

**SIX MONTHLY REPORT
OF**

**EMP CLEARANCE
[J-11015/36/2007-IA.II(M)]**

**for the period April'23 – September '23
(1st December 2023)**



PURNADIH OCP


N K AREA



CENTRAL COALFIELDS LIMITED

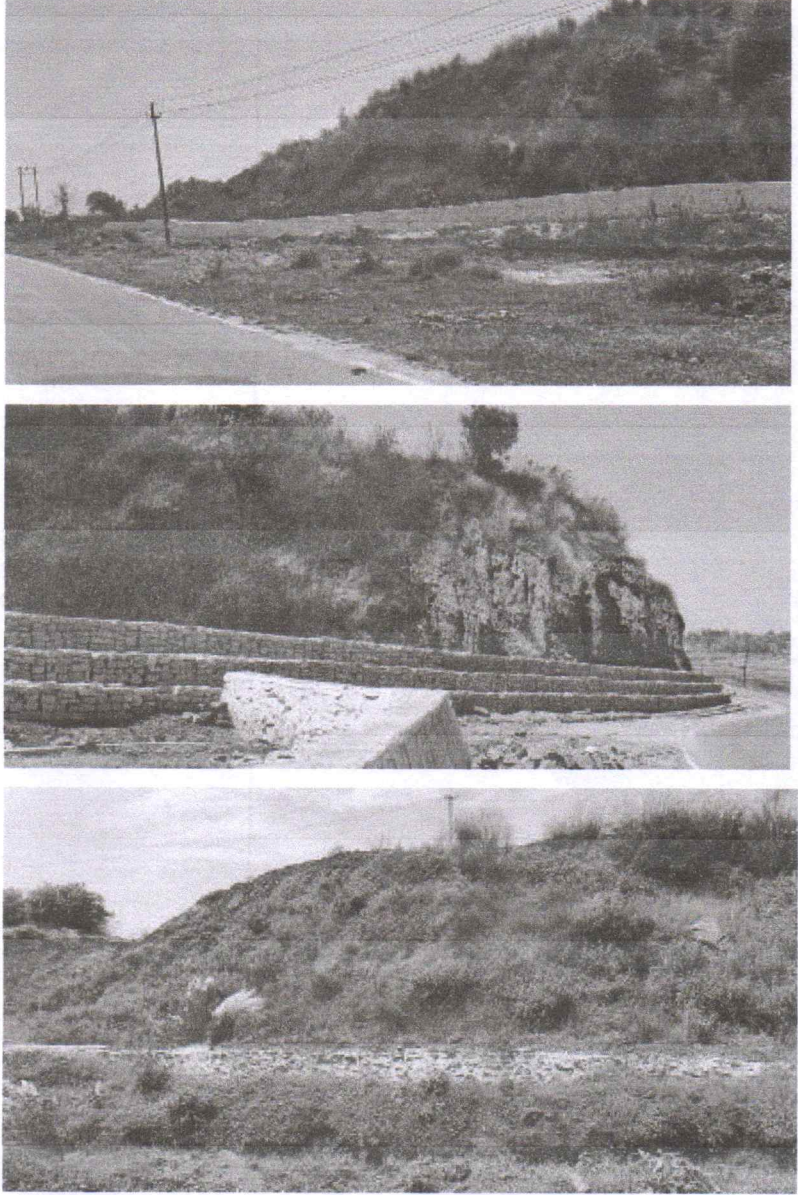
(A Miniratna Company)

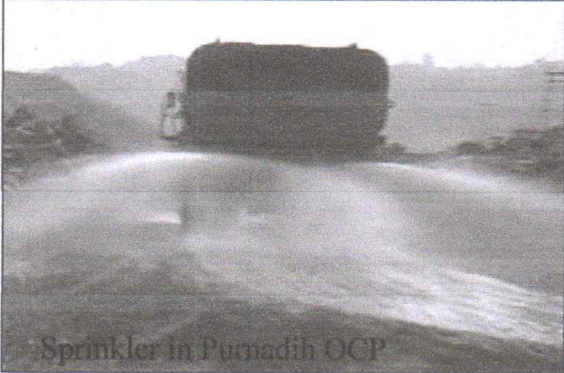

Status of compliance of the terms and conditions given in the Environmental clearance letter J-11015/36/2007-IA.II(M) dated: 19.5.2009 issued by MOEF, Govt. of India New Delhi for Purnadih opencast mine (3.0 MTPA normative and 3.45 MTPA peak in an ML area of 751.74 ha.) period from April 23 to September -23)

S.No.	Condition	Compliance																														
(i)	No mining operations shall be undertaken in the forest land until clearance has been obtained under the provision of FC Act, 1980.	No mining operations are undertaken in the forest land. Stage-I clearance for 321.69 ha forest land has been granted vide 8-61/2018-FC dated 16.01.2023.																														
(ii)	The Project can increase to 0.345 MTPA rate of production only after obtaining necessary approval of the Board.	<p>Agreed. However the project till date has not crossed 3MTPA production.</p> <p>The details of Coal and OB production for last eight years is as follows:</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Coal (MT)</th> <th>OB (mCum)</th> </tr> </thead> <tbody> <tr> <td>2015-16</td> <td>2.40</td> <td>3.11</td> </tr> <tr> <td>2016-17</td> <td>1.17</td> <td>1.91</td> </tr> <tr> <td>2017-18</td> <td>2.58</td> <td>3.31</td> </tr> <tr> <td>2018-19</td> <td>2.42</td> <td>2.78</td> </tr> <tr> <td>2019-20</td> <td>2.01</td> <td>2.57</td> </tr> <tr> <td>2020-21</td> <td>1.04</td> <td>2.101</td> </tr> <tr> <td>2021-22</td> <td>0.401</td> <td>1.526</td> </tr> <tr> <td>2022-23</td> <td>0.731</td> <td>1.764</td> </tr> <tr> <td>2023 – 30.09.2023</td> <td>0.264</td> <td>0.837</td> </tr> </tbody> </table>	Year	Coal (MT)	OB (mCum)	2015-16	2.40	3.11	2016-17	1.17	1.91	2017-18	2.58	3.31	2018-19	2.42	2.78	2019-20	2.01	2.57	2020-21	1.04	2.101	2021-22	0.401	1.526	2022-23	0.731	1.764	2023 – 30.09.2023	0.264	0.837
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(iii)	Mining shall be carried out as per statute from the streams/nallahs flowing within the lease and along the diverted nallah along the lease boundary.	Mining is being carried out as per DGMS statute. Proper distance is being maintained from the nearby river/ seasonal Nallah																														
(iv)	The embankment of 4.4 KM being constructed between bank of river Damodar and ML boundary shall be at least 5 M higher than the HFL of river Damodar and at least 15M from the bank of river Damodar. The	<p>Embankment construction has been started as per EMP and till Now, 600 m embankment construction has been completed.</p> <p>Once the handover of 323.49 ha forest land is obtained the remaining embankment will be completed in phases as per requirement of mining operation</p>																														


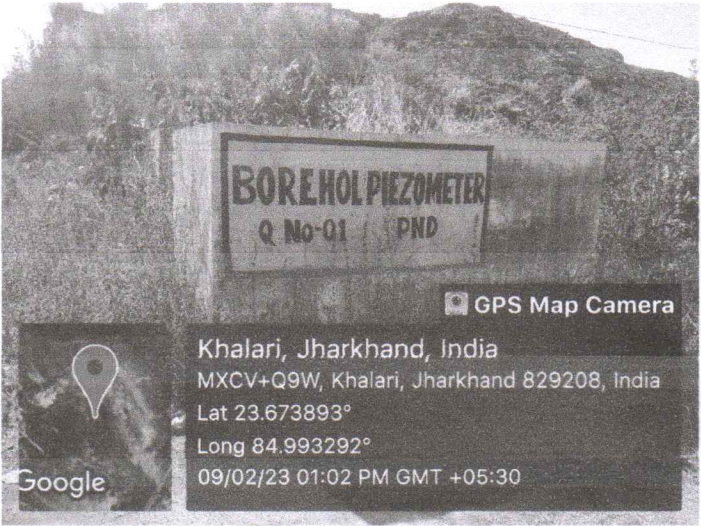
	<p>slope of the embankment shall at least 2:1 towards the ML and enforced with stone pitching and grouting any weak portion of the embankment; and shall be stabilized with plantation. OB shall not be used for the construction of embankment.</p>	
(v)	<p>Top soil shall be extracted properly with proper slope at earmarked site(s) and shall not be kept active and shall be used for reclamation and development of green belt.</p>	<p>Top soil is stacked and placed at an earmarked site of about 1 Ha. The top soil is continuously used for reclamation and development of green belt in and around the project</p>
(vi)	<p>OB shall be stacked at properly with proper slope at earmarked on external OB dump site within ML of 24 ha. area for the last 5 year only and external dumping of OB shall cease thereafter. The ultimate slope of the dumps shall not exceed 28°. Monitoring and management of reclaimed dump site shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forest and its Regional Office located at Bhubaneshwar on yearly basis.</p>	<p>Currently only internal OB dumping is being done in the decoaled area. The OB is technically backfilled in the decoaled areas and then biological reclamation is carried out.</p> <p>At the end of mine life the ultimate slope will not exceed 28°</p>  <p>Internal OB dump of Purnadih OCP</p>
(vii)	<p>Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment</p>	<p>Catch drains and siltation ponds of appropriate capacity are constructed to arrest any silt and sediment eroded from surface soil, OB and mineral dumps. The drains are regularly desilted and maintained properly before onset of monsoon</p>


	<p>filled from soil, OB and mineral dumps. The water so collected shall be watering the mine area roads, green belt development etc. The drain shall be regularly desilted and maintained properly</p>	<p>every year.</p>  <p>Drains along road.</p>  <p>Mine sump of Purnadih OCP</p>
(viii)	<p>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.</p>	<p>Proper designing of Garland drains have been made to cater the maximum discharge in the area.</p> <p>Mine sumps (3 nos) of 25 million gallons capacity have been developed in the project which have high retention period</p>
(ix)	<p>Dimension of the</p>	<p>Most of the OB dumps are internal in Purnadih OCP.</p>

	<p>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.</p>	<p>However suitable designing of retaining wall for this purpose is continuously been provided as and when required.</p> <p>About 400 m wall has already been constructed at coal dump and OB dumps</p>  <p>The top photograph shows a paved road curving to the right, with a low retaining wall visible in the distance. The middle photograph shows a multi-tiered stone retaining wall built into a steep, rocky hillside. The bottom photograph shows a grassy slope with a low retaining wall at its base.</p>
(x)	<p>Mineral transportation from mine to washery shall be by rail. All internal roads shall be metal topped. Green belt shall be developed on both sides of the roads. Green belt shall be developed at the Railway siding.</p>	<p>All internal roads are metal topped.</p> <p>Green belt development has started in consultation with Forest Dept. Jharkhand</p>

(xi)	<p>High efficiency water sprinkling system provided to check fugitive emission at the transfer points, haulage roads etc. shall be provided for crushing/loading operation for dust control at the CHP.</p>	<p>Regular sprinkling arrangements are made at all transfer points, haulage roads, and crushing/loading points.</p>  <p>Sprinkler in Purnadih OCP</p> <p>Installation of fixed water sprinklers (100 nos) along coal transportation road of Purnadih OCP has been completed and are operational</p> 
(xii)	<p>Drill shall be wet operated only.</p>	<p>Wet drilling arrangements are provided & maintained in all the working drills in active operational areas.</p>
(xiii)	<p>Controlled blasting shall be practiced with use of delay detonators. The mitigative measures for controlled of ground vibrations and arrest the fly rocks and boulders shall be implemented.</p>	<p>Blasting is carried out during 14:00 – 15:00 hrs of day. All precaution and mitigative measures are being taken for control of Ground vibration.</p>
(xiv)	<p>The total area that shall be brought out under</p>	<p>Not less than 637.74 ha of afforestation will be done at the time of mine-closure. Afforestation on reclaimed area is being</p>

	<p>afforestation at the time of mining closure shall not be less than 637.74 ha which includes dump 24.20 ha), back filled area (467 ha) along ML boundary, embankment, safety zone and construction area along roads and infrastructure, green belt (146.54 ha) and in township outside the lease by planting native species in consultation with the DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.</p>	<p>carried out by Forest Dept. Govt of Jharkhand. The details of reclamation are given as follows</p> <table border="1" data-bbox="718 280 1220 571"> <thead> <tr> <th>Year</th> <th>Area (ha)</th> <th>No of plants</th> </tr> </thead> <tbody> <tr> <td>2012-13</td> <td>5</td> <td>12500</td> </tr> <tr> <td>2013-14</td> <td>3.45</td> <td>8625</td> </tr> <tr> <td>2017-18</td> <td>9.1</td> <td>22750</td> </tr> <tr> <td>2018-19</td> <td>7.4</td> <td>18500</td> </tr> <tr> <td>2020-21</td> <td>9.00</td> <td>22500</td> </tr> <tr> <td>total</td> <td>33.9</td> <td>87875</td> </tr> </tbody> </table>	Year	Area (ha)	No of plants	2012-13	5	12500	2013-14	3.45	8625	2017-18	9.1	22750	2018-19	7.4	18500	2020-21	9.00	22500	total	33.9	87875
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(xv)	<p>A progressive mine Closure Plan shall be implemented by reclamation of quarry area of 475 ha. which shall be backfield and afforested by planting native plant tree species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha. The balance 97 ha. of decaled area/void being converted in to a water reservoir shall be gently sloped and the upper benches of the reservoir shall be terraced and stabilized with plantation.</p>	<p>Progressive mine Closure Plan is being implemented as per EMP.</p> <p>The biological reclamation is being done in consultation with DFO Chatra, Jharkhand. The density of the trees is around 2500 plants per ha. Plantation in 9.00 ha of reclaimed area has been competed in year 2020-21.</p> <p>This condition will be regularly reviewed on yearly basis and will be fully complied at the time of mine closure</p>																					
(xvi)	<p>No groundwater (bore well) shall be used for mining operations. Rain water harvesting structure shall be erected within and around the</p>	<p>No groundwater (bore well) is being used for mining operations. The project has a mine sump of 25 million gallon capacity which acts as ground storage and water recharge system</p>																					

	<p>ML inductive check dams for recharge of ground water and for additional use, if any, during mining operations along with mine sump water.</p>	 <p>Mine sump of Purnadih OCP</p>
(xvii)	<p>Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and construction of new peizometers. The monitoring for quality shall be done four times in 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 & Forest and to the Central Pollution Control Board quarterly within one month of monitoring.</p>	<p>Regular monitoring of the underground water level is being carried out by a network of existing wells located in nearby villages /peripheral areas</p> <p>Provision for installation of new peizometers as required has been made in and around the core and buffer zone</p> 
(xviii)	<p>The Project authority shall meet water requirement of nearby village(s) in case in the village wells go dry due to dewatering mine.</p>	<p>The drinking water if necessary is being supplied to nearby villages/colonies from treatment plants of NK Area for drinking purpose through water supply pipelines and mobile tankers</p>

		
(xxix)	<p>Sewage treatment plant of adequate capacity shall be installed in Colony.ETP shall also be provided for workshop and CHP wastewater. Treated wastewater meeting Prescribed norms only shall be permitted to the discharge in the natural water courses</p>	<p>There is no colony of Purnadih OCP. New ETP has been constructed for treatment of workshop wastewater for a cost of about 50 lakhs in January 2020</p>
(xx)	<p>Besides carrying out regular practice health check 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 agency such as NIOH, Ahmedabad within a period of one year and the result reported to this Ministry and to DGMS.</p>	<p>PME for all the work force at regular intervals are being done at central hospital Dakra. In the year 2022, PME of 743 employees of NK Area had been done in calendar year 2022. Details of PME/ IME of last five years enclosed as annexure A</p>
(xxi)	<p>A detailed R&R Plan for all PAFs from the three villages Dembua, Henjda and Kutki including tribals to be displaced from the Project area shall be prepared and implemented in a</p>	<p>R&R Plan for all PAFs from the three villages Dembua, Henjda and Kutki including tribals to be displaced from the Project is being implemented and has been prepared and sanctioned by MoC as per agreement /consent of villagers</p> <p>The compensation is being made as per CIL norms. Rs.81.57 lacs has been spent in R&R works for the year 2010-'11. 5.00 crore in the year 2012-13 and 26.95 crore in year 2013-14</p>

	<p>stipulated time-frame. The compensation shall be not less than that specified in the National R&R Policy. A detailed socio-economic survey shall be carried out and decide on the same an effective R&R package shall be given to ensure restoration of income of project affected person (PAP). Provision shall also be made in the R&R Plan to take care of landless labourers and the tribals.</p>	<p>Job to 706 PAP in Purnadih OCP have already been given to ensure restoration of income to them</p>														
(xxii)	<p>A detailed CSR plan shall be prepared for and in consultation with the local communities.</p>	<p>A detailed yearly CSR plan is prepared for and in consultation with the local communities by CCL management. CSR scheme has been implemented. An amount of Rs 147.8 lakh has been spent on different CSR activities by NK Area for the year 2022-23</p> <p>The CSR activities are approved by CCL CSR committee with consultation of local communities</p> <p>The details of CSR activities is as follows:</p> <table border="1" data-bbox="727 1167 1088 1563"> <thead> <tr> <th data-bbox="727 1167 887 1290">Year</th> <th data-bbox="887 1167 1088 1290">Total Expenditure (In lakhs)</th> </tr> </thead> <tbody> <tr> <td data-bbox="727 1290 887 1339">2017-18</td> <td data-bbox="887 1290 1088 1339">51.0</td> </tr> <tr> <td data-bbox="727 1339 887 1388">2018-19</td> <td data-bbox="887 1339 1088 1388">58.5</td> </tr> <tr> <td data-bbox="727 1388 887 1438">2019-20</td> <td data-bbox="887 1388 1088 1438">30.6</td> </tr> <tr> <td data-bbox="727 1438 887 1487">2020-21</td> <td data-bbox="887 1438 1088 1487">49.4</td> </tr> <tr> <td data-bbox="727 1487 887 1536">2021-22</td> <td data-bbox="887 1487 1088 1536">68.4</td> </tr> <tr> <td data-bbox="727 1536 887 1585">2022-23</td> <td data-bbox="887 1536 1088 1585">147.8</td> </tr> </tbody> </table> <p>The main activities of CSR program of NK Area are as follows:</p> <ul data-bbox="762 1644 1541 2020" style="list-style-type: none"> • Health camps conducted at area level • CCL Laal and Laadli – meritorious students are selected and given 2 years of education, fooding & lodging, coaching for engineering preparation after 10th standard free of cost. Many students have become engineers or chosen other successful career path since inception. One such student qualified and is working at NK area as an officer • CCL Covid crisis scholarship- students who lost their 	Year	Total Expenditure (In lakhs)	2017-18	51.0	2018-19	58.5	2019-20	30.6	2020-21	49.4	2021-22	68.4	2022-23	147.8
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2022-23	147.8															

		<p>parents during covid are being provided scholarships to study. 4 are from NK Area</p> <ul style="list-style-type: none"> • Children have been selected and trained at JSSPS khelgaon Ranchi, along with free education , fooding and lodging and monthly stipend. Sports cadets from JSSPS have won more than 100 medals at state, national and international level • HMV training with license have been provided to youths. 10 from NK area • ITI at BTTI Bhurkunda • Diploma programme from CIPET Ranchi • Machine operating training at Jharkhand tool room has started • Dairy and fishery training has been conducted at NK Area • Consensus with BAU and ICAR ranchi to start farming training for beneficiaries
(xxiii)	<p>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 on the time series) and the report submitted to MOEF and 'to Regional office at Bhubaneshwar.</p>	<p>The land restoration plan is made every three years by CMPDIL, Ranchi. Copy attached as Annexure E</p> <p>The latest report is available at https://www.coalindia.in/media/documents/Sat._Monitoring_of_Reclamation_more_than_5_MCM_for_2021-22.pdf</p>
(xxiv)	<p>A final mine closure plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5years in advance of final mine closure for approval.</p>	<p>This will be made well within 5 years in advance of final mine closure for necessary approval.</p> <p>Also an amount of 3226.981 lakh has been submitted in the escrow account till 31.03.2022.</p> <p>An amount of Rs 593.43 lakh has been refunded from escrow account by Government of India. vide letter no CC/MCPS/CCL/20-21/nil dated 07.04.2020 (annexure B)</p>

General Condition		
S.No.	Condition	Compliance
(i)	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment & Forests.	Mining in Purnadih OCP is being carried out using shovel-dumper system in combination with blast hole drilling and controlled heavy blasting for production of 3MTPA of coal. The mining technology and scope of mining has not been/shall be changed
(ii)	No change in the calendar plan including excavation, quantum of mineral coal and waste shall be made.	No change in the calendar plan including excavation, quantum of mineral coal and waste is made
(iii)	Four ambient air quality monitoring station shall be established in the core zone as well as in the buffer zone for monitoring SPM, RPM, SO ₂ , NO _x and heavy metals such as Hg, Pb, Cr, As, etc. 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.	Four locations namely : manager office, Tumang village near PO office, Bisharampur village and koilara village based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and too in consultation with the State Pollution Control Board have been established .
(iv).	Fugitive dust emissions (SPM and RSPM and heavy metal such as Hg, Pb, Cr, As, etc.) from all the sources shall be controlled regularly monitored and data recorded properly. Water spraying arrangement in haul roads, wagon loading, dump trucks (loading and unloading) points shall be provided and properly maintained.	Regular sprinkling is being done for catering Fugitive dust.
(v)	Data on ambient air quality (SPM, RSPM, SO ₂ , NO _x , and heavy metals such as Hg, Pb, Cr, As, etc.) shall be regularly submitted to the Ministry including its Regional Office at Bhopal and to the State Control Board and the Central Pollution Control Board once in six months.	Data on air quality is regularly submitted along with six monthly compliance report
(vi)	Adequate measure shall be taken for control of noise levels below 85	Adequate measure is being taken for control of noise levels below 85 dB (A) in the work environment.

	dB(A) in the work environment. Workers engaged in blasting and drilling operation, operation of HEMM etc. shall be provided with the plugs/muffs.	
(viii)	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.	Vehicular emissions are being regularly monitored. Vehicles used for transporting the mineral are being covered with tarpaulins and are loaded as per norms.
(ix)	Environmental laboratory shall be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.	The analysis of environmental samples is being done in CMPDIL which has recognized laboratory and equipments by the SPCB
(x)	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. Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractors due to exposure of dust and to take corrective measures, if needed.	Dust masks and other protective respiratory devices will be procured for distribution for the personnel working in dusty area. Adequate training is being imparted at area training centre.
(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.	Separate environment cell has been established at the project level. The details of environmental committee is attached as annexure C
(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 Regional Office at Bhubaneswar. .	The funds earmarked for environmental protection measures are kept in separate account. Year-wise expenditure will be reported as per condition. Rs.10.02 lacs have been spent for the year 2013-'14, 11 lakhs in 2014-15, 16 lakhs in year 2016-17 and about 18 lakh has been spent in year 2017-18
(xiii)	The Regional Office of this Ministry located at Bhubaneswar shall maintain compliance of the stipulated conditions. The Project	The Project authority is extending full co-operation to the Officer(s) of Regional Office by furnishing the requisite data/information/monitoring reports

	authority shall extend full co-operation to the Officer(s) of Regional Office by furnishing the requisite data/information/monitoring reports.	
(xiv)	A copy of the same will be marked to the local Panchayat/local NGO, if any from whom any suggestion/representation has been received while processing the proposal.	Copy of EC has been sent to local panchayats
(xv)	State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's Office /Tehsildar's Office for 30 days.	Copy of EC has been sent to JSPCB, Ranchi.
(xvi)	The Project authority shall advertise at least in two local newspapers widely circulated around the Project, one of which shall be in the vernacular language of the locally concerted within seven days of the clearance letter informing that the Project has been accorded environment 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 http://envfor.nic.in . The compliance status shall also be displayed in their website and regularly updated at least once in six months so as to bring the same to the public domain. The data shall also be displayed at the entrance of the project premises and mines office and in Corporate Office.	<p>Advertised in following news paper Xerox copies of which are enclosed annexure D.</p> <ol style="list-style-type: none"> 1. Hindustan Times, Ranchi – Wednesday dtd. 4th Nov-2009 2. Prabhat Kabhar , Ranchi – Dtd. 4th Nov-2009, <p>The compliance status is being uploaded on site: https://www.centralcoalfields.in/sutbs/envrfrst.php and is being regularly updated every six months.</p>

Dhaya Prakash
28/10/23
Nodal Officer (Env't)
NK Area

[Signature]
27/11/2023
Environment Officer/ IC
Purnadih OCP
NK Area

[Signature]
27/11/23
Project Officer
Purnadih OCP
NK Area

Details of reclamation

S.No	Details	Area (Ha)
1	Leasehold Area	751.74
2	Quarry Area	567.07
3	Broken Area	154.34
4	Technically Reclaimed Area	109.04
5	Technically Reclaimed Area %	~70.64 %
6	Biologically Reclaimed Area	29.4
7	Biologically Reclaimed Area %	~26.96%

Table 1.4 reclamation details

S.No	Land details(All area in Ha)				Technically Reclaimed area (in Ha)	Bio-Reclaimed Land (in Ha)			Remarks
	Forest Land	Non-Forest Land	Total Land	Total mined out area		Forest Land	Non-Forest Land	Total Reclaimed Land	
1	323.49*	428.25	751.74	154.34	109.04	0	33.9	33.9	Plantation started from 2012-13.

- Application of forestry clearance of 323.49 ha forest land under process

The details of the plantation are as follows:

Name of Project	Year of Plantation	Area in Ha	Category of Land	No. of Plants	Main species
Purnadih OCP	2012 - 13	5.00	OB dump	12500	Acacia, Gamhar, seashamsubbabul, Karanj, Kathagwan, Chakundi, Eucalyptus, Ber, Amla, Emla, Babul Bamboo, Menzium, etc. With about 60% survival on OB dumps
	2013 -14	3.45		8625	
	2017-18	9.10		22750	
	2018-19	7.40		18500	
	2020-21	9.00		22500	
	Total	33.9		84875	













CSR activities in NK Area

NK Area carries out CSR activities in 14 different panchayats of Khalari and Tandwa circle. Some of CSR activities are as follows:

Drinking Water

3 Deep borings, 9 wells, 6 handpumps, 3 water purifiers at Khalari & Mcluskieganj railway station and khalari block





Quarantine library



Graameen Football



श्रेष्ठ, उत्तराखण्ड में राष्ट्रीय ग्रामीण फुटबॉल प्रतियोगिता का प्रारंभ, जिला की खिलाड़ियों को उपलब्ध करायेंगे बेहतर कोच

श्रेष्ठ, उत्तराखण्ड में राष्ट्रीय ग्रामीण फुटबॉल प्रतियोगिता का प्रारंभ, जिला की खिलाड़ियों को उपलब्ध करायेंगे बेहतर कोच

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बालिका वर्ग में गणेश स्पोर्टिंग क्लब राय त बालक वर्ग में विश्रामपुर की टीम विजयी

बालिका वर्ग में गणेश स्पोर्टिंग क्लब राय त बालक वर्ग में विश्रामपुर की टीम विजयी

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Distribution of sports items



Swachhta Hi Sewa 2019

1000 cloth bag distribution, social message and branding with help of 3000 pamphlets depicting restriction on use of single use plastic at houses, shops and public places in NK Area



Tricycles for physically challenged

39 tricycles for physically challenged



Village/School health Camps

Total -175 Camps





Construction of toilets



Community hall constructed under CSR scheme of NK Area



Installation of Hand pipes



Construction of well at Mcluskiganj





Construction of road and bridge near Purnadih village



भारत सरकार
Government of India

कोयला मंत्रालय
Ministry of Coal

कोयला नियंत्रक का कार्यालय
Office of the Coal Controller

1, कौंसिल हाउस स्ट्रीट, कोलकाता-700 001.
1, Council House Street, Kolkata - 700 001

दिनांकित / Dated : 7th April, 2020

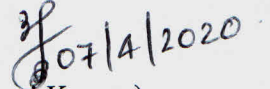
सं / No.CC/MCPS/CCL/20-21/

ORDER

Release of amount standing in Escrow Accounts of Mine of CCL

In pursuance of the Minutes of the CCO Review Meeting under the Chairmanship of Secretary (Coal) on dated 01.04.2020, it is decided to release 50% of the claimed amount for progressive mine closure activities for the mines which submitted claims along with audit report prepared by 3rd party Government Institutions. Rest of the claimed amount shall be released after technical inspection/scrutiny by the Technical Committee of CCO Hq.

As such an amount of Rs. 1,46,23,10,688 (Rupees One hundred forty six crore twenty three lakh ten thousand six hundred eighty eight only) may please be released from the Escrow Accounts of the mines of Central Coalfields Limited as given in Annexure – I to the Nominated Owner within 10 days of the receipt of this order. An intimation including latest bank statement in this regard may please be sent to this office after release of the said amount by the Escrow Agent.


(Anjani Kumar)
Coal Controller

Branch Manager, United Bank of India, Ranchi Branch - Post Box No.94, Main Road, Ranchi - 834 001 (Jharkhand).

रिपोर्ट की प्रतिलिपि प्रेषित :

1. Joint Secretary (Coal), MOC, Shastri Bhawan, New Delhi- 110 001 for information please.
2. CMD, CCL, Darbhanga House, Ranchi- 834029 (Jharkhand).
3. Director Technical, CIL, Coal Bhawan, Premise No. 04 MAR, Plot No. AF-III, Action Area-1A, New Town, Raharhat, Kolkata- 700156.
4. Director Finance, CIL, Coal Bhawan, Premise No. 04 MAR, Plot No. AF-III, Action Area-1A, New Town, Raharhat, Kolkata- 700156.
5. Director (Technical), (Oprn.), CCL, Darbhanga House, Ranchi- 834029 (Jharkhand).
6. Director (Finance), CCL, Darbhanga House, Ranchi- 834029 (Jharkhand).
7. Director (Technical), MOC, Shastri bhawan, New Delhi- 110 001.
8. TS to CMD, CCL, Darbhanga House, Ranchi- 834029 (Jharkhand).
9. OSD, Ranchi, CMPDIL Campus, Gondwana Place, Kanke Rd, ranchi-834008.
10. GM, HOD (Env), CCL Darbhanga House, Ranchi- 834029 (Jharkhand).
11. GM (F), CCL, Darbhanga House, Ranchi- 834029 (Jharkhand).
12. Office order File, CCO, Kolkata.

ANNEXURE - I

Sl. No.	Name of Company	Name of Mine	Escrow A/c No.	Name of Bank	Claim Amount (in Rs.)	Reimbursed amount in Rs.
1	CCL	Pundi OCP	0059101073678	United Bank of India	14,77,71,168	7,38,85,584
2	CCL	Karo OCP	0059101073881	United Bank of India	6,99,21,724	3,49,60,862
3	CCL	Ashok OC	0059101074109	United Bank of India	24,02,21,975	12,01,10,988
4	CCL	Purnadih OCP	0059101073933	United Bank of India	11,86,87,040	5,93,43,520
5	CCL	Khas Mahal OC	0059101073872	United Bank of India	6,30,14,424	3,15,07,212
6	CCL	Piparwar OC	0059101074084	United Bank of India	50,70,98,260	25,35,49,130
7	CCL	Rohini OC	0059101074057	United Bank of India	11,60,00,049	5,80,00,025
8	CCL	Topa OC	0059101074251	United Bank of India	4,27,29,176	2,13,64,588
9	CCL	Tarmi OCP	0059101073915	United Bank of India	9,58,22,779	4,79,11,390
10	CCL	Amlo OCP	0059101073906	United Bank of India	9,32,71,409	4,66,35,705
11	CCL	Dhori OCP	0059101074172	United Bank of India	13,97,68,384	6,98,84,192
12	CCL	Tāpin OCP	0059101073766	United Bank of India	6,66,90,742	3,33,45,371
13	CCL	North Urimari OCP	0059101073793	United Bank of India	7,77,34,992	3,88,67,496
14	CCL	Parej East OCP	0059101073739	United Bank of India	16,89,28,429	8,44,64,215
15	CCL	Urimari OCP	0059101074145	United Bank of India	11,10,82,493	5,55,41,247
16	CCL	Saunda UGP	0059101073827	United Bank of India	94,283	47,142
17	CCL	Saunda D UGP	0059101073818	United Bank of India	2,00,196	1,00,098
18	CCL	Sarubera UGP	0059101073696	United Bank of India	2,71,025	1,35,513
19	CCL	Sayal D UGP	0059101073845	United Bank of India	52,36,716	26,18,358
20	CCL	Central Saunda UGP	0059101073836	United Bank of India	6,00,353	3,00,177
21	CCL	Kedla OC	0059101073757	United Bank of India	9,97,02,568	4,98,51,284
22	CCL	Kathara OC Project	0059101074066	United Bank of India	62,28,70,792	31,14,35,396
23	CCL	Govindpur Ph.II OC	0059101073632	United Bank of India	5,71,23,736	2,85,61,868
24	CCL	Jharkhand OCP	0059101073748	United Bank of India	7,51,93,900	3,75,96,950
25	CCL	Dhori (K) UG Project	0059101073924	United Bank of India	24,22,005	12,11,003
26	CCL	Konar OCP	0059101073890	United Bank of India	10,31,070	5,15,535
27	CCL	Tetariakhas OCP	0059101073863	United Bank of India	11,31,688	5,65,844
	Total				2,92,46,21,376	1,46,23,10,688

J. Janda
27/4/2020

27/4/2020

K. P. J. J.
07/04/2020



CENTRAL COALFIELDS LIMITED
(A subsidiary of Coal India Limited)
OFFICE OF THE PROJECT OFFICER
PURNADIH PROJECT



Ref No.:PO/PND/Committee (E&F)/19-20/ 950

Dated: 18/12/2019

OFFICE – ORDER

As per the directives of CCL HQ, Ranchi a Pit Environment Committee in respect of Purnadih Project is hereby constituted consisting of following officials.


- | | | |
|--|---|---------------------------|
| 1. Project Officer, Purnadih OCP | - | Chairman of the Committee |
| 2. Colliery Manager, Purnadih OCP | - | Member |
| 3. Project Engineer (E&M), Purnadih OCP | - | Member |
| 4. Project Engineer (Excav.), Purnadih OCP | - | Member |
| 5. Safety Officer, Purnadih OCP | - | Member |
| 6. P. E. (Civil), Nodal Officer (E&F Purnadih OCP- | - | Member |
| 7. Sr. Surveyor(M), Purnadih OCP | - | Member |

Special Invitees:-

1. The Staff Officer(P&P), N.K.Area
2. The Area Nodal Officer(E&F),N.K.Area

The above committee will meet every Friday at office of the undersigned at 4:00 P.M discuss compliance of various statutory provisions related to environment such as EC,FC, CTO, hazardous waste and other issues.

This issues with the approval of the competent authority.


Project Officer
Purnadih Project

Copy to:-

1. The all Committee members
2. The special Invitees.

Copy for kind information:-

- ✓ 1. The General Manager, N.K. Area
2. The HOD(E&F), CCL, Ranchi

are under tremen-
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of the nation-

Tiwary, Bechar, Bistupur and
seized documents showing
transactions made by the com-
panies owned by Sarjay
Choudhary.

poll beginning November 25.
Borah said. There is no ques-
tion of an alliance with the
Congress.

Hindustan Times
Ranchi, Wednesday
November 04' 2009

Environment clearance of Purnadih Project (3.0 MTPA) has been accorded by MoEF, Govt of India vide letter No. J-11015/36/2007-IA II(M) dated 19.05.09. A copy of the clearance letter is available with State Pollution Control Board and may also be seen at the website of the Ministry of Environment & Forests at <http://envfor.nic.in>.

General Manager
N.K. AREA
CCL Ranchi

Ref No.: J-11015/36/2007-IA II(M)

कार्यालय, जिला विवेकन, अधिकारी-सह, पर्यावरण, रांची
(निर्माण प्रयोजन के लिए)
आवज्ञा

पर नजर आ
दे रही है।
विकास को
के नाम पर
का सरकारी
विकास को

तिनिधिमंजूर
न्हें 11 सूत्री
सौंपेगा, मुझे
सीपीआई
रि: महती
द्वेषर सिंह
देव राज
के लक्ष्मण
भीषण वंश
शास्त्री आदि

पर

पर रेल मंडल क सुरक्षा आयुक्त परिसर में विशेष जाति के रूप में वीपन
तिवारी मुख्य अतिथि के रूप में मौजूद रहेंगे। सीवान के व्यास महात्म तिवारी व
सुखमंदन यादव द्वारा सांस्कृतिक कार्यक्रम प्रस्तुत किया जायेगा। इसकी
जानकारी समिति के अध्यक्ष जयल कुमार सिंह ने दी।

पर्यावरण

पुरमाडीह खुली खदान परियोजना (3.0 मिलियन टन प्रतिवर्ष) के
लिए वन एवं पर्यावरण मंत्रालय, भारत सरकार के पत्र संख्या
J-11015/36/2007-1A II(M) दिनांक 19.05.09 द्वारा पर्यावरण
मंजूरी देया गया है। इसकी प्रतिलिपि राज्य प्रदूषण नियंत्रण बोर्ड,
झारखण्ड के पास उपलब्ध है तथा वन एवं पर्यावरण मंत्रालय के वेबसाइट
<http://envfor.nic.in> पर भी देखा जा सकता है।

निवेदक
महाप्रबंधक
उ.वी.क्षेत्र, सी.सी.एल, रांची

STEEL AUTHORITY OF INDIA LIMITED
(A Govt. of India Enterprise)
IISCO STEEL PLANT, BURNPUR
Dist: Burdwan, West Bengal - 713325

An opportunity to join SAIL as Operator-Cum-Technician / Attendant-Cum-Technician
Further as our Advertisement published in Employment News on DT: 03/Oct/2009
Inviting application for recruitment to the post of Operator-Cum-Technician and

प्रशांत खर, रांची
4 नवंबर, 2009.

PROJECT OFFICER
PURNADIH PROJECT
CCL N.K. AREA, DAKRA


CD No - 164
9/5/23

CENTRAL Hospital information (History, facilities, staff, etc)

Details of IME/PME of last 5 years from the Area

NK AREA DAKRA

S. No.	Year	Man Power	Target	PME		Total	IME		Total
				Below 45 Yrs	Above 45 Yrs		CCL	Contractual	
1	2018		462	170	302	479	25	242	267
2	2019		664	203	313	516	50	276	326
3	2020		450	260	340	600	60	108	168
4	2021		853	455	414	869	47	246	293
5	2022		806	321	422	743	32	130	162


9/5/23
Dy. Chief Medical Officer.
C.H., Dakra
Ranchi (JH)

Disease report of last 5 years from the Area

NK AREA DAKRA

Area	Year	Total No of PME	Hypertension	Diabetics	Eye Problem	Hearing Impairment (Partial)	Back Problem	Spinal Injuri	CA D	Dyslipidemia	Respiratory Disease	Skin Disease Detected / Reacted	Cancer Detected / Reacted	Psychiatric	Obesity	Pneumoconiosis	Sleepinsomania	CVA / Paralysis
NK AREA	2018	490	27	59	03	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
"	2019	516	06	62	04	"	"	"	"	"	"	"	"	"	"	"	"	"
"	2020	600	30	53	08	"	"	"	"	"	"	"	"	"	"	"	"	"
"	2021	869	37	70	06	"	"	"	"	"	"	"	"	"	"	"	"	"
"	2022	743	37	62	17	"	"	"	"	NIL	Asthma 01	"	"	"	"	"	"	"


 9/5/23
 Dy. Chief Medical Officer,
 C.H., Dakra
 Ranchi (JH)

Enacted No. 740
Dated 03/01/2020

Ex-100 Section
K.D.H. Project

CENTRAL COALFIELDS LIMITED
OFFICE OF THE CMO-IN-CHARGE, C.H DAKRA
PO - DAKRA, DT - RANCHI, PIN - 829 210

Ref. No: CMO(NK)/CHD/PME/19-20/ 1458-72

Dated 02.01.2020

To,
The Staff Officer (Safety)
N.K. Area

Sub: Monthly PME report of NK Area.

Dear Sir,

We are furnishing below the Monthly report of PME for the month of December 2019 (Period from 01st January 2019 to 31st December 2019) for your kind perusal and needful:-

Name of the Project	PME Done on Dec.(1 st to 31 st)	Progressive	IME Done on Dec.(1 st to 31 st)	Progressive	EYE Ref. Done Dec.(1 st to 31 st)
DAKRA	00	75	00	16	00
KD-H	00	142	00	19	00
CHURI	00	97	02	125	00
ROHINI	04	64	00	54	00
PURNADIH	00	106	00	61	00
G.M.OFFICE	00	00	00	00	00
R.R.SHOP	00	20	00	00	00
M.R.S	00	10	00	00	00
R.STORE	00	00	00	00	00
C.H.DAKRA	00	02	00	00	00
TOTAL	02	516	02	275	00

Yours faithfully,


CMO-In-Charge, CH,
CH Dakra

Copy to:-

01. The GM(NK), Dakra
 02. The Staff Officer (Safety), NK, Dakra
 03. The Staff Officer (Personnel), NK, Dakra
 04. The CMO-In-Charge, CH, NK, CHD
- All Project Safety Officer, NK Area.

Vocational training Centre, NK Area

Sr. No.	Name of mine	Target						Contractual						Departmental					
		2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
1	KDH	132	35	99	105	108	104	39	03	9	12			134	39	113	119	118	113
2	Dakra	64	60	65	78	73	67	17	11	10		7		81	69	82	83	90	77
3	Rohini	72	51	52	52	54	62	16	60	45	11	1		88	64	91	94	58	67
4	Purnadih	100	60	60	80	90	102	12	9	13		13		106	80	68	97	93	103
5	Churi	72	60	55	72	70	70	38	84	126	18	100	109	78	69	95	83	82	72
6	RR shop	20	20	20	15	15	12							21	20	21	21	16	14
7	GMO													01	08	22	14	18	14
		460	286	351	402	410	417	122	167	203	41	121	109	509	349	464	511	472	460

CENTRAL COALFIELDS LIMITED

(A subsidiary of Coal India Limited)

OFFICE OF THE V T MANAGER

GROUP VOCATIONAL TRAINING CENTER

NORTH KARNPURA AREA, DAKRA-829210, DIST-RANCHI (JHARKHAND)

G.V.T.C., N.K

Dispatch No. 3403

Date 01.01.2023

Month: -DECEMBER 2022

To,

The Project Officer,

Dakra/ KDH/ Rohini /Purnadih/ Churi/ R. R. Shop/M & A/Rajhara

Sub: - Project wise training report at GVTC, N K Area, Dakra for the month of DECEMBER 2022

Dear Sir,

Please find here with the training report at Group Vocational Training Center, N K Area, Dakra.

PROJECT N K	ANNUAL TARGET (REF)	TRAINING DURING THE MONTH						PROGRESSIVE					
		Departmental			Contractor			Departmental			Contractor		
		Basic	Refresher	Spl	Basic	Refresher	Spl	Basic	Refresher	Spl	Basic	Refresher	Spl
KDH	104	--	05	----	----	----	----	07	106	----	----	----	----
DAKRA	67	--	15	----	----	----	----	10	67	----	----	----	----
ROHINI	62	--	24	----	----	----	----	04	63	----	----	----	----
PURNADIH	102	--	--	----	----	----	----	01	102	----	----	----	----
CHURI	70	--	04	----	--	08	----	----	72	----	88	21	----
RR Shop	12	--	03	----	----	----	----	02	12	----	----	----	----
G M O	---	05	---	----	----	----	----	14	----	----	----	----	----
TOTAL	417	05	51	--	--	08	--	38	422	--	88	21	--

M & S	---	09	----	----	----	----	----	54	----	----	----	----	----
A & C	---	03	----	----	----	----	----	22	----	----	----	----	----

RAJHARA	---	---	---	----	----	----	----	47	29	----	----	----	----
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GRAND TOTAL	417	17	51	--	--	08	--	161	451	--	88	21	--
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APPRENTICES N K	MALE	FEMALE	MONTHLY ACHIVEMENT	MALE	FEMALE	PROGRESSIVE ACHIVEMENT
I T I	06	----	06	48	----	48
PDPT	06	---	06	97	----	97
Lamp Handling	----	-----	-----	40	----	40
C S R	-----	-----	-----	24	20	44

[Signature]
01.01.23

V T Manager

Group Vocational Training Center
N K Area Dakra

Distribution: -

1. SO (Safety), N K Area, Dakra.
2. Area Training Officer, N K Area, Dakra.

Copy for Kind Information please: -

1. GM (HRD), CCL, Ranchi.
2. General Manager, N.K. Area, Dakra.

भारतीय डाक
India Post

CENTRAL COA
(A subsidiary of)
OFFICE OF THE
GROUP VOCATION
NORTH KARNPURA AREA, DAKR

To,
The Project Officer,
Dakra/ KDH/ Rohini /Purnadih/ Churi/ R. R. Shop

Sub:-Project wise training report at GVTC, NK Area, Dakra for the month of DECEMBER 2021.

Dear Sir,

Please find here with the training report at Group Vocational Training Center, N K Area, Dakra.

PROJECT N K	ANNUAL TARGET (REF)	TRAINING DURING THE MONTH						PROGRESIVE					
		Departmental			Contractor			Departmental			Contractor		
		Basic	Refresher	Spl	Basic	Refresher	Spl	Basic	Refresher	Spl	Basic	Refresher	Spl
KDH	108	---	06	---	---	---	---	08	110	---	---	---	---
DAKRA	73	05	---	---	---	---	---	17	73	---	07	---	---
ROHINI	54	---	04	---	---	---	---	04	54	---	-01	---	---
PURNADIH	90	---	---	---	---	---	---	01	92	---	---	13	---
CHURI	70	02	20	---	01	04	---	06	73	03	85	15	---
RR Shop	15	---	07	---	---	---	---	01	15	---	---	---	---
G.M.O	---	03	---	---	---	---	---	18	---	---	---	---	---
TOTAL	410	10	37	---	01	04	---	55	417	03	93	28	---

M & S	---	10	---	---	---	---	---	102	---	---	---	---	---
A & C	---	03	---	---	---	---	---	19	---	---	---	---	---

RAJHARA	---	---	---	---	---	---	---	05	15	---	30	---	---
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GRAND TOTAL	410	23	37	---	01	04	---	181	432	03	123	28	---
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ITI APPRENTICES	MALE	FEMALE	MONTHLY ACHIVEMENT	MALE	FEMALE	PROGRESSIVE ACHIVEMENT
N K	---	---	---	82	---	82
CISF	---	---	---	343	---	343

31/12/2021
V T Manager
Group Vocational Training Center
NK Area Dakra

Distribution:-

1. SO (Safety & Training), N K Area, Dakra.

Copy for Kind Information please:-

1. DMS, SEZ, Ranchi Region, Ranchi
2. GM (HRD), CCL, Ranchi.
3. General Manager, N K Area, Dakra.

CENTRAL COALFIELDS LIMITED
(A subsidiary of Coal India Limited)
OFFICE OF THE V T MANAGER
GROUP VOCATIONAL TRAINING CENTER
NORTH KARNPURA AREA, DAKRA-829210, DIST-RANCHI (JHARKHAND)

Month:-DECEMBER 2020

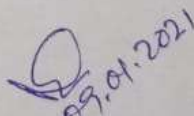
To,
The Project Officer,
Dakra/ KDH/ Rohini /Purnadih/ Churi/ R. R. Shop/M & A/Rajhara

Sub:-Project wise training report at GVTC, NK Area, Dakra for the month of DECEMBER 2020.

Dear Sir,
Please find here with the training report at Group Vocational Training Center, N K Area, Dakra.

PROJECT N K	ANNUAL TARGET (REF)	TRAINING DURING THE MONTH						PROGRESIVE					
		Departmental			Contractor			Departmental			Contractor		
		Basic	Refresher	Spl	Basic	Refresher	Spl	Basic	Refresher	Spl.	Basic	Refresher	Spl.
KDH	105	---	10	---	01	---	---	09	106	04	12	---	---
DAKRA	78	01	---	---	---	---	---	02	79	02	---	---	---
ROHINI	52	03	---	---	---	---	---	17	64	13	08	03	---
PURNADIH	80	01	02	---	---	---	---	13	82	02	---	---	---
CHURI	72	---	01	---	---	---	---	02	75	06	11	07	---
RR Shop	15	03	02	---	---	---	---	05	15	01	---	---	---
G M O	----	03	---	---	---	---	---	14	---	---	---	---	---
TOTAL	402	11	15	---	01	---	---	62	421	28	31	10	---
M & A	---	05	---	---	----	----	--	19	---	---	---	---	---
RAJHARA	---	03	03	---	---	---	---	08	21	---	---	---	---
GRAND TOTAL	---	19	18	---	01	----	---	89	442	28	31	10	---

ITI Apprentice	Monthly Achievement	M	F	Progressive Achievement	M	F
	Total =02	02	NIL	Total =09	08	01


09.01.2021
V T Manager
Group Vocational Training Center
NK Area Dakra

Distribution:-

1. SO (Safety & Training), N K Area, Dakra.

Copy for Kind Information please:-

1. GM (HRD), CCL, Ranchi.
2. General Manager, N.K. Area, Dakra

V.T.C., N.K.
Despatch No. 652
Date: 02.01.2020



**OFFICE OF THE
GROUP VOCATIONAL
TRAINING CENTER
NORTH KARNPURA AREA, DAKRA**
A Miniratna Co.

EP916859471IN INR6974916859471
SP DAKRA COLLEERY SO 3829210
Counter No:1,03/01/2020,10:10
To:THE D OF N SA, KANKE ROAD RANCHI
PIN:834008, Ranchi University S.O
From:GROUP V T G, N K AREA DAKRA
Wt:10gms
Amt:41.30(Cash)/Tax:6.30
<Track on www.indiapost.gov.in>
<Dial 1800 266 6886>

Date: **Month:-DECEMBER 2019**

To,
The Director of Mines Safety,
SEZ Ranchi, Ranchi Region,
RI-III, CMPDIL Complex, Kanke Road, Ranchi, Jharkhand, Pin-834008

Sub:-Project wise training report at GVTC, NK Area Dakra for the month of December 2019.

Dear Sir,

Please find here with the training report at Group Vocational Training Center, N K Area, Dakra.

PROJECT N K	ANNUAL TARGET (REF)	TRAINING DURING THE MONTH						PROGRESIVE					
		Departmental			Contractor			Departmental			Contractor		
		Basic	Refresher	Spl	Basic	Refresher	Spl	Basic	Refresher	Spl.	Basic	Refresher	Spl.
KDH	99	---	---	---	---	---	---	07	103	03	07	02	---
DAKRA	65	---	---	---	---	---	---	09	66	07	06	04	---
ROHINI	52	02	02	-	05	05	---	04	52	06	33	12	---
PURNADIH	60	---	01	---	---	---	---	06	60	03	05	08	---
CHURI	55	---	---	---	08	---	---	28	66	01	98	28	---
RR Shop	20	---	04	---	---	---	---	01	20	---	---	---	---
G M O	---	---	---	---	---	---	---	22	---	---	---	---	---
TOTAL	351	02	07	---	13	05	---	77	367	20	149	54	---
M & A	---	01	---	---	---	---	---	35	---	---	---	---	---
RAJHARA	---	---	07	---	---	---	---	53	24	---	16	---	---
GRAND TOTAL	---	03	14	---	13	05	---	165	391	20	165	54	---

02.01.2020

V T Manager
Group Vocational Training Center
NK Area Dakra

Distribution:-

1. SO (Safety & Training), N K Area, Dakra.
2. The Project Officer-Dakra/ KDH/ Rohini /Purnadih/ Churi/ R. R. Shop/M&A/Rajhara

Copy for Kind Information please:-

1. GM (HRD), CCL, Ranchi.
2. General Manager, N.K. Area, Dakra

CENTRAL COAL FIELDS LIMITED
OFFICE OF THE VT MANAGER
Group Vocational Training Center
N.K. Area Dakra , P.O.-Dakra, PIN-829210, Dist-Ranchi

Date: 01/11/19

To,
 The Director of Mines Safety,
 SEZ Ranchi, Ranchi Region,
 RI-III, CMPDIL Complex, Kanke Road, Ranchi, Jharkhand, PIN 834008.

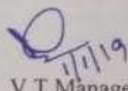
Sub:- Project wise training report at GVTC, NK Area, Dakra for the calender year 2018.

Dear Sir,

Please find with the training reports at Group Vocational Training Center NK Area Dakra

Project Name	Annual Target	Training during the month						Progressive					
		Departmental			Contractor			Departmental			Contractor		
		Basic	Refresher	Spl.	Basic	Refresher	spl	Basic	Refresher	Spl.	Basic	Refresher	Spl.
KDH	35	—	—	—	—	—	—	03	36	—	03	—	—
Dakra	60	—	—	—	06	—	—	08	61	—	07	04	—
Rohini	51	—	—	—	11	04	—	11	53	—	41	19	—
PND	60	—	07	—	—	02	—	18	62	—	02	07	—
Churi	60	—	—	02	04	—	—	02	62	05	63	21	—
RR Shop	20	—	07	—	—	—	—	—	20	—	—	—	—
Gmo	—	—	—	—	—	—	—	08	—	—	—	—	—
Total	286	—	14	02	21	06	—	50	294	05	116	51	—

M&A	—	—	—	—	—	—	—	50	—	—	—	—	—
Rajhara	—	—	10	—	—	—	—	—	10	—	—	—	—
Total	—	—	10	—	—	—	—	50	10	—	—	—	—


 V T Manager
 Group Vocational Training Center
 NK Area Dakra

Distribution:-

- SO(Safety&Training), NK,

Copy for Kind Information Please:-

- General Manager, N.K. Area Dakra

etc



COALFIELDS LIMITED
 SF DAKRA COLLIERY <829210>
 GSTH No: 20AAA090961L125
 E: 3913162718 TN
 Counter No: 1, DF-Codes P6
 To: DIRECTOR OF MINES SA, RANCHI
 RANCHI, PIN: 834008
 From: MANAGER GROUP VOCATIONAL TRAINING, NK DAKRA
 Dt: 02/01/2018 . 10:57
 Amt: 41.00
 .CBST @% 3 .SGST @% 3.00



COALFIELDS LIMITED
 (Niratna Company)
 OF THE VT MANAGER
 GROUP VOCATIONAL TRAINING CENTER
 210, DIST-RANCHI (JHARKHAND)

Month-DECEMBER 2017

R R Shop/Magadh -Amrapali/Rajhara.
 at GVTC, NK Area, Dakra.

Dear Sir,

Kindly find placed hereunder format in respect of training reports at Group Vocational Training Centre, NK Area for your kind perusal.

Project Name	Annual Target Ref)	Training during the month						Progressive					
		Departmental			Contractor			Departmental			Contractor		
		Basic	Refresher	Special	Basic	Ref.	Specil	Basic	Refresher	Special	Basic	Ref.	Special
KDH	132	---	---	----	----	----	01	133	----	28	11	----	
Dakra	64	---	---	----	----	----	15	64	02	08	09	----	
Rohini	72	---	---	----	----	03	16	72	----	13	03	----	
Purnadih	100	---	24	----	----	02	05	101	----	07	05	----	
Churi U/G	72	01	01	----	----	----	02	76	----	05	33	----	
M R S Churi	---	---	---	----	----	----	----	----	----	----	----	----	
R.R.S Dakra	20	---	02	----	----	----	01	20	----	----	----	----	
GM Unit	---	---	---	----	----	----	01	----	----	----	----	----	
Total	460	01	27	----	---	05	41	466	02	61	61	----	

M & A	----	02	----	----	----	----	21	----	----	----	----	----
Rajhara	----	----	----	----	----	----	----	14	----	----	----	----

19/1/2018
 VT Manager,

Group Vocational Training Centre
 N K, Area, Dakra

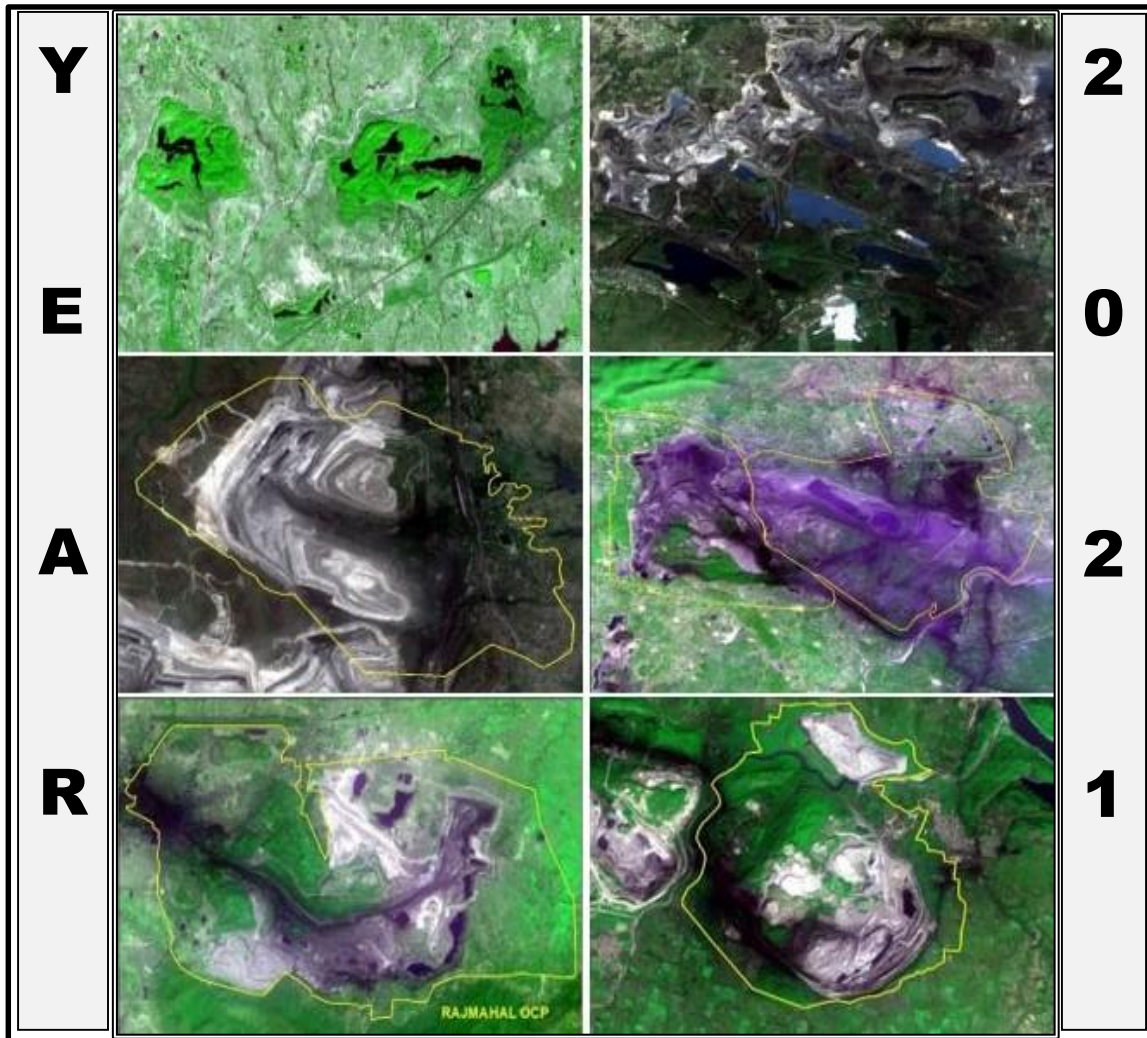
Copy to:-

1. SO (Safety)/Area Training Officer, N K Area, Dakra.

Copy for kind information:-

- 1 GM (HRD), CCL
2. General Manager, NK Area Dakra.

Land Restoration / Reclamation Monitoring of 76 Opencast Coal Mines Projects of CIL producing more than 5 mcm (Coal+OB) annually based on Satellite Data for the Year 2021



**Land Restoration / Reclamation Monitoring of 76 Opencast
Coal Mines Projects of CIL producing more than 5 mcm
(Coal+OB) annually based on Satellite Data for the Year
2021**

March- 2022



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

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Executive Summary

- 1.0 Project** Land restoration / reclamation monitoring of 76 opencast coal mines in different subsidiaries of Coal India Ltd. (CIL) producing 5 million cu.m. and more (Coal+OB) per year based on satellite data of year 2021 on annual basis.
- 2.0 Objective** Objective of the land restoration / reclamation monitoring is to assess the area under backfilling, plantation, social forestry, active mining area, water bodies, distribution of wasteland, agricultural land and forest in the leasehold area of the projects. This will help in assessing the progressive status of mined land reclamation and to take up remedial measures, if any, required for environmental protection.
- 3.0 Salient Findings**
- In the year 2021, amongst projects of different subsidiaries of Coal India Ltd. taken up for monitoring, WCL has included 4 more mines. CCL has included 8 more mines, SECL has included more 11 mines and MCL has included 2 more mine for monitoring from this year as per directive received from CIL. Some of these additional mines were previously monitored under Less than 5 mcm (Coal+OB) Category and some mines are new additions Hence, total of 76 mines were selected for monitoring this year instead of 51 mines that were monitored in the year 2020.
 - Out of the total mine leasehold area of 863.83 Km² of the 76 OC projects considered for monitoring during 2021-22; total excavated area is 302.65 Km²; out of which 136.23 Km² area (45.01%) is under backfilling (Technical Reclamation), 53.02 Km² area (17.52%) has been planted (Biologically Reclaimed) and 113.40 Km² area (37.47%) is under active mining. It is evident from the analysis that 189.25 Km² (62.53%) area out of the total excavated area of 302.65 Km² of the 76 OC projects is already under reclamation and balance 113.40 Km² (37.47%) area is under active mining. Company wise details are given in Table - 1 & Fig-1.
 - On comparing the status of land reclamation carried out in year 2020-21 with respect to years 2021-22 in the 76 Opencast projects of different CIL subsidiaries, it is evident from the analysis of the satellite data of the year 2021 that area under land reclamation has increased from 173.95 Km² (Yr. 2020-21) to

189.25 Km² (Yr. 2021-22), which includes both area under plantation (Biological Reclamation) and areas under backfilling (Technical Reclamation). This increase of 15.30 Km² area of land reclamation in last one year is the result of the efforts made by CIL's subsidiary companies towards land reclamation. Year wise comparison in land reclamation in different subsidiaries is given in Fig.2.

- It has been observed that in all the subsidiaries of Coal India Limited (CIL), technical reclamation has shown an increasing trend. As compared to the analysis done in the year 2020, it has been found that there has been an overall increase of 12.91 Km² in area under technical reclamation commutatively in the year 2021.
- It has been observed that in WCL, SECL, NCL, CCL & ECL area under biological reclamation has increased in comparison to previous year whereas in MCL area under biological reclamation has reduced marginally in the leasehold areas of the opencast projects selected for this study (Refer Table-1).
- It has been also observed that in subsidiaries like WCL, SECL, MCL, CCL & ECL, total area under plantation (Green Cover) which includes plantation over backfill, plantation over overburden dumps and plantation done under social forestry etc. has increased as compared to previous year. However, in NCL, there has been marginal decrease in area under green cover due to additional dump on vegetated area in Jhingurdah project. In NCL, leasehold boundaries of all the projects taken up of monitoring are updated with latest available EC boundaries which has resulted change in position and area of the projects impacting area under plantation and vegetation. Overall 18.09% of the total leasehold area of all the subsidiaries of CIL commutatively is under Green Cover as per the analysis of satellite data of the year 2021.
- Analysis of the results based on satellite data of the year 2021 also indicate that all subsidiaries of CIL, whose projects were under monitoring indicate an increasing trend for area under reclamation. It has been observed that total area under reclamation has increased from 173.95 Km² (62.16%) in 2020 to 189.25 Km² (62.53%) in the year 2021.

Commutative Status of Land Reclamation monitoring based on satellite data of the year 2021 is indicated in the Pie Chart in the

Fig. 1. Subsidiary wise status of Land Reclamation Monitoring of the projects monitored based on satellite data of the year 2021 is shown in form of Bar Chart at Fig 2. Comparison of Area under Reclamation in different subsidiaries of Coal India Limited between the years 2020 to 2021 has been shown in form of Bar-Chart in Fig 3.

CENTRAL COALFIELDS LIMITED

9.0 Land Reclamation Status in Central Coalfields Ltd.

9.1 The following 15 OC projects of Central Coalfields Ltd. producing more than 5 million m³. (Coal + OB) annually, have been taken up for land reclamation monitoring based on Satellite data of the year 2021.

No.	Name of OC Project	Coalfield Name
1	Ashok	North Karanpura (NK)
2	Piparwar	
3	KDH	
4	Amrapali	
5	Magadh	
6	Rohini *	
7	Purnadih *	
8	North Urimari *	South Karanpura (SK)
9	Rajrappa	Ramgarh
10	Parej East	West Bokaro (WB)
11	Tapin North *	
12	Kathara *	East Bokaro (EB)
13	Karo *	
14	Konar Expansion *	
15	Selected Dhorri *	

*Yearly monitoring started from (2021-22)

9.2 Area statistics of different land use/ cover classes present in the leasehold area of the above 15 projects of CCL for the year 2021 are shown in Table 9.1. Land use/ cover maps derived from satellite data are shown in Plate 9.1 – 9.15. Report on land reclamation status of the above projects are also prepared. Year wise changes in different land use/ cover classes in the last three years (wherever applicable) based on satellite data are shown in Bar charts in Fig. 9.2 – 9.16.

- 9.3** Study based on Satellite data of the year 2021 reveals that, out of total excavated area of 36.49 km², 25.99 km² (71.22%) has come under reclamation in the above 15 OC projects of CCL, out of which 18.01 km² (49.36%) area is under backfilling (Technical Reclamation) and 7.98 km² (21.87%) area is under plantation (Biological Reclamation).
- 9.4** Study also reveals that the area under backfilling (Technical Reclamation) has increased from 15.20 km² in 2020 to 18.01 km² in 2021.
- 9.5** Analysis of satellite data also indicates that the area under plantation (Biological Reclamation) has increased from 7.00 km² (Yr. 2020) to 7.98 km² (Yr. 2021). This increase in Biological Reclamation reflects continuous efforts on part of CCL in continuing reclamation activities for environmental protection.
- 9.6** The total area under reclamation has increased from 22.20 km² (69.05%) in 2020 to 25.99 km² (71.22%) in 2021, out of the total excavated area.
- 9.7** It is also seen that the total area under plantation (**Green Cover**) which includes plantation carried out on backfilled area, OB dumps as well as plantation done on social forestry in all the 15 mines taken together of CCL has increased from 17.32 km² in the year 2020, to 17.71 km² in the year 2021
- 9.8** Piparwar area of CCL has developed and maintained an eco-restoration park called “**Kayakalp Vatika**” at Piparwar OCP, over the reclaimed (backfilled) land. Nearby, a new eco park named ‘**Chandra Shekhar Azad Vatika**’ is also being developed from 2020.
- 9.10** Out of 15 projects of CCL taken for land reclamation monitoring in 2021-22, **Parej East** OC ranks on top for land reclamation (86.98%) followed by **KDH** (85.60%), **Piparwar** OC (82.73%), **Ashok** OC (82.14%), and **Rajrappa** OC (79.61%).
- 9.11** Eight (8) OC projects namely, Purnadih, Rohini, North Urimari, Tapin North, Kathara, Karo, Konar Expansion and Selected Dhori were added to the list of yearly reclamation

monitoring from the year 2021-22. Earlier these projects were monitored in every three year basis.

- 9.12** Amrapali OCP has successfully carried out plantation on OB dumps, and slopes of OB dump through seed ball throwing.

TABLE – 9.1
Project wise Land Reclamation Status in OC projects of CCL based on Satellite Data of the Year 2021

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

(Area in Sq. Kms.)

Sl. No.	Project	Total Mine 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		Social Forestry, Avanie, Plantation Etc.				9 (=4+5+8)		10 (=5+6+7)		11(=4+5)	
1	2	3		4		5		6		7		8		9 (=4+5+8)		10 (=5+6+7)		11(=4+5)	
		2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021
1	Ashok	7.93	7.93	2.35	2.47	1.02	1.21	0.00	0.00	0.27	0.17	0.66	0.80	4.03	4.48	1.29	1.38	3.37	3.68
				58.31%	55.13%	25.31%	27.01%					16.38%	17.86%			16.27%	17.40%	83.62%	82.14%
2	Piparwar	11.20	11.20	2.91	2.75	1.45	1.85	0.42	0.19	1.18	1.18	0.98	0.96	5.34	5.56	3.05	3.22	4.36	4.60
				54.49%	49.46%	27.15%	33.27%					18.35%	17.27%			27.23%	28.75%	81.65%	82.73%
3	KDH	6.20	6.20	1.79	1.74	1.32	1.35	0.03	0.03	0.21	0.21	0.49	0.52	3.60	3.61	1.56	1.59	3.11	3.09
				49.72%	48.20%	36.67%	37.40%					13.61%	14.40%			25.16%	25.65%	86.39%	85.60%
4	Amrapali	6.20	6.20	1.20	1.32	0.00	0.00	0.05	0.08	0.02	0.02	1.07	1.10	2.27	2.42	0.07	0.10	1.20	1.32
				52.86%	54.55%	0.00%	0.00%					47.14%	45.45%			1.13%	1.61%	52.86%	54.55%
5	Magadh	17.69	17.69	0.55	0.60	0.00	0.00	0.10	0.10	0.00	0.00	0.78	0.92	1.33	1.52	0.10	0.10	0.55	0.60
				41.35%	39.47%	0.00%	0.00%					58.65%	60.53%			0.57%	0.57%	41.35%	39.47%
6	Parej East	6.20	6.20	0.72	0.75	0.69	0.72	0.05	0.05	0.09	0.09	0.22	0.22	1.63	1.69	0.83	0.86	1.41	1.47
				44.17%	44.38%	42.33%	42.60%					13.50%	13.02%			13.39%	13.87%	86.50%	86.98%
7	Rajrapa	19.82	19.82	2.37	2.40	1.3	1.27	3.02	3.02	2.02	2.02	0.80	0.94	4.47	4.61	6.34	6.31	3.67	3.67
				53.02%	52.06%	29.08%	27.55%					17.90%	20.39%			31.99%	31.84%	82.10%	79.61%
8	Rohini	2.58	2.56	1.22	1.27	0.42	0.48	0.01	0.11	0.00	0.00	0.67	0.48	2.31	2.23	0.43	0.59	1.64	1.75
				52.81%	56.95%	18.18%	21.52%					29.00%	21.52%			16.67%	23.05%	71.00%	78.48%
9	Purnadih	7.56	7.52	0.41	0.92	0.09	0.19	0.03	0.12	0.00	0.03	0.95	0.52	1.45	1.63	0.12	0.34	0.50	1.11
				28.28%	56.44%	6.21%	11.66%					65.52%	31.90%			1.59%	4.52%	34.48%	68.10%
10	North Urimari	6.68	5.17	0.50	0.25	0.16	0.14	0.01	0.07	0.00	0.00	1.32	1.00	1.98	1.39	0.17	0.21	0.66	0.39
				25.25%	17.99%	8.08%	10.07%					66.67%	71.94%			2.54%	4.06%	33.33%	28.06%
11	Tapin North		3.04		0.91		0.00		0.12		0.00		0.66		1.57		0.12		0.91
					57.96%		0.00%						42.04%				3.95%		57.96%
12	Kathara	7.93	7.71	0.61	0.65	0.32	0.33	1.04	0.96	0.89	0.83	0.77	0.62	1.70	1.60	2.25	2.12	0.93	0.98
				35.88%	40.63%	18.82%	20.63%					45.29%	38.75%			28.37%	27.50%	54.71%	61.25%
13	Karo	5.75	5.26	0.17	0.55	0.14	0.14	0.12	0.14	0.16	0.12	0.34	0.39	0.65	1.08	0.42	0.40	0.31	0.69
				26.15%	50.93%	21.54%	12.96%					52.31%	36.11%			7.30%	7.60%	47.69%	63.89%
14	Konar Exp.	7.29	4.71	0.09	0.88	0.03	0.30	0.24	0.01	0.19	0.01	0.41	0.85	0.53	2.03	0.46	0.32	0.12	1.18
				16.98%	43.35%	5.66%	14.78%					77.36%	41.87%			6.31%	6.79%	22.64%	58.13%
15	Sel Dhori	3.00	2.65	0.31	0.55	0.06	0.00	0.17	0.04	0.00	0.01	0.49	0.52	0.86	1.07	0.23	0.05	0.37	0.55
				36.05%	51.40%	6.98%	0.00%					56.98%	48.60%			7.67%	1.89%	43.02%	51.40%
	TOTAL	116.03	113.86	15.20	18.01	7.00	7.98	5.29	5.04	5.03	4.69	9.95	10.50	32.15	36.49	17.32	17.71	22.20	25.99
				47.28%	49.36%	21.77%	21.87%					30.95%	28.78%			14.93%	15.55%	69.05%	71.22%

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

Note:	<i>In reference of the above Table-9.1, different parameters are classified as follows:</i>
1	<i>Leasehold area as per the respective environmental clearance (EC) boundary</i>
2	<i>Yearly monitoring of Eight (8) more Projects namely, Rohini, Purnadih, North Urimari, Kathara, Tapin North, Konar, Karo & Sel Dhori started from current year (2021-22)</i>
3	<i>Area under Biological Reclamation includes Area under Plantation done on Backfilled area only</i>
4	<i>Area under Technical Reclamation includes Area under Backfilling only</i>
5	<i>Area under Active Mining includes Coal Quarry, Quarry filled with water & Advance Quarry Site, if any. Coal dump is excluded</i>
6	<i>Social Forestry and Plantation on External OB dumps are not included in Biological Reclamation, and are put under separate categories</i>
7	<i>(%) calculated in the above table is in respect of total excavated area only, except for "Total area under Plantation" where % is in terms of Leasehold Area.</i>

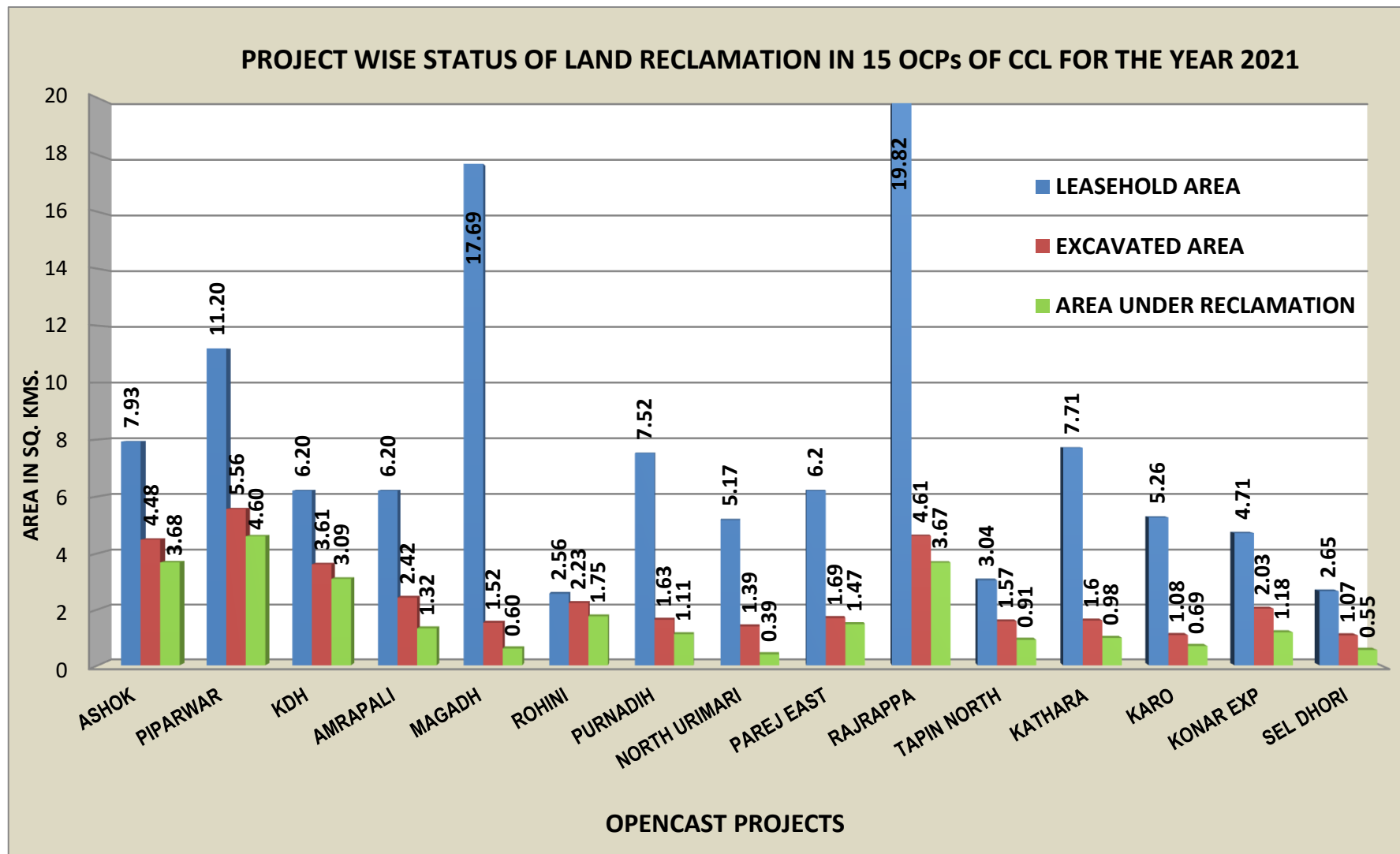
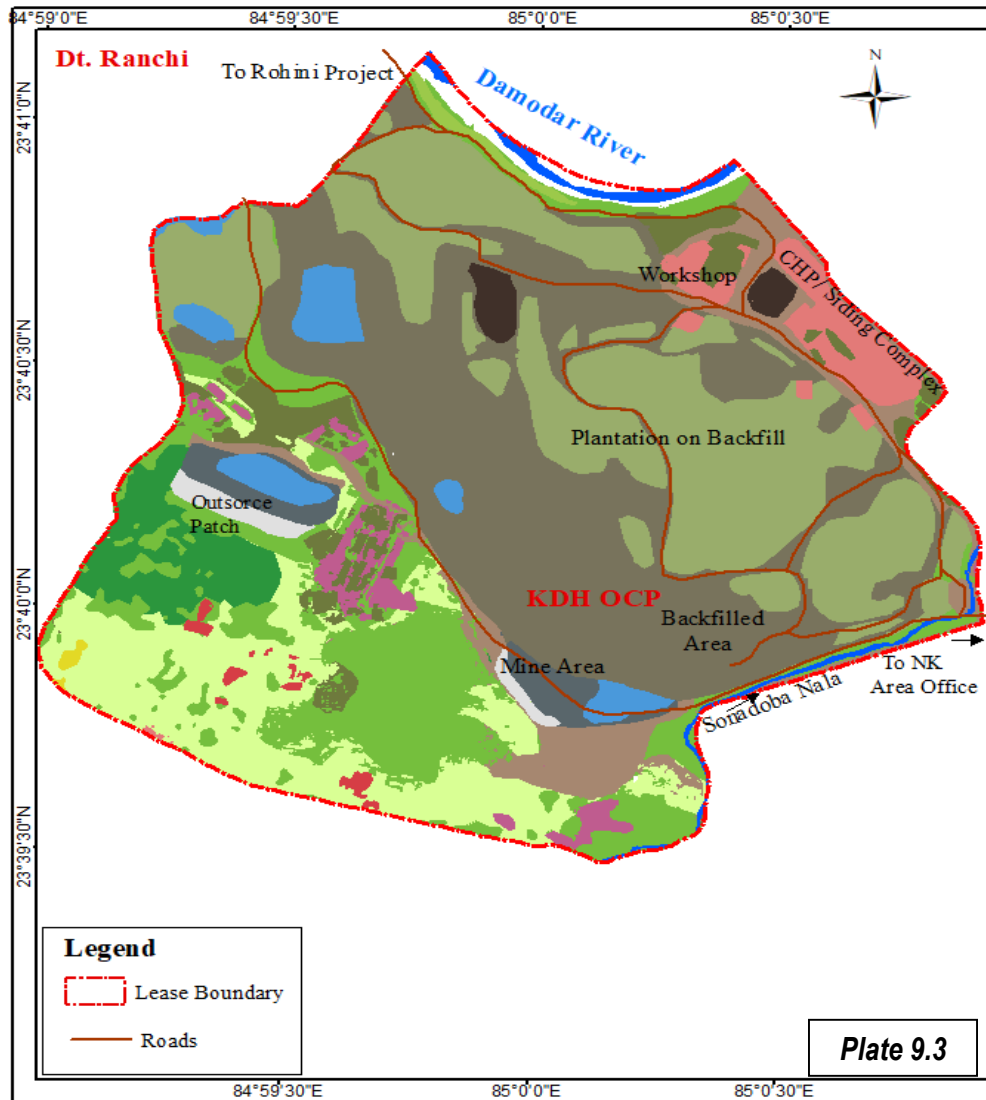
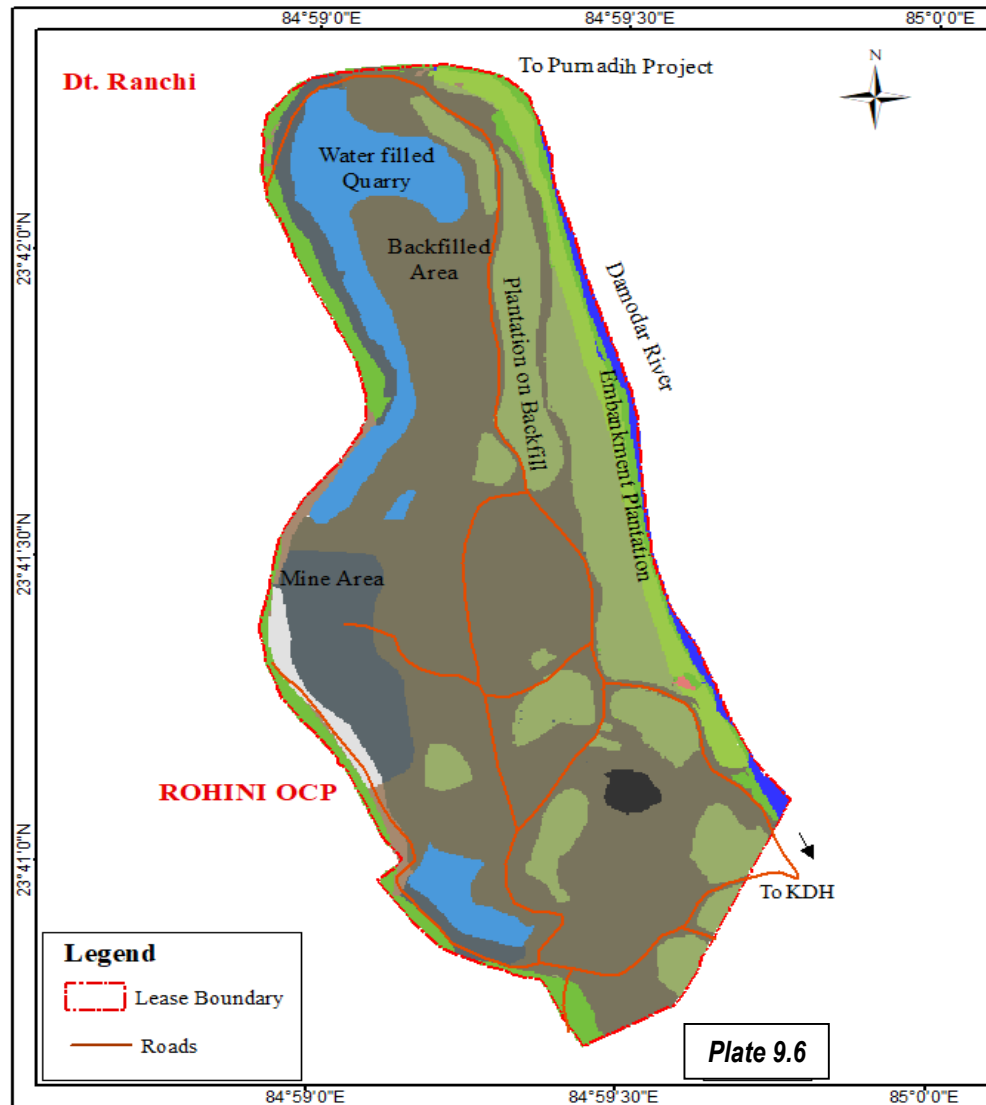


Fig. 9.1: Project wise Land Reclamation Status in Year 2021



Area Statistics - KDH OCP (2021)				
Classes		Colour	Area (Km ²)	% of Total
Level-I	Level-II			
Forest Area	Dense Forest		0.00	0.00
	Open Forest		0.20	3.23
	Total Forest Area		0.20	3.23
Scrubs	Scrubs		0.75	12.10
	Social Forestry		0.21	3.39
	Total Plantation		1.59	25.65
Plantation	Plantation on Backfill		1.35	21.77
	Plantation on OB Dump		0.03	0.48
	Total Plantation		1.59	25.65
Total Vegetation Area			2.54	40.97
Agriculture	Crop Land		0.00	0.00
	Fallow Land		0.62	10.00
	Total Agriculture Area		0.62	10.00
Waste Land	Waste Land		0.28	4.52
	Sand Body		0.04	0.65
	Total Waste Land		0.32	5.16
Mining Area	Coal Quarry		0.16	2.58
	Barren OB Dump		0.03	0.48
	Area Under Backfilling		1.74	28.06
	Water Filled Quarry		0.30	4.84
	Coal Dump		0.05	0.81
	Advance Quarry Site		0.06	0.97
	Total Mining Area		2.34	37.74
Settlements	Rural Settlement		0.02	0.32
	Urban Settlement		0.11	1.77
	Industrial Settlement		0.18	2.90
Total Settlement Area			0.31	5.00
Water Body	River, Ponds		0.07	1.13
	Total		6.20	100.00

Customer		Central Coalfields Limited		
Title	Land Reclamation Monitoring of OC Projects			Job No. 561410027
Subject Land Reclamation Status of KDH OCP based on Satellite Data (RS-2/L-IV) of the year 2021	Activity	Name	Designation	Signature
	Prepared	Hariharalal B	Ch. Mgr(System)	<i>Hariharalal B</i>
	Checked	Tilak Mandal	Ch. Mgr(RSC)	<i>Tilak Mandal</i>
Approved	R. Kumar	GM(Geomatics)	<i>R. Kumar</i>	
Scale:	0 0.25 0.5 1 km			Sheet 1
DrgNo.	HQ REM 21 3 A4 03			Rev No.0



Area Statistics - Rohini OCP (2021)				
Classes		Colour	Area	% of
Level-I	Level-II		(Km ²)	Total
Forest Area	Dense Forest		0.00	0.00
	Open Forest		0.00	0.00
	Total Forest Area		0.00	0.00
Scrubs	Scrubs		0.11	4.30
	Social Forestry		0.00	0.00
Plantation	Plantation on Backfill		0.48	18.75
	Plantation on OB Dump		0.11	4.30
	Total Plantation		0.59	23.05
Total Vegetation Area			0.70	27.34
Agriculture	Crop Land		0.00	0.00
	Fallow Land		0.00	0.00
	Total Agriculture Area		0.00	0.00
Waste Land	Waste Land		0.06	2.34
	Total Waste Land		0.06	2.34
Mining Area	Coal Quarry		0.22	8.59
	Barren OB Dump		0.00	0.00
	Area Under Backfilling		1.27	49.61
	Water Filled Quarry		0.24	9.38
	Coal Dump		0.01	0.39
	Advance Quarry Site		0.02	0.78
Total Mining Area			1.76	68.75
Settlements	Rural Settlement		0.00	0.00
	Urban Settlement		0.00	0.00
	Industrial Settlement		0.00	0.00
Total Settlement Area			0.00	0.00
Water Body	River, Ponds		0.04	1.56
Total			2.56	100.00

Customer		Central Coalfields Limited		
Title		Land Reclamation Monitoring of OC Projects		Job No. 561410027
Subject Land Reclamation Status of Rohini OCP based on Satellite Data (RS-2/L-IV) of the year 2021	Activity	Name	Designation	Signature
	Prepared	Hariharalal B	Ch. Mgr(System)	<i>[Signature]</i>
	Checked	Tilak Mandal	Ch. Mgr(RSC)	<i>[Signature]</i>
Approved	R. Kumar	GM(Geomatics)	<i>[Signature]</i>	
Scale:		0 125 250 500 Meters		Sheet 1
Drg.No.		HQ REM 21 3 A4 06		Rev No.0

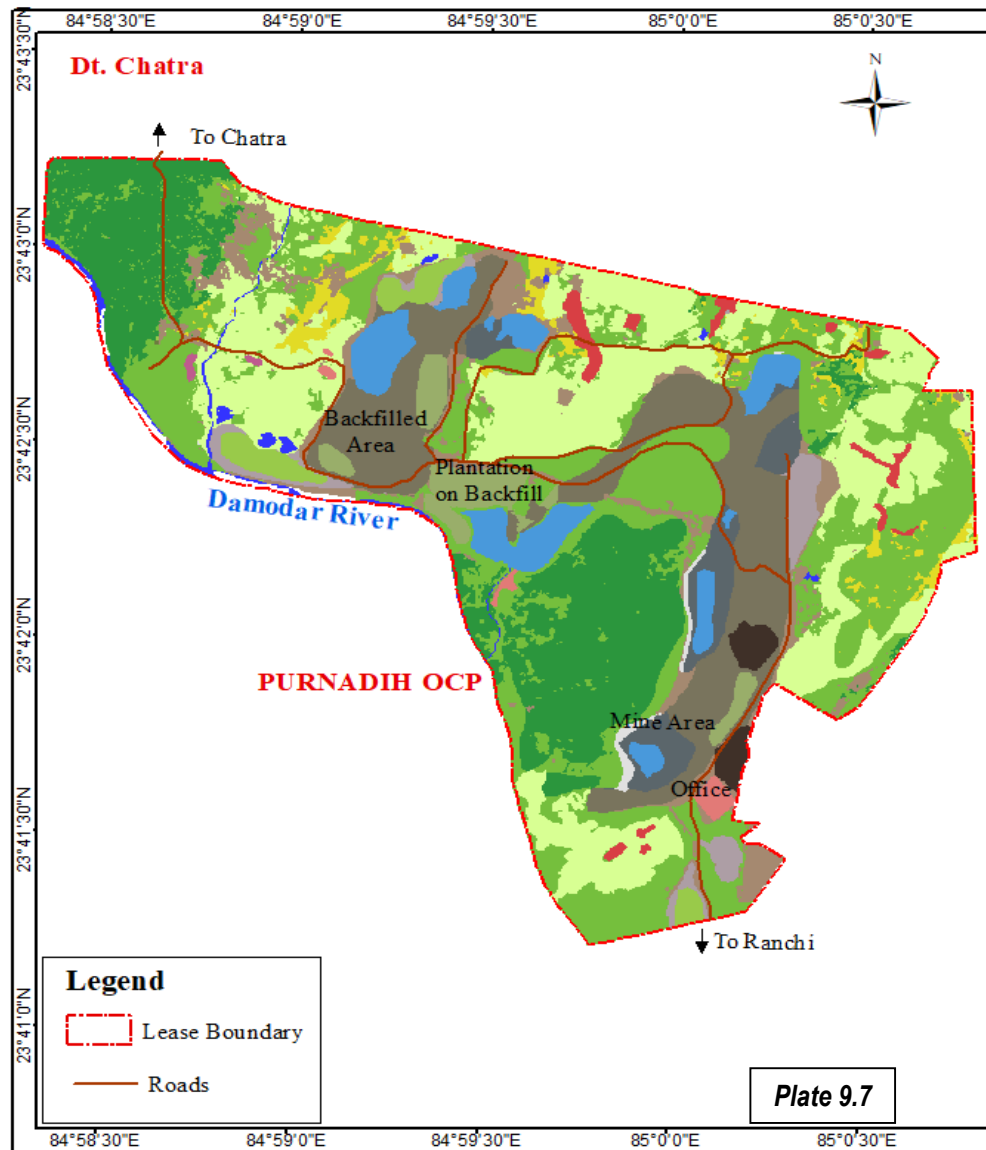


Plate 9.7

Area Statistics - Purnadih OCP (2021)				
Classes		Colour	Area	
Level-I	Level-II		Area (Km ²)	% of Total
Forest Area	Dense Forest		0.00	0.00
	Open Forest		1.15	15.29
Total Forest Area			1.15	15.29
Scrubs	Scrubs		2.03	26.99
Plantation	Social Forestry		0.03	0.40
	Plantation on Backfill		0.19	2.53
	Plantation on OB Dump		0.12	1.60
Total Plantation			0.34	4.52
Total Vegetation Area			3.52	46.81
Agriculture	Crop Land		0.19	2.53
	Fallow Land		1.51	20.08
Total Agriculture Area			1.70	22.61
Waste Land	Waste Land		0.42	5.59
Total Waste Land			0.42	5.59
Mining Area	Coal Quarry		0.20	2.66
	Barren OB Dump		0.17	2.26
	Area Under Backfilling		0.92	12.23
	Water Filled Quarry		0.30	3.99
	Coal Dump		0.06	0.80
Total Mining Area			1.67	22.21
Settlements	Rural Settlement		0.09	1.20
	Urban Settlement		0.01	0.13
	Industrial Settlement		0.04	0.53
Total Settlement Area			0.14	1.86
Water Body	River, Ponds		0.07	0.93
Total			7.52	100.00

Customer		Central Coalfields Limited			
Title		Land Reclamation Monitoring of OC Projects			Job No. 561410027
Subject	Activity	Name	Designation	Signature	
Land Reclamation Status of Purnadih OCP based on Satellite Data (RS-2/L-IV) of the year 2021	Prepared	Hariharalal B	Ch. Mgr(System)		
	Checked	Tilak Mandal	Ch. Mgr(RSC)		
	Approved	R. Kumar	GM(Geomatics)		
Scale:					Sheet 1
Drg.No.		HQ REM 21 3 A4 07			Rev No.0



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Website : www.cmpdi.co.in, Email : cmpdihq@cmpdi.co.in

TEST REPORT

06/23 Test Report No. Metal / 06		Job No 094322160	2023-24
Type of Sample	Ambient Air	Quarter Ending	June' 2023
Customer	CCL	Date of Receipt of Sample:	17/04/2023
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	01/06/23-14/07/23
Sampling Protocol:	USEPA IO-3.2: 1999, 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 :	North Karanpura	Project:	Purnadih OCP
Stations:	1. Manager Office 2. Dembua Village 3. Kutki Village 4. Koilara Village		Date of Sampling: 06-07/04/2023 06-07/04/2023 07-08/04/2023 07-08/04/2023

S.No	Test Parameters	Units	Test Result				Method detection Limit	Limit (NAA QS-2011)	Test Method
			1	2	3	4			
Stations:									
1	Conc. of As in Air	ng/m ³	0.43	0.34	0.11	0.28	0.1	6.00	USEPA IO-3.2:1999
2	Conc. of Ni in Air	ng/m ³	0.57	0.16	0.24	0.17	0.1	20.00	USEPA IO-3.2:1999
3	Conc. of Pb in Air	µg/m ³	0.015	0.013	0.015	0.005	0.005	1.0	USEPA IO-3.2: 1999
4	Conc. of Cu in Air	ng/m ³	0.22	0.21	0.11	<0.10	0.1	-	USEPA IO-3.2: 1999
5	Conc. of Cd in Air	ng/m ³	<0.02	0.021	<0.02	<0.02	0.02	-	USEPA IO-3.2: 1999
6	Conc. of Cr in Air	ng/m ³	0.21	1.02	0.23	<0.10	0.1	-	USEPA IO-3.2: 1999
7	Conc. of Hg in Air	ng/m ³	<0.005	<0.005	<0.005	<0.005	0.005	-	USEPA IO-3.2: 1999



TEST REPORT

06/23 Test Report No. 2218	Job No. 094322160	Year	FY2023-24
Type of Sample	Ambient Air	Quarter Ending	June-23
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 : North Karanpura **Project:** Purnadih OCP **Stations:** Manager Office

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters NAAQS (8 Hourly Average)			Wind Direction (from) & Weather
				Ammonia (in µg/m ³)	CO (in mg/m ³)	Ozone (in µg/m ³)	
Apr.'23 1st FN	06/04/23	06/04/23	06/04/23	<20	0.554	<19.62	E to W
Apr.'23 2nd FN	20/04/23	20/04/23	20/04/23	<20	0.519	<19.62	E to W
May'23 3rd FN	05/05/23	05/05/23	05/05/23	<20	0.483	<19.62	E to W
May'23 4th FN	19/05/23	19/05/23	19/05/23	<20	0.448	<19.62	E to W
June'23 5th FN	04/06/23	04/06/23	04/06/23	<20	0.467	<19.62	E to W
June'23 6th FN	19/06/23	19/06/23	19/06/23	<20	0.495	<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

06/23 Test Report No. 2219	Job No. 094322160	Year	FY2023-24
Type of Sample	Ambient Air	Quarter Ending	June-23
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 : North Karanpura **Project:** Purnadih OCP **Stations:** Dembua Village

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters NAAQS (8 Hourly Average)			Wind Direction (from) & Weather
				Ammonia (in µg/m ³)	CO (in mg/m ³)	Ozone (in µg/m ³)	
Apr.'23 1st FN	06/04/23	06/04/23	06/04/23	<20	0.499	<19.62	E to W
Apr.'23 2nd FN	20/04/23	20/04/23	20/04/23	<20	0.584	<19.62	E to W
May'23 3rd FN	05/05/23	05/05/23	05/05/23	<20	0.572	<19.62	E to W
May'23 4th FN	19/05/23	19/05/23	19/05/23	<20	0.470	<19.62	E to W
June'23 5th FN	04/06/23	04/06/23	04/06/23	<20	0.488	<19.62	E to W
June'23 6th FN	19/06/23	19/06/23	19/06/23	<20	0.507	<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

06/23 Test Report No. 2220	Job No. 094322160	Year	FY2023-24
Type of Sample	Ambient Air	Quarter Ending	June-23
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 : North Karanpura **Project:** Purnadih OCP **Stations:** Kutki Village

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters NAAQS (8 Hourly Average)			Wind Direction (from) & Weather
				Ammonia (in µg/m ³)	CO (in mg/m ³)	Ozone (in µg/m ³)	
Apr.'23 1st FN	07/04/23	07/04/23	07/04/23	<20	0.478	<19.62	E to W
Apr.'23 2nd FN	21/04/23	21/04/23	21/04/23	<20	0.456	<19.62	E to W
May'23 3rd FN	06/05/23	06/05/23	06/05/23	<20	0.492	<19.62	E to W
May'23 4th FN	20/05/23	20/05/23	20/05/23	<20	0.414	<19.62	E to W
June'23 5th FN	05/06/23	05/06/23	05/06/23	<20	0.471	<19.62	E to W
June'23 6th FN	20/06/23	20/06/23	20/06/23	<20	0.512	<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

06/23 Test Report No. 2221	Job No. 094322160	Year	FY2023-24
Type of Sample	Ambient Air	Quarter Ending	June-23
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 : North Karanpura **Project:** Purnadih OCP **Stations:** Koilara Village

Month	Date of Sampling	Date of receipt of sample	Date of analysis	Parameters NAAQS (8 Hourly Average)			Wind Direction (from) & Weather
				Ammonia (in µg/m ³)	CO (in mg/m ³)	Ozone (in µg/m ³)	
Apr.'23 1st FN	07/04/23	07/04/23	07/04/23	<20	0.594	<19.62	E to W
Apr.'23 2nd FN	21/04/23	21/04/23	21/04/23	<20	0.554	<19.62	E to W
May'23 3rd FN	06/05/23	06/05/23	06/05/23	<20	0.462	<19.62	E to W
May'23 4th FN	20/05/23	20/05/23	20/05/23	<20	0.489	<19.62	E to W
June'23 5th FN	05/06/23	05/06/23	05/06/23	<20	0.480	<19.62	E to W
June'23 6th FN	20/06/23	20/06/23	20/06/23	<20	0.514	<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**

06/23 Test Report No. 2230	Job No. 094322160	Year	FY2023-24
Type of Sample	Ambient Air	Quarter Ending	Jun-23
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 : North Karanpura **Project:** Purnadih OCP **Stations:** Manager 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 (PM_{10})	Particulate Matter ($\text{PM}_{2.5}$)	Sulphur Dioxide (SO_2)	Nitrogen Oxides (as NO_x)	
Apr-23 1st FN	06/04/23-07/04/23	17-04-2023	17/04/23-22/04/23	277	110	45	< 25	< 6	East Sunny
Apr-23 2nd FN	20/04/23-21/04/23	02-05-2023	02/05/23-09/05/23	207	104	52	< 25	< 6	East Sunny
May-23 3rd FN	05/05/23-06/05/23	16-05-2023	16/05/23-22/05/23	218	101	48	< 25	< 6	East Sunny
May-23 4th FN	19/05/23-20/05/23	01-06-2023	01/06/23-09/06/23	215	116	42	< 25	< 6	East Sunny
Jun-23 5th FN	04/06/23-05/06/23	16-06-2023	16/06/23-21/06/23	192	93	52	< 25	< 6	East Sunny
Jun-23 6th FN	19/06/23-20/06/23	03-07-2023	03/07/23-07/07/23	251	116	67	< 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.

Analysed By

Authorized Signatory

**TEST REPORT**

06/23 Test Report No. 2231	Job No. 094322160	Year	FY2023-24
Type of Sample	Ambient Air	Quarter Ending	Jun-23
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 : North Karanpura **Project:** Purnadih OCP **Stations:** Dembua 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 (PM_{10}^+ > PM_{10})TPM	Particulate Matter (PM_{10})	Particulate Matter ($\text{PM}_{2.5}$)	Sulphur Dioxide (SO_2)	Nitrogen Oxides (as NO_x)	
Apr-23 1st FN	11/04/23-12/04/23	17-04-2023	17/04/23-30/04/23	161	77	40	< 25	< 6	West Sunny
Apr-23 2nd FN	25/04/23-26/04/23	02-05-2023	02/05/23-15/05/23	176	83	40	< 25	< 6	East Sunny
May-23 3rd FN	11/05/23-12/05/23	16-05-2023	16/05/23-26/05/23	160	52	37	< 25	< 6	East Sunny
May-23 4th FN	26/05/23-27/05/23	01-06-2023	01/06/23-13/06/23	134	48	23	< 25	< 6	East Sunny
Jun-23 5th FN	06/06/23-07/06/23	16-06-2023	16/06/23-30/06/23	153	46	23	< 25	< 6	East Sunny
Jun-23 6th FN	25/06/23-26/06/23	03-07-2023	03/07/23-10/07/23	138	75	39	< 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.

Analysed By

Authorized Signatory

**TEST REPORT**

06/23 Test Report No. 2232	Job No. 094322160	Year	FY2023-24
Type of Sample	Ambient Air	Quarter Ending	Jun-23
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 : North Karanpura **Project:** Purnadih OCP **Stations:** Kutki 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 (PM_{10}^+ > PM_{10})TPM	Particulate Matter (PM_{10})	Particulate Matter ($\text{PM}_{2.5}$)	Sulphur Dioxide (SO_2)	Nitrogen Oxides (as NO_x)	
Apr-23 1st FN	11/04/23-12/04/23	17-04-2023	17/04/23-30/04/23	309	199	62	< 25	< 6	West Sunny
Apr-23 2nd FN	25/04/23-26/04/23	02-05-2023	02/05/23-15/05/23	211	90	54	< 25	< 6	East Sunny
May-23 3rd FN	11/05/23-12/05/23	16-05-2023	16/05/23-26/05/23	321	251	79	< 25	< 6	East Sunny
May-23 4th FN	26/05/23-27/05/23	01-06-2023	01/06/23-13/06/23	398	272	83	< 25	< 6	East Sunny
Jun-23 5th FN	06/06/23-07/06/23	16-06-2023	16/06/23-30/06/23	525	389	82	< 25	< 6	East Sunny
Jun-23 6th FN	25/06/23-26/06/23	03-07-2023	03/07/23-10/07/23	209	94	48	< 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.

Analysed By

Authorized Signatory

**TEST REPORT**

06/23 Test Report No. 2233	Job No. 094322160	Year	FY2023-24
Type of Sample	Ambient Air	Quarter Ending	Jun-23
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 : North Karanpura **Project:** Purnadih OCP **Stations:** Koilara 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 (PM ₁₀ ⁺ >PM ₁₀)TPM	Particulate Matter (PM ₁₀)	Particulate Matter (PM _{2.5})	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO _x)	
Apr-23 1st FN	07/04/23-08/04/23	17-04-2023	17/04/23-22/04/23	151	61	33	< 25	< 6	East Sunny
Apr-23 2nd FN	21/04/23-22/04/23	02-05-2023	02/05/23-09/05/23	178	75	32	< 25	< 6	East Sunny
May-23 3rd FN	06/05/23-07/05/23	16-05-2023	16/05/23-22/05/23	172	86	48	< 25	< 6	East Sunny
May-23 4th FN	20/05/23-21/05/23	01-06-2023	01/06/23-09/06/23	135	67	26	< 25	< 6	East Sunny
Jun-23 5th FN	05/06/23-06/06/23	16-06-2023	16/06/23-21/06/23	235	91	56	< 25	< 6	East Sunny
Jun-23 6th FN	20/06/23-21/06/23	03-07-2023	03/07/23-07/07/23	221	89	41	< 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.

Analysed By

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TEST REPORT

06/23 Test Report No. 2234	Job No. 094322160	Year	FY2023-24
Type of Sample:	Noise	Quarter Ending	Jun-23
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 : North Karanpura Project: Purnadih OCP

Station Name	Noise Level dB(A) Leq					
	Apr-23 1st FN	Apr-23 2nd FN	May-23 3rd FN	May-23 4th FN	Jun-23 5th FN	Jun-23 6th FN
	Day/Night	Day/Night	Day/Night	Day/Night	Day/Night	Day/Night
Date of recording	06-04-2023	20-04-2023	05-05-2023	19-05-2023	04-06-2023	19-06-2023
1. Manager Office	70.8/64.6	71.2/65.3	70.8/64.9	70.4/64.5	69.5/63.6	69.6/63.5
Date of recording	06-04-2023	20-04-2023	05-05-2023	19-05-2023	04-06-2023	19-06-2023
2. Dambua Village	68.3/62.4	68.2/62.1	67.6/61.5	67.7/61.5	67.5/61.6	66.5/60.3
Date of recording	07-04-2023	21-04-2023	06-05-2023	20-05-2023	05-06-2023	20-06-2023
3. Kutki Village	67.8/61.7	67.4/61.5	66.8/60.9	66.8/60.6	66.7/60.8	65.7/59.5
Date of recording	07-04-2023	21-04-2023	06-05-2023	20-05-2023	05-06-2023	20-06-2023
4. Koilara Village	66.9/60.6	66.9/60.8	68.2/62.3	68.2/62.3	65.9/59.5	67.2/61.1

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**

06/23 Test Report No. 2235	Job No. 094322160	Year	FY2023-24
Type of Sample:	Effluent Water	Quarter Ending	Jun-23
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/ Sampling Protocol:	MOEF -SCH-VI STANDARDS, Class 'A', 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: -

Area : North Karanpura **Project:** Purnadih OCP **Stations:** Mine Water Discharge

Analysis Results of FN Effluent Water							
Parameters →				COD	O & G	pH value	TSS
Detection Limit				4	2	0.2	10
MOEF -SCH-VI, STANDARDS, Class 'A'				250	10	5.5 to 9.0	100
Month	Date of Sampling	Date of Receipt of Sample	Date of Analysis	Value in mg/l, except pH			
Apr-23 1st FN	08/04/23	17/04/23	17/04/23-28/04/23	28	<2.00	7.8	81
Apr-23 2nd FN	22/04/23	02/04/23	02/04/23-15/05/23	20	<2.00	7.4	39
May-23 3rd FN	07/05/23	16/05/23	16/05/23-31/05/23	20	<2.00	7.8	41
May-23 4th FN	21/05/23	01/06/23	01/06/23-15/06/23	16	<2.00	8.1	37
Jun-23 5th FN	06/06/23	16/06/23	16/06/23-30/06/23	32	<2.00	8.1	92
Jun-23 6th FN	21/06/23	03/07/23	03/07/23-14/07/23	24	<2.00	8.1	54
BIS Standard & Method				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

06/23 Test Report No. 2236	Job No. 094322160	Year	FY2023-24
Type of Sample:	Surface Water	Quarter Ending	Jun-23
Customer	CCL	Date of Receipt:	17-04-2023
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	17.04.23-14.07.23
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: -

Area :	North Karanpura	Project:	Purandih OCP
Stations:		Date of Sampling:	
	1. Damodar River U/S of the Project		08-04-2023
	2. Damodar River D/S of the Project		08-04-2023
	3. Damodar Near Jamdih Bridge		08-04-2023

Sl.No	Parameter	Sampling Stations				Detection Limit	BIS Standard & Method
		1	2	3	4		
1	Arsenic (as As), mg/l, Max	<0.002	<0.002	<0.002		0.002	IS 3025/37:1988 R : 2003, AAS-VGA, Method
2	BOD (3 days 27°C), mg/l, Max	2.1	2.4	<2.0		2.00	IS 3025 /44: 1993, R: 2003 3 day incubation at 27°C
3	Cadmium(as Cd), mg/l, Max	<0.0004	<0.0004	<0.0004		0.0004	APHA, 23rd Edition AAS-GTA Method, 2017
4	Chlorides (as Cl), mg/l, Max	12	10	10		2.00	IS-3025/32:1988, R-2007, Argentometric Method
5	Copper (as Cu), mg/l, Max	<0.02	<0.02	<0.02		0.02	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)
6	Dissolved Oxygen, min.	6.1	5.9	6		0.10	IS 3025/38: 1989, R:2003, Winkler Azide Method
7	Fluoride (as F) mg/l, Max	0.52	0.5	0.56		0.02	APHA, 23rd Edition, SPADNS Method, 2017
8	Hexavalent Chromium, mg/l, Max	<0.01	<0.01	<0.01		0.01	APHA, 23rd Edition, 2017 Diphenylcarbohydrazide,
9	Iron (as Fe), mg/l, Max	<0.04	<0.04	<0.04		0.04	IS 3025 /53: 2003, R : 2009, AAS (Air-Ac-Flame)
10	Lead (as Pb), mg/l, Max	<0.001	<0.001	<0.001		0.001	APHA, 23rd Edition AAS-GTA Method, 2017
11	Nitrate (as NO ₃), mg/l, Max	0.65	0.94	0.72		0.50	APHA, 23rd Edition, UV - Spectrophotometric, 2017
12	pH value	8.1	7.4	7.5		1.0	IS-3025/11:1983, R-1996, Electrometric Method
13	Phenolic compounds (as C ₆ H ₅ OH), mg/l, Max	<0.001	<0.001	<0.001		0.001	APHA, 23rd Edition, 2017, 4-Amino Antipyrine Method,
14	Selenium (as Se), mg/l, Max	<0.0005	<0.0005	<0.0005		0.0005	IS 3025/56:2003 AAS-VGA Method
15	Sulphate (as SO ₄) mg/l, Max	22	22	21		2.00	APHA, 23rd Edition Turbidity Method, 2017
16	Total Dissolved Solids, mg/l, Max	196	204	210		25.00	IS 3025 /16:1984 R : 2006, Gravimetric Method
17	Total Suspended Solids, mg/l, Max	21	14	20		10.00	IS 3025 /17:1984, R :1996, Gravimetric Method
18	Zinc (as Zn), mg/l, Max	<0.005	<0.005	0.007		0.005	IS 3025 /49: 1994, R : 2009, AAS (Air-Ac-Flame)

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**TEST REPORT**

06/23 Test Report No. 2237	Job No. 094322160	Year	FY2023-24
Type of Sample:	Drinking Water	Quarter Ending	Jun-23
Customer	CCL	Date of Receipt:	17-04-2023
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	17.04.23-14.07.23
Testing/ Sampling Protocol:	IS:10500 Drinking Water Standards, 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: -

Area : North Karanpura **Project:** Purnadih OCP
Stations: 1. Hand Pump, Tumang Village **Date of Sampling:** 08-04-2023

Sl. No	Parameter	Sampling Stations			Detection Limit	IS:10500 Standards	Standard / Test Method
		1	2	3			
1	Boron (as B), mg/l, Max	<0.2			0.20	0.5	APHA, 23rd Edition Carmine Method, 2017
2	Cadmium (as Cd), mg/l, Max	<0.0004			0.0004	0.003	APHA, 23rd Edition AAS-GTA Method, 2017
3	Calcium (as Ca), mg/l, Max	49.6			1.60	75	IS-3025/40:1991, EDTA
4	Chloride (as Cl), mg/l, Max	18			2.00	250	IS-3025/32:1988, R-2007, Argentometric Method
5	Copper (as Cu), mg/l, Max	<0.02			0.02	0.05	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)
6	Fluoride (as F) mg/l, Max	0.59			0.02	1.0	APHA, 23rd Edition, SPADNS Method, 2017
7	Free Residual Chlorine, mg/l, Min	0.06			0.02	0.2	APHA, 23rd Edition, DPD Method, 2017
8	Iron (as Fe), mg/l, Max	<0.04			0.04	1.0	IS 3025 /53: 2003, R : 2009 AAS (Air-Ac-Flame)
9	Lead (as Pb), mg/l, Max	<0.001			0.001	0.01	APHA, 23rd Edition AAS-GTA Method, 2017
10	Manganese (as Mn), mg/l, Max	<0.01			0.01	0.1	IS-3025/59:2006, AAS (Air-Ac-Flame) Method
11	Nickel (as Ni), mg/l, Max	<0.003			0.003	0.02	APHA, 23rd Edition, 3120 B, ICP Method: 2017
12	Nitrate (as NO ₃), mg/l, Max	0.90			0.5	45	APHA, 23rd Edition, UV-Spectrophotometric, 2017
13	Odour	Agreeable			Qualitative	Agreeable	IS 3025 /05:1983, R-2012, Qualitative
14	pH value	8.5			1.0	6.5 to 8.5	IS-3025/11:1983, R-1996, Electrometric Method
15	Phenolic compounds (as C ₆ H ₅ OH), mg/l, Max	<0.001			0.001	0.001	APHA, 23rd Edition, 4-Amino Autipyrine, 2017
16	Selenium (as Se), mg/l, Max	<0.0005			0.0005	0.01	IS 3025/56:2003 AAS-VGA Method
17	Sulphate (as SO ₄) mg/l, Max	152			2.00	200	APHA, 23rd Edition. Turbidity Method, 2017
18	Total Alkalinity (CaCO ₃), mg/l, Max	72			4.00	200	IS-3025/23:1986, R: 2009, Titration Method
19	Total Arsenic (as As), mg/l, Max	<0.002			0.002	0.01	IS 3025/ 37:1988 R : 2003, AAS-VGA: 1998
20	Total Chromium (as Cr), mg/l, Max	<0.002			0.002	0.05	APHA, 23rd Edition, 3120 B, ICP Method: 2017
21	Total Dissolved Solids, mg/l, Max	339			25.00	500	IS 3025 /16:1984 R : 2006, Gravimetric
22	Total Hardness (CaCO ₃), mg/l, Max	212			4.00	200	IS-3025/21:1983, R-2009, EDTA Method
23	Turbidity, NTU, Max	4			1.0	1	IS-3025/10:1984 R-1996, Nephelometric Method
24	Zinc (as Zn), mg/l, Max	<0.005			0.005	5.0	IS 3025 /49: 1994, R : 2009, AAS (Air-Ac-Flame)

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**TEST REPORT**

09/23 Test Report No. 2230	Job No. 094323120	Year	FY2023-24
Type of Sample	Ambient Air	Quarter Ending	Sep-23
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 : North Karanpura **Project:** Purnadih OCP **Stations:** Manager 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 (PM_{10}^+ > PM_{10})TPM	Particulate Matter (PM_{10})	Particulate Matter ($\text{PM}_{2.5}$)	Sulphur Dioxide (SO_2)	Nitrogen Oxides (as NO_x)	
Jul-23 1st FN	06/07/23-07/07/23	17-07-2023	17/07/23-24/07/23	241	105	44	< 25	< 6	East Sunny
Jul-23 2nd FN	20/07/23-21/07/23	01-08-2023	01/08/23-05/08/23	198	95	41	< 25	< 6	East Sunny
Aug-23 3rd FN	04/08/23-05/08/23	16-08-2023	16/08/23-22/08/23	212	90	38	< 25	< 6	East Cloud
Aug-23 4th FN	19/08/23-20/08/23	01-09-2023	01/09/23-09/09/23	208	102	41	< 25	< 6	East Cloud
Sep-23 5th FN	04/09/23-05/09/23	18-09-2023	18/09/23-20/09/23	218	86	40	< 25	< 6	East Sunny
Sep-23 6th FN	21/09/23-22/09/23	03-10-2023	03/10/23-11/10/23	224	108	48	< 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**

09/23 Test Report No. 2231	Job No. 094323120	Year	FY2023-24
Type of Sample	Ambient Air	Quarter Ending	Sep-23
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 : North Karanpura **Project:** Purnadih OCP **Stations:** Dembua 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 (PM_{10}^+ > PM_{10})TPM	Particulate Matter (PM_{10})	Particulate Matter ($\text{PM}_{2.5}$)	Sulphur Dioxide (SO_2)	Nitrogen Oxides (as NO_x)	
Jul-23 1st FN	06/07/23-07/07/23	17-07-2023	17/07/23-24/07/23	145	61	33	< 25	< 6	East Sunny
Jul-23 2nd FN	20/07/23-21/07/23	01-08-2023	01/08/23-05/08/23	128	52	28	< 25	< 6	East Sunny
Aug-23 3rd FN	04/08/23-05/08/23	16-08-2023	16/08/23-22/08/23	132	58	31	< 25	< 6	East Cloud
Aug-23 4th FN	19/08/23-20/08/23	01-09-2023	01/09/23-09/09/23	154	67	36	< 25	< 6	East Cloud
Sep-23 5th FN	04/09/23-05/09/23	18-09-2023	18/09/23-20/09/23	118	48	22	< 25	< 6	East Sunny
Sep-23 6th FN	21/09/23-22/09/23	03-10-2023	03/10/23-11/10/23	122	56	29	< 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**

09/23 Test Report No. 2232	Job No. 094323120	Year	FY2023-24
Type of Sample	Ambient Air	Quarter Ending	Sep-23
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 : North Karanpura **Project:** Purnadih OCP **Stations:** Kutki 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 (PM_{10}^+ > PM_{10})TPM	Particulate Matter (PM_{10})	Particulate Matter ($\text{PM}_{2.5}$)	Sulphur Dioxide (SO_2)	Nitrogen Oxides (as NO_x)	
Jul-23 1st FN	07/07/23-08/07/23	17-07-2023	17/07/23-24/07/23	134	53	31	< 25	< 6	East Sunny
Jul-23 2nd FN	21/07/23-22/07/23	01-08-2023	01/08/23-05/08/23	114	48	26	< 25	< 6	East Sunny
Aug-23 3rd FN	05/08/23-06/08/23	16-08-2023	16/08/23-22/08/23	108	45	21	< 25	< 6	East Cloud
Aug-23 4th FN	20/08/23-21/08/23	01-09-2023	01/09/23-09/09/23	145	58	39	< 25	< 6	East Cloud
Sep-23 5th FN	05/09/23-06/09/23	18-09-2023	18/09/23-20/09/23	132	64	32	< 25	< 6	East Sunny
Sep-23 6th FN	22/09/23-23/09/23	03-10-2023	03/10/23-11/10/23	162	71	41	< 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**

09/23 Test Report No. 2233	Job No. 094323120	Year	FY2023-24
Type of Sample	Ambient Air	Quarter Ending	Sep-23
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 : North Karanpura **Project:** Purnadih OCP **Stations:** Koilara 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 (PM_{10}^+ > PM_{10})TPM	Particulate Matter (PM_{10})	Particulate Matter ($\text{PM}_{2.5}$)	Sulphur Dioxide (SO_2)	Nitrogen Oxides (as NO_x)	
Jul-23 1st FN	07/07/23-08/07/23	17-07-2023	17/07/23-24/07/23	125	57	30	< 25	< 6	East Sunny
Jul-23 2nd FN	21/07/23-22/07/23	01-08-2023	01/08/23-05/08/23	154	62	35	< 25	< 6	East Sunny
Aug-23 3rd FN	05/08/23-06/08/23	16-08-2023	16/08/23-22/08/23	168	71	41	< 25	< 6	East Cloud
Aug-23 4th FN	20/08/23-21/08/23	01-09-2023	01/09/23-09/09/23	125	65	23	< 25	< 6	East Cloud
Sep-23 5th FN	05/09/23-06/09/23	18-09-2023	18/09/23-20/09/23	152	76	46	< 25	< 6	East Sunny
Sep-23 6th FN	22/09/23-23/09/23	03-10-2023	03/10/23-11/10/23	138	52	28	< 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**

09/23 Test Report No. 2234	Job No. 094323120	Year	FY2023-24
Type of Sample:	Noise	Quarter Ending	Sep-23
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 : North Karanpura **Project:** Purnadih OCP

Station Name	Noise Level dB(A) Leq					
	Jul-23 1st FN	Jul-23 2nd FN	Aug-23 3rd FN	Aug-23 4th FN	Sep-23 5th FN	Sep-23 6th FN
	Day/Night	Day/Night	Day/Night	Day/Night	Day/Night	Day/Night
Date of recording	06-07-2023	20-07-2023	04-08-2023	19-08-2023	04-09-2023	21-09-2023
1. Manager Office	69.7/63.8	68.4/62.3	69.7/63.5	69.5/63.3	65.4/59.5	71.1/65.3
Date of recording	06-07-2023	20-07-2023	04-08-2023	19-08-2023	04-09-2023	21-09-2023
2. Dambua Village	66.2/60.3	64.6/58.3	65.7/59.6	66.7/60.8	64.6/58.9	66.2/60.1
Date of recording	07-07-2023	21-07-2023	05-08-2023	20-08-2023	05-09-2023	22-09-2023
3. Kutki Village	65.5/59.4	63.7/57.6	64.9/58.3	67.4/61.5	63.8/57.7	65.5/59.7
Date of recording	07-07-2023	21-07-2023	05-08-2023	20-08-2023	05-09-2023	22-09-2023
4. Koilara Village	64.6/58.1	62.8/56.5	63.8/57.5	65.8/59.7	63.8/56.5	64.8/58.6

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**

09/23 Test Report No. 2235	Job No. 094323120	Year	FY2023-24
Type of Sample:	Effluent Water	Quarter Ending	Sep-23
Customer	CCL		
Mode of Receipt of Sample:	Joint sampling with customer		
Testing/ Sampling Protocol:	MOEF -SCH-VI STANDARDS, Class 'A', 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: -

Area : North Karanpura **Project:** Purnadih OCP **Stations:** Mine Water Discharge

Analysis Results of FN Effluent Water							
Parameters →				COD	O & G	pH value	TSS
Detection Limit				4	2	0.2	10
MOEF -SCH-VI, STANDARDS, Class 'A'				250	10	5.5 to 9.0	100
Month	Date of Sampling	Date of Receipt of Sample	Date of Analysis	Value in mg/l, except pH			
Jul-23 1st FN	07/07/23-08/07/23	17/07/23	17/07/23-31/07/23	16	<2.00	8.2	40
Jul-23 2nd FN	21/07/23-22/07/23	01/08/23	01/08/23-14/08/23	20	<2.00	7.2	72
Aug-23 3rd FN	05/08/23-06/08/23	16/08/23	16/08/23-31/08/23	16	<2.00	7.9	57
Aug-23 4th FN	20/08/23-21/08/23	01/09/23	01/09/23-15/09/23	28	<2.00	7.9	57
Sep-23 5th FN	05/09/23-06/09/23	18/09/23	18/09/23-29/09/23	24	<2.00	7.3	42
Sep-23 6th FN	22/09/23-23/09/23	03/10/23	03/10/23-13/10/23	20	<2.00	7.4	51
BIS Standard & Method				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

*The Environment (Protection)Rule,1986, Schedule-VI (General Standards for Discharge of Environmental Pollutants Part-A: Effluent)

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**TEST REPORT**

09/23 Test Report No. 2236	Job No. 094323120	Year	FY2023-24
Type of Sample:	Surface Water	Quarter Ending	Sep-23
Customer	CCL	Date of Receipt:	17-07-2023
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	17.07.23-07.10.23
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: -

Area :	North Karanpura	Project:	Purandih OCP
Stations:		Date of Sampling:	
	1. Damodar River U/S of the Project		08-07-2023
	2. Damodar River D/S of the Project		08-07-2023
	3. Damodar Near Jamdih Bridge		08-07-2023

Sl.No	Parameter	Sampling Stations				Detection Limit	BIS Standard & Method
		1	2	3	4		
1	Arsenic (as As), mg/l	<0.002	<0.002	<0.002		0.002	IS 3025/37:1988 R : 2003, AAS-VGA, Method
2	BOD (3 days 27°C), mg/l	<2.00	<2.00	<2.00		2.00	IS 3025 /44: 1993, R: 2003 3 day incubation at 27°C
3	Cadmium(as Cd), mg/l	<0.0004	<0.0004	<0.0004		0.0004	APHA, 23rd Edition AAS-GTA Method, 2017
4	Chlorides (as Cl ⁻), mg/l	10	10	10		2.00	IS-3025/32:1988, R-2007, Argentometric Method
5	Copper (as Cu), mg/l	<0.02	<0.02	<0.02		0.02	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)
6	Disolved Oxygen	6.6	6.5	6.6		0.10	IS 3025/38: 1989, R:2003, Winkler Azide Method
7	Fluoride (as F ⁻) mg/l	0.64	0.62	0.55		0.02	APHA, 23rd Edition, SPADNS Method, 2017
8	Hexavalent Chromium, mg/l	<0.01	<0.01	<0.01		0.01	APHA, 23rd Edition, 2017 Diphenylcarbohydrazide,
9	Iron (as Fe), mg/l	<0.04	<0.04	<0.04		0.04	IS 3025 /53: 2003, R : 2009, AAS (Air-Ac-Flame)
10	Lead (as Pb), mg/l	<0.001	<0.001	<0.001		0.001	APHA, 23rd Edition AAS-GTA Method, 2017
11	Nitrate (as NO ₃ ⁻), mg/l	0.64	0.68	0.85		0.50	APHA, 23rd Edition, UV - Spectrophotometric, 2017
12	pH value	8.3	8.3	8.3		1.0	IS-3025/11:1983, R-1996, Electrometric Method
13	Phenolic compounds (as C ₆ H ₅ OH), mg/l	<0.001	<0.001	<0.001		0.001	APHA, 23rd Edition, 2017, 4-Amino Antipyrine Method,
14	Selenium (as Se), mg/l	<0.0005	<0.0005	<0.0005		0.0005	IS 3025/56:2003 AAS-VGA Method
15	Sulphate (as SO ₄ ⁻²) mg/l	22	22	22		2.00	APHA, 23rd Edition Turbidity Method, 2017
16	Total Dissolved Solids, mg/l	192	186	198		25.00	IS 3025 /16:1984 R : 2006, Gravimetric Method
17	Total Suspended Solids, mg/l	16	12	24		10.00	IS 3025 /17:1984, R :1996, Gravimetric Method
18	Zinc (as Zn), mg/l	<0.005	<0.005	<0.005		0.005	IS 3025 /49: 1994, R : 2009, AAS (Air-Ac-Flame)

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