And whereas the contractor / contractors has /have agreed to execute upon the subject to the conditions set forth in the contract agreement such other condition set forth in the contract document which is part of the agreement and such other conditions as are contained in and set-forth in the letter for award of work and tender notice and company with the proportionate rate of progress noted at the end of this agreement for the sum of **Rs. 9, 19,535.22, (Rupees. Nine Lakh Nineteen thousand Five hundred Thirty Five and paisa Twenty Two) only (Excluding GST)** or such other sum may be arrived at under the clause of the specification to company by items measurements at unit prices.

**Now this agreement witness and it is hereby agreed as follows:**

In consideration for the payment of the said sum of **Rs. 9, 19,535.22, (Rupees. Nine Lakh Nineteen thousand Five hundred Thirty Five and paisa Twenty Two) only Excluding GST** only on or such other sum may be arrived at under the clause of the specification relating to payment by items measurements at unit prices the contractors shall upon and subject to the said terms and conditions, execute the complete the work shown in the letter for award of work and tender notice and to the extent of probable quantities shown in the schedule 'B' with such variation by way alteration or addition to or deduction from the said work and method of payments whereof as provided in the said conditions

The time shall be considered as one of the essence of the contract and the time for completion of the contract shall be counted as mentioned in the award of work issued to the contractor to which terms and contractor agreed at the time when his tender was accepted and the contract shall be completed within **90(Ninety) Days** from such dated.

The parties here to shall respectively abide by and submit themselves to the terms and conditions and stipulations contained in the agreement and performs the discharge of their part of the contract accordingly.

Upon the terms and conditions of this agreement being fulfilled and performed to the satisfaction of Central Coalfields Limited, the security deposited by the contractor as herein before receipted or such portion thereof as they may be entitled to under the terms and conditions which is part of this agreement. In witness whereof the Central Coalfields Limited the General Manager, Kathara Area, has hereunto set his hand the date and year first above written.



Signed by the contractor/contractors.  
In presence of witness.  
Address.

Signed by on behalf of the Company.  
Designation.

  
Staff Officer, (Civil)  
Kathara Area

In presence of the witness

**M/s B. D. ENTERPRISES**  
  
Proprietor



**TENDER FOR WORK.**

I/we hereby tender for the execution for the CCL, Ranchi of the work certified in the unde written memorandum at the date specified of letter of intent handing over the site whichever is earlier in accordance in all respects with the specifications, design drawing and other documents attached to this and subject to the annexed condition of contract and with such materials as are provided for by and in all other respect in accordance with such condition so far as applicable.

**MEMORANDUM.**

(a) Name of work:- **"Construction of Rain water Harvesting System at Govindpur Project Office and Govindpur Hospital, under Govindpur PH-II OCP, Kathara Area."**

(b) Estimated cost **Rs. 15, 62,349.25 only (Incl. GST)**

(c) Award value **Rs. 9,19,535.22 only (Excl. GST)** vide Award letter No:- CCL/KATHARA/SWG GVP PH-II/CIVIL/AOW/23-24/37, Dated:- 02.02.2024.

(d) In reference to Budget Certification on estimate vide no C&B/ RFC/2023-24/ Capital/GVP PH-II/Environment/15(a)/70 dated 27.11.2023 for **Rs.15, 62,349.25**

(e) Earnest money **Rs. 19,600.00** only as Earnest Money vide PRN No:-3064361010271, and Bank UTR No. **151143875.**

(f) Total Security Money comes to **Rs. 26377.00** only deposited.

(g) Total Additional Performance Security Money comes to **Rs. 2,06,000.00** only deposited.

As per details in para 6 (A) of detailed tender notice.

1. Period of completion:- **90 days**
2. Date of commencement:- **10.02.2024**
3. Date of completion:- **09.05.2024**
4. Party's A/C No:- **30354771863** of **S.B.I. BOKARO THERMAL.**
5. PAN no:- **FIHPS9469B**
6. GST. No:- **NA**

**REFERENCES:-**

Estimate of above work approved for **Rs. 15, 62,349.25** only (Incl.GST) approved by General Manager, Kathara Area, with the concurrence of Area Finance Manager, Kathara Area, vide his diary no:- C&B/ RFC/2023-24/ Capital/GVP PH-II/Environment/15(a)/70 dated 27.11.2023 for **Rs.15, 62,349.25** & Award of work approved for **Rs. 9,19,535.22** only (Excl.GST) by General Manager, Kathara and additional Fund of **Rs. 6,42,814.03** will be de-concurred.

The expenditure is chargeable to Capital fund of **Sawang Govindpur PH-II, Kathara Area.**

Annexure to the deed of agreement which are part of the Agreement.

Annexure 'A' General terms and conditions of contract and additional safety measures to be taken by the contractor/ contractors.

Schedule 'A' Drawings.

Schedule 'B' The probable quantities and amount.

Schedule 'C' Specifications.

Schedule 'D' Mode of payment.

*Birendera Saha*


*[Signature]*  
28/01/24

Schedule 'E' Tender acceptance letter.

**RATE OF PROGRESS:**

The following rate of progress and proportionate value of work done from time to time will be indicated by Manager (Civil) certificate of the value of work done will be required. Date of commencement of this programme will be as stated in the tender acceptance order.

Period after commencement.			Percentage of work to be completed (Based on contract amount.).
1 <sup>st</sup> day	to	90 <sup>th</sup> day	100%

  
Contractor.

  
Staff Officer (Civil),  
Kathara Area.



**MINE CLOSURE REPORT**

**FOR**

**GOVINDPUR PHASE-II OPEN CAST  
PROJECT  
(1.2 MTY)**

**(CENTRAL COALFIELDS LIMITED)**



**AUGUST 2011**

Regional Institute – III  
**Central Mine Planning & Design Institute Ltd.**  
(A Subsidiary of Coal India Ltd.)  
**Gondwana Place, Kanke Road**  
**Ranchi-834008, Jharkhand**

## INTRODUCTION

### **1.1 About the Mine**

Govindpur OCP was worked earlier. Upper Kargali seam was planned and worked under the name of Govindpur OCP. The same report was expanded to include the underlying Bermo seam under the name of Govindpur Expansion OCP.

The present Govindpur Ph-II OCP was planned as a new project to extract coal up to the lower most opencastable seam (i.e. Karo-VI seam) including area already worked in Govindpur OCP & Govindpur Expansion OCP. Total leasehold area of Govindpur Ph-II OCP includes both virgin and worked area. **The name Govindpur Ph-II is incidental as in Ph-I, the upper seams of Kargali and Bermo have already been worked under the name of Govindpur OCP & Govindpur Expansion OCP (Not as Govindpur Ph-I OCP).**

### **History of Mine**

The PR of this project was prepared as a new project. The report proposed to exploit the upper Karo Group of seams (Seam VI to XI) based on the "Geological Report on Coal Exploration Govindpur North Block, East Bokaro Coalfield" prepared in Dec 2001 and the area south of Bermo Seam incrop upto 180 m depth line on Seam-VI floor in the south, bounded on the east by Mantico Nalla and on the west by Borrea Fault (F7-F7). This is a sector not covered in the geological report of Gobindpur North block (2001), and has now been defined for including additional reserves south of the original limits of Gobindpur North block.

Govindpur Ph-II Opencast Project is a new mine and a Draft Project Report was prepared in Feb 2008 to produce 0.8 MTY of coal from the Govindpur North sub-block of Govindpur Block in East Bokaro Coalfield. Further reserves from an area to the south of the incrop of Bermo seam has been added to the reserve of Govindpur North Block and the capacity of the PR enhanced to 1.2 MTY.

Karo group of seams is proposed to be exploited in Govindpur Ph II OCP. It is a huge source of non-coking coal. This reserve of 19.53 MT non-coking coal lies below the patches of forest and non-forest land. Hence, unless the forest land above the coal seams is released, the coal seams cannot be exploited. Mining being site specific it is not possible to divert the operations to non-forest land.

The PR of Govindpur Ph-II OCP (1.20 MTPA normative capacity and 1.50 MTPA highest achievable capacity ) was placed before the 364th meeting of Board of Directors of CCL held on 23.12.2009. After detailed deliberation, the Board approved the Project Report of Govindpur Ph-II OCP envisaging departmental coal extraction and OB removal at an estimated additional capital investment of Rs.96.16 Crores.



### 1.1.1 Name of mine owner / company

**Project**----- Govindpur Ph-II OCP

**Area**----- The projects under consideration, i.e. Govindpur Phase-II OCP is administratively under Kathara Area of CCL headed by General Manager, Kathara Area. Geologically, it falls in East Bokaro Coalfield in Bokaro District of Jharkhand.

**Company**-----Central Coalfields Limited

**Mine Owner**---Director (Technical)(Operation), CCL

### 1.1.2 Address for Communication

**Project**----- Govindpur Ph-II OCP

**Nearest Railway station** ----- Govindpur Ph-II OCP is well connected by rail. The Gomoh- Barkakana loop line of East-Central Railway is about 2 km from the Project. BTPS Railway Station is the nearest railway station.

**District**----- Bokaro.

**State**-----Jharkhand.

### 1.1.3 Location of mine:

**Project**----- Govindpur Ph-II OCP

**Area**----- Kathara area

**Latitude**----- 23° 48' 30" and 23° 49' 30" North.

**Longitude**----- 85° 51' 15" and 85° 52' 45" East

Included in Survey of India Toposheet No. 73E/13 of Scale 1:50000.

### 1.1.4 Date of start & Life of mine:

**Date of start of production**----- 1989-90

**Total life of mine as per PR** ----- 20 years

**Estimated remaining life of mine (as on 01.04.11)** ----- 19 years

### 1.1.5 Total Lease Area of the mine :----- 274.95 Ha

### 1.1.6 Communication

Govindpur Ph-II OCP is well connected by rail and road. The Gomoh-Barkakana loop line of East-Central Railway is about 2 km from the Project. BTPS Railway Station is the nearest railway station. The Project is about 80 km from Hazaribagh and about 130km from Ranchi, via Ramgarh - Tenughat Dam road.

The Sawang colliery was connected to this Project by a seasonal causeway over Konar River, which was washed away. It is proposed to construct a bridge over Konar River at the same place.



### **1.1.7 Topography of the area**

The lease area of Govindpur Phase-II OCP is slightly rolling with gentle southerly slope. The maximum elevation is 318m above MSL and minimum 231 & 240 m along the flanks of Konar river & Montico Nala respectively. The Project lies in the catchment area of Konar river & Montico Nala. The Konar river which is perennial in nature flows in the south easterly direction and forms the western boundary of the project. The Montico nala flows in the southern direction and joins the Konar river at some distance to the south of the block. Konar river joins the easterly flowing Bokaro river at the south central part of the area and thereafter finally joins the master drainage Damodar river in further south east of the block. Several small seasonal nalas originating from the uplands traverse the area and flow towards Bokaro river, Konar river and the Damodar river. The HFL of the Konar river and Montico Nala have been recorded as 232.7 m and 234.95 m above MSL. The drainage pattern of the area is mostly dendritic.

### **1.2 Reasons for Closure**

To restore the disturbed area after extraction of planned quantity of coal, to the acceptable limit of local community and regulatory authority.

### **1.3 Need of mine closure planning**

1.3.1 Mining activities leave long lasting impacts on the landscape, ecology and on local inhabitants. These activities disturb the delicate environmental and social equilibrium that exists in its area of influence. Hence, it becomes imperative on part of the mine operator to restore the equilibrium in the mine affected area that existed in the pre-mining period. Thus, any mining venture must have adequate closure plan, aimed at rehabilitation of disturbed area, which should be acceptable to local community as well as regulatory authority.

1.3.2 Mine closure encompasses rehabilitation process designed to restore physical, chemical and biological quality disturbed by the mining activities. Mine closure is not just something that happens at the end of a mine's life rather mine closure is an ongoing series of decisions and activities beginning in the pre-mining stage of mine and ending with a sustainable site that can be returned to the community.

1.3.3 Thus, a Mine closure plan needs to define the liabilities, responsibilities and authorities of the different agencies like the mine management, other regulatory bodies, Central and State Governments after mine closure. Various objectives of the advance mine closure planning are as follows:

- a. To allow productive and sustainable after-use of the site, which is acceptable to the mine owner and the regulatory authority
- b. To protect public health and safety
- c. To eliminate environmental damage and thereby encourage environmental sustainability
- d. To minimize adverse socio-economic impacts of mining activities
- e. To protect the flora and fauna of the area affected by the mining
- f. Effective use of the assets created in course of mining

- 1.3.4 Primarily, the mine closure activities are planned in two stages. The initial plan identifies the activities required to be executed as the mining activities progress after the inception of the Project. These activities may undergo subtle changes depending upon the actual site condition during implementation. Finally, a detailed closure plan is to be prepared 4-5 years before the actual closure time of the mine depending upon the existing parameters at that point of time.

### **Plans Enclosed**

The following surface plans have been enclosed along with this mine closure report plan:

- a. Pre mining Land use plan of core zone
- b. Quarry & Dump Plan at the end of mining.
- c. Post mining land use plan with reclamation.



## Financial Provisions

Mine Closure activities would be a constant exercise for the mine which would begin with the commencement of mining operations and continue till post closure. The mine closure activities would naturally entail certain expenditures, which will have to be borne by the mine operator.

### 2.1 Revenue expenditures

This would cover the activities which are being executed along with normal mining operation and would continue to be executed in course of execution of the Project. The cost of progressive mine closure activities is already part of the project cost.

### 2.2 Expenditures to be incurred just prior to actual mine closure and in the post closure period

- 2.2.1 As per MOC guidelines, a corpus escrow account @ Rs. 6.0 lakhs per Ha of the property leasehold shall be opened with the coal controller organization to meet the expenses of final mine closure. Thus the total expenditure on this front may be calculated in following manner:

The cost expenditure after closure of mine will be met from the corpus escrow account deposited by the mine operator. However, the additional amount beyond the escrow account will be provided by the mine operator after estimating the final mine closure cost five years prior to mine closure (as per the mine closure guideline).

The progressive mine closure will deal the land reclamation as per the calendar plan of project report. The cost of progressive land reclamation is already part of the project cost. Therefore, the escrow account for mine closure will deal only the final mine closure.

### The detail of escrow account

The total mine lease area is **274.95** Ha, so the corpus based on August, 2009 rate is Rs. 1649.70 Lakh @ Rs. 6.0 Lakh/Ha of lease area. The wholesale price index in August, 2009 and April, 2011 is 129.60 and 152.10 respectively. So the current value of corpus is Rs.  $1649.70 \times 152.10 / 129.60$  Lakh, which comes to Rs. 1936.11 lakh. Since this is an operating/existing mine, this corpus is to be divided by balance life of mine. The balance life of the mine is 19 years. So, by dividing by 19 years, the annual corpus comes to Rs. 101.90 Lakh. This amount is to be deposited in escrow account every year with 5% escalation.

Year	Amount in Lakh (Rs.)
1 - 2011	101.9
2	107.00
3	112.34



Year	Amount in Lakh (Rs.)
4	117.96
5	123.86
6	130.05
7	136.56
8	143.38
9	150.55
10	158.08
11	165.98
12	174.28
13	183.00
14	192.15
15	201.76
16	211.84
17	222.43
18	233.56
19	245.23
<b>Total</b>	<b>3111.92</b>

As per above an amount will be deposited every year up to the last year of mine life. The amount calculated by the above formula shall be deposited every year by CCL in the Escrow amount opened with the Coal Controller organization in a scheduled Bank. An agreement, outlining detailed terms and conditions of operating the said Escrow Account shall be executed amongst CCL, the Coal Controller and the commercial Bank.

However the additional amount beyond the escrow account, if any estimated later on, will be provided by the mine operator after estimating the final mine closure cost five years prior to mine closure (as per the mine closure guideline).

#### The details of Mine Closure Cost

The above escrow account will meet the cost of different activities of Mine Closure cost which is given in the table below:

SL. NO.	ACTIVITY	% OF TOTAL MINE CLOSURE COST	AMOUNT IN LAKH (RS.)
A	<b>Dismantling of Structures</b>		
	Service Buildings	0.20	6.22
	Residential Buildings	2.67	83.09
	Industrial structures like CHP, Workshop, field sub-station etc.	0.30	9.34
B	<b>Permanent Fencing of mine void and other dangerous area</b>		
	Random rubble masonry of height 1.2 metre including levelling up in cement concrete 1:6:12 in mud mortar	1.50	46.68

SL. NO.	ACTIVITY	% OF TOTAL MINE CLOSURE COST	AMOUNT IN LAKH (RS.)
C	<b>Grading of highwall slopes</b>		
	Levelling and grading of highwall slopes	1.77	55.08
D	<b>OB Dump Reclamation</b>		
	Handling/ Dozing of external OB Dump in to mine void	88.66	2759.03
	Bio-reclamation including soil spreading, plantation and maintenance	0.40	12.45
E	<b>Landscaping</b>		
	Landscaping of the clear land for improving its esthetic	0.30	9.34
F	<b>Plantation</b>		
	Plantation over area obtained after dismantling	0.50	15.56
	Plantation around the fencing	0.20	6.22
	Plantation over the cleared off external OB Dump	0.02	0.62
G	<b>Monitoring/ Testing of paramaters for three years</b>		
	Air Quality	0.22	6.85
	Water Quality	0.20	6.22
H	<b>Enterpreneurship Development (Vocational/ skill development training for sustainable income of affected people</b>	0.26	8.09
I	<b>Miscellaneous and other mitigative measures</b>	2.00	62.24
J	<b>Manpower cost for supervision</b>	0.80	24.90
	<b>TOTAL</b>	<b>100.00</b>	<b>3111.92</b>



### Time Schedule

The closure of mines evolves environmental, technical, social aspect and financial assurance for implementing the post closure activities as per guidelines of Ministry of Coal. The post closure implementing activities will run for three years. The following activities will be implemented as per bar chart.

S.N	Activities	Time Frame	Half Yearly					
			1	2	3	4	5	6
1.	Preparation of Survey & Disposal Report	1 month	■					
2.	Slope Stability study for high walls and internal backfilled dumps	1 month	■					
3.	Disposal of P&M including HEMM, CHP, W/S, Siding	2 and half years	■	■	■	■	■	
4.	Backfilling of mined out Area ( OC )	2 years	■	■	■	■		
5.	Dismantling of Industrial structure	2 years	■	■	■	■		
6.	Grading & dozing of high walls for OC	2 years	■	■	■	■		
7.	Fencing of quarry	2 years	■	■	■	■		
8.	Clearing of Coal Stock and Infrastructural Area.	2 years	■	■	■	■		
9.	Disposal / Dismantling of Residential colony	2 & 1/2 years	■	■	■	■	■	
10.	Plantation & landscaping on backfilled area.	3 years	■	■	■	■	■	■
11.	Plantation over cleaned land of Infrastructure.	from 2 <sup>nd</sup> year		■	■	■	■	■
12.	Environmental Monitoring	3 years	■	■	■	■	■	■

The manpower for implementing the above activities with time bound manner have been provided in the subsequent chapter with cost details.

**NOTE :** The progressive mine closure will be done as per the calendar plan of the OC project for technical and biological reclamation of dumps and internal voids.



**CENTRAL COALFIELDS LIMITED**  
**DARBHANGA HOUSE, RANCHI**

Sub: Forwarding Minutes of the 385<sup>th</sup> (No.2 of 2012) Meeting of the  
Board of Directors held on 24.02.2012.

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Extracts from the minutes of the above meeting, in respect of following item, is appended below.

Item No.4(16):      Proposal seeking approval of Mine Closure Plan of 15 Projects of CCL (Financial assurance).

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The Board noted that the "Mine Closure Plans" for 15 mines have been prepared as per the guidelines issued by Ministry of Coal, Government of India.

The Board further noted the following-

- For financial assurance for mine closure, CCL shall open an Escrow Account with any scheduled bank, with the Coal Controller Organization (on behalf of the Central Govt.) as exclusive beneficiary.
- When implementation of the final mine closure scheme is undertaken by the mine owner starting five years before the scheduled closure of mining operations, the Coal Controller may permit withdrawals (4 years before final mine closure date) from the Escrow Account proportionate to the quantum of work carried out, as reimbursement.
- The withdrawn amount each year shall not exceed 20% of the total amount deposited in the account.
- The corpus for mine closure has to be generated as per this guideline @ ₹ 1.0 Lakh / Ha of lease area in case of underground mines & ₹ 6.0 Lakh / Ha of lease area in case of opencast mines.
- The base date for this rate is August, 2009 which has to be escalated at the time of preparation of mine closure plan on the basis of Wholesale Price Index issued from Ministry Of Finance from time to time.
- Annual closure cost is to be computed considering the total leasehold area at the above mentioned rates (evaluated at the time of preparation of mine closure plan on the basis current WPI) and dividing the same by the balance life of the mine in case of operating / existing mines. An amount to the annual cost is to be deposited each year throughout the life of the mine compounded @ 5% annually.

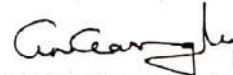
Keeping in view of the above, after detailed deliberation, the Board approved the proposal as brought out in the agenda, of Mine Closure Plans of following 15 mines with corresponding funds as mentioned below to facilitate generation of fund for Escrow Account with Coal Controller Organization on behalf of the Central Government-

	Name of Projects	Proposed fund for Mine Closure (Cumulative) (in ₹ Lakh)
1	Jarangdih UGP	814.70
2	Jarangdih OCP	1332.00
3	Karma OCP	2685.80
4	Urimari Exp. OCP	2097.14
5	Ashok Expn OCP	13849.67
6	Govindpur P-II CP	3111.92
7	KDH OCP	7818.80
8	Purnadih OCP	10406.70
9	Karo OCP	9742.16
10	Rohini OCP	2227.26
11	Piparwar OCP	9664.67
12	Tetariakhar OCP	1895.90
13	Dakra OCP	2395.86
14	Tapin OCP	3345.78
15	Churi-Benti UGP	1164.10
	<b>GRAND TOTAL</b>	<b>72552.47</b>

( ₹ Seven Twenty Five Crore Fifty Lac & Forty Seven Thousand only)

The CGM (P&P) in consultation with the Finance department of CCL shall take necessary action in this regard.

It is requested kindly to take necessary action on the decision, wherever necessary, under intimation to this office.

  
(C.V.N. Gangaram)  
Company Secretary.

  
GM(E&P)

U.O.No.CS/BM/385/2012/ 193

Date: 01-03-2012





पश्चिमबङ्ग पश्चिम बंगाल WEST BENGAL

P 527836

AMENDED AGREEMENT

ESCROW ACCOUNT AGREEMENT BETWEEN

Central Coalfields Limited (Coal Mining Company) for its Govindpur-P-II OCP (Name of Coal Block/Mine) with Coal Controller's Organization & Bank.

This Escrow Account Agreement is made at Kolkata on 5<sup>th</sup> day of August 2013 amongst

1) Central Coalfields Limited (a company registered under the Indian Companies Act, 1956 having its registered office at Darbhanga House, Ranchi - 834001 and branch office at \_\_\_\_\_, hereinafter called a mining company or lessee or mine owner which expression shall unless repugnant to the subject or context thereof includes, its successors and permitted assigns.

AND

2) Coal Controller's Organisation, Government of India, Ministry of Coal having its office at 1, Council House Street, Kolkata, and branch office at Dhanbad, Ranchi, Bilaspur, Nagpur, Kothagudam, Sambalpur & Asansol hereinafter called the Coal Controller's Organization which expression shall unless repugnant to the subject or context thereof include its, successors and permitted assigns.

AND

3) United Bank of India, a body corporate constituted under the Banking Companies (Acquisition & Transfer of Undertakings Act, 1970) having its H.O. at 11, Hemanta Basu Sarani, Kolkata-700001 & Branch Office at Ranchi Branch, Post Box No.94, Main Road, Ranchi - 834001 hereinafter called the "Escrow Agent" which expression shall, unless repugnant to the subject or context thereof include its, successors and assigns.

Each of the parties mentioned hereinabove, hereinafter collectively referred to as parties and individually as party.

CENTRAL COALFIELDS LIMITED  
DARBHANGA HOUSE  
RANCHI

कृते, युनाइटेड बैंक ऑफ इंडिया  
For & on behalf of  
FOR UNITED BANK OF INDIA  
रौंदी शाखा/Ranchi Branch  
26/8/13  
सहायक महाप्रबंधक  
- Aral Manoj

527813  
अ. आचार्य/A. ACHARYA  
कोयला नियंत्रक/Coal Controller  
भारत सरकार / Government of India  
कोयला मंत्रालय/Ministry of Coal  
१, काउन्सिल हाउस स्ट्रीट/1, Council House Street  
कोलकाता-700001/Kolkata - 700 001



**Whereas :**

- 1) As per the guidelines of the Ministry of Coal, Government of India all Coal Mine owners who are operating Coal Mines are required to obtain a Mine Closure Plan within a period of One year from the day when the original guidelines came into effect (i.e. 27<sup>th</sup> August, 2009) and from the date of publishing of the amended guidelines i.e. 7<sup>th</sup> January, 2013 for those mine owners who have not yet complied to the same failing which the Government will take action as appropriate.
- 2) The Coal Mine Owners who have been accorded approval of mining Plan/Project Reports without the Mine Closure Plans as per the guidelines framed by the Ministry of Coal, Govt. of India, are required to prepare and obtain the approval of Mine Closure Plan as per guidelines of the said Ministry of Coal, Government of India, within a period of one year of the day when the original guidelines coming into effect (i.e. 27<sup>th</sup> August, 2009).
- 3) The money to be deposited every year by the said Mining Company is the annual Mine closure cost as approved by the Ministry of Coal and which is to be verified by the Coal Controller's Organization as per the guidelines of the Ministry of Coal, Govt. of India, (at the price level of August, 2009 which will be reviewed on the basis of the wholesale price index) on a yearly basis in the Escrow A/c to be opened by the said Coal Mine owners with any Scheduled Bank with Coal Controller's Organization (on behalf of the Central Government) as exclusive beneficiary as per the guidelines of the Ministry of Coal.
- 4) Up to 80% of the total deposited amount including interest accrued in the Escrow Account may be released after every 5 years in the line with the periodic examination of the closure plan as per clause 3.1 of the annexure of the guidelines. The amount released should be equal to the expenditure incurred in the Progressive Mine Closure in the past 5 years or 80% whichever is less. The balance amount at the end of the Final Mine Closure shall be released to the Mine Owners/Leaseholder on compliance of all provisions of closure plan duly signed by the Lessee to the effect that said closure of mine complied all statutory rules, regulations, orders made by the Central or State Government, statutory organizations, court etc. and duly certified by the Coal Controller.
- 5) 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.
- 6) It is also stipulated in the guidelines of the Ministry of Coal, Govt. of India, that an agreement outlining the details of terms and conditions of opening and operating the Escrow Account/arrangements is to be executed amongst Mining Companies, Coal Controller's Organization & the concerned Bank for giving effect to the same.
- 7) Parties now have agreed to establish an Escrow Account/Arrangements and engage an Escrow Agent to act in connection with the said deposits and withdrawal in the said Escrow account on the terms and conditions contained herein.  
Whereas Central Coalfields Limited Company, (the Mining Company) has approached United Bank of India, a scheduled Bank under Schedule II of the RBI Act, 1934 for opening such Escrow Accounts and United Bank of India has agreed for the same.

CENTRAL COALFIELDS  
RANCHI

युनैटेड बैंक ऑफ इंडिया  
For & on behalf of  
For UNITED BANK OF INDIA  
रौंसी शाखा/Ranchi Branch

सहायक महाप्रबंधक  
Asstt. General Manager

518/13  
श्री. प्रमोद कुमार अर्या  
कायदा नियंत्रक / Coal Controller  
भारत सरकार / Government of India  
कोयला मंत्रालय / Ministry of Coal  
१, काउन्सिल हाउस स्ट्रीट / 1, Council House Street  
कोलकाता-700001 / Kolkata - 700 001



NOW, IT IS HEREBY AGREED BY AND AMONGST THE PARTIES AS FOLLOWS:

Appointment of Escrow Agent:

- i) The parties (Other than the Escrow Agent) hereby appoint United Bank of India, as Escrow Agent to act subject to and in accordance with the terms and conditions set out in this agreement.
- ii) The Escrow Agent shall not be personally liable in any manner whatsoever to any party for any acts it may do or omit to do hereunder as Escrow Agent or for any loss, harm, damage cost or expenses of any kinds suffered by any person, party or entity as a consequence of the action or inaction of the Escrow Agent other than for its gross negligence or willful disregards of the terms of the agreements.
- iii) In its performance of its duties under this agreement, the Escrow Agent shall be entitled to rely upon any documents, instruments, or signature believed by it in good faith to be genuine & signed by an authorized signatory of any parties hereto and shall not be required to investigate the truth or accuracy of any statement contained in such document or instrument. The Escrow Agent may assume that any person purporting to give any notice in accordance with the provision hereof has been duly authorized to do so.
- iv) The party shall jointly and severally indemnify & hold harmless the Escrow Agent from and against all claims, actions, demands, liabilities, proceedings or judgments which the Escrow Agent may incur or suffer or may be brought against Escrow Agent and from and against all losses, costs, charges, liabilities, and expenses reasonably incurred in connection with the performance by the Escrow Agent of its duties under or in connection with this agreement save where there is gross negligence or willful misconduct or willful disregard of the terms of this agreement and the part of the Escrow Agent.
- v) The Escrow Agent will act in terms of the agreement, only if sufficient funds are available in the escrow account for discharging its obligation as Escrow Agent.

Establishment of Escrow Account

- i) The Mining Company shall open an Escrow Account (Fixed Deposit, any type) with United Bank of India (Bank name) under the title "Mine-Closure Escrow A/c No. 0059101073632", the Coal Controller's Organization being the exclusive beneficiary. The Coal Controller will have the authority to write to the Bank to freeze operation in the said Escrow A/c without the concurrence of the mining company & the said decision of the Coal Controller will be binding on the mining company and mining company cannot have any objection on the same.
- ii) The opening, operation of Escrow Account, deposit and withdrawal of money from the said account shall be in accordance with this agreement.
- iii) The parties agree (other than the Escrow Agent) that all rights, title and interest in and to the Escrow Account shall be vested in the Escrow Agent and shall be in trust for the parties.
- iv) The Escrow Account will be operated as per direction of Coal Controller by the authorized

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श्री. आचार्य, A. ACHARYA  
जोयला निराकरण / Coal Controller  
भारत सरकार / Government of India  
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signatories of the Company.

- v) For any avoidance of the doubts it is made clear that all money held by the Escrow Agent/Designated Bank shall not be considered as part of the personal assets of the Escrow Agent/Designated Bank.
- vi) In the event of any deviation in the withdrawals, the parties shall communicate the same in writing to the Escrow Agent.
- vii) Tax will be deducted at source as per Income Tax Act. Without discontinuing Mine Escrow Account till the life of the mine, the total deposited amount including interest in Escrow Account will be renewed / reinvested after three years and this amount may continue with same bank or other bank as selected by mining company in consultation with Coal Controller. Up to 80% of the total deposited amount including interest accrued in the Escrow Account may be released after every 5 years in the line with the periodic examination of the closure plan as per clause 3.1 of the annexure of the guidelines. The amount released should be equal to the expenditure incurred in the Progressive Mine Closure in the past 5 years or 80% whichever is less. The balance amount at the end of the Final Mine Closure shall be released to the Mine Owners/Leaseholder on compliance of all provisions of closure plan duly signed by the Lessee to the effect that said closure of mine complied all statutory rules, regulations, orders made by the Central or State Government, statutory organizations, court etc. and duly certified by the Coal Controller.
- viii) Funds: Interest will be paid at the offered rate at the time of opening the Escrow Account.
- ix) Income Tax: Tax will be deducted at source as per Income Tax Act. The Mining Company shall not charge the funds kept in the term deposits in escrow accounts by way of assignment / lien / hypothecation to secure any loan/advance/credit facilities taken / to be taken by the mining Company. The deposits created out of funds of Escrow account automatically be renewed for a further period of one year on due date if the Escrow Agent do not receive any instruction from the Coal Controller to the contrary.

#### Operation of Escrow Account.

##### Deposit

- i) The Escrow Account shall continue as a debit freeze account subject to withdrawal of 80% of total deposited amount including interest accrued in the Escrow Account after 5 years of every deposit in line with the periodic examination of the closure plan. The balance amount shall be released to the mine owner/leaseholder at the end of the final Mine Closure on compliance of all provision of closure Plan.
- ii) The Central Coalfields Limited (Mining Company) shall cause deposit in such "Escrow Account" in the following manner on yearly basis as would be communicated by the Coal Controller from time to time to it.
  - a) The payment shall be made by RTGS/NEFT/DEMAND DRAFT/PAY ORDER.
  - b) Around Six lakhs per hectare of the total project area in case of OC mines at current price level (August, 2009) subject to modification based on the wholesale price Index (WPI) as notified by the Government of India from time to time.
  - c) One lakh per hectare for UG project area, at current price level of (August, 2009) subject to modification based on the wholesale price Index as notified by the Government of

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RAJENDRA  
NAGAR

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For & on behalf of  
For UNITED BANK OF INDIA  
रांची शाखा/Ranchi Branch  
26/08/13  
सहायक महाप्रबंधक/  
Asstt. General Manager

26/08/13  
श्री. अशोक कुमार अचार्या  
कार्यवाही नियंत्रक/Coal Controller  
भारत सरकार / Government of India  
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India from time to time.

- d) Annual Closure Cost is to be computed on the total Project Area over and above the aforesaid rate per hectare and dividing the same by the entire life of the mine in years for new projects and balance life of mine in years for operating /existing mines is to be deposited each year by the said company (Central Coalfields Limited, the mining company) throughout the life of the mine compounded at the rate of 5% annually.
- e) An amount equal to the annual cost is to be deposited each year throughout the life of the mine compounded at the rate of 5% annually.
- f) Mine closure plan which have already been approved earlier on the basis of lease hold area, the project proponents are required to recalculate the closure cost on the basis of total project area and submit a certificate stating that amount in Escrow Account would be deposited as per re-calculated amount.
- g) The Closure Cost may change subject to Government of India's Notification from time to time.
- h) If the Mine owners fail to deposit the annual amount required to be deposited, the Government can withdraw the mining permission.
- i) It is to be clearly understood that the fund 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 the funds so generated are found to be insufficient to cover the cost of final mine closure, 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.

#### Withdrawal.

Withdrawal/transfer from Escrow Account shall be in accordance with the water fall mentioned herein below:

- (1) To allow the mine owners by way of reimbursement up to 80% of the total deposited amount including interest accrued in the Escrow Account after every 5 years of every deposit in line with the periodic examination of the closure plan as per clause 3.1 of the Annexure of the Guidelines.
- 2) The balance amount shall be released to mine owner/lease holder at the end of the final mine Closure on compliance of all provision of closure plan. The compliance report should be duly signed by the lessee and certify that the said closure of mine complied all statutory rules, regulations, orders made by the Central or State Government, statutory organizations, court etc. and certified by the Coal Controller. Provided that if all the above criteria is not completed within the period specified in mine closure plan the amount in the Escrow Account shall be forfeited.

#### Duties of Escrow Agent

Escrow Agent shall:

- i) Keep proper books of accounts relating to Escrow Account maintained by the agent.
- ii) Provide Statement of Accounts to the parties at such frequencies which will be evolved by consensus amongst the Central Coalfields Limited (mining company),

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सहायक महाप्रबंधक  
Asstt. General Manager

13/08/13

ज. आचार्य A. ACHARYA  
कोयला नियंत्रक/Coal Controller  
भारत सरकार / Government of India  
कोयला मंत्रालय / Ministry of Coal  
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the Coal Controller's Organization and Escrow Agent.

- iii) Not to allow any payment out of the Escrow account in respect of money deposited without the approval of the Coal Controller's Organization except in the manner stated hereinabove.
- iv) Act in accordance with the agreement.
- v) Irrevocably and absolutely waive all present and future rights to make or exercise any claims or demands, any rights of counter-claim, lien/set-off and all other present or future rights against the balance amount standing to the credit of the Escrow account, to make any withholding or balancing of any accounts or to effect any transfers without the approval of the Coal Controller's Organisation.
- vi) Irrevocably and absolutely waive all present and future rights to combine or consolidate any other non-Escrow Account of any offices anywhere with the Escrow Agent or the designated Bank.
- vii) As promptly, as is reasonably practical, after receipt of any reasonable written request from the parties provide such information to such parties regarding the amounts available in the Escrow Accounts and balances there under.

**Termination/Resignation of Escrow Agent.**

- i) The obligation of the Escrow Agent under this agreement shall end on the final payment of the amount under the aforesaid scheme.
- ii) The Escrow Agent may resign from its appointment as an Escrow Agent subject to the Escrow Agent giving 30 Business days prior notice in writing to the other parties. The Escrow Agent shall deal with the Escrow Account in accordance with the provisions of the Escrow Agreement and continue to be bound by the terms and conditions hereof until the Coal Controller's Organization identify a successor.
- iii) The Escrow Agent may be removed by the Coal Controller's Organisation on giving 30 days notice to the Escrow Agent. In case the Coal Controller's Organization fails to identify a successor Escrow Agent within the above-mentioned 30 days', the Escrow Agent, United Bank of India(Bank Name), shall by itself appoint a successor as Escrow Agent.
- iv) If the Escrow Agent resigns or removed in accordance with the agreement, then Coal Controller's Organisation shall appoint a successor as Escrow Agent in consultation with the Coal Mining Company.
- v) If the Escrow Agent resigns or is replaced pursuant to this agreement, such Escrow Agent shall do all necessary acts for the transfer of the Escrow account to the successor Escrow Agent.
- vi) The fees for the service rendered if any by the Escrow Agent shall be in accordance with the letter to be exchanged between the Escrow Agent, the Coal Controller's Organisation and Coal Mining Company.

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सहायक महाप्रबंधक  
Asstt. General Manager

श्री. जयदीप क. अग्रवाल  
जयदीप क. अग्रवाल, Coal Controller  
भारत सरकार / Government of India  
कोयला मंत्रालय / Ministry of Coal  
कौन्सिल हाउस स्ट्रीट/1, Council House Street  
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### Amendment of the Agreement

- i) This agreement may be altered, amended, modified or revoked by an instrument in writing signed in original by Coal Controller as and when required.

### Notices

All notices or other communications to be given under this agreement shall be made in writing to:

- i) **Central Coalfields Limited (Mining Company),**  
Address. Darbhanga House, Ranchi -834001  
Tel: 0651-2360123/0606/5998  
Fax: 0651-2360012
- ii) **Coal Controller Organization,**  
Address. 1, Council House Street, Kolkata.  
Tel: 033-22489613-16  
Fax: 03322482459
- iii) **United Bank of India,**  
Address. Ranchi Branch, Post Box No. 94, Main Road. Ranchi-834001  
Tel: 0651-2204266/3320  
Fax: 0651-2204266

### Governing Law & Jurisdiction

- i) This agreement shall be governed by and interpreted in accordance with Indian Law and shall be subject to the exclusive jurisdiction of the courts at Kolkata.

### Whole Agreement & Variation

- i) This agreement together with the schedules hereto contains the whole agreement between the parties relating to the rights and obligations in relation to the subject matter of the agreement.

### Invalidity

- i) If any term or provision in this agreement is held to be illegal or unenforceable in whole or in part, under any enactment or rule of law, such term or provision or part to that extent will be deemed not to form part of this agreement, but the enforceability of the remainder of the agreement will not be affected.

### Counterparts

- i) This agreement may be entered into in any number of counterparts and the parties of it on separate counterpart each of which when so executed and delivered will be in original, but all the counterparts will together constitute one and the same instrument.

### No Waiver

CENTRAL COALFIELDS  
DARBHANGA  
RANCHI

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For & on behalf of  
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सहायक महाप्रबंधक  
Asstt. General Manager

श्री आचार्य A. ACHARYA  
कोयला नियंत्रक/Coal Controller  
भारत सरकार / Government of India  
कोयला मंत्रालय/Ministry of Coal  
1, काउंसिल हाउस स्ट्रीट/1 Council House Street  
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- i) No failure to exercise or delay in exercising any right or remedy under this agreement by any party will operate as a waiver of any other right or remedy hereunder, nor will any single or partial exercise of such right or remedy preclude any further exercise thereof or of any other right or remedy which such party may have in this agreement.

### Rights Cumulative

- i) The rights and remedies provided herein are cumulative and not exclusive of any rights and remedies provided by law in equity or otherwise.

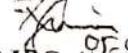
### Rights of Third Parties

- i) For the avoidance of doubts, this agreement does not and shall not confer rights upon a person which is not a party to this agreement.

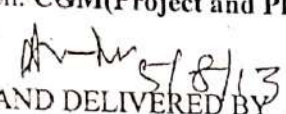
In witness of which the parties have executed the agreement on 5<sup>th</sup> day of August 2013 as mentioned above.

SIGNED AND DELIVERED BY

  
(Central Coalfields Limited)

By   
Name: P.K. Guin  
Designation: CGM(Project and Planning)

SIGNED AND DELIVERED BY

  
(Coal Controller Organisation)  
K. GUPTA  
कोयला नियंत्रक / Coal Controller  
भारत सरकार / Government of India  
कोयला मंत्रालय / Ministry of Coal  
१, फाउन्डेशन हाउस स्ट्रीट / 1, Council House Street  
कोलकाता-700 001 / Kolkata- 700 001

By  
Name:  
Designation:

SIGNED AND DELIVERED BY

(United Bank of India)

By  
Name : J. SUR  
Designation :

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सहायक महाप्रबंधक  
Asstt. General Manager

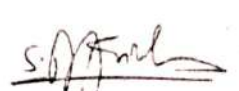
WITNESSES

P.K Gupta

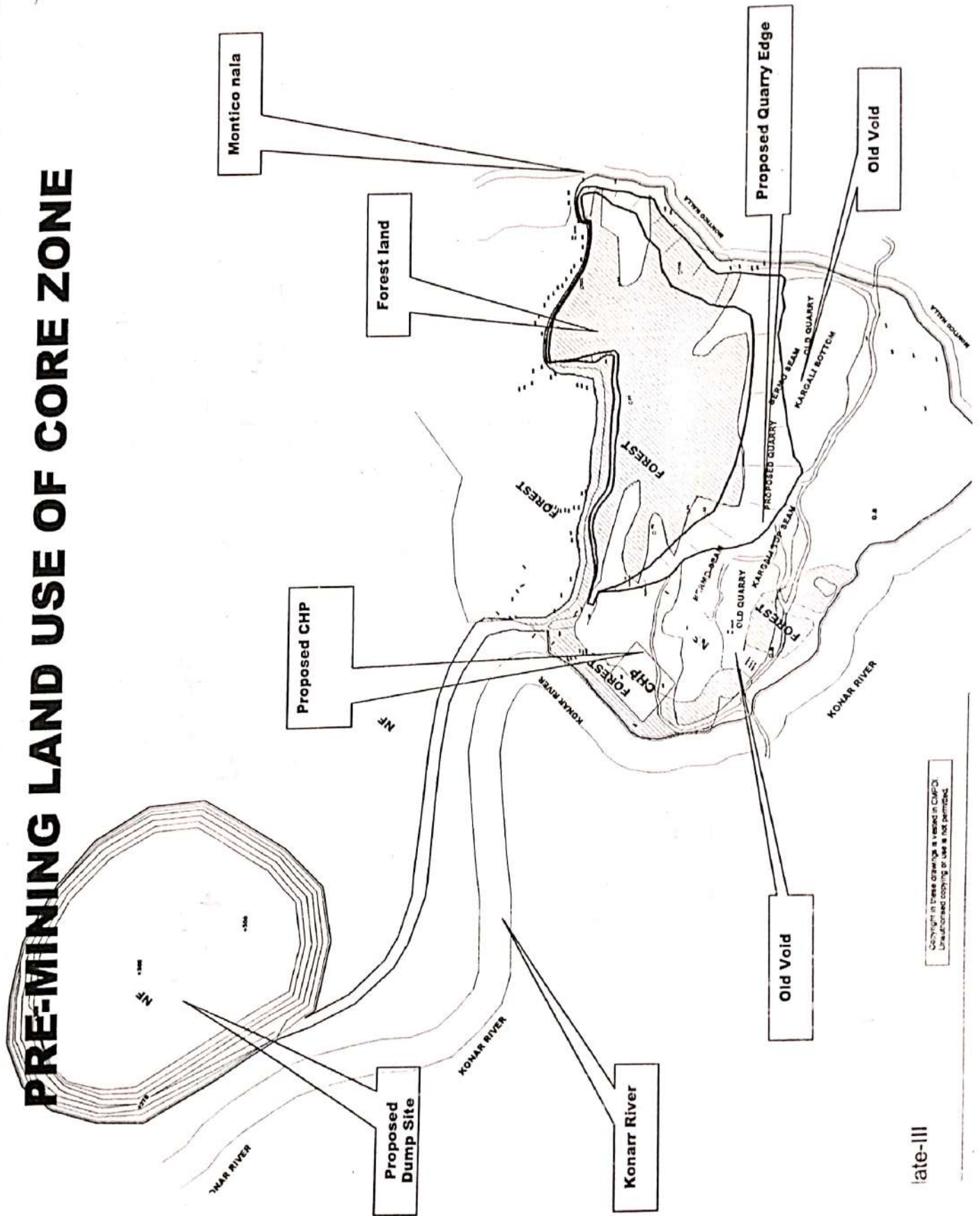
GM(F), CCL

के. गुप्ता / K. GUPTA

उप सहायक कोयला नियंत्रक / Dy Asst. Coal Controller  
भारत सरकार, भारत, Government of India  
कोयला नियंत्रक का कार्यालय / Dy Asst. Coal Controller  
१ फाउन्डेशन हाउस स्ट्रीट / 1, Council House Street  
कोलकाता-700 001 / Kolkata-700 001

  
S. P. KILSAN  
मुख्य प्रबंधक / CHIEF MANAGER  
विपणन विभाग / Marketing Deptt.  
युनाइटेड बैंक ऑफ इंडिया, प्र.का.  
UNITED BANK OF INDIA, H.O.

# PRE-MINING LAND USE OF CORE ZONE

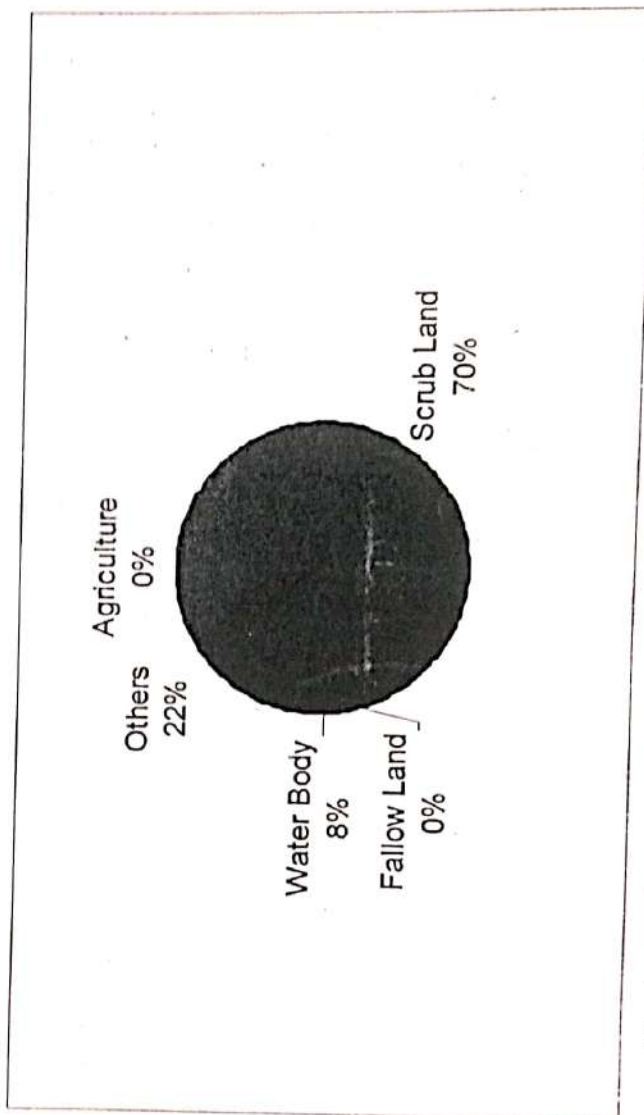


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late-III

# PRE-MINING LAND USE OF CORE ZONE

Class of land use	Area	
	Ha	%
Agriculture	0.00	0.00
Scrub Land	193.25	70.00
Fallow Land	0.00	0.00
Water Body	21.43	8.00
Others (mining)	60.27	22.00
<b>Total</b>	<b>274.95</b>	<b>100.00</b>

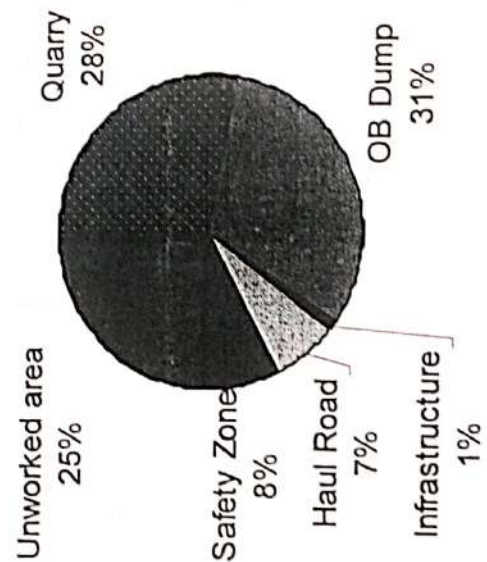


**Note: Scrub land includes 70.13 Ha forest land.**



# PROPOSED LAND USE PATTERN DURING MINING

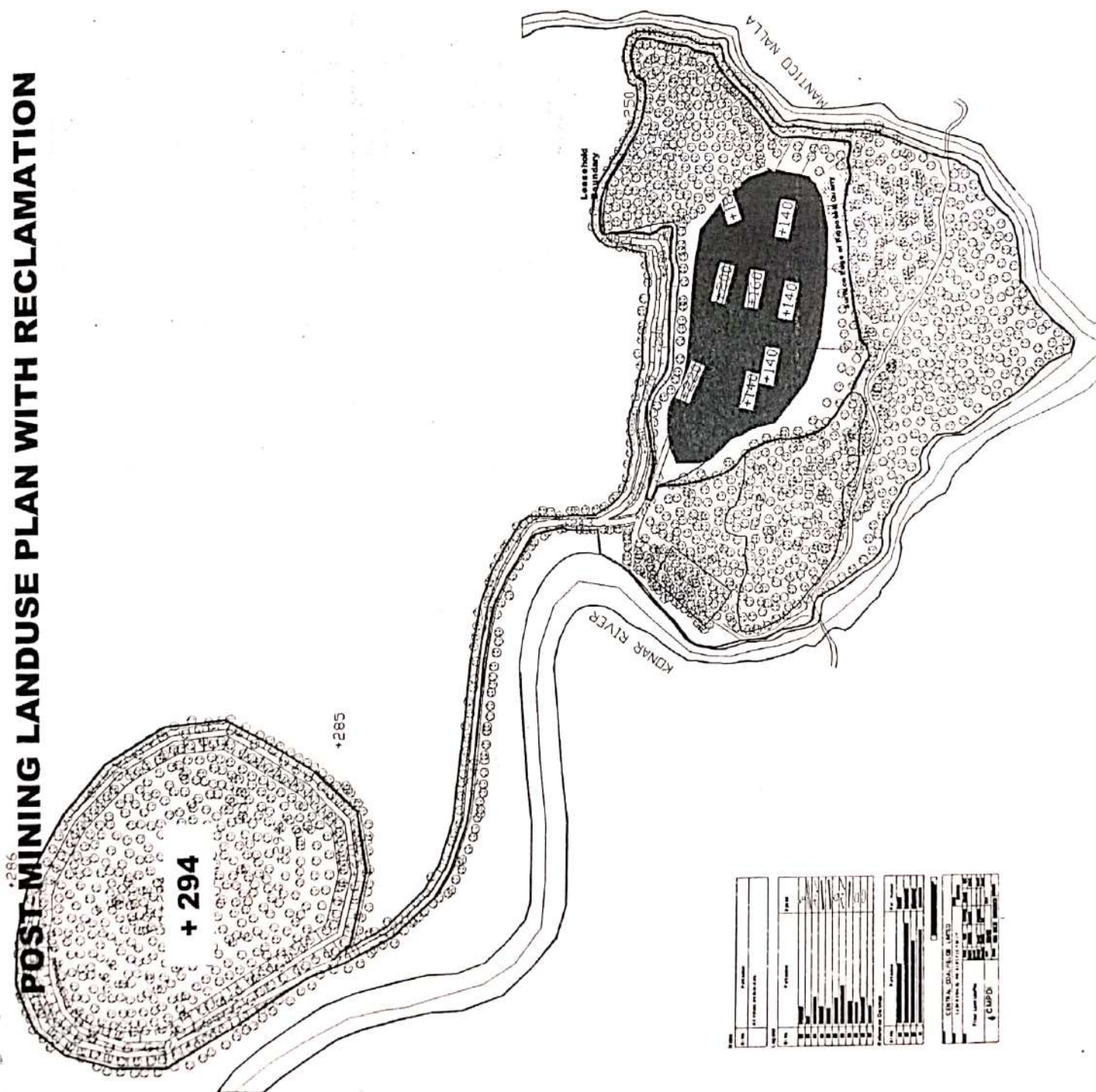
Description	Forest Land (Ha)	Non-Forest Land (Ha)	Total Land (Ha)
Quarry	49.82	26.60	76.42
OB Dump	0.00	87.00	87.00
Infrastructure	2.00	1.12	3.12
Haul Road	6.70	12.60	19.30
Safety Zone	1.95	19.35	21.30
Old worked area	9.66	58.15	67.81
<b>Total</b>	<b>70.13</b>	<b>204.82</b>	<b>274.95</b>



# FINAL STAGE DUMP & QUARRY PLAN



# POST-MINING LANDUSE PLAN WITH RECLAMATION



NO.	DESCRIPTION	UNIT	QUANTITY	REMARKS
1	Gravel	m³	1000	
2	Sand	m³	2000	
3	Crushed Stone	m³	1500	
4	Topsoil	m³	500	
5	Grass Seed	kg	100	
6	Fertilizer	kg	50	
7	Water	m³	10000	
8	Labor	man-days	1000	
9	Transportation	km	1000	
10	Other			
TOTAL				



# **POST MINING LANDUSE OF CORE ZONE WITH ENVIRONMENTAL MANAGEMENT**

S No.	Description	Land-use (Ha)					Total
		Plantation	Water Body (Lagoon)	Public use	Landscaped Quarry Batter		
1	External OB Dump	87.00	0.00	0.00	0.00	87.00	
2	Internal OB Dump	16.53	0.00	0.00	0.00	16.53	
3	Backfilled Excavation	6.00	34.12	0.00	19.77	59.89	
4	Roads	0.00	0.00	19.30	0.00	19.30	
5	Built-up (Infrastructure)	3.12	0.00	0.00	0.00	3.12	
6	Safety Zone & Green belt	89.11	0.00	0.00	0.00	89.11	
	Total	201.76	34.12	19.30	19.77	274.95	

**Note: 5.04 lakh trees would be planted over 201.76 Ha of land out of the lease area of 274.95 Ha.**

### TEST REPORT

06/24 Test Report No. 1943	Job No. 094323120	Year	FY2024-25
Type of Sample:	Noise	Quarter Ending	Jun-24
Customer	CCL		
Testing/ Sampling Protocol:	'The noise pollution (Regulation and Control), Rules,2000, LQR 34		
Remarks:			

### TEST RESULT

The sample has been tested with the following results:-

Area : Kathara Project: Govindpur Phase II OCP

Station Name	Noise Level dB(A) Leq					
	Apr-24 1st FN	Apr-24 2nd FN	May-24 3rd FN	May-24 4th FN	Jun-24 5th FN	Jun-24 6th FN
	Day/Night	Day/Night	Day/Night	Day/Night	Day/Night	Day/Night
Date of recording	06-04-2024	24-04-2024	08-05-2024	16-05-2024	10-06-2024	22-06-2024
1. Zero Point of Gvp ph II OCP	52.4/47.9	50.9/48.5	51.7/49.6	61.1/58.1	61.2/55.8	50.2/40.1
Date of recording	07-04-2024	25-04-2024	12-05-2024	16-05-2024	11-06-2024	23-06-2024
2. Project Office	54.3/51.1	50.4/48.7	50.9/48.8	55.1/50.7	56.4/51.6	51.5/48.3
Date of recording	07-04-2024	25-04-2024	12-05-2024	16-05-2024	11-06-2024	23-06-2024
3. Lahariatand Village	55.2/48.4	51.6/49.2	51.3/49.9	53.6/42.1	53.1/42.4	49.2/40.1
Date of recording	07-04-2024	25-04-2024	12-05-2024	16-05-2024	11-06-2024	23-06-2024
4. Kamatia Village	55.3/48.2	51.8/49.5	51.5/49.7	51.1/43.2	51.6/43.2	51.4/41.2

Ambient Air Quality Standards in respect of Noise as per 'The noise pollution (Regulation and Control), Rules,2000		
Time Frame	Limits in dB(A) Leq	
	Day Time 6.00 AM to 10.00 PM	Night Time 10.00 PM to 6.00 AM
Industrial Area	75	70
Commercial Area	65	55
Residential area	55	45
Silence Zone	50	40

Analysed By

Authorized Signatory

Note: 1) This Report refers to the values obtained at the time of testing and results related to the items tested  
2) This Report cannot be reproduced in part or full without written permission of the management.  
3) This is computer generated report and requires no signature.



18-05-2024

Page No.:

Date: / /

ANNEXURE-XXI

Page No.:

Date: / /

S.L.No	Vehicle No	Brake	Horon	Head Light	Back Light	Steering	Hand Brake	D.L	Scraper	Reg Date	Fitment	Tax	Inss	PRSC	Signature	Remark
1.	JH09AP-0779-Bus	O.K	O.K	O.K	O.K	O.K	O.K	Check	O.K	03/03/2019	27/01/25	03/08/24	24/01/25	04/03/25	Ry 18/05/24	
2.	JH09AP-3895-Bus	O.K	O.K	O.K	O.K	O.K	O.K	Check	O.K	03/05/2019	25/03/24	01/06/24	21/05/22	13/03/25	Ry 18/05/24	
3.	JH09AX-1368 Truck	O.K	O.K	O.K	Not O.K	O.K	O.K	Check	N.A	18/04/2018	08/03/26	11/07/24	12/05/25	23/02/25	Ry 18/05/24	Found O.K
4.	JH09DD-0858 "	O.K	O.K	O.K	Not O.K	O.K	O.K	Check	N.A	06/11/2018	27/10/24	12/01/25	30/02/24	04/05/24	Ry 18/05/24	Found O.K
5.	JH09AR-1749-	O.K	O.K	O.K	Not O.K	O.K	O.K	Check	N.A	21/10/2019	24/10/25	14/07/24	30/10/24	05/05/25	Ry 18/05/24	Found O.K
6.	JH09AH-6935 Am	O.K	O.K	O.K	O.K	O.K	O.K	Check	O.K	17/06/2017	05/07/25	08/06/29	20/05/24	23/02/25	Ry 18/05/24	Found O.K
7.	JH09AS-7055 Computer	O.K	O.K	O.K	Not O.K	O.K	O.K	Check	N.A	20/02/2020	08/03/26	30/01/30	02/02/25	31/08/24	Ry 18/05/24	Found O.K
8.	JH09AX-7048 "	O.K	O.K	O.K	O.K	O.K	O.K	Check	N.A	07/07/2021	07/08/25	13/07/31	14/07/24	08/04/25	Ry 18/05/24	
9.	JH09AU-7133 "	O.K	O.K	O.K	O.K	O.K	O.K	Check	N.A	30/09/2020	10/11/24	07/09/30	28/11/24	17/11/24	Ry 18/05/24	
10.	JH09AU-6222 "	O.K	O.K	O.K	O.K	O.K	O.K	Check	N.A	30/09/2020	23/12/24	19/08/30	26/08/24	26/04/24	Ry 18/05/24	
11.	JH09AY-6277 Dabara	O.K	O.K	O.K	O.K	O.K	O.K	Check	N.A	29/01/2022	12/01/2026	28/12/33	19/01/25	04/02/25	Ry 18/05/24	
12.	JH09ER-8666 "	O.K	O.K	O.K	O.K	O.K	O.K	Check	O.K	05/25/22	04/05/37	LTT	29/04/25	04/05/23	Ry 18/05/24	
13.	JH09AQ-6238 "	O.K	O.K	O.K	O.K	O.K	O.K	Check	N.A	02/08/29	05/07/25	29/06/31	27/06/24	02/10/24	Ry 18/05/24	
14.	JH09AQ-2061 "	O.K	O.K	O.K	O.K	O.K	O.K	Check	N.A	26/06/19	06/07/25	30/03/31	08/05/25	14/12/24	Ry 18/05/24	
15.	JH09A-2656 "															
16.	JH09AM-0393 "	O.K	O.K	O.K	O.K	O.K	O.K	Check	N.A	04/10/2018	27/02/26	29/08/30	24/05/24	07/02/25	Ry 18/05/24	
17.	JH09AX-3445-Scorpio	O.K	O.K	O.K	O.K	O.K	O.K	Check	O.K	03/09/21	31/08/25	30/08/33	30/08/23	12/09/24	Ry 18/05/24	



**PHOTOGRAPHS OF VEHICLES USED FOR TRANSPORTATION WITH TARPAULIN**



**Annexure- XXIII****Item wise expenditure on Environment protection measure in respect of  
Govindpur Ph-II OCP**

<b>FY Year</b>	<b>Expenditure (Rs in Lakhs)</b>	<b>Activities</b>	
<b>2019-20</b>	<b>23.17</b>	Distribution of Saplings to the Employees, Supply of items like alum and bleaching powder in filter plant, Waste management at Colony, Construction of Toe wall & Garland Drain, Cleaning of Hume Pipe of Dala Bridge & Konar River bridge, Cleaning of ETP tank and repairing of drain near HEMM washing platform, Disinfectants like bleaching powder, soap solution through tractor mounted spray at colony	
<b>2020-21</b>	<b>34.79</b>	Seed Ball, Distribution of Saplings to the Employees, Rain water harvesting, Supply of items like alum and bleaching powder in filter plant, Waste management at Colony, Construction of Toe wall & Garland Drain	
<b>2021-22</b>	<b>20.65</b>	Distribution of Saplings to the Employees, Piezometer bore well, Supply of items like alum and bleaching powder in filter plant, Waste management at Colony, Construction of Toe wall & Garland Drain	
<b>2022-23</b>	<b>62.70</b>	<b>Exp in Lakhs</b>	<b>Activity</b>
		3.20	Construction of Piezometer
		9.00	Toe wall with Garland drain
		20.00	Construction of ETP
		4.50	Fencing and regular cleaning of ETP
		16.50	Colony Drains Cleaning
		8.50	Installation of Sprinkler
		1.00	Annual Maintenance of Filter Plant (water treatment plant)
		<b>62.70</b>	<b>Total</b>
<b>2023-24</b>		<b>Exp in Lakhs</b>	<b>Activity</b>
		2.07	PM10 ROOM
		9.19	RAIN WATER HARVESTING
		4.5	GARLAND DRAIN
		0.63	NOZZLE OF FIXED WATER SPRINKLER
		3.42	Annual Maintenance of Filter Plant (water treatment plant)
		906.69	Construction of STP



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आज, बुधवार 16 जून 2024 07

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**डिम्मावाडीह 12 नंबर में हुई महासप्तमी की पूजा**

## रामनवमी को लेकर रूट चार्ट जारी

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काता मुद्रणमिति काय,  
जगत्प्राप्तमिति, दुष्करी काय  
केदमिति के काय अतः तत्र  
सदृश का इत्येवमिति काय  
अतः तत्र दुष्करी काय

नाओं के लिए दोपहर से रहेगी वो इंदी

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- **पनवेल** में **उत्तराखण्ड** में  
प्रतिदिन 100 घंटे बढ़ने का  
परिणाम प्राप्त। 100 घंटे
- **केन्द्रीय** में **उत्तराखण्ड** में  
प्रतिदिन 100 घंटे बढ़ने का  
परिणाम प्राप्त। 100 घंटे
- **प्रतिदिन** में **केन्द्रीय** में  
प्रतिदिन 100 घंटे बढ़ने का  
परिणाम प्राप्त। 100 घंटे

सवारों वाइनों के लिए भी रात 4.00 से ब्लॉक

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## रामनवमी को लेकर बना कंट्रोल रूम

**आदेश जारी**

धनबाद, जिला संकायदल।  
गन्तव्य की शक्तिपुन,  
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संकाय करने के लिए सभा  
संकाय ने संकाय सभा की है।  
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सबसे बड़ी भारी व औद्योगिक प्रतिष्ठानों के साथ पंद्रहवर्षी की विसाई की गई है।

सबसे बड़े (टीएन) बंगला पल्लवर्ष पर जिला निवेशका बंगला (कंटेनर बंगला) बंगला पर है। यह बंगला का कीमत 2.00 करोड़ से 1.50 करोड़ की सुधार 6.00 करोड़ तक बढ़ाई गई है। अनुसंधान पंद्रहवर्षी उपर सबसे जिला निवेशका बंगला सुधार 1.50 करोड़ से है। जिला

**आज का शुभ रंग: शुभ**  
 मां महादेवी का वसंतीर रंग शुभ रानी बनेंगी है।

**किस रंग के कपड़े पहनें**  
 बरत पूज के समय लफेद, पीले या गुलाबी रंग के कपड़े पहारें।

**कौन सी मनोकामनाएं होती हैं पूरी**  
महात्मा का पुत्र बनने से नहीं जाऊँगी की सौभाग्य की प्राप्ति होती है। जाऊँगी प्राप्ति से मुक्त रहते हैं।

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मूर्तिफोड़ मंदिर में भी शुरू हुआ तीन दिनों का वासंतिक नवरात्र अनुष्ठान, मां के कालरात्रि स्वरूप की आराधना

## नाचते-गाते डोली में लाई गईं कोलाबोउ

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राजेंद्र साहूवा से बोम्बेवन की ज़ोरी में कोल्हारी की लोहवन लाली बढ़ावतु।

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**मे श्रद्धालुओ को जुटाव**

अधिकांश मे कसरी नाराज मे श्रद्धालुओ को जुटाव जुन मे वां को प्रिय पति (भयन) नै, दुःखी को वां को प्रिय पति ओ नाराज मे नुंयुं मे प्रत्यक्ष दुःखी को जुटाव मे नुंयुं प्रिय मे नोकरा को जलिन दिवसीय दुःखीय-बयन (बोझो दुःखीय) को अजुनयन प्रभाव (बोझो को) पुन को पुन को जलिन दिवसीय दुःखीय को, नाराज मे श्रद्धालुओ को प्रिय पति ओ नोकरा को जलिन दिवसीय दुःखीय को नोकरा को वां को नोकरा को नाराज मे

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# Ganga riverfront in Patna to be ready by next month

Work On 3km Stretch Began In Dec

By Nandini Chatterjee

Patna: Come May the residents can enjoy the serene surroundings along Ganga riverfront, enjoying the summer evening breeze, along with various recreational activities. This is a whole new Ganga riverfront on the left bank of the river, developed by Patna, which is likely to be ready by next month, the officials of Patna Smart City Limited said.

The work to develop and beautify a 3 km stretch of riverfront on the left bank of the Ganga riverfront on the left bank of the river started last December and has been going on full swing. As per a proposal, picnic spots, vending zones, water fountains, security rooms, walking paths and parking spaces are being developed under the project, which is likely to be ready by next month, the officials of Patna Smart City Limited said.



Location: Marine Drive, JP Ganga Park. Area: 3km from Digha road to LCT Ghat. Project Cost: ₹52.81 cr. Facilities: Picnic spot, gazebo, vending zones, street furniture, lights, water fountains, security room, parking space, planter beds, walkway, security room. Work started: December 2023. DEADLINE: MAY 2024. Nodal Agency: Patna Smart City Limited.

(PSC), the nodal agency of this project, have said. The Ganga riverfront will be ready by May 2024 by utilising funds to the tune of Rs 52.81 crore, an official says. The picnic spots will have gazebo for visitors to sit, street furniture, separate toilets for men and women, drinking water facilities, waste points, food stalls and street lights. "Under this project, around 120 planter beds will be set up between Digha ghat and LCT Ghat, along the Ganga riverfront, while iron grills will be installed on the side of the pavement. Two parking spaces will be developed, each at Digha and LCT Ghat. Space will be given for the vending zones and people will have a 2.5m wide area to set up their stall," says public relation officer of PSC, Priya Saurabh. She adds, "The Marine drive has become the identity of the city and the 3km stretch between Digha ghat and LCT Ghat has become a tourist place, where people spend time with family and friends and enjoy food. The project has been taken up to reorganise this place, so that, people can have proper space to have picnic. The plan is to so to relieve traffic congestion with creation of a larger recreational space and shifting the unorganised stalls in vending zones."

# Bihar governor Arlekar stood up by Pathak yet again

By K Mishra

ABVP members hit the streets over pending teachers' salary, 4 detained

By Nandini Chatterjee

Patna: The differences between Raj Bhawan and the education department further deepened on Monday as K K Pathak failed to meet the governor-cum-chancellor of universities, Rajendra Vishwanath Arlekar. According to sources, the governor waited for about 30 minutes for Pathak after the scheduled time of 10am and left for another meeting. This was the second time that Pathak failed to appear at Raj Bhawan. Arlekar had summoned Pathak to know the reasons for his absence in the last meeting of the vice-chancellors (VCs) at Raj Bhawan on April 8, besides discussing the problems of higher education in the state. Pathak had not attended the April 8 meeting scheduled with the VCs of all universities of the state. The meeting was convened by Raj Bhawan immediately after the VCs skipped the meeting convened by the education department on April 8. Meanwhile, last Friday through a letter, Pathak asked the Raj Bhawan to not interfere in the affairs of the education department.

The VCs of all the universities have skipped the meeting convened by the education department at least on six occasions since February 28 as the chancellor did not permit them to do so. In response to the earlier communications from the Raj Bhawan, Pathak observed that the chancellor was "an officer of the university", along with other officials like VC, registrar, dean, proctor, etc and therefore cannot issue any "direction" to the department. Moreover, the chancellor has no locus standi to issue any direction to any official of the university contrary to the directions of this department, Pathak had written.

# 85% students get job offers at LNMI

By K Mishra

Patna: LNMI Institute of Economic Development and Social Change (LNMI) has successfully placed more than 85% of its students of the 2023-24 session in different organisations on an average package of Rs 4 lakh per annum. The highest pay package of Rs 15 lakh was offered by Federal Bank.

Giving details of the placements, LNMI director S Siddharth said the students of the institute have once again come up with flying colors and shown impeccable results in terms of placement. The institute witnessed more than 100 companies, not just in terms of the time-up of offers but also in the jump in top packages and average salaries. "Of students of the ongoing batch, 165 were selected for jobs by 41 companies that participated in the placement process. Some of the prominent companies which selected students on handsome packages included Berger Paints, IDBI, Capgemini, ITI, Tata, Cognizant, Reliance Digital, Max Fashion and Emami. The students of the institute have once again come up with flying colors and shown impeccable results in terms of placement. The institute witnessed more than 100 companies, not just in terms of the time-up of offers but also in the jump in top packages and average salaries. "Of students of the ongoing batch, 165 were selected for jobs by 41 companies that participated in the placement process. Some of the prominent companies which selected students on handsome packages included Berger Paints, IDBI, Capgemini, ITI, Tata, Cognizant, Reliance Digital, Max Fashion and Emami."

# BSL takes up larva detection to fight mosquito menace

By Khushi Khanna

Bokaro: As mosquito menace is rising with an increase in temperature, the Bokaro Steel Plant has started an extensive door-to-door anti-larva treatment to fight the problem.

An extensive door-to-door anti-larva treatment campaign has been launched, spearheaded by the general manager in charge Anirban Kumar. Additionally systematic fogging operations are being conducted across various sectors as per the prescribed schedule. The cleaning of drains and removal of roadside bushes are being done as well.



Anti-larva treatment under way in Bokaro on Monday.

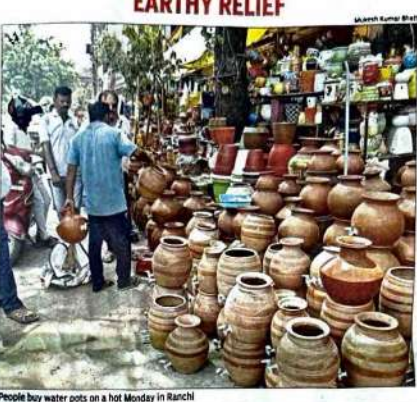
# Land dealer robbed of ₹4L, gold chain

Times News Network

Ranchi: Miscreants looted Rs 4 lakh and valuable items from a land dealer, Santosh Dubey, at Belangi village under Raj Digha police station area on Monday.

The victim was visiting a plot in a remote area when motorcycle-bound criminals waylaid him. The assailants hit the businessman on the head and fled away with the cash and a gold chain.

Ranchi (Rural) SP Sumit Kumar Agrawal said preliminary investigation revealed that persons known to the victim must have committed the crime. The police are examining the footage recorded by the close circuit television cameras installed in the area to identify and arrest the criminals.



People buy water pots on a hot Monday in Ranchi.

# Bihar woman booked for murder bid on husband

Kolkata: IAN

Patna: A 30-year-old woman was booked on Monday for allegedly trying to kill her husband by slitting his throat over a family dispute in Uttar Parvati village, Bhojpur district.

The accused, identified as Soni Devi, has been on the run since the incident occurred. She was arrested by the police after a tip-off from a neighbour.

Soni was rushed to the primary health centre in the village. She was later referred to the Sadar Hospital due to her critical condition. The police are conducting a thorough investigation into the case.

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Place: Jamshedpur Date: 16th April 2024

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# Woman among 3 injured in leopard attack in Bhojpur

Patna: IAN

Ara: Three persons, including a woman, sustained serious injuries in leopard attack at separate places in Pachina village under Kailash police station area on Monday morning.

The three injured persons have been identified as Darshan Sao (28) of Kailash police station, Arjun (26) of Kailash and Asha Devi (29) of Pathakwala village in the district. All of them are undergoing treatment in different hospitals.

According to police, the incident took place around 6am. Darshan was attacked by a leopard while he was working in a field. Arjun was attacked while he was working in a field. Asha Devi was attacked while she was working in a field.

The police are conducting a thorough investigation into the case. They are also taking steps to ensure the safety of the local population.

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**Woman among 3 injured in leopard attack in Bhojpur**  
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**Boy sent to correction home for raping 5-yr-old girl in Purnia**  
Kolkata: IAN  
Patna: A 15-year-old boy was detained on Monday for allegedly raping a 5-year-old girl in Purnia. Police said the boy lived the young girl to a cornfield on Sunday, sexually assaulted her and fled. The boy was produced before a juvenile court and has been remanded in a children's home. The kid was playing near her home when the boy persuaded her to accompany him to the cornfield under the guise of playing and perpetrated the heinous crime, a police officer said, adding that the survivor's mother rushed to the scene and found the girl screaming in pain with blood stains on her body. The family members reached the police station along with the villagers. In view of the serious condition of the girl, the police took the survivor to the government hospital in Purnia for treatment and medical test, the officer added. A case was registered against the teenager.

**Man dies after truck hits scooter**  
Daltonganj: A 40-year-old man, identified as Akhlesh Patel, died when a truck collided with his scooter while he was on his way to the central at Girwar Plus 2 School, situated on the banks of the Koyel river, on Monday. Attempts are on to track the truck driver who managed to escape after the accident, police said. The accident occurred at Daltonganj, where a truck carrying a load of goods collided with a scooter. The driver of the truck was not present at the scene. The police are conducting a thorough investigation into the case. They are also taking steps to ensure the safety of the local population.



No. J-11015/490/2008-IA.II (M)  
Government of India  
Ministry of Environment, Forests & Climate Change  
IA Division (Coal mining)

Indira Paryavaran Bhawan,  
Jorbagh Road,  
New Delhi-110003  
Dated: 24<sup>th</sup> December, 2014

To,

General Manager (Env. & Forests)  
M/s Central Coalfields Ltd.,  
Darbhanga House,  
RANCHI

**Sub.: Expansion (Under 7(ii) of EIA Notification, 2006) of Govindpur Ph-II OC Coal Mining Project of (from 2.20 MTPA to 2.50 MTPA in an ML area of 229.867 ha (274.95 ha - 45.083 ha = 229.867 ha); Latitude 23° 48' 30" to 23° 49' 30" N and Longitude 85° 51' 15" to 85° 52' 45" E) of M/s Central Coalfields Ltd. dist. Hazaribag, Jharkhand. - Environmental Clearance - reg.**

Sir:

This is with reference to letter no. DGM(E&F)/2013/130 dated 12.02.2014 with the application and subsequent letter no. dated 20.02.2014; 01.09.2014, 12.09.2014 and 25.11.2014 for Environmental Clearance for Expansion under 7(ii) of EIA Notification 2006 for the above-mentioned project.

2. The Ministry of Environment, Forests & Climate Change has considered the application. It is noted that the proposal is for grant of Environmental Clearance for Expansion (Under 7(ii) of EIA Notification, 2006) of Govindpur Ph-II OC Coal Mining Project of (from 2.20 MTPA to 2.50 MTPA) in an ML area of 229.867 ha (274.95 ha - 45.083 ha = 229.867 ha); Latitude 23° 48' 30" to 23° 49' 30" N and Longitude 85° 51' 15" to 85° 52' 45" E) of M/s Central Coalfields Ltd. dist. Hazaribag, Jharkhand. The proposal was considered in the 21<sup>st</sup> EAC meeting held on 18<sup>th</sup> -19<sup>th</sup> September, 2014. The proponent has informed that:

- It was noted that EC was granted for Govindpur Ph-II Opencast Project is an operating coal mine under Kathara Area of CCL, which was started after obtaining Environmental Clearance vide letter no J-11015/490/2008-IA.II(M) dated 18.01.2011 for a normative capacity of 1.20 MTPA & peak capacity of 1.50 MTPA within lease area of 274.95 Ha. Now application submitted under 7(ii) of EIA Notification, 2006 for expansion.
- Environmental Clearance for Expansion (Under 7(ii) of EIA Notification, 2006) of Govindpur Ph-II OC Coal Mining Project of (from 1.5 MTPA to 1.875 MTPA in an ML area of 229.867 ha (274.95 ha - 45.083 ha = 229.867 ha); of M/s Central Coalfields Ltd. dist. Hazaribag, Jharkhand was granted vide letter no. J-11015/490/2008-IA.II (M) dated 20<sup>th</sup> May, 2014.
- Applied under one time production capacity expansion of upto 50% in the existing operation as per office memorandum No.J-11015/30/2004- IA.II (M) dated 07.01.2014.
- The latitude and longitude of the project are 23° 48' 30" to 23° 49' 30" N and 85° 51' 15" to 85° 52' 45" E respectively.
- The land usage of the project will be as follows:

Govindpur\_EC\_Expansion\_7(ii)

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Rana Singh  
मुखिया

ग्राम पंचायत-स्वांग दक्षिण,  
झरखण्ड-गोमिया (बोकारो)

आरामाही देवी  
मुखिया

ग्राम पंचायत-हजारी  
प्रखण्ड-गोमिया(बोकारो)

शिव कर्मा  
मुखिया

ग्राम पंचायत-स्वांग उत्तरी  
प्रखण्ड-बेमिड, जिला-बोकारो

a. Pre mining land use (in Ha.)

Sl.No.	Particulars	Total land (in Ha)
1	GMK Land	45.00
2	Tenancy land	101.67
3	Forest Land to be diverted for mining purpose	58.52
4	Forest Land in safety zone (undisturbed) to be diverted	1.95
	GMK & Tenancy Land acquired earlier but not to be disturbed now	67.81
	TOTAL	274.95

b. Post Mining land use (in Ha.)

S No.	Description	Land-use (Ha)				
		Plantation	Water Body (Lagoon)	Public use	Landscaped Quarry Batter	Total
1	External OB Dump	87.00	0.00	0.00	0.00	87.00
2	Internal OB Dump	12.03	4.50	0.00	0.00	16.53
3	Backfilled Excavation	6.00	35.21	0.00	18.68	59.89
4	Roads	0.00	0.00	19.30	0.00	19.30
5	Built-up (Infrastructure)	3.12	0.00	0.00	0.00	3.12
6	Unworked Area & Safety Zone	89.11	0.00	0.00	0.00	89.11
	Total	197.26	39.71	19.30	18.68	274.95

c. Core Area Land Use (in Ha)

S No.	Land use category	15th Year	20th Year
1	Quarry & Internal Dump	76.42	Mine Lagoon 35.21 Plantation On Internal Dump 12.03 Lagoon at Internal Dump Lower Benches 4.50 Plantation 6.0 Batter 18.68
2	OB Dump	87.00	Plantation
3	Infrastructure/ Workshop/ CHP	3.12	Plantation after dismantling
4	Road	19.30	Public Use
5	Unworked Area & Safety Zone	89.11	Plantation
	Total	274.95	-

- vi. The total geological reserve is 29.62 MT. The mineable reserve 19.53 MT, extractable reserve is 19.53 MT. The per cent of extraction would be 65.93 %.
- vii. The coal grade is E grade. The stripping ratio is 1.47 m<sup>3</sup>/tone. The average Gradient is 160 – 230. There will be seven composite seams with thickness ranging from 1.0 m to 23.00 m.
- viii. The total estimated water requirement is 910 m<sup>3</sup>/day. The level of ground water ranges from 3.77 m to 6.00 m. A void of area 39.71 ha at a depth of average 60-70 m (maximum 100 m) is proposed to be converted into a water body.



- ix. The Method of mining would be Opencast with Shovel – Dumper Combination.
- x. There are one external OB Dumps covering an area 87 ha. With the height upto 60 m. The quantity will be 24.00 Mm<sup>3</sup> out of total OB of 28.66 million m<sup>3</sup>. There is one internal dumps covering an area 16.53 ha. with the height upto 1.0 agl. The quantity will be 4.66 m<sup>3</sup>. The final void area 35.21 ha with a depth of 100 m.
- xi. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- xii. The **life of mine** is 8 Years.
- xiii. **Transportation:** Coal transportation in pit by dumper, Surface to Siding by trucks and siding to loading by wagon.
- xiv. There is no R & R involved. There are no PAFs.
- xv. **Cost:** Total capital cost of the project is Rs. 142.11 Crores. CSR Cost Rs. 5.00 per tonne. R&R Cost Rs 252.52 Crores. Environmental Management Cost (Rs. 43.33 Crore; Revenue expenditure Rs. 19.15 per tonne of coal produced).
- xvi. **Waterbody:** River: The south-easterly flowing Konar river marks the western limit of mining area and also forms the main drainage of the area. It lies more than 400m away from mine edge. Nallah: Montico nallah flowing from north to south marks the eastern limit of mine and joins Konar River towards South of the Project. It is 60-70 m away from mine edge.
- xvii. **Approvals:** Ground water clearance has not been obtained. Board's approval obtained on 23.12.2009. Mining plan approval obtained on 23.12.2009. Mine Closure Plan obtained on 23.12.2009.
- xviii. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xix. **Forestry issues:** The total forest land is 193.25 ha. The proponent does not have FC for 45.083 ha. FC has been granted for diversion of 148.167 Ha of forest land vide No. 8-28/2003-FC, dated 02.03.2009 by MoEF.
- xx. Total **afforestation** plan shall be implemented covering an area of 197.26 ha at the end of mining. Green Belt over an area of 89.11 ha. Density of tree plantation 2500 trees/ ha of plants.
- xxi. There are no **court/violation** cases pending with the project proponent.

3. The RO has submitted compliance report vide, letter no. 106-102/EPE dated 15.07.2013, and subsequently vide letter no. 103-392/08/EPE dated 21.02.2014. as desired by the EAC. The Proponent has submitted the final certified compliance to EC conditions vetted by RO, Bhubaneswar, MOEF vide letter no. 103-392/08/EPE dated 21.02.2014. Detailed action plan along with the budgetary provision has been submitted which are as following:

- i. Sumps are created to take care of entire catchments area. The sump capacity is 12.75 lakh cub mtr. Adequate time is given for settlement of silt. Every year sump is being shifted as quarry progresses. Sump dimension: 500m x 60m and 600m x 75m.
- ii. The collected water is being utilized for watering the mine area, roads, green belt development. Regular drain cleaning is being done approximate expenditure = 2.50 lakh before break of monsoon
- iii. Garland drains in appropriate dimensions are being maintained. Sump capacity (mentioned above) is adequate for proper settling of silt materials.
- iv. Length of garland drains = 300 mtrs. Total expenditure = Rs.2 lakh; Toe wall (Expenditure: Rs. 17.90 lakhs) has been constructed and 200m Toe wall (Expenditure: Rs.8.49 lakhs) is under construction.
- v. Stone pitching (Expenditure: Rs.3.18 lakhs) has already been done to check run-off and siltation based on the rainfall data.
- vi. Mineral (Coal) is transported from mine to Jarangdih Railway Siding by black topped road (9.10 Km). Green belt, 30m wide all along the transportation road is maintained by

- afforestation.
- vii. Proposal for Pipradih Railway Siding is under process.
  - viii. One water sprinkler each of 28 kl & 10 kl already deployed in the Project. Fund provision made / committed: Rs. 17.00 lakh.
  - ix. Wet drilling is undertaken.
  - x. Control blasting is under taken under supervision of the blasting officer, proper blast design is prepared to control ground vibration and arrest fly rocks and boulders. Blasting is done with the use of shock tubes.
  - xi. The density of plantations under taken is 2500 plants per ha. So far 314.53 ha. of area has already been planted in the nearby areas. Plantations, as stipulated, will be under taken time to time. Total plantation = 314.53 ha. (including area of Sawang Colliery) and 24 km along road. Species of plants are sisam, gambhar, bakain, mahua, bambu, karange, sal, kathal, mango etc. However after post mining stage afforestation shall be done on backfilled areas, ext. OB dump etc.
  - xii. A provision for an amount of Rs. 31.12 Crore has been approved for Mine closure plan for Govindpur Ph-II OCP.
  - xiii. No ground water (bore well) is used for mining operations.
  - xiv. Rain water harvesting structures including check dams for recharge of ground water is under process. An estimate of Rs. 2.56 lakhs has been proposed for rainwater harvesting. There is no requirement of additional water for mining purpose.
  - xv. The details of seasonal variation of water level changes at individual wells have not been submitted. Project also has not constructed any new peizometers for monitoring ground water levels. No details regarding water quality parameters have been submitted.
  - xvi. A water treatment plant of 0.6 MGD caters to colony demand.
  - xvii. The capacity is proposed to be increased to 0.8 MGD.
  - xviii. Water is supplied to nearby villages by pipe line and hired water tanker by the project authority. In addition to this 02(two) nos. deep boring also has been done for the purpose of water supply.
  - xix. At colony sewage is treated by septic tank and soak-pit method. An adequate treatment is being done at workshop for which ETP has been functioning and clear water is recirculating for washing
  - xx. Efforts will be made to reschedule completion of STP to about 450 days to comply with the observation of EAC on 27.02.2014
  - xxi. established periodical medical examination system with occupational health check facilities initial medical examination for occupational diseases is done at the time of new recruitment and periodical medical examination of 1/5 total manpower is done every year.
  - xxii. Compensation paid to land losers as per approved CIL R&R policy.
  - xxiii. Rs. 5/te. of coal is earmarked for CSR for life of project. The total proposed expenditure of CSR is 1.50 crore during year 2013-14.
  - xxiv. CMPDI environmental laboratory is monitoring the environmental parameters of all CCL projects. The lab. is pursuing for its accreditation through NABL and final audit which was due in Feb'14 was conducted by NABL on 22nd & 23rd February, 2014. Accreditation is awaited. Final Audit has been done.
  - xxv. Independent environment officers be appointed/ engaged for monitoring environmental activities.
  - xxvi. Details of the environmental laboratory submitted along with its NABL accreditation.

4. Out of the total area of 274.95 ha, the total forest land is 193.25 ha. The proponent does not have FC for 45.083 ha. FC has been granted for diversion of 148.167 Ha of forest land vide MoEF letter no. 8-28/2003-FC, dated 02.03.2009. Therefore the total area that should be granted EC is for 229.867 ha i.e. (274.95 ha - 45.083 ha = 229.867). The extent of forest land in the project is 193.25 ha. In this regard, you



are required to follow the guidelines issued by the FC Division of the Ministry of Environment & Forests vide no. 11-362/2012-FC dated 01-02-2013 "Guidelines for diversion of forest land for non-forest purposes under the Forest (Conservation) Act 1980. Submission of proposals to obtain forest land located within the mining lease and grant of environment clearance to mining projects" addressed to the Principal Secretary (Forests), Principal Secretary (Environment) of all the States/UT Govts. and copy to concerned Government Departments/Organisations which prescribes, inter-alia, the following:

" (iii) As regards Environment Clearance (EC) cases of existing mining operations, where approval under the FC Act for the full forest area in the mining lease area is not available, granting of EC may be considered and the following process will be adopted for processing such cases:

- a. Grant of EC may be considered only for the non-forest area plus the forest area within the mining lease for which FC is available. No mining activities will be allowed in forest area for which the FC is not available; and
- b. The project proponent will seek and obtain approval under the FC Act for diversion of the entire forest land located within the mining lease within a period of two years from the date of issue of these guidelines, failing which the mining lease area will be reduced to the non-forest area plus the forest area for which the project proponent has been able to obtain the FC at the end of this time period. In the case of reduction in mine lease area, the project proponent will need to get a revised mining plan approved from the competent authority for reduced area and enter into a new mining lease as per reduced lease area. The EC will be construed to be available for the mining lease area as per the revised mining lease deed." 3

However, diversion of forest land shall not been done under the paragraph (iii) (b) of the guidelines of FC dated 01.02.2013 in view of the Supreme Court's Order dated 27.01.2014 which stayed paragraph (iii) (b) of the Guidelines of FC Division dated 01.02.2013 till further orders. Para (iii) (b) is not being prescribed in view of the Supreme Court's Order dated 27.1.2014.

5. The proposal was reconsidered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) and recommended in its 21<sup>st</sup> EAC meeting held on 18<sup>th</sup> -19<sup>th</sup> September, 2014 for granting Environmental Clearance. The Ministry of Environment, Forests & Climate Change hereby accords environmental clearance for the above-mentioned **Expansion (under 7(ii) of EIA Notification, 2006) of Govindpur Ph-II OC Coal Mining Project of (from 2.20 MTPA to 2.50 MTPA in an ML area of 229.867 ha (274.95 ha - 45.083 ha = 229.867 ha; Latitude 23° 48' 30" to 23° 49' 30" N and Longitude 85° 51' 15" to 85° 52' 45" E) of M/s Central Coalfields Ltd. dist. Hazaribag, Jharkhand** under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/Circulars thereto subject to the compliance of the terms and conditions mentioned below. Grant of EC is accorded only for the non-forest area plus the forest area within the mining lease for which FC is available. No mining activities will be allowed in forest area for which the FC is not available.

#### A. Specific Conditions:

- i. Grant of EC is only for the non-forest area plus the forest area within the mining lease for which FC is available. No mining activities will be allowed in forest area for which the FC is not available. Para (iii) (b) of the guidelines of FC Division dated 01.02.2013 is not being prescribed in view of the Supreme Court's Order dated 27.1.2014.
- ii. The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.





- iii. No mining operations shall be undertaken in 45.083 ha of forestland until prior clearance has been obtained under the provisions of FC Act, 1980.
- iv. Mining shall be carried out as per statuette from the streams/nallahs flowing within the lease and maintaining a safe distance from River Konar flowing along the lease boundary.
- v. No washery shall be established within the ML without prior environment clearances from this Ministry.
- vi. Topsoil shall be stacked properly with proper slope at earmarked site(s) and shall not be kept active and shall be used for reclamation and development of green belt.
- vii. The commitment and action plan submitted by the proponent shall be complied within one year from the date of the issue of the EC and report be submitted to the MoEF. The EAC shall review the compliance report.
- viii. Fixed sprinkler system shall become operational from June 2014.
- ix. The proponent shall ensure that colony people are supplied with treated drinking water.
- x. Piezometers should be installed and made functional by June, 2014.
- xi. The Sewage Treatment Plant shall be operational in 300 days from the issue of the EC.
- xii. The baseline survey and evaluation of projects for CSR be completed within one year.
- xiii. Monitoring of land use pattern shall be carried out and report submitted within one year.
- xiv. Monitoring of AAQ shall be done every month and report be submitted to the SPCB and the RO, MoEF concerned.
- xv. PM<sub>2.5</sub> shall be monitored from April 2014.
- xvi. Environment Officers exclusively for environment related works be posted for monitoring and mitigation purpose.
- xvii. Coal transportation in pit shall be by dumper, Surface to Siding by trucks and siding to loading by wagon.
- xviii. The production of coal shall be within the same Mining Lease area.
- xix. The OB shall be completely re-handled at the end of the mining.
- xx. Final mine void depth will not be more than 40 m. The void area will be converted into waterbody. The rest of the area will be back filled upto the ground level and covered with about a meter thick top soil and put to use.
- xxi. Garland drains shall be provided.
- xxii. The land after mining shall be brought back for agriculture purpose.
- xxiii. Mine water should be treated for discharge into the lagoon. The quality of lagoon water shall be regularly monitored and mitigation measures taken.
- xxiv. The CSR cost should be Rs 5 per Tonnes of Coal produced which should be adjusted as per the annual inflation.
- xxv. Everybody in the core area should be provided with mask for protection against fugitive dust emissions.
- xxvi. Dust mask to be provided to everyone working in the mining area.
- xxvii. The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.
- xxviii. People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mine area.
- xxix. The mining area should be grounded by green belt having thick closed thick canopy of the tree cover.
- xxx. The embankment constructed along the river boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side and stabilised with plantation so as to withstand the peak water flow and prevent mine inundation.
- xxxi. There shall be no overflow of OB into the river and into the agricultural fields and massive plantation of native species shall be taken up in the area between the river and the project.
- xxxii. OB shall be stacked at one earmarked external OB dumpsite(s) only. The ultimate slope of the dump shall not exceed 28°. Monitoring and management of existing reclaimed dumpsites shall continue until



- the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forests & Climate Change and its concerned Regional office on yearly basis.
- xxxiii. Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilised for watering the mine area, roads, green belt development, etc. The drains shall be regularly desilted and maintained properly. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material.
  - xxxiv. Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data.
  - xxxv. Crushers at the CHP of adequate capacity for the expansion project shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points, etc.
  - xxxvi. Drills shall be wet operated.
  - xxxvii. The project authorities shall undertake regular repairing and tarring of roads used for mineral transportation. A 3-tier green belt comprising of a mix of native species shall be developed all along the major approach roads,
  - xxxviii. Controlled blasting shall be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.
  - xxxix. A Progressive afforestation plan shall be implemented covering an area of 197.26ha at the end of mining, which includes reclaimed External OB dump area (87 ha), Internal OB dump area (18.03 ha), industrial infrastructure (3.12 Ha), and Green belt (89.11 ha) and in township located outside the lease by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha. Massive plantation shall be carried out in open spaces in and around the mine and a 3-tier avenue plantation along the main approach roads to the mine.
  - xl. An estimated total 28.66 Mm<sup>3</sup> of OB will be generated during the entire life of the mine. Out of which 24.00 Mm<sup>3</sup> of OB will be dumped in one external OB Dumps an earmarked area covering 87 ha of land with height of 60 m. 4.66 Mm<sup>3</sup> of will be one internal OB dump in covering an area of 16.53 ha with height of 0-10m above ground level. The maximum height of external OB dump for hard OB will not exceed 90 m and that for soft OB shall not exceed 60 m. The maximum slope of the dump shall not exceed 28 degrees. Monitoring and management of reclaimed dump sites shall continue till the vegetation becomes self- sustaining and compliance status shall be submitted to MOEF and its Regional Office on yearly basis.
  - xli. The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.
  - xl.ii. Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.
  - xl.iii. The mining should be phased out in sustainable manner. No extra over burden dumps are permitted.
  - xliv. No groundwater shall be used for mining operations. Rainwater harvesting structures including check dams for recharge of ground water shall be erected within and around the ML in case the water table shows a declining trend. Additional water if any required during mining operations shall be met from mine sump water or from rainwater.
  - xl. v. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
  - xlvi. Of the total quarry area of 76.42 ha. the backfilled quarry area of 18.03 ha shall be reclaimed with plantation and a void of 39.71 ha at a depth of 30-40 m which is proposed to be converted into a water body shall be gently sloped and the upper benches shall be terraced and stabilised with plantation/afforestation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.

- xlvi. Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment, Forests & Climate Change and to the Central Pollution Control Board quarterly within one month of monitoring.
- xlvi. The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring indicates a decline in water table. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- xlix. Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.
  - i. Besides carrying out regular periodic health check-up of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, through an specialised agency /institution within the District/State and the results reported to this Ministry and to DGMS.
  - ii. A project specific R&R prepared for the project shall be implemented. R&R for a cost of not less than Rs. 252.52 lakhs crores shall be completed within an agreed time schedule. Land oustees shall be compensated as per the norms laid out R&R Policy of CIL or the National R&R Policy or R&R Policy of the State Government whichever is higher.
  - iii. For monitoring land use pattern and for post mining land use, a time series of land use maps, based on satellite imagery (on a scale of 1: 5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time series), and the report submitted to MOEF and its concerned Regional office
  - lii. A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forests & Climate Change within 6 months of grant of Environmental Clearance.
  - liv. The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine.
  - lv. The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent.
  - lvi. Corporate Environment Responsibility:
    - a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.
    - b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
    - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.
    - d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.

## **B. General Conditions**

- i. No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forests & Climate Change.
- ii. No change in the calendar plan of production for quantum of mineral coal shall be made.
- iii. Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> monitoring. Location of the stations shall be decided based




on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc carried out at least once in six months.

- iv. Data on ambient air quality (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>) and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly submitted to the Ministry including its concerned Regional Office and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognised under the EPA rules, 1986 shall be furnished as part of compliance report.
- v. Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.
- vi. Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19<sup>th</sup> May 1993 and 31<sup>st</sup> December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.
- vii. Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.
- viii. Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analysed through a laboratory recognised under EPA Rules, 1986.
- ix. Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.
- x. Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.
- xi. A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the company.
- xii. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its concerned Regional Office.
- xiii. The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the Ministry of Environment, Forests & Climate Change at <http://envfor.nic.in>.
- xiv. A copy of the environmental clearance letter shall be marked to concern Panchayat/Zila Parishad, Municipal Corporation or Urban local body and local NGO, if any, from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on company's website.
- xv. A copy of the environmental clearance letter shall be shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Sector and Collector's Office/Tehsildar's Office for 30 days.
- xvi. The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>(ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.



- xvii. The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Office s of CPCB and the SPCB.
  - xviii. The Regional Office of this Ministry located in the Region shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/ information/monitoring reports.
  - xix. The Environmental statement for each financial year ending 31 March in For –V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEF & CC by e-mail.
6. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.
  7. The proponent is required to obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection.
  8. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
  9. The Proponent shall setup an Environment Audit cell with responsibility and accountability to ensure implementation of all the EC Conditions.
  10. This EC supersedes the earlier ECs, vide letter nos. J-11015/490/2008-IA.II (M) dated 18.01.2011 for an expansion in production from 1.20 MTPA to 1.50 MTPA in mining lease area of 274.95 ha and J-11015/490/2008-IA.II (M) dated 20.05.2014 for expansion in production from 1.5 MTPA to 1.875 MTPA in mining lease area of 229.867 ha.
  11. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
  12. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules. And also any other orders passed by the Hon'ble Supreme Court of India/ High Court and any other Court of Law relating to the subject matter. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water, and occupational and other diseases due to the mining operations.
  13. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

  
 (Dr. Manoranjan Hota)  
 Director

**Copy to:**

1. Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.

2. Secretary, Department of Environment & Forests, Government of Jharkhand, Secretariat, Ranchi.
3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, A/3 Chandrashekar pur, Bhubaneswar 751023.
4. Member-Secretary, Jharkhand State Pollution Control Board, TA Building, HEC Complex, PO Dhurwa, Ranchi.
5. Member-Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi 110032.
6. Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
7. Dr. R.K. Garg, Advisor, Coal India Limited, SCOPE Minar, Core-I, 4th Floor, Vikas Marg, Laxmi Nagar, New Delhi.
8. District Collector, Hazaribag, Government of Jharkhand.
9. IG (Wild life), Ministry of Environment, Forests & Climate Change, New Delhi
10. Monitoring File    11.    Guard File    12.    Record File.    13. Notice Board

  
 (Dr. Manoranjan Hota)  
 Director





**ENVIRONMENTAL STATEMENT**

**OF**

**GOVINDPUR –PH-II OCP**

**MARCH 2024**

**CENTRAL COALFIELDS LIMITED**



### **EXECUTIVE SUMMARY**

**E-1** This Environmental Statement Report has been prepared as per gazette notification no. G.S.R. 329 (E) dated 13th March 1992 laid down by Ministry of Environment & Forest. The Environmental Audit has been subsequently renamed to "Environmental Statement" vide MOEF gazette notification no. G.S.R. 386 (E) dated 22nd April 1993.

**E-2** The Govindpur Phase II OC of Central Coalfields Limited is situated in the East Bokaro Coalfields in Bokaro dist. of Jharkhand State.

**E-3** The Environmental Monitoring was carried out quarterly as per the guide line of Ministry of Environment & Forest (MOEF).

**E-4** Ambient air quality was monitored to study the level of air pollution. The main air pollutant is Suspended Particulate Matter (SPM). It is difficult to quantify the amount of air pollutants generated due to mining. However, the results show that SPM, SO<sub>x</sub>, NO<sub>x</sub> values are generally below permissible limits prescribed by Ministry of Environment & Forest (MOEF).

**E-5** Water is not directly used during mining for coal production. It percolates into working area during mining operation. However, water is consumed for other purposes, mainly for domestic supply, industrial supply, and fire fighting and dust suppression.

**E-6** The noise levels recorded are generally below permissible limits prescribed by Ministry of Environment & Forest (MOEF). There is no continuous high level sound frequency of impulsive nature.

**E-7** Raw materials used in coal mining activities are explosives and POL for machines and automobiles. The consumption is detailed in part-B of Statement Form.

**E-8** Hazardous waste is not being produced either from mining operations or from any pollution control facilities except for Over Burden in case of OCP.

**E-9** Regular measures are being taken to control air, water & noise pollutions discussed in detail in parts-G, H & I of the Statement Form.

Also, measures will be taken for implementation of the Environmental Management Plan for the project after getting approval of project report.

**E-10** This Annual Environmental Statement Report for the year 2023-24, has been prepared as per statutory requirement.



## **CHAPTER -1**

### **PROJECT DESCRIPTION**

#### **1.1 INTRODUCTION**

The Govindpur Ph – II OCP of Central Coalfields limited is located in the East Bokaro district of Jharkhand state. The rated capacity of the project is 2.5 MTPA.

#### **1.2 LOCATION & COMMUNICATION :**

The Govindpur OCP is located in the East Bokaro Coalfields in Bokaro District of Jharkhand state. The project is connected to the G.T. road at Bagodar by a 60 km all weather metaled road.

The Ramgarh - Dhanbad road is also connected at Petarwar by a 30 Km long metaled road.

The project is about 2 km from Bokaro Thermal railway station on Barkakana - Gomoh loop line of Eastern Railway. The Bokaro thermal Power station is within 2 km towards west of the project.

#### **1.3 SALIENT FEATURES :**

At present, Rated capacity of Govindpur Ph –II OC is 2.5 MTPA. The mine is operated with shovel-dumper mechanism.

## **CHAPTER - II**

### **ENVIRONMENTAL STATEMENT FORM -V**

#### **Environmental Statement for the financial year ending March'2024**

#### **PART – A**

- |   |   |                                     |
|---|---|-------------------------------------|
| (i) Name and Address of the mine.   | : | GOVINDPUR PHASE II OCP              |
|   | : | PROJECT OFFICER                     |
| Place   | : | Govindpur colliery                  |
| Post  | : | Govindpur colliery                  |
| Distt   | : | Bokaro, JHARKHAND                   |
| (ii) Industry Category  | : | Primary.                            |
| (iii) Production Capacity   | : | OC - 2.5 MTPA as per EC vide letter |
| No. J-11015/490/2008-IA-II(M) dated 24.12.2014 for a peak capacity 2.5 MTPA |   |                                     |
| production during year 2023-24 is 0.944 MT                                  |   |                                     |
| (iv) Date of last Env. Statement Report                                     | : | The last Env. Statement Report was  |
|   |   | submitted for the year 2022-23      |

## **PART – B**

### **WATER AND RAW MATERIAL CONSUMPTION**

#### **I. Water consumption (M<sup>3</sup>/ day)**

<b>Mining</b>		
<b>a</b>	Haul road dust suppression	<b>268</b>
<b>b</b>	Workshop	<b>60</b>
<b>c</b>	Fire fighting	<b>56</b>
<b>d</b>	Others (service building etc.)	<b>28</b>
<b>Domestic</b>		
<b>a</b>	Domestic including service and welfare building	<b>2800</b>

### **WATER CONSUMPTION PER UNIT OF PRODUCT**

Name of Product	Water Consumption per Unit of Product	
	During financial year (2023-24)	During financial year (2022-23)
I. ROM Coal	1.24 cum/te	1.04 cum/te

#### **II. RAW MATERIAL CONSUMPTION :**

Sl.No.	Name of raw material	Name of products	Consumption of raw material ( per unit of output)	
			During the financial year (2023-24)	During the financial year (2022-23)
1	Explosives(Kg.)		852470.65	2239336.20
2	POL(Ltr.)		3038506	2969272

## **PART - C**

### **POLLUTION GENERATED**

#### **(PARAMETERS SPECIFIED IN THE CONSENT ISSUED)**

Pollutions	Quantity of pollution generated	Percentage variation from prescribed standards with reasons
<b>WATER</b>	Water discharged from: (a) Mine- 5000 cum /day (b) Workshop- Nil	The analysis results reveal that all of the parameters are below the limits prescribed by MOEF.
<b>AIR</b>	It is difficult to quantify the amount of air pollutants. The main air pollutant is suspended particulate matter (SPM).	Ambient air quality results show that SO <sub>2</sub> , NO <sub>x</sub> , & SPM level are well within prescribed standards.



**PART - D**  
**HAZARDOUS WASTES**

(As specified under Hazardous Waste/Management and Handling Rules, 1989)

Hazardous Wastes	Total quantity	
	During the financial year (2023-24)	During financial year (2022-23)
a) From process	Burnt oil- 37400 ltr Batteries- 44 Oil filters-513	Burnt oil-29335 Batteries-49 Oil filters -622
b) From pollution control facilities	Nil	Nil

**NOTE:** The entire process of coal mining, handling and dispatch do not produce any hazardous wastes.

**PART - E**  
**SOLID WASTES**

	Total Quantity (in M m <sup>3</sup> )	
	During the previous financial year (2023-24 )	During the current financial year ( 2022-23)
a) From process (Mining) Overburden	2.021 Mm <sup>3</sup>	2.954 Mm <sup>3</sup>
b) From pollution control facilities	Nil	Nil
c) Quantity recycled or reutilized	The entire volume of O.B. material is being used partly for back-filling and partly stacked in OB Dump.	The entire volume of O.B. material is being used partly for back-filling and partly stacked in OB Dump.

**PART – F**

**PLEASE SPECIFY THE CHARACTERISTICS (IN TERMS OF  
CONCENTRATION AND QUANTUM) OF HAZARDOUS AS WELL AS SOLID  
WASTES AND INDICATE THE DISPOSAL PRACTICE ADOPTED FOR  
BOTH THESE CATEGORIES OF WASTES**

1. Landfill site: OB used as a landfill site for burying of filters.
2. Regional store : Burnt oil and batteries are transported to regional store  
Hazardous waste is not being produced either from mining operation or from any pollution control facilities. During opencast mining, overburden and top soil are produced as solid wastes temporarily as these materials are used for land reclamation.



The overburden material is more or less homogeneous comprising mainly sand, silt, clay and gravel. Overburden generated during 2023-24 was **2.021 Million cubic meter**.

## **PART – G**

### **IMPACT OF POLLUTION CONTROL MEASURES ON CONSERVATION OF NATURAL RESOURCES AND CONSEQUENTLY ON COST OF PRODUCTION**

In order to carry out mining in an eco-friendly manner, following pollution control measures have been implemented:-

#### **1.0 AIR POLLUTION CONTROL MEASURES :**

The following measures have been taken to control air pollution:

- (i) Sprinkling of water in transportation of coal, haul roads and other roads.
- (ii) Vehicular emissions is kept under control and regularly monitored. Record of PUC certificates is maintained.
- (iii) Vehicles used in transporting the mineral is covered with tarpaulins and optimally loaded.
- (iv) All drills are wet operated.
- (v) Blasting operations are carried out under congenial weather condition, i.e. avoiding temperature inversion, etc.
- (vi) Green belt has been developed near mine and in leasehold area.
- (ii) Water sprinkling on coal stock by fixed water sprinkler.
- (iii) All necessary precautions are taken during drilling, blasting, loading and transporting operations.

#### **2.0 WATER POLLUTION CONTROL MEASURES:**

The following measures have been taken to control water pollution from the mine:

- (i) ETP has been constructed for treating water from workshop. The water is being utilized again in workshop after treatment and zero water discharge technology.
- (ii) The mine water is discharged on wasteland after passing through a lagoon which acts as a settling pond.
- (iii) A system of open drain exists within the leasehold area to collect the storm runoff from paved area, road, roof top, etc. & lead them to natural drains directly.
- (iv) Garland drain is provided around the quarry to collect the surface run-off. This also prevents storm water to enter into the quarry area.
- (v) The catch drains have been constructed around the foot of the O.B. dumps in order to collect surface run-off water from the dumps and convey them to settling ponds.
- (vi) Colony and other service buildings are provided with septic tank and soak pit. Also, water is supplied after filtration and disinfection for domestic use.

**3. NOISE POLLUTION CONTROL MEASURES:**

- (i) Plantation barriers have been developed around residential locations & are proposed around other noise prone area.
- (ii) Efforts are being made to keep HEMMs properly maintained so as to produce least noise.
- (iii) Blasting operation is carried out between 12.30 PM to 3.00 PM.
- (iv) Use of HEMMs with sound proof cabin.
- (v) Ear plugs/ muffs are provided to workers engaged in blasting and drilling operations etc. as per requirement.

**4.0. MEASURES FOR RECLAMATION OF LAND**

- (i) The entire volume of O.B. material is being used partly for back-filling and partly stacked in OB Dump. At the end of mining operation, some de-coaled area will remain empty, which would be used for storing rain water.
- (ii) The presence of such a water body will help in increasing the moisture content of soil of adjacent area and ultimately it would promote the growth of vegetation.

**PART - H**

**ADDITIONAL INVESTMENT PROPOSAL FOR ENVIRONMENTAL PROTECTION INCLUDING ABATEMENT OF POLLUTION**

The following are the additional investment proposal for environmental protection:


- i. The environmental monitoring of the project will be continued quarterly as per guidelines of MOEF.
- ii. All residential quarters constructed for the Project has been provided with septic latrines and effluents are disposed off in soak pits. The capital investment for this purpose has not been assessed separately.
- iii. Construction of STP is in process.
- iv. The air and water consent is taken from Jharkhand State Pollution Control Board, Ranchi each year.
- v. Environmental statement report is prepared for each financial year ending 31'st March.

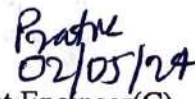
**PART - I**


**ANY OTHER PARTICULARS IN RESPECT OF ENVIRONMENTAL  
PROTECTION AND ABATEMENT OF POLLUTION**


1. The Environmental monitoring is carried out quarterly for the project by CMPDI as per the guide lines of the Ministry of Environment & Forest (MOEF).
2. The Environmental Statement for the project is prepared yearly.
3. Ambient air quality, quality of effluent discharged from the mine and noise level all conform to the prescribed limits.

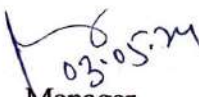
  
Officer (Survey)  
GVP Ph-II OCP

  
Nodal Officer (E&F)  
GVP Ph-II OCP

  
Project Engineer (C)  
GVP Ph-II OCP

  
Project Engineer (E&M)  
GVP Ph-II OCP

  
Project Engineer (Exc)  
GVP Ph-II OCP

  
Manager  
GVP Ph-II OCP

  
Project Officer  
GVP Ph-II OCP