

Ref. No.: MCL/BA/PO/KOCP/E&F/2025-26/07

Date: 10.05.20252

To,
The Director (S),
MoEF&CC, IRO
A/3, Chandrasekharpur,
Bhubaneswar-751023.

Subject: Submission of Half-Yearly Compliance Report of the Environment Condition with respect to Kulda OCP, MCL, Basundhara Area, for the period of Oct'2024 to March'2025.

Dear Sir,

Please find here with this letter the Half-Yearly Compliance Report of the Environment Condition with respect to Kulda OCP, MCL, Basundhara Area, for the period of Oct'2024 to March'2025. This is for your kind perusal and necessary action.

Thanking you.

Yours sincerely,



Project Officer,
Kulda OCP,
MCL, Basundhara Area

Enclosure:

- Half Yearly compliance report of EC issued in date-24.05.2022, 14.02.2022, 02.03.2021, 10.01.2020, 28.03.2019, 22.03.2018
- Annexures

Copy to:

- Director, E.I.A., Monitoring Cell, MoEF, Paryvaram Bhawan, CGO complex, New Delhi – 110003 – (By Regd. Post).
- GM (E&F), MCL HQ SBP – For kind information.
- GM, Basundhara Area – For kind information.
- SO (Envt.), Basundhara Area
- O/c

HALF YEARLY COMPLIANCE REPORT OF EC CONDITIONS WITH RESPECT TO KULDA OCP

For the period of Oct'24 to March'25



5 DECADES OF UNEARTHING ENERGY

EC Ref No.-

1. EC Amendment Letter dated: 21.02.2025 (EC Letter no. J-11015/10/1995-IA-II(M))
2. EC Amendment Letter dated: 05.01.2024 (EC Letter no. J-11015/10/1995-IA-II(M))
3. EC Amendment Letter dated: 09.01.2023 (EC Letter no. J-11015/10/1995-IA-II(M))
4. J-11015/10/1995-IA-II(M), dt: 24.05.2022
5. J-11015/10/1995-IA-II(M), dt: 14.02.2022
6. J-11015/10/1995-I.A.II(M), dt: 02.03.2021
7. J-11015/10/1995-I.A.II(M), dt: 10.01.2020
8. J-11015/10/1995-I.A.II(M), dt: 28.03.2019
9. J-11015/10/1995-I.A.II(M), dt: 22.03.2018

Agreed upon/please refer below/Partially complied Conditions in the EC letter dated 21.02.2025

	Condition	Compliance/Action Taken Report	Status
	Specific Condition		
1.1	Ambient Air Quality (AAQ) and Noise quality data along the entire coal transportation route shall be monitored and the data shall be submitted along with the six-monthly compliance to the concerned Regional Office and also kept on the web portal of the company.	The Ambient Air Quality monitoring in the core zone is being carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr, and other monitoring data is being regularly reported to the Ministry/Regional Office and to the SPCB. The monitoring reports has been attached at Annexure-XVII The Noise Analysis reports are being sent with the six monthly compliance reports. Details attached in Annexure- Annexure-XXIX	Being complied
1.2	All the recommendations made in the Traffic Assessment Study Report regarding coal transportation by road shall be strictly adhered with. PP shall install one CAAQMS along the coal transportation road in consultation with the OSPCB. Compliance in this regard shall be submitted along with the six monthly compliance to the concerned Regional Office and also kept on the web portal of the company.	PP ensures all the recommendations made in the Traffic Assessment Study Report regarding coal transportation by road shall be strictly adhered. One additional CAAQMS has been installed near Tumulia as per the stipulated condition at the location in consultation with SPCB. LED display board has been installed at the entry/exit gate of Kulda OCP. The real time data so generated shall be displayed digitally at the entry and exit gate of mine lease area for public display.	Being complied

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1.3	Additional air pollution control measures should be taken along roads being used for transport of coal including e-/CNG/LNG vehicles.	Total 07 nos. of e-/CNG/LNG vehicles have been provided at area level. 02 mobile fog cannons have been deployed along with 02 mechanical road sweeper along the transportation road. There is total 188 nos. of fixed type mist sprinklers installed to mitigate the dust. Further, 3,332 nos. of trees have been planted along the coal transportation road for controlling the dust generated.	Complied																					
1.4	PP shall adopt wildlife protection measures including creating awareness among the drivers, sensitizing the drivers about prevention of road kills and handling of wildlife encounters while driving through forest areas and speed governors must be installed in the coal transporting trucks/dumpers.	Speed governors are provided along the coal transportation road and the drivers are made aware of limiting the speed for prevention of road kills and other accidents. There is no Schedule-I species present in the study area, as per the EIA-EMP report of Kulda OCP. Kulda OCP, has deposited the following amount for the implementation of Regional Wild Life Management Plan (RWLMP) to the Forest Department: <table><tr><th>S.No</th><th>Amount Paid</th><th>Date of Payment</th></tr><tr><td>1</td><td>Rs. 2,00,85,000.00/-</td><td>13.08.2014</td></tr><tr><td>2</td><td>Rs.2,30,97,750.00/- (Additional amount as per revised rate)</td><td>04.08.2015</td></tr></table>	S.No	Amount Paid	Date of Payment	1	Rs. 2,00,85,000.00/-	13.08.2014	2	Rs.2,30,97,750.00/- (Additional amount as per revised rate)	04.08.2015	Being complied												
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1	Rs. 2,00,85,000.00/-	13.08.2014																						
2	Rs.2,30,97,750.00/- (Additional amount as per revised rate)	04.08.2015																						
1.5	Project proponent shall carry out three tier plantation along the coal transportation route during the monsoon season of 2025. Further, PP shall provide 50,000 plant saplings with 4 feet tall fruit bearing plants to farmers for plantation in barren and agriculture lands in the study area every year for 5 years with incentive to improve the green cover in and around the mine lease area. Sufficient nos of rain guns shall be procured for plantation already developed along the road side and other part of the ML area. Compliance in this regard shall be submitted along with the six monthly compliance to the concerned	Kulda OCP has carried out Avenue plantation as tabulated below: <table><tr><th>Year</th><th>Nos. of trees planted</th><th>Total area covered</th></tr><tr><td>2015-16</td><td>1000</td><td>1.8 Rkm</td></tr><tr><td>2016-17</td><td>460</td><td>1.2 Rkm</td></tr><tr><td>2017-18</td><td>544</td><td>1.5 Rkm</td></tr><tr><td>2019-20</td><td>1912</td><td>5.31 Rkm</td></tr><tr><td>2021-22</td><td>4205</td><td>11.68 Rkm</td></tr><tr><td>2024-25</td><td>1,00,000</td><td>250 plants/RKM</td></tr></table>	Year	Nos. of trees planted	Total area covered	2015-16	1000	1.8 Rkm	2016-17	460	1.2 Rkm	2017-18	544	1.5 Rkm	2019-20	1912	5.31 Rkm	2021-22	4205	11.68 Rkm	2024-25	1,00,000	250 plants/RKM	Being complied
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	Regional Office and also kept on the web portal of the company.	Further avenue plantation will be carried out at the suitable locations along the coal transportation road. Agreed. A proposal is in the pipeline regarding distribution of 50,000 plant saplings to farmers. Currently the already planted trees are being watered by the CGRVVN Ltd. Further when required departmental water tanker is deployed at the plantation site when required. The compliance will be submitted along with the six-monthly compliance to the concerned Regional Office and also kept on the web portal of the company.	
1.6	Green house emission from the mine operations shall be evaluated and corresponding carbon absorption plan shall be submitted to the concerned RO, MoEF&CC by April, 2025.	Green house emission evaluation and corresponding carbon absorption plan has been submitted vide letter: MCL/BA/PO/KOCP/E&F/2025-26/05, Dated: 30.04.2025.	Complied
1.7	PP shall align its activities to the Sustainable Development Goals (SDG), for which Present status and an action plan shall be submitted to the concerned RO, MoEF&CC by April, 2025.	PP assures to align its activities to the Sustainable Development Goals (SDG). The Present status and action plan has been submitted vide letter: MCL/BA/PO/KOCP/E&F/2025-26/04, Dated: 28.04.2025.	Complied
<i>Agreed upon/please refer below/Partially complied Conditions in the EC letter dated 05.01.2024</i>			
	Condition	Compliance/Action Taken Report	Status
	Specific Condition		
1.1 8	PP to submit the Progress report for mechanization of 4.5 MTPA (i.e. 21MTPA-16.5 MTPA) before submitting application for the validation of EC dated 24.05.2022	As per the directive of EAC, action plan for additional 12.5 Mty in-pit belt with 4.0 Mty ATLS from Kulda & Garjanbahal Mines has been prepared and submitted to IRO on 23.01.2023. The Sardega RLS (20.0 Mty) with conveyor arrangement has commenced its operation since 22.12.2024. This system arrangement consists of truck receiving hoppers over ground, ground bunkers and transfer circuit house Annexure-IC .	Complied

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1.2	Further expansion in capacity shall be considered subject to the compliance of in-pit conveyor and silo loading system till railway siding for 100% transportation of coal is implemented.	The project <i>has not undergone any expansion in capacity</i> since its last obtained EC capacity of 21MTPA from MoEF&CC i.e on 24.05.2022.	Agreed upon
1.3	PP shall implement in-pit conveyor system with silo loading facility till railway siding and No road transportation shall be allowed after December, 2024 till Sardega Siding and after December 2025 for Barpalli loop and accordingly, SPCB shall grant CTO for road transportation.	Amendment in EC has been obtained for this condition by MoEF&CC vide letter dated 21.02.2025 with justifications. Currently the coal is being despatched through the established railway sidings through dedicated coal transportation routes not passing through any villages en-route. Sardega RLS of 20 MTY capacity has commenced since 22.12.2024 Annexure-IC . Barpali loop of 90 MTY land acquisition work is in progress.	Partially complied
1.4	PP shall complete the implementation of conveyor system of 5.42 km till railway siding by December, 2024. SPCB shall not grant CTO for non-implementation of In-pit belt conveyor system after December, 2024.	Amendment in EC has been obtained for this condition by MoEF&CC vide letter dated 21.02.2025 with justifications. As per the amendment commissioning of Barpalli Bulb loop of 90 MTY with conveyors arrangement needs to be completed by Dec'25 and the land acquisition work is in progress.	Partially complied
1.5	PP shall develop in-house/at mine office environmental laboratory facilities with adequate instruments/equipment by June, 2023 for regular monitoring instead of depending upon its consultant and submit the status to Ministry's RO	As on date, CMPDI (a subsidiary of CIL) is taking sample from all the mines of MCL and providing the analysis report after testing the samples at the laboratory in CMPDI, Bhubaneswar, which is NABL accredited for testing and calibration. The copy of NABL accreditation has been attached in Annexure-VIII . A work order has been given to CMPDI for setting up of Environment Laboratory. The copy of work order has been attached in Annexure-VIIIA . The construction of the environmental laboratory is completed on date: 16.12.2024.	Complied

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1.6	PP to submit the existing transportation route in the matrix format before 31st December, 2023 to IRO, MoEF&CC.	Submitted	Complied
1.7	PP shall deploy only 40-50 tonnes covered trucks/dumper to reduce fleet size till Rapid loading system and conveyor belt system is commenced. (i.e., till December, 2024).	Amendment in EC has been obtained for this condition by MoEF&CC vide letter dated 05.01.2024 with justifications. It has been directed that till Dec'2025 this condition shall be implemented. 96 nos. of 30/40 tonner tippers and 24 trailers has been deployed to replace 20 tonner tippers and trailers. With completion of contract, rest 20 tonner will be effectively replaced.	Partially complied
1.8	All other terms and conditions as prescribed in Ministry's letter dated 22nd March, 2018, 10.01.2020 02.03.2021, 14.02.2022 and 24.05.2022 needs to be complied by PP.	Noted and agreed.	Assured to comply

Agreed upon/please refer below/Partially complied Conditions in the EC letter dated 09.01.2023

	Specific Condition	Compliance/Action Taken Report	Status
i.	No further expansion in capacity shall be granted to the project till the compliance of in pit conveyor and silo loading system till railway siding is implemented.	The project <i>has not undergone any expansion in capacity</i> since its last obtained EC capacity of 21MTPA from MoEF&CC i.e on 24.05.2022.	Agreed upon
ii.	PP shall implement in-pit conveyor system with silo loading facility till railway siding and No road transportation shall be allowed after October. 2023 and accordingly. SPCB shall not grant CTO for road transportation after October 2023.	Amendment in EC has been obtained for this condition by MoEF&CC vide letter dated 21.02.2025 with justifications. Currently the coal is being despatched through the established railway sidings through dedicated coal transportation routes not passing through any villages en-route. Sardegga RLS of 20 MTY capacity has commenced since 22.12.2024. Barpali loop land acquisition work is in progress.	Partially complied
iii.	PP shall deploy only 40-50 tonnes covered trucks/dumper to reduce fleet size till Rapid	Amendment in EC has been obtained for this condition by MoEF&CC vide letter dated 05.01.2024 with justifications. It has been	Partially complied

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	loading system and conveyor belt system is commenced. (i.e. till October 2023).	directed that till Dec'2025 this condition shall be implemented. 96 nos. of 30/40 tonner tippers and 24 trailers has been deployed to replace 20 tonner tippers and trailers. With completion of contract, rest 20 tonner will be effectively replaced.	
iv.	PP shall submit the action plan for In-pit belt Conveyor system Kulda OC mine separately to IRO and implement the same before submitting any type of application on PARIVESH portal before October 2023.	The construction of Rapid loading system (RLS) with conveyor belt of length 2800 has been completed. Action plan for In-pit Conveyor system for Kulda OCP to IRO has been submitted vide letter ref MCL/GM/BA/E&F/2022-23/E8-28/448 dtd 23.01.2023.	Partially complied
v.	All other terms and conditions as prescribed in Ministry's letter dated 22 nd March. 2018, 10.01.2020, 02.03.2021, 14.02.2022 and 24.05.2022 needs to be complied by PP.	The condition has been agreed upon by the project proponent as all the EC conditions vide EC letters received from the Ministry vide dtd 28.03.2018, 10.01.2020, 02.03.2021 and 14.02.2022 is being complied and certified compliance report of all the EC conditions is being pursued from IRO, office (MoEF&CC), Bhubaneswar.	Assured to comply.

The compliance report of the condition stipulated in the Environmental Clearance of Kulda OCP issued vide F No. – J-11015/10/1995-IA-II(M), Date – 24.05.2022 are as follows:

	Condition	Compliance/Action Taken Report	Status
4.	Specific Condition		
i.	PP shall submit Certified Compliance Report of the EC vide No. F. No. J- F No. J-11015/10/1995-IA-II(M) dated 14 th February, 2022 granted for total 40% expansion, along with EIA/EMP report, prepared based on standard ToRs for the additional capacity of 10% on PARIVESH portal within six months of enhancement of production beyond 40%.	As per the EAC meeting held on date – 18.11.2022 on 4:00PM, it was advised by EAC that Kulda shall submit the CCR & EIA/EMP by 31.01.2023. Inspection was done on date – 24.01.2023 and the CCR has been submitted on date – 31.01.2023. The EIA-EMP report for 21.00 MTPA has been submitted on date – 07.02.2023.	Complied
ii.	In view of above para (i), Ministry shall ascertain the adequacy of the proposed	Noted and agreed	Assured to comply

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	environmental safeguards and stipulate necessary condition, if required, which shall be monitored as a part of the EC compliance monitoring.		
iii.	PP shall obtain necessary prior consent for enhance capacity from State Pollution Control Board under Air and Water Act.	For a production capacity of 21.00 MTPA: 1. Consent To Establish has been obtained vide no. – 19795/IND-II-CTE-6742, Date – 27.10.2022 and 2. Consent To Operate has been obtained vide no. - 6772/IND-I-CON-5125, Dt. – 30.03.2025 Details attached in Annexure-IA and IB	Complied
iv.	Environment quality parameter arising out of proposed expansion shall be within the prescribed norms and the same shall be maintained as per prescribed norms.	The Environmental quality parameter for PM₁₀, PM_{2.5}, SO₂, NO_x and CO is being maintained within the prescribed norms and being monitored using the CAAQMS installed at location – Nursinghpur, CMPDI camp Gopalpur and Near Jagannat Temple which is being displayed in the company's website - https://apps.coalindia.in/ords/f?p=159:1:11060649192480 . One more new CAAQMS is installed Near Tumulia (Annexure-IID). It is further assured that the same shall be maintained as per the prescribed norms. Reports have been attached in Annexure-IIA, IIB, and IIC	Complied
v	Hon'ble Supreme Court in an writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgment dated 8 th January, 2020 has directed the Union of India to impose a condition in the mining lease holder shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of	The Kulda OCP is an operating mine and it is being agreed to abide by the stipulated condition as per the mine closure plan.	Assured to comply

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	the mining lease holders/Project Proponent".		
vi	All other terms and condition as prescribed in Ministry's letter dated 10.01.2020 02.03.2021 & 14.02.2022 shall remain the same and this enhancement shall be read with EC dated 14.02.2022, which needs to be complied by PP.	Noted and Agreed	Assured to comply
The compliance report of the condition stipulated in the Environmental Clearance of Kulda OCP issued vide F No. – J-11015/10/1995-IA-II(M), Date – 14.02.2022 are as follows:			
i.	PP shall obtain Consent To Establish/Operate for 19.6 MTPA capacity prior to production.	For a production capacity of 19.60 MTPA: 1. Consent To Establish has been obtained vide no. – 3044/IND-II-CTE-6652, Date – 23.02.2022 and 2. Consent To Operate has been obtained vide no. - 3139/IND-I-CON-5125, Dt. – 25.02.2022 Details attached in Annexure-IIIA & IIIB	Complied
ii.	PP shall comply as per time bound action plan submitted with 17.59 Crore budget with activities such as sprinkler, fog canon, wheel washing, wind barrier, plantation etc.	The time bound action plan for activities such as sprinkler, fog canon, wheel washing, wind barrier, plantation, etc. has been attached in Annexure-IV , for your kind information.	Complied
iii.	PP shall implement activities listed for plantation of Rs. 24 Crore within 3 years at external dump, backfilled area, safety zone and outside mine lease area.	Plantation has been done at backfilled area (45750 nos.), safety zone (43000 nos.), external OB Dump (11,250 nos.) & outside mine lease area (1,50,000 nos.) and Plantation of 87050 Nos. in external OB dump and 11,625 (3-Tier plantation) at safety zone is done.	Being Complied
iv.	PP to address the issues raised during public hearing with proposed respective budget like development of providing drinking facilities, control blasting, settling the land issues etc.	The pollution level (for both air and water) is maintained well within limits. Drinking water is being supplied to the nearby 17 nos. of villages. 341 out of 393 eligible candidates have been provided with employment and 429 out of 501 families have been rehabilitated till date. The PP is also implementing the sequentially controlled blasting technique by using electric/non-electric detonators for the removal of OB only when it is required. The details regarding the compliance of the issues	Complied

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		raised during public hearing are being submitted by the Project Proponent in point 4.1.h.iv. below	
v	PP shall implement in-pit conveyor system with silo loading facility till railway siding and no road transportation shall be allowed after December'2022 and accordingly, SPCB shall not grant CTO for road transportation after December'2022.	Amendment in EC has been obtained for this condition by MoEF&CC vide letter dated 21.02.2025 with justifications. Currently the coal is being despatched through the established railway sidings through dedicated coal transportation routes not passing through any villages en-route. Sardega RLS of 20 MTY capacity has commenced since 22.12.2024. Barpali loop land acquisition work is in progress.	Being Complied
vi	PP shall conduct carrying capacity assessment study within 1 year and submit to Ministry's IRO and further recommendation shall be complied with strict timeline.	The work of "carrying capacity assessment study" of Kulda OCP was assigned to CMPDI, RI-VII, which was submitted along with half yearly compliance report, vide no. - MCL/BA/PO/KOCP/E&F/2023-24/19, dtd. – 26.06.2023. Annexure-V	Complied
vii	PP shall engage third party independent expert agency for monitoring/auditing of compliance of EC condition every year.	Work Order has been issued to NEERI (third Party) for carrying out the environmental audit for compliance of EC, vide no. – MCL/GM/BA/E&F/2022-23/ES-45/451, Date – 27.01.2023. The copy of Work Order has been attached in Annexure-VI . The PP is hereby attaching the Third-party assessment report, attached in Annexure-VIA separately.	Complied
viii	PP shall engage dedicated agency for plantation in mine site by April 2022 instead of depending on State Forest Department. PP may seek inputs and expertise from forest department.	PP has engaged dedicated agency of plantation like CGRVVNL for carrying out plantation. Plantation has been done at backfilled area (45750 nos.), safety zone (43000 nos.), external OB Dump (11,250 nos.) & outside mine lease area (1,50,000 nos.) and Plantation of 87050 Nos. in external OB dump and 11,625 (3-Tier plantation) at safety zone is under progress.	Complied
ix	PP should not transportation of coal through road passing through any village and further ensures that its consumers of coal are also not using village road and passing through any sensitive location	PP is not sending coal through road passing through any villages. But it requires ensuring the coal consumers follow the same as stipulated in the respective condition. For this purpose, MCL has already issued a notice vide no. –	Partially complied

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	such as schools, hospitals etc. PP shall take legal undertaking from its consumers accordingly.	MCL/GM/BA/M&S/2022-23/140, date – 23.05.2022, to submit a legal undertaking to MCL office. The response from the coal consumers is still awaited. Further, it is informed that PP has submitted 1.278 Crore as environment compensation to SPCB, Odisha in this regard, on date – 10.05.2023.	
x	PP had diverted a State highway so the plantation along the alternative diversion road provided on the top of embankment against Basundhara River and Chattarjhor nallah to be taken by PP along with its proper maintenance. The detail of this alternative road (length, width, carrying capacity in respect to the State Highway) with photographs to be furnished with six monthly compliance report of IRO and respective state pollution board.	The state highway of Sundargarh-Raigarh has been diverted for mining purpose and a four-lane road of length 2700m with concrete road having width 12m and carrying capacity of 45Te – 55Te for HMV and bituminous road having width 8.5m and carrying capacity of 25Te-30Te for LMV has been provided along Basundhara River. Village road to Tumulia has been diverted for mining purpose and a two-lane road of length 1995m & width-10m, & carrying capacity of 15Te to 20Te for LMV has been provided along Chattarjhor nallah. The photo of the roads has been attached in Annexure-VII .	Complied
xi	PP in collaboration with CMPDI must develop a dedicated laboratory with NABL certification for measuring water quality, soil quality and heavy metals in water, air and soil etc. at its operational place, which would also serve for other nearby mines of M/s MCL.	As on date, CMPDI is taking sample from all the mines of MCL and providing the analysis report after testing the samples at the laboratory in CMPDI, Bhubaneswar, which is NABL accredited for testing and calibration. The copy of NABL accreditation has been attached in Annexure-VIII . The copy of work order has been attached in Annexure-VIIIA . The construction of the environmental laboratory is completed on date: 16.12.2024.	Being complied.
xii	PP to develop on more plant nursery with 80% dominance of Sal trees and 20% other trees in 85 Ha scatter patch area located at south west and its detail with photographs to be provided to IRO, MoEF&CC and concerned pollution board in its six-monthly compliance report of June 2022.	The patch of 85.00Ha area located at the south west of the mines was reserved for external OB dump, and presently is unutilized as all the OB is being dumped in the backfilling area of Kulda OCP. Hence, the land is virgin in nature and presently being used for cultivation of crops by the nearby villagers. But as per the condition, a separate proposal has been made for construction of a temporary nursery in vacant area and has been	Being complied.

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		approved and put up for tender. The work has been completed on 06.08.2024.	
xiii	PP also to provide drinking water facilities like installation of RO with proper water supply pipe fittings to nearby rural areas and also to install hand pumps by seeking consent from panchayat of the villages located within study area of 10 km radius buffer zone within two year.	PP is providing drinking water treated from its WTP to 17 numbers of peripheral villages. Besides, it has been informed by the PA's that they have installed 2 numbers of borewell at Tiklipara and Garjanbahal village and one hand pump at Khamarpara village. The PP have already approached the village panchayats and Tehesildar of Hemgir block for identifying the requirement of installation of RO with proper water supply pipe fittings and are in the process of compliance.	Being complied
xiv	PP to install solar lights within 1 year from the grant of this EC along the road used for transportation of minerals to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10km radius buffer zone within one year.	PP have installed 15, 29, 25 nos. of solar street lights in the Kuisira, Ratansara and Ratanpur village respectively. The PP have already approached the village panchayats and Tehesildar of Hemgir block for identifying the requirement of more numbers of solar street lights in the peripheral villages and are in the process of compliance. It is to inform that solar lights are not viable in the roads used for transportation of minerals as heavy vehicles ply in these roads. It requires lights of larger illumination at these roads. PP has already installed lights with better illumination in the coal transportation roads.	Being complied
xv	PP to provide bio toilets to the villages located within the study areas within 1 year from the grant of this EC.	PP has installed 100 numbers of toilets in the peripheral villages of the mines, namely Barpali, Kuisira, & Balinga. It was further informed that PP have already approached the village panchayats and Tehesildar of Hemgir block for identifying the requirement of bio-toilets in the peripheral villages and are in the process of compliance.	Being complied
xvi	PP shall deploy only 40-50 tonnes covered trucks/dumper to reduce fleet size till rapid loading system and conveyor belt system is commenced.	Amendment in EC has been obtained for this condition by MoEF&CC vide letter dated 05.01.2024 with justifications. It has been directed that till Dec'2025 this condition shall be implemented. 96 nos. of 30/40 tonner tippers and 24 trailers has been deployed to replace 20 tonner tippers and trailers. With completion of	Being complied

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		contract, rest 20 tonner will be effectively replaced.	
xvii	PP shall obtain No Objection Certificate (NOC) for extraction of Ground water from Central water authority for expansion capacity.	NoC has been granted by CGWA with validity upto 08-12-2022 vide NoC No.CGWA/NOC/MIN/ORIG/2020/9245 dated 09.12.2020. The approval was obtained in view of the expanded capacity of the mines. The application for the 1st NoC renewal filed on date-03.12.2022 has been rejected and application has been submitted for the revival of the renewal application and a payment of Rs. 10,000 has been paid as revival charges on date: 20.03.2024. The revival was approved on date: 17.04.2025 by CGWA and a mail of approval was received. After the payment of the revival charges an amount of Rs. 64,82,400.00 has been paid on 21.01.2025 as abstraction charges and new application has been submitted for issue of NoC. Details attached in Annexure-IX	Complied
xviii	Adequate effectiveness of EMP should be analyzed from the offset/hike of air pollution data from continuous monitoring stations and quarterly report shall be generated and submitted with six monthly compliance report to RO, MoEF&CC.	The effectiveness of Air quality control measures as mentioned in EMP is being analyzed with the pollution data and to keep the pollution level within control various initiatives have been taken by the PP particularly augmenting the pollution control measures. Additional air quality control measures have been deployed & additional control measures are in pipeline. Offset/Hike of air pollution data from continuous monitoring station is being submitted with 6 monthly compliance report to RO, MoEF&CC for First and Second quarter. Details have been attached in Annexure-IIA, IIB, IIC and X	Being complied
xix	PP to install 1 more continuous air quality monitoring stations at suitable locations preferably village side and with consultation of SPCB. The real time data so generated shall be uploaded on company website. In addition, data	One additional CAAQMS has been installed near Tumulia as per the stipulated condition at the location in consultation with SPCB. LED display board has been installed at the entry/exit gate of Kulda OCP. The real time data so generated shall be	Complied

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	should also be displayed digitally at the entry and exit gate of mine lease area for public display.	displayed digitally at the entry and exit gate of mine lease area for public display. The real time data generated by already installed CAAQMS is being uploaded in company' website: https://apps.coalindia.in/ords/f?p=159:1:11060649192480	
xx	PP shall conduct substantial (at least 50,000 nos.) tree plantation at village namely Teleimal, Tumulia, Chakrapur and Kaletpani within 2 years and mark it for certification for any statutory authorities.	Plantation of around 72,000 numbers has already been done in the village of Kaletpani. Teleimal & Chakrapur does not have vacant space for plantation and Tumulia is under the mining zone of adjacent mine of Siarmal OCP, hence plantation in these three villages is not feasible.	Complied
xxi	PP shall install fixed fog canon (mist sprayer) all along the haul road till CHP, Railway siding and OB dump area and accordingly sufficient number of fog canons (not less than 10 nos.) with 40m jet length shall be installed within 6 months. It should be ensured that air pollution level confirm to the standards prescribed by the MoEF&CC/CPCB	PP's have already installed 10 nos. of fog canons as per the stipulated condition. It is being ensured that the air pollution level confirm to the standards prescribed by the MoEF&CC/CPCB by the existing dust suppression measures like mobile fog canons, water tankers, and static fog canon, & fixed sprinklers.	complied
xxii	Project Proponent to plant 1,50,000 nos. of native trees with broad leaves along the transportation route in three years to prevent the effect of air pollution. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer.	A total of 232513 nos. of plants has been planted as a part of compliance in the period of 2022-23. Plantation has been done outside mine lease area (1,50,000 nos.) as on date as per the stipulated condition in the vacant spaces along the transportation routes of Kulda OCP. Plantation has been done at backfilled area (45750 nos.), safety zone (43000 nos.), external OB Dump (11,250 nos.) & outside mine lease area (1,50,000 nos.) and Plantation of 87050 Nos. in external OB dump and 11,625 (3-Tier plantation) at safety zone is under progress as on date.	Being complied
xxiii	Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.	IME/PME is being done for the work force engaged in the mining and pro-active steps are being taken by the PP for preventing any health hazards. PP's are providing regular awareness on the use of PPE's and for monitoring and ensuring surprise visit are	Being complied

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		being done during the shifts. Details has been attached in Annexure - XI	
xxiv	Project Proponent shall supply drinking water and for domestic purpose for the people coming under the zone of influence of this mining activity.	There is a water treatment facility at Basundhara Area of 1.6 MGD capacity. Drinking water is being supplied from this treatment plant to the nearby 17 numbers of villages.	Complied
xxv	Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented; The prevention measures for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mine activities.	Persons are provided with DGMS approved dust masks and provided with adequate training regularly and at every 5 years interval, occupational health surveillance is being done. Initial medical exam and periodical medical exams are conducted at regular intervals by doctors trained as per ILO guidelines. IME of 500 personnel and PME of 78 personnel was carried out in 2024-25. Details attached in Annexure- XI 118 personnel were identified as the workforce engaged in active mining operations and were subjected to health check-up for occupational diseases. None of the case reported for Hearing Impairment and Occupational Disease. Further, as per the stipulated condition good occupational environment for mine workers shall be implemented. And preventive measures for burns, malaria and provision of anti-snake venom is being ensured at Basundhara Hospital.	Being complied
xxvi	Persons of nearby villages shall be given training on livelihood and skill development to make them employable.	Training on sustainable livelihood and skill development to make them employable are being provided. MCL-BAIF Comprehensive Community Development Programme" named as 'CCDP-Uthan has been implemented to give training in Cattle development Programme through breeding services, Goat development programme, Backyard poultry farming, Fodder development programme, Agro-Horti* (WADI**) Development Programme & Awareness Creation & Capacity Building Programme.	Complied

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		Handyman Project - CIPET Bhubaneswar has provided 6- months residential training to the 24 youth. Candidates have been imparted basic skills of repair and maintenance of domestic/agricultural pumps, submersible pumps, agricultural tools, tractor driven equipment like tillage, plough, cultivation and sowing equipment. 'Handyman' will be his basic repair-maintenance service provider available at his doorstep. Each candidate has been given a tool kit worth on completion of training. Total project cost is Rs.41 lakhs. Photographs attached in Annexure – XII	
xxvii	The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/masks away from the villagers and keeping the noise levels well within the prescribed limits for day/night hours.	The project proponent is following the mitigation measures provided in this Ministry's OM No.: Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'. The illumination and sound at night is prevented by the PP's by eliminating blasting at night, by orienting the mine's flood lights away from the villagers and keeping the noise levels well within the prescribed limits for day/night hours.	Complied
xxviii	PP shall implement rain water harvesting mechanism in order to recharge the ground water or as water conservation measure in addition to the proposed structure. PP shall carry out regular monitoring of Ground water level and quality.	PP already have mine sump of 20 lakh cum capacity for harvesting rain water which is being used for various industrial purposes. The ground water level is being measured at two dug wells & two nos. of piezometers. The monitoring of ground water level is being done four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter, as per the EC condition. The qualities of ground water are monitored Yearly once using the piezometers installed under Kulda OCP.	Complied

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		The data collected is being reported to MoEF&CC with the half yearly compliance report. It can be interpreted that the ground water table around the mine is stable. Report annexed as Annexure-XIV	
xxix	PP shall pay to farmers of agricultural land if there is any loss due to pollution found by concerned District Commissioner as per the extent rules or norms.	Till date no agricultural land were found by concerned District Commissioner for any loss due to pollution by Kulda OCP. And it is being assured that, if found and demanded for crop loss, MCL shall fully cooperate and pay for any loss arising due to the pollution caused by Kulda OCP, if any.	Being complied.
xxx	Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India &Ors vide its judgment dated 8 th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operation, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.	The Kulda OCP is an operating mine and it is being agreed to abide by the stipulated condition as per the mine closure plan.	Agreed
4.1			
(a)	Statutory Compliance		
i	The project proponent shall obtain forest clearance under the provision of Forest (Conservation) Act, 1986, in case of the	Forest Clearance has been obtained for entire forest land area of 227.89Ha vide no.- F.No.- 8-176/1997-FC, Date- 08-08-2007. Refer Annexure-XV	Complied

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	diversion of forest land for non-forest purpose involved in the project.											
ii	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.	The said condition is not applicable for Kulda OCP (21.00MTPA), as there is no land expansion required and the mining activity is being carried out in the existing land of 634.205Ha.	Not Applicable									
iii	The project proponent shall prepare a site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendation of the approved Site-Specific Conservation Plan/Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of schedule-I species in the study area).	There is no Schedule-I species present in the study area, as per the EIA-EMP report of Kulda OCP. Kulda OCP, has deposited the following amount for the implementation of Regional Wild Life Management Plan (RWLMP) to the Forest Department: <table><tr><th>S.No</th><th>Amount Paid</th><th>Date of Payment</th></tr><tr><td>1</td><td>Rs. 2,00,85,000.00/-</td><td>13.08.2014</td></tr><tr><td>2</td><td>Rs.2,30,97,750.00/- (Additional amount as per revised rate)</td><td>04.08.2015</td></tr></table>	S.No	Amount Paid	Date of Payment	1	Rs. 2,00,85,000.00/-	13.08.2014	2	Rs.2,30,97,750.00/- (Additional amount as per revised rate)	04.08.2015	Complied
S.No	Amount Paid	Date of Payment										
1	Rs. 2,00,85,000.00/-	13.08.2014										
2	Rs.2,30,97,750.00/- (Additional amount as per revised rate)	04.08.2015										
iv	The project proponent shall obtain Consent to Establish/Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/Committee.	For a production capacity of 21.00 MTPA: 1. Consent To Establish has been obtained vide no. – 19795/IND-II-CTE-6742, Date – 27.10.2022 and 2. Consent To Operate has been obtained vide no. - 6772/IND-I-CON-5125, Dt. – 30.03.2025. Details attached in Annexure-IA & IB	Complied									
v	The project proponent shall obtain the necessary permission from the Central Ground Water Authority.	NoC has been granted by CGWA with validity upto 08-12-2022 vide NoC No.CGWA/NOC/MIN/ORIG/2020/9245 dated 09.12.2020. The approval was obtained in view of the expanded capacity of the mines. The NoC renewal application for the period of 2023-24 was approved on 16.01.2023, however the application was rejected on date 24.04.2023. Revival of the renewal application was again submitted on date 19.03.2024 vide no. MCL/BA/PO/KOCP/E&F/2023-24/84.	Assured to comply									

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		A payment of Rs. 10,000 has been paid as revival charges on date: 20.03.2024. After the payment of the revival charges an amount of Rs. 64,82,400.00 has been paid on 21.01.2025 as abstraction charges and new application has been submitted for issue of NoC. Details attached in Annexure-IX	
vi	Solid/hazardous waste generated in the mines needs to addressed in accordance to the Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules, 2016.	Hazardous waste authorization was obtained vide no.- IND-IV-HW-1038/5796, dated: 24.03.2025, and valid till 31.03.2026, in accordance to the Hazardous and Other Waste Management Rules, 2016. And the mine is operating with compliance to the condition stipulated in the consent. Details attached in Annexure-XVI	Complied
(b)	Air quality monitoring and preservation		
i.	Continuous ambient air quality monitoring station as prescribed in the statue be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM ₁₀ , PM _{2.5} , SO ₂ , and NO _x , Location of the station shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive target in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring station as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.	Continuous Air Quality Monitoring Stations are established in core as well as buffer zone as mentioned in the condition, in consultation with the RO, SPCB, Odisha, as per the EC Condition. Additionally, 04 routine monitoring stations has been established in consultation with SPCB - External CT Road, West of Working Face, South of Working Face, North of CHP. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr are being done and the reports are being sent to RO, MoEFF & CC, BBSR with half yearly compliance report. Details attached in Annexure-IIA, IIB, IIC and IID (For CAAQMS) and Annexure-XVII (For manual monitoring)	Complied
ii	The Ambient Air Quality monitoring in the core zone shall be carried out to	The Ambient Air Quality monitoring in the core zone is being carried out to ensure the Coal	Complied

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	ensure the Coal Industry Standards notified vide GSR 742(E) dated 25 th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr, and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.	Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr, and other monitoring data is being regularly reported to the Ministry/Regional Office and to the SPCB. The monitoring reports has been attached at Annexure-XVII	
iii	Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM ₁₀ /PM _{2.5}) such as haul road, loading/unloading and transfer points. Fugitive dust emission from all sources shall be controlled regularly. It shall be ensured that the ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.	The trucks are monitored at the exit gate for Tarpaulin covers. Gate pass is issued only to the trucks having Tarpaulin cover. Fog Cannon, water tanker, rain gun has been provided in critical areas such as haul road, coal stock yard, transportation road. Fugitive emission monitoring data is being furnished along with the submitted six monthly compliance. With the help of Regular Environment Monitoring, It is being ensured that the ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board. The detailed air quality control measure is given in Annexure-XVIII	Complied
iv	The transportation of coal shall be carried out as per the provision and envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.	Transportation of the coal from mine to stock yard/Sardega Siding is done by tipper through the existing road by-passing the village area. Special corridors have been constructed for coal transportation as follows: 25 Km four lanes dedicated coal corridor from Duduka to Kanika was completed with an expenditure of 209.40 Crores. The work of 04 lane road has been completed from Bankibahal to Kalobahal Chak. The double lane road from Kalobahal Chak to Bedabahal has been fully completed. Details attached in Annexure-XIX	Being Complied

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v	Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centers.	It is ensured that the vehicles with valid PUC certificates are only allowed to run in the mine. Records are maintained. Regular Checking of the PUC certificates is done.	Complied
vi	Coal stock pile/crusher/feeder and breaker material transfer point shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.	Coal stocks have been provided with 7 nos. of fog canon. There is presently no conveyor system available in mines. The Drills are wet operated and are also fitted with dust extractors. Details attached in Annexure-XX	Complied
vii	Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.	100% of coal is produced by SM technology in the period of 2024-25. The CHP is not in action since December 2017. However, the crusher is provided with 12 mist type nozzles/sprinklers, the belt conveyor with 5 numbers and the bunker with 10 nos. of mist nozzles. Therefore, a total number of 54 mist type nozzles are present in the complete CHP unit.	Complied
(c)	Water quality monitoring and preservation		
i	The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the water Act, 1974 Coal Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.	Kulda Mine is following a zero-discharge concept. Workshop effluent is treated in Effluent Treatment Plant (450 KLD) with Oil & Grease skimmer unit. Effluent monitoring is done fortnightly. The treated water confirms to the prescribed standard GSR 742 (E) dated 25th September, 2000. The effluent quality report is enclosed in Annexure-XXI	Complied
ii	The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular no.J-20012/2006-1A.11 (M)	The monitoring data is being uploaded in the company's website: https://www.mahanadicoal.in .	Complied

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	dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.	The monitoring data is being displayed in LED display board installed at the entrance of mine for public. Details attached in Annexure-XXII	
iii	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water level shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MoEFCC/RO.	The ground water level is being measured at two dug wells & two nos. of piezometers. The monitoring of ground water is being done four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter, as per the EC condition. The qualities of ground water are monitored Yearly once. The data collected is being reported to MoEF&CC with the half yearly compliance report. It can be interpreted that the ground water table around the mine is stable. Report annexed as Annexure-XIV	Complied
iv	Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.	The surface water quality monitoring is being done in upstream of Basundhara River near Bankibahal Bridge, and downstream of Basundhara river near Barpali village, six monthly. It is interpreted that there is no change in the quality of Basundhara river water. The records are being submitted to MoEF & CC half yearly. The surface water quality data is attached herewith as Annexure-XXIV	Complied
v	Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.	Only mine sump water is used for all industrial purposes. The total run-off generated is being channelized into the mine sump (capacity 20 lakh cum) of Kulda OCP, which ultimately leads to ground water recharge also.	Complied

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vi	Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly settling of silt material. The water so collected in the sump shall be utilized for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.	- Garland drains (7632m x 1.5m x 1.5m) and Berm (4809m x 1.5m x 1.5m) has been provided all around the mine boundary and External dump. - Catch drains (3349m x 1m x 1m) has been provided at coal stocks and internal dump - The water so collected in the catch drains is channelized into the mine sump (capacity 20 lakh cum) of Kulda OCP, which is further utilized for industrial purposes like dust suppression and fire-fighting, green belt development etc. - The drains are cleaned and de-silted pre-monsoon and post-monsoon, annually twice. 4.55Ha of External Dump has been reclaimed biologically with the help of DFO, Sundargarh to prevent the soil erosion and flow of silt. - The retaining wall constructed at the toe of the external dump for a length of 500m has been designed on the basis of Rainfall data for the past 7 years. - Plantation of 25000 nos. has been done over an area of 10 ha at the toe of the external OB Dump and is being monitored till 5 years. Details has been attached in Annexure-XXV	Complied
vii	Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).	The total run-off generated is being channelized into the mine sump (capacity 20 lakh cum) of Kulda OCP, which ultimately leads to ground water recharge. There is a water treatment facility at Basundhara Area of 1.6MGD capacity. Drinking water is being supplied from this treatment plant to the nearby villages at stipulated times. The details of Drinking water supplied to 17 nos. of peripheral villages in the period of 2024-25 have been attached in the Annexure- XXVII	Complied
viii	Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules	CHP is non-operational since 2017. ETP of 450KLD capacity has been provided for workshop and the waste water is directed into the mine sump after treatment from the ETP. The ETP consists of following units in sequence: primary settling tank,	Complied

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	made there under, and as amended from time to time. Adequate ETP/STP needs to be provided.	alum dosing unit, secondary settling tank with attached oil skimmer unit followed by aeration unit and clarifier tank which is connected to the rapid sand filtration unit. The ETP is maintained regularly to maintain its efficiency. Further details are provided in Annexure- XXI	
ix	The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development etc. the drains shall be regularly desilted particularly after monsoon and maintained properly.	The mine seepage water & the mine catchment area water is stored in mine sump/ worked our quarry and is being used for dust suppression, vehicle washing, cleaning of roads, plantation works etc. The break-up of mine water utilization is given in the graph in Annexure-XXVIII The drains are cleaned and de-silted pre-monsoon and post-monsoon, annually twice.	Complied
x	The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/Gol Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.	The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake, etc., has been prepared and implemented by the project proponent vide plan no.: MCL/BGA/KOCP/SURV-07 dated 16/08/2008. The plan is updated every month as per the progression of the mines. Chhatnajor nallah has been straightened with the competent approval from State Government and embankment has been provided all along the stream. Embankment of 2.7Km has been constructed near Kulda OCP on the banks of Basundhara nallah to prevent sudden rush of water. Stone pitching has been done along the embankment. Plantation of 1350 nos. of plants has been planted at the edge of embankment to prevent soil erosion. Garland drains (7632m x 1.5m x 1.5m) and Berm (4809m x 1.5m x 1.5m) has been provided all around the mine boundary and External dump, to prevent the surface run-off from outside the mine lease area to enter the mines.	Complied

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xi	The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation/water resource department in the state government.	The riverine/riparian ecosystem management plan is under preparation for Basundhara River and the estimation has been completed. The plan will be implemented as per the direction of irrigation department of Odisha Government.	Will be Complied															
(d)	Noise and Vibration monitoring and prevention																	
i	Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipment's (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.	Measures taken under Kulda OCP are as follows: All the operators of HEMM (both Departmental and Contractual) have been provided with Ear muffs. 20 ear muffs have been provided in the period of 2022-23. Plantation around mines has been increased significantly. The details of plantation in and around the mine area are as follows: <table><tr><th>S.No</th><th>Location</th><th>Plantation Since Inception</th></tr><tr><td>1</td><td>Northern Side of the mines</td><td>Plantation of around 28204 nos of plants has been done</td></tr><tr><td>2</td><td>Southern Side of the mines</td><td>Plantation of Dense Lalma Reserve Forest is present</td></tr><tr><td>3</td><td>Western Side of the mines</td><td>1.1Ha of plantation has been done in the boundary of Garjanbahal OCP and Kulda OCP</td></tr><tr><td>4</td><td>Eastern Side of the mines</td><td>2.7Km of avenue plantation has been done in the period of 2020-21</td></tr></table>	S.No	Location	Plantation Since Inception	1	Northern Side of the mines	Plantation of around 28204 nos of plants has been done	2	Southern Side of the mines	Plantation of Dense Lalma Reserve Forest is present	3	Western Side of the mines	1.1Ha of plantation has been done in the boundary of Garjanbahal OCP and Kulda OCP	4	Eastern Side of the mines	2.7Km of avenue plantation has been done in the period of 2020-21	Complied
S.No	Location	Plantation Since Inception																
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		The Noise Analysis reports are being sent with the six monthly compliance reports. Details attached in Annexure- Annexure-XXIX	
ii	Controlled blasting techniques shall be practiced in order to mitigate ground vibration, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.	The PP is also implementing the sequentially controlled blasting technique by using electric/non-electric detonators for the removal of OB only when it is required to mitigate ground vibrations and fly rocks. Moreover coal production is completely done by blast free surface miner technology.	Complied
iii	The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six monthly basis.	PPE like ear muff is being provided to the work force involved in direct mining to prevent the effect of noise. The noise level survey is being carried using vibro-meter.	Complied
(e)	Mining Plan		
i	Mining shall be carried out under strict adherence to provision of the Mines Act 1952 and subordinate legislation made there-under as applicable.	Mining is being carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable. Copy of compliance has been attached in Annexure-XXXI	Complied
ii	Mining shall be carried out as per the approved mining plan (including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).	Mining is being carried out in compliance to the provisions of the Mining Laws & related to mining & relevant DGMS circular. Mining is carried out as per the approved mining plan.	Complied
iii	No mining shall be carried out in forest land without obtaining Forest Clearance as per Forest (Conservation) Act, 1980.	Forest Clearance was obtained vide no.-F.No.-8-176/1997-FC, for an area 227.89Ha. Mining is being	Complied

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		done in the diverted forest land only. Details attached in Annexure-XV	
iv	Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.	Actions have been taken to reduce energy consumption by conservation, efficiency and use of renewable energy. 16.80% of energy has been saved in the period of 2022-23 as compared to the consumption in the period of 2021-22 with respect to the production enhancement from 19.6MTPA to 21.00MTPA. Practice of Installation of LED lights by replacing Halogen bulbs is being done as a measure to conserve energy. All the Halogen bulbs has been replaced by LED bulbs. 655nos. LED bulbs has been installed in the period of 2022-23 16 KVA solar plant has been setup at area administrative buildings. PP have installed 15, 29, 25 nos. of solar street lights in the Kuisira, Ratansara and Ratanpur village respectively.	Complied
(f)	Land reclamation		
i	Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MoEFCC) from time to time shall be submitted to MoEFCC/Regional Office (RO).	Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey has been carried out and the reports are uploaded on the company website https://www.mahanadicoal.in. Details attached in Annexure-XXXII	Complied
ii	The final mine void depth should preferably be as the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be	It is an operating mine and still 03 years life of the mine is left. Agreed to comply at the closure stage of mine. (Data as on 30.09.2024)	Agreed to Comply

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	rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.	a. Total excavated area: 320.50 Ha b. Backfilled Area: 146.93 Ha c. Mine Sump Area: 13.70 Ha	
iii	The entire excavated area, backfilling, external OB dumping (including top soil) and aforestation plan shall be in conformity with the “during mining”/“post mining” land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-à-vis the post mining land use pattern shall be submitted to the MoEFCC/RO.	Progressive compliance status is submitted and will be submitted to the Ministry of Environment, Forest and Climate Change/Regional Office on six monthly-basis. The satellite based land use data has been provided in Annexure- XXXII	Complied
iv	Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provision contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from flue gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC and SPCB.	As per the approved Mining Plan, the total OB generated is being dumped in the internal dump; hence, the void is not available for dumping of fly ash.	Not Applicable
v	Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept utilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilized with native grass species to prevent erosion and surface run off. The other overburden dumps	265798.95m³ of top soil has been spread on the top of the internal dump as well as external dump. The soil is planted with plantation in the period from 2019 till 2023, the details has been provided in Annexure-XXXIV Apart from this, 480.00cum. has been stacked separately in front of Kulda Nursery in the period of 2019-20. Plantation by Miyawaki technique has	Complied

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	shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and managements of rehabilitated areas shall continue the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.	been carried out in year 2022-23; around 4000 nos. of plants has been planted in an area of 0.4 Ha. The total top soil produced is used to blanket the internal Dump as well as external Dump as a part of technical reclamation followed by biological reclamation under the supervision of DFO, Sundargarh. Details attached in Annexure – XXXV . The vegetation shall be monitored for five years from the year of plantation by the Forest officials jointly with MCL officials. The compliance status is being sent to MoEF&CC periodically as per the EC Condition.													
vi	The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the state government to provide alternate area for livestock grazing, if any. In this context, the project proponents shall implement the directions of Hon’ble Supreme Court with regard to acquiring grazing land.	Not Applicable as, no grazing land is involved in core zone. Hence the point in sot applicable for Kulda OCP, Basundhara Area. <table><tr><th>Forest</th><th>Agriculture land</th><th>Waste Land</th><th>Surface water bodies</th><th>Grazing</th><th>Total</th></tr><tr><td>227.89</td><td>259.794</td><td>146.521</td><td>0</td><td>0</td><td>634.205</td></tr></table>	Forest	Agriculture land	Waste Land	Surface water bodies	Grazing	Total	227.89	259.794	146.521	0	0	634.205	Not Applicable
Forest	Agriculture land	Waste Land	Surface water bodies	Grazing	Total										
227.89	259.794	146.521	0	0	634.205										
(g)	Green Belt														
i	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.	Forester and Range Officer of DFO, Sundargarh division is in regular contact with this mine. If any precautionary measure is to be taken, it shall be done under the guidance of Forest Department, Sundargarh. For implementation of Regional Wild Life Management Plan (RWLMP) Kulda OCP has deposited fund to the Forest Department:	Complied												

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		<table><tr><td>S. No</td><td>Amount Paid</td><td>Date of Payment</td></tr><tr><td>1</td><td>Rs. 2,00,85,000.00/-</td><td>13.08.2014</td></tr><tr><td>2</td><td>Rs. 2,30,97,750.00/- (Additional amount as per revised rate)</td><td>04.08.2015</td></tr></table>	S. No	Amount Paid	Date of Payment	1	Rs. 2,00,85,000.00/-	13.08.2014	2	Rs. 2,30,97,750.00/- (Additional amount as per revised rate)	04.08.2015							
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1	Rs. 2,00,85,000.00/-	13.08.2014																
2	Rs. 2,30,97,750.00/- (Additional amount as per revised rate)	04.08.2015																
ii	Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/coal transportation roads.	The details of plantation in and around the mine area are as follows: <table><tr><td>S.No</td><td>Location</td><td>Plantation Since Inception</td></tr><tr><td>1</td><td>Northern Side of the mines</td><td>Plantation of around 28204 nos of plants has been done</td></tr><tr><td>2</td><td>Southern Side of the mines</td><td>Plantation of Dense Lalma Reserve Forest is present</td></tr><tr><td>3</td><td>Western Side of the mines</td><td>1.1Ha of plantation has been done in the boundary of Garjanbahal OCP and Kulda OCP</td></tr><tr><td>4</td><td>Eastern Side of the mines</td><td>2.7Km of avenue plantation has been done in the period of 2020-21</td></tr></table> In the South Western side of the mines, Garjanbahal OCP is situated. The boundary between both the mines has been provided with avenue plantation. There is a green-belt development of 3-tier plantation of width not less than 7.5m all around the mines.	S.No	Location	Plantation Since Inception	1	Northern Side of the mines	Plantation of around 28204 nos of plants has been done	2	Southern Side of the mines	Plantation of Dense Lalma Reserve Forest is present	3	Western Side of the mines	1.1Ha of plantation has been done in the boundary of Garjanbahal OCP and Kulda OCP	4	Eastern Side of the mines	2.7Km of avenue plantation has been done in the period of 2020-21	Complied
S.No	Location	Plantation Since Inception																
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(h)	Public hearing and Human health issues																	

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i	Adequate illumination shall be ensured in all mine location (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & it's RO on six-monthly basis.	Adequate illumination has been ensured in all mine locations (as per DGMS standards) and monitored weekly. Corrective steps taken after the inspection by ERO, to improve the illumination under Kulda OCP: 1. Lighting along Haul road. 2. Installation of lighting DG at the working area. The report on the same has been attached herewith as Annexure-XXIII	Complied
ii	The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.	Persons are provided with DGMS approved dust masks and provided with adequate training regularly and at every 5 years interval, occupational health surveillance is being done. Initial medical exam and periodical medical exams are conducted at regular intervals by doctors trained as per ILO guidelines. IME of 380 nos. and PME of 70 personnel were carried out in 2023-24. The records have been maintained as per the Mine Rules, 1955. Details attached in Annexure- XI 118 personnel were identified as the workforce engaged in active mining operations and were subjected to health check-up for occupational diseases. None of the case reported for Hearing Impairment and Occupational Disease.	Complied
iii	Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.	All personnel working in core zone are provided with N95 dust masks and training is provided to both departmental as well as contractual employees on safety and health aspects.	Complied
iv	Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the task/measures as per the action plan submitted with budgetary provisions during the public	The pollution level (for both air and water) is maintained well within limits. Drinking water is being supplied to the nearby 17 nos. of villages. 341 out of 393 eligible candidates have been provided with employment and 429 out of 501 families have been rehabilitated till date. The employment is	Being Complied

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	hearing Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.	being provided to all the land losers as per the recommendation of the Claims Commission set up by Hon'ble Supreme Court of India. The compliance status of Public Hearing is provided separately in Annexure-XXXVI	
v	The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'impact of mining activities on habitations-issues related to the mining projects wherein habitations and village are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.	Mitigation measure interalia including use of surface miner, control blasting, mobile tanker, effluent treatment plant, garland drain, catch drain, Noise level with in limit at night etc has been implanted as a part of OM No.: Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'. Details in Annexure-XXXVII	Complied
(i)	Corporate Environment Responsibility		
i	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.	The company has a well laid environment policy, i.e. CIL Corporate Environment Policy 2012. And M/s MCL is a subsidiary of Coal India Ltd.. This Corporate Environment Policy is reviewed in every 5 year. Board meeting is being conducted for this purpose. Besides this Inter Area Environmental Audit is being conducted in every quarter. The audit committee reviews all the compliance of the condition lain in the Environmental as well as Forest Clearance. The report is submitted to the company HQ, for final scrutiny.	Complied
iii	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control senior	Environment management cell has been established in Project. The details of which has been attached in the Annexure-XXXVIII	Complied

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	Executive, who will directly to the head of the organization.																														
iv	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.	Rs 76.9 Cr and Rs 31.03 Cr have been allotted as capital and recurring expenditure respectively for environmental expenditure. The year wise funds earmarked for environmental protection measures are duly kept in separate account and are not diverted for any other purpose. The year-wise expenditure (for past three years) under Environment head with respect to Kulda OCP is as follows: <table border="1"> <thead> <tr> <th colspan="4">Environmental Expenditure with respect to Kulda OCP</th> </tr> <tr> <th>S.No</th><th>Period</th><th>Capital Nature</th><th>Revenue Nature</th></tr> </thead> <tbody> <tr> <td>1</td><td>2019-20</td><td>1.24Cr</td><td>4.59Cr</td></tr> <tr> <td>2</td><td>2020-21</td><td>0.50Cr</td><td>5.16Cr</td></tr> <tr> <td>3</td><td>2021-22</td><td>0.71Cr</td><td>4.74 Cr</td></tr> <tr> <td>4</td><td>2022-23</td><td>2.79Cr</td><td>3.76 Cr</td></tr> <tr> <td>5</td><td>2023-24</td><td>5.01Cr</td><td>5.71 Cr</td></tr> </tbody> </table> The progress of implementation of action plan is being reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.	Environmental Expenditure with respect to Kulda OCP				S.No	Period	Capital Nature	Revenue Nature	1	2019-20	1.24Cr	4.59Cr	2	2020-21	0.50Cr	5.16Cr	3	2021-22	0.71Cr	4.74 Cr	4	2022-23	2.79Cr	3.76 Cr	5	2023-24	5.01Cr	5.71 Cr	Complied
Environmental Expenditure with respect to Kulda OCP																															
S.No	Period	Capital Nature	Revenue Nature																												
1	2019-20	1.24Cr	4.59Cr																												
2	2020-21	0.50Cr	5.16Cr																												
3	2021-22	0.71Cr	4.74 Cr																												
4	2022-23	2.79Cr	3.76 Cr																												
5	2023-24	5.01Cr	5.71 Cr																												
v	Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall carried out.	Inter Area Environmental Audit is being conducted in every quarter. The audit committee reviews all the compliance of the condition laid in the Environmental as well as Forest Clearance. The report is submitted to the company HQ, for final scrutiny. Third party assessment of EC Compliance was done by NEERI and the report submitted on 09-04-2021. The compliance report of the audit	Complied																												

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		recommendation has been attached in Annexure – XXXIX.	
(j)	Miscellaneous		
i	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	The project proponent has advertised in two local newspapers namely The New Indian Express on 23.06.2022 and the Samaja on 23.06.2022, attached in Annexure-XL	Complied
ii	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	A copy of the environmental clearance has been sent to the concerned State Pollution Control Board, Regional Office, District Industry Sector and Collector's Office/Tahsildar Office for information in public domain within 30 days. The consignment numbers are as follows for your kind perusal. - State Pollution Control Board: RO095554325IN - The Collector's Office: RO095554299IN - The Sarpanch, Balinga: RO095554339IN - The Sarpanch Tumulia: RO095554311IN - District Industry Officer: RO095554308N	Complied
iii	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including result of monitored data on their website and update the same on half-yearly basis.	The compliance status is being uploaded on half-yearly basis, in the company's website: https://www.mahanadicoal.in	Complied
iv	The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx, (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the	The monitoring reports are being uploaded in the website https://www.mahanadicoal.in and displayed in LED Display Board in front of the project for public.	Complied

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	public and put on the website of the company.		
v	The project proponent shall submit six-monthly report on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	Six monthly compliances is periodically submitted to Regional Office and uploaded on the MCL company's website.	Agreed
vi	The project proponent shall follow the mitigation measures provided in this Ministry's OM No. Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and village are surrounded by the mine lease area'.	Mitigation measure <i>interalia</i> including use of surface miner, control blasting, mobile tanker, effluent treatment plant, garland drain, catch drain, Noise level with in limit at night etc has been implanted as a part of OM No.: Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'. Details in Annexure-XXXVII	Complied
vii	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and on the website of the company.	The Environmental Statement in Form-V has been submitted to the State Pollution Control board, Odisha vide letter no.- MCL/BA/PO/KOCP/E&F/2024-25/13, Dt.- 25.09.2024 and the Environment Statement for the period of 2023-24 has been displayed in the MCL's Website also.	Complied
Viii	The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.	The commencement of mining operation as per the CTO issued vide no.- 4388/IND-I-CON-5125, Date- 28.03.2024, by Odisha State Pollution Control Board.	Complied
ix	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	Agreed.	Agreed

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5 DECADES OF UNEARTHED ENERGY

X	The project authority shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	The status of compliance of recommendations made in EIA/EMP has been attached in Annexure-X	Being complied								
xi	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of environmental, Forests and Climate Change.	Agreed. The production details have been provided below: <table><tr><th>Period</th><th>Production in MT</th></tr><tr><td>2022-23</td><td>20.99</td></tr><tr><td>2023-24</td><td>20.99</td></tr><tr><td>2024-25</td><td>20.99</td></tr></table>	Period	Production in MT	2022-23	20.99	2023-24	20.99	2024-25	20.99	Agreed
Period	Production in MT										
2022-23	20.99										
2023-24	20.99										
2024-25	20.99										
Xii	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Agreed.	Agreed								
Xiii	The Ministry may revoke or suspend the clearance, if implementation of the above conditions is not satisfactory.	Agreed.	Agreed								
Xiv	The Ministry reserves the right to stipulated additional if found necessary. The company in a time bound manner shall implement these conditions.	Agreed.	Agreed								
Xv	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authority should extent full cooperation to the officer (s) of the Regional Office by furnishing the requisite data/information/monitoring reports.	Noted and Agreed.	Agreed								
Xvi	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes	Consent To Establish has been accorded vide letter no. – 19795/IND-II-CTE-6742, Date – 27.10.2022 (Annexure – IA) and consent to operate accorded vide letter no. 4388/IND-I-CON-5125 dated 28.03.2024 for production of 21 MTPA valid up to 31.03.2025 (Annexure – IB). Hazardous waste authorization was obtained vide no.- IND-IV-HW-	Agreed								

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	(Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules made their under and any other Court of Law relating to the subject matter.	1038/4004, date- 21.03.2024, and valid till 31.03.2025 (Annexure – XVI).	
5.	The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report as well as during presentation to the EAC. All the commitments made on the issued raised during public hearing shall also be implemented by the EC in letter and spirit.	Noted and Agreed.	Agreed
6.	The proponent shall obtain all necessary clearance/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection. The Ministry or any other competent authority may stipulated any further condition for environmental protection.	All the required Consent from the State Government has been taken before the commencement of mining operation.	Complied
7.	Any appeal against this Environment Clearance (EC) shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted and Agreed.	Agreed
8.	The coal company/project proponent shall be liable to pay the compensation against illegal mining, if any, and as raised by the respective State Governments at any point of time, in terms of the orders dated 2nd August, 2017 of Hon'ble Supreme Court in WP (Civil) No.114/2014 in the matter of 'Common Cause Vs Union of India & others.	Noted and Agreed.	Agreed

HALF YEARLY COMPLIANCE REPORT OF EC CONDITIONS WITH RESPECT TO KULDA OCP

For the period of Oct'24 to March'25



5 DECADES OF UNEARTHING ENERGY

9.	The concerned State Government shall ensure no mining operations to commence till the entire compensation for illegal mining, if any, is paid by the project proponent through their respective Department of Mining & Geology, in strict compliance of the judgment of Hon'ble Supreme Court.	Noted and Agreed.	Agreed
10.	This Environment Clearance (EC) shall not be operational till such time the project proponent complies with the above said judgment of Hon'ble Supreme Court, as applicable, and other statutory requirements.	Noted and Agreed.	Agreed
11.	All the conditions stipulated in Environment Clearance vide Ministry's letter No. J-11015/10/05-IA.II(M) dated 24th December, 2002, 22nd March, 2018, 28th March, 2019, 10th January, 2020 and 2nd March, 2021.	The half yearly compliances of EC issued on date – 22.03.2018, 10.01.2020, & 02.03.2021 are attached in Annexure – XLI, XLII, XLIII, respectively.	Agreed
-----END-----			


Project Officer
Kulda OCP
MCL, Basundhara Area
10/05/2025



Tel : 2564033/2563924
EPABX : 2561909/2562847
E-mail: paribesh1@ospcboard.org
Web site: www.ospcboard.org

OFFICE OF THE STATE POLLUTION CONTROL BOARD, ODISHA

[DEPARTMENT OF FOREST & ENVIRONMENT, GOVERNMENT OF ODISHA]

Paribesh Bhawan, A/118, Nilakantha Nagar, Unit – VIII
Bhubaneswar – 751 012, INDIA

*By Speed Post /
Through online*

No. 19795 / IND-II-CTE-6742 Date 27.10.2022 /

CONSENT TO ESTABLISH ORDER

In consideration of the Online application No. **4296470** for obtaining Consent to Establish for **Kulda OCP, Basundhara Area of M/s Mahanadi Coalfields Ltd.**, the State Pollution Control Board is pleased to convey its Consent to Establish under section 25 of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 for **enhancement in production capacity of Kulda Open Cast Mining Project from 19.6 MTPA to 21.0 MTPA (Increase of 10% w.r.t. 14 MTPA) over the mining lease area of 634.205 Ha.** At villages-Siarmal, Tumulia, Kulda, Bankibahal, Balinga, under Hemgir Tahsil in the district of **Sundargarh** with the following conditions:

GENERAL CONDITIONS:

1. This Consent to Establish is valid for the product, method of mining and capacity mentioned in the application form. This order is valid for five years, which means the proponent shall commence mining activities for the proposal within a period of five years from the date of issue of this Consent to Establish order. If the proponent fails to commence mining activities for the proposal within five years, then a renewal of this consent to establish shall be sought by the proponent.
2. The mine shall apply for grant of Consent to Operate under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 & Air (Prevention & Control of Pollution) Act, 1981 at least 3 (three) months before the commencement of production and obtain Consent to Operate from this Board.
3. This Consent to Establish is subject to statutory and other clearances from Govt. of Odisha and/or Govt. of India, as and when applicable.

SPECIAL CONDITIONS:

A. GENERAL CONDITIONS:

1. The proponent shall carry out mining activity as per Environmental Clearance issued vide letter No. J-11015/10/1995-IA-II(M), dated 25.05.2022 by MoEF&CC, Govt. of India.



CONSENT ORDER
KULDA OCP OF M/S. MCL

Page 1 of 14

BY REGD. POST WITH AD

STATE POLLUTION CONTROL BOARD, ODISHA

[DEPARTMENT OF FOREST, ENVIRONMENT & CLIMATE CHANGE, GOVERNMENT OF ODISHA]

A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012

Phone-2561909, Fax: 2562822, 2560955 E-mail: paribesh1@ospcboard.org, Website: www.ospcboard.org

CONSENT ORDER

No. 6772 / IND-I-CON-5125 Dt. 30.03.2025 /

CONSENT ORDER NO. 2288.

Sub: Consent for discharge of sewage and trade effluent under section 25/26 of Water (PCP) Act, 1974 and for existing / new operation of the plant under section 21 of Air (PCP) Act, 1981.

Ref: Your online application No. 5917162, Dated 10-02-2025 and online reply dated 19-03-2025.

Consent to operate is hereby granted under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act, 1981 and rules framed thereunder to

Name of the Industry: KULDA OCP OF M/S. MCL

Name of the Occupier & Designation: SRI MANORANJAN DAS, PROJECT OFFICER

Address: AT: BALINGA, PO: BASUNDHARA, DIST: SUNDERGARH.

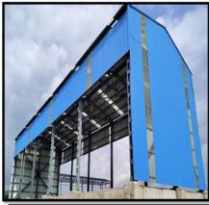
This consent order is valid for the period from 01.04.2025 to 31.03.2026.

Details of Products Manufactured

Sl. No.	Product	Quantity
1.	Coal	21.0 MTPA

This consent order is valid for the specified outlets, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions as specified below. This consent is granted subject to the general and special conditions stipulated therein.

Annexure-IC



View from truck receiving hoppers routing to ground bunkers



View from Ground receiving bunkers towards SILO



View towards SILOs- Construction under progress

[back](#)



CAAQMS at Nursinghpur



KULDA OCP OF M/S. MCL_CAAQMS _Narsinghpur (All conc. In ug/cum)						
Period	PM2.5	PM10	SPM	SO2	NOx	CO
Oct'24	44.2	62.9	105.1	9.3	11.5	0.2
Nov'24	27.6	32.9	55	9.3	7.4	0.6
Dec'24	19.3	25.8	43.3	7.6	1.6	0.6
Jan'25	29.9	40.4	67.7	3.6	0.3	1.1
Feb'25	34.3	48.9	96.3	4.1	1	0.8
March'25	45.8	62	124.4	4.6	5.2	1.3

CAAQMS at Jagannath temple Tiklipara village



KULDA OCP OF M/S. MCL_CAAQMS _ Jagannath Temple (All conc. In ug/cum)						
Period	PM2.5	PM10	SPM	SO2	NOx	CO
Oct'24	29.8	82.4	89.6	3.4	36.5	0.9
Nov'24	35.3	65.8	94.5	3.3	29.2	1.1
Dec'24	27.2	47.5	72.2	3.3	17.3	1
Jan'25	25.5	40.9	62.2	3.3	18.5	1.3
Feb'25	24.1	42.2	75.8	3.4	21.2	1.1
March'25	38.4	65.3	120.1	3.5	23.1	1.3

CAAQMS at CMPDI Camp Gopalpur



KULDA OCP OF M/S. MCL_CAAQMS _ CMPDI Camp (conc. ug/cum)						
Period	PM2.5	PM10	SPM	SO2	NOx	CO
Oct'24	54.7	79.9	117.3	10.2	2.4	0.9
Nov'24	29.3	42.8	63.1	11.9	1.3	1.1
Dec'24	287.3	457.4	650.7	15.1	0.4	1
Jan'25	25.7	37.2	54.8	0	0.1	1.2
Feb'25	20	28.8	42.6	7.1	0.1	1
March'25	25.2	36.1	53.2	11.8	0	1.1

CAAQMS Near Tumulia Village



KULDA OCP OF M/S. MCL_CAAQMS _ Tumulia (conc. ug/cum)						
Period	PM2.5	PM10	SPM	SO2	NOx	CO
Feb'25	23.7	74.8	104.1	4.2	4	1.6
March'25	31.7	85	118.2	6.2	6	2



FAX : 2562822/2560955
Tel : 2564033/2563924
EPABX : 2561909/2562847
E-mail: paribesh1@ospcbboard.org
Web site : www.ospcbboard.org

**OFFICE OF THE
STATE POLLUTION CONTROL BOARD, ODISHA**

Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII,
Bhubaneswar - 751 012

BY SPEED POST
THROUGH ONLINE

No. 3044 /

IND-II-CTE - 6652

Date 23.02.2022

CONSENT TO ESTABLISH ORDER

In consideration of the Online Application No. **3942384** for obtaining Consent to Establish for **Kulda OCP of M/s Mahanadi Coalfields Ltd.**, the State Pollution Control Board is pleased to convey its Consent to Establish under section 25 of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 for **enhancement of production of coal from 16.80 MTPA to 19.60 MTPA over mining lease area of 634.205 ha. At – Balinga, Tumulia, Siarmal, Kulda and Bankibahal, Himgir in the district of Sundargarh** with the following conditions.

GENERAL CONDITIONS:

1. This Consent to Establish is valid for the product, method of mining and capacity mentioned in the application form. This order is valid for five years. The proponent shall commence mining activities for the proposal within a period of five years from the date of issue of this Consent to Establish order. If the proponent fails to commence mining activities for the proposal within five years then a renewal of this consent to establish shall be sought by the proponent.
2. The mine shall apply for grant of Consent to Operate under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 & Air (Prevention & Control of Pollution) Act, 1981 at least 3 (three) months before the commencement of production and obtain Consent to Operate from this Board.
3. This Consent to Establish is subject to statutory and other clearances from Govt. of Odisha and/or Govt. of India, as and when applicable.

SPECIAL CONDITIONS:

A. GENERAL CONDITIONS:

1. The proponent shall carryout mining activity as per Environmental Clearance issued vide letter No. J-11015/10/1995-IA,II(M), date 14.02.2022 by MoEF&CC, Govt. of India.
2. The proponent shall mix the fly ash generated by nearby thermal power plant with OB for back filling of the mine void as per fly ash notification of MoEF&CC, Govt. of India.
4. The mine should not store for more than seven days of coal production to avoid coal fire in stock yard as well as coal seam. The mine shall take adequate preventive measures for spontaneous fire in the coal seam as well as stock yard and an action plan regarding this shall be submitted at the time of consent to operate application.



CONSENT ORDER
KULDA OCP OF M/S. MCL

Page 1 of 15

BY REGD. POST WITH AD

STATE POLLUTION CONTROL BOARD, ODISHA

[DEPARTMENT OF FOREST, ENVIRONMENT & CLIMATE CHANGE, GOVERNMENT OF ODISHA]

A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012

Phone-2561909, Fax: 2562822, 2560955 E-mail: paribesh1@ospboard.org, Website: www.ospboard.org

CONSENT ORDER

No. 3139 /

IND-I-CON- 5125

Dt. 25.02.2022

CONSENT ORDER NO. 2288

Sub: Consent for discharge of sewage and trade effluent under section 25/26 of Water (PCP) Act, 1974 and for existing / new operation of the plant under section 21 of Air (PCP) Act, 1981.

Ref: Your online application No.3942666, Dated 18-01-2022 and Online reply dated 24-02-2022.

Consent to operate is hereby granted under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act, 1981 and rules framed thereunder to

Name of the Industry: KULDA OCP OF M/S. MCL

Name of the Occupier & Designation: SRI RAJAT KUMAR JAIN, PROJECT OFFICER

Address: AT: BALINGA, PO: BASUNDHARA, DIST: SUNDERGARH.

This consent order is valid for the period up to 31.03.2023.

This consent order supersedes the earlier consent order issued vide letter No. 5525 dated 31.03.2021.

Details of Products Manufactured

Sl. No.	Product	Quantity
1.	Coal	(i) 18.5 MTPA (2021-22) (ii) 19.6 MTPA (2022-23)

This consent order is valid for the specified outlets, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions as specified below. This consent is granted subject to the general and special conditions stipulated therein.

Annexure-IV

Time bound action plan for activities mentioned in EC condition for an budget of Rs. 17.59 Cr.		
#	Control measures	Status
1	Mist sprinklers (188nos.)	<i>Completed.</i> Sprinklers have been installed strategically at dust prone areas.
2	Mobile water tanker 12 kl-1 nos.	<i>Completed.</i> Tanker of 12 Kl has been deployed in coal transportation road from Duduka chowk to Laikera RLY siding.
3	Static fog canon (8 nos.)	<i>Completed.</i> Installed at coal stock and railway siding.
4	Mechanical road sweeper (4 nos.)	<i>Completed.</i> 4 Nos. of road sweeper has been deployed in the coal transportation road.
5	Wheel washing system	<i>Completed.</i> 3 nos. of wheel washing system have been constructed and completed.
6	Wind Barrier System	<i>Completed.</i> Construction of wind barrier has been completed.
7	Plantation of 27513 nos.	<i>Completed.</i> Plantation of 27513nos. have been done inside the mine lease area of Kulda OCP.

ମହାନଦୀ କୋଲ୍ ଫିଲ୍ଡ୍‌ସ୍ ଲିମିଟେଡ୍
महानदी कोलफील्ड्स लिमिटेड
Mahanadi Coalfields Limited
 (A subsidiary of Coal India Limited)

महाप्रबंधक (पर्यावरण एवं वन) का कार्यालय
 Office of the General Manager (Envt & Forests)
 P.O. : Jagruti Vihar, Burla
 Dist: Sambalpur, Odisha-768020
 Ph: +91 (663) 254 2084; 9438877166
 Fax: +91 (663) 254 2257, e-mail:
 gmenvt2018@gmail.com; gm-env.mcl@coalindia.in



MCL

Ref no: MCL/SBP/Envt & Forest/ 22-23/ 116

Dt:16.05.2022

To
 The Regional Director
 CMPDIL -RI-7
 Plot No. E-4, Near Gandhi Park
 At- Samantapuri, PO: RRL
 Bhubaneswar-751013 (Odisha)

Ref:

1. Our Eoffice file no: 736244

Sub: Work-Order for preparation of "Carrying Capacity assessment study of Kulda OCP and Garjanbahal OCP, Basundhara Area as per their respective EC conditions"

Dear Sir,

This is to communicate that the Competent Authority of MCL has been pleased to approve the award of work for preparation of "Carrying Capacity assessment study of Kulda OCP and Garjanbahal OCP, Basundhara Area as per their respective EC conditions" in your favor at a total value of Rs.72,95,232/- (Seventy two Lakhs Ninety Five Thousand Two Hundred and Thirty Two rupees only/-) including 18% GST with the following terms and conditions.

1. Scope of Work:

The work involves the preparation of "Carrying Capacity assessment study of Kulda OCP and Garjanbahal OCP, Basundhara Area" as per their respective EC conditions.

- a) Identification of all pollution sources in the study area e.g. different industries
- b) Assessment of incremental activities of the study area for next 5-10 years.
- c) Development of emission inventories for incremental pollution load.
- d) Impact assessment of incremental pollution load over different environmental components (Air, Water, Noise and Land).
- e) Defining the carrying capacity of a region.
- f) Provisioning of different environmental control measures for sustainable growth of the study area

2. Details of the value of Job:

- i. Total EDs assigned for the Job-240 EDs@25,760/- per ED rate for FY 2022-23.
- ii. Grand Total for 240 EDs including GST@18%- Rs.72,95,232 /-

3. Submission report and payment terms:

A draft report should be submitted to this office and Area office for scrutiny and for valuable suggestions prior to finalization of report.

The Final report should be submitted by Jan'2023 for onward submission to MoEF&CC.

Signature
16/5/22

Signature
16/5/22

ମହାନଦୀ କୋଲଫିଲ୍ଡସ୍ ଲିମିଟେଡ୍
Mahanadi Coalfields Limited
(A subsidiary of Coal India Limited)

Office of The General Manager
Basundhara Area
AT/PO:-Basundhara-770076
Dist:-Sundargarh (Orissa)
Tel No: 06621-286133(O),
FAX: 06621-286144



MCL

Ref. No. MCL/GM/BA/E&F/2022-23/ES-45/451

Date: 27.01.2023

To, The Scientist and Head CSIR – NEERI Kolkata Zonal Center i-8, Sector C, EKDP, EM Bypass Kolkata – 700107. GST Registration No. – 27AAATC2716R2ZE.	सेवा, वैज्ञानिक और प्रमुख सीएसआईआर - नैरी कोलकाता जोनल सेंटर आई-8, सेक्टर सी, ईकेडीपी, ईएम बायपास कोलकाता 700107

Kind Attn.: Dr. Deepanjan Majumdar, Sr. Scientist, NEERI – Kolkata Zonal Center, Kolkata.

कृपयाध्यान दें: डॉ दीपांजन मजूमदार, सीनियर साइंटिस्ट, एन ई ई आर आई - कोलकाता जोनल सेंटर, कोलकाता

Sub: Award of work for “Conducting the third party Environmental Audit for compliance of EC conditions of Kulda & Garjanbahal OCP of Basundhara Area, Mahanadi Coalfields Limited (MCL)”.

विषय: “एम सी एल के कुल्दा और गर्जनबहाल ओसीपी के पर्यावरण मंजूरी सरतों के अनुपालन का तीसरे पक्ष से पर्यावरणीय जाँच का आयोजन” के लिये कार्य आदेश ।

- Ref:
1. Our Proposal invitation vide e-mail on dated 19.12.2022.
 2. Your technical proposal submitted vide e-mail dated 20.12.2022.
 4. Your Financial proposal submitted vide e-mail dated 20.12.2022.

महोदय,

With reference to the above, Competent Authority of MCL has been pleased to approve the award of work of “Conducting the third party Environmental Audit for compliance of EC condition of Kulda and Garjanbahal OCPs of MCL Basundhara Area” in your favour for an amount of Rs. **25,96,000.00** (Rupees Twenty five lakhs, ninety six thousand only), being the project cost + GST as applicable with the following terms and conditions.

1. Scope of Work:

CSIR-NEERI will conduct environmental third party audit of EC conditions of two mines of MCL Basundhara Area, The sequence of priority of the selected mines will be (i) Kulda OCP (Sundargarh District) (ii) Garjanbahal OCP (Sundargarh District)

2. Duration of the study:

The duration of the project will be 120 Days from the zero date (i.e. date of receiving 1st installment) with following reporting schedule:

- Draft Final Report: To be submitted within 100 Days after the zero date (1 soft copy, 2 hard copies)
- Final Report: To be submitted within 20 Days after receipt of MCL comments on Draft Final Report (1 soft copy, 5 hard copies).

3. Payment Terms:

- i. First Installment: 50% of the project cost + GST as applicable will be paid after acceptance of this work order with submission of a demand invoice.



Concrete road of length 2700m and width 12m from Bankibahal towards Raigarh for HMV



Black topped road of length 2700m and width 8.5m from Bankibahal towards Raigarh for LMV



a. Tumulia village road of length 1995m and width 10m



b. Tumulia village road of length 1995m and width 10m

STONE PITCHING AT THE EMBANKMENT OF CHATTANJHOR NALLAH





National Accreditation Board for
Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

**REGIONAL ENVIRONMENT AND CHEMICAL
LABORATORY**

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

**"General Requirements for the Competence of Testing &
Calibration Laboratories"**

for its facilities at

REGIONAL INSTITUTE VII, CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED,
BHUBANESWAR, KHORDHA, ODISHA, INDIA

in the field of

TESTING

Certificate Number: TC-7052

Issue Date: 22/03/2024

Valid Until:

21/03/2026

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Entity: CENTRAL MINE PLANNING & DESIGN INSTITUTE LIMITED

Signed for and on behalf of NABL



N. Venkateswaran
Chief Executive Officer

ମହାନଦୀ କୋଲ୍‌ଫିଲ୍ଡ୍‌ସ୍‌ ଲିମିଟେଡ୍
Mahanadi Coalfields Limited
(A subsidiary of Coal India Limited)

ସହାୟକ କାର୍ଯ୍ୟାଳୟ (ପର୍ଯ୍ୟବେକ୍ଷଣ ଏବଂ ବନ)
Office of the General Manager (Env't & Forests)
P.O. Jagruti Vihar, Burla
Dist.: Sambalpur, Odisha-768020
Ph: +91 (663) 254 2084; 9438877168
Fax: +91 (663) 254 2257, e-
mail: gmenv2018@gmail.com; gm-env.mcl@coalindia.in



Ref no: MCL/SBP/Env't & Forest/ 23-24/ 784

Dt: 25.08.2023

To The Regional Director CMPDI -RI-7, Plot No. E-4, Near Gandhi Park At- Samantapuri, PO: RRL Bhubaneswar-751013 (Odisha)	ସେବା ମେ, କ୍ଷେତ୍ରିୟ ନିର୍ଦ୍ଦେଶକ , ସିଏମ୍‌ପିଡ଼ିଆଇଏସ୍ କ୍ଷେତ୍ରିୟ ସଂସ୍ଥାନ,- ୭, ପ୍ଲଟ ନଂ - ୧-୪(ଗାନ୍ଧୀ ପାର୍କ କେ ପାସ) ସାମନ୍ତପୁରୀ, ପି.ଏଚ୍.ଆର୍.ଆର୍.ଓ. ଭୁବନେଶ୍ୱର - ୭୫୧୦୧୩, (ଓଡ଼ିଶା)

Sub: Work-Order for setting up Environment Laboratory at Basundhara Area by CMPDI, RI - VII, in compliance to the Environmental Clearance issued with respect to Kulda OCP, Basundhara Area, MCL.

Reference:

- a) Your offer submission through e-Office Computer no. 1026607 dtd 18.06.2023.

Dear Sir,

This is to communicate that the Competent Authority of MCL has been pleased to approve the award of work for "Setting up Environment Laboratory at Basundhara Area by CMPDI, RI - VII, in compliance to the Environmental Clearance issued with respect to Kulda OCP, Basundhara Area, MCL." in your favor at a total value of Rs. 30,35,485.59/- (Thirty Lakhs Thirty-Five Thousand Four Hundred and Eighty-Five and Fifty-Nine Paise only/-) including 18% GST with the following terms and conditions.

1. Scope of Work:

The work involves the Setting up Environment Laboratory at the Water Treatment Plant site Basundhara Area by CMPDI, RI - VII, in compliance to the Environmental Clearance issued with respect to Kulda OCP, Basundhara Area, MCL and Undertaking Operation and Maintenance of the Lab along with providing manpower. Necessary upkeepment of the lab site is required to be maintained by Basundhara Area.

The above work has been undertaken as per the EC condition of Kuda OCP in the EC letter dated 14.02.2022 condition no. xi states that "PP in collaboration with CMPDI must develop a dedicated laboratory with NABL certification for measuring water quality, soil quality and heavy metals in water, air and soil etc. at its operational place, which would also serve for other nearby mines of M/s MCL".

In the initial stage, it is proposed to set up the field laboratory, which will be coming under REC Lab, RI-VII for accreditation of NABL. After starting of laboratory, in due course of time the laboratory will be converted to full-fledged laboratory which will cover all the above requirement. The field lab shall be equipped with facilities for undertaking ambient air and water parameters which will fulfill the requirement of MoEF&CC for the time being and rest of the test can be taken up at REC Lab, CMPDI, RI VII.

CMPDI RI-7 is responsible for the procurement of lab instruments/chemicals/glassware, etc. including:

- Capital items to be procured through GeM Portal. In case of non-availability of items, the certificate must be ensured.
- Obtaining NABL certification for the proposed Kulda OCP Env't field Lab.

The details of the estimate as listed out by CMPDI RI-7 in its offer dtd 18.06.2023 is provided below:

Sr no	Particular	Base Price	GST @ 18 %	Amount in Rs. Including GST
1	List of chemicals Part-1	99206.00	17857.08	117063.00
2	List of chemicals Part 2	24594.92	4427.08	29022.00
3	List of Glassware & Plastic Ware	618279.00	111290.22	729570.00
	Revenue Items- Sl no. 1+2+3			8,75,655.00
4	List of instruments. (Part A)	1408106.51	253459.17	1661565.68
5	Furniture (Part B)	351534.68	63276.24	414810.92
6	PART C (Computer System and Printers)	70723.72	12730.27	83453.99
	Capital Items-Sl no. 4+5+6			21,59,830.59
	Total Cost including GST			30,35,485.59

Photographs of Environment Lab, Basundhara Area, MCL



ମହାନଦୀ କୋଲ୍‌ଫିଲ୍ଡ୍‌ସ୍ ଲିମିଟେଡ୍
Mahanadi Coalfields Limited
(A subsidiary of Coal India Limited)

Office Of The Project Officer,
Kulda OCP, Basundhara Area
At/PO:-Balinga-770076
Dist:-Sundargarh (Orissa)
FAX: 06621-286144



Ref. No.: MCL/BA/PO/KOCP/E&F/2023-24/84

Date: 19.03.2024

To,

The Member Secretary,
Central Ground Water Authority,
18/11, Jamnagar House, Man Singh Road,
New Delhi – 110011.

Subject: Revival of NoC renewal application of Kulda OCP, of MCL, Basundhara Area

- Ref: 1. NoC granted vide letter no.- CGWA/NOC/MIN/ORIG/2020/9245 dated 09.12.2020**
2. Application Number 21-4/2112/OR/MIN/2018
3. Rejection letter issued on date – 24.04.2023.
4. Revival application submitted vide no. – MCL/BA/PO/KOCP/E&F/2023-24/17, Date – 18.06.2023
5. Application for time extension and revival submitted vide no. – MCL/BA/PO/KOCP/E&F/2023-24/33, Date – 29.07.2023

Respected sir,

In refer ence to the above, it is hereby submitted that Kulda OCP filed the application on date – 03.12.2022, well before the expiry date of the validity of the NoC granted with respect to the mines. A payment of Rs. 2,82,504.00/- has already been deposited against the application. The application was approved on date - 16.01.2023, however, the application was rejected on date – 24.04.2023, due to the non-fulfilment of the criteria/documents as per CGWA guideline, 2020 w.r.t. Kulda OCP.

It is hereby informed that the Comprehensive Hydrogeological Report along with Ground Water Modelling with respect to Kulda OCP prepared by CGWA accredited agency, is being submitted herewith this letter.

In view of above facts, it is humbly requested to kindly not take any serious action against the project and revive the renewal application submitted by the undersigned. This is for your kind perusal and further needful action.

Thanking you

Yours faithfully,


Project Officer
Kulda OCP,
Basundhara Area

Copy to:

- The Regional Director, Central Ground Water Board, South Eastern Region, Bhujal Bhawan, Khandagiri Square, NH-5, Bhubaneswar, Khordha, Odisha, PIN - 751001
- General Manager (E&F), MCL HQ – For kind information.
- General Manager, Basundhara Area – For kind information.
- Staff Officer (E&F), Basundhara Area.

NoC from CGWA for Ground water abstraction



भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Kulda Opencast Project		
Project Address:	Office Of The Project Officer, Kulda Ocp, Basundhara Area, Mahanadi Coalfields Limited, District: Sundargarh, Odisha, Pin: 770076		
Village:	Bailanga	Block:	Hemgir
District:	Sundargarh	State:	Odisha
Pin Code:			
Communication Address:	Office Of The Project Officer, Kulda Ocp, Basundhara Area., Mahanadi Coalfields Limited, District: Sundargarh, Odisha, Pin:770076, Hemgir, Sundargarh, Odisha - 770076		
Address of CGWB Regional Office :	Central Ground Water Board South Eastern Region, Bhujal Bhawan, Khandagiri Square, Nh-5, Bhubaneswar, Khordha, Odisha - 750001		

1.	NOC No.:		CGWA/NOC/MIN/ORIG/2020/9245							
2.	Application No.:		21-4/2112/OR/MIN/2018		3. Category:	Safe				
					(GWRE 2017)					
4.	Project Status:		Existing Project		5. NOC Type:	New				
6.	Valid from:		09/12/2020		7. Valid up to:	08/12/2022				
8.	Ground Water Abstraction Permitted:									
Fresh Water		Saline Water		Dewatering		Total				
m ³ /day	m ³ /year	m ³ /day	m ³ /year	m ³ /day	m ³ /year	m ³ /day m ³ /year				
47.00	17155.00			2449.00	893885.00					
9.	Details of ground water abstraction /Dewatering structures									
Total Existing No.:9				Total Proposed No.:0						
	DW	DCB	BW	TW	MP	DW	DCB	BW	TW	MP
Abstraction Structure*	0	0	7	0	0	0	0	0	0	0
Dewatering Structure*	0	0	0	0	2	0	0	0	0	0
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit										
10.	Ground Water Abstraction/Restoration Charges paid (Rs.):					4555200.00				
11.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.				No. of Piezometers	Monitoring Mechanism				
						Manual	DWLR**	DWLR With Telemetry		
**DWLR - Digital Water Level Recorder					2	0	1	1		

(Compliance Conditions given overleaf)

This is an auto generated document & need not to be signed.

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011

Phone: (011) 23383561 Fax: 23382051, 23386743

Website: cgwa-noc.gov.in

पानी बचाये - जीवन बचाये
SAVE WATER - SAVE LIFE

Application submitted by Kulda OCP for 1st renewal of NoC

Government of India
Ministry of Jal Shakti
Department of Water Resources, River Development and Ganga Rejuvenation
Central Ground Water Authority (CGWA)
Application for Issue of NOC to Abstract Ground Water (NOCAP)

Application for Renewal of NOC to Dewater Ground Water for Mining Industry (Save As Draft Application for Renewal of NOC)

Application Number : 21-4/2112/OR/MIN/2018

Applied For Renewal : 1st

(Scanned copy of this page after signature and seal should be attached at "Application with Signature and Seal" in attachment section before submission of application)		
Name of Industry:	KULDA OPENCAST PROJECT	
Location Details of the Industrial Unit		
Address Line 1 :	OFFICE OF THE PROJECT OFFICER, KULDA OCP, BASUNDHARA AREA	
Address Line 2 :	MAHANADI COAL FIELD LIMITED, DISTRICT: SUNDARGARH, ODISHA, PIN: 770078	
Address Line 3 :		
State:	ODISHA	
District:	SUNDARGARH	
Sub District:	HEMGIR	
Village/Town:	Bailanga	
Net Ground Water:	m³/day	m³/year
	321.11	321.11
Area Type :	Non-Notified	
Area Type Category :	Safe	
INDUSTRIAL USE- Self Declaration		
I hereby certify that the data and information furnished above are true to the best of my knowledge and belief and I am aware that if any part of the data / information submitted is found to be false or misleading at any stage, the application will be rejected outright.		
I hereby declare that all the mandatory documents prescribed in the application form have been uploaded and no blank /irrelevant documents have been uploaded. I am also aware that any false/ wrong submission /uploading of document will lead to rejection of my application without any notice.		
It is to certify that no case related to ground water withdrawal/ contamination is pending against the industry/ project/ unit as on date. Any such case filed against the company/ project/ unit in respect of ground water withdrawal/ contamination during the pendency of this application shall be immediately brought to the notice of CGWA.		
I hereby undertake that in case any environmental compensation/ penalty is imposed on the firm by any statutory authority, I shall comply with the decision of such authority.		
मैं यह प्रमाणित करता हूँ कि ऊपर प्रस्तुत किये गये आँकड़ों और जानकारी मेरे ज्ञान और विश्वास के अनुसार सही हैं और मुझे पता है कि यदि प्रस्तुत आँकड़ों / सूचना का कोई भी भाग किसी भी स्तर पर गलत या भ्रमक पाया जाता है, तो आवेदन बिना किसी पूर्व सूचना के निरस्त कर दिया जाएगा। मैं इसके द्वारा घोषित करता हूँ कि आवेदन पत्र में निर्धारित सभी अनिवार्य दस्तावेजों को अपलोड किया गया है और कोई रिक्त / अवांछित दस्तावेज अपलोड नहीं किया गया है। मुझे यह भी पता है कि कोई भी गलत दस्तावेज अपलोड करने पर मेरे आवेदन को बिना किसी सूचना के निरस्त कर दिया जाएगा। मैं प्रमाणित करता हूँ कि अयोग / परियोजना / इकाई के खिलाफ आज तक भूजल निकासी / प्रदूषण से संबंधित कोई भी मामला किसी भी स्थापना में दर्ज नहीं है। इस आवेदन की प्रक्रिया के दौरान भूजल निकासी / प्रदूषण के संबंध में कंपनी / परियोजना / इकाई के खिलाफ दायर किसी भी मामले को तुरंत के. भू. ज. प्राधिकरण के ध्यान में लाऊंगा। मैं इस बात का वचन देता हूँ कि यदि किसी भी वैधानिक प्राधिकरण द्वारा फर्म पर कोई पर्यावरणीय क्षतिपूर्ति / जुर्माना लगाया जाता है, तो मैं प्राधिकरण को उस निर्णय का पालन करूंगा।		

Date : 24.11.2022

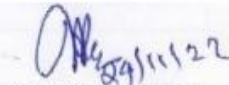
Place : Kulda OCP.

Associated User : pokocp

* In case signed by any authorized signatory, the details of the signatory with the authorization shall be enclosed.

22/11/2022 11:41 AM

Page 1 of 1


 Name & Signature of the applicant
 Project Officer
 (With official seal)
 Kulda Opencast Project

Approval of Revival Application

4/21/25, 10:44 AM

Gmail - Request for Revival of Application Number-21-4/2112/OR/MIN/2018 is approved.



Project Officer Kulda OCP <po.kocp@gmail.com>

Request for Revival of Application Number-21-4/2112/OR/MIN/2018 is approved.

1 message

no-reply-cgwa@gov.in <no-reply-cgwa@gov.in>
To: po.kocp@gmail.com
Cc: cgwa@nic.in

Thu, Apr 17, 2025 at 4:08 PM

Madam/Sir ,

It is to inform that Your Request for Revival of Application Number-21-4/2112/OR/MIN/2018, M/S KULDA OPENCAST PROJECT is **Approved**.

You may request for Revival through online NOCAP Portal only.
Please note application number for future reference.

This is system generated mail. **Please do not reply.**

STATUS OF IMPLEMENTATION OF CONTROL MEASURES AS PER EIA-EMP OF KULDA OCP

#	Impact	Existing control measures	Control measures in pipeline
1	Air pollution	• 7 numbers of static fog canon coal stock • 77 numbers of fixed type water sprinklers • 120 mist type water sprinklers • 11 numbers of mobile fog canons • 4 nos. of 28 KI water tankers • 2 nos. of 20 KI water tankers • 2 nos. of 12 KI water tankers • 1 no. of 10 kl water tankers • 3 numbers of wheel washing system • 3 numbers of instant shower system • 4 numbers of Surface miners • Concrete internal coal transportation road of length 2.5 Km • Concrete external coal transportation road of length 8.7 Km • 3 numbers of CAAQMS for monitoring the air quality • Regular environmental monitoring is being carried out at 1 core and 3 buffer zones fortnightly and weekly twice as per the standard norms. • 5 numbers of IP cameras • A total of 244175 numbers of plantation has been done as a part of greenbelt development	• 192 nos. of mist type water sprinklers • Wind Barrier of dimension 1000m x 10m • Plantation of 34,625 nos. of plants inside and outside mine lease area. • Concrete external coal transportation road of length 30 Km • Rapid Loading system of 20 Mty capacity at Sardega • Barpali Silo of 90 Mty capacity
2	Water pollution	• ETP of 450 KLD treatment capacity along with alum dosing system, oil skimmer unit, aeration unit, rapid sand filter, settling tanks. • Garland drain of dimension 7632m x 1.5m x 1.5m • Berm of dimension 4809m x 1.5m x 1.5m • Concrete Catch drain of dimension 3349m x 1m x 1m • Retaining wall of dimension 500m x 0.40m x 2m • All the surface run off generated during the monsoon has been channelized to the mine sump of Kulda OCP having a storage capacity of 20 lakh cum, from where it is utilized for industrial as well as domestic purpose ensuring Zero discharge of water. • The effluent water quality, surface water quality, ground water quality is being monitored fortnightly, 4 time a year, and once a year respectively.	• Catch drain of length 2.5 Km • Rain water harvesting structures. • Sewage Treatment Plant of 1400 KLD for township
3	Noise pollution	• Total coal production is done using surface miners thus restricting the use of blasting only for removal of OB material only when it is required.	• Plantation of 34,625 nos. of plants inside

		- Blasting is being carried out on day time and using sequential blasting technique by electric as well as non-electric detonators. - Vibrometer is used for monitoring the noise and vibration associated with the blasting. - Green belt development around the mines by planting a total of 46301 nos. of plants which acts as noise barriers also - Noise level monitoring is being done both during the day and the night time at two villages fortnightly.	and outside mine lease area.
4	Solid Waste Management	- There is one external ob dump of area 69.04ha (presently in active) and 1 no. of internal dump of area 142.74 ha where the generated ob material is being dumped. - The dump area is being technically as well as biologically reclaimed. - A total area of 18.30 ha of internal dump and 4.55ha in external OB dump has been biologically reclaimed - Sludge bed of dimension 5m x 3m x 0.5m has been provided for the temporary storage of the sludge generated in the ETP. - The sludge after drying is stored in impervious 10MT containers which upon filling is being disposed to SPCB authorized hazardous waste handlers RE sustainability Ltd. - The oil filters and oil containing waste is also being stored in a separate 10 MT container which upon filling is being disposed to SPCB authorized hazardous waste handlers RE sustainability Ltd.	Plantation in the technically reclaimed area of 5.69 ha in the internal dump/backfilled area.

LIST OF PPE'S DISTRIBUTED UNDER KULDA OCP			
S.No.	Details of PPE	2023-24 (nos.)	2024-25 (nos.)
1	Helmet	105	47
2	Mask	400	1256
3	Gumboot	30	159
4	Water bottles	149	157
5	Mining Shoes	280	185
6	Ear Muff	15	20
7	Towel	262	313
8	First aid kit	75	70
9	First aid station	6	5

DETAILS OF IME/PME BEING DONE UNDER KULDA OCP FOR THE PAST FIVE YEARS

Year	IME	PME
2019	428	53
2020	118	55
2021	249	60
2022	591	74
2023	375	53
2024	500	78

Safety awareness given to all the members before shift hours



1st Shift



2nd shift Shift



3rd shift Shift

Skill Development Program



IMPROVED VEGETABLE CULTIVATION



Skill Development Program



Trellis Cultivation



Skill Development Program



Kitchen Garden



Skill Development Program



**Drudged AI service
delivery at the
livestock aid centres**



**Doorstep service
delivery through
project**



Skill Development Program



GOA AND CATTLE AI UNDER CCDP



AI IN GOAT



AI IN CATTLE

Skill Development Program



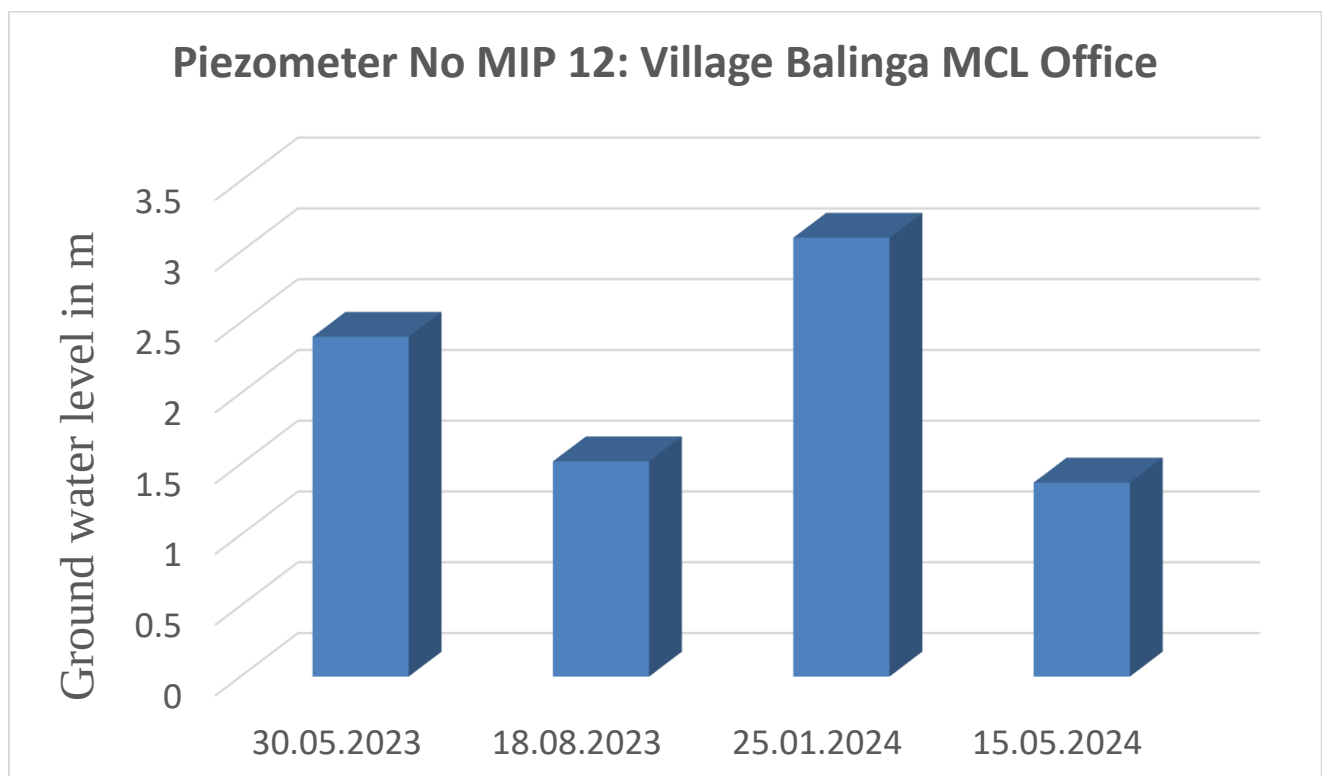
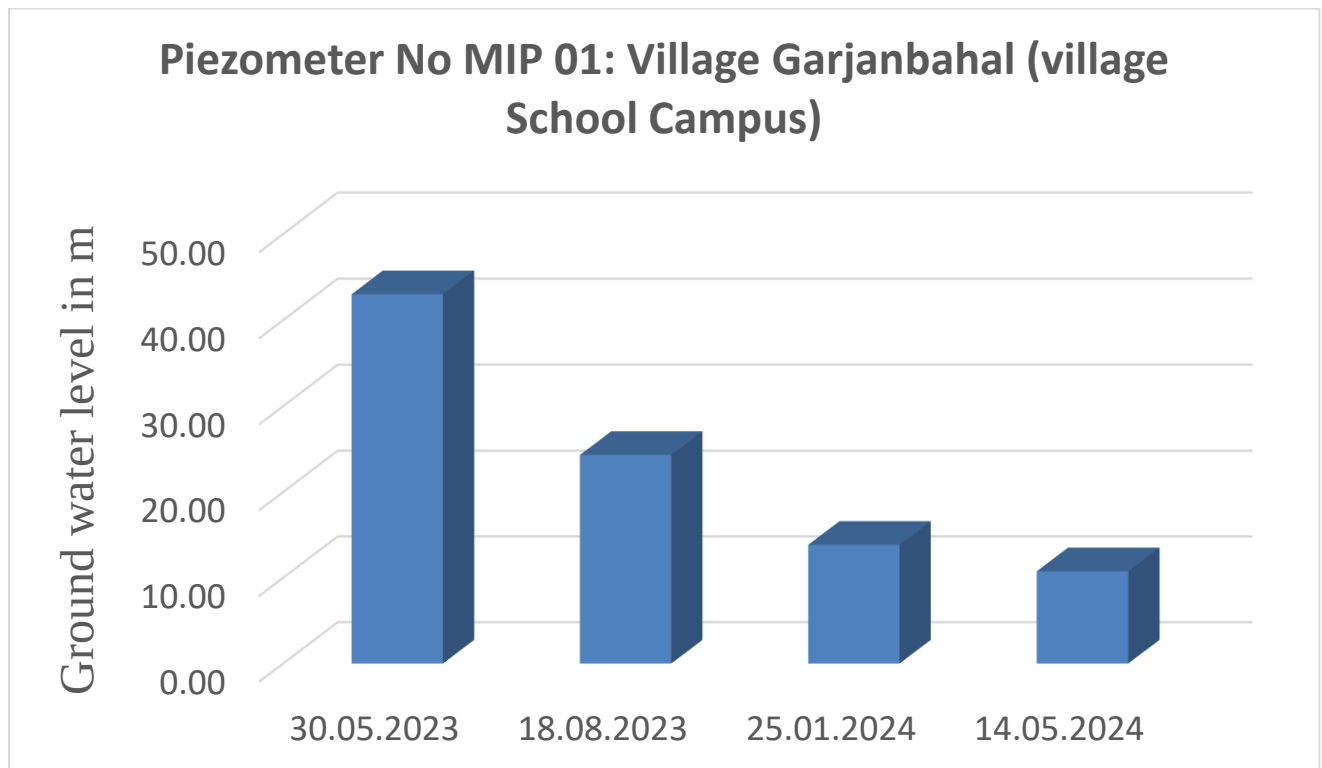
Low productive ND Cow presently owned by majority farmers

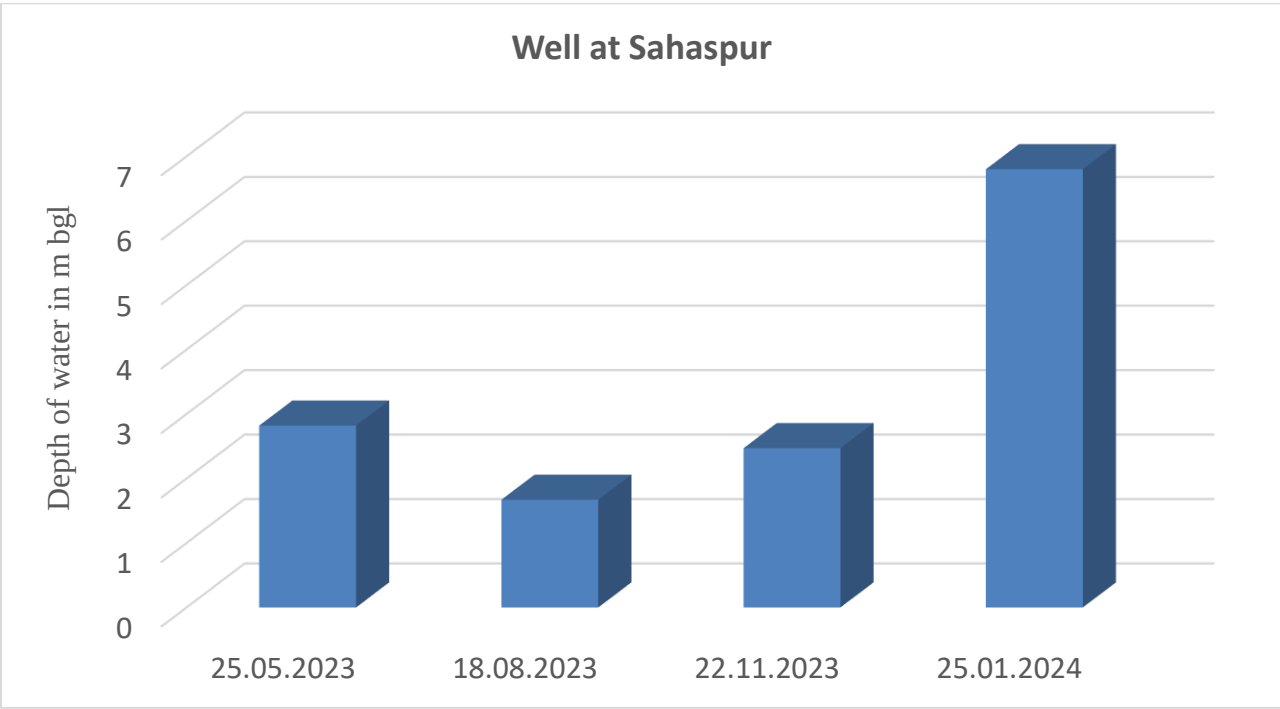
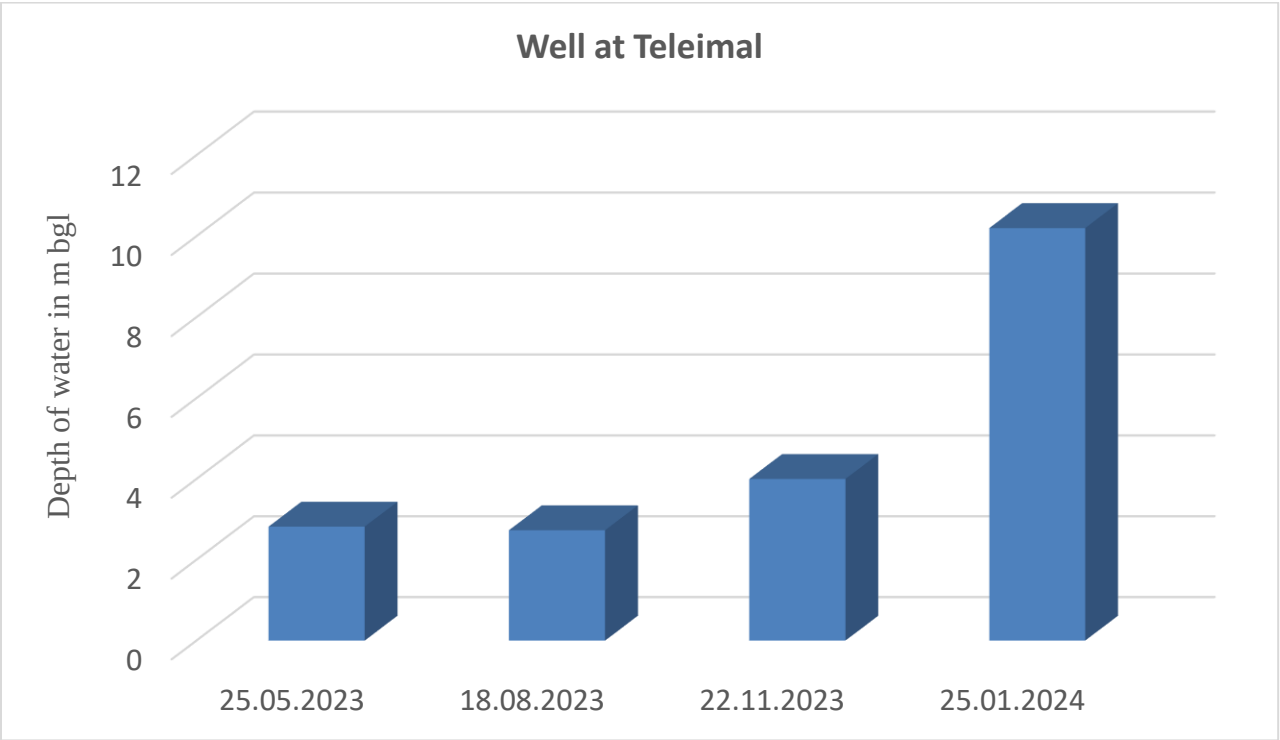


Expected high pedigree progenies



Ground water monitoring data





Ground water quality data

Project/OCP	Kulda OCP	
Monitoring Station	Well at Sahaspur	Well at Teleimal
Date of sampling	09-11-24	09-11-24
Color (Hazen)	3.0	4.0
Odour	Agreeable	Agreeable
Taste	Agreeable	Agreeable
Turbidity(NTU)	2	2
P H	7.28	7.14
Total Alkalinity (mg/L)	108.54	180.9
Chloride (mg/L)	72.93	45.33
Sulphate (mg/L)	45.89	58.04
Nitrate (mg/L)	16.8	20.4
Total Hardness(Ca CO3)(mg/L)	218.55	250.34
Calcium(mg/L)	57.26	73.52
Fluoride(mg/L)	0.56	0.74
Total Dissolve Solod(mg/L)	348	404
Copper(mg/L)	<0.03	<0.03
Manganese(mg/L)	<0.04	<0.04
Iron(mg/L)	<0.1	<0.1
Zinc(mg/L)	0.14	<0.04
Lead(mg/L)	<0.005	<0.005
Cadmium(mg/L)	<0.001	<0.001
Total Chromium(mg/L)	<0.01	<0.01
Arsenic(mg/L)	<0.005	<0.005
Selenium(mg/L)	<0.005	<0.005
Boron(mg/L)	<0.2	<0.2
Phenolics(mg/L)	<0.001	<0.001
Residual Free Chlorine(mg/L)	<0.2	<0.2
MPN (Index/100ml)	Not Detected	Not Detected

Forest Clearance of 227.89 Ha with respect to Kulda OCP

FOR: RD, CMDA

F. No. S-176/1997-FC
Government of India
Ministry of Environment & Forests
(FC Division)

Paryavaran Bhawan, CGO Complex,
Lodhi Road, New Delhi - 110003

Dated: 08th August 2007

To
The Principal Secretary (Forests),
Government of Orissa,
Bhubaneswar.

Subj: Diversion of 227.89 ha of forest land (as against initially proposed 280.86 ha) for
Kulda OCP of Mahanadi Coalfields Limited in Sundergarh district in Orissa.

Sr,

I am directed to refer to State Government's letter no. 10.F. (Cons) / 54 / 1997 / 8908 / F&E dated 09.05.1997 and no. 10.F. (Cons) / 54 / 1997 / 23070 / F&E dated 10.11.1998 on the subject cited above seeking prior approval of the Central Government under the Forest (Conservation) Act, 1980. After careful consideration of the proposal by the Forest Advisory Committee constituted under Section-3 of the said Act, in-principle approval for the said Mining lease was granted vide this Ministry's letter of even number dated 25.07.2001 and 22.01.2002 subject to fulfillment of certain conditions. The State Government has furnished compliance report in respect of the conditions stipulated in the in-principle approval and has requested the Central Government to grant final approval.

2. In this connection, I am directed to say that on the basis of the compliance report furnished by the State Government vide letter no. 10.F. (Cons) / 59 / 2004 / 6910 / F&E dated 05.05.2007, approval of the Central Government is hereby granted under Section-2 of the Forest (Conservation) Act, 1980 for diversion 227.89 ha of forest land (as against initially proposed 280.86 ha) for Kulda OCP of Mahanadi Coalfields Limited in Sundergarh district in Orissa subject to fulfillment of the following conditions:

1. Legal status of the diverted forest land shall remain unchanged.
2. (i) Compensatory afforestation shall be raised and maintained by the State Forest Department at the project cost.
- (ii) Fencing, protection and regeneration of the safety zone area (7.5 metres strip all along the outer boundary of the mining lease area) shall be done at the project cost. Besides this, afforestation on degraded forest land, to be selected elsewhere, measuring one and a half times the area under safety zone, shall also be done at the project cost.
- (iii) Wherever possible and technically feasible, the User Agency shall undertake

Hazardous Waste authorization of Kulda OCP



EPABX : 2653800 / Tel : 2562368
 E-mail: hwmd@ospcboard.org /
 paribesh1@ospcboard.org
 Website: www.ospcboard.odisha.gov.in

STATE POLLUTION CONTROL BOARD, ODISHA

[FOREST, ENVIRONMENT AND CLIMATE CHANGE DEPARTMENT, GOVERNMENT OF ODISHA]
 ParibeshBhawan, A/118, Nilakantha Nagar, Unit - VIII
 Bhubaneswar - 751012, INDIA

BY SPEED POST

FORM 2

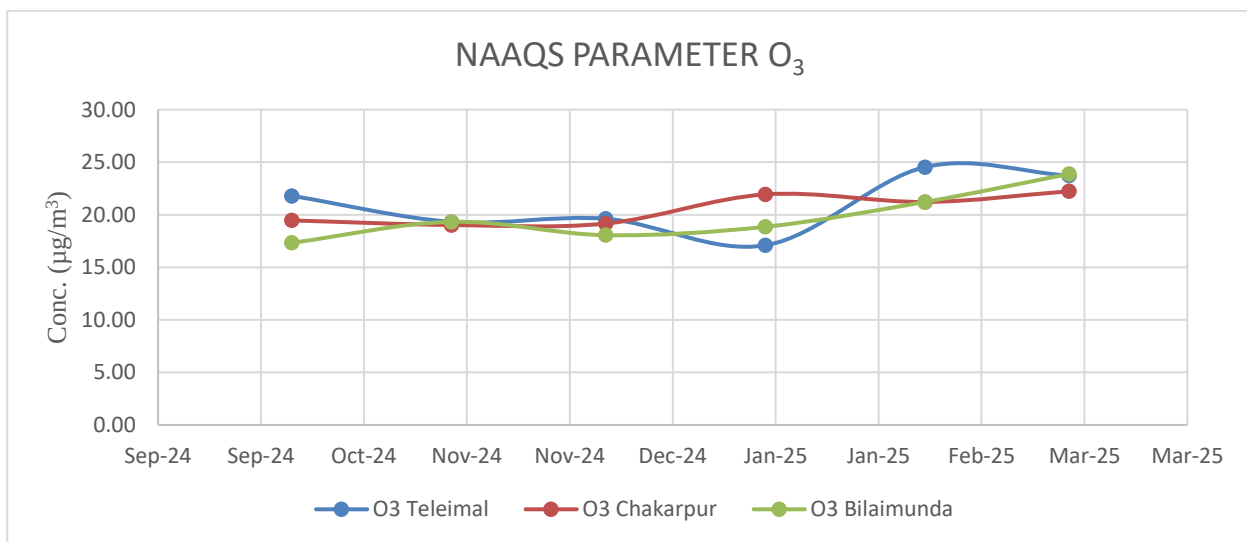
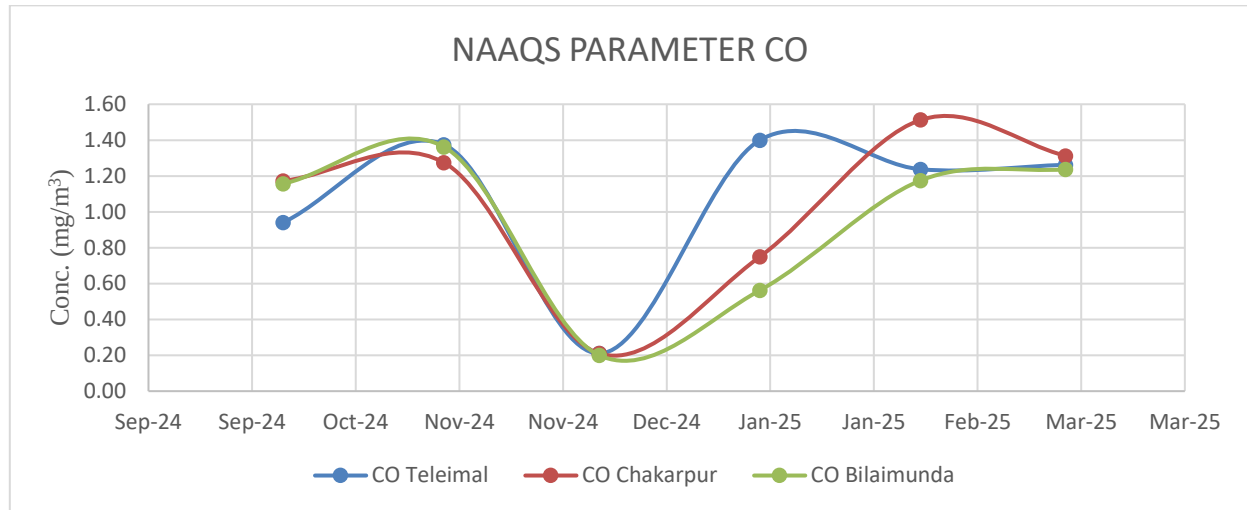
[See rule 6(2)]

RENEWAL OF AUTHORISATION BY STATE POLLUTION CONTROL BOARD, ODISHA TO THE OCCUPIER UNDER HAZARDOUS AND OTHER WASTES (MANAGEMENT AND TRANSBOUNDARY MOVEMENT) RULES, 2016

1. Number of authorization: **IND-IV-HW-1038/ 5796** and date of issue: **24-03-2025**
2. Reference of application (No. and date) : **5528975, dtd.14-12-2024/19-03-2025.**
3. **Kulda OCP of M/s Mahanadi Coalfields Limited** is hereby granted an authorization based on the enclosed signed inspection report for generation, storage, transport, reuse, recycling, recovery, preprocessing, co-processing, utilization, treatment, disposal or any other use of hazardous or other wastes or both on the premises situated **At - Balinga, P.O. – Basundhara, Dist - Sundargarh, Odisha.**

Details of Authorization

Sl. No.	Category of Hazardous Waste as per the Schedules I, II and III of these Rules	Waste Description	Quantity	Authorized Mode of Disposal or Recycling or utilization or Co-processing, etc.
1.	Schedules - I Stream -5.1	Used Oil	100 T/A	Storage in containers over impervious floor under well ventilated covered shed followed by disposal through Actual Users authorized by SPCB, Odisha
2.	Schedules - I Stream -5.2	Waste / Residues Containing Oil	1.5 T/A	Storage in impervious pits / containers under well ventilated covered shed followed by Co-processing in Cement Kilns Authorized by SPCB, Odisha / disposal in Authorized Hazardous Waste Incinerator / Common Hazardous Waste Treatment Storage Disposal Facility (CHWTSDF)
3.	Schedules - I Stream -3.3	Sludge and Filters Contaminate	20 T/A	Storage in impervious pits / containers under well ventilated covered shed followed by Co-

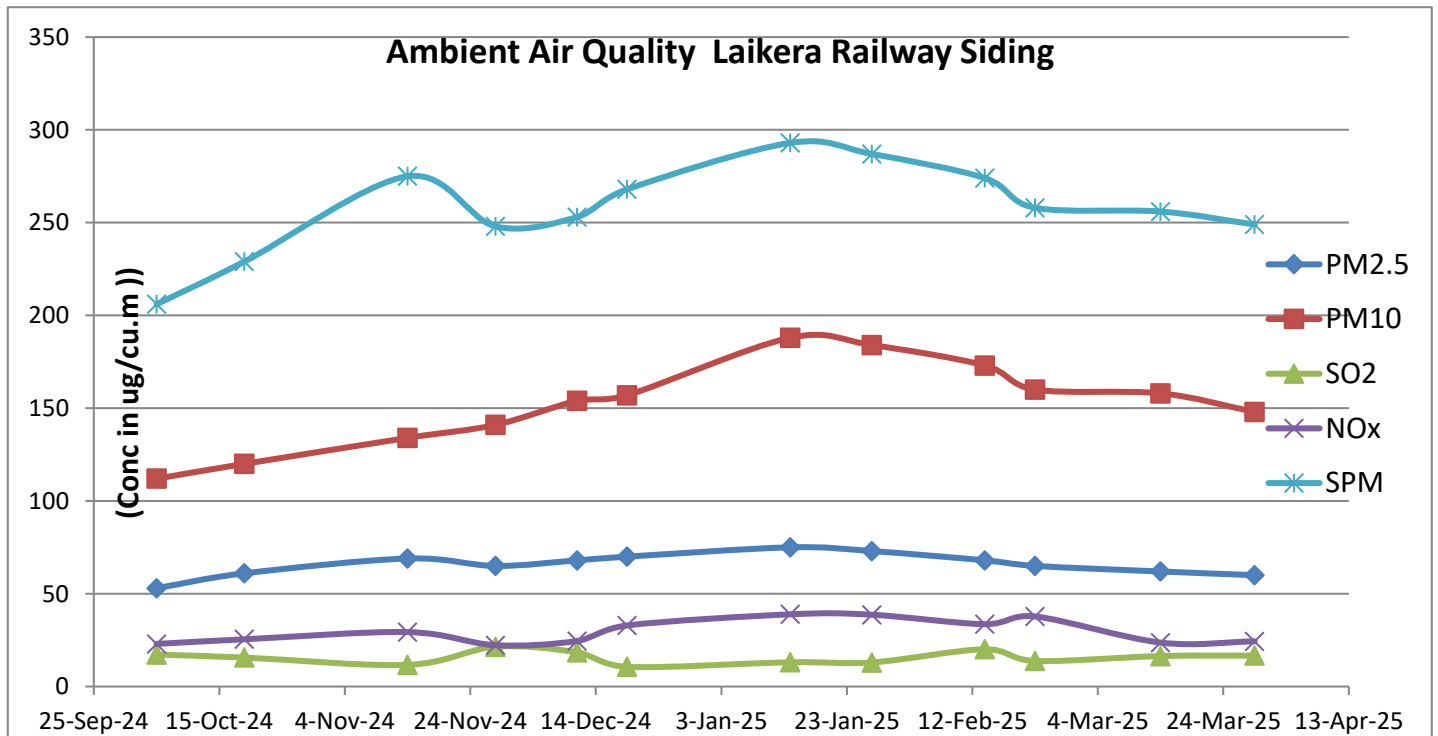
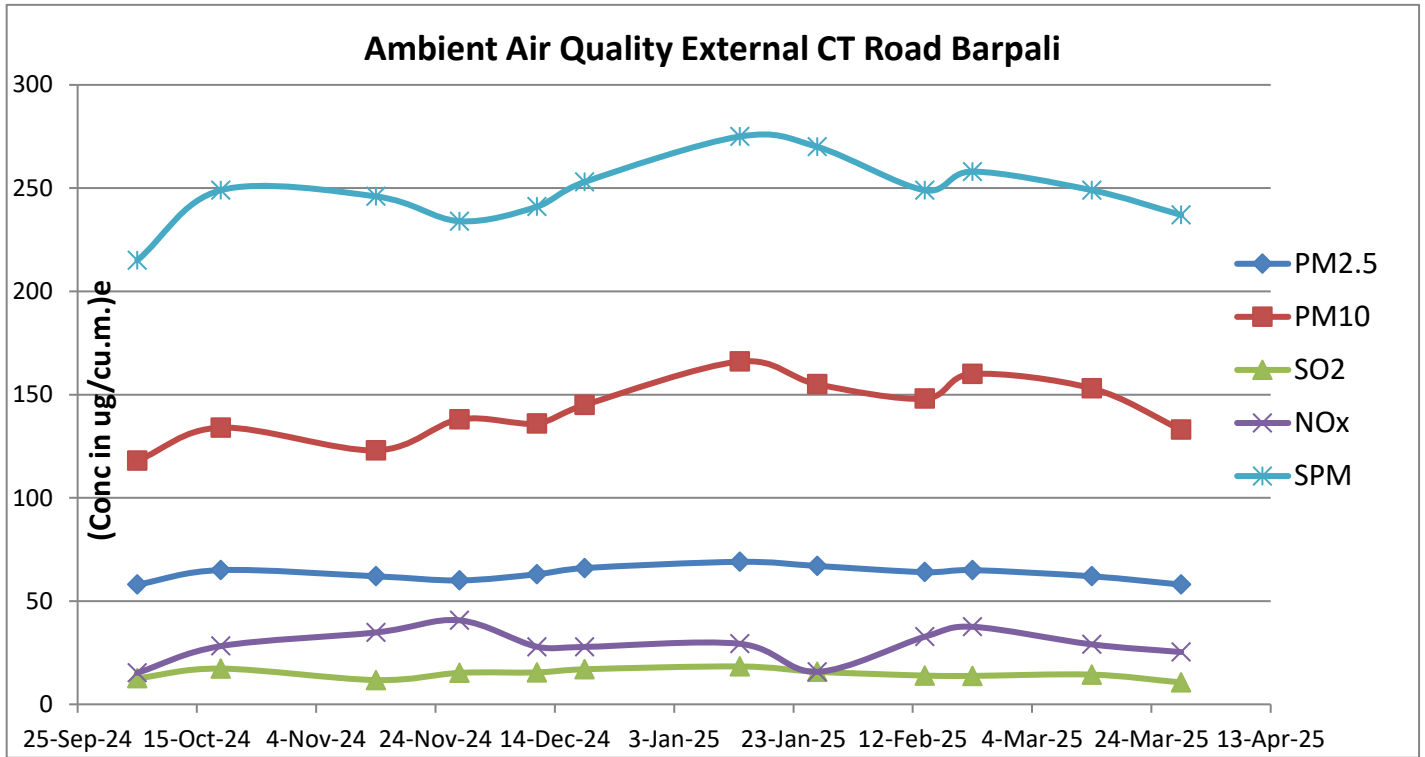


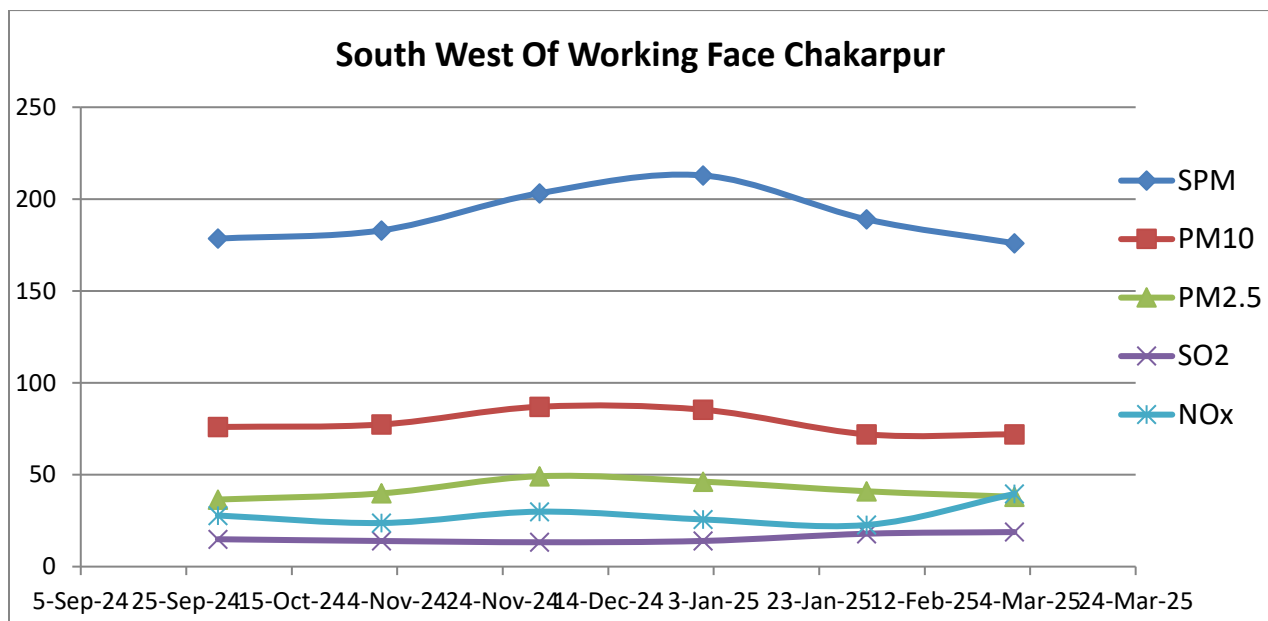
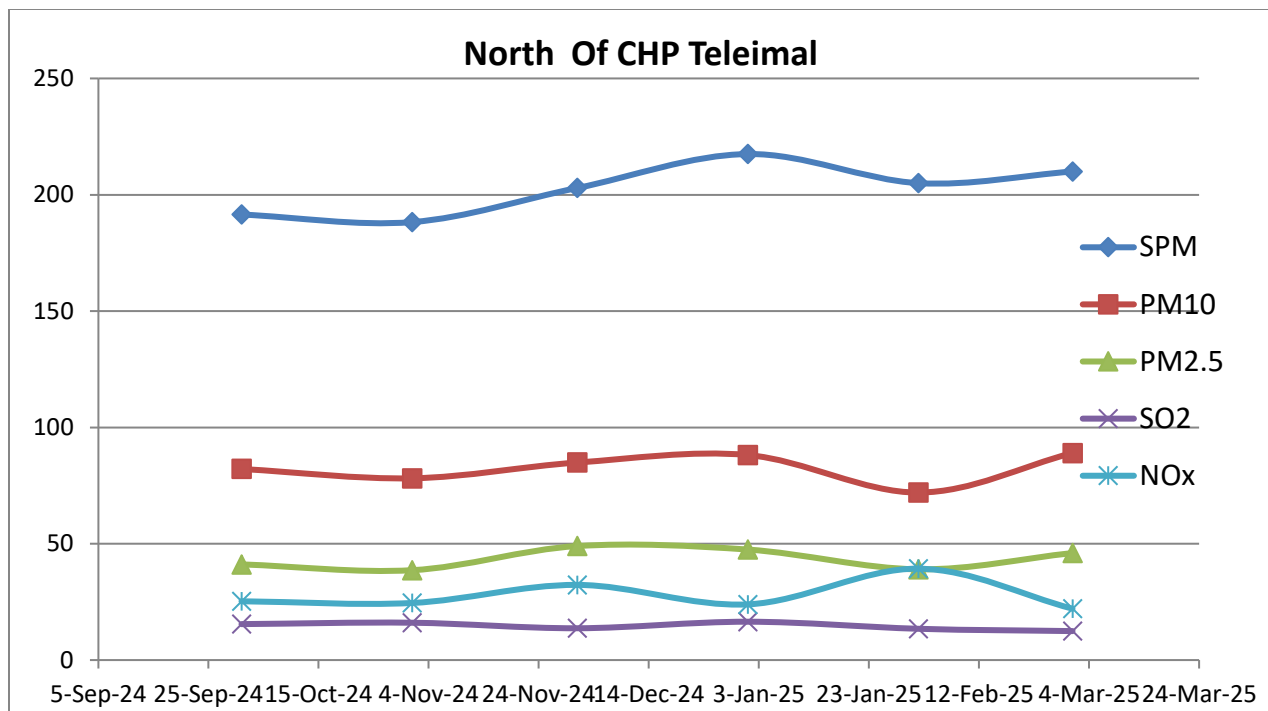
Monitoring Station	External CT Road, Barpali				
Date of sampling	Arsenic (As) (ng/m ³)	Nickel (Ni) (ng/m ³)	Mercury (Hg) (ng/m ³)	Chromium (Cr) (µg/m ³)	Cadmium (Cd) (µg/m ³)
14-Mar-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0 (Annual)	20 (Annual)	-	-	-

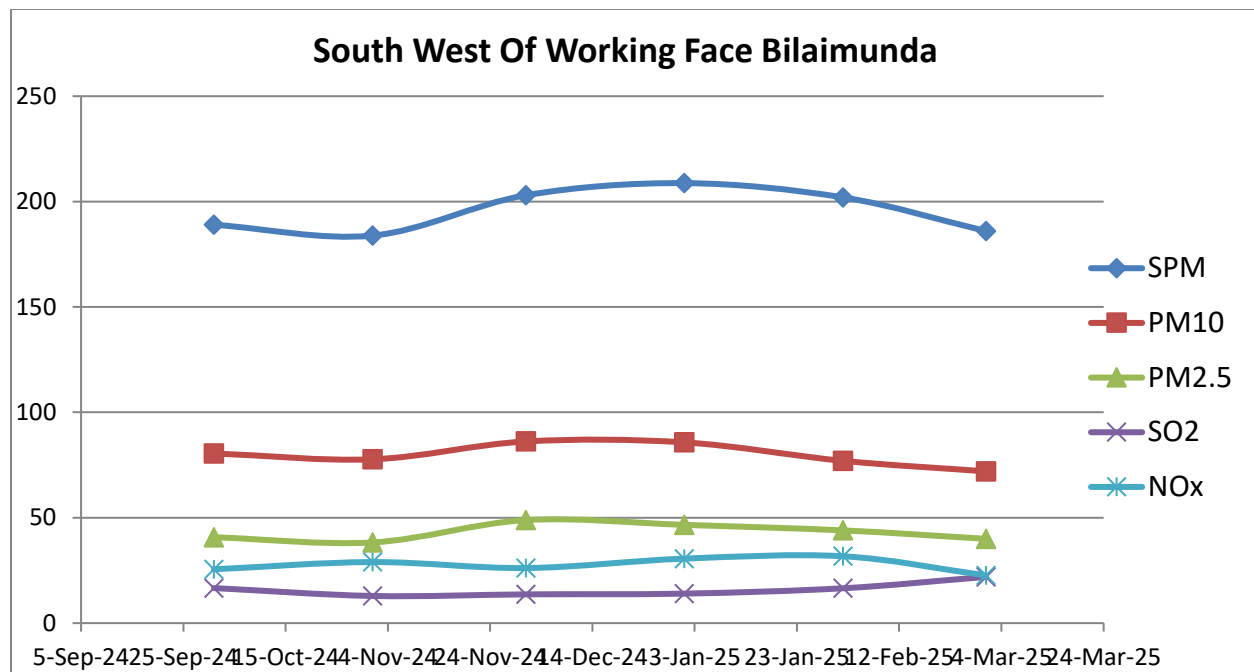
Monitoring Station	Laikera Railway Siding				
Date of sampling	Arsenic (As) (ng/m ³)	Nickel (Ni) (ng/m ³)	Mercury (Hg) (ng/m ³)	Chromium (Cr) (µg/m ³)	Cadmium (Cd) (µg/m ³)
14-Mar-2025	<1.0	<1.0	<1.0	<0.1	<0.1
Standard	6.0 (Annual)	20 (Annual)	-	-	-

*All the other heavy metals like Lead, Arsenic, Nickel, Benzo-Pyrene, Benzene are below detection limit and are well within standard.

Air Quality Monitoring Reports of Kulda OCP







Air Quality Control Measures under Kulda OCP



Wheel Washing System at Exit gates



Instant Shower system at Exit gates



Air Quality Control Measures under Kulda OCP



Fixed sprinklers at Coal Transportation Road



Mist Shower system at Coal Transportation Road



Air Quality Control Measures under Kulda OCP

**Mobile fog canons at Coal Transportation Road**

- 5 nos. of Mobile Fog canon of 40m throwing capacity is being utilized at External Coal Transportation road

**Mobile fog canons at Sardega Siding**

- Mobile Fog canon of 40m throwing capacity is being utilized at Sardega Siding



Air Quality Control Measures under Kulda OCP

Mobile tankers at Coal Transportation Road



- Contractual Mobile Water tankers have been deployed at every patch of external coal transportation roads near Kulda OCP.



Mobile tankers at Coal Transportation Road



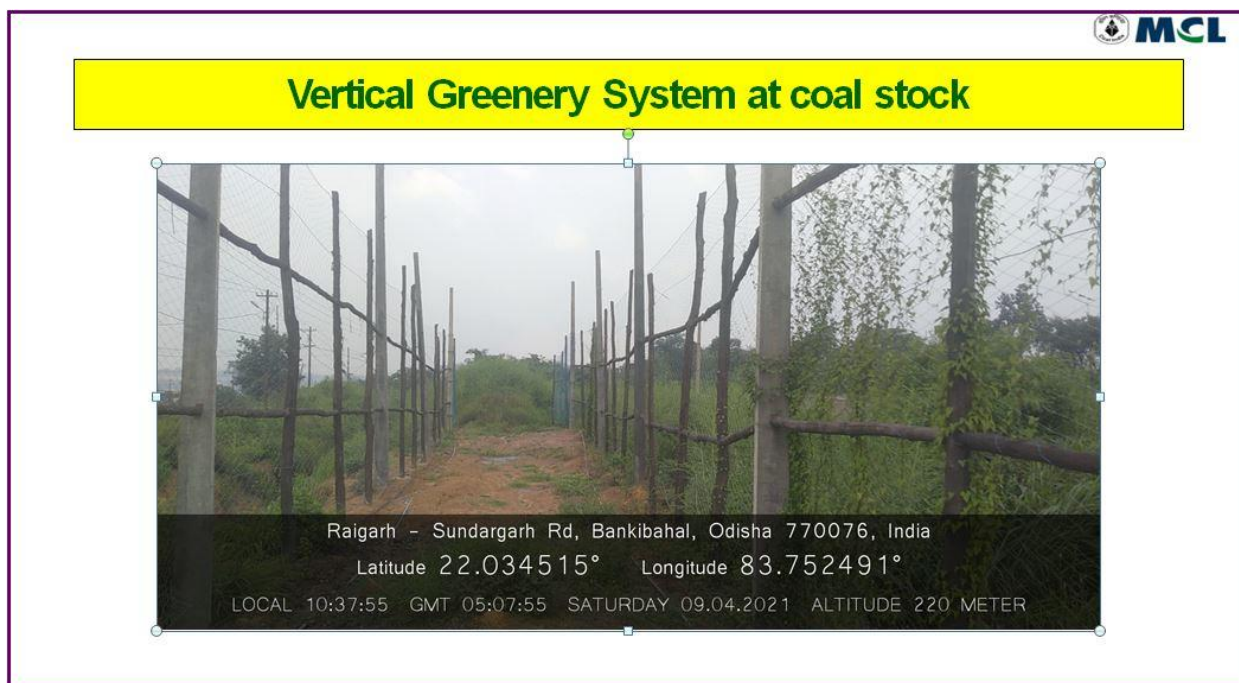
Departmental 28 KL Mobile Water tankers as well as 20 KL contractual water tankers have been deployed within the mines for control of dust emissions due to mining activities.

Kulda:

28 KL : 02 nos.
20 KL : 03 nos.
12 KL : 01 no.
10 KL : 01 no.



Air Quality Control Measures under Kulda OCP



A photograph showing a large white and yellow surface miner operating in a coal mine. The machine is equipped with a conveyor system and is processing coal. The background shows a hazy sky and some distant trees.

Coal Production by Eco-Friendly Surface Miners

Coal Production under Kulda OCP using Surface Miner:

1. 2020-21: 97.79%
2. 2021-22: 100%
3. 2022-23: 100%
4. 2023-24: 100%
5. 2024-25: 100%

Air Quality Control Measures under Kulda OCP



Tarpaulin Covered trucks leaving the mine

Tarpaulin Covered coal carrying Trucks exiting the Kulda Mines

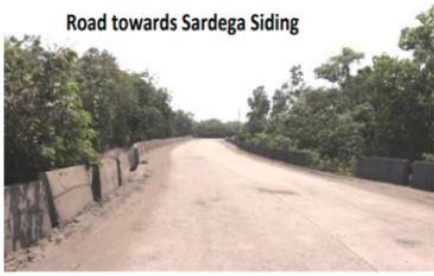



Already Implemented Infrastructural Reforms					
Sl. No.	Name of Infrastructure	Capacity/ Quantity	Date of Commissioning	Investment	Remarks
Rail & Road Infrastructure					
1	Jharsugda - Sardega Railway line	53.1 Km (Single line)	April 2018	1129 Cr.	Completed
2	Sardega Spur siding	20.0 Mty	April 2018	17.99 Cr	Completed
3	Concrete road to Sardega Spursiding.	6.0 Km	March 2019	19.50 Cr	Completed.
4	Transport Road from Siarmal to Bankibahal	2.7 Km	January 2020	16.36 Cr	Completed
5	Strengthening & widening of Transport Road from Dudka to Kanika siding	25 Km	July 2020	209.40 Cr	Completed

Air Quality Control Measures under Kulda OCP

Already implemented Air Pollution control measures				
Sl. No.	Air Quality Control Measures	Date of Commissioning	Investment	Remarks
Air Quality Control Measures				
1.	Mist sprinklers along Concrete road to Sardega Spursiding.	Sept 2019	162 Lakhs	80 nos. Mist type Fixed sprinklers
2.	Transport Road from Barpalli to Bankibahal	January 2020	13.34 Lakhs	40 nos. Mist type Fixed sprinklers
3.	Sprinklers at Sardega Spur siding	March 2020	11.9 Lakhs	27 no. Fixed sprinklers have been provided – Rs.1.9 lakhs 03 nos. of 50 Mts throw trolley mounted fog cannon has been deployed- cost Rs. 10 Lakhs.
4.	Static Fog Canon	January' 2021	79.65 Lakhs	6 nos. & 3 nos. of fog canon of 100m throwing capacity has been installed at the coal stocks & siding respectively
5.	Hiring of 06 nos. of truck mounted fog canon of 40m throwing capacity	May' 2021	900.00 Lakhs	Deployed in the coal transportation road of Kulda OCP
6.	Mechanical Road Sweeper	March 2020	50.25 Lakhs	1 no.
7.	Plantation	2018-2022		1,05,230 nos.

Coal Transportation Road

Coal Transportation Road		MCL
 Coal Transportation road towards Kanika Railway Siding	 Road towards Sardega Siding	Internal coal transportation roads has been concreted
	 Internal CT road - Kulda	

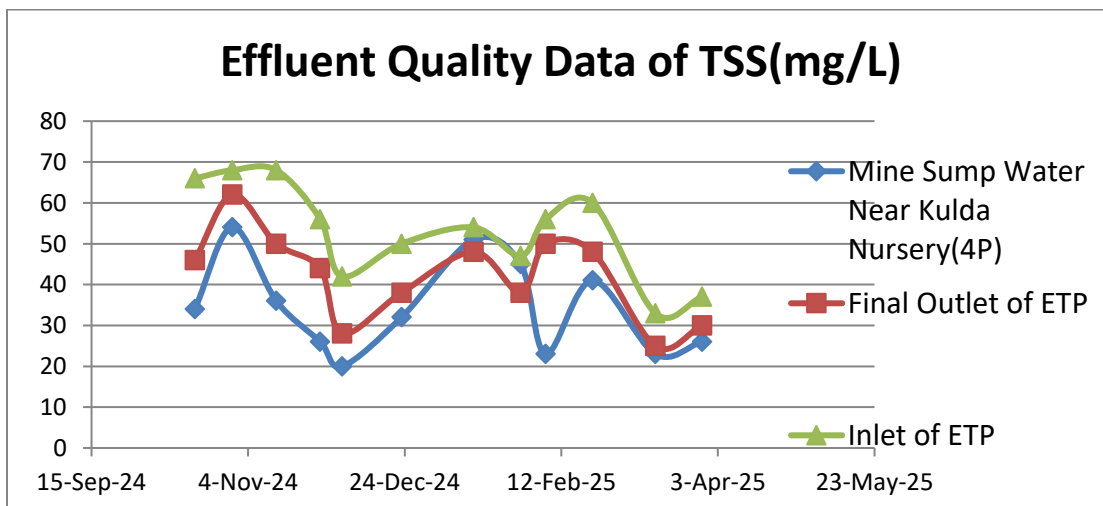
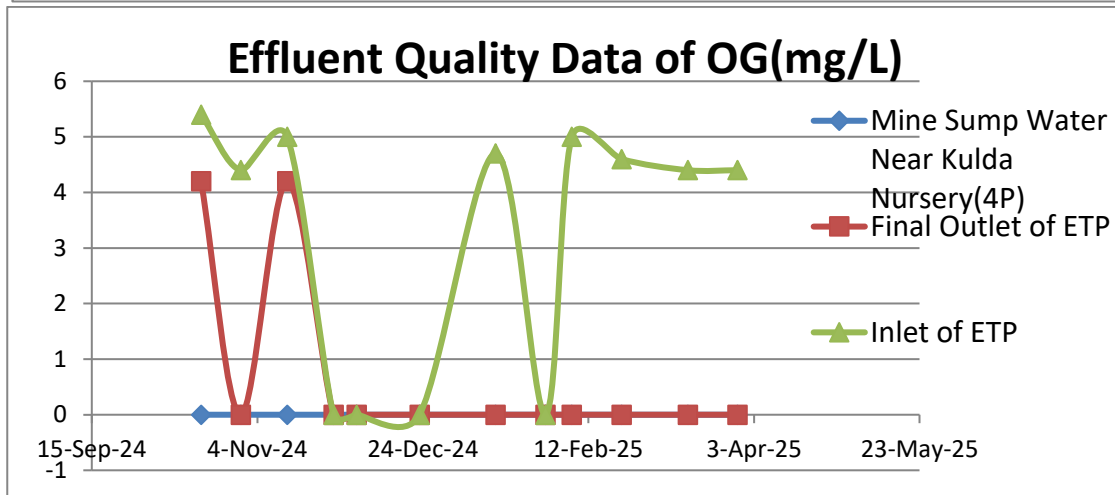
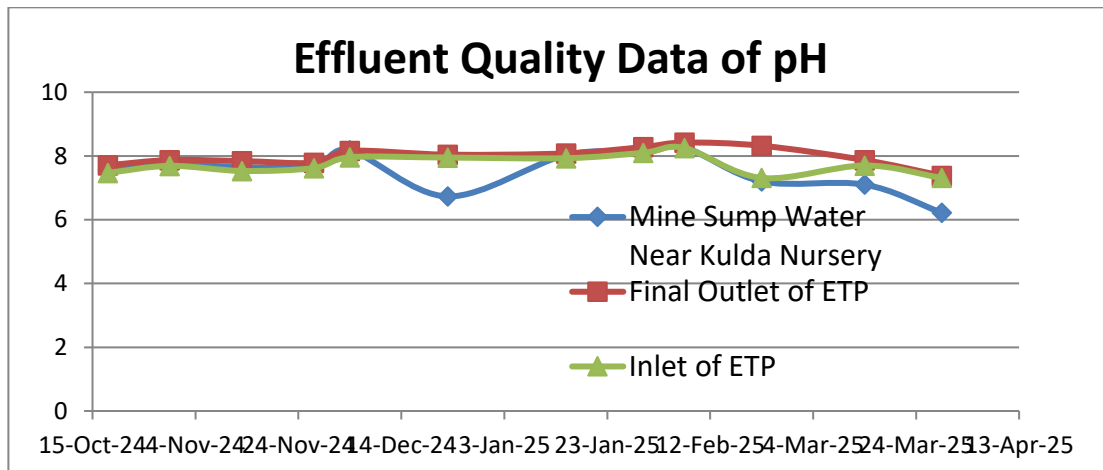
Fog Canons installed at coal stocks of Kulda OCP



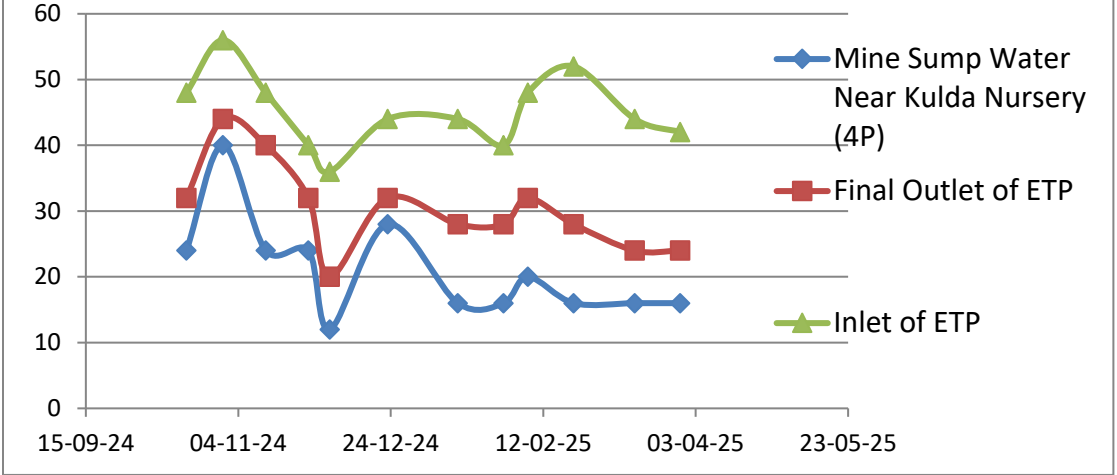
Effluent Quality of Mine water of Kulda OCP



Effluent Quality of Mine water of Kulda OCP



Effluent Quality Data of COD(mg/L)

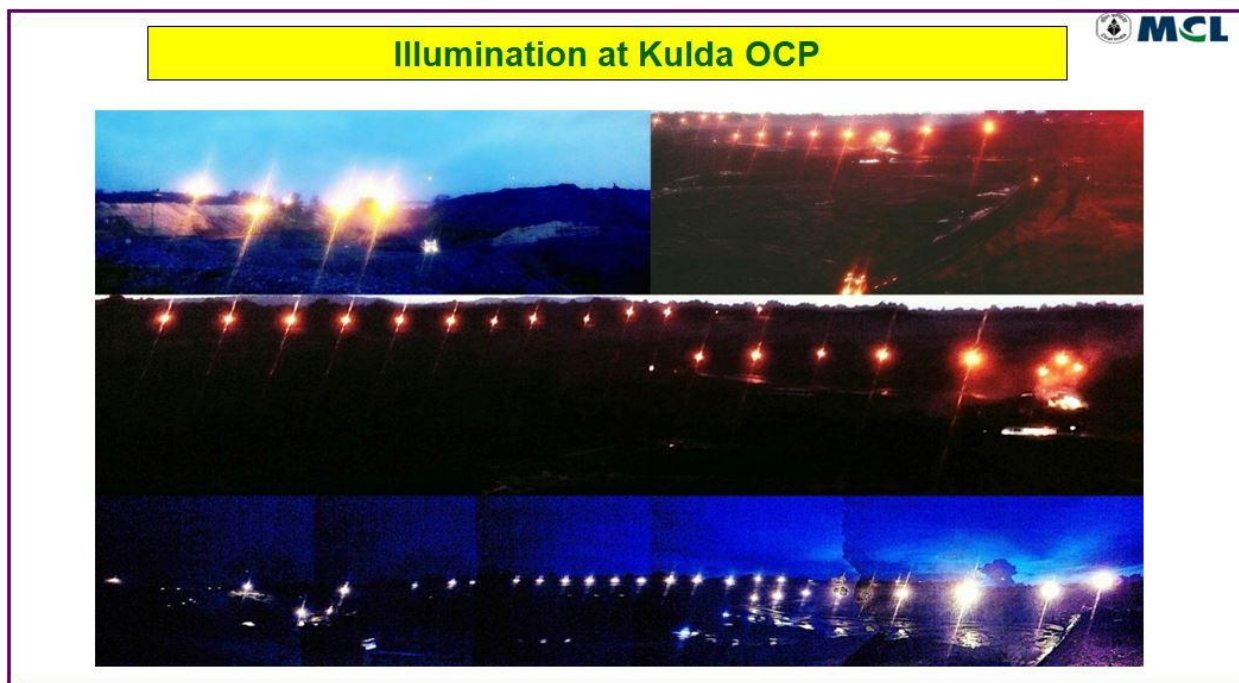
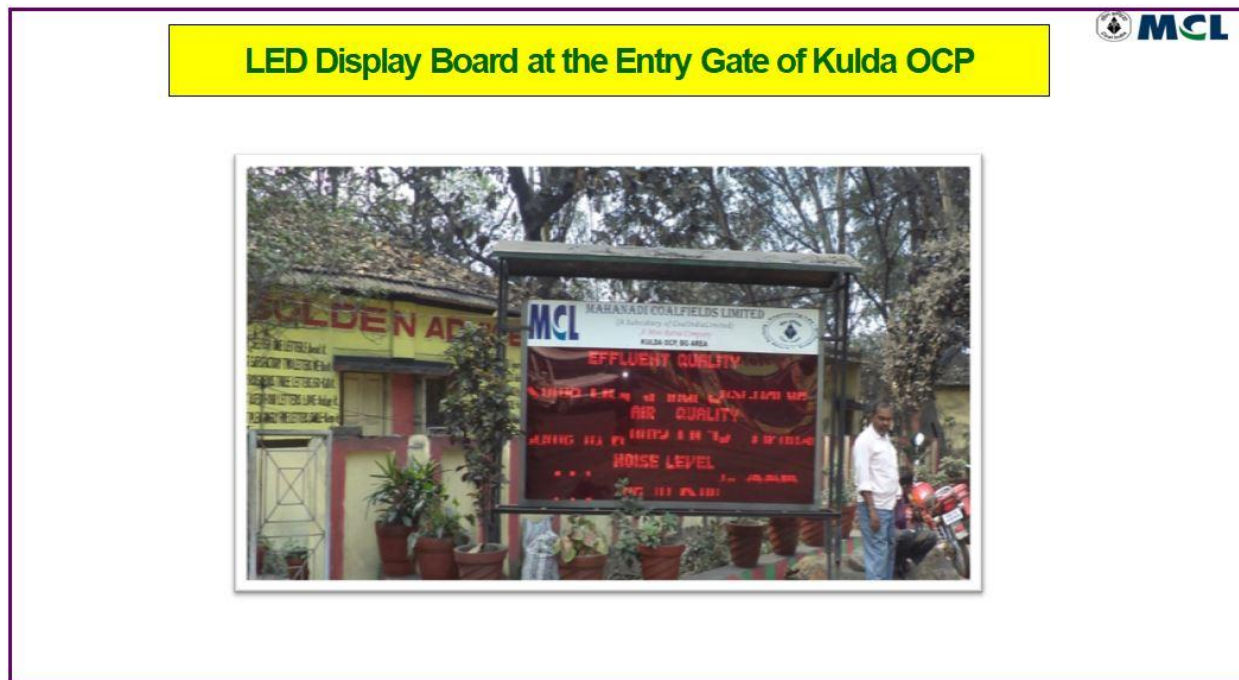


**cmpdi***A Mini Ratan Company*

Effluent Quality (All Parameter): - Basundhara Area

Project (OCP / UG)	Kulda OCP			MoEF-Sch-VI Standards
NAME OF THE STATION	Inlet of ETP	Final Outlet of ETP	Mine Sump Water near Kulda Nursery	
Date of Sampling	27-Nov-2024	27-11-2024	27-Nov-2024	
Odour	Unobjectionable	Unobjectionable	Unobjectionable	—
Colour(Hazen)	3	3	3	—
Temperature(^o C)	25.6	25.8	25.9	Shall not exceed 5 ^o C above the receiving temperature
Nitrate Nitrogen(mg/L)(As N)	<0.5	0.63	0.72	10
Ammonical Nitrogen , mg/l (As N)	0.69	0.96	1.15	50
Total Kjeldhal Nitrogen, mg/l (As N)	5.56	3.33	4.44	100
Sulphide (mg/L)	<0.1	<0.1	<0.1	2
BOD [3 days at 27 ^o C] (mg/L)	<2	<2	<2	30
Fluoride(mg/L)	0.96	1.16	1.15	2
Copper(mg/L)	<0.03	<0.03	<0.03	3
Manganese(mg/L)	0.31	0.1	0.1	2
Iron(mg/L)	<0.1	<0.1	<0.1	3
Zinc(mg/L)	0.12	<0.04	<0.04	5
Lead, mg/l	<0.005	<0.005	<0.005	0.1
Cadmium, mg/l	<0.001	<0.001	<0.001	2
Total Chromium(mg/L)	<0.01	<0.01	<0.01	2
Hexavalent Chromium(mg/L)	<0.05	<0.05	<0.05	0.1
Nickel(mg/L)	<0.02	<0.02	<0.02	3
Arsenic, mg/l	<0.005	<0.005	<0.005	0.2
Selenium (mg/L)	<0.005	<0.005	<0.005	0.05
Disolved Phosphate(mg/L)	<4	<4	<4	5
Phenolics (mg/L)	<0.001	<0.001	<0.001	1

LED Display board in front of Kulda Project displaying environmental monitoring data



ମହାନଦୀ କୋଇଲୀଲ୍ଡସ୍ ଲିମିଟେଡ୍
Mahanadi Coalfields Limited
(A subsidiary of Coal India Limited)

Office of the Project Officer
KULDA OCP
Basundhara Area
At/po- Basundhara- 770076
Dist - Sundergarh (Odisha)
Tel No. 06621-286133(O)
FAX:06621-286144



ILLUMINATION SURVEY REPORT DATE : 28/02/2025
KULDA OCP, BASUNDHARA AREA

Sl No.	Location	Place Details References	DGMS STANDARD		Observed Illumination		Action Taken/ Remarks
			Ver.	Hz.	Ver.	Hz.	
1	Lajkura S/M Coal Face Top	Location -1	25.00	15.00	23.9	16.1	03 Nos of Mini Truck Mounted Lighting Tower Placed
		Location -2	25.00	15.00	22.4	15.2	
		Location -3	25.00	15.00	21.6	14.6	
2	Rampur S/M Coal Face Middle	Location -1	25.00	15.00	22.9	15.9	02 Nos of Mini Truck Mounted Lighting Tower Placed
		Location -2	25.00	15.00	21.8	15.1	
		Location -3	25.00	15.00	19.8	13.8	
3	Reject Dumping	Location -1	25.00	15.00	25.9	16.9	03 Nos of Mini Truck Mounted Lighting Tower Placed
		Location -2	25.00	15.00	25.2	15.8	
		Location -3	25.00	15.00	24.5	14.5	
4	OB / Coal Haul Road	Location -1	NA	10.00	NA	15.1	155 Nos of 250W and 400W LED- 19 Nos Light fitting placed on pole
		Location -2	NA	10.00	NA	12.9	
		Location -3	NA	10.00	NA	11.9	
		Location -4	NA	10.00	NA	11.1	
5	Coal Stock Yard No-1	Location -1	15.00	15.00	18.9	16.8	1000W-03Nos and 400W-13 Nos of Placed on pole
		Location -2	15.00	15.00	15.2	15.9	
		Location -3	15.00	15.00	14.1	12.9	
6	Coal Stock No-2 &3	Location -1	15.00	15.00	62.9	45.9	Installation of 06 Nos, Stadium type High Mast lighting tower (25 Mtr. Long) Each tower having 12 Nos. of 1000 Watt LED Light fitting.
		Location -2	15.00	15.00	57.3	44.2	
		Location -3	15.00	15.00	40.90	32.9	
7	Mine Pump(Face Sump)	Location -1	NA	40.00	NA	42.9	113nos 4000W LED Light & 07Nos of 250W LED & 1000W LED - 04 Nos Light placed on pole
		Location -2	NA	40.00	NA	40.50	
8	Coal Despatch Road Sng and Kanika Gate	Location -1	NA	15.00	NA	21.3	12 Nos 400W and 1000W-4 Nos and 250W-15 Nos LED Light Placed on Pole
		Location -2	NA	15.00	NA	19.9	
		Location -3	NA	15.00	NA	17.9	

Manager
Kulda OCP

Safety Officer
Kulda OCP

P.E.(E&M)
Kulda OCP

Elec. Safety Officer
Kulda OCP

**SURFACE WATER QUALITY DATA OF KULDA OCP FOR THE PERIOD OF
Oct' 2024 to March' 2025**

Project/OCP	Kulda OCP		IS:2296-1982 Tolerance for inland Surface water (Class C)
NAME OF STATIONS	Basundhara River near Bankibahal bridge as u/s water	Basundhara River near Barpali Village as d/s water	
Date of sampling	28-Jan-25	28-Jan-25	
pH	7.50	7.69	6.5-8.5
Color (Hazen unit)	1	1	300
Dissolved Oxygen(mg/L)	6.7	6.3	4
BOD (3 days 27oc(mg/L)	<2	<2	3
Chlorides(mg/L)	11.58	13.51	600
Sulphate(mg/L)	17.12	23.29	400
Nitrate(mg/L)	1.52	<0.5	50
Fluoride(mg/L)	0.51	0.35	1.5
Total Hardness(mg/L)	59.60	67.55	-
Total dissolved solids (mg/L)	134	138	1500
TSS(mg/L)	39	46	-
Copper(mg/L)	<0.03	0.04	1.5
Iron(mg/L)	<0.1	<0.1	50
Zinc(mg/L)	0.05	0.07	15
Lead(mg/L)	0.006	0.008	0.1
Cadmium(mg/L)	<0.001	<0.001	0.01
Total Chromium (mg/L)	<0.01	<0.01	-
Arsenic(mg/L)	<0.005	<0.005	0.2
Selenium(mg/L)	<0.005	<0.005	0.05
Hexavalent Chromium,(mg/L)	<0.05	<0.05	-
Phenolics(mg/L)	<0.001	<0.001	0.005
Oil & Grease (mg/L)	<4.0	<4.0	0.1
MPN (Index/100 ml)	14	21	-
Residual Free Chlorine(mg/L)	<0.2	<0.2	0.2

Project/OCP	Kulda OCP			IS:2296-1982 Tolerance for inland Surface water (Class C)
NAME OF STATIONS	Chattanjhor nallah near Tumulia Village as u/s water	Chattanjhor nallah near Siarmal Village as d/s water	Kund Pond water	
Date of sampling	28-Jan-25	28-Jan-25	28-Jan-25	
pH	7.13	7.25	7.60	6.5-8.5
Color (Hazen unit)	1	1	2	300
Dissolved Oxygen(mg/L)	6.6	6.2	6.8	4
BOD (3 days 27oc(mg/L)	<2	<2	<2	3
Chlorides(mg/L)	9.65	11.58	7.72	600
Sulphate(mg/L)	10.27	16.37	10.55	400
Nitrate(mg/L)	<0.5	<0.5	<0.5	50
Fluoride(mg/L)	0.70	<0.3	0.33	1.5
Total Hardness(mg/L)	39.74	55.63	47.68	-
Total dissolved solids (mg/L)	88	98	76	1500
TSS(mg/L)	28	36	35	-
Copper(mg/L)	<0.03	0.04	0.03	1.5
Iron(mg/L)	<0.1	<0.1	<0.1	50
Zinc(mg/L)	0.05	0.08	0.12	15
Lead(mg/L)	0.012	<0.005	<0.005	0.1
Cadmium(mg/L)	<0.001	<0.001	<0.001	0.01
Total Chromium (mg/L)	<0.01	<0.01	<0.01	—
Arsenic(mg/L)	<0.005	<0.005	<0.005	0.2
Selenium(mg/L)	<0.005	<0.005	<0.005	0.05
Hexavalent Chromium,(mg/L)	<0.05	<0.05	<0.05	—
Phenolics(mg/L)	<0.001	<0.001	<0.001	0.005
Oil & Grease (mg/L)	<4.0	<4.0	<4.0	0.1
MPN (Index/100 ml)	23	38	26	—
Residual Free Chlorine(mg/L)	<0.2	<0.2	<0.2	0.2

Garland Drains and Check Dams around Mines



Kulda Mine Sump No.1

Kulda Mine Sump No.2

MINE SUMP (CAPACITY 20 LAKH CUM) OF KULDA OCP



Retaining wall around external OB Dump

The retaining wall at the toe of the external dump for a dimension of 500mx1.5mx0.5m



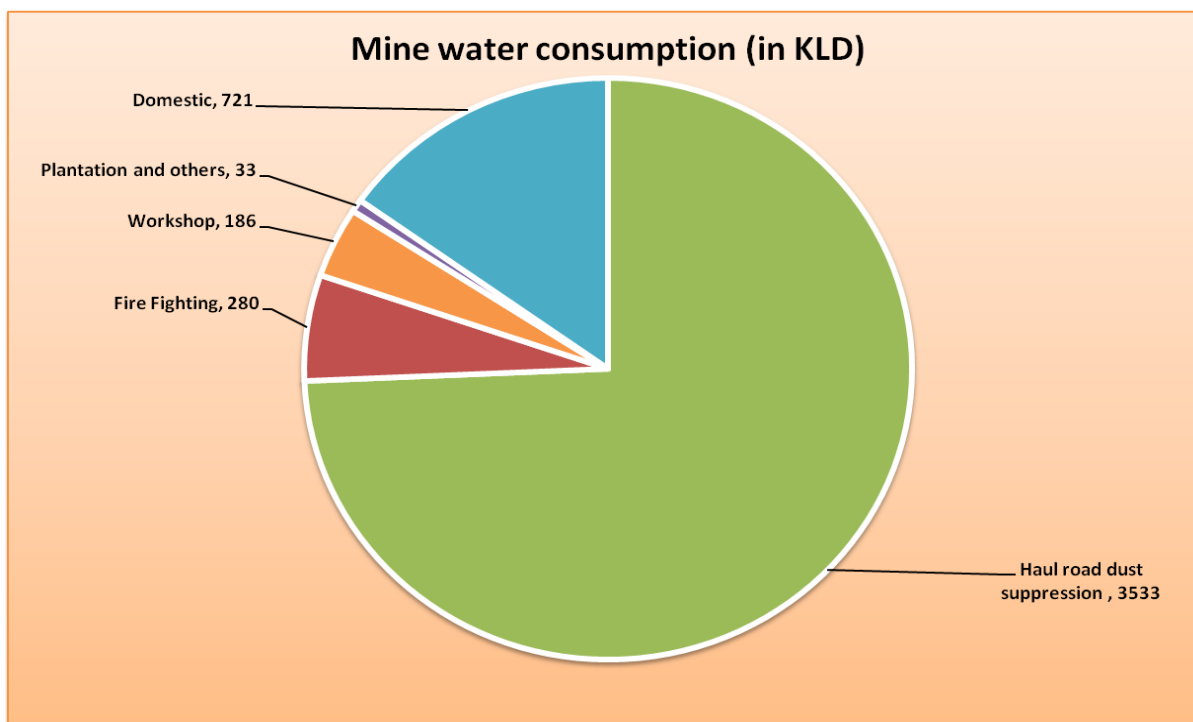
Drinking Water supply to peripheral villages



Annexure-XXVII

Sl No	Name of the village	No. of trips	Qty of water (in Ltr)	No. of days	Total qty of water (in Ltr)
1	Tikilipara	4	16000	90	1440000
	Sardega R&R	2	8000	90	720000
2	Khamarpara	4	16000	90	1440000
3	Gopalpur	4	16000	90	1440000
4	Kulda	2	8000	90	720000
	Chaitalgadi/ Bankibahal	3	12000	90	1080000
5	Siarmal	3	12000	90	1080000
6	Tumulua	6	24000	90	2160000
7	Garjanbahal	3	12000	90	1080000
8	Bangurkela	2	8000	90	720000
	Karlikachar	1	4000	90	360000
9	Barpali village and R&R site	3	12000	90	1080000
10	Kuisira	3	12000	90	1080000
11	Balinga (Barpali road side)	3	12000	90	1080000
12	Duduka	3	12000	90	1080000
13	Kaletpani	3	12000	90	1080000
14	Sarangijharia	3	12000	90	1080000
15	Sumra	3	12000	90	1080000
16	Ganjeibud	2	8000	90	720000
17	Tiuria	2	8000	90	720000

Mine Water Utilization under Kulda OCP



Noise Quality Report of Kulda OCP

PROJECT : Kulda OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
04-Oct-24	External CT Road	53.9	43.6
04-Oct-24	North of CHP	54.1	43.9
23-Oct-24	North of CHP	52.9	44.6
23-Oct-24	External CT Road	58.7	51.3

PROJECT : Kulda OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
09-Nov-24	North of CHP	52.9	44.4
09-Nov-24	External CT Road	55.6	50.6
23-Nov-24	External CT Road	58.7	51.2
23-Nov-24	North of CHP	52.9	44.6

PROJECT : Kulda OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
11-Dec-24	External CT Road	56.7	49.7
11-Dec-24	North of CHP	52.9	44.6
20-Dec-24	External CT Road	58.4	51.6
20-Dec-24	North of CHP	53.9	46.6

PROJECT : Kulda OCP

DATE OF SAMPLING	STATION	Noise Level Measurement in Leq dB(A)	
		DAY	NIGHT
11-Jan-25	External CT Road	56.3	44.6
11-Jan-25	North of CHP	52.9	43.6
22-Jan-25	External CT Road	58.7	51.2
22-Jan-25	North of CHP	52.9	44.6

PROJECT :**Kulda OCP**

<i>DATE OF SAMPLING</i>	<i>STATION</i>	<i>Noise Level Measurement in Leq dB(A)</i>	
		<i>DAY</i>	<i>NIGHT</i>
07-Feb-25	External CT Road	52.2	43.2
07-Feb-25	North of CHP	50.8	40.9
22-Feb-25	External CT Road	63.9	60.2
22-Feb-25	North of CHP	54.6	57.6

PROJECT :**Kulda OCP**

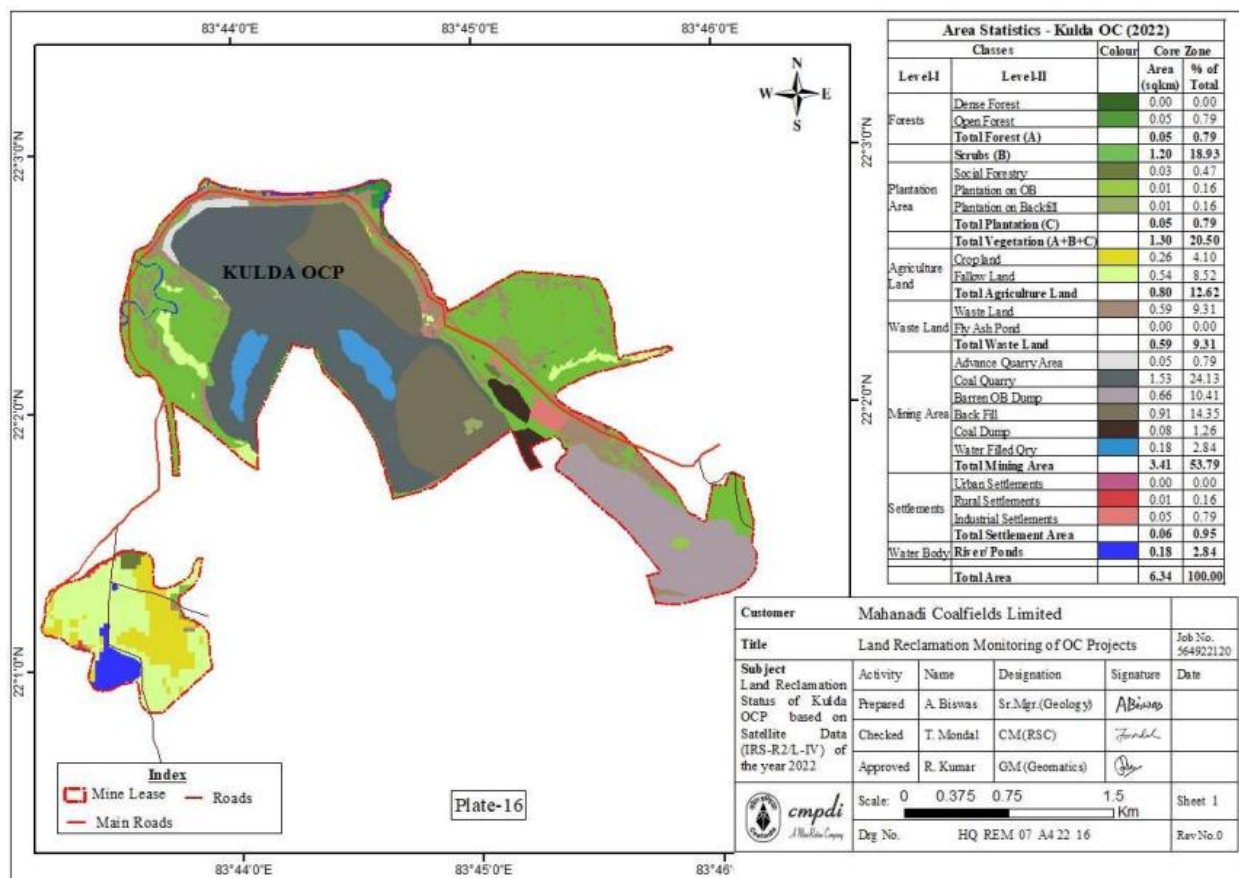
<i>DATE OF SAMPLING</i>	<i>STATION</i>	<i>Noise Level Measurement in Leq dB(A)</i>	
		<i>DAY</i>	<i>NIGHT</i>
08-Mar-25	External CT Road	54.6	44.5
08-Mar-25	North of CHP	50.8	42.9
26-Mar-25	External CT Road	58.7	51.2
26-Mar-25	North of CHP	51.2	43.1

Annexure-XXXI

As per the Mines Act, 1952, Kulda OCP is following the particular features of the act as stipulated:

S.No.	Mines Act, 1952	Compliance action carried out by Kulda OCP
1	Mining Operation and Management of Mines	In compliance, Kulda OCP obtains permission from Coal Controller Office and conveys the commencement of mining operation to the DGMS in prescribed format.
2	Provision as to Health & Safety	First Aid boxes has been provided in pit as well as in the Time Offices, in addition to the first aid room present at the safety office inside mine area. Frequent training (Certificate course) is provided for concerned persons for providing first aid at the time of emergencies as per the Act. Besides that mock drills are being carried out to monitor the efficacy of the trained personnel.
3	Notice of accident	Register is being maintained in prescribed format at the office of safety dept. for maintaining records of any such accidents happening inside the mines and presented quarterly to the DGMS as per the prescribed condition. All the prescribed procedures are being followed by the Safety Dept., during the case of death, body injuries.
4	Hours and Limitation of employment	The mine follows 8hrs shift policy and 24 hrs working routine a year. All the working personnel are mandatorily provided with one rest after working continuously for 48 hours a week. The notice of hours of work is being maintained in Form-A.
5	Wages of overtime	The employees working overtime than the prescribed normal working hours are paid twice the rate at which they are paid for normal working hours and the wages are being recorded in Form-I.
6	Employment for women	No woman is being deployed beyond the 6:00Am to 7:00 PM
7	Maintenance of Register of persons employed	The register with records of employees is being maintained at the Project Office (Administrative Office) of Kulda OCP.

Satellite Based Land Use Map of Kulda OCP for 2022

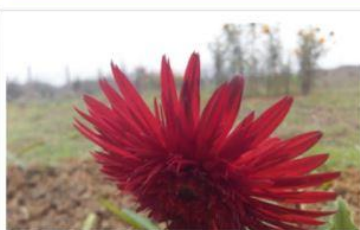


Top Soil Management

Before



Grassing, Legumes and flowering plants has been planted in top soil to retain its fertility



After



Plantation in internal and external OB Dumps of Kulda OCP



A total of 59,580 nos. of plants are planted in an area of 23.94Ha of internal as well as external OB Dump



Safety Zone Plantation under Kulda OCP

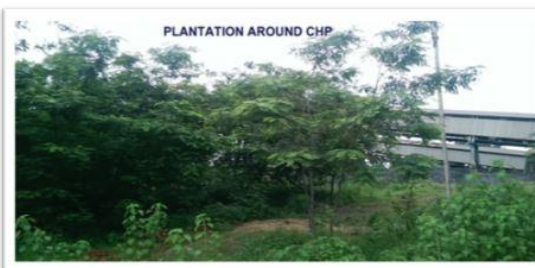


A total of 52000 nos. of plants has been planted in the safety zone area.



Plantation around MTK office of Kulda OCP

Plantation of 15,595 nos. of plants have been done in and around the infrastructure of Kulda OCP



Plantation around Mine



Kulda Mine is surrounded by dense vegetation, which acts as a natural wind barrier.



Plantation along coal transportation road towards Kanika Railway Siding



Urban Plantation in villages near coal transportation road towards Sundargarh



Baul plantation in the coal transportation towards Raigarh

NEW INITIATIVES TAKEN

❖ Departmental Nursery

- Seeds of various native species are collected by departmental members.
- Stored and used for germination before the onset of monsoon.
- The saplings are then planted at the vicinity of the mines.



❖ Vertical Garden

An innovative approach to curb the air-borne dust, has been initiated at Basundhara Area.



Vertical Greenery system of 100 m x 1.5m length has been installed in the Basundhara Area for the colony.

DEPARTMENTAL NURSERY TO RAISE SAL



As per the advise of the EAC, Sal Plantation has been taken up in the Basundhara Coalfield. A **Sal Nursery** has been developed in **2019**. **8500 nos. of sapling** has been developed till date.

Distribution of fruit bearing plants to nearby villagers and school



Distribution During
the period of
2020-21:

3000nos. Of Fruit
Bearing Plants
has been
distributed to the
nearby villages
and schools.



1. COAL TRANSPORTATION ROAD TO SARDEGA SIDING

Sl. No.	Control Measures	Additional Quantity 21.0 Mty	Budget Estimate Proposed in Crore	Timeline
1	Mist Sprinkler	188 Nos.	1.78	June'24
2	Mobile water tankers	01	0.14	Completed
3	Static Fog Canon	8 Nos.	0.70	Completed
4	Mechanical Road	04	6.40	Completed
5	Wheel washing system	02	1.18	Completed
6	Wind Barrier System	1000 m	5.32	June'24
7	Plantation	27,513 nos.	2.07	Completed
		Total	17.59	

Presently Coal is being transported through dedicated Coal corridor of 7Km towards Sardega Siding out of which 2 Kms of transportation will be done by upcoming Rapid loading System + Conveyor belt System by Oct' 2023 as an intermediate arrangement till the commencement of Barpalli Bulb.

SN	Description	Sanctioned amount (Crs)	Executing Agency	Timeline for
1	20 Mty- Rapid loading system with belt conveyor	Rs 311.69	McNally-Troxel-Kilburn (JV)	Dec'2023
2	Doubling of Jharsuguda Barpalli Sardega Rail line + Barpalli loop	Rs. 3198.12	South eastern Railway M/s DBL	Dec 2025 Dec'26 May'26
3	Pipe conveyor 5.42 Km with 12.5 Mty + 4.5 Mty ATLS (Automatic Truck Loading system.	Rs. 358.63	NIT Tender	Mar'25

Dust suppression is being done in the peripheral villages existing in the 10 km buffer zone of both the mines (Kulda and Garjanbahal OCP) using three nos. of 12 Kl mobile fog cannons (40 m throwing capacity). Further three nos. of mobile fog cannons in the peripheral villages have been deployed by March 2023. Details of Dust suppression on CT Roads to Sardega Siding and at Sardega Siding.

		Sl. No.	Particulars	Existing	Additional	Timeline
		1.	Mobile Fog Canon 40 m throw	3	3	Completed
		2.	Mechanical Road Sweeper	1	3	Completed
		3.	Fixed sprinkler	42	80	Completed
		4.	Mobile water tanker 10 KI	--	1	Completed
		5.	Mist Sprinklers for 3.7 Km from Basundhara check gate to Sardega Siding	--	150	In progress
		6.	Mobile water tanker 28 KI	1	--	Completed
		2. AT SARDEGA SIDING				
		Sl. No.	Particulars	Existing	Additi	Timeline
		1.	Static Fog Canon 100 m throw	3	8	Commissione
2	Water Pollution : Pollution due to Coal Dust	☞ Garland drains (6632m x 1.5m x 1.5m) and Berm (4809m x 1.5m x 1.5m) has been provided all around the mine boundary and External dump with a cost of 30 lakhs. ☞ Catch drains (3349m x 1m x 1m) has been provided at coal stocks and internal dump at cost of Rs. 15 lakhs ☞ The water so collected in the catch drains is channelized into the mine sump (capacity - ☞ 21 lakhs cum) of Kulda OCP, which is further utilized for industrial purposes like dust suppression and firefighting, green belt development etc. ☞ The drains are cleaned and de-silted pre-monsoon and post-monsoon, annually twice. ☞ Retaining wall along external OB dump of (500m X 0.40m X 2m) at a cost of Rs. 71 lakhs have been completed on 30.06.2021 which arrest the surface runoff of OB dumps ☞ ETP of capacity 450 KLD has been provided for workshop and the treated water is directed into the mine sump ensuring zero discharge. The oil and grease traps are also in operation and are working efficiently. The monitoring report of effluent of ETP is being submitted to the IRO, MoEF&CC regularly. The Cost of Modification of ETP is 59.00 Lakhs.				
3	Drinking Water Supply to peripheral villages	☞ Drinking water supply is being done for peripheral villages during the summer (90 days). ☞ As per requirement MCL is supplying drinking water to all the nearby villages in consultation with district administration. Details of drinking water supply are in the subsequent slide. ☞ A total of Rs. 108.08 Lakhs has been spent on supplying the drinking water to the peripheral villages in last three years.				

		CSR EXPENDITURE OF BASUNDHARA AREA FOR PAST 3 YEARS																
		Sl. No.	Activity wise break-up of CSR Expenses	2022-23	2023-24	2024-25												
		1	Drinking Water	12,190,571.18	5,731,983.15	5653806.50												
		2	Education	7,473,689.24	1,281,551.86	1717710.21												
		3	Gender equality	759353.23	177605.52	143099.00												
		4	Environment	1756085.01	7568741.40	228480.98												
		5	Rural development projects.	51,667,071.17	10742265.76	6205978.01												
		6	Slum Area Development	-	-	0.00												
		7	Disaster Management	-	-	0.00												
		8	Administrative Overhead Booking under CSR	-	-	2722269.14												
			Total (in Rs.)	73,846,769.83	25,502,147.69	16,671,343.84												
4	Employment for unemployed youth	<table><tr><th>Employment for unemployed youth</th><th>Provided</th><th>To be provided</th></tr><tr><td>Direct Employment</td><td>345 nos.</td><td>35 nos. are under process</td></tr><tr><td>Indirect employment</td><td>489 nos. have been employed.</td><td>61 nos.</td></tr><tr><td>(Skill development Initiatives)</td><td colspan="2">Under various programmes as detailed below:</td></tr></table> ☞ Under the ‘CCDP-Utthan’ Comprehensive Community Development Programme, 6174 families living in 40 villages of Sundargarh, Jharsuguda, Angul and Sambalpur districts have been given training on livelihood and skill development for five and half years commencing from 2018-19. ☞ Training has been given for cattle development, goat development, backyard poultry farming, fodder development programme, Agri horticulture development programme, awareness creation and capacity building programme etc. ○ Beneficiaries: 6174 families; Expend. ₹ 20.29 Crore (on-going) ☞ Multi- Skill Training Programme: A MoU has been signed between MCL and Central Institute of Petrochemicals Engineering & Technology, Centre for Skilling & ○ Technical Support, Bhubaneswar. under this project, a six-month multi-skill training on electrical, mechanical, plumbing and agricultural tools are being given to the unemployed youths among the project affected families. ○ Expenditure: Rs. 41.45 Lakhs					Employment for unemployed youth	Provided	To be provided	Direct Employment	345 nos.	35 nos. are under process	Indirect employment	489 nos. have been employed.	61 nos.	(Skill development Initiatives)	Under various programmes as detailed below:	
Employment for unemployed youth	Provided	To be provided																
Direct Employment	345 nos.	35 nos. are under process																
Indirect employment	489 nos. have been employed.	61 nos.																
(Skill development Initiatives)	Under various programmes as detailed below:																	

		boundary and External dump. Catch drains (3349mx1mx1m) has been provided at coal stocks and internal dump The water so collected in the catch drains is channelized into the mine sump (capacity -20 lakh cum) of Kulda OCP, which is further utilized for industrial purposes like dust suppression and fire-fighting, green belt development etc. The drains are cleaned and de-silted pre-monsoon and post-monsoon, annually twice. Retaining wall (500mx0.40mx2m) along external OB dump- has been provided.
	The natural water bodies and or streams which are flowing in and around the village should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Authorities have to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug well located in village should be incorporated to ascertain the impact of mining over ground water table.	The Chhattanjor Nallah which was flowing through the mine lease area has been straightened only after obtaining permission from State Government of Odisha. Basundhara (E) worked out quarry has been developed as a water reservoir from which potable water after treatment is supplied to colony & villages. In view of the ground water monitoring data, It can be seen that there is no reduction in water table, rather there is an improvement in water table. Kulda mine is a zero discharge mine. Water required for all the industrial use of the mine are met from the mine water. The following control measures have been taken by the project to prevent any disturbance to the ground water: Garland drains (7632mx1.5mx1.5m) and Berm (4809mx1.5mx1.5m) has been provided all around the mine boundary and External dump. Catch drains (3349mx1mx1m) has been provided at coal stocks and internal dump The water so collected in the catch drains is channelized into the mine sump (capacity -20 lakh cum) of Kulda OCP, which is further utilized for industrial purposes like dust suppression and fire-fighting, green belt development etc. The drains are cleaned and de-silted pre-monsoon and post-monsoon, annually twice. Drinking water is supplied to nearby villages. The ground water monitoring reports are being submitted six monthly to MoEF&CC.
	The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right to darkness and minimal noise levels at night. The Project Proponents (PPs) must ensure that the biological clock of the	Villages in the ML area have been shifted after providing all the R&R benefits as per the Odisha R&R Policy. Well planned R&R site has been prepared in Barpali, Chattenpali & Diamunda Adequate care is taken to ensure that the illumination & sound at the project site does not disturb the human & animal population in the villages. Green belt development in and around Kulda OCP helps reducing the impact of mines. Vertical greenery system has been provided in the downwind direction of coal stocks under Kulda OCP for a length of 600m

	villagers is not disturbed by orienting the floodlights/ masks away from the noise levels well within the prescribed limits for day/night hours.	and wind barrier of height 10m and length 1000m has been proposed in the upwind direction of coal stocks. Controlled blasting is carried in day time using Electronic detonator as per DGMS guidelines to mitigate ground vibrations and fly rocks. The vibration and noise report is being sent to MoEF&CC six monthly.
	The Project Authority shall make necessary alternative arrangements, where required, in consultation with the State Government to provide alternate areas for livestock grazing. In this context, Project Authority should implement the directions of the Hon'ble Supreme Court with regard to acquiring grazing land. The sparse trees on such grazing ground, which provide mid- day shelter from the scorching sun should be scrupulously guarded against felling lest the cattle abandon the grazing ground or return home by noon.	Grazing land has been provided at Chattenpali R&R site of size 4812.738 Sq mt. with consultation of State Government. Provision of Drinking water for cattle have been provided in an area of 1831.415 Sq. mt. Plantation has been done in the R&R site which shall provide shade from scorching sun light
	Where ever blasting is undertaken as part of mining activity, the Project Authority shall carry out vibration studies well before approaching any such habitats or other buildings to evaluate the Zone of influence and impact of blasting on the neighborhood. Within 500 meters of such sites vulnerable to blasting vibrations, avoidance of use of explosives and adoption of alternative means of mineral extraction, such as ripper/dozer combination/rock breakers/ surface miners etc. should be seriously considered and practiced wherever practicable. A provision for monitoring of each blast should be made so that the impact of blasting on nearly habitation and dwelling units could be ascertained, The covenant of lease deed under Rule 31 of MCR 1960 provides that no mining operations shall be carried out within 50 meters of public works such as public roads and buildings of inhabited sites except with in prior permission from	As per the lease deed under rule 31 of MCR 1960, no blasting is being done within 500m of public works as mentioned in the condition. Blasting has been eliminated in coal by introduction of Surface Miner Technology. 05 nos. of surface miners has been provided in the mines. The total production is carried out through wet operated surface miners. Blasting is only done in the OB benches. Blasting is done as per the permission granted by DGMS & Chief Controller of Explosives. Ground vibration study is regularly conducted in the mine to know the intensity of the blast induced vibration at different distances from the blasting site With adoption of controlled blasting technique the vibrations are kept under control. Control Blasting using Electronic detonator as per DGMS guidelines is being done in day time at Kulda OCP to mitigate ground vibrations and fly rocks and any disturbance to the biological clock of nearby villages. The vibration and noise report is being sent to MoEF&CC six monthly.

	the Competent Authority.	
	Main haulage road in the mine should be provided with permanent water sprinklers and other roads should be regularly wetted with water tankers fitted with sprinklers. Crusher and material transfer points should invariably be provided with Bag filters and or dry logging system. Belt-conveyors should be fully covered to avoid air borne dust.	Water sprinkling arrangement through fixed & mobile water sprinklers has been provided on the Main haulage road in the mine and other transport roads. Details are given below : 1. Haul Roads & Transport Roads: the following measures are existing for dust suppression at road. i. Fixed Sprinklers – 77 Nos. ii. Static Fog Canons– 8 Nos. iii. Water tankers – 4x28kl, 2x20kl, 1x12kl, 1x10kl. iv. Mobile Fog Canon, 40 m throw (12Kl) – 10 Nos. - Instant showers and wheel washing system installed at all the exit gates v. Deployed 3 nos. of mechanical road sweepers. 2. Dust Suppression Measures of in pipeline: a) 20 MT capacity Rapid Loading System with belt & serge bin is likely to be commissioned by Oct’2023. b) Belt from the mine to silo at Barpalli loading Bulb Loading Bulb with 03 nos.silo & 04 nos. RLS on 07 nos. rail line at Barpali yard is proposed to be commissioned by Mar’2026.
	The Project Authority shall ensure that the productivity of agricultural crops is not affected due to mining operations. Crop Liability Insurance Policy has to be taken by the PP as a precaution to compensate for any crop loss. The impact zone shall be 5km from the boundary of mine lease-area for such insurance policy. In case, several mines are located in a cluster, the Associations of owners of the cluster mines, formed inter-alia, to sub-serve such an objective, shall take responsibility for securing such Crop Liability Policy.	The project proponent always ensures that there is no effect of mining operation to the nearby villages. The total water demand of mines including industrial as well as domestic water demand is met from the water abstracted from the mine sump. The project is ensuring zero discharge by reutilizing the waste water generated from the mines after treatment. Also, the project proponent has taken initiatives for meeting the water requirement of nearby villagers by creating artificial ponds. Further, it is to state that company has not obtained any crop liability insurance policy but crop compensation is being provided in consultation with the State Government of Odisha.
	In case any village is located within the mining leasehold which is not likely to be affected due to mining activities during the life of mine, the Expert. Appraisal Committee (EAC) should consider the proposal of Environmental Clearance (EC) for reduced mining area. The Mining lease may be executed for the area for which EC is accorded. The mining plan may also be accordingly revised and required stipulations under the	Not Applicable The total lease area of 634.205 Ha has been engaged in mining activities. Villages in the ML area have been shifted after providing all the R&R benefits as per the Odisha R&R Policy. Well planned R&R site has been prepared in Barpali, Chattenpali & Diamunda

	MMDR Act, 1957 and MCR, 1960 met	
	Transportation of the minerals by road passing through the village shall not be allowed. A 'bypass' road should be constructed (say, leaving a gap of at least 200 meters) for the purpose of transportation of the minerals so that the impact of sound, dust and accidents could be mitigated. The PP shall bear the cost towards the widening and strengthening of existing public road network in case the same is proposed to be used for the Project. No road movement should be allowed on existing village road network without appropriately increasing the carrying capacity of such roads.	Following Coal transportation roads has been widened and strengthened by the project proponent at the project cost. Transportation towards Kanika Railway Siding: widening and strengthening of total stretch of 25Km has been completed in July 2020 with an investment of 209.40 Cr. Transportation road from Siarmal to Bankibahal (Total length- 2.7Km) has been completed in January 2020 with an investment of 16.36 Cr. Concrete road to Sardega railway siding for a total length of 6Km has been completed with an investment of 19.50 Cr. Sardega siding has been commenced at Basundhara Area for a capacity of 20Mty in the period of 2018-19, with an investment of 1146.99 Cr. Besides this, a separate coal corridor is being constructed from Bankibahal to Bedabahal for an additional investment of 600 Cr.
	Likewise, alteration or re-routing of foot paths, pagdandies, cart roads, and village infrastructure/public utilities or roads (for purposes of land acquisition for mining) shall be avoided to the extent possible and in case such acquisition is inevitable, alternative arrangements shall be made first and then only the area acquired. In these types of cases, Inspection Reports by site visit by experts may be insisted upon which should be done through reputed Institutes.	2.7 Km of Sundargah-Raigarh road has been diverted for the mining purpose. The diverted road has four lanes. Two lanes has been concreted for coal transportation and two lanes has been black topped for the use of villagers and passerby. A mobile fog canon of capacity 12Kl is engaged in this road for effective dust suppression. Also, plantation of 1975nos has been done in consultation with DFO Sundargah, for a distance of 2.7Km
	As CSR activities by Companies including the Mining Establishments has become mandatory up to 2% of their financial turn-over, Socio Economic Development of the neighborhood Habitats could also be planned and executed by the PPs more systematically based on the 'Need based door to door survey' by established Social Institutes/Workers on the lines as required under TOR. "R&R Plan/compensation details for the Project affected People (PAP) should	In MCL, fund for CSR are allocated based on 2% of average net profit of the company for the three immediate preceding financial years or Rs. 2.00 per tonne of coal production of previous year whichever is higher. The unspent amount in CSR budget in a particular year will not lapse and shall be added with CSR budget of subsequent years for MCL. All the funding goes to Odisha. 80% within 25 km of command areas of MCL in the districts of Jharsuguda, Sundargarh, Angul, and Sambalpur and remaining 20% in rest of Odisha

be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SC's /ST's and other weaker sections of the society in the study area, a need based sample survey, family wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village located in the mine lease area will be shifted or not. The issues related to shifting of village including their R&R and socio-economic aspects should be discussed in the EIA Report."					
	CSR EXPENDITURE OF BASUNDHARA AREA FOR PAST 3 YEARS				
	Sl. No.	Activity wise break-up of CSR Expenses	2022-23	2023-24	2024-25
	1	Drinking Water	12,190,571.18	5,731,983.15	5653806.50
	2	Education	7,473,689.24	1,281,551.86	1717710.21
	3	Gender equality	759353.23	177605.52	143099.00
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	5	Rural development projects.	51,667,071.17	10742265.76	6205978.01
	6	Slum Area Development	-	-	0.00
	7	Disaster Management	-	-	0.00
	8	Administrative Overhead Booking under CSR	-	-	2722269.14
		Total (in Rs.)	73,846,769.83	25,502,147.69	16,671,343.84

ମହାନଦୀ କୋଲଫିଲ୍ଡସ୍ ଲିମିଟେଡ୍
Mahanadi Coalfields Limited
 (A subsidiary of Coal India Limited)

Office Of The Project Officer,
 Kulda OCP, Basundhara Area
 AT/PO:-Basundhara-770076
 Dist:-Sundargarh (Orissa)
 Tel No: 06621 286133(O),
 FAX: 06621-286144



Ref: MCL/GM/BA/PO/KOCP/E&F/2022-23/105

Date:- 27.01.2023

--OFFICE ORDER--

In accordance to the condition stipulated in condition no.-4.1.i(ii) with respect to the Environmental Clearance issued vide no. - J-11015/10/1995-1A-II (M), dt.-14.02.2022 & J-11015/10/1995-1A-II (M), dt.-24.05.2022; the following members are hereby nominated for constituting Environmental Cell under Kulda OCP:

S.No.	Member from Kulda OCP	Role of committee members
1	Project Officer	Chairperson/Head of the committee
2	Manager, Mining or his representative	Mining
3	Project Engineer (C) or his representative	Civil
4	Project Engineer (E&M) or his representative	Electrical and Mechanical
5	Project Engineer (Excav.) or his representative	Excavation
6	Survey Officer or his representative	Survey
7	Land Officer	CSR
8	Nodal Officer (E&F)	Nodal

The above committee members are hereby assigned to monitor and execute all the environment related works as per the Environmental Clearance issued with respect to Kulda OCP till now and in future and shall be reporting directly to the chairperson. Any change in this committee shall be issued only after the approval of the chairperson. The Nodal department (Environment) shall coordinate the operation of this committee as well as conduction of review meeting/urgent meeting depending on case to case basis.

This Office Order shall be effective from the date of issue.


 Project Officer,
 Kulda OCP,
 MCL, Basundhara Area

Copy to:-

- General Manager (E&F), MCL HQ - For kind information.
- General Manager, Basundhara Area - For kind information.
- All Staff Officers, Basundhara Area - For kind information.
- Nodal Officer (E&F), Kulda OCP - For documentation.
- Office copy - For record.

COMPLIANCE REPORT/ ACTION TAKEN REPORT AGAINST THE GENERAL RECOMMENDATION OF CSIR-NEERI

The following recommendations were made by CSIR-NEERI after the site inspection on date- 21.02.2023, against the work order issued by MCL issued vide- MCL/GM/BA/E&F/2022-23/ES-45/451, date- 27.01.2023, and as per the final report submitted by CSIR-NEERI on date 26.11.2023. The compliance report/Action taken report against the general recommendation made by NEERI is as follows:

Conditions	Action taken/To be Taken report	Status
1. Dust suppression systems installed along the mine haul roads were found. Pressurized water sprinkling through fixed sprinklers along the haul roads, water sprinkling vehicles on the roads, fixed and mobile fog canons within the mine were observed. However, some other busy road stretches were seen to have substantial dust emissions where such measures are not installed and therefore, such stretches may be covered under dust suppression systems in due course of time.	Additionally 01 no. Of 28 KL water tanker has been deployed to cover up the left out area where fugitive dust emission was observed during the inspection. And the fugitive emission has been brought under control.	Complied.
2. Coal seam and overburden fire by spontaneous heating was observed at many places. Special vigil on such incidences, especially on distant (not regularly accessed) OB dumps must be made to avoid untoward incidences of large fire. The PP is advised to keep such vulnerable areas under soil cap for preventing fire.	Spontaneous heating at OB dumps are a part of mining activities which when observed are blanketed by the utilization of Top Soil. As on date, the PP has covered most of the area specified during the inspection and a small amount of area shall be covered using top soil produced in future.	Assured to comply
3. Environmental Data Management System must be streamlined in terms of soft and hard copy information/file management system for quick dissemination and delivery of information. All the environmental monitoring data including all	All the essential data of monitoring reports of air pollution and water quality parameters are available in the cloud storage system of MCL and can be accessed remotely. Moreover, the hard copies are also being maintained properly as per the suggestion given.	complied

historical data should be accessed, compiled and should be maintained with various graphical representations for the ease of quick overview.		
4. A meteorological station may be maintained in the mining area for monitoring local rainfall and evapotranspiration that influence the local water cycle, apart from helping in monitoring of wind patterns that aid in dust dispersion and air pollution studies.	Meteorological stations are already incorporated in CAAQMS (Continuous Ambient Air Quality Monitoring Stations) which are installed at three locations close to mines. Further, a separate CAAQMS is also being installed which shall serve the purpose as recommended.	complied
5. Staff gauge may be installed in sumps to monitor water level which will help in understanding periodic water augmentation, water depletion rate, other losses and water budgeting of the mine.	Manual staff gauge is already installed in the mine sump to regularly check water level. The water utilization is being frequently monitored and audited by MCL Hq.	complied
6. All the pipelines that either pump out or load water within the mining area, including the sumps, must be color coded /differentially marked for the ease of inspection and auditing purpose.	Assured to comply.	Assured to comply.
7. All specific points e.g. plantation areas, car washing bays, ETP, STP, view point, recharge structures, CHP and any other special feature/designated area must be marked with large permanent boards at the entrance area, showing detail information (with date, year of commissioning) in large font over contrasting background for ease of inspection and auditing. No vinyl prints must be used, as these are temporary in nature and are faded and torn in due course of time.	Plantation area, ETP, CHP, View Point has been provided with large permanent boards. As per the suggestion, no vinyl boards are being used at the said location.	Complied.
8. Road surface, wherever rough/bumpy, should be made smoother by proper grading for better vehicle movements.	The grading is a part of mining activity. The rough road surface is generally, graded using two numbers of contractual caterpillar motor grader available inside the mines. The road observed during the inspection has been maintained as per the suggestion.	Complied.

9. Persons deployed at the mine through departmental as well as contractors should be made to use personal protective gears, especially masks to protect them from micro- fine coal, siliceous dust and viral infections. During internal field visits/ inspections, the same should be monitored and enforced.	Personal protective gears and masks are already distributed in the mining areas and in the beginning of each shift, the mine supervisor gives safety awareness talks which is being recorded. Further to ensure the implementation of the usage of PPE inside the mine, surprise invigilation is also done by Safety Officer.	Complied.
10. Few of the external OB dump slopes are severely eroded and several rills and gullies were noticed on the slopes. Such erosion need to be stopped immediately by making a series of gully plugs/log wood check dam/brush wood check dams, so that the erosion of sediments and loose boulders from the OB dumps can be arrested.	The OB dumps, which was observed during inspection was proposed for plantation in an area of 20 Ha along the slopes and top bench. Presently, the plantation is being done by CGRVVNL. The proposal also included provision of gully plugs which shall be completed by 30.09.2024 (Next monsoon).	Being Complied.
11. The PP may consider taking appropriate action to make proper terracing and put geo- textile at vulnerable areas followed by broadcasting of seeds of local grasses for proper stabilization of dump slopes.	Along with plantation, the PP has provided grassing all along the slopes of external OB Dump, which is being carried out by CGRVVNL.	Being Complied.
12. Grown-up trees in plantations must be marked with common and specie names in metal placards pinned to the trunks.	Assured to comply.	Assured to comply.
13. All the future afforestation / plantation activities on the backfilled OB dumps, on the external OB dumps, degraded areas, township, railway sidings, transport /service roads are to be undertaken by using only native plant species.	Generally, the plantation activity is strictly supervised by DFO or carried out by specific plantation agency only, and as per recommendation, only native plants are being used for afforestation, and it is assured to comply the same in future also.	Complied.
14. Gap plantation should be undertaken wherever possible in the township area, wastelands, OB dumps and other degraded areas.	A lot of Gap plantation is already carried out in the township area, wastelands, OB dumps and other degraded areas.	Complied.

15. Along with the financial support for infrastructure to educational centres, the PP can also develop of libraries (with books in vernacular, Hindi and English), computer training centres, cyber cafes and medical diagnostic laboratories.	Medical diagnostic lab is already available in Basundhara Hospital constructed by MCL, DAV public school is also available inside the MCL colony to support education with inbuilt library and Computer centre.	Complied.
16. The PP needs to provide serially numbered boundary pillars with coordinates around the mine lease area.	DGPS survey and pillar posting has already been done.	Complied

Newspaper publication of EC for 21MTPA

**Third Party Audit for Compliance of EC
Conditions by Kulda OCP of Basundhara Area,
Mahanadi Coalfields Ltd. (MCL)**



Sponsor:

Mahanadi Coalfields Ltd. (MCL)



**CSIR-National Environmental Engineering
Research Institute (CSIR-NEERI)**



November, 2023

Final Report

**Third Party Audit for Compliance of EC
Conditions by Kulda OCP of Basundhara Area,
Mahanadi Coalfields Ltd. (MCL)**

Sponsor:

Mahanadi Coalfields Ltd. (MCL)

**CSIR-National Environmental Engineering Research
Institute (CSIR-NEERI)**

November, 2023

Project Team

Deepanjan Majumdar

Sreemanta Pramanik

Dipanjali Majumdar

Project Leader

Deepanjan Majumdar

Mentor

DIRECTOR, CSIR-NEERI

DISCLAIMER

This entire report is based on secondary data provided by MCL and CSIR-NEERI has not carried out any monitoring. This report has been prepared for the exclusive use and solely for the purpose for which it is provided. CSIR-NEERI will not accept any liability if this report is used for an alternative purpose for which it is not intended, or to any third party in respect to this report. The report should be reproduced, distributed or communicated as a whole and reproducing part of the report to any authority or third party is liable to legal action

CSIR-NEERI

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FOREWORD

MAHANADI COALFIELDS LIMITED (MCL) is a subsidiary of COAL INDIA LIMITED (CIL) established in April 1992. Kulda geological block is situated in Sundergarh District in the North-Western part of Ib-valley coalfield, also known as Gopalpur Sector. Mining Plan for Kulda OCP (10 MTPA) was approved by Ministry of Coal (MoC), Govt. of India in July 2011. The expansion plan from 10 to 14 MTPA was prepared within notified area of MCL for which stage-II forest clearance was obtained. The extension in expansion of Kulda OCP from 10 MTPA to 14 MTPA was approved by MoEF&CC on 10.1.2020.

CSIR-NEERI was engaged by MCL to undertake the annual third-party environmental compliance audit of the Kulda OCP, which has been made mandatory under the EC conditions given by MoEFCC to the PP. The CSIR-NEERI audit team conducted compliance audit of the Kulda OCP during February, 2023 by inspecting mining operations, coal transport operations, sump water management, mine water treatment initiatives, top soil management, plantation initiatives, road dust suppression activities, air quality monitoring by CAAQMS and data extraction, CGWB wells etc. The inspection was substantiated by verification of documents, reports, communications, photographs, files related to the scope of audit. Apart from observations made on environmental compliance of the PP, CSIR-NEERI audit team has also put forward suggestions for possible improvements in environmental management and compliance, wherever necessary. The assistance by the staff of Kulda OCP in conducting the environmental compliance audit is gratefully acknowledged.

AW 24/11/23
(Atul N. Vaidya)

Director

Nagpur

1.1 PREAMBLE

MAHANADI COALFIELDS LIMITED (MCL) one of the subsidiaries of COAL INDIA LIMITED (CIL) formed in 03.04.1992. MCL is the one of the largest coal producing companies in CIL which has been already awarded Mini Ratna, Cat-I status. It has ten areas in two coalfields of Odisha with 6 underground and 16 open cast mines. There are 51 sanctioned mining projects (including 3 exhausted projects) in MCL with a capacity of 224.41 Mty of coal. Out of total 51 Projects, 35 Projects have been completed and 16 Projects are ongoing. Kulda opencast mine, having a capacity of 10 Mty, is an existing opencast mine in Basundhara area of Ib valley coalfield. The Ib River coalfield lies in between latitude 21°31' to 22°14' North and longitude 83°32' to 84°10' East and falls mainly in Sundergarh, Jharsuguda and Sambalpur districts of Odisha. Coal reserves of this coalfield are about 28.07 billion tonnes (as on 1.4.2018) of which about 16.56 billion tonnes lie within a depth range of 300 m. Quality of coal varies from grade C to G (largely F), which is suitable for power generation.

1.2 BACKGROUND INFORMATION ON KULDA OPENCAST PROJECT

Kulda geological block is situated in Sundergarh District in the North-Western part of Ib-valley coalfield (known as Gopalpur Sector). It gained importance when erstwhile M/s. MAPL (Mirant Asia Pacific Ltd.) and M/s. CEPA/SEAP proposed to install a super thermal power plant at Hirma at the side of Hirakud Reservoir near Jharsuguda. But, due to uncertainty and slow progress of their IPP (Integrated Power Plant), the coal linkages

granted to M/s MAPL were cancelled. Subsequently M/s. NTPC (National Thermal Power Corporation) and M/s NLC (Neyveli Lignite Corporation) showed interest to install their thermal power plants in Ib-valley coalfield.

The Advance Action Proposal (AAP) of the project was sanctioned by Govt. in October 1995 for a capital investment of Rs.8.624 crores. The Project Report (PR) was approved by MCL Board in March 1995 and subsequently by CIL Board in May 1995. But, due to lack of forestry clearance and EMP clearance, the PR could not be processed further. Later the PR was revised with different sizes of HEMM. This proposal was approved by MCL Board on 24.11.2001 and by CIL Board on 6.3.2002. Finally the proposal of Kulda OCP (UCE-August, 2004 cost base) was sanctioned by CCEA in January, 2005 in coal and OB outsourcing variant.

1.3 MINING PLAN/ MINE CLOSURE PLANS FOR KULDA EXPANSION OCP

Mining Plan for Kulda OCP (10.0 metric tons per year or MTY) was approved by MoC, Govt. of India vide letter no: 34012/(4)/2011-CPAM dated 1st July 2011. The expansion plan from 10.0 to 14.0 Mty has been prepared within notified area of MCL for which stage-II forest clearance has been obtained (634.205 Ha, excluding area under Lalma Forest). Although additional non-forest land is available to be included in the present lease area, due to presence of scattered forest land it could not be included in phase-I mining operation. Remaining part of the block that includes Lalma forest will be taken up for mining later after getting forestry clearance in Phase-II. Mining Plan/ Mine Closure Plan for Kulda Expansion OC Project (Revision-I), expansion from 10.0 to 14.0 Mty, had been approved by Ministry of Coal vide Letter No. 34012/(04)/2011-CPAM dated 26-12-2016. The

extension in expansion of Kulda OCP from 10 MTPA to 14 MTPA was approved by MoEF&CC on 10.1.2020. The study area map of Kulda OCP is presented in **Fig. 1.1**.

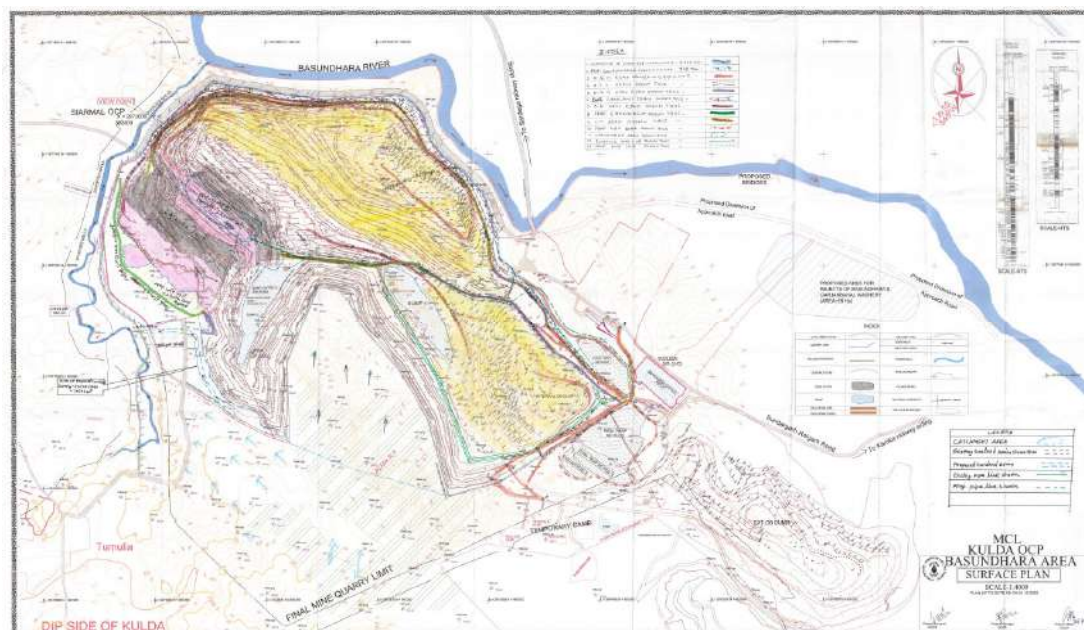


Fig. 1.1 Study Area map of Kulda OCP

The pre-mining and post-mining (post-closure) land use is presented below (**Table 1**):

Table 1 Pre- and post-mining land use details of Kulda OCP

Pre Mining land use

Sl. No.	Type of land	Within ML area	Outside ML area	Total area
1	Agricultural	259.794	37.50	297.294
2	Waste Land	146.52	Nil	169.421
3	Forest land	227.89	22.90	227.890
4	Grazing	Nil	Nil	Nil
5	Surface water bodies	Nil	Nil	Nil
6	Settlements	Nil	Nil	Nil
7	Others settlements	Nil	Nil	Nil
Total:		634.25	60.4	694.605

Post Mining land use

Sl. No.	Category	Plantation /grass carpeting	Water body	Dip side and haul road	Undisturbed	Built-up area	Total
1	Excavation area	211.47	17.64	92.8	-	-	321.91
2	OB dump area (external)	160.502	-	-	-	-	160.502
3	Infrastructure	25.23	-	-	-	100.927	126.157
4	Embankment	3.51	-	-	-	14.049	17.559
5	Other area incl safety zone and road/nallah diversion	8.077	-	-	-	-	8.077
	Total mining lease	408.789	17.64	92.8	-	114.976	634.205
6	Resettlement site	-	-	-	-	37.5	37.5
7	Rehabilitation site	-	-	-	-	22.9	22.9
	Total Project area	408.789	17.64	92.8	-	175.376	694.605

Source: Grant of EC to Kulda OCP, EIA Division, MoEFCC

1.4 STATUS OF KULDA OCP

The block boundary is defined by the following: North - Basundhara River, West - Chattajhor Nallah, tributary of Basundhara River, East - Metamorphic exposure, South - Line joining boreholes CMHG-103,129,123, 139 & 138 & South east adjacent Garjanbahal block. The area of the block under consideration is 5.84 sq.km., out of which coal bearing area is 5.30 sq.km. The Project Report for Kulda Expansion OCP (Normative capacity 15.00 Mty; 5.00 Mty incremental) (Peak Capacity 18.75 Mty) was approved by MCL Board in its 159th meeting held on 25.06.2014 at an additional capital investment of Rs.

289.03 crore up to target year and Rs. 30.22 crore beyond target year to be implemented in incremental coal and incremental OB both by outsourcing.

Mining Plan/Mine Closure Plan of Kulda Expansion OCP (Expansion from 15 Mty to 18.75 Mty) was approved by MCL Board ref no: MCL/SBP/CS/CR-19/2020- 21/10992 dated 10.06.2020 for total project area of 981.705 ha including Lalma RF area. Mining Plan/Mine Closure Plan of Kulda Expansion OCP (19.6 Mty) was approved by MCL Board ref no: MCL/SBP/CS/CR-42/2020-21/11330 dated 30.11.2020 excluding Lalma RF area. MCL desired 50% enhancement of production over EC capacity (14 Mty) to achieve 21 Mty from Kulda OCP. EMP clearance of Kulda Expn. OCP for capacity 14 Mty is based on Mining Plan/Mine Closure Plan of Kulda Expansion OCP (Revision2) (Expansion from 15 Mty to 19.6 Mty) for total project area of 694.605 ha (ML area 634.205 ha) excluding Lalma RF area. MCP of Kulda Expansion OCP (Revision-3) (21.0 Mty) for total project area of 694.605 ha excluding Lalma RF area is based on previous MP/MCP of Kulda Expansion OCP (Revision-2) (Expansion from 15 Mty to 19.6 Mty) for total project area of 694.605 ha (ML area 634.205 ha) excluding Lalma RF area. In this approved Mining Plan of Kulda Expn. OCP (Revision-2), mining operation was carried out in two phases. In Phase-I, surface boundary was restricted within notified lease area for which forest clearance has been obtained by the project authority i.e. excluding Lalma Forest. In Phase-II, remaining part of the block was to be worked after obtaining forest clearance for this area. In this proposed MP/MCP of Kulda Expansion OCP (Revision-3) (21.0 Mty), mining operation will be carried out in two phases as described in Revision-1 within the same lease area

MCL application for Environmental Clearance (EC) in respect of expansion of Kulda Open cast Coal Mine Project from 16.8 MTPA to 19.6 in an ML area of 634.205 ha M/s Mahanadi Coalfields Limited, located at village Balinga, Tumulia, Siarmal, Kulda & Bankibahal, Tehsil: Hemgir, District Sundargarh (Odisha) was submitted to the Ministry vide proposal number IA/OR/CMIN/246444/2021 dated 25 Dec 2021. The proposal was considered by the sectoral Expert Appraisal Committee (EAC) and grant of EC was given by MoEFCC on 14.2.2022. Further, MCL application for Environmental Clearance (EC) in respect of expansion of Kulda Open cast Coal Mine Project from 19.6 MTPA to 21.0 (increase of 10% w.r.t. 14 MTPA) in an ML area of 634.205 ha M/s Mahanadi Coalfields Limited, located at village Balinga, Tumulia, Siarmal, Kulda & Bankibahal, Tehsil: Hemgir, District Sundargarh (Odisha) was submitted to the Ministry vide proposal number IA/OR/CMIN/271821/2022 dated 13 May 2022. The proposal was considered by the sectoral Expert Appraisal Committee (EAC) and grant of EC was given by MoEFCC on 24.5.2022.

1.5 LOCATION, COMMUNICATION, TOPOGRAPHY, DRAINAGE, CLIMATE AND RAINFALL

1.5.1 Location

Kulda geological block is located in the north-western part of Ib valley coalfield in Sundergarh district in the state of Odisha. It is situated between latitudes 22°01'02" to 22°03'03" North and longitudes 83°43'28" to 83°45'35" East (refer Plate no. Gen-I & Gen-II). The block boundary is defined by the following: North - Basundhara River West - Chattajhor Nallah, tributary of Basundhara River. East-Metamorphic exposure. South -

Line joining boreholes CMHG-103,129,123, 139 & 138 & South east adjacent Garjanbahal block. The area of the block under consideration is 5.84 sq.km., out of which coal bearing area is 5.30 sq.km.

1.5.2 Communication

District headquarter Sundergarh, on State Highway-10 (Sambalpur to Rourkela), is at a distance of about 40 km. from the blocks. The Sundergarh (Odisha)-Raigarh (Chattisgarh) all weather road passes through the blocks. The blocks are also connected by black top road with two important towns of Orissa, namely, Rourkela at a distance of 145 km and Jharsuguda, at a distance of 75 km. The block comes under Himgir Tahsil and Balinga police station in the district of Sundergarh, Odisha. The block is connected by road to the state capital, Bhubaneswar, through State Highway-10 and National Highway-42, with a total distance of around 450 km. The block is well connected with MCL HQ at Sambalpur situated at a distance of about 100 km.

Nearest railhead is Himgir on Mumbai-Howrah Broad Gauge of South Eastern Railway at a distance of about 36 km from the blocks. Jharsuguda railway station on Jharsuguda-Sambalpur-Bhubaneswar rail line of East Coast Railway is at a distance of about 75 km. The nearest port at Bay of Bengal is Paradip and situated at a distance of about 600 km. from the block.

1.5.3 Topography

The topography of the block is rugged with steep rise and fall. The central and south eastern parts lie at a comparatively higher elevation being dotted with hillocks. The

minimum and maximum elevations of the area are 254 m and 320 m, respectively, above the mean sea level.

1.5.4 Drainage

The ground slopes generally towards west and north and ground water is collected by Chattajhor nallah being fed by streamlets, which in turn feeds to river Basundhara. River Basundhara flows along the northwest and northern boundary of the block.

1.5.5 Climate & Rainfall

The climate is sub-tropical. Temperature varies from 9.3°C (winter season) to 44.1°C (in pre-monsoon cyclone season). The average annual rainfall is 1413 mm as measured at IMD Jharsuguda for the last 24 years. The general wind direction is North-West (NW) and the average wind speed is 10.93 km/hr. The relative humidity during April to July varies from 59% to 92%.

1.6 ENVIRONMENTAL IMPACTS

1.6.1 Impact On Air Quality

The mining and its related activities will cause ambient air pollution. The ambient air will be polluted due to presence of SPM, PM₁₀, PM_{2.5}, SO₂ & NO_x which will be generated due to various activities related to the project. The ambient concentration and dispersion of pollutants are influenced by micro-meteorological parameters of area. Followings operations are known to cause air pollution in coal mines:

Drilling Operation: Presently all the drills have wet-drilling arrangements along with the NVE extractors. The same arrangement will continue. Coal production has been done by

Surface Miners and the same will continue. Proper maintenance and handlings of drilling units are getting done.

Blasting Operation: Blasting is to be done in a proper way to minimize the generation of fugitive dust. Proper burden/spacing of blast holes are to be maintained.

Loading and Transport:

Coal loading (loading/unloading/relocation) generate a lot of fugitive dust in coal mines and transport activities by roads generate substantial amount of coal dust and also, road dust.

Coal Handling Plant (CHP) (If available and working)

Coal delivery, unloading, storage, coal crushing, coal transfer by conveyor belts are various operations that generate substantial fugitive coal dust in the vicinity of a coal handling plant, coal flow circuit, transfer points and other delivery locations.

Fire at Coal Faces & Coal Stockyards

Fire started by auto combustion of coal and shell materials on overburdens, stockyard and other points lead to generation of air pollutants like PM, SO₂, NO₂, CO, BC etc. that can cause substantial haze over the mining zone and surrounding areas.

1.6.2 Impact on Water Quality and Water Resources

Various operations in mining and associated activities may lead to contamination of surface and groundwater within a mine command area. The likely sources of water pollution could be:

- Domestic sewage

- Wastewater generated from workshop
- Mine discharge water
- Surface run-off passing through coal stockpiles and OB dumps
- Storm water from leasehold and built-up areas

The impact of mining at this project on both surface water source and ground water resource has been assessed as follows:

Impact on Surface Water Sources:

- Disruption of natural drainage pattern in the core zone
- Siltation and choking of water courses causing scarcity of surface water and flooding problem in the area.

Groundwater Resource:

- Due to excavation, ground water aquifers are disrupted.
- Due to pumping of mine water, the water table of the region may get lowered.

1.6.3 Noise generation

The source of noise in a coal mine are:

- Blasting
- Drilling
- Running of machineries
- Loading and unloading operations
- Sounds of HEMM
- Sound of fog canons

- Vehicular sounds
- Plying of rail wagons

1.6.4 Effects on Flora and Fauna

Air pollution and sound generated within the active mining area and the surroundings can affect plant and animal life. Plant growth may be seriously hampered by dust deposition on leaves that affects photosynthesis and toxic gases in air can hamper growth and development of plants. On the other hand, sound can affect the behavior of animals and avifauna.

1.6.5 Socio-Economic Impacts

Coal mine have beneficial impact on socio-economic front by providing direct employment to the local people and boosting the economy of the area and provide secondary and tertiary employment to the local people. There will be a positive change in the social infrastructure facilities of the area also. Apart from that coal mining can displace people from their traditional homes and can affect farms and agricultural practices.

1.6.6 Effects on Land

The most significant adverse impact of opencast coal mining is the change in land use pattern in terms of cutting of forests, changing land level and contours, creating new landscapes, relocation of productive soil, destruction of water bodies etc. So, reclamation of mined out land is given due importance as a step for sound land resource management.

1.7 ORIGIN OF THE PRESENT THIRD-PARTY AUDIT

As per the condition laid down by MoEFCC in EC, a third-party environmental compliance audit needs to be undertaken by Kulda OCP on every year and the third-party audit report needs to be submitted to MoEFCC for evaluation. Remote discussions were held by CSIR-NEERI audit team with the concerned officials of MCL and relevant documents and communications received by the Kulda OCP on EC were obtained by the audit team. The modality of carrying out the audit was discussed and the project proposal was submitted to MCL by CSIR-NEERI. M/s Mahanadi Coalfields Limited (MCL) *vide* its letter No. MCL/GM/BA/E&F/2022-23/ES-45/451 dated 27.01.2023 communicated the Letter of Award (LoA) to CSIR-National Environmental Engineering Research Institute (CSIR-NEERI) for conducting Third-Party Environmental Audit for Kulda OCP (**Annexure 1**). Thereafter, CSIR-NEERI audit team visited Kulda OCP during 21-22 February, 2023. During on site audit, CSIR-NEERI team scrutinized all the relevant documents, inspected parts of command area, mine lease area, active mining area, various mining operations and allied operations, environmental management activities etc. The scope of environmental audit is presented in next section:

1.8 SCOPE OF ENVIRONMENTAL AUDIT

The scope of environmental compliance audit encompasses the EC given for the following two expansions:

- Environmental Clearance (EC) granted to MCL against MCL application with respect to expansion of Kulda OCP from 16.8 MTPA to 19.6 in an ML area of 634.205 ha M/s Mahanadi Coalfields Limited, located at village Balinga, Tumulia, Siarmal, Kulda & Bankibahal, Tehsil: Hemgir, District Sundargarh (Odisha)

- Environmental Clearance (EC) granted to MCL against MCL application with respect to expansion of Kulda OCP from 19.6 MTPA to 21.0 (increase of 10% w.r.t. 14 MTPA) in an ML area of 634.205 ha M/s Mahanadi Coalfields Limited, located at village Balinga, Tumulia, Siarmal, Kulda & Bankibahal, Tehsil: Hemgir, District Sundargarh (Odisha)

The EC conditions given to Kulda OCP are attached in **Annexure 2**.

The following scopes are included within the purview of environmental compliance audit:

1. Reviewing the mine-specific conditions laid down in the Environmental Clearances (EC) by Ministry of Environment, Forest and Climate Change (MoEF&CC)
2. To assess the compliance with the project approval conditions and other approvals of the mine *vis a vis* progress of development of the mine
3. To conduct site inspection, observe mining operations *vis a vis* various environmental protection measures, pollution control mechanisms, verify the compliance of pollution levels with the laid down standards; off-site and on-site scrutiny of documentation, monitoring data collection and data-keeping mechanisms relevant to the audit
4. To assess the environmental performance based on the development with the requirements of the approval of EC and the Mining Lease conditions (including any assessments, plans or programs required under these consents/approvals)
5. To assess greenbelt development; biological reclamation of overburden (OB), top soil management and assess adequacy of strategies, plans or programs prepared for its effectiveness

6. Furnish recommendations, if considered necessary, for better implementation of environmental management and control measures to comply with EC conditions and enhance overall environmental performance of the mines
7. Preparation of an Environmental Audit Reports, providing assessment of compliance against each approval condition and provision of recommendations
8. After completion of Environment Audit of each subsidiary, CSIR-NEERI shall present a Draft Report to MCL
9. CSIR-NEERI shall submit final report after incorporating the comments of M/s. CIL and/or its subsidiaries on the draft report

Accordingly, the scientists from Kolkata Zonal Center of CSIR-NEERI have conducted the environmental audit of the Kulda OCP of Mahanadi Coalfields Limited of Coal India Limited (CIL) during February 21-22, 2023. The structure of the Environment Audit Report consists of five chapters as outlined below: **Chapter 1-** Introduction and Background information on Kulda Open Cast Coal Mine Project; **Chapter 2-** Audit Methodology: A detailed description of the audit process and scope of the audit; **Chapter 3-** Environmental Compliance Audit: An overview of the findings of the audit, including descriptions of compliance and findings from the site inspection in compliance to the EC conditions; **Chapter 4-** Audit Findings. These Chapters are followed by the **Annexure** section. The draft report on environmental audit findings is being submitted to the OCP for scrutiny, relevant corrections and comments.

The adopted audit methodology included project related discussions with the personnel from Kulda OCP, desk review of documents/reports/letters and samples of records provided by the project office at Kulda OCP, meetings and site inspection to assess the level of environmental performance and compliance of environmental conditions given by MoEF&CC. The audit process covered the scope of work under TOR and order provided by MCL and is described in details below.

2.1 Kick-off Meeting

The audit process commenced with a kick-off meeting held at Kulda OCP Project Office on 21st February, 2023 with the Project Officer, Environment Officer and other concerned officials of Kulda OCP to introduce the audit scope and their responsibility in facilitating the process. The Project Officer and Environment Officer presented and explained mining activities and operations and various environmental management activities undertaken by the OCP. The proposed audit methodology was also discussed at length with the team of officials from Kulda OCP before initiating the audit. The purpose, depth and the scope of the audit were outlined and the methods were explained. Further, requirement of documents to review such as various management plans, project reports, mine closure plan and periodical reports submitted to various regulatory agencies to address specific compliance requirements, particularly those relevant to address the scope of the study, were discussed and deliberated upon.

2.2 Consultation

Interaction meetings were conducted with the concerned officials and staff dealing with the project to understand the regulatory and statutory process followed for the mine. During the process of consultation, in-depth discussion was held with the officials of Kulda OCP.

2.3 Desk Review

The relevant documents in hard and soft copies were exhaustively desk-reviewed for necessary understanding, generation of observations and identifying the gaps in compliance to environmental clearance conditions. Relevant observations made were used for detailed discussions with the concerned officials during visit and thereafter also. The Draft Environmental Compliance Report of Kulda OCP, Belpahar, Odisha (MCL) was prepared with all the above exercise.

2.4 Data Collection and Verification

The CSIR-NEERI audit team verified the documents, such as letter from the MoEF&CC regarding environmental clearance, forest clearance approved till date, Environmental Impact Assessment (EIA) and Environment Management Plan (EMP), detailed project reports prepared by Central Mine Planning and Design Institute (CMPDI) and also all other statutory approvals like No Objection Certificate (NOC) from State Pollution Control Board (SPCB), Directorate General of Mines Safety (DGMs) permission and all periodical reports submitted to various regulatory agencies etc. The documents were desk reviewed for collection of information and data prior to the on-site audit to verify the implementation process. In addition, the statements provided by the Project Personnel were also verified by desk reviewing of the documents and site inspection. Wherever suitable verification could

not be obtained, the same has been identified in the audit process and suitable suggestion has been provided for future course of action.

2.5 Site Inspection

A detailed site inspection of the mine was carried out during 21-22nd February 2023 as part of the audit process. Following areas were inspected during the inspection:

- Mining operations
- The haul roads
- Wheel washing station
- CAAQMS sites
- HEMM washing bay
- Wind barrier installation sites
- Overburden dumps (External)
- Overburden dumps (Internal)
- Garland drains, Siltation Ponds, Toe Walls, etc.
- Slope stabilization areas
- Corporate Social Responsibility (CSR) related activities
- Surface water storage structures (sumps)
- Greenbelt areas
- Dust suppression systems like fog canons, sprinklers
- Effluent treatment plant
- Sewage treatment plant
- New plantation areas

- Railway sidings
- Piezometer point of CGWB

2.6 Review of Status of Statutory Compliance

Detailed document scrutiny was undertaken in the project of the mine and documents/reports related to the following aspects were accessed:

- Project approvals /clearances/ permission letters from authorities
- Environmental Impact Assessment/ EMP reports
- Resettlement and rehabilitation documents
- Health and Safety related documents and circulars
- CSR reports
- All other miscellaneous documents/circulars
- Corporate Environmental policy Report

2.7 Group Meeting and Reporting

After the completion of desk review, mine visits, survey and inspections, interviews and interactions, document verification, a Minutes of Meeting and Mine Visit was prepared and signed by officials of CSIR-NEERI and Kulda OCP present at the meeting (**Annexure 3**).

2.8 Report Submission

A Draft Audit Report is being submitted containing observations, comments and suggestions of auditor on the EC compliance performance and overall environmental performance of the PP. The final report will be submitted after review of comments submitted by PP against observations made by the auditor in Draft Report.

Environmental audit is performed to assess the activities implemented by the project authority as per EC conditions and compliance as a set of criteria or standards recommended by the MoEF&CC, Govt. of India. The NEERI team conducted audit for Kulda OCP through exhaustive document review, site visit and interactions with the stakeholders. The status report on compliance to environmental clearance conditions submitted by the project authority to the respective regulatory agencies was also reviewed by the audit team for relevant input. Accordingly, a checklist of EC conditions by the MoEF&CC, status of environmental compliance and audit observation by the audit team prepared is provided in **Table 3.1**.

Table 3.1 Comments and observations of the auditor against designated EC conditions and erstwhile response of PP to MoEFCC

	Condition	Compliance/Action Taken Report	Auditor's observations, comments and recommendations
4.	General Condition		
i.	PP shall submit Certified Compliance Report of the EC vide No. F. No. J- F No. J-11015/10/1995-IA-II(M) dated 14 th February, 2022 granted for total 40% expansion, along with EIA/EMP report, prepared based on standard ToRs for the additional capacity of 10% on PARIVESH portal within six months of enhancement of production beyond 40%.	As per the EAC meeting held on date – 18.11.2022 on 4:00PM, it was advised by EAC that Kulda shall submit the CCR by 31.01.2023 and EIA/EMP by 31.01.2023. Inspection was done on date – 24.01.2023 and the CCR is expected by 30.01.2023. The EIA-EMP report for 21.00 MTPA has been prepared. As per the stipulated condition the CCR along with EIA-EMP shall be uploaded within 31.01.2023	COMPLIED Comments: EIA-EMP report is yet to be uploaded on MCL website as on 5.6.2023. However, the EIA/EMP report is under progress. The work order for preparation of EIA/EMP report has been given to CMPDIL (Annexure 4)
ii.	In view of above para (i), Ministry shall ascertain the adequacy of the proposed environmental safeguards and stipulate necessary condition, if required, which shall be monitored as a part of the EC compliance monitoring.	Noted and Agreed.	PP HAS ASSURED TO COMPLY
iii.	PP shall obtain necessary prior consent for enhancement of capacity from State Pollution Control Board under Air and Water Act.	For a production capacity of 21.00 MTPA: 1. Consent to Establish has been obtained vide no. – 19795/IND-II-CTE-6742, Date – 27.10.2022 and 2. Consent to Operate has been obtained vide no. - 788/IND-I-CON-5125, Dt. – 20.01.2023	COMPLIED Comments: Consent to Establish and Consent to Operate are obtained by the PP and were accessed by the audit team. The CTE is dated 27.10.2023 and is still valid. The CTO is dated 28.3.2023 and is valid up to 31.3.2024 (Annexure 5-6)
iv.	Environment quality parameter arising out of proposed expansion shall be within the prescribed norms and the same shall be maintained as per prescribed norms.	The Environmental quality parameter for PM10, PM2.5, SO2, NOx, and CO is being maintained within the prescribed norms and being monitored using the CAAQMS installed at location – Nursinghpur, CMPDI camp Gopalpur, and near Jagannat Temple. It is further assured that the same shall be maintained as per the prescribed norms.	COMPLIED Comments: Ambient AQ during April to September and October to March are within prescribed limits. AQ Reports (April to September and October-March) are attached in Annexure 7 .
v	Hon'ble Supreme Court in an writ Petition(s) Civil No. 114/2014, Common	The Kulda OCP is an operating mines and it is being agreed to abide by the stipulated condition as	PP HAS ASSURED TO COMPLY

	Cause vs Union of India & Ors vide its judgment dated 8 th January, 2020 has directed the Union of India to impose a condition in the mining lease holder shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent".	per the mine closure plan.	
vi	All other terms and condition as prescribed in Ministry's letter dated 10.01.2020, 02.03.2021 14.02.2022 shall remain the same and this enhancement shall be read with EC dated 14.02.2022, which needs to be complied by PP.	Noted and Agreed	PP HAS ASSURED TO COMPLY
The compliance report of the condition stipulated in the Environmental Clearance of Kulda OCP issued vide F No. – J-11015/10/1995-IA-II(M), Date – 14.02.2022 are as follows:			
i.	PP shall obtain Consent To Establish/Operate for 19.6 MTPA capacity prior to production.	For a production capacity of 19.60 MTPA: 1. Consent to Establish has been obtained vide no. – 3044/IND-II-CTE-6652, Date – 23.02.2022 and 2. Consent to Operate has been obtained vide no. - 3139/IND-I-CON-5125, Dt. – 25.02.2022	COMPLIED Comments: Consent to Establish and Consent to Operate are obtained by the OCP and were accessed by the audit team (Annexure 5-6)
ii.	PP shall comply as per time bound action plan submitted with 17.59 Crore budget with activities such as sprinkler, fog canon, wheel washing, wind barrier, plantation etc.	The time bound action plan for activities such as sprinkler, fog canon, wheel washing, wind barrier, plantation-has been prepared	BEING COMPLIED Comments: The audit team has visited and observed the operations of wheel washing platforms fitted with sprinklers, fog canons and sprinklers. The roads where water was applied via mobile tankers were witnessed during inspection. The installation of wind barrier along select stretches of

		haul roads has been initiated and was inspected by the audit team. Select plantation areas were also visited by the audit team  Truck wheel washing platform  Road stretch applied with water for dust suppression

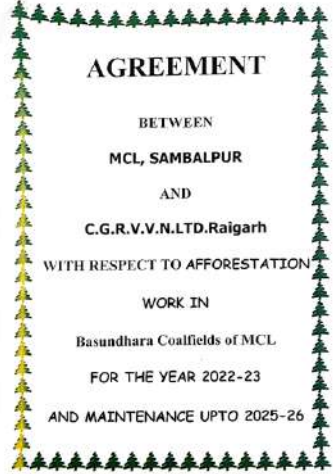
			 Water sprinkling on road near railway siding  Installation of wind barrier along a haul road
iii.	PP shall implement activities listed for plantation of Rs. 24 crore within 3 years at external dump, backfilled area, safety zone and outside mine lease area.	Plantation has been done at backfilled area (45750 nos.), safety zone (43000 nos.), external OB Dump (11,250 nos.) & outside mine lease area (1,33,000 nos.) as on 31.12.2022 and the balance plantation activities shall be completed within 2025.	BEING COMPLIED 

			 Plantations in safety zone The year-wise plantation details are included in Annexure 8
iv.	PP to address the issues raised during public hearing with proposed respective budget like development of providing drinking facilities, control blasting, settling the land issues etc.	The pollution level (for both air and water) is maintained well within limits. Drinking water is being supplied to the nearby 17 nos. of villages. 341 out of 393 eligible candidates have been provided with employment and 429 out of 501 families have been rehabilitated till date. The PP is also implementing the sequentially controlled blasting technique +by using electric/non-electric detonators for the removal of OB only when it is required. The details regarding the compliance of the issues raised during public hearing are being submitted by the Project Proponent	BEING COMPLIED  Drinking water supply to a adjacent village

			<table><tr><th colspan="6">SUMMER WATER SUPPLY DETAILS OF BASUNDHARA AREA - 2022-23</th></tr><tr><th>Sl No</th><th>Name of the village</th><th>No. of trips</th><th>Qty of water (In Ltr)</th><th>No. of days</th><th>Total qty of water (In Ltr)</th></tr><tr><td>1</td><td>Tikilpara</td><td>4</td><td>16000</td><td>90</td><td>1440000</td></tr><tr><td></td><td>Sardega R&R</td><td>2</td><td>8000</td><td>90</td><td>720000</td></tr><tr><td>2</td><td>Khamarpara</td><td>4</td><td>16000</td><td>90</td><td>1440000</td></tr><tr><td>3</td><td>Gopalpur</td><td>4</td><td>16000</td><td>90</td><td>1440000</td></tr><tr><td></td><td>Kukda</td><td>2</td><td>8000</td><td>90</td><td>720000</td></tr><tr><td>4</td><td>Chaitaljadi/ Bankibahal</td><td>3</td><td>12000</td><td>90</td><td>1080000</td></tr><tr><td>5</td><td>Sirmal</td><td>3</td><td>12000</td><td>90</td><td>1080000</td></tr><tr><td>6</td><td>Tumulia</td><td>6</td><td>24000</td><td>90</td><td>2160000</td></tr><tr><td>7</td><td>Garjanbahal</td><td>3</td><td>12000</td><td>90</td><td>1080000</td></tr><tr><td></td><td>Bangurkela</td><td>2</td><td>8000</td><td>90</td><td>720000</td></tr><tr><td>8</td><td>Karikachar</td><td>1</td><td>4000</td><td>90</td><td>360000</td></tr><tr><td>9</td><td>Barpali village and R&R site</td><td>3</td><td>12000</td><td>90</td><td>1080000</td></tr><tr><td>10</td><td>Kusira</td><td>3</td><td>12000</td><td>90</td><td>1080000</td></tr><tr><td>11</td><td>Balinga (Barpali road side)</td><td>3</td><td>12000</td><td>90</td><td>1080000</td></tr><tr><td>12</td><td>Duduka</td><td>3</td><td>12000</td><td>90</td><td>1080000</td></tr><tr><td>13</td><td>Kaketpani</td><td>3</td><td>12000</td><td>90</td><td>1080000</td></tr><tr><td>14</td><td>Sarangjharua</td><td>3</td><td>12000</td><td>90</td><td>1080000</td></tr><tr><td>15</td><td>Sumra</td><td>3</td><td>12000</td><td>90</td><td>1080000</td></tr><tr><td>16</td><td>Ganjeibud</td><td>2</td><td>8000</td><td>90</td><td>720000</td></tr><tr><td>17</td><td>Turia</td><td>2</td><td>8000</td><td>90</td><td>720000</td></tr></table>	SUMMER WATER SUPPLY DETAILS OF BASUNDHARA AREA - 2022-23						Sl No	Name of the village	No. of trips	Qty of water (In Ltr)	No. of days	Total qty of water (In Ltr)	1	Tikilpara	4	16000	90	1440000		Sardega R&R	2	8000	90	720000	2	Khamarpara	4	16000	90	1440000	3	Gopalpur	4	16000	90	1440000		Kukda	2	8000	90	720000	4	Chaitaljadi/ Bankibahal	3	12000	90	1080000	5	Sirmal	3	12000	90	1080000	6	Tumulia	6	24000	90	2160000	7	Garjanbahal	3	12000	90	1080000		Bangurkela	2	8000	90	720000	8	Karikachar	1	4000	90	360000	9	Barpali village and R&R site	3	12000	90	1080000	10	Kusira	3	12000	90	1080000	11	Balinga (Barpali road side)	3	12000	90	1080000	12	Duduka	3	12000	90	1080000	13	Kaketpani	3	12000	90	1080000	14	Sarangjharua	3	12000	90	1080000	15	Sumra	3	12000	90	1080000	16	Ganjeibud	2	8000	90	720000	17	Turia	2	8000	90	720000
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v	PP shall implement in-pit conveyor system with silo loading facility till railway siding and no road transportation shall be allowed after December’2022 and accordingly, SPCB shall not grant CTO for road transportation after December’2022.	PP has approached EAC for the amendment in the stipulated condition and MoEF&CC has extended the time limit up to 31.10.2023 in the amended EC issued on date – 09.01.2023. The construction of silo loading system with conveyor system is under progress and is expected to be completed by 31.10.2023.	PARTIALLY COMPLIED Comments: The construction of silo loading system with conveyor system for coal delivery and dispatch is under progress. The silo-assisted coal dispatch site was visited by audit team and blueprint of the work plan was shown and described to the audit team by the engineers. 																																																																																																																																				

			 The progress of work at the silo dispatch area The document related to status of construction of the silo loading system with conveyor system is attached in Annexure 9.
vi	PP shall conduct carrying capacity assessment study within 1 year and submit to Ministry's IRO and further recommendation shall be complied with strict timeline.	Work order has been issued vide no.-MCL/SBP/Env't & Forest/22-23/116, date – 16.05.2022, for carrying capacity assessment study of Kulda OCP. The report on carrying capacity shall be submitted with the next half yearly compliance report, i.e. Oct'22 to Mar'23.	COMPLIED Comments: The work order for undertaking carrying capacity study of Kulda OCP has been given to CMPDIL. The copy of work order has been attached in Annexure 10. The report has also been prepared by CMPDIL (Annexure 11).
vii	PP shall engage third party independent expert agency for monitoring/auditing of compliance of EC condition every year.	Work Order has been issued to NEERI (third Party) for carrying out the environmental audit for compliance of EC, vide no. – MCL/GM/BA/E&F/2022-23/ES-45/451, Date – 27.01.2023.	COMPLIED Comments: Work Order has been issued to CSIR-NEERI (third Party) for carrying out the environmental audit for compliance of EC (Annexure 1). The physical inspection and audit are at the verge of completion and report will be submitted soon.
viii	PP shall engage dedicated agency for plantation in mine site by April 2022 instead of depending on State Forest Department. PP may seek inputs and expertise from forest department.	PP has engaged dedicated agency of plantation like CGRVVN for carrying out plantation inside (25000 nos.) as well as outside (58000 nos.) the mine lease area of Kulda OCP in addition to the State Forest Department which has planted around 30000 nos. of plants outside the mine lease area in the period of 2022-23.	BEING COMPLIED Comments: Audit team has visited the plantation areas on OBs and seen the planted areas of both CGRVVN and State Forest Department. The plantation contract given to different agencies is a welcome step. This would possibly ensure

		better performance by all the contracted agencies and also, would give a chance to the management to choose better alternatives in future. However, annual survival rate should be documented thoroughly and growth of plantation should be closely followed periodically.  Plantation by State Forest department  Plantation by CGRVNL

			  Water applied to a sapling with tanker
ix	PP should not transport coal through road passing through any village and further ensures that its consumers of coal are also not using village road and passing through	PP is not sending coal through road passing through any villages. But it requires ensuring the coal consumers follow the same as stipulated in the respective condition. For this	BEING COMPLIED Comments: The alternative coal routes should be prepared to minimize travel distance for trucks to curtail air pollution from tailpipe emissions and

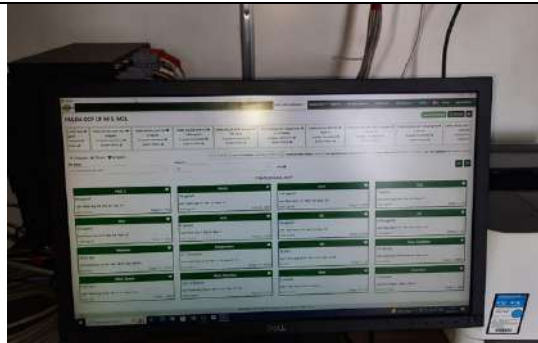
	any sensitive location such as schools, hospitals etc. PP shall take legal undertaking from its consumers accordingly.	purpose, MCL has already issued a notice vide no. – MCL/GM/BA/M&S/2022-23/140, date – 23.05.2022, to submit a legal undertaking to MCL office. The response from the coal consumers is awaited, once received the same shall be communicated to your good office.	road dust emissions, apart from avoiding hamlets and villages coming along the routes. The roads must be made robust (concrete/bituminous) to avoid short-term wear and tear to ensure lower road dust emissions. The response from the coal consumers on this issue should be notified with MoEF, once received.
x	PP had diverted a State highway so the plantation along the alternative diversion road provided on the top of embankment against Basundhara river and Chattarjhor nallah to be taken by PP along with its proper maintenance. The detail of this alternative road (length, width, carrying capacity in respect to the State Highway) with photographs to be furnished with six monthly compliance report of IRO and respective state pollution board.	The state highway of Sundargarh-Raigarh has been diverted for mining purpose and a four lane road of length 2700 m with concrete road having width 12 m and carrying capacity of 45 Te – 55 Te for HMT and bituminous road having width 8.5 m and carrying capacity of 25-30 Te for LMV has been provided along Basundhara river. Village road to Tumulia has been diverted for mining purpose and a two lane road of length 1995 m & width-10 m, & carrying capacity of 15 Te to 20 Te for LMV has been provided along Chattarjhor Nallah.	COMPLIED  Bankibahal to Raigarh concrete road 

			 Tumulia village roads
xi	PP in collaboration with CMPDI must develop a dedicated laboratory with NABL certification for measuring water quality, soil quality and heavy metals in water, air and soil etc. at its operational place, which would also serve for other nearby mines of M/s MCL.	As on date, CMPDI is taking sample from all the mines of MCL and providing the analysis report after testing the samples at the laboratory in CMPDI, Bhubaneswar, which is NABL accredited for testing and calibration.	COMPLIED Comments: CMPDI, Bhubaneswar has a NABL accredited laboratory for testing and calibration which is being utilized by Kulda OCP. The copy of NABL accreditation of CMPDI Laboratory in Bhubaneswar is attached in Annexure 12.
xii	PP to develop on more plant nursery with 80% dominance of Sal trees and 20% other trees in 85 Ha scatter patch area located at south west and its detail with photographs to be provided to IRO, MoEF&CC and concerned pollution board in its six monthly compliance report of June 2022.	The patch of 85.00 Ha area located at the south west of the mines was reserved for external OB dump, and presently is unutilized as all the Ob is being dumped in the backfilling area of Kulda OCP. Hence, the land is virgin in nature and presently being used for cultivation of crops by the nearby villagers. But as per the condition, a separate proposal is being made for construction of a temporary nursery in vacant area. The tentative timeline for the construction of the Nursery is 31.12.2023 and the progress of work shall be communicated to the IRO with the next six monthly compliance reports.	BEING COMPLIED Comments: The nursery that existed in 2020 within mine lease area is not operative now, as was found during audit inspection. This nursery must be revived and a few more must be established. Further, the 80+20 ratio of Sal+other trees may be reconsidered with proper representation to MoEF&CC, so that diversity of plants may be increased.
xiii	PP also to provide drinking water facilities like installation of RO with proper water supply pipe fittings to nearby rural areas and also to install hand pumps by seeking consent from panchayat of the villages	PP is providing drinking water treated from its WTP to 17 numbers of peripheral villages. Besides, it has been informed by the PA's that they have installed 2 numbers of borewell at Tiklipara and Garjanbahal village and one hand	BEING COMPLIED Comments: Drinking water facilities may be installed in a few suitable places by providing tube wells or deep tube wells, depending on depth of water table. These points must be accessible to

	located within study area of 10 km radius buffer zone within two year.	pump at Khamarpara village. The PP have already approached the village panchayats and Tehesildar of Hemgir block for identifying the requirement of installation of RO with proper water supply pipe fittings and are in the process of compliance.	multiple villages for common usage. Periodical assessment of drinking water quality must be checked by a NABL accredited testing laboratory and in case any contamination is detected in supplied drinking water, installation of community RO plants in affected areas may be considered. Dynamic water budget of the mine should be always available with the project office so that at any point of time, surplus and available water can be assessed for optimum allotment and utilization of available water for various operations of mine and also, supply to surrounding villages. This would also allow the mines to make contingency plans for various seasons in advance.
xiv	PP to install solar lights within 1 year from the grant of this EC along the road used for transportation of minerals to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year.	PP have installed 15, 29, 25 nos. of solar street lights in the Kuisira, Ratansara and Ratanpur village respectively. The PP have already approached the village panchayats and Tehesildar of Hemgir block for identifying the requirement of more numbers of solar street lights in the peripheral villages and are in the process of compliance. It is to inform that solar lights are not viable in the roads used for transportation of minerals as heavy vehicles ply in these roads. It requires lights of larger illumination at these roads. PP has already installed lights with better illumination in the coal transportation roads.	BEING COMPLIED   Illumination at Kulda OCP
xv	PP to provide bio toilets to the villages	PP has installed 100 numbers of toilets in the	NOT COMPLIED YET

	located within the study areas within 1 year from the grant of this EC.	peripheral villages of the mines, namely Barpali, Kuisira, & Balinga. It was further informed that they have already approached the village panchayats and Tehesildar of Hemgir block for identifying the requirement of bio toilets in the peripheral villages and are in the process of compliance.	Comments: Bio-toilets are not installed but toilets have been installed. Dissemination of bio toilets in surrounding villages must be carefully reconsidered. Bio toilets often face the issue of choking and foul smell if it is not kept under periodic maintenance. That's why bio toilets are difficult to maintain to its fullest potential without constant expert supervisions and regular maintenance which is difficult in remote areas and villages surrounding coal mines. Also the villagers need to be given proper education and training for using such toilets. Instead, normal community toilets (separate for ladies and gents) may be considered with provisions of properly engineered septic tank and soak pits with regular maintenance and water supply.
xvi	PP shall deploy only 40-50 tonnes covered trucks/dumper to reduce fleet size till rapid loading system and conveyor belt system is commenced.	The existing contracts operating under Kulda OCP have a requirement for deployment of tipper having capacity of 16 Te-28 Te, and there are 15 contracts, and 335 nos. of tippers were running under Kulda OCP for coal transportation from pit to coal stock and stock to siding. As per the stipulated condition, PP has already deployed 106 numbers of 35-50 Tonnes covered trucks replacing about 153 nos. of 16 Te-28 Te capacity tippers. Balance low capacity tippers shall be replaced in a phased manner.	BEING COMPLIED PP has deployed some 40-50 tonnes trucks for coal transport to customers, as was observed by audit team. Proper covering on the trucks was not observed for all trucks and hence, it is recommended to keep a strict vigil on coverings made on trucks.  A truck of 40-50 tonne capacity

xvii	PP shall obtain No Objection Certificate (NOC) for extraction of Ground water from Central water authority for expansion capacity.	NOC has been granted by CGWA with validity up to 08-12-2022 vide NoC No. CGWA/NOC/MIN/ORIG/2020/9245 dated 09.12.2020. The approval was obtained in view of the expanded capacity of the mines. The NOC shall be renewed in the period of 2022-23, in view of the future expected expansion capacity of Kulda OCP.	COMPLIED Comments: No objection certificate for extraction of Ground water has been obtained by the PP from CGWB (Annexure 13)
xviii	Adequate effectiveness of EMP should be analyzed from the offset/hike of air pollution data from continuous monitoring stations and quarterly report shall be generated and submitted with six monthly compliance report to RO, MoEF&CC.	The effectiveness of Air quality control measures as mentioned in EMP is being analyzed with the pollution data and to keep the pollution level within control, various initiatives have been taken by the PP particularly augmenting the pollution control measures. Additional air quality control measures have been deployed & additional control measures are in pipeline. Offset/Hike of air pollution data (April'22 to Sept'22) from continuous monitoring station is being submitted with 6 monthly compliance report to RO, MoEF&CC for First and Second quarter.	COMPLIED Comments: The operation of CAAQMS station and online data acquisition system were inspected by the audit team.  The instrumentation at a CAAQMS

			
			Air quality data acquisition in a computer
xix	PP to install 1 more continuous air quality monitoring stations at a suitable location preferably village side and with consultation of SPCB. The real time data so generated shall be uploaded on company website. In addition, data should also be displayed digitally at the entry and exit gate of mine lease area for public display.	Already one CAAQMS has been installed near the mines as per the earlier stipulated condition. The proposal of installation of 1 more continuous air quality monitoring is being made and shall be installed within 30.06.2023, at the location in consultation with SPCB. LED display board has been installed at the entry/exit gate of Kulda OCP. The real time data so generated shall be displayed digitally at the entry and exit gate of mine lease area for public display. The real time data generated by already installed CAAQMS is being uploaded in company' website: http://apps.coalindia.in:8080/apex/f?p=159:1:10556120434404	COMPLIED Comments: All the new CAAQMS must be installed in areas with free air flow (without major blockages) and where from the display board must remain visible from distance to the passers-by. The contrast and color of displayed text and digits must be such that they remain clearly visible during daytime also. Further, continuous power supply must be made available for the CAAQMS to perform to its potential. The real time data generated by already installed CAAQMS is being uploaded in company' website: http://apps.coalindia.in:8080/apex/f?p=159:1:10556120434404

			 Data display at the entry and exit gate of mine lease area  Other display
xx	PP shall conduct substantial (at least 50,000 nos.) tree plantation at village namely Teleimal, Tumulia, Chakrapur and Kaletpani within 2 years and mark it for certification for any statutory authorities.	Plantation of around 30000 numbers has already been done in the village of Kaletpani and 42000 numbers more is being planned to be planted during the onset of next monsoon, i.e. July' 2023-Sept' 2023. Teleimal & Chakrapur does not have vacant space for plantation and Tumulia is under the mining zone of adjacent mine of Siarmal OCP, hence plantation in these three villages are not feasible.	BEING COMPLIED Comments: Plantation has been observed along the road as reported later in this document. PP reported that a total of 30000 nos plantation has been done in village Kaletpani and plantation of 42000 nos are under process.
xxi	PP shall install fixed fog canon (mist sprayer) all along the haul road till CHP,	PP's have already installed 10 nos. of fog canons as per the stipulated condition.	BEING COMPLIED

	Railway siding and OB dump area and accordingly sufficient number of fog canons (not less than 10 nos.) with 40m jet length shall be installed within 6 months. It should be ensured that air pollution level confirm to the standards prescribed by the MoEF&CC/CPCB.	It is being ensured that the air pollution level confirm to the standards prescribed by the MoEF&CC/CPCB by the existing dust suppression measures like mobile fog canons, water tankers, and static fog canon, & fixed sprinklers.	Comments: The audit team has witnessed fixed fog canons along haul roads and coal stockyard. However, one of the fog canons was temporarily not under operation during audit and it must be operated regularly, if not done so. While road dust suppression activities were underway by fixed and mobile sprinklers and mobile fog canons, better coverage of susceptible areas needs to be done including more coverage at the railway siding. Also, mist canon must not be operated when the direction of wind flow is on reverse direction as was noticed during audit. This would defeat the intended purpose of dust suppression in a particular direction. Mist cannons may be allowed to be rotated so that dust suppression around the entire throw radius is obtained.  The out of operation fog cannon

			 Fog cannon along a haul road   Fog cannons operating at coal stockyard

			 Road dust suppression by mobile water tanker  Road dust suppression by fixed sprinklers

			 Road dust suppression by mobile water sprinkler and fog cannon
xxii	Project Proponent to plant 1,50,000 nos. of native trees with broad leaves along the transportation route in three years to prevent the effect of air pollution. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer.	A total of 2,32,513 nos. of plants is being planted as a part of compliance in the period of 2022-23. Plantation has been done outside mine lease area (1,33,000 nos.) as on 31.12.2022 as per the stipulated condition in the vacant spaces along the transportation routes of Kulda OCP and the balance plantation activities shall be completed within 2023-24. Plantation has been done at backfilled area (45750 nos.), safety zone (43000 nos.), external OB Dump (11,250 nos.) as on 31.12.2022.	BEING COMPLID Comments: Native trees with broad leaves have been planted along the transportation route approaching Basundhara region, as witnessed by the audit team. 

			 Alley plantation along some of the paved roads approaching Basundhara area is a welcome step, but this must be replicated at many other places along more dusty roads and unpaved roads. Survival rate of the plants need to be monitored and recorded periodically.
xxiii	Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.	IME/PME is being done for the work force engaged in the mining and pro-active steps are being taken by the PP for preventing any health hazards. PP's are providing regular awareness on the use of PPE's and for monitoring and ensuring surprise visit are being done during the shifts.	COMPLIED Comments: PPEs are being used by officials and workers in active mining area. Details on PPE disbursement are attached in Annexure 14-16. 

			 Use of safety helmets and masks by mine officials
xxiv	Project Proponent shall supply drinking water and for domestic purpose for the people coming under the zone of influence of this mining activity.	There is a water treatment facility at Basundhara Area of 1.6 MGD capacity. Drinking water is being supplied from this treatment plant to the nearby 17 numbers of villages.	COMPLIED Comments: The water treatment facility at Basundhara Area was visited by the audit team. The facility is run on a clarifier with alum dosing, sand filtration beds and downstream disinfection before delivery.  The settling tank/ clarifier

			 Sand filtration bed The treated water quality of WTP is presented in Annexure 17
xxv	Proponent shall appoint an Occupational Health Specialist for regular and periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The recommendations of National Institute for ensuring good occupational environment for mine workers	Persons are provided with DGMS approved dust masks and provided with adequate training regularly and at every 5 years interval, occupational health surveillance is being done. Initial medical exam and periodical medical exams are conducted at regular intervals by doctors trained as per ILO guidelines. IME of 591 personnel and PME of 74 personnel were carried out in 2022-23 (up to 30.09.2022). 118 personnel were identified as the workforce engaged in active mining operations and were	COMPLIED Comments: Hospital area was visited by the audit team. The hospital campus is found to be adequately maintained and wards were found to be clean.

	shall be implemented; The prevention measures for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mine activities.	subjected to health check-up for occupational diseases. None of the cases reported for Hearing Impairment and Occupational Disease. Further, as per the stipulated condition good occupational environment for mine workers shall be implemented. And preventive measures for burns, malaria and provision of anti-snake venom is being ensured at Basundhara Hospital.	 Organization of health camps
xxvi	Persons of nearby villages shall be given training on livelihood and skill development to make them employable.	Training on sustainable livelihood and skill development to make them employable are being provided. MCL-BAIF Comprehensive Community Development Programme” named as ‘CCDP-Uthan has been implemented to give training in Cattle development Programme through breeding services, Goat development programme, Backyard poultry farming, Fodder development programme, Agro-Horti* (WADI**) Development Programme & Awareness Creation & Capacity Building Programme Handyman Project - CIPET Bhubaneswar has provided 6- months residential training to the 24 youth. Candidates have been imparted basic skills of repair and maintenance of domestic/agricultural pumps, submersible pumps, agricultural tools, tractor driven equipment like tillage, plough, cultivation and sowing equipment. ‘Handyman’ will be his basic repair-maintenance service provider available at his doorstep. Each candidate has been given a tool kit worth on completion of training. Total	COMPLIED  Skill development training on Trellis cultivation  Skill development training on at livestock centre

		project cost is Rs.41 lakhs.	Certificate showing the trainings given to workers is attached in Annexure 18.
xxvii	The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequently sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/masks away from the villagers and keeping the noise levels well within the prescribed limits for day/night hours.	The project proponent is following the mitigation measures provided in this Ministry's OM No.: Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'. The illumination and sound at night is prevented by the PP's by eliminating blasting at night, by orienting the mine's flood lights away from the villagers and keeping the noise levels well within the prescribed limits for day/night hours.	COMPLIED Noise level report in mine area is given in Annexure 19.
xxviii	PP shall implement rain water harvesting mechanism in order to recharge the ground water or as water conservation measure in addition to the proposed structure. PP shall carry out regular monitoring of Ground water level and quality.	PP already have mine sump of 20 lakh cum capacity for harvesting rain water which is being used for various industrial purposes. The ground water level is being measured at two dug wells and two nos. of piezometers. The monitoring of ground water level is being done four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter, as per the EC condition. The qualities of ground water are monitored yearly once using the piezometers installed under Kulda OCP. The data collected is being reported to MoEF&CC with the half yearly compliance report. It can be interpreted that the ground water table around the mine is stable.	COMPLIED Comments: The rainwater harvesting sumps are being maintained within active mining area. However, construction of engineered groundwater recharging pits may be proactively considered in upper reaches of the command area and nearby villages. They can be installed at suitable locations based on topography. 

			Temporary sumps for groundwater recharge The Piezometer site at Kulda must be improved in terms of housekeeping and construction. The concrete structure must be revamped, weeds should be removed, electrical connection should be revamped and proper marking of the point must be done along with fixation of fresh lock and key. The electrical box must be replaced with a new one to offer better protection from dust and rain. The electrical connections are presently exposed and may cause untoward glitches and even, accidents during operations/maintenance.  Piezometer site at Kulda OCP

			 The unguarded Piezometer well
xxix	PP shall pay to farmers of agricultural land if there is any loss due to pollution found by concerned District Commissioner as per the extent rules or norms.	Till date no agricultural land were found by concerned District Commissioner for any loss due to pollution by Kulda OCP. And it is being assured that, if found and demanded for crop loss, MCL shall fully cooperate and pay for any loss arising due to the pollution caused by Kulda OCP, if any.	PP HAS ASSURED TO COMPLY Comments: The PP has noted this but it needs to carry out third-party studies to asses if such incidences are occurring or not.
xxx	Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India &Ors vide its judgment dated 8 th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operation, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the	The Kulda OCP is an operational mine and it is being agreed to abide by the stipulated condition as per the mine closure plan.	PP HAS ASSURED TO COMPLY Comments: The mine closure plan has been accessed by audit team and this condition will be complied when the PP undertakes mine closure activity.

	mining activity is over at the cost of the mining lease holders/Project Proponent”. The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.											
4.1												
(a)	Statutory Compliance											
i	The project proponent shall obtain forest clearance under the provision of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.	Forest Clearance has been obtained for entire forest land area of 227.89Ha vide no.-F.No.- 8-176/1997-FC, Date- 08-08-2007.	COMPLIED Comments: Forest Clearance has been obtained by PP (Annexure 20)									
ii	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.	The said condition is not applicable for Kulda OCP (21.00MTPA), as there is no land expansion required and the mining activity is being carried out in the existing land of 634.205Ha.	Not Applicable									
iii	The project proponent shall prepare a site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendation of the approved Site-Specific Conservation Plan/Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of schedule-I species in the study area).	There is no Schedule-I species present in the study area, as per the EIA-EMP report of Kulda OCP. Kulda OCP, has deposited the following amount for the implementation of Regional Wild Life Management Plan (RWLMP) to the Forest Department: <table><tr><th>S.No</th><th>Amount Paid</th><th>Date of Payment</th></tr><tr><td>1</td><td>Rs. 2,00,85,000.00/-</td><td>13.08.2014</td></tr><tr><td>2</td><td>Rs. 2,30,97,750.00/- (Additional amount as per revised rate)</td><td>04.08.2015</td></tr></table>	S.No	Amount Paid	Date of Payment	1	Rs. 2,00,85,000.00/-	13.08.2014	2	Rs. 2,30,97,750.00/- (Additional amount as per revised rate)	04.08.2015	COMPLIED As per PP, there is no Schedule-I species present in the study area which is documented in EIA-EMP report of Kulda OCP. The PP has deposited fund in two installments to the Forest Department for implementation of Regional Wild Life Management Plan (RWLMP) as stated
S.No	Amount Paid	Date of Payment										
1	Rs. 2,00,85,000.00/-	13.08.2014										
2	Rs. 2,30,97,750.00/- (Additional amount as per revised rate)	04.08.2015										
iv	The project proponent shall obtain Consent to Establish/Operate under the provisions of Air (Prevention & Control of Pollution) Act,	For a production capacity of 21.00 MTPA: 1. Consent Establish has been obtained vide no. – 19795/IND-II-CTE-6742, Date –	COMPLIED CTE and CTO have been obtained by PP (Annexure 5-6)									

	1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/Committee.	27.10.2022 and 2. Consent to Operate has been obtained vide no. - 788/IND-I-CON-5125, Dt. - 20.01.2023	
v	The project proponent shall obtain the necessary permission from the Central Ground Water Authority.	NOC has been granted by CGWA with validity up to 08-12-2022 vide NoCNo.CGWA/NOC/MIN/ORIG/2020/9245 dated 09.12.2020. The approval was obtained in view of the expanded capacity of the mines. The NOC shall be renewed in the period of 2022-23, in view of the future expected expansion capacity of Kulda OCP.	COMPLIED Comments: NOC has been granted by CGWA with a validity up to 08-12-2022 (Annexure 13). The renewal must be obtained.
vi	Solid/hazardous waste generated in the mines needs to be addressed in accordance to the Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules, 2016.	Hazardous waste authorization was obtained vide no.- IND-IV-HW-1038/3589, date- 14-03.2022, and valid till 31.03.2023, in accordance to the Hazardous and Other Waste Management Rules, 2016. And the mine is operating with compliance to the condition stipulated in the consent.	COMPLIED Comments: Hazardous waste authorization was obtained vide no.- IND-IV-HW-1038/4010, date-18.3.2023 (Annexure 21). The quantity of waste generated is presented in Annexure 22 .
(b)	Air quality monitoring and preservation		
i.	Continuous ambient air quality monitoring station as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM ₁₀ , PM _{2.5} , SO ₂ , and NO _x . Location of the station shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive target in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring station as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.	Continuous Air Quality Monitoring Stations are established in core as well as buffer zone as mentioned in the condition, in consultation with the RO, SPCB, Odisha, as per the EC Condition. Additionally, 04 routine monitoring stations has been established in consultation with SPCB - External CT Road, West of Working Face, South of Working Face, North of CHP. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr are being done and the reports are being sent to RO, MoEFF&CC, BBSR with half yearly compliance report.	BEING COMPLIED Comments: The CAAQMS station in the forest area must have clear air flow from all sides. At present, the CAAQMS site inside the forest (Narsingpur) does have blockages by trees that need to be cleared by pruning of the branches. The display of the CAAQMS near the temple was not working during the audit inspection. It must be rectified immediately.

			  Back and side views of CAAQMS at Narsingpur
ii	The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742(E) dated 25 th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr, and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.	The Ambient Air Quality monitoring in the core zone is being carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr, and other monitoring data is regularly reported to the Ministry/Regional Office and to the SPCB.	BEING COMPLIED Comments: AQ monitoring reports were accessed by the audit team and are attached in Annexure 7.
iii	Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc. shall be carried out in critical areas prone to air pollution (with	The trucks are monitored at the exit gate for Tarpaulin covers. Gate pass is issued only to the trucks having Tarpaulin cover. Fog Cannon, water tanker, rain gun has been provided in critical areas such as haul road, coal stock yard, transportation road. Fugitive	BEING COMPLIED Comments: Trucks carrying coal outside mines are mostly covered with small-size tarpaulin/plastic sheets that make them to comply with given guidelines but leads to actual subversion of the

	higher values of PM₁₀/PM_{2.5}) such as haul road, loading/unloading and transfer points. Fugitive dust emission from all sources shall be controlled regularly. It shall be ensured that the ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.	emission monitoring data is being furnished along with the submitted six monthly compliance. With the help of Regular Environment Monitoring It is being ensured that the ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.	purpose of preventing the material spillage. Therefore, strict vigil must be maintained at the exit gates where the covers are fixed in trucks before moving out of the mine area. Bigger tarpaulin/plastic sheets which can fully cover and protect the coal (bottom figure) should be used while transporting coal.

			 Various ways of covering coal by tarpaulin/plastic sheets [in the crossed ones, coal is not correctly covered] There are stretches of roads with high road dust emissions that are not being covered under any dust suppression measures, as witnessed by audit team. The haul road stretches should be carefully scrutinized to install fixed or mobile sprinklers/fog cannons. Use of rain guns for dust suppression along haul roads, coal stockyard and other relevant areas may be considered instead of mist cannons, due to the following reasons: • Much lower cost of rain gun than mist cannon (5-6 times lesser cost) • Higher delivery radius of rain guns over fog cannons • Lower power requirement in rain guns • Lower sound generation by rain guns

			 The green fabric erected on poles along the roads at some places for arresting airborne dust dispersion is not sustainable in a dusty and sunny environment like what is encountered in coal mines. This type of fabric can be easily and quickly get torn due to sunlight and heavy dust loading and wetting by rainfall and nearby mist cannons.  Installation of wind/dust barriers along select stretches of haul roads is a welcome step. It must be seen that all unpaved stretches with substantial vehicle loads are duly covered under this scheme

			 Installation of wind barrier along haul road
iv	The transportation of coal shall be carried out as per the provision and envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be constructed in such a way so that the impact of sound, dust and accidents could be appropriately mitigated.	Transportation of the coal from mine to stock yard/Sardega Siding is done by tipper through the existing road by-passing the village area. Special corridors have been constructed for coal transportation as follows: 25 Km four lanes dedicated coal corridor from Duduka to Kanika was completed with an expenditure of 209.40 Crores. A separate coal corridor is presently under construction from Bankibahal to Bedabahal with an estimate of Rs. 486 Crores, and shall be completed by 31.03.2023.	BEING COMPLIED As per information received from PP, a separate coal corridor is presently under construction from Bankibahal to Bedabahal with an estimate of Rs. 600 Crores, and shall be completed by 31.03.2024.
v	Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centers.	It is ensured that the vehicles with valid PUC certificates are only allowed to run in the mine. Records are maintained. Regular Checking of the PUC certificates is done.	COMPLIED PUC certificates attached (Annexure 23)
vi	Coal stock pile/crusher/feeder and breaker material transfer point shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air	Coal stocks have been provided with 6 nos. of fog canon. There is presently no conveyor system available in mines.	COMPLIED Fog cannon is being operated at coal stock yard

	borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.	The Drills are wet operated and are also fitted with dust extractors.	
vii	Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.	100% of coal is produced by SM technology in the period of 2022-23. The CHP is not in action since December 2017. However, The crusher is provided with 12 mist type nozzles/sprinklers, the belt conveyor with 5 numbers and the bunker with 10 nos. of mist nozzles. Therefore, a total number of 54 mist type nozzles are present in the complete CHP unit.	Comments: Surface miners have been deployed for mining operations. This has nullified the use of CHP, which pollutes air.  The CHP has been discontinued since 100% coal is now mined by surface miners.

			
			The abandoned CHP
(c)	Water quality monitoring and preservation		
i	The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the water Act, 1974 Coal Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.	Kulda Mine is following a zero discharge concept. Workshop effluent is treated in Effluent Treatment Plant (450 KLD) with Oil & Grease skimmer unit. Effluent monitoring is done fortnightly. The treated water confirms to the prescribed standard GSR 742 (E) dated 25th September, 2000.	BEING COMPLIED In the ETP plant, all the units must be marked with unit name, effluent load etc. The bare areas within ETP plant premises must be covered with pavers block or concretized for ensuring hassle-free movements and working conditions for ETP personnel. This would also offer better working conditions during monsoon. Further, the capacity of the ETP must be commensurate with wet weather flow from mine areas so as to prevent overflowing of units. The records of dry and wet weather flow to ETP must be recorded and maintained. Proper care should be taken in maintaining electrical wires/sockets/switches at the site in order to prevent any fire related hazard or accident during operation/maintenance of ETP.

			 The oil skimmer  The aeration chamber

			 The loose wire All the drains in ETP must be properly maintained <i>vis a vis</i> the broken edges, random growth of weeds. Also, inadvertent drainage of influent/effluent through cracks and crevices in the masonry channels and treatment units must be minimized through strict vigil.  The broken influent drain

			Spillage of influents/effluents must be minimized within the ETP plant boundary in dry weather also (as was noticed during audit) to ensure better working environment, housekeeping and sanitation.  Spillage around aeration tank The effluent quality report is enclosed in Annexure 24. HEMM washing bay must be refurbished properly as wears and tears are remarkable at present.

			  Broken HEMM washing bay and drain Spillage was visible near the settling tanks provided with the HEMM washing bay during audit. The stagnant grey water can act as potent mosquito breeding areas. Therefore, grey water spillage must be stopped immediately either by increasing the capacity of tanks to stop overflow or by quicker diversion of treated grey water downstream or by plugging the leakages in grey water distribution pipes downstream.

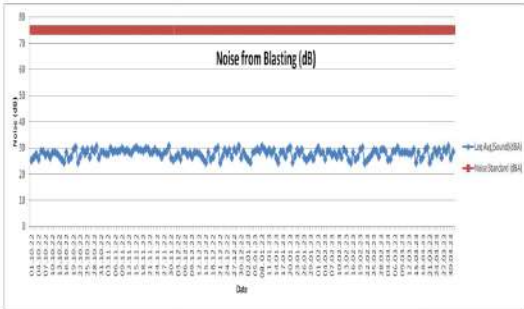
			 HEMM wash treatment plant  Spillage around HEMM wash treatment plant
ii	The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular no.J-20012/2006-1A.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.	The monitoring data is being uploaded in the company's website: https://www.mahanadicoal.in . The monitoring data is being displayed in LED display board installed at the entrance of mine for public.	COMPLIED Comments: The environmental monitoring data can be accessed at https://www.mahanadicoal.in/Environment/pdf/Ib%20Valley%20Annual%20Report%202021-22.pdf
iii	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water level shall be carried out four times a year i.e. pre-	The ground water level is being measured at two dug wells & two nos. of piezometers. The monitoring of ground water is being done four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter, as per the EC condition. The qualities of ground water are monitored	COMPLIED Comments: Groundwater level and quality monitoring reports were accessed by audit team and are annexed as Annexure 25.

	monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MoEFCC/RO.	yearly once. The data collected is being reported to MoEF&CC with the half yearly compliance report. It can be interpreted that the ground water table around the mine is stable.	
iv	Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.	The surface water quality monitoring is being done in upstream of Basundhara river near Bankibahal Bridge, and downstream of Basundhara river near Barpali village, . It is interpreted that there is no change in the quality of Basundhara river water. The records are being submitted to MoEF & CC half yearly.	BEING COMPLIED Comments: Basundhara river water flowing under a haul road was found to be turbid and blackish during audit inspection, probably due to loading of mud and coal dust. The banks of the river are still found to be unprotected that would allow substantial run-off of mud, coal dust, road dust with traces of oil and grease and other pollutants into river, especially during monsoon. The riparian areas along the river at critical points near the mine must be better protected by embankments to disallow run-off falling into the river. This is more applicable where the haul rods are at higher elevation than the river allowing flow of dust and mud into river from roads and road sides.
v	Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.	Only mine sump water is used for all industrial purposes. The total run-off generated is being channelized into the mine sump (capacity 20 lakh cum) of Kulda OCP, which ultimately leads to ground water recharge also.	COMPLIED Comments: There should be dedicated rainwater harvesting structures outside active mining area to allow rainwater to recharge groundwater directly. Rainwater falling outside active mining area should not be preferably be allowed to run off through mined areas and then to sump to avoid the rainwater getting polluted. Sumps can be allowed to take stormwater, seepage water and other water impounded within the mining area only, as seen in the picture below.

			
			Formation of temporary sumps
vi	Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly settling of silt material. The water so collected in the sump shall be utilized for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.	- Garland drains (7632m x 1.5m x 1.5m) and Berm (4809m x 1.5m x 1.5m) has been provided all around the mine boundary and external dump. - Catch drains (3349 m x 1 m x 1m) has been provided at coal stocks and internal dump. - The water so collected in the catch drains is channelized into the mine sump (capacity 20 lakh cum) of Kulda OCP, which is further utilized for industrial purposes like dust suppression and fire-fighting, green belt development etc. - The drains are cleaned and de-silted pre-monsoon and post-monsoon, annually twice. 4.55Ha of external dump has been reclaimed biologically with the help of DFO, Sundargarh to prevent the soil erosion and flow of silt. - The retaining wall constructed at the toe of the external dump for a length of 500m has been designed on the basis of rainfall data for the past 7	BEING COMPLIED Comments: The catch drains must be protected from caving-in or downwash of materials dumped at their sides. The likely inadvertent blockages of drains in such cases in monsoon can cause problems in easy diversion of storm water.  Storm water flowing through storm water drainage network should be allowed to return to natural environment outside mining lease area, rather than getting diverting to the sumps. This should be considered to reduce water footprint of open cast coal mine.

		years. Plantation of 25000 nos. trees has been done over an area of 10 ha at the toe of the external OB Dump and is being monitored till 5 years.	
vii	Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).	The total run-off generated is being channelized into the mine sump (capacity 20 lakh cum) of Kulda OCP, which ultimately leads to ground water recharge. There is a water treatment facility at Basundhara area of 1.6 MGD capacity. Drinking water is being supplied from this treatment plant to the nearby villages at stipulated times.	COMPLIED Comments: Water treatment plant visited by audit team and details thereof given under an earlier section. Kulda OCP does not have engineered groundwater recharging pits apart from the sumps at the lower reaches of the command area. Construction of engineered groundwater recharging pits may be proactively considered in upper reaches of the command area and nearby villages. They can be installed at suitable locations based on topography.
viii	Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected as prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP/STP needs to be provided.	CHP is non-operational since 2017. ETP of 450 KLD capacity has been provided for workshop and the waste water is directed into the mine sump after treatment from the ETP. The ETP consists of following units in sequence: primary settling tank, alum dosing unit, secondary settling tank with attached oil skimmer unit followed by aeration unit and clarifier tank which is connected to the rapid sand filtration unit. The ETP is maintained regularly to maintain its efficiency.	COMPLIED Comments: Comments and photographs of audit team on CHP, ETP are furnished earlier.
ix	The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine areas, roads, green belt development etc. the drains shall be regularly desilted particularly after monsoon and maintained properly.	The mine seepage water & and the mine catchment area water is stored in mine sump/ worked out quarry and is being used for dust suppression, vehicle washing, cleaning of roads, plantation works etc. The drains are cleaned and de-silted pre-monsoon and post-monsoon, annually twice.	COMPLIED Comments: Comments and photographs of audit team on dust suppression activity has been furnished earlier.
x	The surface drainage plan including surface water conservation plan for the area of	The surface drainage plan including surface water conservation plan for the area of	COMPLIED Comments: Comments and photographs of audit

	influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc., shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.	influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake, etc., has been prepared and implemented by the project proponent vide plan no.: MCL/BGA/KOCP/SURV-07 dated 16/08/2008. The plan is updated every month as per the progression of the mines. Chhatnajor Nallah has been straightened with the competent approval from State Government and embankment has been provided all along the stream. Embankment of 2.7Km has been constructed near Kulda OCP on the banks of Basundhara Nallah to prevent sudden rush of water. Stone pitching has been done along the embankment. Plantation of 1350 nos. of plants has been done at the edge of embankment to prevent soil erosion. Garland drains (7632 m x 1.5m x 1.5m) and Berm (4809 m x 1.5 m x 1.5m) has been provided all around the mine boundary and external dump, to prevent the surface run-off from outside the mine lease area to enter the mines.	team on garland drains have been furnished earlier.  Stone pitching at the embankment of Chhatnajor Nallah
xi	The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation/water resource department in the state government.	The riverine/riparian ecosystem management plan is under preparation for Basundhara river and the estimation has been completed. The plan will be implemented as per the direction of irrigation department of Odisha Government.	BEING COMPLIED Comments: Comments of audit team on the riverine/riparian ecosystem management select stretches of Basundhara river have been furnished.
(d)	Noise and Vibration monitoring and prevention		
i	Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers	Measures taken under Kulda OCP are as follows: All the operators of HEMM (both	COMPLIED Comments: Noise level monitoring report is

	engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipment's (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.	Departmental and Contractual) have been provided with Ear muffs. 20 ear muffs have been provided in the period of 2022-23. Plantation around mines has been increased significantly. The details of plantation in and around the mine area are as follows: <table><tr><th>S. No.</th><th>Location</th><th>Plantation Since Inception</th></tr><tr><td>1</td><td>Northern Side of the mines</td><td>Plantation of around 28204 nos of plants has been done</td></tr><tr><td>2</td><td>Southern Side of the mines</td><td>Plantation of Dense Lalma Reserve Forest is present</td></tr><tr><td>3</td><td>Western Side of the mines</td><td>1.1Ha of plantation has been done in the boundary of Garjanbahal OCP and Kulda OCP</td></tr><tr><td>4</td><td>Eastern Side of the mines</td><td>2.7 km of avenue plantation has been done in the period of 2020-21</td></tr></table> The Noise Analysis reports are being sent with the six monthly compliance reports.	S. No.	Location	Plantation Since Inception	1	Northern Side of the mines	Plantation of around 28204 nos of plants has been done	2	Southern Side of the mines	Plantation of Dense Lalma Reserve Forest is present	3	Western Side of the mines	1.1Ha of plantation has been done in the boundary of Garjanbahal OCP and Kulda OCP	4	Eastern Side of the mines	2.7 km of avenue plantation has been done in the period of 2020-21	attached in Annexure 19.  Noise levels from blasting
S. No.	Location	Plantation Since Inception																
1	Northern Side of the mines	Plantation of around 28204 nos of plants has been done																
2	Southern Side of the mines	Plantation of Dense Lalma Reserve Forest is present																
3	Western Side of the mines	1.1Ha of plantation has been done in the boundary of Garjanbahal OCP and Kulda OCP																
4	Eastern Side of the mines	2.7 km of avenue plantation has been done in the period of 2020-21																
ii	Controlled blasting techniques shall be practiced in order to mitigate ground vibration, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.	The PP is also implementing the sequentially controlled blasting technique by using electric/non-electric detonators for the removal of OB only when it is required to mitigate ground vibrations and fly rocks. Moreover coal production is completely done by blast free surface miner technology.	COMPLIED Comments: Vibration monitoring is being undertaken by the PP. The vibration report is attached in Annexure 26.															
iii	The noise level survey shall be carried out as per the prescribed guidelines to assess noise	PPE like ear muff is being provided to the work force involved in direct mining to prevent the	COMPLIED Comments: Noise level monitoring is being															

	exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six monthly basis.	effect of noise. The noise level survey is being carried using vibrometer.	undertaken by the PP. Noise level monitoring report is attached in Annexure 19 .
(e)	Mining Plan		
i	Mining shall be carried out under strict adherence to provision of the Mines Act 1952 and subordinate legislation made there-under as applicable.	Mining is being carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.	COMPLIED Comments: The Mines Act is being followed by the PP. Copy of compliance has been attached in Annexure 27 .
ii	Mining shall be carried out as per the approved mining plan (including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).	Mining is being carried out in compliance to the provisions of the Mining Laws & related to mining & relevant DGMS circular. Mining is carried out as per the approved mining plan.	PP HAS ASSURED TO COMPLY
iii	No mining shall be carried out in forest land without obtaining Forest Clearance as per Forest (Conservation) Act, 1980.	Forest Clearance was obtained vide no.-F.No.-8-176/1997-FC, for an area 227.89 Ha. Mining is being done in the diverted forest land only.	COMPLIED Forest Clearance obtained (Annexure 20)
iv	Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.	Actions have been taken to reduce energy consumption by conservation, efficiency and use of renewable energy. 11.94% of energy has been saved in the period of 2021-22 as compared to the consumption in the period of 2020-21 with respect to the production enhancement from 16.8 MTPA to 19.6 MTPA. Practice of Installation of LED lights by replacing Halogen bulbs is being done as a measure to conserve energy. All the Halogen bulbs have been replaced by LED bulbs. 700 nos. LED bulbs has been installed in the period of 2021-22 16 KVA solar plant has been setup at area administrative buildings. PP have installed 15, 29, 25 nos. of solar street lights in the Kuisira, Ratansara and Ratanpur village respectively.	COMPLIED Comments: Energy conservation is being attempted by the PP by replacement of incandescent /halogen/fluorescent lights by LED lights, and installation of solar lights  A view of installed solar light

		Procurement of 20 Solar Light sets of 1 KWatt each is under process.	
(f)	Land reclamation		
i	Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MoEFCC) from time to time shall be submitted to MoEFCC/Regional Office (RO).	Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey has been carried out and the reports are uploaded on the company website https://www.mahanadicoal.in .	COMPLIED Comments: Satellite based land use maps have been accessed by the audit team. The same can be accessed at https://www.mahanadicoal.in/Environment/eenvironment.php
ii	The final mine void depth should preferably be as the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.	It is an operating mine and still 3 years life of the mine is left. Agreed to comply at the closure stage of mine. (Data as on 31.12.2022) a. Total excavated area: 286.71 Ha b. Backfilled Area: 140.94 Ha c. Mine Sump Area: 13.70 Ha	PP HAS ASSURED TO COMPLY
iii	The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the “during mining”/ post mining” land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-à-vis the post mining land use pattern shall be submitted to the MoEFCC/RO.	Progressive compliance status is submitted and will be submitted to the Ministry of Environment, Forest and Climate Change/Regional Office on six monthly-basis.	COMPLIED Comments: The satellite based land use information is available at https://www.mahanadicoal.in/Environment/eenvironment.php

iv	Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provision contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from flue gas desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC and SPCB.	As per the approved Mining Plan, the total OB generated is being dumped in the internal dump; hence, the void is not available for dumping of fly ash.	NOT APPLICABLE Comments: If fly ash/gypsum dumping is planned in future, a third-party environmental impact study must be conducted before such dumping.
v	Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept utilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilized with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and managements	265798.95m³ of top soil has been spread on the top of the internal dump as well as external dump. The soil is used for plantation in the period from 2019 till 2022. Apart from this, 480.00 cum. has been stacked separately in front of Kulda Nursery in the period of 2019-20. Plantation by Miyawaki technique has been carried out in year 2022-23; around 4000 nos. of plants has been planted in an area of 0.4 Ha. The total top soil produced is used to blanket the internal Dump as well as external Dump as a part of technical reclamation followed by biological reclamation under the supervision of	COMPLIED Comments: The compliance status report is being sent to MoEF&CC periodically as per the EC condition. Efforts must be initiated for OB dump stabilization from their early life itself by grassing. Apart from allowing natural grass growth, possibility of dispersal of grass seeds in vacant patches or virgin patches must be proactively considered before monsoon to allow the monsoon rain to help germination and seedling establishment. Plantation by Miyawaki technique is initiated (Annexure 28).

	of rehabilitated areas shall continue the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.	DFO, Sundargarh. The vegetation shall be monitored for five years from the year of plantation by the Forest officials jointly with MCL officials. The compliance status is being sent to MoEF&CC periodically as per the EC Condition.													
vi	The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the state government to provide alternate area for livestock grazing, if any. In this context, the project proponents shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.	Not Applicable as, no grazing land is involved in core zone. Hence the point in sot applicable for Kulda OCP, Basundhara area. <table><tr><td>Fores t</td><td>Agr icul ture lan d</td><td>Wast e Land</td><td>Surf ace wat er bodi es</td><td>Gra zing</td><td>Tot al</td></tr><tr><td>227.8 9</td><td>259 .79 4</td><td>146.5 21</td><td>0</td><td>0</td><td>634. 205</td></tr></table>	Fores t	Agr icul ture lan d	Wast e Land	Surf ace wat er bodi es	Gra zing	Tot al	227.8 9	259 .79 4	146.5 21	0	0	634. 205	Not Applicable
Fores t	Agr icul ture lan d	Wast e Land	Surf ace wat er bodi es	Gra zing	Tot al										
227.8 9	259 .79 4	146.5 21	0	0	634. 205										
(g)	Green Belt														
i	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.	Forester and Range Officer of DFO, Sundargarh division is in regular contact with the mine. If any precautionary measure is to be taken, it shall be done under the guidance of Forest Department, Sundargarh. For implementation of Regional Wild Life Management Plan (RWLMP) Kulda OCP has deposited fund to the Forest Department: <table><tr><td>S. No</td><td>Amount Paid</td><td>Date of Payment</td></tr><tr><td>1</td><td>Rs. 2,00,85,000.00/-</td><td>13.08.2014</td></tr><tr><td>2</td><td>Rs. 2,30,97,750.00/- (Additional amount as per</td><td>04.08.2015</td></tr></table>	S. No	Amount Paid	Date of Payment	1	Rs. 2,00,85,000.00/-	13.08.2014	2	Rs. 2,30,97,750.00/- (Additional amount as per	04.08.2015	COMPLIED Comments: Green belts maintained at some areas have been visited by the audit team. However, greenbelt cover may be monitored for the need of enhancement of green density by more plantations and also, gap filling. 			
S. No	Amount Paid	Date of Payment													
1	Rs. 2,00,85,000.00/-	13.08.2014													
2	Rs. 2,30,97,750.00/- (Additional amount as per	04.08.2015													

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ii	Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/coal transportation roads.	The details of plantation in and around the mine area are as follows: <table><tr><th>S. No.</th><th>Location</th><th>Plantation Since Inception</th></tr><tr><td>1</td><td>Northern Side of the mines</td><td>Plantation of around 28204nos of plants has been done</td></tr><tr><td>2</td><td>Southern Side of the mines</td><td>Plantation of Dense Lalma Reserve Forest is present</td></tr></table>	S. No.	Location	Plantation Since Inception	1	Northern Side of the mines	Plantation of around 28204nos of plants has been done	2	Southern Side of the mines	Plantation of Dense Lalma Reserve Forest is present	Green belts at Kulda OCP COMPLIED Comments and photographs of audit team on three tier green belt is furnished in g(i) under Green Belt section.
S. No.	Location	Plantation Since Inception										
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3	Western Side of the mines	1.1 Ha of plantation has been done in the boundary of Garjanbahal OCP and Kulda OCP							
4	Eastern Side of the mines	2.7 km of avenue plantation has been done in the period of 2020-21							
(h)	Public hearing and Human health issues								
i	Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & it's RO on six-monthly basis.	Adequate illumination has been ensured in all mine locations (as per DGMS standards) and monitored weekly. Corrective steps taken after the inspection by ERO, to improve the illumination under Kulda OCP: 1. Lighting along Haul road. 2. Installation of lighting DG at the working area.	COMPLIED Comments: The illumination survey report on the same has been attached in Annexure 29 .						
ii	The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to	Persons are provided with DGMS approved dust masks and provided with adequate training regularly and at every 5 years interval, occupational health surveillance is being done. Initial medical exam and periodical medical exams are conducted at regular intervals by doctors trained as per ILO guidelines. IME of 591 nos. and PME of 74 personnel were carried out in 2022-23 (up to 30.09.2022). The records have been maintained as per the	COMPLIED						

	health check-up for occupational diseases and hearing impairment, if any, as amended time to time.	Mine Rules, 1955. 118 personnel were identified as the workforce engaged in active mining operations and were subjected to health check-up for occupational diseases. None of the cases reported for hearing impairment and occupational diseases.	  Health surveillance
iii	Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.	All personnel working in core zone are provided with N95 dust masks and training is provided to both departmental as well as contractual employees on safety and health aspects.	COMPLIED Copy of first page of PPE disbursement are attached in Annexure 14.
iv	Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the task/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the	The pollution level (for both air and water) is maintained well within limits. Drinking water is being supplied to the nearby 17 nos. of villages. 341 out of 393 eligible candidates have been provided with employment and 429 out of 501 families have been rehabilitated till date. The employment is being provided to all the land losers as per the recommendation of	COMPLIED The compliance status of Public Hearing is provided separately in Annexure 30.

	company/State Government/Central Government, as applicable.	the Claims Commission set up by Hon'ble Supreme Court of India. `	
v	The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'impact of mining activities on habitations-issues related to the mining projects wherein habitations and village are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.	Mitigation measure interalia including use of surface miner, control blasting, mobile tanker, effluent treatment plant, garland drain, catch drain, noise level within limit at night etc has been implanted as a part of OM No.: Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.	COMPLIED Various mitigation measures were observed by the audit team as mentioned in previous sections.
(i)	Corporate Environment Responsibility		
i	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.	The company has a well laid down environment policy, i.e. CIL Corporate Environment Policy 2012. And M/s MCL is a subsidiary of Coal India Ltd. This Corporate Environment Policy is reviewed in every 5 year. Board meeting is being conducted for this purpose. Besides this Inter Area Environmental Audit is being conducted in every quarter. The audit committee reviews all the compliance of the condition laid in the Environmental as well as Forest Clearance. The report is submitted to the company HQ, for final scrutiny.	COMPLIED Corporate Environment Policy has been accessed by audit team at https://www.mahanadicoal.in/Environment/eenvironment.php
ii	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.	Environment management cell has been established in Project.	COMPLIED The details of environment management cell is attached in Annexure 31 .
iii	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be	Rs 76.9 Cr and Rs 31.03 Cr have been allotted as capital and recurring expenditure respectively for environmental expenditure.	COMPLIED The year-wise expenditure (for past three years) under Environment head with respect to Kulda

	duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.	The year wise funds earmarked for environmental protection measures are duly kept in separate account and are not diverted for any other purpose. The year-wise expenditure (for past three years) under Environment head with respect to Kulda OCP is as follows: <table border="1"> <thead> <tr> <th colspan="4">Environmental Expenditure with respect to Kulda OCP</th> </tr> <tr> <th>S.No</th><th>Period</th><th>Capital Nature</th><th>Revenue Nature</th></tr> </thead> <tbody> <tr> <td>1</td><td>2019-20</td><td>1.24Cr</td><td>4.59Cr</td></tr> <tr> <td>2</td><td>2020-21</td><td>0.50Cr</td><td>5.16Cr</td></tr> <tr> <td>3</td><td>2021-22</td><td>0.71Cr</td><td>4.74 Cr</td></tr> </tbody> </table> The progress of implementation of action plan is being reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.	Environmental Expenditure with respect to Kulda OCP				S.No	Period	Capital Nature	Revenue Nature	1	2019-20	1.24Cr	4.59Cr	2	2020-21	0.50Cr	5.16Cr	3	2021-22	0.71Cr	4.74 Cr	OCP is as follows: <table border="1"> <thead> <tr> <th colspan="4">Environmental Expenditure with respect to Kulda OCP</th> </tr> <tr> <th>S.No.</th><th>Period</th><th>Capital Nature</th><th>Revenue Nature</th></tr> </thead> <tbody> <tr> <td>1</td><td>2019-20</td><td>1.24Cr</td><td>4.59Cr</td></tr> <tr> <td>2</td><td>2020-21</td><td>0.50Cr</td><td>5.16Cr</td></tr> <tr> <td>3</td><td>2021-22</td><td>0.71Cr</td><td>4.74 Cr</td></tr> </tbody> </table> Source: As per information provided by PP	Environmental Expenditure with respect to Kulda OCP				S.No.	Period	Capital Nature	Revenue Nature	1	2019-20	1.24Cr	4.59Cr	2	2020-21	0.50Cr	5.16Cr	3	2021-22	0.71Cr	4.74 Cr
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iv	Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall carried out.	Inter Area Environmental Audit is being conducted in every quarter. The audit committee reviews all the compliance of the condition laid in the Environmental as well as Forest Clearance. The report is submitted to the company HQ, for final scrutiny. Third party assessment of EC Compliance was done by NEERI and the report submitted on 09-04-2021.	COMPLIED Comments: NEERI conducted third party audit during 2020-21 and submitted the audit report to the PP. NEERI has also conducted environmental compliance audit in February 2023 and will submit its report shortly.																																								
(j)	Miscellaneous																																										
i	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of	The project proponent has advertised in two local newspapers namely, The New Indian Express on 23.06.2022 and the Samaja on 23.06.2022	COMPLIED Comments: A few newspaper advertisements are attached in Annexure 32.																																								

	which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.		
ii	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	A copy of the environmental clearance has been sent to the concerned State Pollution Control Board, Regional Office, District Industry Sector and Collector's Office/Tahsildar Office for information in public domain within 30 days. The consignment numbers are as follows: • State Pollution Control Board: RO095554325IN • The Collector's Office: RO095554299IN • The Sarpanch, Balinga: RO095554339IN • The SarpanchTumulia: RO095554311IN • District Industry Officer: RO095554308N	COMPLIED
iii	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including result of monitored data on their website and update the same on half-yearly basis.	The compliance status is being uploaded on half-yearly basis, in the company's website: https://www.mahanadicoal.in	BEING COMPLIED The Kulda compliance report is uploaded at https://www.mahanadicoal.in/Environment/eenvironment.php when available It is not yet available.
iv	The project proponent shall monitor the criteria pollutants level namely; PM ₁₀ , SO ₂ , NO _x , (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.	The monitoring reports are being uploaded in the website https://www.mahanadicoal.in and displayed in LED Display Board in front of the project for public.	BEING COMPLIED The monitoring reports accessed by audit team at https://www.mahanadicoal.in/Environment/pdf/CA AQMS.pdf
v	The project proponent shall submit six-monthly report on the status of the	Six monthly compliances for the period Apr'22 to Sept'22 has been submitted to Regional	BEING COMPLIED The Kulda compliance report is uploaded at

	compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	Office and uploaded on the MCL company's website.	https://www.mahanadicoal.in/Environment/eenvironment.php when available. It is not yet available.
vi	The project proponent shall follow the mitigation measures provided in this Ministry's OM No. Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled Impact of mining activities on habitations-issues related to the mining projects wherein habitations and village are surrounded by the mine lease area'.	Mitigation measure interalia including use of surface miner, control blasting, mobile tanker, effluent treatment plant, garland drain, catch drain, noise level within limit at night etc has been implanted as a part of OM No.: Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.	COMPLIED Comments: Although the mitigation measures like use of surface miner, control blasting, mobile tanker, effluent treatment plant, garland drain, catch drain, noise level within limit at night etc. are welcome and appreciated, a separate study must be undertaken to understand environmental, health and socio-economic impacts of mining activity on surrounding villages.
vii	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and on the website of the company.	The Environmental Statement in Form-V has been submitted to the State Pollution Control board, Odisha vide letter no.-MCL/HQ/E&F/2022/201, Dt.- 16.09.2022 and the Environment Statement for the period of 2021-22 has been displayed in the MCL's Website also.	COMPLIED Environmental Statement in Form-V is attached in Annexure 33 .
viii	The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.	The commencement of mining operation as per the CTO issued vide no.- 3139/IND-I-CON-5125, Date- 25.02.2022, by Odisha State Pollution Control Board.	COMPLIED CTO attached in Annexure 6 .
ix	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	Agreed.	PP HAS ASSURED TO COMPLY
x	The project authority shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	The status of compliance of recommendations made in EIA/EMP has been submitted to MoEFCC	PP HAS ASSURED TO COMPLY
xi	No further expansion or modifications in the plant shall be carried out without prior	Agreed. The production details have been provided below:	PP HAS ASSURED TO COMPLY

	approval of the Ministry of environmental, Forests and Climate Change.	<table><tr><th>Period</th><th>Production in MT</th></tr><tr><td>2020-21</td><td>15.73</td></tr><tr><td>2021-22</td><td>18.49</td></tr><tr><td>2022-23 (up to 24.01.23)</td><td>17.46</td></tr></table>	Period	Production in MT	2020-21	15.73	2021-22	18.49	2022-23 (up to 24.01.23)	17.46	
Period	Production in MT										
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2021-22	18.49										
2022-23 (up to 24.01.23)	17.46										
xii	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Agreed.	PP HAS ASSURED TO COMPLY								
xiii	The Ministry may revoke or suspend the clearance, if implementation of the above conditions is not satisfactory.	Agreed.	PP HAS ASSURED TO COMPLY								
xiv	The Ministry reserves the right to stipulated additional if found necessary. The company in a time bound manner shall implement these conditions.	Agreed.	PP HAS ASSURED TO COMPLY								
xv	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authority should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data/information/monitoring reports.	Noted and Agreed.	PP HAS ASSURED TO COMPLY								
xvi	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules made their under and any other Court of Law relating to the	Consent to Establish has been accorded vide letter no. – 19795/IND-II-CTE-6742, Date – 27.10 and Consent to Operate accorded vide letter no 788/IND-I-CON-5125 dated 20.01.2023 for production of 21 TPA. Hazardous waste authorization was obtained vide no.- IND-IV-HW-1038/3589, date- 14-03.2022, and valid till 31.03.2023.	PP HAS ASSURED TO COMPLY								

	subject matter.		
xvii	The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report as well as during presentation to the EAC. All the commitments made on the issued raised during public hearing shall also be implemented by the EC in letter and spirit.	Noted and Agreed.	PP HAS ASSURED TO COMPLY
xviii	The proponent shall obtain all necessary clearance/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection. The Ministry or any other competent authority may stipulated any further condition for environmental protection.	All the required Consent from the State Government has been taken before the commencement of mining operation.	PP HAS ASSURED TO COMPLY
xix	Any appeal against this Environment Clearance (EC) shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted and Agreed.	PP HAS ASSURED TO COMPLY
xx	The coal company/project proponent shall be liable to pay the compensation against illegal mining, if any, and as raised by the respective State Governments at any point of time, in terms of the orders dated 2nd August, 2017 of Hon'ble Supreme Court in WP (Civil) No.114/2014 in the matter of 'Common Cause Vs Union of India & others.	Noted and Agreed.	PP HAS ASSURED TO COMPLY
xxi	The concerned State Government shall ensure no mining operations to commence till the entire compensation for illegal mining, if any, is paid by the project proponent through their respective Department of Mining & Geology, in strict compliance of the judgment of Hon'ble Supreme Court.	Noted and Agreed.	PP HAS ASSURED TO COMPLY

xxii	This Environment Clearance (EC) shall not be operational till such time the project proponent complies with the above said judgment of Hon'ble Supreme Court, as applicable, and other statutory requirements.	Noted and Agreed.	PP HAS ASSURED TO COMPLY
xxiii	All the conditions stipulated in Environment Clearance vide Ministry's letter No. J-11015/10/95-IA.II(M) dated 24th December, 2002, 22nd March, 2018, 28th March, 2019, 10th January, 2020 and 2nd March, 2021.	Noted and Agreed.	PP HAS ASSURED TO COMPLY

Terminologies used in table:

COMPLIED: PP complied with the EC condition entirely at the time of submitting this report

NOT COMPLIED: PP did not comply with the EC condition at the time of submitting this report

PARTIALLY COMPLIED: EC has partially complied with the EC condition at the time of submitting this report

YET TO COMPLY: PP did not comply with the EC condition at the time of submitting this report but assured to comply at a later time

BEING COMPLIED: Applicable for continuous process of due compliance

NOT APPLICABLE: Not applicable to the PP

PP HAS ASSURED TO COMPLY: Compliance not applicable at this point of time but may be relevant in future

PP HAS NOTED: Instructions that PP needs to keep in mind

This chapter delineates audit findings on compliance status of EC by Kulda OCP. The audit team of CSIR-NEERI has audited EC conditions and presented its comments in **Table 3.1**. In addition, following aspects are recommended based on audit findings for enhancing the environmental performance of Kulda OCP.

4.1 Health

- All the persons deployed in the mining operations (Departmental as well as Contractual) may be subjected to complete health check-up periodically at National Institute of Miners Health to ascertain ill effects of micro-fine coal dust and gases (e.g. SO₂, CO, CO₂, NMHCs) emitted due to quarrying and spontaneous heating (burning) of coal. The health of miners is of top priority and hence, the above condition must be ensured.
- Respiratory distress and respiratory diseases are common amongst the workers of open cast mines because of dust exposure and inhalation of gases. Long-term impacts could include cancer, mental health disorders etc. Noise is ubiquitous in mines due to activities like drilling, blasting, cutting, material handling, crushing etc. So, noise induced hearing impairment and losses may also be noticed amongst mine workers. Initial and periodic medical examinations of the workers engaged in project, should be conducted at regular intervals by doctors trained as per ILO guidelines. Any abnormality in spirometry and audiometry findings of the workers should have to be carefully investigated by the medical doctors and proper guidance and follow-up of these cases should be ensured for effective disease management and recovery. Regular

medical camps should also be conducted by hospital authorities of MCL to ensure health and welfare of near-by villagers at least once in six months. Occupational health studies on personal exposure assessment for dust, noise, vibration and biomarker studies might help in effective health management and disease prevention among the mine workers and nearby villagers.

- Several persons deployed in the mining and allied operations were found not using mask. Considering dust exposure during mining and Covid-19 pandemic, this is seriously viewed. It is suggested to deploy strict mechanisms to follow required safety protocols including wearing masks and social distancing.

4.2 Coal transportation

- In some areas, there is limited arrangement of one-way traffic movement for dumpers/trucks for haulage of OB and coal including U-turns on some roads. Same road is being used by light and heavy vehicles, which might lead to untoward road accidents. Haul road management needs improvement *vis a vis* clear designation of type of vehicles that can travel on specific roads.
- Coal transport system through tarpaulin covered trucks is ensured but many covers were found inadequate during audit. The covers must be checked at truck exit points to ensure complete coverage to ensure no spillage of coal during transport.
- In some areas, same road is being used by light and heavy vehicles, which might lead to untoward road accidents. Road management needs improvement *vis a vis* clear designation of type of vehicles that can travel on specific parts of roads.

- Road transport routes must bypass hamlets, villages, populated areas and major clusters of crop fields to avoid exposures of vehicular pollution and road dust to crops and residents living nearby roads.

4.3 Land and Surface Water Management

- The area is said to receive copious rainfall in monsoon. Heavy rainfall in the area is expected to cause soil erosion, sediment movement down the OB dumps and development of temporary streams flowing through active mining areas. Hence, adequate and effective measures such as protection of slope in OB dumps, backfilled areas, barren lands and mine pits, transport roads, stockyards, etc. should be undertaken to protect surface soil and loose sediment against random movement and relocation.
- As catch/garland drains at the toe of the OB dumps get periodically filled with silt, the former may be inspected periodically for clean-up.
- Garland drains need better conservation and bank stabilization for long-term operation.

4.4 Settling ponds

Water settling structures and siltation ponds may be increased in number at suitable places that water can flow through during monsoon, ensuring that sediment is settled in these structures and do not flow and reach sumps, thereby reducing their water carrying capacity. The settling ponds act not only as sediment arresting and water recharge structures but its water can also be used for dust suppression, plantations and HEMM washing as and when required. Periodically, the depth of settling structures may be inspected and revamped, if required, to maintain their water holding capacity.

4.5 Groundwater recharge ponds

The PP needs to construct more number of engineered water recharge structures within mine lease area and offices and colony areas

4.6 OB Management

- OB dumping should be carried out by adopting retreating method starting from bottom and reaching to the top by creating terraces of about 30 m height and 25 m width of each terrace. Berms should be provided at the toe of each terrace to avoid water flowing down dump slopes. Wherever necessary, retaining/toe walls and garland drains should be provided on every terrace and the drains have to be connected to the vertical drains to finally drain the water into mine sumps.
- Dumping should be carried out by adopting retreating method starting from bottom and reaching to the top by creating terraces of about 30 m height and 25 m width of each terrace. Berms should be provided at the toe of each terrace to avoid water flowing down dump slopes.

4.7 Top soil management

Top soil, being very vital to the reclamation process, must be well-protected from run-off and loss during monsoon. Therefore, quick stabilization of top soil must be ensured by either grassing of the tops or proactive plantation drive. Grade of slopes may be so maintained to minimize slope failure and collapse of benches. PP needs to spread top soil much before the onset of monsoon on the OB dumps and water them, after they attain the designated heights, so that the dormant seeds, grass rhizomes can quickly regenerate and start the process of stabilization of OB dumps before monsoon arrives.

4.8 Plantation Activities

- Development of greenbelt/safety zone plantation needs to cater to the upwind direction in the most windy season (summer or winter) as per the wind direction database and windrose. Wind direction is expected to reverse during summer and winter and therefore, upwind direction in most windy season may be properly designated.
- It is required that all the existing greenbelts must be protected from accidental fire and deliberate arson by keeping a strict vigil. Also, small areas with low density of trees/vegetation noticed within forest patches must be replanted with new saplings.
- The PP needs to upscale the plantation drive and maintain thick plantation all along the transport/service roads and OB dumps to ensure higher carbon sequestration and make them act as dust and wind barrier.
- Adequate plantation around railway sidings must also be ensured in near future to minimize dispersion of fugitive dust and sound propagation. New plantations and adequate maintenance of existing plantation on degraded waste land, barren land and in township must be ensured.
- In plantations, it must be explored if sump water can be pumped and transported via pipe network on the OB dumps and then applied to saplings/trees via smaller piping network in drips. Also, possibility of applying large-drop drip irrigation through gravity from a fixed makeshift water tank (maintained on a high platform) on the OBs may be explored, at least during early stages of plantation. At present watering is done by mobile water tankers that may lead to more emissions per unit of water applied and may also lead to non-consumptive use of water due to slight diversion of applied water away from individual plants. Water holding capacity on OB dumps can

also be increased by adding layer of suitable soil types with comparatively higher water holding capacity. Periodical application of manure at the initial stages of plant establishment must be ensured.

- A combination of various compatible species must be encouraged in the plantation areas that would lead to better biodiversity and soil conditioning in the long run.

4.9 Road dust Management

- Dust suppression systems installed along the mine haul roads was found to be satisfactory. Pressurized water sprinkling through fixed sprinklers along the haul roads, water sprinkling vehicles on the roads, fixed and mobile fog canons within the mine were observed.
- For dust suppression in coal stockyard and along haul roads, the OCP should make provisions of dust suppression devices like mist cannon or rain guns or sprinklers. Rain Gun may be considered against mist cannon due to the followings:
 - ✓ Much lower cost of mist gun than mist cannon (5-6 times lesser costs)
 - ✓ Higher delivery radius of rain gun over fog cannon
 - ✓ Lower power requirement in rain gun
 - ✓ Lower sound in rain gun
- Road dust resuspension is high on the haul roads and hence, regular cleaning of haul roads is recommended. Comprehensive installation of dust barrier along select stretches of haul roads should be carried out.

4.10 Monitoring of Air quality

- All the CAAQMS and manual air quality monitoring stations must be positioned in places without any air blockage
- Ambient air quality monitoring in the core zone should be carried out on a regular basis and data should be reported to the SPCB, Ministry/Regional office

- Vehicular emissions shall be kept under control and regularly monitored by obtaining PUC certificates of the vehicles engaged in mining activities.
- Fog cannons should be operated regularly in coal stock yard

4.11 Water quality

- Groundwater monitoring is being done regularly by the CMPDI at required intervals. The groundwater level is being monitored at four dug wells at required frequency. The quality of well water is also monitored monthly and report is being submitted.
- Diverting unpolluted storm water through storm water drainage network to return to natural environment outside mining lease area should be considered to reduce water footprint of open cast coal mine. Construction of open reservoirs (temporary or permanent) having sufficient surface area for harvesting contaminated rainwater in order to allow natural evaporation from water surface is recommended to facilitate return of blue water to environment. However, creating ponds for pisciculture and recreation activities in the periphery of the mine must also be actively considered by PP
- Garjanbahal OCP does not have engineered groundwater recharging pits. They may be installed at suitable locations in due course of time.
- Dynamic water budget of the mine should be always available with the project office so that at any point of time, surplus and available water can be assessed for optimum allotment and utilization of available water for various operations of mine and also, supply to surrounding villages. This would also allow the mines to make contingency plans for various seasons in advance.

4.12 Noise measurement

Noise level survey inside the mine area is being carried out using sound level monitoring meters to keep a vigil on noise levels in the mines and vicinity and identification of possible breaches. Monitoring Reports of Kulda OCP were audited and it reveals that all stations where monitoring has been carried out were well within specified limit.

4.13 Monitoring of soil

Monitoring of soil is done to generate baseline data while preparing the EIA/EMP. The EC does not prescribe soil sampling and analysis. However, since the soil is removed and placed at the sites stipulated in EIA/EMP, good environmental practice should include sampling of such soil at dumps periodically and analysis of soil fertility.

4.14 Environment Management

Environment Management Cell has been established at headquarter level by the project authority. One nodal officer (Environmental Management) has been recruited at Project Area who reports to the Staff Officer (E&F), Basundhara Area. However, it is suggested that the project authority should take necessary steps to strengthen the Environment Management Cell with more numbers of suitable qualified manpower with background in Environmental Science/ Environmental Management apart from environmental engineers for better execution of work related to environment protection and pollution control.

4.15 General Recommendations

- Dust suppression systems installed along the mine haul roads were found. Pressurized water sprinkling through fixed sprinklers along the haul roads, water sprinkling vehicles on the roads, fixed and mobile fog canons within the mine were observed. However, some other busy road stretches were seen to have substantial dust emissions

where such measures are not installed and therefore, such stretches may be covered under dust suppression systems in due course of time.

- Coal seam and overburden fire by spontaneous heating was observed at many places. Special vigil on such incidences, especially on distant (not regularly accessed) OB dumps must be made to avoid untoward incidences of large fire. The PP is advised to keep such vulnerable areas under soil cap for preventing fire.
- Environmental Data Management System must be streamlined in terms of soft and hard copy information/file management system for quick dissemination and delivery of information. All the environmental monitoring data including all historical data should be accessed, compiled and should be maintained with various graphical representations for the ease of quick overview.
- A meteorological station may be maintained in the mining area for monitoring local rainfall and evapotranspiration that influence the local water cycle, apart from helping in monitoring of wind patterns that aid in dust dispersion and air pollution studies.
- Staff gauge may be installed in sumps to monitor water level which will help in understanding periodic water augmentation, water depletion rate, other losses and water budgeting of the mine.
- All the pipelines that either pump out or load water within the mining area, including the sumps, must be color coded /differentially marked for the ease of inspection and auditing purpose.
- All specific points e.g. plantation areas, car washing bays, ETP, STP, view point, recharge structures, CHP and any other special feature/designated area must be marked with large permanent boards at the entrance area, showing detail information (with

date, year of commissioning) in large font over contrasting background for ease of inspection and auditing. No vinyl prints must be used, as these are temporary in nature and are faded and torn in due course of time.

- Road surface, wherever rough/bumpy, should be made smoother by proper grading for better vehicle movements.
- Persons deployed at the mine through departmental as well as contractors should be made to use personal protective gears, especially masks to protect them from micro-fine coal, siliceous dust and viral infections. During internal field visits/ inspections, the same should be monitored and enforced.
- Few of the external OB dump slopes are severely eroded and several rills and gullies were noticed on the slopes. Such erosion need to be stopped immediately by making a series of gully plugs/log wood check dam/brush wood check dams, so that the erosion of sediments and loose boulders from the OB dumps can be arrested.
- The PP may consider taking appropriate action to make proper terracing and put geotextile at vulnerable areas followed by broadcasting of seeds of local grasses for proper stabilization of dump slopes.
- Grown-up trees in plantations must be marked with common and specie names in metal placards pinned to the trunks.
- All the future afforestation/plantation activities on the backfilled OB dumps, on the external OB dumps, degraded areas, township, railway sidings, transport/service roads are to be undertaken by using only native plant species.

- Gap plantation should be undertaken wherever possible in the township area, wastelands, OB dumps and other degraded areas.
- Along with the financial support for infrastructure to educational centers, the PP can also develop of libraries (with books in vernacular, Hindi and English), computer training centres, cyber cafes and medical diagnostic laboratories.
- The PP needs to provide serially numbered boundary pillars with coordinates around the mine lease area.

3rd party environmental audit work order to NEERI

ମହାନଦୀ କୋଲଫିଲ୍ଡସ୍ ଲିମିଟେଡ୍
Mahanadi Coalfields Limited
(A subsidiary of Coal India Limited)

Office of The General Manager
Basundhara Area
AT/PO:- Basundhara-770076
Dist:- Sundargarh (Orissa)
Tel No: 06621-286133(O),
FAX: 06621-286144



MCL

Ref. No. MCL/GM/BA/E&F/2022-23/ES-45/451

Date: 27.01.2023

To,
The Scientist and Head
CSIR – NEERI Kolkata Zonal Center
i-8, Sector C, EKDP, EM Bypass
Kolkata – 700107.
GST Registration No. – 27AAATC2716R2ZE.

सेवा,
वैज्ञानिक और प्रमुख
सीएसआईआर - नोरी कोलकाता जोनल सेंटर
आई-8, सेक्टर सी, ईकेडीपी, ईएम बायपास
कोलकाता 700107

Kind Attn.: Dr. Deepanjan Majumdar, Sr. Scientist, NEERI – Kolkata Zonal Center, Kolkata.

कृपयाध्यान दें: डॉ दीपांजन मजूमदार, सीनियर साइंटिस्ट, एन ई आई आर आई - कोलकाता जोनल सेंटर, कोलकाता

Sub: Award of work for "Conducting the third party Environmental Audit for compliance of EC conditions of Kulda & Garjanbahal OCP of Basundhara Area, Mahanadi Coalfields Limited (MCL)".

विषय: "एम सी एल के कुल्दा और गर्जनबहाल ओसीपी के पर्यावरण मंजूरी सरतों के अनुपालन का तीसरे पक्ष से पर्यावरणीय जाँच का आयोजन" के लिये कार्य आदेश ।

Ref: 1. Our Proposal invitation vide e-mail on dated 19.12.2022.
2. Your technical proposal submitted vide e-mail dated 20.12.2022.
4. Your Financial proposal submitted vide e-mail dated 20.12.2022.

महोदय,

With reference to the above, Competent Authority of MCL has been pleased to approve the award of work of "Conducting the third party Environmental Audit for compliance of EC condition of Kulda and Garjanbahal OCPs of MCL Basundhara Area" in your favour for an amount of Rs. **25,96,000.00** (Rupees Twenty five lakhs, ninety six thousand only), being the project cost + GST as applicable with the following terms and conditions.

1. Scope of Work:

CSIR-NEERI will conduct environmental third party audit of EC conditions of two mines of MCL Basundhara Area. The sequence of priority of the selected mines will be (i) Kulda OCP (Sundargarh District) (ii) Garjanbahal OCP (Sundargarh District)

2. Duration of the study:

The duration of the project will be 120 Days from the zero date (i.e. date of receiving 1st installment) with following reporting schedule:

- Draft Final Report: To be submitted within 100 Days after the zero date (1 soft copy, 2 hard copies)
- Final Report: To be submitted within 20 Days after receipt of MCL comments on Draft Final Report (1 soft copy, 5 hard copies).

3. Payment Terms:

- i. First Installment: 50% of the project cost + GST as applicable will be paid after acceptance of this work order with submission of a demand invoice.

महानदी कोयलाखन क्षेत्र लिमिटेड Mahanadi Coalfields Limited (A subsidiary of Coal India Limited)	Office of The General Manager Basundhara Area AT/PO:-Basundhara-770076 Dist:-Sundargarh (Orissa) Tel No: 06621-286131(0). FAX: 06621-286144	 MCL

- ii. Second Installment: 40% of the project cost + GST as applicable (after submission and satisfactory deliberation of Draft Final Report) and submission of invoice.
- iii. Final Installment: 10% of the project cost + GST as applicable (after submission of the Final Report) and submission of invoice.
- iv. Invoice to be submitted in triplicate to General Manager, Basundhara Area, MCL, for his certification and processing for payment.
- v. Mode of Payment: Payment will be electronically transferred to NEERI account at SBI Nagpur with
- vi. Swift code : SBININBB534
- vii. IFSC Code : SBIN0004224
- viii. Account No. 30266513766, branch NEERI.
- ix. Paying Authority: General Manager, Basundhara Area, MCL.

4. Penalty Clause:

- i. As time is the essence of the study, 5% of the total study charges shall be deducted from the final bill if final report is delayed for 15 days.
- ii. In situations, where the management is satisfied about the reason for delay in completion of the work, which will be submitted by you in written, the management may consider your request for non-imposition of penalty or with imposition of part-penalty.

5. Other terms and conditions:

- i. MCL will nominate a coordinator who will coordinate all activities with the consultant team during the entire study.
- ii. MCL will also nominate local coordinators who will coordinate all activities with the consultant team at various mine sites.
- iii. MCL will provide all relevant data and documents to the consultant as deemed necessary by NEERI.
- iv. MCL will arrange for local travel/ pick-up and drop from and to nearest airport/bus/rail station near study sites, whenever requested.
- v. MCL will arrange for travel and visit logistics within all the mining areas including core and buffer zones
- vi. MCL will arrange for lodging and boarding of consultant team at or near the site (preferably within 10-15 km distance from the mines) during fields studies/ meeting/ reconnaissance visits, for ensuring convenience in approaching mines.

6. Extension of date of completion : On occurrences of any events causing delay as stated here-under, the contractor shall intimate immediately in writing to the GM, Basundhara Area, MCL.

a) Force Majeure:

- i. Natural phenomena like unprecedented flood and draught, earthquakes & epidemics.
- ii. Political upheaval, civil commotion, strike, lockouts, acts of any Govt. (domestic/foreign) including but not limited to war, proprieties, and quarantine embargoes.

The successful bidder/ contractor will advise in the event of his having to resort to this clause by a registered letter duly certified by the local chamber of commerce or statutory authorities, the beginning and end of the cause of delay, within fifteen days of the occurrence and cessation of such Force Majeure condition. In the event of delay due to Force Majeure for more than one month the contract may be terminated at the discretion of the company. Termination under such circumstances will be without any liability on either side. For delays arising out of Force Majeure, the bidder/ contractor will not claim extension in completion date for a period of delay attributable to the clauses of Force Majeure and neither company nor bidder / contractor shall be liable to pay extra cost (like increase in rate, remobilization

Corporate office: Jagriti Vihar, Bada Sambaipur, Cuttack - 758 025, Phone: (Pbx) +91 (067) 254 3481(4), Telefax: +91 (067) 254 3217, Website: www.mcl.co.in

Grant of EC



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

To,

The Project Officer
 KULDA EXPANSION OCP MAHANADI COALFIELDS LIMITED
 Project Office, Kulda Expansion OC Project, P. O.-Basundhara, Dist.-
 Sundergarh, State-Orissa, Sundargarh, Orissa-770076

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

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the Ministry vide proposal number IA/OR/CMIN/271821/2022 dated 13 May 2022. The particulars of the environmental clearance granted to the project are as below.

1. EC Identification No.	EC22A042OR116159
2. File No.	J-11015/10/1995-IA-II(M)
3. Project Type	Expansion?
4. Category	A
5. Project/Activity including Schedule No.	1(a) Mining of minerals
6. Name of Project	Kulda Expansion Opencast Project
7. Name of Company/Organization	KULDA EXPANSION OCP MAHANADI COALFIELDS LIMITED
8. Location of Project	Orissa
9. TOR Date	N/A

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

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

Date: 25/05/2022

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

This is a computer generated cover page.

Expansion letter from MoEF

F No. J- 11015/10/1995-IA-II(M).
 Government of India
 Ministry of Environment, Forest and Climate Change
 (Impact Assessment Division)

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

Dated: 24th May, 2022

To

The Project Officer
 M/s The Mahanadi Coalfields Limited
 Kulda OCP Basundhara area PO- Balinga,
 Tehsil- Hemgir, Sundargarh, Odisha-770076
 Email: pokuldaexpansionmcl@gmail.com

Sub: Expansion of Kulda Opencast Coal Mine Project from 19.6 MTPA to 21 (increase of 10% w.r.t 14 MTPA) in an ML area of 634.205 ha M/s Mahanadi Coalfields Limited, located at village Balinga, Tumulia, Siarmal, Kulda & Bankibahal, Tehsil: Hemgir, District Sundargarh (Odisha) - Environmental Clearance under OM vide no. F. No. IA3-22/10/2022-IA.III 07.05.2022- [Availing total 50% relaxation of OM dealing with exemption of public hearing under clause 7 (ii) of EIA notification].

Sir,

This has reference to your online proposal No. IA/OR/CMIN/271821/2022 dated 13th May, 2022 submitted to this Ministry for grant of Environmental Clearance (EC) in terms of the provisions with MoEF & CC's Office Memorandum vide no. F. No. IA3-22/10/2022-IA.III (E 177258) dated 11.04.2022 & 07.05.2022 and as per EIA Notification, 2006) of the Environment Impact Assessment (EIA) Notification, 2006 under the Environment (Protection) Act, 1986 for Expansion of Expansion of Kulda Opencast Coal Mine Project from 19.6 MTPA to 21 (increase of 10% w.r.t 14 MTPA) in an ML area of 634.205 ha M/s Mahanadi Coalfields Limited, located at village Balinga, Tumulia, Siarmal, Kulda & Bankibahal, Tehsil Hemgir, District Sundargarh (Odisha).

2. Earlier, Environment Clearance (EC) was accorded by Ministry on 24.12.2002 for 10 MTPA in an ML area of 878.29 ha. Further, proposal was granted EC for production capacity of 14 MTPA in ML area of 634.205 Ha dated 10.01.2020. Later, EC was granted for expansion under Clause 7 (ii) of EIA notification, 2006 as per O.M. dated 15.09.2017 for 20% expansion each (total 40%) i.e. 16.80 MTPA & 19.6 MTPA on 02.03.2021 & 14.02.2022 respectively. Presently the proposal is considered by the Ministry at central level in view of the exigency, as per the provisions of O.M. F. No. IA3-22/10/2022-IA.III dated 07.05.2022.

3. Based on the submission of Project Proponent, Ministry hereby grants approval to Expansion of Kulda Opencast Coal Mine Project from 19.6 MTPA to 21 (increase of 10% w.r.t 14 MTPA) in an ML area of 634.205 ha M/s Mahanadi Coalfields Limited, located at village Balinga, Tumulia, Siarmal, Kulda & Bankibahal, Tehsil: Hemgir, District Sundargarh (Odisha), under the provisions of OM vide no. F. No. IA3-22/10/2022-IA.III 07.05.2022, under the Environment Impact Assessment

(EIA) Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards as stated below:-

- i. PP shall submit Certified Compliance Report of the EC vide No. F. No. No. J- F No. J-11015/10/1995-IA-II(M) dated 14th February, 2022 granted for total 40% expansion, along with EIA/EMP report, prepared based on standard ToRs for the additional capacity of 10% on PARIVESH portal within six months of enhancement of production beyond 40%.
- ii. In view of above para (i), Ministry shall ascertain the adequacy of the proposed environmental safeguards and stipulate necessary conditions, if required, which shall be monitored as a part of the EC compliance monitoring.
- iii. PP shall obtain necessary prior consent for enhanced capacity from State Pollution Control Board under Air and Water Act.
- iv. Environmental quality parameters arising out of proposed expansion shall be within the prescribed norms and the same shall be maintained as per prescribed norms.
- v. Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent".
- vi. All other terms and conditions as prescribed in Ministry's letter dated 10.01.2020 02.03.2021 & 14.02.2022 shall remain the same and this enhancement shall be read with EC dated 14.02.2022, which needs to be complied by PP.

This issues with the approval of the competent Authority


(Lalit Bokolia)
Director

Copy to:

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. The APPCF, Regional office (EZ), Ministry of Environment, Forest and Climate Change, A-31, Chandrashekharapur, Bhubaneswar-751023 (Odisha)
3. The Secretary, Department of Environment & Forests, Government of Orissa, Secretariat Bhubaneswar (Odisha)
4. The Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/118 Nilkanthnagar, Unit VIII, Bhubaneswar-751012 (Odisha)
5. The Chairman, Central Ground Water Authority, Jamnagar House, 18/11, Man Singh Road Area, New Delhi, Delhi 110001
6. The District Collector, Sundergarh, Government of Odisha
7. Monitoring File /Record File /PARIVESH Portal


(Lalit Bokolia)
Signature Not Verified
Digitally signed by Lalit Bokolia
Scientist F
Date: 5/25/2022 11:46:05 AM

Minutes of meeting of MCL with auditor

Minutes of Meeting		Date: 21.02.2023						
Kick-off Meeting between CSIR-NEERI team and officials of Kulda OCP (MCL) was held at Kulda Project Office on 21.02.2022 Project: Environmental Audit of Kulda and Garjanbahal Mines Attendees: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: center; padding: 5px;">CSIR-NEERI</th> <th style="width: 50%; text-align: center; padding: 5px;">Kulda OCP</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Deepanjan Majumdar, Senior Principal Scientist and Head, CSIR-NEERI, Kolkata</td> <td style="padding: 5px;">Manoranjan Das, Project officer, Kulda OCP</td> </tr> <tr> <td style="padding: 5px;">Sreemanta Pramanik, Senior Principal Scientist, CSIR-NEERI, Kolkata</td> <td style="padding: 5px;">N. Piraiyamutham, Environment Officer, Kulda OCP</td> </tr> </tbody> </table>			CSIR-NEERI	Kulda OCP	Deepanjan Majumdar, Senior Principal Scientist and Head, CSIR-NEERI, Kolkata	Manoranjan Das, Project officer, Kulda OCP	Sreemanta Pramanik, Senior Principal Scientist, CSIR-NEERI, Kolkata	N. Piraiyamutham, Environment Officer, Kulda OCP
CSIR-NEERI	Kulda OCP							
Deepanjan Majumdar, Senior Principal Scientist and Head, CSIR-NEERI, Kolkata	Manoranjan Das, Project officer, Kulda OCP							
Sreemanta Pramanik, Senior Principal Scientist, CSIR-NEERI, Kolkata	N. Piraiyamutham, Environment Officer, Kulda OCP							
The Project officer of Kulda OCP opened the meeting with formal introduction of the staff and briefs about mine lease area, quarry boundary, expansion areas, coal transport routes, internal and external overburdens with the help of a survey map of the mine command area. Also, he briefed about project operations and environment management procedure. CSIR-NEERI Team briefed about the requirements of environmental audit, data requirements, survey and inspection needs and proceeded for detailed discussion on requirements, understanding of documentation and scrutiny of documents. CSIR-NEERI inquired about mining operations and environmental practices of Kulda OCP which was briefly answered by the staff. Important points discussed during document scrutiny were the following I. All letters and documents on all clearances for mining operations would be made available to CSIR-NEERI team II. All required maps on mine and associated areas would be made available III. All relevant reports would be made available to CSIR-NEERI team in soft files IV. Relevant documents on training, medical camps, skill development program V. Coal transport routes with the survey map VI. Energy saving plans and initiatives were discussed and relevant documents were solicited by CSIR-NEERI team VII. Environmental data keeping were discussed and analysis results were obtained by CSIR-NEERI team VIII. Newspaper reports and information given to media on public hearing and EC were accessed by CSIR-NEERI team IX. Future development of green belt was discussed in detail X. Kulda OCP staff delivered several soft copy reports of solicited documents to CSIR-NEERI team XI. It was decided that further requirements of documents and reports, if any, during preparation of report by CSIR-NEERI will be delivered by Kulda OCP on request								

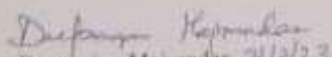
1/2

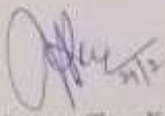
Details of mine visits/inspections made on 21.02.23 - 22.02.23

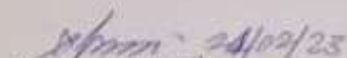
The following places/operations were visited and photographs were taken at selected points:

- Mining operations like excavation, coal cutting by surface miners, coal loading by payloads on trucks in active mine area, coal transport to stockyard
- Fires on internal overburden and reject dumps
- New plantation areas maintained by Forest Environment and Climate Change Department of Govt. of Odisha and Chhattisgarh State Forest Department on internal overburden
- Internal truck routes
- Water storage sumps in mining area
- Catch drains
- Dust suppression activities on internal as well as external truck haul roads by mobile tankers and fog canons
- Sprinklers in coal stockyard
- CAAQMS near temple and Narsingpur village
- Effluent treatment plant and its operations
- Water treatment plant and its operations
- Alum storage at WTP
- Piezometer point near HEMM washing bay
- HEMM washing bay with concrete channels and water retention tanks
- The under-construction wind barrier with GI sheets around haul roads
- Concretization of select stretches of internal hauls roads
- Wheel washing systems installed on internal haul road
- 3-tier plantation near abandoned coal handling plant (CHP)
- Entrance of engineering workshop
- Tarpaulin covering of trucks at the point of exit
- Green fabric wind barrier along select stretches of haul roads
- CSIR-NEERI team documented various aspects on operation and maintenance of the above areas and operations. Relevant on-site suggestions were given by CSIR-NEERI team to the accompanying Kulda OCP staff on the area and operations visited
- Sardaga siding and loading and unloading operations
- Construction of silos and peripheral infrastructure at the designated rapid loading system site at Sardaga siding

Signatures


Deepanjan Majumdar 21/2/23


Manoranjan Das, Project officer, Kulda OCP


Sreemanta Pramanik 24/02/23


N. Pirayathalam, Environment Officer, Kulda OCP

Work order for EIA/EMP

ମହାନଦୀ କୋଲ ଫିଲ୍ଡସ୍ ଲିମିଟେଡ୍
महानदी कोलफील्ड्स लिमिटेड
Mahanadi Coalfields Limited
 (A subsidiary of Coal India Limited)

महाप्रबंधक (पर्यावरण एवं वन) का कार्यालय
 Office of the General Manager (Env & Forests)
 P.O.: Jagruti Vihar, Buri
 Dist: Sambalpur, Odisha-768020
 Ph: +91 (663) 254 2084; 9438877186
 Fax: +91 (663) 254 2257, e-mail:
 gmenvt2018@gmail.com, gm-env.mcl@coalindia.in



Agenda no. 40.2

Ref no: MCL/SBP/Env & Forest/ 22-23/278

Dt:18.07.2022

To
 The Regional Director
 CMPDIL-RI-7
 Plot No. E-4, Near Gandhi Park
 At- Samantapuri, PO: RRL
 Bhubaneswar-751013 (Odisha)

Ref:

1. Our E-office file no: 752606

Sub: Work-Order for "Preparation of Form-2, EIA/EMP including final layouts, KML etc., and requisite documents of Kulda OCP (19.6Mty to 21Mty) & Lakhanpur OCP (21Mty to 22.5 Mty)"

Dear Sir,

This is to communicate that the Competent Authority of MCL has been pleased to approve the award of work for preparation of "Preparation of Form-2, EIA/EMP including final layouts, KML etc., and requisite documents of Kulda OCP (19.6Mty to 21Mty) & Lakhanpur OCP (21Mty to 22.5 Mty)" in your favor at a total value of Rs.3,64,76,160/- (Three Crores Sixty Four Lakhs Seventy Six Thousand One Hundred and Sixty only) including 18% GST with the following terms and conditions. The administrative approval has been accorded by CMD, MCL to carry out the subject work through CMPDI on 09.05.2022.

1. Scope of Work:

The work involves the "Preparation of Form-2, EIA/EMP including final layouts, KML etc., and requisite documents of Kulda OCP (19.6Mty to 21Mty) & Lakhanpur OCP (21Mty to 22.5 Mty) as per the OM Dt.07.05.22 published by MoEF&CC". The said proposals are for 50% expansion of existing EC capacity.

2. Details of the value of Job:

- i. Total EDs assigned for the Job-600 EDs@25,760/- per ED rate for FY 2022-23 for each project.
- ii. Grand Total for both projects-1200 EDs including GST@18%- Rs.3,64,76,160/-

3. Submission report and payment terms:

As per the MoM Dt.08.05.2022 chaired by D(T/CIL) on "Status of activities of 50% EC enhancement" it was directed to submit the proposal to MoEF&CC by 13.05.2022. Hence, the Form-2 and other requisite documents has been submitted by CMPDI on 11.05.2022 based on administrative approval of CMD,MCL. The final EIA/MP, layouts, KML etc shall be submitted within forty five days from the completion of Baseline data generation.

CTE




Tel : 2564033/2563924
 EPABX : 2561909/2562847
 E-mail: paribesh1@ospboard.org
 Web site: www.ospboard.org

OFFICE OF THE
STATE POLLUTION CONTROL BOARD, ODISHA
 [DEPARTMENT OF FOREST & ENVIRONMENT, GOVERNMENT OF ODISHA]
 ParibeshBhawan, A/118, Nilakantha Nagar, Unit – VIII
 Bhubaneswar – 751 012, INDIA

*By Speed Post /
Through online*

No. 19795 /

IND-II-CTE-6742

Date 27.10.2022 /

CONSENT TO ESTABLISH ORDER

In consideration of the Online application No. **4296470** for obtaining Consent to Establish for **Kulda OCP, Basundhara Area of M/s Mahanadi Coalfields Ltd.**, the State Pollution Control Board is pleased to convey its Consent to Establish under section 25 of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 for **enhancement in production capacity of Kulda Open Cast Mining Project from 19.6 MTPA to 21.0 MTPA (Increase of 10% w.r.t. 14 MTPA) over the mining lease area of 634.205 Ha.** At villages-Siarmal, Tumulia, Kulda, Bankibahal, Balinga, under Hemgir Tahsil in the district of **Sundargarh** with the following conditions:

GENERAL CONDITIONS:

1. This Consent to Establish is valid for the product, method of mining and capacity mentioned in the application form. This order is valid for five years, which means the proponent shall commence mining activities for the proposal within a period of five years from the date of issue of this Consent to Establish order. If the proponent fails to commence mining activities for the proposal within five years, then a renewal of this consent to establish shall be sought by the proponent.
2. The mine shall apply for grant of Consent to Operate under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 & Air (Prevention & Control of Pollution) Act, 1981 at least 3 (three) months before the commencement of production and obtain Consent to Operate from this Board.
3. This Consent to Establish is subject to statutory and other clearances from Govt. of Odisha and/or Govt. of India, as and when applicable.

SPECIAL CONDITIONS:

A. GENERAL CONDITIONS:

1. The proponent shall carry out mining activity as per Environmental Clearance issued vide letter No. J-11015/10/1995-IA-II(M), dated 25.05.2022 by MoEF&CC, Govt. of India.

CTO

Page 1 of 15




CONSENT ORDER
KULDA OCP OF M/S. MCL

BY REGD. POST WITH AD

STATE POLLUTION CONTROL BOARD, ODISHA
 [DEPARTMENT OF FOREST, ENVIRONMENT & CLIMATE CHANGE, GOVERNMENT OF ODISHA]
 A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012
 Phone-2561909, Fax: 2562822, 2560955 E-mail: paribesh1@spcboard.org, Website: www.spcboard.org

CONSENT ORDER

No. 4963 / IND-I-CON- 5125 Dt. 28.03.2023 /

CONSENT ORDER NO. 2288.

Sub: Consent for discharge of sewage and trade effluent under section 25/26 of Water (PCP) Act, 1974 and for existing / new operation of the plant under section 21 of Air (PCP) Act, 1981.

Ref: Your online application No.4297664, Dated 15-07-2022 and Online reply dated 31-12-2022.

Consent to operate is hereby granted under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act, 1981 and rules framed thereunder to

Name of the Industry: KULDA OCP OF M/S. MCL

Name of the Occupier & Designation: SRI MANORANJAN DAS, PROJECT OFFICER

Address: AT: BALINGA, PO: BASUNDHARA, DIST: SUNDERGARH.

This consent order is valid for the period up to 31.03.2024.

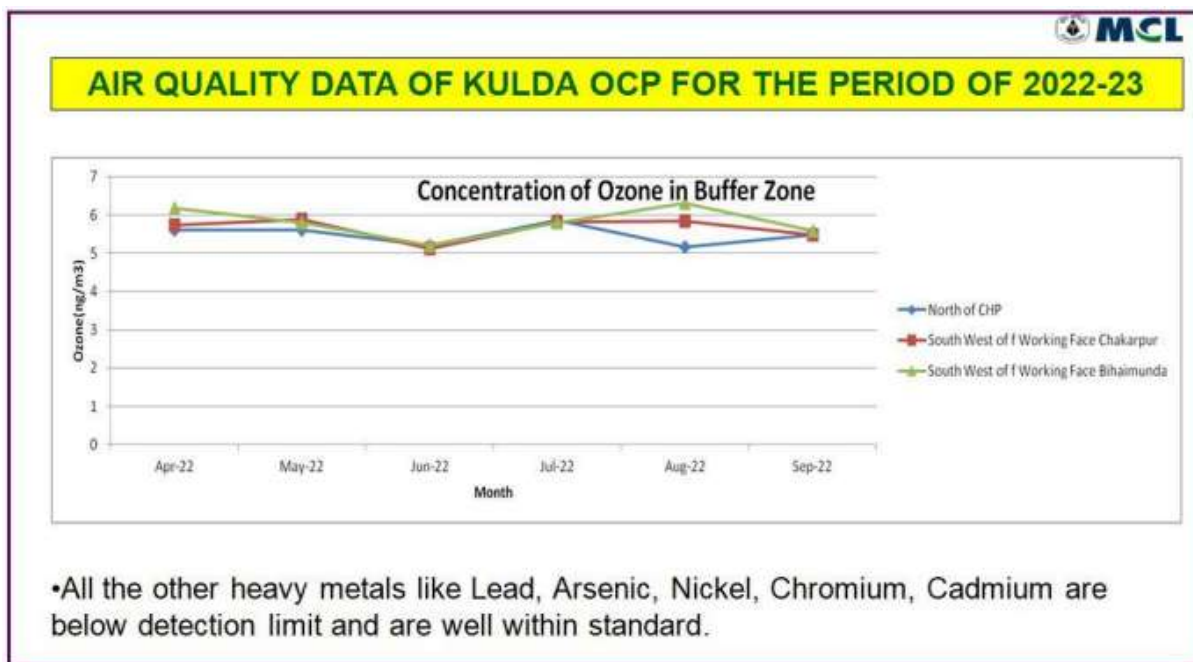
This consent order supersedes the earlier consent order issued vide letter No.788 dated 20.01.2023.

Details of Products Manufactured

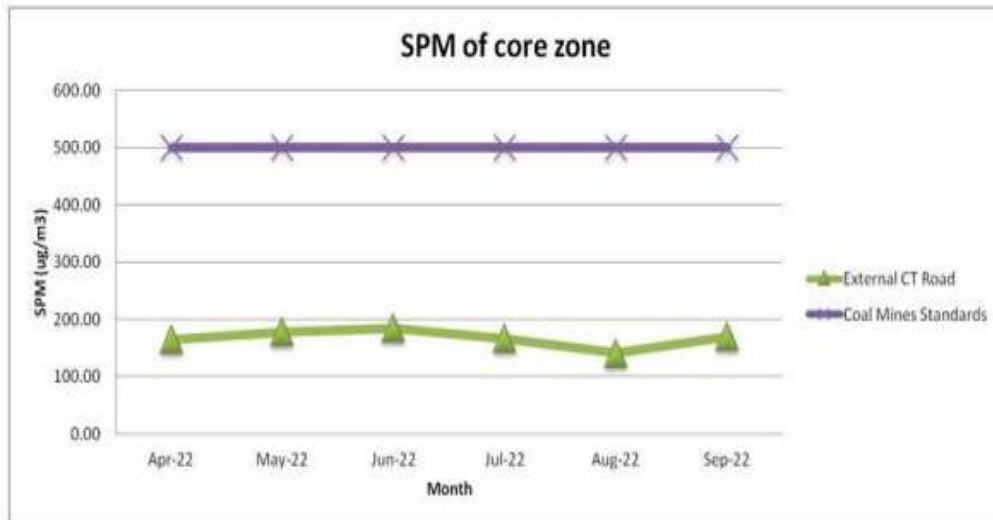
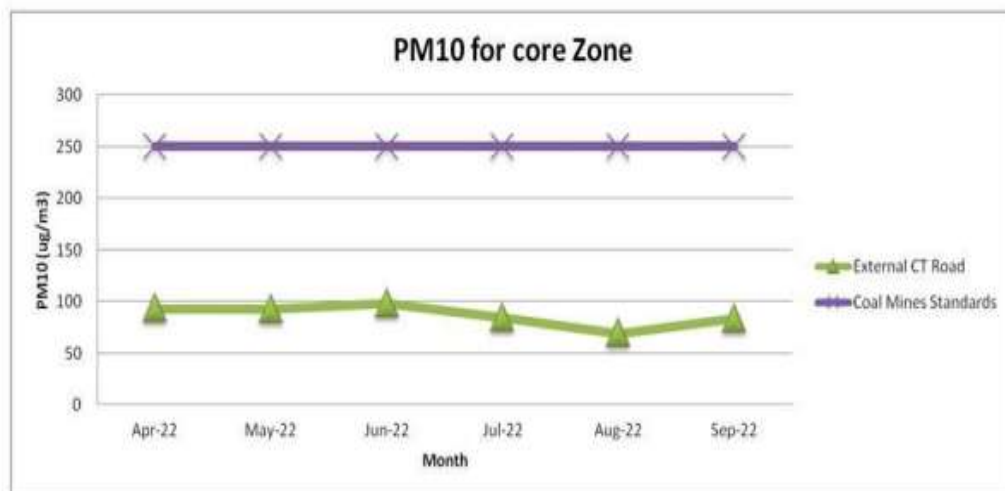
Sl. No.	Product	Quantity
1.	Coal	21.0 MTPA

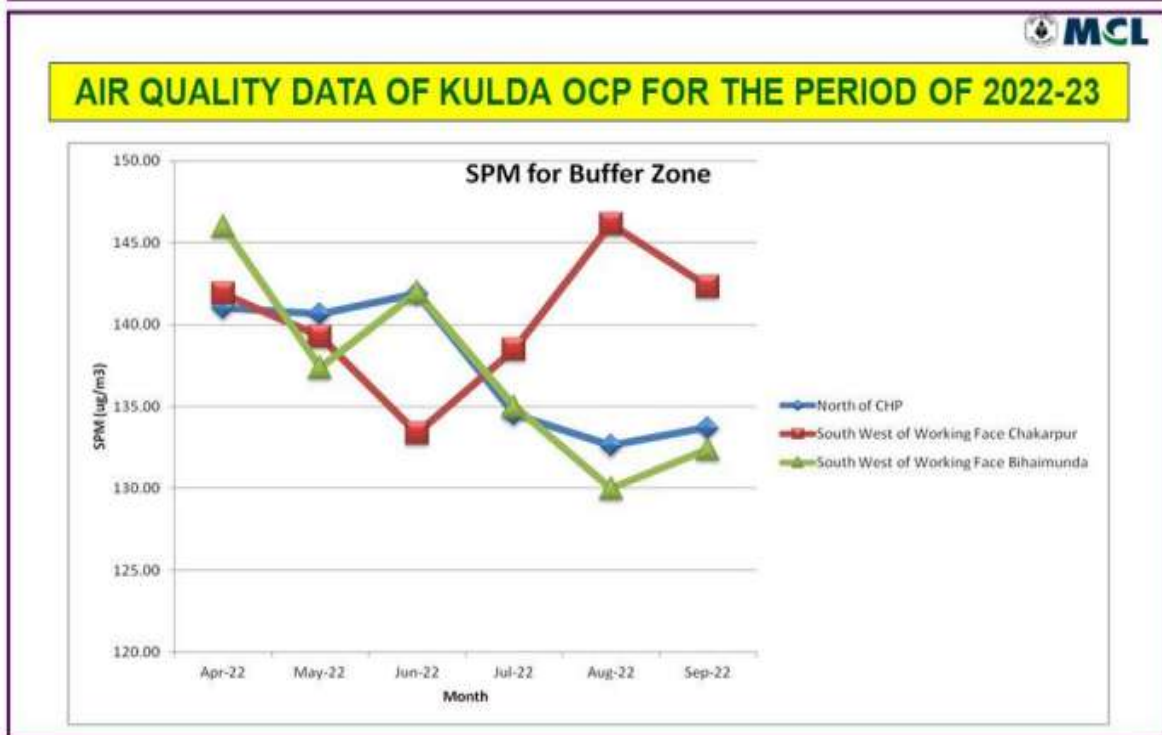
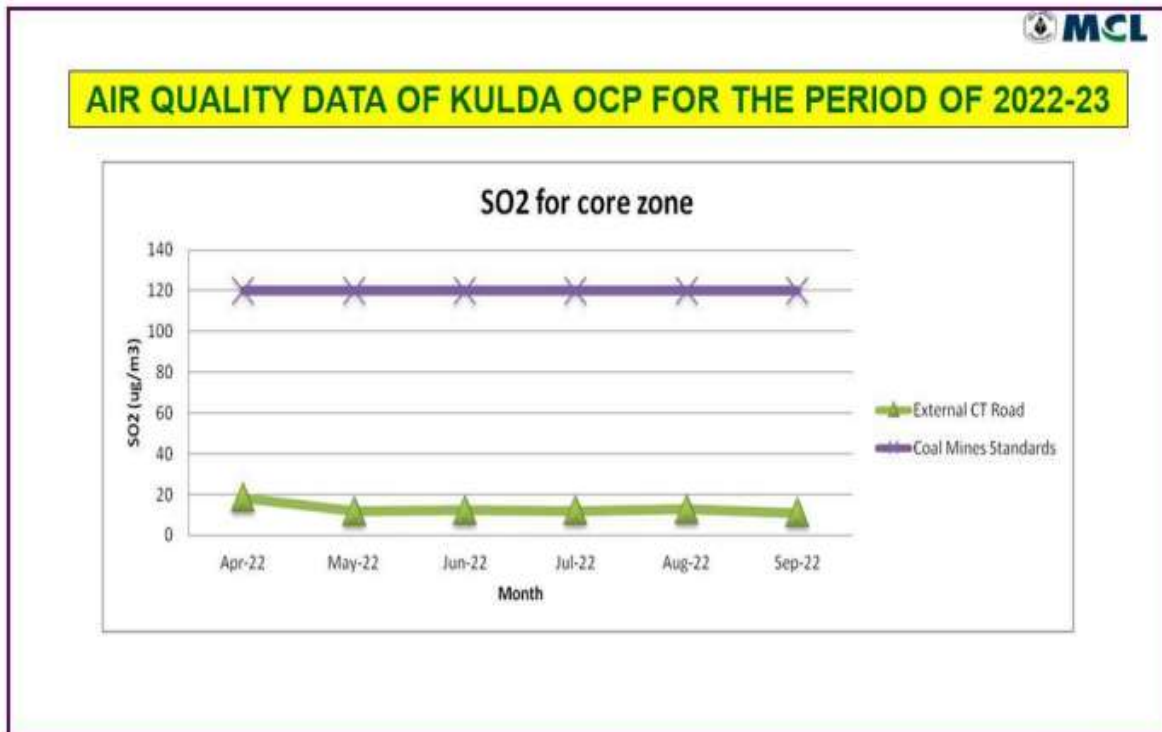
This consent order is valid for the specified outlets, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions as specified below. This consent is granted subject to the general and special conditions stipulated therein.

Air quality monitoring report



Fugitive dust emission analysis report of Kulda OCP, Basundhara Area										
S.No.	Date	Operator Details	Working Hour (Hr)	Initial Weight (mg)w1	Final Weight (mg)w2	Difference in Weight (mg) (W=w2-w1)	Air Flow Rate (L/min)	Volume of Air (m3)	Concentration of Dust (mg/m3) (C)	Standard (mg/m3) (C)
1	03.04.2022	Shovel (1.53 cum)	8	231.34	235.69	4.35	10	4.8	0.91	3
2	11.04.2022	Dumper	8	236.32	240.39	4.07	10	4.8	0.85	3
3	16.04.2022	Hydraulic Shovel (1.53 Cum)	5	237.66	240.38	2.72	10	3.0	0.91	3
4	01.05.2022	Pay Loader (6.5 Cum)	6	235.46	239.15	3.69	10	3.6	1.03	3
5	16.05.2022	Dozer	8	235.63	240.28	4.65	10	4.8	0.97	3
6	21.05.2022	Drill	2	234.17	235.14	0.97	10	1.2	0.81	3
7	28.05.2022	Surface Miner	8	238.11	243.88	5.77	10	4.8	1.20	3
8	06.06.2022	Shovel (1.53 cum)	8	236.65	242.12	5.47	10	4.8	1.14	3
9	13.06.2022	Dumper	8	239.21	246.12	6.91	10	4.8	1.44	3
10	19.06.2022	Hydraulic Shovel (1.53 Cum)	5	234.55	236.16	1.61	10	3.0	0.54	3
11	25.06.2022	Pay Loader (6.5 Cum)	8	237.61	241.22	3.61	10	4.8	0.75	3
12	03.07.2022	Dozer	8	232.22	237.31	5.09	10	4.8	1.06	3
13	15.07.2022	Drill	2	231.41	232.15	0.74	10	1.2	0.62	3
14	28.07.2022	Dozer	7	237.64	241.22	3.58	10	4.2	0.85	3
15	01.08.2022	Drill	4	231.94	234.11	2.17	10	2.4	0.90	3
16	11.08.2022	Surface Miner	7	233.90	238.61	4.71	10	4.2	1.12	3
17	21.08.2022	Shovel (1.53 cum)	8	236.88	242.34	5.46	10	4.8	1.14	3
18	31.08.2022	Dumper	8	231.84	236.35	4.51	10	4.8	0.94	3
19	07.09.2022	Hydraulic Shovel (1.53 Cum)	3	238.08	239.21	1.13	10	1.8	0.63	3
20	16.09.2022	Pay Loader (6.5 Cum)	8	231.32	236.12	4.80	10	4.8	1.00	3
21	25.09.2022	Dozer	7	236.46	240.63	4.17	10	4.2	0.99	3

**AIR QUALITY DATA OF KULDA OCP FOR THE PERIOD OF 2022-23****AIR QUALITY DATA OF KULDA OCP FOR THE PERIOD OF 2022-23**



Annexure 7 (contd....)

 cmpdi <i>Ami Ratna Company</i>	AMBIENT AIR QUALITY DATA (NAAQS PARAMETER) Area: Basundhara

Project	Monitoring Station	Date Of Sampling	O ₃ (µg/m ³)	Ammonia (µg/m ³)	CO (mg/m ³)	Pb (µg/m ³)	As (ng/m ³)	Ni (ng/m ³)
Garjanbahal OCP	Karlikachar village	8-Jul-22	-	-	1.02	-	-	-
Garjanbahal OCP	Garjanbahal village	9-Jul-22	-	-	0.96	-	-	-
Garjanbahal OCP	KAN-1 Near Coal Sampling Lab	9-Jul-22	-	-	0.86	-	-	-
Garjanbahal OCP	Bihaimunda village/ South west of working face	6-Jul-22	5.36	<20.0	0.95	<0.1	<1.0	<1.0
Garjanbahal OCP	Bihaimunda village/ South west of working face	7-Jul-22	4.56	<20.0	1.23	<0.1	<1.0	<1.0
Garjanbahal OCP	Bihaimunda village/ South west of working face	13-Jul-22	6.54	<20.0	0.89	<0.1	<1.0	<1.0
Garjanbahal OCP	Bihaimunda village/ South west of working face	14-Jul-22	6.48	<20.0	1.21	<0.1	<1.0	<1.0
Garjanbahal OCP	Kutabaga village/ South East of Working face	6-Jul-22	7.36	<20.0	1.35	<0.1	<1.0	<1.0
Garjanbahal OCP	Kutabaga village/ South East of Working face	7-Jul-22	5.98	<20.0	0.96	<0.1	<1.0	<1.0
Garjanbahal OCP	Kutabaga village/ South East of Working face	13-Jul-22	4.57	<20.0	0.75	<0.1	<1.0	<1.0
Garjanbahal OCP	Kutabaga village/ South East of Working face	14-Jul-22	6.37	<20.0	0.83	<0.1	<1.0	<1.0
Garjanbahal OCP	Garjanbahal Village	25-Jul-22	-	-	1.62	-	-	-
Garjanbahal OCP	KAN-1 Near Coal Sampling Lab	25-Jul-22	-	-	1.27	-	-	-
Garjanbahal OCP	Karlikachar Village	25-Jul-22	-	-	1.52	-	-	-
Garjanbahal OCP	South-East of Working Face, Kutabaga	22-Jul-22	6.05	<20.0	0.46	<0.1	<1.0	<1.0
Garjanbahal OCP	South-East of Working Face, Kutabaga	23-Jul-22	4.89	<20.0	1.63	<0.1	<1.0	<1.0
Garjanbahal OCP	South-East of Working Face, Kutabaga	29-Jul-22	5.63	<20.0	0.64	<0.1	<1.0	<1.0
Garjanbahal OCP	South-East of Working Face, Kutabaga	30-Jul-22	5.34	<20.0	0.88	<0.1	<1.0	<1.0
Garjanbahal OCP	West of Working Face, Bihaimunda	22-Jul-22	6.34	<20.0	1.60	<0.1	<1.0	<1.0
Garjanbahal OCP	West of Working Face, Bihaimunda	23-Jul-22	6.05	<20.0	1.57	<0.1	<1.0	<1.0
Garjanbahal OCP	West of Working Face, Bihaimunda	29-Jul-22	6.31	<20.0	1.51	<0.1	<1.0	<1.0
Garjanbahal OCP	West of Working Face, Bihaimunda	30-Jul-22	4.68	<20.0	1.49	<0.1	<1.0	<1.0
Standard			180(hou r)	400(24ho urs)	2.0(8Hou rs)	1.0(24h ours)	6.0(Ann ual)	20(Ann ual)

Katwarik
 Authorised Signatory
 CMPDI, RI-VII, LAB
 BHUBANESWAR

Antikall
 O. I. C.
 Env. Lab
 CMPDI, RI-VII
 Bhubaneswar

Ambient Air Quality																
Project: Kulda OCP																
Data for the year period October 22 to March 23																
Monitoring Station		PM2.5 (conc in µg/cu.m.)												Standards for Coal Mines issued by MoEF, GSR-742 E dt. 25.09.2000		
External CT Road Barpali		36	36	34	35	22	35	23	24	42	47	35	48	MAX	MIN	AVG
		36.00		34.50		28.50		23.50						48.00	22.00	34.75
Date of sampling		01-10-2022 17-10-2022 10-11-2022 24-11-2022 06-12-2022 20-12-2022 13-01-2023 25-01-2023 11-02-2023 24-02-2023 09-03-2023 27-03-2023														
Monitoring Station		PM10 (conc in µg/cu.m.)												Annual Average- 80 24 Hours- 350		
External CT Road Barpali		97	89	95	86	64	89	65	66	97	97	91	112	MAX	MIN	AVG
		87.50		85.50		76.50								112.00	64.00	85.59
Date of sampling		01-10-2022 17-10-2022 10-11-2022 24-11-2022 06-12-2022 20-12-2022 13-01-2023 25-01-2023 11-02-2023 24-02-2023 09-03-2023 27-03-2023														
Monitoring Station		SO ₂ (conc in µg/cu.m.)												Annual Average- 80 24 Hours- 120		
External CT Road Barpali		10.01	11.3	13.51	11.31	10.48	12.51	16.82	17.29	12.92	12.62	12.01	14.3	MAX	MIN	AVG
		10.66		12.43		11.51								17.29	10.01	12.93
Date of sampling		01-10-2022 17-10-2022 10-11-2022 24-11-2022 06-12-2022 20-12-2022 13-01-2023 25-01-2023 11-02-2023 24-02-2023 09-03-2023 27-03-2023														
Monitoring Station		No _x (conc in µg/cu.m.)												Annual Average- 80 24 Hours- 120		
External CT Road Barpali		14.01	15.03	15.61	14.51	14.97	16.37	19.25	22.46	19.94	17.91	15.31	21.17	MAX	MIN	AVG
		14.52		15.06		15.67								22.46	14.01	17.21
Date of sampling		01-10-2022 17-10-2022 10-11-2022 24-11-2022 06-12-2022 20-12-2022 13-01-2023 25-01-2023 11-02-2023 24-02-2023 09-03-2023 27-03-2023														
Monitoring Station		SPM (conc in µg/cu.m.)												Annual Average- 360 24 Hours- 500		
External CT Road Barpali		172	180	170	174	135	176	141	143	188	205	176	208	MAX	MIN	AVG
		176.00		172.00		155.50		142.00		196.50		192.00		208.00	135.00	172.33
Date of sampling		01-10-2022 17-10-2022 10-11-2022 24-11-2022 06-12-2022 20-12-2022 13-01-2023 25-01-2023 11-02-2023 24-02-2023 09-03-2023 27-03-2023														
*The above data has been furnished based on the Monitoring Report provided by CMPDI, RI 7, Bhukanaswar Kulda OCP is a new mines it was commenced on 07.12.2007, after 25.09.2000, hence new coal mine standard is applicable The values are taken after 24 hours of monitoring Standards for Coal Mines issued by MoEF, GSR-742 E dt. 25.09.2000, is applicable in the above three stations under Kulda OCP																
										Nodal Officer (Envrt)			Project Officer			
										KOCPL Basundhara Area			KOCPL Basundhara Area			

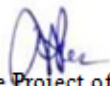
Year-wise plantation details

FORM –III**FORMAT FOR PROVIDING PARTICULARS ON GREEN BELT/PLANTATION
UNDER F (C) ACT 1980 AND E(P)ACT 1986**

1	a)	Name of the organization	:	KULDA O.C.P., 21.00 MTY
	b)	Env't./Forest clearance order Nos	:	J-11015/10/1995-IA.II(M) dated 24.05.2022
2		Location,Block/Sub.Div./Dist/State	:	P.O.- Balinga, Via-Basundhara Dist.-Sundargarh, Odisha
3		Address of communication	:	Office of the Project Officer Kulda Open Cast Project Basundhara Garjanbahal Area PO- Balinga Via-Basundhara Dist- Sundargarh (ODISHA) PH.No.-(0661)-Fax No.(0661)-286144
4		Existing vegetation in the area/region		
	a)	Species (Trees/Shrubs/Grasses/Climbers)	:	Tree- Bija, Sal, Kendu, Gambhar, Mahul& Char, Karanj, Gulmohar, Chatuan
	b)	Major prevalent species of each type	:	Grass- eiucaaliopis, binata, hetropogen ,contortas
5		Land coverage by the Project		
	a)	Total area under Project	:	634.205 ha
	b)	Area covered for basic infrastructure	:	126.157 ha
		(Roads/Buildings/Factory etc.)	:	8.077 ha
6		Details about Natural vegetation		
	a)	Name & number of tree/species felled	:	N.A.
	b)	Name & number of plant species still available in the area	:	Tree - Shorea, Robusta, Madhuca Indica, Palas etc
	c)	By protecting the area will indigenous	:	There are no specific indigenous species found to be available.
7		Plantation required to be carried out as per		
	a)	Condition of Environment clearance in Nos/ha.	:	2500 Numbers/ha
	b)	Condition of Forest (c) Clearance in Nos/ha.	:	not mentioned

Annexure 8 (contd...)

	c)	Voluntarily in Nos./ha	:	2500 Numbers/ha			
8	Details about plantation:						
	a)	Total area available for plantation in each category					
		Green Belt/Gap plantation	External OB Dumps	Back filled Area	Road Sides	Block Plantation	
		07 Ha	4.55 Ha	18.30Ha	2.15 ha	10Ha	
	b)	Plantation details (category wise & Methodology)					
		Year of Plantation	Species Planted	Spacing	Height attained	Total area covered	Survival
		2005-06	134000 trees	2.0 x 2.0 M	6-7 mtrs	53.6 Ha	80%
		2009-10	2876 trees	2.00m x 2.00m	6-7 mtrs	0.93 ha	60 %
		2010-11	7500 trees	2.00m X 2.00m	N.A.	5 Ha	0.00%
		2011-12	Nil	Nil	Nil	Nil	Nil
		2012-13	Nil	Nil	Nil	Nil	Nil
		2013-14	Nil	Nil	Nil	Nil	Nil
		2014-15	600 trees (Road Sides-Chatuan) 200 trees – Embankment	2.0 mtr	4-5 mtr	Nil	73.5%
		2015-16	1000 trees on road side (Chatuan, gulmohar, karanj)	1.0 mtr	4-5 mtr	Nil	86%
		2016-17	460 nos - Gulmohar, karanj	1.0 mtr	4-5 mtr	Nil	81%
		2017-18	544 trees (jackfruit, neem, bamboo, karanj, ashoka)	1.0 mtr	4-5 mtr	1.5 Rkm	60%
		2018-19	25320 trees (karanj, gombher, chakunda, neem, gulmohar, mango, jackfruit, Arjun, sireshe)	2.5m x 2.5m	4-5 mtr	10 ha	89%
		2019-20	8400 trees (karanj, gombher, Jamun, Bengium, neem, gulmohar, mango, jackfruit, Arjun, sireshe)	2.5m x 2.5m	2-3 mtr	3.36 ha	88%
		2020-21	15775 trees (karanj, gombher, Jamun, Bengium, neem, gulmohar, mango, jackfruit, Arjun, sireshe)	2.5m x 2.5m	2-3 mtr	6.53 ha	84%

		2021-22	27000 trees (karanj, gombher, Jamun, Bengium, neem, gulmohar, mango, jackfruit, Arjun, sireshe)	2.5m x 2.5m	2-3 mtr	10.8 ha	84%																																																																												
		2022-23	25000 trees (karanj, gombher, Jamun, Bengium, neem, gulmohar, mango, jackfruit, Arjun, sireshe)	2.5m x 2.5m	1-2 mtr	10 ha	80%																																																																												
			92000 trees (karanj, gombher, Jamun, Bengium, neem, gulmohar, mango, jackfruit, Arjun, sireshe)	2.5m x 2.5m	1-2 mtr	57.5ha	87%																																																																												
	c)	Survival % of plantation	: 79.37% approximately																																																																																
	d)	Total plantation	: 692538 nos.																																																																																
9		Agency carrying out plantation & maintenance	: OFDC, JSG & CGRVBN, KORBA, DFO (Sundargarh)																																																																																
Financial details (Year wise and item wise)																																																																																			
<table border="1"> <thead> <tr> <th>Sl.no.</th><th>Year</th><th>Fund Allocated</th><th>Expenditure made</th></tr> </thead> <tbody> <tr><td>1</td><td>2005-06</td><td>Rs. 2516520.00</td><td>Rs. 1948896.00</td></tr> <tr><td>2</td><td>2006-07</td><td>Rs. 1037160.00</td><td>Rs. 815256.00</td></tr> <tr><td>3</td><td>2007-08</td><td>Rs. 574860.00</td><td>Rs. 349300.00</td></tr> <tr><td>4</td><td>2008-09</td><td>-</td><td>Rs. 407934.00</td></tr> <tr><td>5</td><td>2009-10</td><td>Rs. 795355.00</td><td>Rs. 294373.80</td></tr> <tr><td>6</td><td>2010-11</td><td>Rs. 747135.00</td><td>Rs. 573722.30</td></tr> <tr><td>7</td><td>2011-12</td><td>Rs. 186000.00</td><td>Rs. 186000.00</td></tr> <tr><td>8</td><td>2012-13</td><td>NIL</td><td>NIL</td></tr> <tr><td>9</td><td>2013-14</td><td>Rs. 150058.00</td><td>Rs. 150058.00</td></tr> <tr><td>10</td><td>2014-15</td><td>NIL</td><td>NIL</td></tr> <tr><td>11</td><td>2015-16</td><td>NIL</td><td>NIL</td></tr> <tr><td>12</td><td>2016-17</td><td>NIL</td><td>NIL</td></tr> <tr><td>13</td><td>2017-18</td><td>Rs.179222.38</td><td>Rs.179222.38</td></tr> <tr><td>14</td><td>2018-19</td><td>Rs. 5161220.70</td><td>Rs. 2598293.56</td></tr> <tr><td>15</td><td>2019-20</td><td>Rs.4615943.00</td><td>Rs. 4154348.70</td></tr> <tr><td>16</td><td>2020-21</td><td>Rs. 1,65,47,249</td><td>Rs. 89,77,249</td></tr> <tr><td>17</td><td>2021-22</td><td>Rs. 2,57,40,606</td><td>Rs.1,40,44,051</td></tr> <tr><td>18</td><td>2022-23</td><td>Rs. 62,444,210</td><td>Rs. 25,433,278</td></tr> </tbody> </table>								Sl.no.	Year	Fund Allocated	Expenditure made	1	2005-06	Rs. 2516520.00	Rs. 1948896.00	2	2006-07	Rs. 1037160.00	Rs. 815256.00	3	2007-08	Rs. 574860.00	Rs. 349300.00	4	2008-09	-	Rs. 407934.00	5	2009-10	Rs. 795355.00	Rs. 294373.80	6	2010-11	Rs. 747135.00	Rs. 573722.30	7	2011-12	Rs. 186000.00	Rs. 186000.00	8	2012-13	NIL	NIL	9	2013-14	Rs. 150058.00	Rs. 150058.00	10	2014-15	NIL	NIL	11	2015-16	NIL	NIL	12	2016-17	NIL	NIL	13	2017-18	Rs.179222.38	Rs.179222.38	14	2018-19	Rs. 5161220.70	Rs. 2598293.56	15	2019-20	Rs.4615943.00	Rs. 4154348.70	16	2020-21	Rs. 1,65,47,249	Rs. 89,77,249	17	2021-22	Rs. 2,57,40,606	Rs.1,40,44,051	18	2022-23	Rs. 62,444,210	Rs. 25,433,278
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10		Inspection of plantation by field experts and their comments and follow up action	: 1. Regular inspection done by afforestation division, Sundargarh and other State Govt. dept. 2. Sri. T.H. Mahata, Scientist-D, IRO Bhubaneswar, MoEF&CC																																																																																
11		Remarks/ any other information	Nil.																																																																																
Date: 24.06.2023			 Signature of the Project officer																																																																																

Silo Loading System construction status

Site visit report for the EDS related to Kulda OCP raised by MoEF&CC dated 05.10.2023.

Progress of the Evacuation arrangements at Basundhara & Mahalaxmi Area:

Name of the Infrastructure	Total Awarded cost in ₹ Crs Incl. operation & maintenance cost	Expenditure incurred till date in ₹ Crs.	Status as on date – 20.10.2023
I. Sardega RLS 20 Mty	311.69	240	– 85% completed. – Trial run from Nov'23
II. 12.5 Mty Pipe conveyor belt with 4.0 Mty ATLS from Kulda & Garjanbahal Mines	358.63 (estimate as per NTT)		– NIT floated on 31.07.23. – Technical bid opened on 12.10.23 & documents of bidders under scrutiny. – Preliminary survey works completed. – Total work completion by Mar'25.
III. Doubling of Jharsuguda Barpalli Sardega Rail line+ Barpalli Bulb loop 90 Mty	3198.12	883	– Tender floated for 40 Mty SILO on MCL part in July 2023. – Letter of Agreement by Nov'23. – Rest 50 Mty Part is being undertaken by MDO. – Land Acquisition will be completed by Jan'24. – Forest Application of around 14 ha submitted and handover expected by Mar'24. – Total work completion by May'26

DGPS survey works for sl no. II & III have incurred an expense of ₹4.22 lakhs and around ₹ 9-10 lakhs respectively.

Progress of Sardega RLS (20 Mty) along with conveyor belt arrangement:

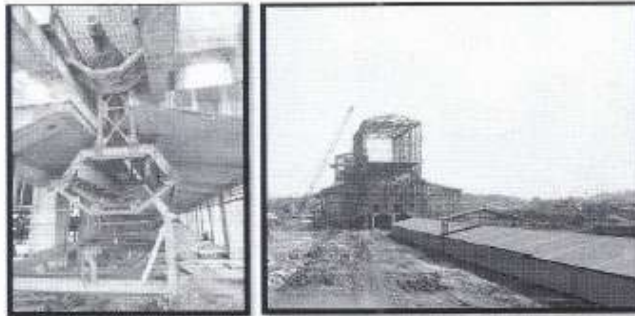
The Sardega RLS (20 Mty) with conveyor arrangement is 85% complete physically while 87% financially. This system arrangement consists of truck receiving hoppers over ground, ground bunkers, transfer circuit house well connected with series of belt conveyors to the two SILOs near Sardega Siding (10 Mty each.)

The test run trial is set to be done by 30th Nov 2023. Belt sheets laying part is not complete and it is expected to be completed by Oct'2023. The test run scheduled by Nov'23 will be initially from the over ground bunkers to the SILO no.1 as explained through the photographs.

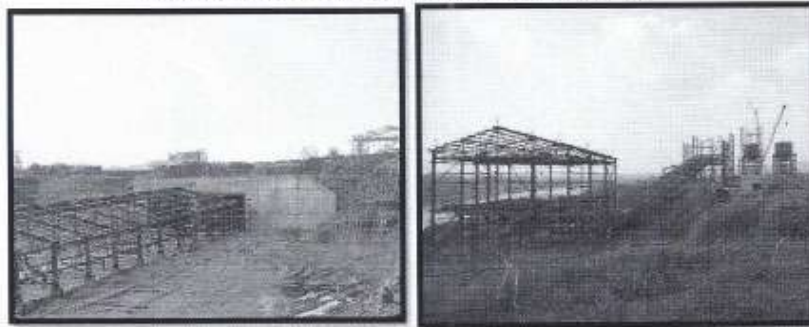
Please turnover for the supporting photograph



View from truck receiving hoppers routing to ground bunkers.



View from Ground receiving bunkers towards SILO.



View towards SILOs- Sheet covering still not done, will be taken up in Oct 2023.



SILO construction progress

Additional Points for Appraisal for Kulda OCP:

I. Constraints:

EC conditions imposed by MoEF&CC vide its letter dated 09.01.2023.

1. PP shall implement in-pit conveyor system with silo loading facility till railway siding and No road transportation shall be allowed after October 2023 and accordingly, SPCB shall not grant CTO for road transportation after October 2023.
2. PP shall deploy only 40-50 tonnes covered trucks/dumper to reduce fleet size till Rapid loading system and conveyor belt system is commenced. (i.e., till October 2023).

Existing CTE conditions issued by SPCB.

1. General Condition A.2- The mine shall not store for more than seven days of coal production to avoid coal fire in stock yard as well as coal seam. The mine shall take adequate measures for spontaneous fire in coal seam as well as stock yard and an action plan regarding this shall be submitted at the time of consent to operate application.

Existing CTO conditions issued by SPCB.

2. Specific condition no.9- The transportation of coal shall be carried out as per the provisions and route envisaged in EC order no. J-11015/10/1995-IA, II (M) dated 24.05.2022. A declaration to this effect shall be submitted to the Board within 7 days.

II. Financial loss & impact

- Kulda OCP'S production limit: 21.00 MTPA

Annexure 9 (contd...)

- production achieved till 30.10.23: 12.44 MTPA
 - Remaining production: 08.56 MTPA
 - Despatch Programme through Rail Mode: 3.87 MT (Tentative as per present projection)
 - Despatch through Road Mode: 4.69 MT (Tentative as per present projection)
- Overall Scenario for Kulda coal dispatch**

Month/Year	Despatch through rail in MT	Despatch through road in MT
Nov'23	0.765	0.938
Dec'23	0.7905	0.938
Jan'24	0.7905	0.938
Feb'24	0.7395	0.938
Mar'24	0.7905	0.938
Total-	3.87	4.69

The Average Sale value of coal dispatched from Kulda OCP is Rs.2421.00/- per Tonne. A tentative monetary loss of Rs. 1135.44 Crore will be incurred to Coal India Ltd., if the coal dispatch through rail is stopped after 31.10.2023.

The coal produced after 31.10.2023, which were meant to be transported via rail, i.e. 4.69MT, cannot be stacked at coal stocks for more than 7 days from the day of production (As per the Consent Condition no.-2 (Special Condition) of CTE issued vide no. – 19795/IND-II-CTE-6742, date – 27.10.2022).

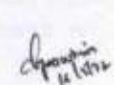
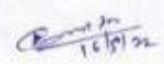
For avoiding the spontaneous fire at coal stocks, it production is stopped it will result in idling of resources, and will eventually, result in the power loss to the nation, and local chaos.

III. Submission:

In view of above, to avoid degradation of coal resources, and to enable uninterrupted supply of coal to the power houses linked to this project, it is requested to kindly consider the situation and EAC's kind consideration of amendment in the EC conditions is highly solicited.


Project Officer
Kulda OCP
MCL, Basundhara Area
Bundelkhand Project

Work order for carrying capacity study

ମହାନଦୀ କୋଲଫିଲ୍ଡସ୍ ଲିମିଟେଡ୍ Mahanadi Coalfields Limited (A subsidiary of Coal India Limited)	ମହାସାଧକ (ପର्याବରଣ ଏବଂ ବନ) କା କାର୍ଯ୍ୟାଳୟ Office of the General Manager (Env't & Forests) P.O : Jagruti Vihar, Burla Dist: Sambalpur, Odisha-768020 Ph: +91 (663) 254 2084; 9438877166 Fax: +91 (663) 254 2257, e-mail: gmenvt2019@gmail.com, gm-envt.mcl@coalindia.in	 
Ref no: MCL/SBP/Env't & Forest/ 22-23/ 116		Dt: 16.05.2022
To The Regional Director CMPDIL -RI-7 Plot No. E-4, Near Gandhi Park At- Samantapuri, PO: RRL Bhubaneswar-751013 (Odisha)		
Ref: 1. Our Eoffice file no: 736244		
Sub: Work-Order for preparation of "Carrying Capacity assessment study of Kulda OCP and Garjanbahal OCP, Basundhara Area as per their respective EC conditions"		
Dear Sir, This is to communicate that the Competent Authority of MCL has been pleased to approve the award of work for preparation of "Carrying Capacity assessment study of Kulda OCP and Garjanbahal OCP, Basundhara Area as per their respective EC conditions" in your favor at a total value of Rs.72,95,232/- (Seventy two Lakhs Ninety Five Thousand Two Hundred and Thirty Two rupees only/-) including 18% GST with the following terms and conditions.		
1. Scope of Work: The work involves the preparation of "Carrying Capacity assessment study of Kulda OCP and Garjanbahal OCP, Basundhara Area" as per their respective EC conditions. - Identification of all pollution sources in the study area e.g. different industries - Assessment of incremental activities of the study area for next 5-10 years. - Development of emission inventories for incremental pollution load. - Impact assessment of incremental pollution load over different environmental components (Air, Water, Noise and Land). - Defining the carrying capacity of a region. - Provisioning of different environmental control measures for sustainable growth of the study area		
2. Details of the value of Job: - Total EDs assigned for the Job-240 EDs@25,760/- per ED rate for FY 2022-23. - Grand Total for 240 EDs including GST@18%- Rs.72,95,232 /-		
3. Submission report and payment terms: A draft report should be submitted to this office and Area office for scrutiny and for valuable suggestions prior to finalization of report. The Final report should be submitted by Jan'2023 for onward submission to MoEF&CC.		
 		

Cover page of CC report

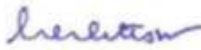
CARRYING CAPACITY STUDY
FOR
KULDA & GARJANBAHAL OCP

BASUNDHARA AREA
IB VALLEY COALFIELD
MAHANADI COALFIELDS LIMITED



Central Mine Planning & Design Institute Limited
(A Subsidiary of Coal India Ltd.)
Regional Institute-VII, Samantapuri, P.O: RRL, Bhubaneswar, Odisha- 751013
Certificate of accreditation vide No. NABET/EIA/2124/ RA 0258 valid till 22.08.2024

NABL certification to analytical facility

 		National Accreditation Board for Testing and Calibration Laboratories	
CERTIFICATE OF ACCREDITATION			
REGIONAL ENVIRONMENT AND CHEMICAL LABORATORY			
has been assessed and accredited in accordance with the standard			
ISO/IEC 17025:2017			
"General Requirements for the Competence of Testing & Calibration Laboratories"			
for its facilities at			
REGIONAL INSTITUTE VII, CENTRAL MINE PLANNING AND DESIGN INSTITUTE LIMITED, BHUBANESWAR, KHORDHA, ODISHA, INDIA			
In the field of			
TESTING			
Certificate Number:	TC-7052	Valid Until:	21/03/2024
Issue Date:	22/03/2022		
This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL. (To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)			
Name of Legal Identity : CENTRAL MINE PLANNING & DESIGN INSTITUTE LIMITED			
Signed for and on behalf of NABL			
		 N. Venkateswaran Chief Executive Officer	

NoC from CGWA for Ground water abstraction



भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Kulda Opencast Project		
Project Address:	Office Of The Project Officer, Kulda Ocp, Basundhara Area, Mahanadi Coalfields Limited, District: Sundargarh, Odisha, Pin: 770076		
Village:	Bailanga	Block:	Hemgir
District:	Sundargarh	State:	Odisha
Pin Code:			
Communication Address:	Office Of The Project Officer, Kulda Ocp, Basundhara Area, Mahanadi Coalfields Limited, District: Sundargarh, Odisha, Pin: 770076, Hemgir, Sundargarh, Odisha - 770076		
Address of CGWB Regional Office :	Central Ground Water Board South Eastern Region, Bhujal Bhawan, Khandagiri Square, Nh-5, Bhubaneswar, Khordha, Odisha - 750001		

1.	NOC No.:	CGWA/NOC/MIN/ORIG/2020/9245								
2.	Application No.:	21-4/2112/OR/MIN/2018			3.	Category: (GWRE 2017)	Safe			
4.	Project Status:	Existing Project			5.	NOC Type:	New			
6.	Valid from:	09/12/2020			7.	Valid up to:	08/12/2022			
8.	Ground Water Abstraction Permitted:									
Fresh Water		Saline Water		Dewatering		Total				
m ³ /day	m ³ /year	m ³ /day	m ³ /year	m ³ /day	m ³ /year	m ³ /day	m ³ /year			
47.00	17155.00			2449.00	893885.00					
9.	Details of ground water abstraction /Dewatering structures									
Total Existing No.:9					Total Proposed No.:0					
	DW	DCB	BW	TW	MP	DW	DCB	BW	TW	MP
Abstraction Structure*	0	0	7	0	0	0	0	0	0	0
Dewatering Structure*	0	0	0	0	2	0	0	0	0	0
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit										
10.	Ground Water Abstraction/Restoration Charges paid (Rs.)					4555200.00				
11.	Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.				No. of Piezometers		Monitoring Mechanism			
							Manual	DWLR**	DWLR With Telemetry	
**DWLR - Digital Water Level Recorder					2		0	1	1	

(Compliance Conditions given overleaf)

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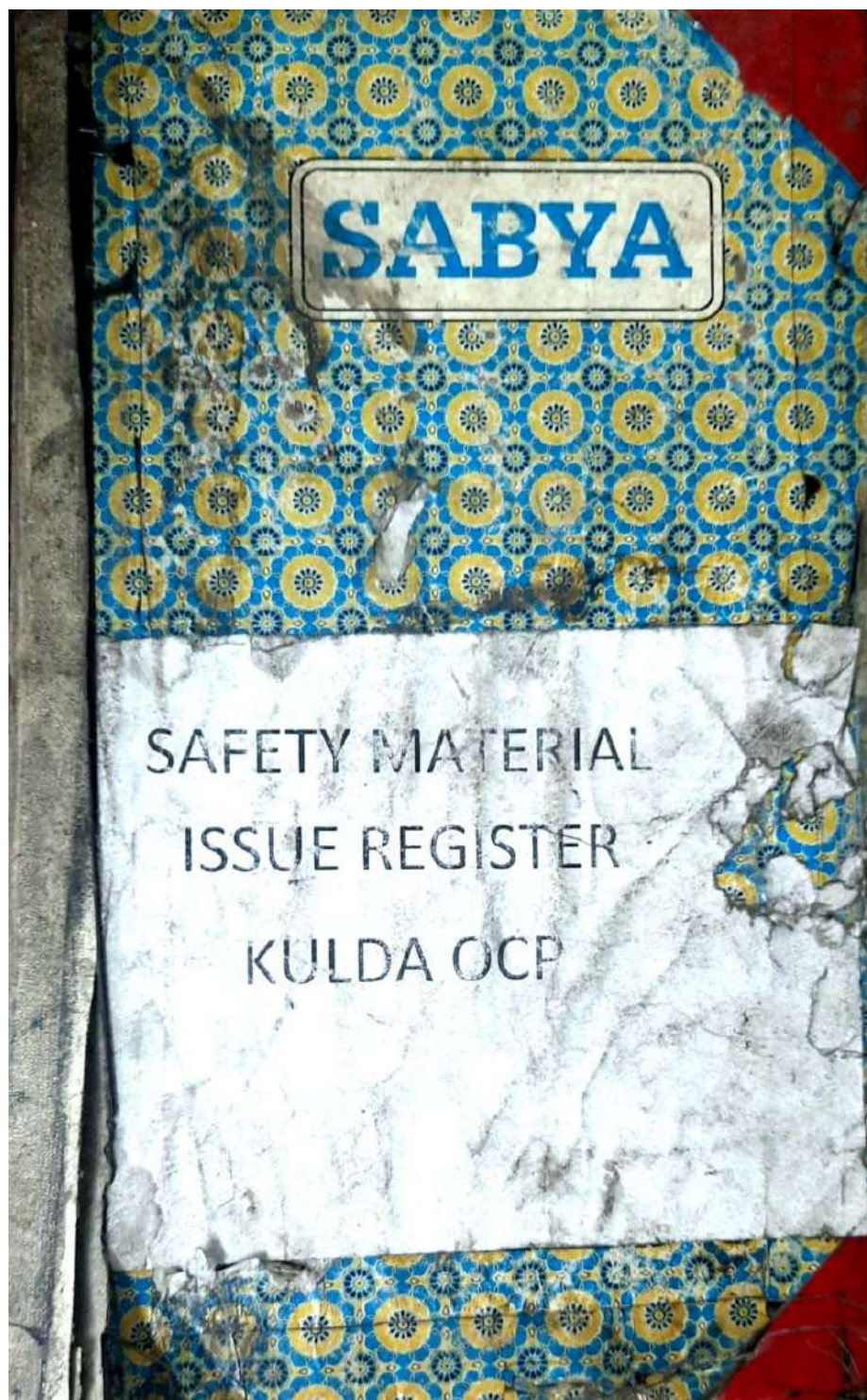
18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011

Phone: (011) 23383561 Fax: 23382051, 23386743

Website: cgwa-noc.gov.in

पानी बचाये - जीवन बचाये
SAVE WATER - SAVE LIFE

Safety material/PPE issuing register



Issuing safety materials

Kameswar Ram		(157)
①	Water Bottle - 03/04/16 -	
②	Gumboot - 29/07/17 -	
③	~~Kammaru R...~~	
④	Helmet - 11.02.18 -	
⑤	Fluorescent Jacket - 11.02.18 -	
⑥	Torch & cell ioners - 16/05/18 -	
⑦	Water Bottle - 11/7/18 -	
⑧	Gamcha - 11/7/18 -	
⑨	Canvas shoe (Kam) - 4.8.18 -	
⑩	Dust mask 1P12 - 27.10.18 -	
⑪	Dust mask 1P12 - 6.12.18 -	
⑫	Helmet - 18.1.18 -	
⑬	Gumboot - 19.2.18 -	
⑭	Fluorescent Jacket - 15.02.2019 -	
⑮	Fluorescent Jacket - 15.02.2019 -	
⑯	Dust mask - 15.02.2019 -	
⑰	Dust mask - 28.4.19 -	
⑱	Gamcha - 10/05/19 -	
⑲	Gumboot (No.) - 23/07/19 -	
⑳	mining shoes - 17.10.19 -	
㉑	Dust Mask - 20.3.20 -	
㉒	Goggles - 1 do -	
㉓	Goggles - 1 do -	
㉔	Gumboot - 11.7.20 -	
㉕	Water Bottle - do -	
㉖	Gamcha - do -	
㉗	Softi Shoes - 1 -	
㉘	Torch - 17.09.2020 -	

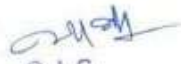
LIST OF PPE'S DISTRIBUTED UNDER KULDA OCP			
S.No.	Details of PPE	2021-22(nos.)	2022-23 (upto 30.09.2022) (nos.)
1	Helmet	198	50
2	Mask	1000	380
3	Gumboot	140	70
4	Water bottles	145	76
5	Mining Shoes	210	105
6	Ear Muff	20	20
7	Towel	290	112
8	First aid kit	100	515
9	First aid station	08	08

Drinking Water Quality Report

 cmpdi <i>A Mai Rata Company</i>	Drinking Water Quality Data Mahalaxmi Area

Project / OCP	Basundhara (W)	Indian Drinking Standards (IS-10500):2012	
Monitoring Station	Water Treatment Plant Clear Water reservoir		
Date of Sampling	11-May-2023	Acceptable	Permissible
Colour(Hazen)	2	5	15
Odour	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable
Turbidity(NTU)	2	1	5
pH	7.61	6.5-8.5	No relaxation
Total Alkalinity(mg/L)	31.2	200	600
Total Hardness (Ca CO ₃)(mg/L)	177	200	600
Iron(mg/L)	<0.1	1.0	No relaxation
Chloride(mg/L)	15.85	250	1000
Total Dissolve Solid(mg/L)	238	500	2000
Calcium(mg/L)	50.10	75	200
Copper(mg/L)	<0.03	0.05	1.5
Manganese(mg/L)	<0.04	0.1	0.3
Sulphate(mg/L)	85.23	200	400
Nitrate(mg/L)	<2.0	45	No relaxation
Fluoride(mg/L)	<0.3	1	1.5
Arsenic(mg/L)	<0.005	0.01	No relaxation
Lead(mg/L)	<0.005	0.01	No relaxation
Zinc(mg/L)	0.15	5	15
Total Chromium (mg/L)	<0.01	0.05	No relaxation
Boron(mg/L)	<0.2	0.5	2.4
Cadmium(mg/L)	<0.001	0.003	No relaxation
MPN (Index/100 ml)	Absent	-	-
Residual Free Chlorine(mg/L)	<0.2	0.2	1.0
Phenolics(mg/L)	<0.001	0.001	0.002
Selenium(mg/L)	<0.005	0.01	No relaxation


 Authorised Signatory
 CMPDI, RI-VII, LAB
 BHUBANESWAR


 O. I. C.
 Env. Lab
 CMPDI, RI-VII
 Bhubaneswar

Training to Workers

ମହାନଦୀ କୋଲଫିଲ୍ଡସ୍ ଲିମିଟେଡ୍
 Mahanadi Coalfields Limited
 (A subsidiary of Coal India Limited)

Office of The Project Officer
 Kulda OCP, Basundhara Area
 AT/PO: Basundhara -770076
 Dist: Sundargarh (Orissa)



Annexure-4

STAR RATING POLICY FOR COAL MINES
(Module-VI)

CERTIFICATE

Whether 20% of workers were given vocational training in reporting year as per requirement of Mines Vocational Training Rules 1966	Target	Actual	% achievement
For the period of 2022-23	375	375	100

The above provided data in respect of Kulda OCP, Basundhara Area, MCL, is for the purpose of Star Rating Policy for Mines. It is certified that the provided data is true to my knowledge for the period of 2022-23.


 Area Safety Officer,
 Basundhara Area


 Colliery Manager
 Kulda OCP


 Agent
 Kulda OCP


 Area Training Officer,
 Basundhara Area.

DEPARTMENT OF MINING ENGINEERING, IIT KHARAGPUR
"Training the Green Commandos for Development of Food Forest in Post Mining Areas"

Sponsored by
Mahanadi Coalfields Limited
 (October 17-21, 2022)
 Attendance Sheet

Sl. No.	Full Name	17.10.2022	18.10.2022	19.10.2022	20.10.2022	21.10.2022
1.	SANJEET KARTA	S. Karta	S. Karta	S. Karta	S. Karta	S. Karta
2.	KIRTAN SETH	Kirtan Seth	Kirtan Seth	Kirtan Seth	Kirtan Seth	Kirtan Seth
3.	ALOK KALO	Alok Kalo	Alok Kalo	Alok Kalo	Alok Kalo	Alok Kalo
4.	SUKANTA KUA	Sukanta Kua	Sukanta Kua	Sukanta Kua	Sukanta Kua	Sukanta Kua
5.	PRATIK PATEL	Pratik Patel	Pratik Patel	Pratik Patel	Pratik Patel	Pratik Patel
6.	LINGARAJ MAHANANDIA	L. Mahanandia	L. Mahanandia	L. Mahanandia	L. Mahanandia	L. Mahanandia
7.	SUNIL BAG	Sunil Bag	Sunil Bag	Sunil Bag	Sunil Bag	Sunil Bag
8.	TAPAN BAG	Tapan Bag	Tapan Bag	Tapan Bag	Tapan Bag	Tapan Bag
9.	BHESAJ KUMBHAR	ବେସଜ କୁମ୍ଭାର	ବେସଜ କୁମ୍ଭାର	ବେସଜ କୁମ୍ଭାର	ବେସଜ କୁମ୍ଭାର	ବେସଜ କୁମ୍ଭାର
10.	RIKU PATTHAIK	Riku Pattnaik	Riku Pattnaik	Riku Pattnaik	Riku Pattnaik	Riku Pattnaik
11.	BHUPESH KALO	B. Kalo	B. Kalo	B. Kalo	B. Kalo	B. Kalo
12.	BIRENDRA KALO	Birendra Kalo	Birendra Kalo	Birendra Kalo	Birendra Kalo	Birendra Kalo
13.	YASHOBANTA KUA	Yashobanta Kua	Yashobanta Kua	Yashobanta Kua	Yashobanta Kua	Yashobanta Kua
14.	RADHESHYAM PATEL	R.S. Patel	R.S. Patel	R.S. Patel	R.S. Patel	R.S. Patel

Prof. Khanindra Pathak
 Course Coordinator



डॉ. खनिन्द्र पाठक
 Dr. Khanindra Pathak
 प्रभारक/Professor
 खनन अभियांत्रिकी विभाग
 Department of Mining Engineering
 भारतीय प्रौद्योगिकी संस्थान खारगपुर
 I.I.T. Kharagpur - 721302, India

Noise Level Monitoring Report

NOISE LEVEL MONITORING DATA													
Data for the year period April 20 to September 20													
Noise level Measurement in dB(A)													
Monitoring Station													
North of CHP	DAY	63.7	60.4	64.1	63.9	63.9	64.1	64.7	61.2	63.2	62.6	62.4	63.11
	Date of sampling	27-04-20	06-05-20	30-09-20	02-08-20	17-06-20	01-07-20	16-07-20	04-08-20	19-08-20	02-09-20	18-09-20	
	NIGHT	60.5	58.1	60	59.4	58.4	62.3	62.5	57.9	59.4	56.9	57.1	
	Date of sampling	27-04-20	06-05-20	30-09-20	02-09-20	17-06-20	01-07-20	16-07-20	04-08-20	19-08-20	02-09-20	18-09-20	
External CT Road	DAY	65.5	64.1	66.9	65.4	66.3	65.2	63.7	62.4	61.4	64.8	64.9	64.60
	Date of sampling	27-04-20	06-05-20	30-09-20	02-09-20	17-06-20	01-07-20	16-07-20	04-08-20	19-08-20	02-09-20	18-09-20	
	NIGHT	61.7	60.6	62.5	62.6	61.5	63.7	60.9	59.6	57.9	58.2	60.2	60.85
	Date of sampling	27-04-20	06-05-20	30-09-20	02-09-20	17-06-20	01-07-20	16-07-20	04-08-20	19-08-20	02-09-20	18-09-20	

*The above data has been furnished based on the Monitoring Report provided by CMPOI, RI 7, Bhubaneswar


Nodan Kumar (Envt.)
KOCP Basundhara Area


Project Officer
KOCP Basundhara Area

Forest Clearance of 227.89 Ha with respect to Kulda OCP

FOR: BD, CMOD

F. No. E-176/1997-FC
Government of India
Ministry of Environment & Forests
 (FC Division)

Paryavaran Bhawan, CGO Complex,
 Lodhi Road, New Delhi - 110003

Dated: 08th August 2007

To: The Principal Secretary (Forests),
 Government of Orissa,
 Bhubaneswar.

Subj: Diversion of 227.89 ha of forest land (as against initially proposed 280.86 ha) for
 Kulda OCP of Mahanadi Coalfields Limited in Sundergarh district in Orissa.

Sir,

I am directed to refer to State Government's letter no. 10.F. (Cons) / 54 / 1997 / 8908 / F&E dated 09.05.1997 and no. 10.F. (Cons) / 54 / 1997 / 23070 / F&E dated 10.11.1998 on the subject cited above seeking prior approval of the Central Government under the Forest (Conservation) Act, 1980. After careful consideration of the proposal by the Forest Advisory Committee constituted under Section-3 of the said Act, **in-principle approval** for the said Mining Lease was granted vide this Ministry's letter of even number dated 25.07.2001 and 22.01.2002 subject to fulfillment of certain conditions. The State Government has furnished compliance report in respect of the conditions stipulated in the in-principle approval and has requested the Central Government to grant final approval.

2. In this connection, I am directed to say that on the basis of the compliance report furnished by the State Government vide letter no. 10.F. (Cons) / 59 / 2004 / 6910 / F&E dated 05.05.2007, approval of the Central Government is hereby granted under Section-2 of the Forest (Conservation) Act, 1980 for diversion 227.89 ha of forest land (as against initially proposed 280.86 ha) for Kulda OCP of Mahanadi Coalfields Limited in Sundergarh district in Orissa subject to fulfillment of the following conditions:

1. Legal status of the diverted forest land shall remain unchanged.
2. (i) Compensatory afforestation shall be raised and maintained by the State Forest Department at the project cost.
- (ii) Fencing, protection and regeneration of the safety zone area (7.5 metres strip all along the outer boundary of the mining lease area) shall be done at the project cost. Besides this, afforestation on degraded forest land, to be selected elsewhere, measuring one and a half times the area under safety zone, shall also be done at the project cost.
- (iii) Wherever possible and technically feasible, the User Agency shall undertake

Hazardous waste permit



Tel : 2564033/2563924
EPABX : 2561909/2562847
E-mail: hwmd@ospboard.org /
paribesh1@ospboard.org
Website: www.ospboard.org

STATE POLLUTION CONTROL BOARD, ODISHA

[FOREST, ENVIRONMENT AND CLIMATE CHANGE DEPARTMENT, GOVERNMENT OF ODISHA]

Paribesh Bhawan, A/118, Nilakantha Nagar, Unit - VIII

Bhubaneswar - 751012, INDIA

BY SPEED POST

FORM 2

[See rule 6(2)]

RENEWAL OF AUTHORISATION BY STATE POLLUTION CONTROL BOARD, ODISHA TO THE OCCUPIER UNDER HAZARDOUS AND OTHER WASTES (MANAGEMENT AND TRANSBOUNDARY MOVEMENT) RULES, 2016

1. Number of authorization: **IND-IV-HW-1038/ 4010** and date of issue: **18-03-2023**
2. Reference of application (No. and date) : **3943101, dtd. 01-02-2023 / 03-02-2023.**
3. **Kulda OCP of M/s Mahanadi Coalfields Limited** is hereby granted an authorization based on the enclosed signed inspection report for generation, storage, transport, reuse, recycling, recovery, preprocessing, co-processing, utilization, treatment, disposal or any other use of hazardous or other wastes or both on the premises situated **At - Balinga, P.O. - Basundhara, Dist - Sundargarh, Odisha.**

Details of Authorization

Sl. No.	Category of Hazardous Waste as per the Schedules I, II and III of these Rules	Waste Description	Quantity	Authorized Mode of Disposal or Recycling or utilization or Co-processing, etc.
1.	Schedules - I Stream - 5.1	Used / Spent Oil	100 T/A	Storage in containers over impervious floor under well ventilated covered shed followed by disposal through Actual Users authorized by SPCB, Odisha
2.	Schedules - I Stream - 5.2	Waste / Residues Containing Oil	1.5 T/A	Storage in impervious pits / containers under well ventilated covered shed followed by Co-processing in Cement Kiln Authorized by SPCB, Odisha / disposal in Authorized Hazardous Waste Incinerator / Common Hazardous Waste Treatment Storage Disposal Facility (CHWTSDF)
3.	Schedules - I Stream - 3.3	Sludge and Filters Contaminated with oil	20 T/A	Storage in impervious pits / containers under well ventilated covered shed followed by Co-processing in Cement Kiln Authorized by SPCB, Odisha / disposal in Authorized Hazardous Waste Incinerator / CHWTSDF

Quantity of waste generated

FORM 4

[See rules 6(5), 13(8), 16(6) and 20 (2)]

FORM FOR FILING ANNUAL RETURNS

[To be submitted to State Pollution Control Board by 30th day of June of every year]
[period April 2021 to March 2022]

1. **Name and address of facility:** Office of the Project Officer, Kulda OCP, Basundhara area, post office: Basundhara, Pin: 770076, District: Sundargarh, Odisha.
2. **Authorisation No. and Date of issue:** IND-IV-HW-1038/5553 and 31.03.2021.
3. **Name of the authorised person and full address with telephone, fax number and e-mail:** R. K. Jain, Project Officer, Kulda OCP, Basundhara Area, 9438493443 and po.kocp@gmail.com.
4. **Production during the year (product wise), wherever applicable:** 18,499,899.15Te

Part A. To be filled by hazardous waste generators

1. Total quantity of waste generated category wise

Name of Process	Name of Hazardous Waste (Category No)	Quantity	Waste Type	Waste Storage	Waste Disposal	Source of generation of waste	Physical status	Quantity stored at any time	Quantity accumulated as on 31st March
Purification process for organic compounds/solvents	Filter & Filter materials containing oil Schedule-I Stream-3.3	1T/A	Incinerable	MS Drums over concrete floor under well ventilated covered shed	Recovery and Reuse-Authorized recyclers	HEMM workshop primarily	Semi solid	0.36 Te	0.88 Te
Industrial operations using mineral/synthetic oil as lubricant in hydraulic systems or other applications	Used/spent oil Schedule-I Stream-5.1	7.8T/A	Recyclable	MS Drums over concrete floor under well ventilated covered shed	Recovery and Reuse-Authorized recyclers	HEMM workshop primarily	Liquid	1.2 Te	7.6T
Industrial operations using mineral/synthetic oil as lubricant in hydraulic systems or other applications	Wastes/residues containing oil Schedule-I Stream-5.2	1.5T/A	Incinerable	MS Drums over concrete floor under well ventilated covered shed	Recovery and Reuse-Authorized recyclers	HEMM Workshop.	Liquid	0.10Te	0.55Te

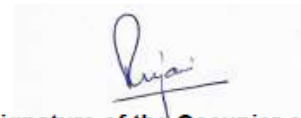
2. Quantity dispatched
 - (i) to disposal facility: As per above
 - (ii) to recycler or co-processors or pre-processor: N.A.
 - (iii) others: N.A.
3. Quantity utilised in-house, if any –N.A.
4. Quantity in storage at the end of the year –N.A.

Part B. To be filled by Treatment, storage and disposal facility operators

1. Total quantity received – N.A.
2. Quantity in stock at the beginning of the year -N.A.
3. Quantity treated –N.A.
4. Quantity disposed in landfills as such and after treatment –N.A.
5. Quantity incinerated (if applicable) –N.A.
6. Quantity processed other than specified above –N.A.
7. Quantity in storage at the end of the year –N.A.

Part C. To be filled by recyclers or co-processors or other users

1. Quantity of waste received during the year –N.A.
 - (i) Domestic sources: N.A.
 - (ii) imported (if applicable): N.A.
2. Quantity in stock at the beginning of the year -N.A.
3. Quantity recycled or co-processed or used –N.A.
4. Quantity of products dispatched (wherever applicable) –N.A.
5. Quantity of waste generated -N.A.
6. Quantity of waste disposed -N.A.
7. Quantity re-exported (wherever applicable)-N.A.
8. Quantity in storage at the end of the year -N.A.



**Signature of the Occupier or
Operator of the disposal facility**

**Date: 17.06.2022
Place: Kulda OCP**

PUC Certificate

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Odisha

Date : **10/02/2023**
Time : **11:16:27 AM**
Validity upto : **09/08/2023**



Certificate SL. No. : OR01600150000442
 Registration No. : OD16C3141
 Date of Registration : 05/Oct/2016
 Month & Year of Manufacturing : August-2016
 Valid Mobile Number : *****0443
 Emission Norms : BHARAT STAGE III
 Fuel : DIESEL
 PUC Code : OR0160015
 GSTIN : 21AUWPP6706E1ZG
 Fees : Rs.177.00
 (GST to be paid extra as applicable)
 MIL observation : No

Vehicle Photo with Registration plate
60 mm x 30 mm



Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	0.98
This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.				

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to <https://puc.parivahan.gov.in>

Authorised Signature with stamp of PUC operator
60mm x 20 mm

Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Odisha

Date : 10/02/2023
Time : 14:22:18 PM
Validity upto : 09/08/2023



Certificate SL. No. : OR01600150000472
Registration No. : OD16C3142
Date of Registration : 05/Oct/2016
Month & Year of Manufacturing : August-2016
Valid Mobile Number : *****0443
Emission Norms : BHARAT STAGE III
Fuel : DIESEL
PUC Code : OR0160015
GSTIN : 21AUWPP6706E1ZG
Fees : Rs.177.00
(GST to be paid extra as applicable)
MIL observation : No

Vehicle Photo with Registration plate
60 mm x 30 mm

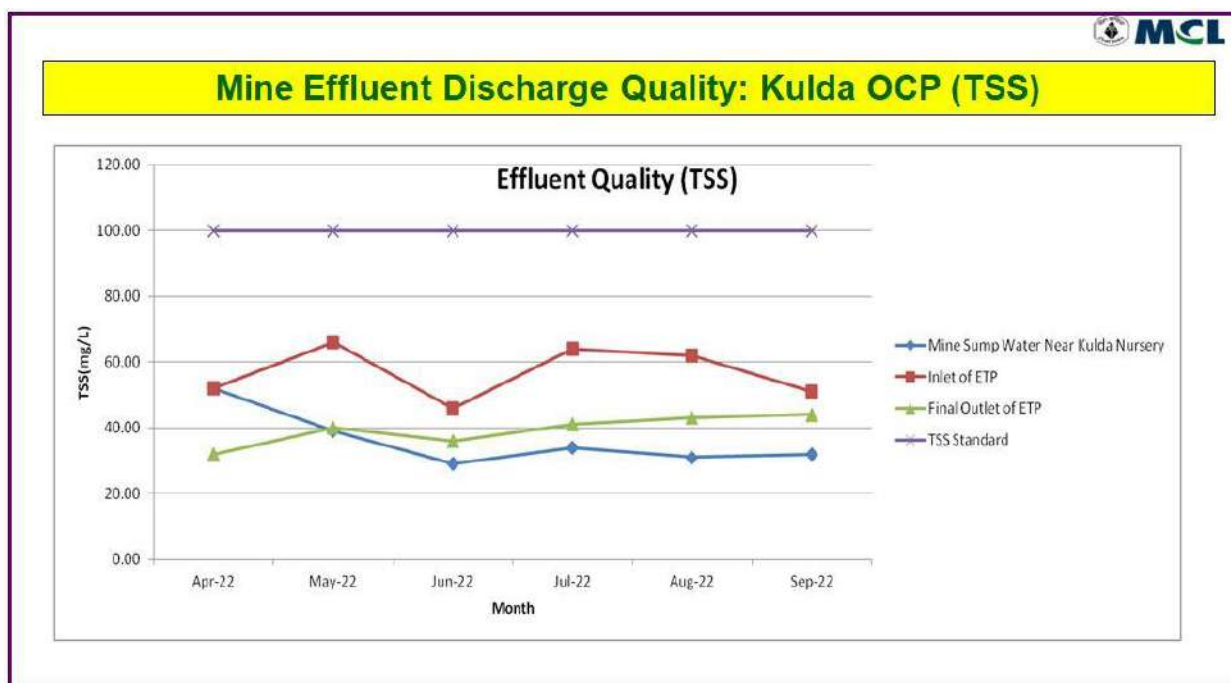
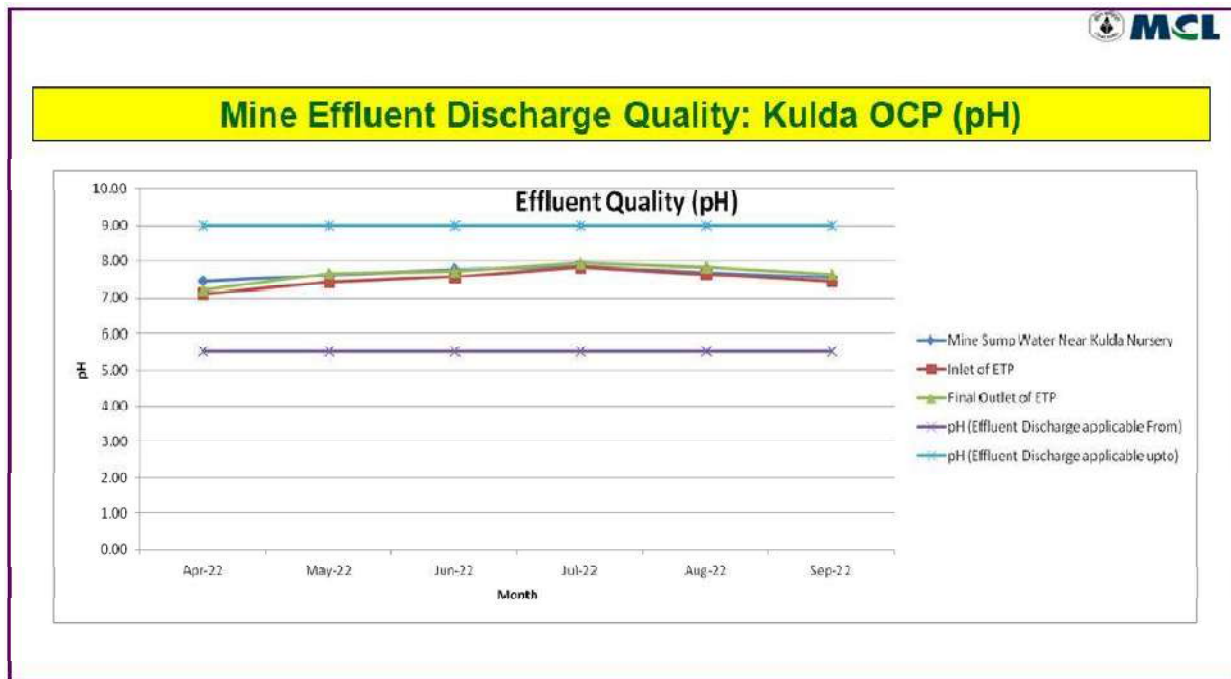


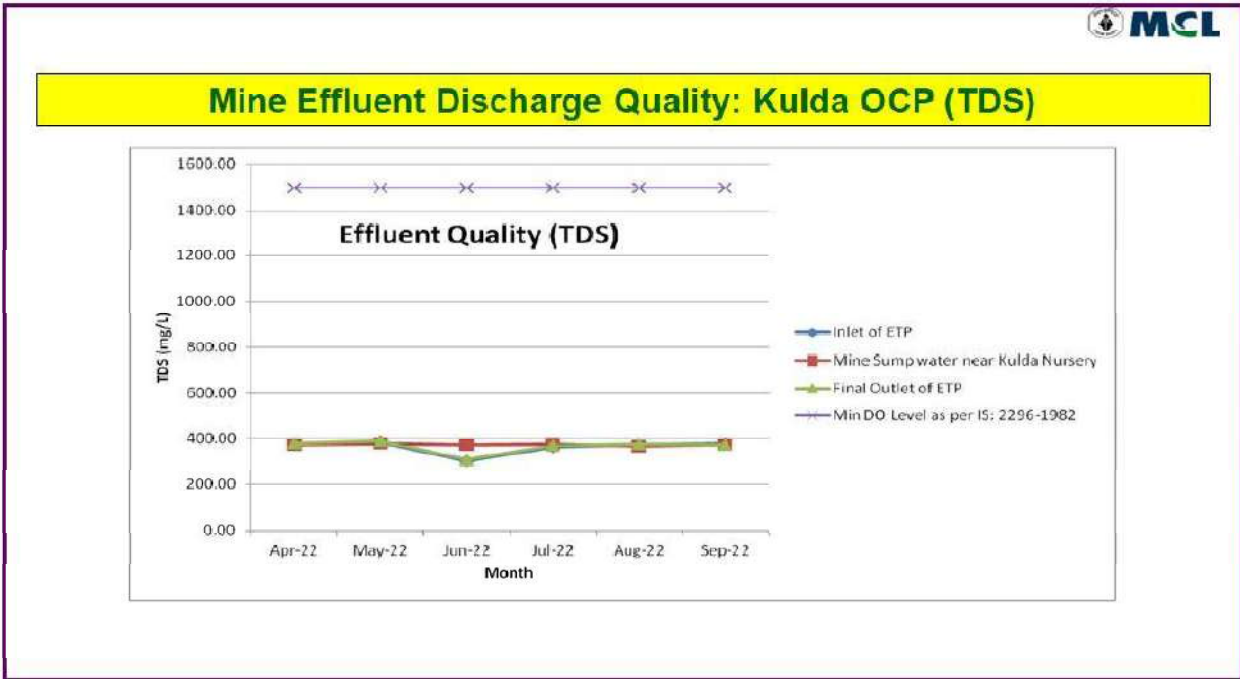
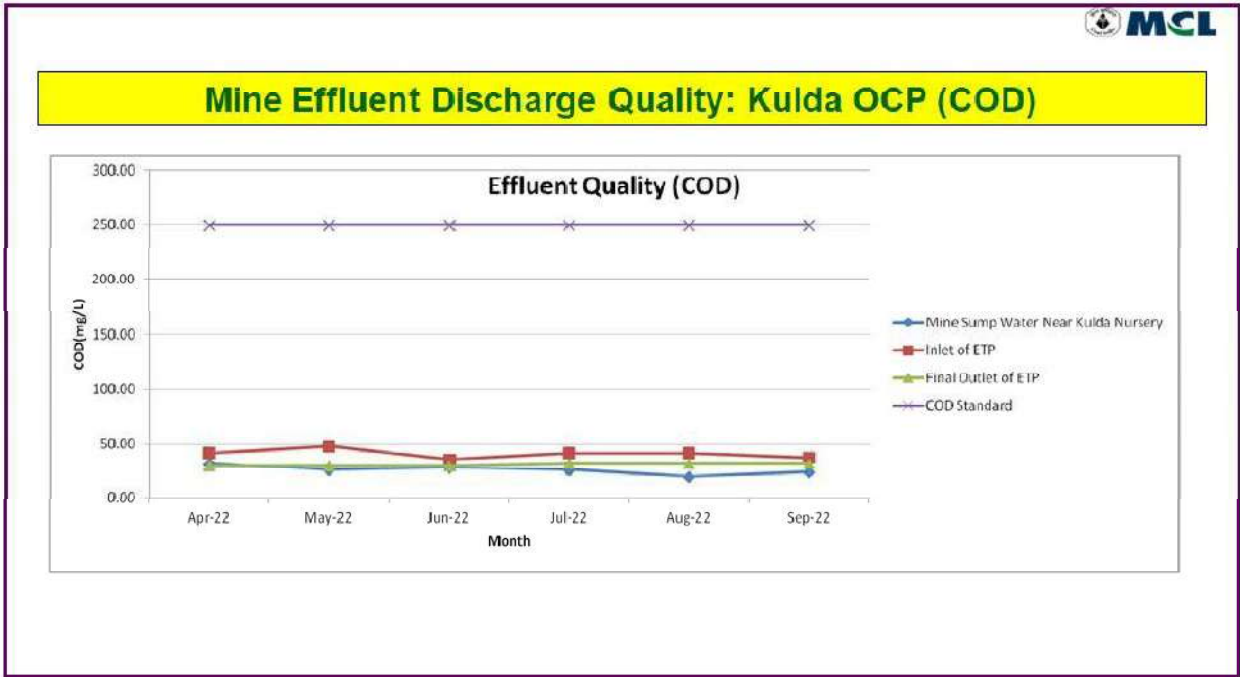
Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	1.13
This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.				

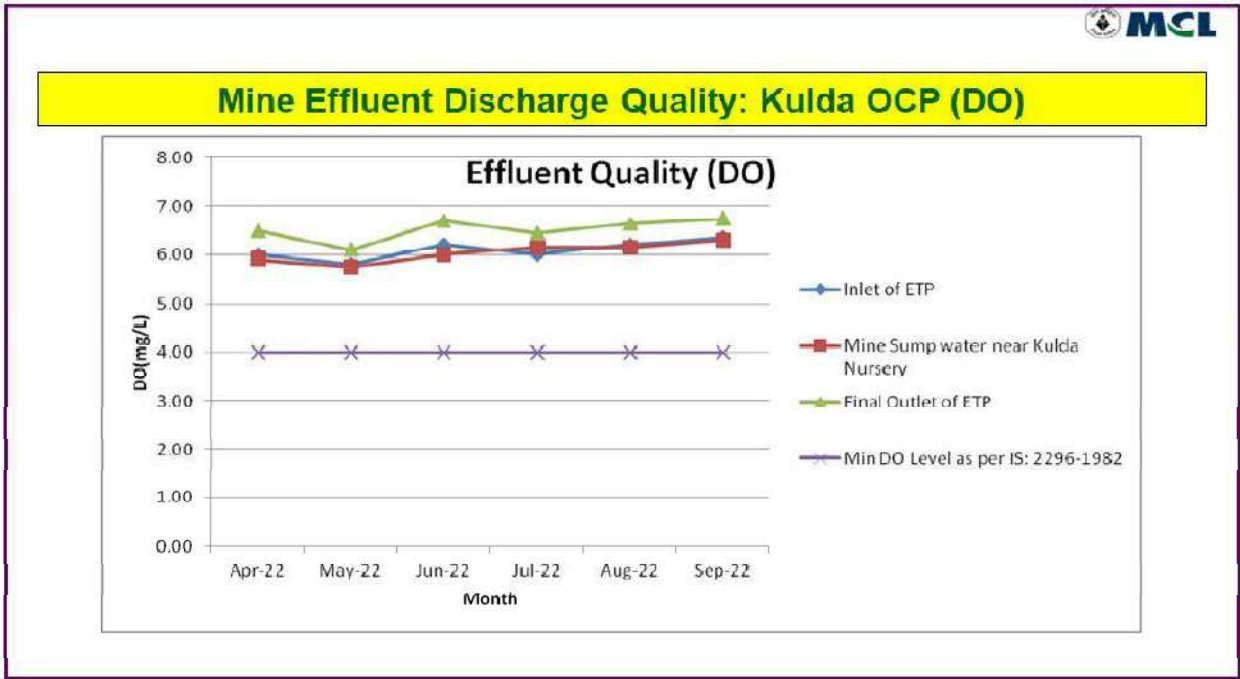
Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to <https://puc.parivahan.gov.in>

Authorised Signature with stamp of PUC operator
60mm x 20 mm

Effluent Quality of Mine water of Kulda OCP

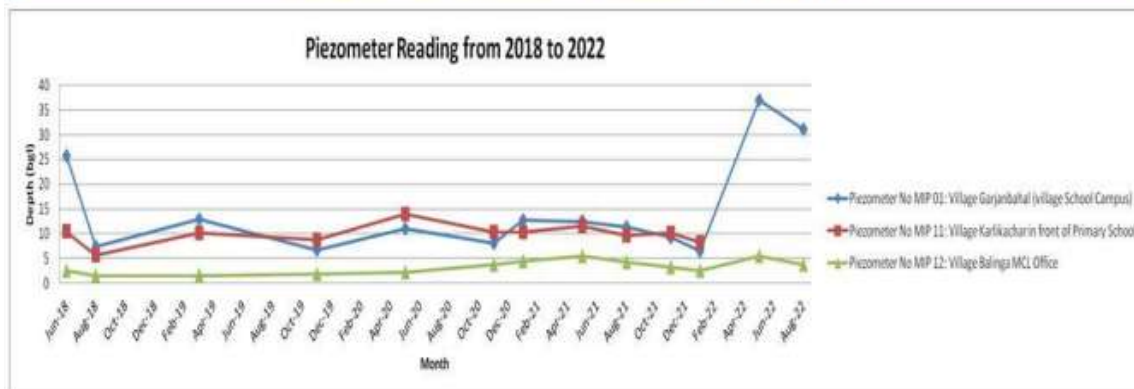






Ground water monitoring data

Piezometer Reading: Kulda OCP (bgl)



Well water data: Kulda OCP (bgl)



Ground water quality data

Project / OCP	Kulda OCP		Indian Drinking Standards (IS-10500):2012	
Monitoring Station	Piezometer No. MIP 12, GW level and quality (May) Village Balinga, In front of MCL office	Piezometer No. MIP 14, GW level and quality (May) Village Kulda, Pry School Campus		
Date of Sampling	25-May-22	25-May-22	Acceptable	Permissible
Colour (Hazen)	1	1	5	15
Odour	Agreeable	Agreeable	Agreeable	Agreeable
Taste	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity (NTU)	2	1	1	5
pH	8.71	7.42	6.5-8.5	No relaxation
Total Alkalinity (mg/L)	102	65.3	200	600
Total hardness (Ca CO ₃) (mg/L)	60	71	200	600
Iron (mg/L)	<0.1	<0.1	0.3	No relaxation
Chloride (mg/L)	40.49	28.92	250	1000
Total Dissolve Solid (mg/L)	208	146	500	2000
Calcium (mg/L)	7.93	12.69	75	200
Copper (mg/L)	<0.03	<0.03	0.05	1.5
Manganese (mg/L)	<0.04	3.35	0.1	0.3
Sulphate (mg/L)	3.42	5.42	200	400
Nitrate (mg/L)	2.64	<2	45	No relaxation
Fluoride (mg/L)	<0.3	<0.3	1	1.5
Arsenic (mg/L)	<0.005	<0.005	0.01	0.05
Lead (mg/L)	<0.005	<0.005	0.01	No relaxation
Zinc (mg/L)	<0.04	<0.04	5	15
Total Chromium (mg/L)	<0.01	<0.01	0.01	No relaxation
Boron (mg/L)	<0.2	<0.2	0.5	2.4
Cadmium (mg/L)	<0.001	<0.001	0.003	No relaxation
MPN (Index/100ml)	<1.8	<1.8	-	-
Residual Free Chlorine (mg/L)	<0.2	<0.2	0.2	1
Phenolics (mg/L)	<0.001	<0.001	0.001	0.002
Selenium (mg/L)	<0.005	<0.005	0.01	No relaxation

Vibration Report

Annexure-XIV

BLAST VIBRATION REPORT OF KULDA OCP, BASUNDHARA AREA		
Date/Time	PVS(mm/sec)	Leq Avg(Sound)(dBA)
01-07-20 14:21	0.56	26.64
01-07-20 14:28	9.34	27.57
04-07-20 14:26	0.85	43.72
04-07-20 14:27	0.94	52.62
04-07-20 14:39	7.49	64.41
05-07-20 14:17	7.05	63.12
05-07-20 14:18	0.39	44.92
06-07-20 14:35	5.73	27.32
06-07-20 14:40	6.36	27.83
06-07-20 15:00	4.62	28.32
06-07-20 15:11	2.50	28.48
07-07-20 14:42	4.89	64.13
07-07-20 14:57	8.20	64.22
08-07-20 14:28	5.77	25.22
08-07-20 14:50	7.72	26.94
10-07-20 14:34	4.82	27.24
10-07-20 14:34	1.21	24.83
10-07-20 14:51	4.31	27.12
11-07-20 14:27	0.50	61.12
11-07-20 14:28	0.52	61.39
11-07-20 14:30	0.45	61.22
11-07-20 14:30	0.44	61.04
11-07-20 14:31	0.44	56.74
11-07-20 14:31	0.57	62.34
11-07-20 14:32	0.44	61.56
11-07-20 14:37	0.43	55.35
11-07-20 14:39	18.90	57.85
13-07-20 14:28	4.76	60.66
13-07-20 14:40	2.05	50.80
13-07-20 14:49	3.60	61.42
14-07-20 14:41	0.48	26.56
14-07-20 14:42	0.53	26.60
14-07-20 14:43	0.41	26.74
14-07-20 14:43	0.51	26.76
14-07-20 14:45	9.37	26.94
15-07-20 14:21	8.46	26.74
16-07-20 14:32	5.98	28.29
17-07-20 14:41	2.96	26.09
18-07-20 15:20	4.26	27.75
18-07-20 15:29	2.46	28.31
18-07-20 15:43	6.13	28.70
18-07-20 15:48	8.82	28.90
19-07-20 14:21	4.53	27.65
19-07-20 14:32	2.24	28.49
19-07-20 14:37	6.34	28.85
20-07-20 15:03	8.09	27.09
24-07-20 14:47	2.69	26.12

Annexure 26 (contd...)

26-07-20 14:35	1.56	25.31
30-07-20 14:16	8.07	27.05
31-07-20 14:17	7.15	26.06
31-07-20 14:17	0.74	26.71
01-08-20 14:36	4.73	27.25
01-08-20 14:43	2.58	27.29
02-08-20 14:29	0.49	27.36
02-08-20 14:31	7.82	26.30
06-08-20 14:39	2.16	26.81
06-08-20 14:41	1.71	24.98
07-08-20 14:12	0.96	63.21
07-08-20 14:20	3.43	62.14
08-08-20 14:30	2.53	25.24
08-08-20 14:39	4.86	26.55
09-08-20 14:12	7.22	27.29
10-08-20 14:27	5.62	28.59
11-08-20 14:25	1.44	27.92
11-08-20 14:32	2.00	26.85
12-08-20 14:26	1.34	25.42
14-08-20 14:21	7.74	27.91
17-08-20 14:18	5.59	26.56
20-08-20 14:20	7.79	27.00
20-08-20 14:21	0.76	26.86
20-08-20 14:29	1.72	29.12
21-08-20 14:29	3.83	26.33
21-08-20 14:29	0.00	0.00
24-08-20 14:13	1.53	29.58
24-08-20 14:18	0.82	29.65
24-08-20 14:30	1.67	29.62
24-08-20 14:30	0.00	0.00
25-08-20 14:37	1.37	30.07
25-08-20 14:45	1.29	28.51
25-08-20 14:46	0.00	0.00
26-08-20 14:16	1.98	38.45
29-08-20 14:19	2.38	31.03
31-08-20 14:39	1.11	25.10
01-09-20 14:27	2.26	25.97
01-09-20 14:41	0.88	26.65
01-09-20 14:53	3.21	26.62
03-09-20 15:09	5.04	26.46
03-09-20 15:13	3.84	27.16
04-09-20 14:36	5.77	26.03
05-09-20 14:35	0.49	29.16
05-09-20 14:36	1.49	28.42
05-09-20 14:47	0.62	28.07
05-09-20 14:54	2.69	28.29
06-09-20 14:28	0.74	25.41
07-09-20 14:03	9.77	24.18
08-09-20 14:11	1.71	27.73
09-09-20 14:10	6.20	26.45

10-09-20 14:16	4.47	26.19
12-09-20 14:18	6.30	25.71
14-09-20 14:09	4.28	26.75
14-09-20 14:14	3.44	27.52
14-09-20 14:19	0.59	28.27
15-09-20 14:07	7.18	25.84
18-09-20 14:11	9.46	26.43
18-09-20 14:18	3.88	26.08


Nodal Officer (Envt.)
KOC Basundhara Area


Project Officer
KOC Basundhara Area

Compliance Report

As per the Mines Act, 1952, Kulda OCP is following the particular features of the act as stipulated:

S.No.	Mines Act, 1952	Compliance action carried out by Kulda OCP
1	Mining Operation and Management of Mines	In compliance, Kulda OCP obtains permission from Coal Controller Office and conveys the commencement of mining operation to the DGMS in prescribed format.
2	Provision as to Health & Safety	First Aid boxes has been provided in pit as well as in the Time Offices, in addition to the first aid room present at the safety office inside mine area. Frequent training (Certificate course) is provided for concerned persons for providing first aid at the time of emergencies as per the Act. Besides that mock drills are being carried out to monitor the efficacy of the trained personnel.
3	Notice of accident	- Register is being maintained in prescribed format at the office of safety dept. for maintaining records of any such accidents happening inside the mines and presented quarterly to the DGMS as per the prescribed condition. - All the prescribed procedures are being followed by the Safety Dept., during the case of death, body injuired.
4	Hours and Limitation of employment	The mine follows 8hrs shift policy and 24 hrs working routine a year. All the working personnel are mandatorily provided with one rest after working continuously for 48 hours a week. The notice of hours of work is being maintained in Form-A.
5	Wages of overtime	The employees working overtime than the prescribed normal working hours are paid twice the rate at which they are paid for normal working hours and the wages are being recorded in Form-I.
6	Employment for women	No woman is being deployed beyond the 6:00Am to 7:00 PM
7	Maintenance of Register of persons employed	The register with records of employees is being maintained at the Project Office (Administrative Office) of Kulda OCP.

Plantation by Miyawaki Techniqe

ମହାନଦୀ କୋଲଫିଲ୍ଡସ୍ ଲିମିଟେଡ୍ महानदी कोलफील्ड्स लिमिटेड Mahanadi Coalfields Limited (A subsidiary of Coal India Limited)	Office of the General Manager		
Basundhara Area AT/PO:-Basundhara-770076 Dist:-Sundargarh (Orissa)			
Ref.: MCL/GM/BA/2022-23/ <u>ES-456/161</u>		Date: 22.08.2022	
सेवा में, प्रभागीय वन अधिकारी, सुंदरगढ़ वन प्रभाग एट/पो : सुंदरगढ़ कचेरी रोड, सुंदरगढ़ -770001, ओडिशा e-mail: dfosngdvn@yahoo.co.in	To The Divisional Forest Officer, Sundargarh Forest Division, At/ PO : Sundargarh Kacheri Road, Sundargarh -770001, Odisha e-mail : dfosngdvn@yahoo.co.in		
Sub: Approval of Scheme of Deposit works for the work "High multi-canopy Plantation through Miyawaki Techniques to be taken up at Subalaya (10 Ha) of Sundargarh Range during the year 2022-23 and maintenance till 2025-26." (एम्सीएल के बसुंधरा क्षेत्र के आसपास वनीकरण के जमा कार्यों की 2022-23 के लिए और 2025-26 तक रखरखाव योजना की स्वीकृति)			
Ref : Your letter nos. – 2630, Dated 17.05.2022. Your Memo No. – 572, Dated – 25.07.2022. Your letter no. -4887/1F(Acct.)/Dated – 30.07.2022			
Dear Sir,			
With reference to the plantation scheme and subsequent clarifications submitted by your office over telephone, this is to communicate that Director (Technical) /P&P of MCL has been pleased to approve the "Scheme of Deposit works for High multi-canopy Plantation through Miyawaki Techniques to be taken up at Subalaya (10 Ha) of Sundargarh Range during the year 2022-23 and maintenance till 2025-26" amounting to Rs.6,72,94,456.00/- (Rupees Six Crore Seventy Two Lakh Ninety Four Thousand Four Hundred and Fifty Six) (incl GST @18%) only for 80,000 nos of saplings in the area of 10 Ha. The following are the terms and conditions.			
1. The work is required for the compliance of statutory conditions for Kulda OCP from MoEF&CC and the work will be executed through deposit terms funded by MCL. 2. Plantation will be taken up at Subalaya Patch of 10.0 ha @ a density of 8000nos. per Ha of plantation of different canopy per Ha as proposed by you. The GPS coordinates & site plan of the plantation sites has been attached in Annexure-A, as submitted by you. 3. The scheme has been framed on the basis of Plantation cost norms of Principal Chief Conservative of Forest Bhubaneswar, Odisha with minimum wage rate of Rs.326.00/-. 4. As per the Plantation Cost Norm 2019 of PCCF, fencing maintenance for 3rd, 6th, and 9th year have been considered. As the scheme is for 4 years, the fencing maintenance has been considered for 3rd year only. 5. Plant Species shall be selected as suitable for Miyawaki Technique. Further, Sal to be preferred as per the statutory condition of Kulda OCP. 6. The Plantation Work shall be monitored by the Project Officer, Kulda OCP and funds shall be released by Kulda OCP, Basundhara Area of MCL.			
Corporate office: Jagruti Vihar, Burla, Sambalpur, Odisha - 768 020, Phone: (PBX) +91 (663) 254 2461-65, Telefax: +91 (663) 254 1317, Website: www.mcl.gov.in			

Illumination Survey Report

ମହାନଦୀ କୋଲ ଫିଲ୍ଡସ୍ ଲିମିଟେଡ୍
महानदी कोलफील्ड्स लिमिटेड
Mahanadi Coalfields Limited
(A subsidiary of Coal India Limited)

Office of the Project Officer
KULDA OCP
Basundhara Area
At/-:- Basundhara- 770076
Dist -:- Sundargarh (Odisha)
Tel No. 06621-286133(O)
Fax:06621-286144



ILLUMINATION SURVEY REPORT DATE : 16/09/2022
KULDA OCP, BASUNDHARA AREA

Sl No.	Location	Place Details References	DGMS STANDARD		Observed Illumination		Action Taken/Remarks
			Ver.	Hx.	Ver.	Hx.	
1	JRT Surface Miner Coal Face	Location -1	25.00	15.00	25	16	400W, 500W and 1000W LED Light placed on pole
		Location -2	25.00	15.00	27	16	
		Location -3	25.00	15.00	26	17	
2	VFPL Surface Miner Coal Face -1	Location -1	25.00	15.00	26	15	
		Location -2	25.00	15.00	28	15	
		Location -3	25.00	15.00	25	16	
4	Coal Haul Road	Location -1	NA	10.00	NA	12	160 Nos of 250W, 400W 500W and 1000W LED Light fitting placed
		Location -2	NA	10.00	NA	11	
		Location -3	NA	10.00	NA	14	
		Location -4	NA	10.00	NA	11	
5	OB dumping	Location -1	25.00	15.00	25	17	9 Nos X 400W light placed on pole with 7.5 KVA DG sets
		Location -2	25.00	15.00	25	15	
		Location -3	25.00	15.00	28	18	
6	OB Haul Road	Location -1	NA	10.00	NA	11	55 Nos of 250W and 400W LED Light fitting placed on pole
		Location -2	NA	10.00	NA	13	
		Location -3	NA	10.00	NA	11	
		Location -4	NA	10.00	NA	13	
7	Coal Stock Yard	Location -1	15.00	15.00	21	16	400W, 500W and 1000W LED Light placed on pole
		Location -2	15.00	15.00	20	17	
		Location -3	15.00	15.00	19	16	
		Location -4	15.00	15.00	20	15	
9	Mine Pump	Location -1	NA	40.00	NA	45	15 nos 250W and 400W LED Light placed on pole
		Location -2	NA	40.00	NA	40	

[Signature]
Manager
Kulda OCP

[Signature]
Safety Officer
Kulda OCP

[Signature]
P.S. 16/09/22
Kulda OCP

[Signature]
P.S. 16/09/22
Kulda OCP

Public Hearing Compliance

COMPLIANCE TO THE ISSUES RAISED IN THE PUBLIC HEARING HELD ON 10.01.2018, FOR KULDA EXPANSION OCP (FROM 10 MTY TO 15.0 MTY)

PublicHearingforKuldaOCP(Expansionfrom 10Mty to15Mty)overanareaof634.205HaofKuldaOCP ofM/s.MahanadiCoalfieldsLimitedwas conducted on date -10.01.2018 at 11 AM at venue - Stadium field near Jagannath Mandir, Basundhara Area, Tikilipada of Hemgir Tahasilof Sundargarh District, Odisha. The issues raise and the action taken by Project Proponent as on date – 15.10.2022 has been detailedbelow:

#	Issuesrais ed bythe Public	Response of the Project Proponent on10.01.2018	Action taken by the project along with budgetaryprovisions
1	AirPolluti on due to coal dust.	1. Adequatewatersprinkling willbe done by the help of 02 nosof 28 KL water sprinklers onhaul roads and 02 nos. of 20 KLwater tankerson theoverburdendumps inside the mines.Beside those2contractual12KLw atertankers is deployed fordust suppression in	□ One number of 28KL water tanker has been purchased and deployed in the haul road inside the Kulda mines. □ 40 nos. of mist type sprinklers have been installed in the coal transportation road in front of Kulda mines. □ 3 numbers of wheel washing system along with attached instant shower system has been provided at the all the exit gates of Kulda OCP. □ Presently about 10 MT of coal is being transported from Kulda OCP through

	the coal transportation road. Proposal for purchase of one more 28KL water tanker is under process. 2. 59 nos. of fixed sprinklers have set up in the concreted coal transportation road and 40 nos. more are planned to be set up in the year 2018-19 to address dust pollution from CT Roads present at the pithead. 3. 02 nos. of instant showers system have been set up at the exit of the mine. Apart from this Tyre wash system is also being set up at the exit of the mine for prevention of the coal dust being transferred to public roads. Sardega Barpali railway siding has been completed and is to be commissioned in the month of Feb 2018. Out of 15 Mt of Coal, 10 Mt of coal will be dispatched through this siding and remaining 4 Mt will be dispatched to JSPL by pipe conveyor and only 1 MT of coal will be dispatched through road sale in covered tippers. 4. After technical reclamation of the backfilled area of Kulda OCP, adequate plantation will be done.	Railway Siding annually. □ Technical reclamation has been done over an area of 125.50 ha out of which 18.30 ha has been biologically reclaimed. □ Besides this various control measures like deploying of Fog cannons (mobile and static), wheel washing system, instant shower system, vertical greenery etc. has been taken up inside and outside the project and infrastructure like Doubling of Sardega rail line, Barpali bulb loop (90Mty) etc. are in pipeline. □ Dust control measures adopted after public hearing are as follows: Dust Suppression in the mining Area

#	Control Measures	Quantity (Existing) 21.0Mty	Expenditure till date ₹ in Crore
1	Mist Sprinkler	120 Nos.	1.75
2	Fixed Sprinkler	77 Nos.	0.03
3	Mobile water tankers	6 Nos.	2.52
4	Mobile Fog Canon	6 Nos.	3.00
5	Static Fog Canon	8 Nos.	0.70
6	Wheel washing system	1 Nos.	0.42
7	Instant	05 Nos.	0.075
8	Vertical	600m	0.29
9	Plantation	242495 nos.	11.45
10	Concrete road to Sardega Siding	6 Km	19.50
11	Transportation road from Siarmal to Barpali siding	2.7 Km	16.36
		Total (Rs. Cr.)	56.09

Apart from above existing Jharsuguda-Sardega Railway line (53.1 Km) and Sardega Spurs siding are in operation at an expenditure of Rs. 1129.00 Cr and Rs. 17.99 Cr respectively. Also, Strengthening and widening of transportation road from Duduka to Kanika Siding has been completed at a cost of Rs. 209.40 Crs.

#	Control Measures	Additional Quantity 21.0Mty	Budget Estimate Proposed ₹ in Crore	Timeline
1	Mist Sprink	188 Nos.	1.78	Mar'23

			<table><tr><td>2</td><td>Mobile</td><td>01</td><td>0.14</td><td>Mar'23</td></tr><tr><td>3</td><td>Static</td><td>8Nos.</td><td>0.70</td><td>Procured and</td></tr><tr><td>4</td><td>Mechani</td><td>03</td><td>6.40</td><td>Mar'2023</td></tr><tr><td>6</td><td>Wind</td><td>1000m</td><td>5.32</td><td>June'2023</td></tr><tr><td>7</td><td>Plantation</td><td>42000nos.</td><td>4.07</td><td>Sept'2023</td></tr><tr><td></td><td></td><td>Total</td><td>18.41</td><td></td></tr></table>	2	Mobile	01	0.14	Mar'23	3	Static	8Nos.	0.70	Procured and	4	Mechani	03	6.40	Mar'2023	6	Wind	1000m	5.32	June'2023	7	Plantation	42000nos.	4.07	Sept'2023			Total	18.41	
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7	Plantation	42000nos.	4.07	Sept'2023																													
		Total	18.41																														
2	Water Pollution : Pollution due to Coal Dust	Zero water discharge is being maintained by the mine. However, 01 no. of existing ETP and OGT is functioning as per the requirement and the water is being recycled for industrial uses.	□ Garland drains (7632mx1.5mx1.5m) and Berm (4809mx1.5mx1.5m) has been provided all around the mine boundary and External dump with a cost of 45 lakhs. Catch drains (3349m x 1m x 1m) has been provided at coal stocks and internal dump at cost of Rs.15 lakhs □ The water so collected in the catch drains is channelized into the mine sump (capacity- 20 lakhs cum) of Kulda OCP, which is further utilized for industrial purposes like dust suppression and firefighting, green belt development etc. □ The drains are cleaned and de-silted pre-monsoon and post-monsoon, annually twice. □ Retaining wall along external OB dump of (500 mX0.40mX2m) at a cost of Rs.71 lakhs have been completed on 30.06.2021 which arrest the surface runoff of OB dumps ETP of capacity 450 KLD has been provided for workshop and the treated water is directed into the mine sump ensuring zero discharge. The oil and grease traps are also in operation and are working efficiently. The monitoring report of effluent of ETP is being submitted to the IRO, MoEF & CC regularly. The Cost of Modification of ETP is 59.00 Lakhs.																														
3	Drinking Water Supply to peripheral villages	1. Drinking water supply is being done for peripheral villages during the summer (90 days). 2. As per requirement MCL is supplying drinking water to all the nearby villages in consultation with district administration.	□ Drinking water supply is being done for peripheral villages during the summer (90 days). □ As per requirement MCL is supplying drinking water to all the nearby villages in consultation with district administration.																														

			□ A total of Rs.108.08 Lakh has been spent on supply in the drinking water to the peripheral villages in last three years. <table><tr><th colspan="5">CSR Expenditure of Basundhara Area for past 3 years</th></tr><tr><th>S.no</th><th>Head</th><th>2021-22</th><th>2020-21</th><th>2019-20</th></tr><tr><td>1</td><td>Drinking Water</td><td>25.77</td><td>31.3</td><td>51.01</td></tr><tr><td>2</td><td>Education</td><td>212.92</td><td>68.41</td><td>69.6</td></tr><tr><td>3</td><td>Environment</td><td>34.16</td><td>54.15</td><td>55.69</td></tr><tr><td>4</td><td>Healthcare</td><td>389.46</td><td>Included in 1</td><td>2.24</td></tr><tr><td>5</td><td>Road</td><td>159.71</td><td>32.07</td><td>194.42</td></tr><tr><td>6</td><td>Rural Sports</td><td>6.28</td><td>3.69</td><td>0</td></tr><tr><td>7</td><td>Rural Development</td><td>523.00</td><td>Included in 5</td><td>121.66</td></tr><tr><td>8</td><td>Others</td><td>65.72</td><td>5.62</td><td>0</td></tr><tr><td>9</td><td>Total</td><td>1417.33</td><td>195.24</td><td>494.62</td></tr></table>	CSR Expenditure of Basundhara Area for past 3 years					S.no	Head	2021-22	2020-21	2019-20	1	Drinking Water	25.77	31.3	51.01	2	Education	212.92	68.41	69.6	3	Environment	34.16	54.15	55.69	4	Healthcare	389.46	Included in 1	2.24	5	Road	159.71	32.07	194.42	6	Rural Sports	6.28	3.69	0	7	Rural Development	523.00	Included in 5	121.66	8	Others	65.72	5.62	0	9	Total	1417.33	195.24	494.62
CSR Expenditure of Basundhara Area for past 3 years																																																										
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8	Others	65.72	5.62	0																																																						
9	Total	1417.33	195.24	494.62																																																						
4	Employment for unemployed youth	1. MCL is providing employment to all the land losers as per recommendations of the Honorable Claim Commission setup by the Supreme Court of India. 2. So far MCL Basundhara has already provided employment to 313 nos. of persons against Kulda OCP and will be providing the balance employment to 33 nos. as per recommendations of the Claim Commission.	<table><tr><td>Employment for unemployed youth</td><td>Provided</td><td>To be provided</td></tr><tr><td>Direct Employment</td><td>341 nos.</td><td>52 nos.</td></tr><tr><td>Indirect employment</td><td>505 nos.</td><td>520 nos.</td></tr><tr><td>(Skill development initiatives)</td><td colspan="2">Under various programmes as detailed below:</td></tr></table> □ Under the 'CCDP-Utthan' Comprehensive Community Development Programme, 6174 families living in 40 villages of Sundargarh, Jharsuguda, Angul and Sambalpur districts have been given training on livelihood and skill development for five and half years commencing from 2018-19. □ Training has been given for cattle development, goat development, backyard poultry farming, fodder development programme, Agri horticulture development programme, awareness creation and capacity building programme etc. Beneficiaries: 6174 families; Expend. ₹ 20.29 Crore (on-going) □ Multi-Skill Training Programme: AMO has been signed between MCL and Central Institute of Petrochemicals Engineering & Technology, Centre for Skilling & Technical Support, Bhubaneswar. under this project, a six-month multi-skill training on electrical, mechanical, plumbing and agricultural tools are being given to the unemployed youths among the project affected families.	Employment for unemployed youth	Provided	To be provided	Direct Employment	341 nos.	52 nos.	Indirect employment	505 nos.	520 nos.	(Skill development initiatives)	Under various programmes as detailed below:																																												
Employment for unemployed youth	Provided	To be provided																																																								
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			□ Expenditure: Rs. 41.45 Lakhs □ AhaarMandal &DesiBeejGharProgramme: InassociationwithProject'AhaarMandal',an initiativeof promotingorganicfarmingamong ruralcommunityofHemgir block, Sundargarh district under CSR of MCL is under Beneficiaries:200SC&STfarmersof10villages- ₹ 25Lakhs □ Desi Beej Ghar: The project to provide support for cultivation &preservationof indigenousseedsandcreatean eco-system formarketingthe productto fellowfarmersthrough seedbank.Theprojecthas beenimplementedin Hemgirblock,Sundargarh district. Overall, 200 farmers have been provided training onmechanisms for preservation of indigenousseeds. □ Beneficiaries: 200 farmers ₹ 22.53 lakhs

Constitution of environmental cell

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

Office Of The Project Officer,
Kulda OCP, Basundhara Area
AT/PO:-Basundhara-770076
Dist:-Sundargarh (Orissa)
Tel No: 06621-286133(0),
FAX: 06621-286144



Ref: MCL/GM/BA/PO/KOCPE&F/2022-23/105

Date:- 27.01.2023

--OFFICE ORDER--

In accordance to the condition stipulated in condition no.-4.1.i.(iii) with respect to the Environmental Clearance issued vide no. - J-11015/10/1995-IA-II (M), dt.-14.02.2022 & J-11015/10/1995-IA-II (M), dt.-24.05.2022; the following members are hereby nominated for constituting Environmental Cell under Kulda OCP:

S.No.	Member from Kulda OCP	Role of committee members
1	Project Officer	Chairperson/Head of the committee
2	Manager, Mining or his representative	Mining
3	Project Engineer (C) or his representative	Civil
4	Project Engineer (E&M) or his representative	Electrical and Mechanical
5	Project Engineer (Excav.) or his representative	Excavation
6	Survey Officer or his representative	Survey
7	Land Officer	CSR
8	Nodal Officer (E&F)	Nodal

The above committee members are hereby assigned to monitor and execute all the environment related works as per the Environmental Clearance issued with respect to Kulda OCP till now and in future and shall be reporting directly to the chairperson. Any change in this committee shall be issued only after the approval of the chairperson. The Nodal department (Environment) shall coordinate the operation of this committee as well as conduction of review meeting/urgent meeting depending on case to case basis.

This Office Order shall be effective from the date of issue.


 Project Officer,
 Kulda OCP,
 MCL, Basundhara Area

Copy to:-

- General Manager (E&F), MCL HQ – For kind information.
- General Manager, Basundhara Area – For kind information.
- All Staff Officers, Basundhara Area – For kind information.
- Nodal Officer (E&F), Kulda OCP – For documentation.
- Office copy - For record.



Newspaper publication of EC for 21MTPA

 MCL	MAHANADI COALFIELDS LIMITED (A Subsidiary of Coal India Limited) JAGRITI VIHAR, BURLA-768020, DIST-SAMBALPUR, ODISHA Tel Phone (EPABX) - 0663-2542461 to 469 Website : www.mahanadicoal.in
Ref No:- MCL/GM/BA/ES-43/2022-23/83	Dt:-18.06.2022
NOTICE	
This is to inform to all concerned that Kulda Expansion Opencast Coal Mining Project of Mahanadi Coalfields limited (Odisha) has been accorded with Environmental Clearance by the Govt. of India, Ministry of Environment & Forests for expansion from 19.6 MTPA to 21 MTPA in Mining Lease Area of 634.205 Ha. This project is situated in Hemgir Tahasil of Sundargarh District covering villages of Balinga, Tumulia, Siarmal, Kulda & Bankibahal. A copy of clearance letter No. J-11015/10/1995-IA-II(M) dated 24.05.2022 is available with the State Pollution Control Board, Odisha & the same may also be seen at Website of the Ministry of Environment & Forests, Govt. of India at http://environmentclearance.nic.in	
R-5104	General Manager, Basundhara Area, MCL

 MCL	ମହାନଦୀ କୋଲଫିଲ୍ଡସ ଲିମିଟେଡ୍ (କୋଲ ଇଣ୍ଡିଆ ଲିମିଟେଡ୍‌ର ଏକ ସହଯୋଗ କମ୍ପାନୀ) ଜାଗ୍‌ରିତି ବିହାର, ବୁର୍ଲା-୭୬୮୦୨୦, ଜିଲ୍ଲା-ସମ୍ବଲପୁର, ଓଡ଼ିଶା ଟେଲିଫୋନ୍ (ଇଣ୍ଟରନାଲ୍)-୦୬୬୩-୨୫୪୨୪୬୧ ରୁ ୪୬୯, ୱେବସାଇଟ୍ : www.mahanadicoal.in
ସନ୍ଦର୍ଭ ସଂଖ୍ୟା: MCL/GM/BA/ES-43/2022-23/84	ତା.18.06.2022ରୁ
ସୂଚନା	
ଏତଦ୍‌ଦ୍ୱାରା ସର୍ବସାଧାରଣଙ୍କ ଅବଗତ କରିବା ପାଇଁ କୁହାଯାଉଅଛି ଯେ, ମହାନଦୀ କୋଲ୍ ଫିଲ୍ଡସ ଲିମିଟେଡ୍ ର ବସୁନ୍ଧରା କ୍ଷେତ୍ର ଅନ୍ତର୍ଗତ କୁଳଦା ଖୋଲା କୋଲରା ଖଣି ପ୍ରାଧାରଣ ପ୍ରକଳ୍ପ ପରିବେଶ ଓ ଜଙ୍ଗଲ ମହତ୍ତ୍ୱାବଳୀ, ନୂଆ ଦିଲ୍ଲୀ ଦ୍ୱାରା ପ୍ରଦତ୍ତ ସଂଖ୍ୟା J-11015/10/1995-IA-II(M) ତାରିଖ: 24.05.2022 ମାଧ୍ୟମରେ 634.205 ହେକ୍ଟର ଜମିର ଖଣିର ବୃଦ୍ଧି ପଣା ଉପରେ 19.6 ମିସ୍ଥିତ ଚଳୁ ଖନନ ପ୍ରତିବର୍ଷ ରୁ 21 ମିସ୍ଥିତ ଚଳୁ ଖନନ ପ୍ରତିବର୍ଷ କୋଲରା ଉତ୍ପାଦନ ପାଇଁ ପରିବେଶ ସମ୍ପର୍କ ସ୍ୱାକ୍ଷର ପ୍ରଦାନ କରାଯାଇଅଛି । ଏହି ପ୍ରକଳ୍ପ ସୁରକ୍ଷାରୁ ଜିଲ୍ଲାର ହେମଗିରି ତହସିଲ ରେ ଅବସ୍ଥିତ । ଏହି ପ୍ରକଳ୍ପ ମାଧ୍ୟମରେ ବଲିଙ୍ଗା, ତୁମୁଲିଆ, ସିଆରମାଳ, କୁଳଦା ଓ ବାଙ୍କିବାହାଲ ଗ୍ରାମ ପରିଚ୍ଛନ୍ନ ଅଟେ । ଉପର ଉଲ୍ଲେଖ ଅନୁମୋଦନ ପ୍ରତି ଏକ ନବର ରାଜ୍ୟ ପ୍ରକୃତି ଲିଭାବଣ ବୋର୍ଡ଼ଙ୍କ କାର୍ଯ୍ୟାଳୟ, ଓଡ଼ିଶାଙ୍କ ପାଖରେ ଗପରାଝା ଅଛି ତଥା ଏହାକୁ ଲାଇଟ ଉପକାରଣ ପରିବେଶ ଓ ଜଙ୍ଗଲ ମହତ୍ତ୍ୱାବଳୀ ୱେବସାଇଟ୍ http://environmentclearance.nic.in ମାଧ୍ୟମରେ ଦେଖାଯାଇ ପାରିବ ।	
R-5104	ମହାପ୍ରବନ୍ଧକ, ବସୁନ୍ଧରା କ୍ଷେତ୍ର, ଏମ୍‌ସିଏଲ୍

Environmental Statement

FORM-V

ENVIRONMENTAL STATEMENT

Environmental statement for the financial year ending 31st Mar, 2022

Part – A

- i) Name & Address of the owner/ occupier of the industry operation or process (Name of the Project Officer/ Sub-Area Manager & Office address to be given) : Shri R.K.Jain, Project Officer
Kulda OCP, PO: Basundhara
Dist.: Sundargarh (Odisha)
Pin: 770076
- ii) Industry Category : Primary (Coal Mining Operation)
- iii) Production Capacity (Coal production during the year 2020-21) : 18.50 MTPA (18,499,899.15Te)
- iv) Year of establishment : 07-12-2007
- v) Date of the last Environmental Statement submitted : 23.09.2021

Part – B

Water & Raw Material Consumption

Note: Average Water Consumption (Cu-m/ day) for the whole year is given. Raw material consumption is given per unit of coal produced.

(I) Water Consumption (Cu-m/ day):

Ser No.	Industrial/ Mining	Consumption in Cu-m/ day
1. a	Haul Road Dust Suppression	3533
b	Dust Suppression at CHP	-
c	Dust Suppression at Siding	-
d	Fire Fighting	280
e	Workshop	186
f	Others	33
2.	Domestic	721
3.	Total in kl/ day	4753 Kl/day

Name of the Product	Water Consumption per unit of product (l/ t)	
	2020-21	2021-22
Coal	57.90	93.77

EC issued with respect to Kulda OCP on date – 22.03.2018

Sl. no.	Terms and conditions	Compliance status
(i)	The project proponent shall collect and analyse one season base line data for environmental parameters, preferably during April-June, 2018, and submit for consideration of the EAC before 31st December, 2018.	One season base line data generation for environmental parameters, during April-June, 2018 has been collected and analysed. The reports have been submitted for the consideration of the EAC and environmental clearance has been granted to Kulda OCP, vide letter no.- J-11015/10/1995-IA.II(M) dated 28.03.2019.
(ii)	The project proponent shall submit the details regarding action taken on different observations of the Regional Office before 31st December, 2018, for the Committee to examine adequacy and efficacy of the pollution control measures and its impact on ambient air quality and to make recommendations for continuance of the project thereafter.	The project proponent has submitted the details regarding action taken on different observations of the Regional Office along with the certified compliance report issued by the Ministry of Environment, Forest and Climate Change vide Ref No.: MCL/PO/KOCP/2018-19/630 dated 28.12.2018.
(iii)	To control the production of dust at source, the crusher and in-pit belt conveyors shall be provided with mist type sprinklers.	The CHP is provided with 6 sprinklers on the ramp and 7 sprinklers in and around the CHP unit. There are two circuits present in the CHP unit where each circuit has a crusher, belt conveyor and a bunker. The crusher is provided with 12 mist type nozzles/sprinklers, the belt conveyor with 5 numbers and the bunker with 10 nos. of mist nozzles. Therefore, a total number of 54 mist type nozzles are present in the complete CHP unit. However, the CHP unit is not in operation since December 2017 but the sprinkling process is maintained on regular basis.
(iv)	Mitigative measures shall be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers. Adequate corrective measures shall be undertaken to control dust emissions as presented before the Committee, which would include mechanized sweeping, water sprinkling/mist spraying on haul roads and loading sites, long range misting/fogging arrangement, wind barrier wall and vertical greenery system, green belt, dust	4 tankers of capacity 28 kl, 2 nos. of 20 kl tankers and 2 nos. of 12 kl does the work of suppressing dust inside the mine premises. A total number of 70 fixed sprinklers are provided at locations such as near weighbridges, on the external CT road, near office building, etc. to suppress dust. The CHP has been provided with 6 sprinklers on the ramp and 7 sprinklers in and around the CHP unit. A total number of 54 mist type nozzles are present in the complete CHP unit. 3 numbers of instant water showering systems are also present at the entry and exit of

	suppression arrangement at railway siding, etc.	the mines. 7 nos. of static fog canon and 10 nos. of mobile fog canon have been provided for dust suppression in and outside the mine area.
(v)	Persons of nearby villages shall be given training on livelihood and skill development to make them employable.	Common in condition no. – xxvi of EC issued on date – 14.02.2022
(vi)	To ensure health and welfare of nearby villages, regular medical camps shall be organized at least once in six months.	Medical camps are conducted by the hospital authorities of MCL, Basundhara Area, where people are subjected to medical check-ups and provided with medicine for free of cost, if required.
(vii)	Thick green belt of 75 m width at the final boundary in the down wind direction of the project site shall be developed to mitigate/check the dust pollution.	Already there is a plantation cover in the downwind direction. 25000 plants have been planted in the safety zone over an area of 10 ha in 2018-19.
(viii)	A third-party assessment of EC compliance shall be undertaken once in 03 year through agency like ICFRI /NEERI/IIT or any other expert agency identified by the Ministry.	Common in condition no. – vii of EC issued on date – 14.02.2022

• **Generic conditions and compliance status:**

a) Mining

Sl no.	Generic condition	Compliance
(i)	Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.	Common in condition no. – 4.e.i of EC issued on date – 14.02.2022
(ii)	No change in mining method i.e. OC to UG, calendar programme and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forest and Climate Change (MoEF & CC).	No change in technology and scope of work from current one has been made without approval of MoEF & CC. The mine is using Shovel Dumper technology for excavation of Overburden whereas in Coal it is using Surface Miner with Pay loader & Tipper combination in order to reduce dust emissions. No change in the calendar plan including quantum of mineral coal and waste being produced is made.
(iii)	Mining shall be carried out as per the approved mining plan (including Mine Closure Plan) abiding by mining laws related	Common in condition no. – 4.e.ii of EC issued on date – 14.02.2022

	to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).	
(iv)	No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980 and also adhering to The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 read with provisions of Indian Forest Act, 1927.	Common in condition no. – 4.e.iii of EC issued on date – 14.02.2022

• **Land reclamation and water conservation**

Sl no.	Generic conditions	Compliance
(i)	Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale shall be submitted to Ministry of Environment, Forest and Climate Change/Regional Office (RO).	Common in condition no. – 4.f.i of EC issued on date – 14.02.2022
(ii)	The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/Gol Authority. The construction of embankment to prevent any danger against in rush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS.	Common in condition no. – 4.c.x of EC issued on date – 14.02.2022
(iii)	The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be handed over to the respective state	Common in condition no. – 4.f.ii of EC issued on date – 14.02.2022

	government as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.	
(iv)	The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the "during mining"/ "post mining" land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the Ministry of Environment, Forest and Climate Change/Regional Office on six monthly-basis.	Common in condition no. – 4.f.iii of EC issued on date – 14.02.2022
(v)	The top soil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized for long. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilized with native grass species to prevent erosion and surface run-off. The other overburden dumps shall be vegetated with native flora species, the excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment Forest and Climate Change/ Regional Office on six monthly basis.	Common in condition no. – 4.f.v of EC issued on date – 14.02.2022

(c) Emissions, effluents, and waste disposal

(i)	Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM₁₀/PM_{2.5}) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.	Common in condition no. – 4.b.iii of EC issued on date – 14.02.2022

(ii)	Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area in a phased manner. The green belt comprising a mix of native species shall be developed all along the major approach/ coal transportation roads.	Common in condition no. – 4.g.ii of EC issued on date – 14.02.2022
(iii)	The transportation of coal shall be carried out as per the provisions and route proposed in the approved Mining Plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.	Common in condition no. – 4.b.iv of EC issued on date – 14.02.2022
(iv)	Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC certificate from the authorized pollution testing centers.	Common in condition no. – 4.b.v of EC issued on date – 14.02.2022
(v)	Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.	Common in condition no. – 4.b.vi of EC issued on date – 14.02.2022
(vi)	Coal handling plant shall be operated with effective control measures viz. bag filters/water or mist sprinkling system etc to check fugitive emissions from crushing operations, conveyor system, transfer points, etc.	Common in condition no. – 4.b.vii of EC issued on date – 14.02.2022
(vii)	Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.	Common in condition no. – 4.c.v of EC issued on date – 14.02.2022
(viii)	Catch/garland drains and siltation ponds of appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon	Common in condition no. – 4.c.vi of EC issued on date – 14.02.2022

	and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilized for dust suppression measures and green belt development. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.	
(ix)	Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time Oil and grease trap shall be installed and maintained fully functional with effluents discharge adhering to the norms. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste.	Common in condition no. – 4.c.viii of EC issued on date – 14.02.2022
(x)	Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	Common in condition no. – 4.c.vii of EC issued on date – 14.02.2022

(a) Illumination, noise & vibration

(i)	Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis.	Common in condition no. – 4.h.i of EC issued on date – 14.02.2022
(ii)	Adequate measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc. shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness program for users to be conducted. Progress in usage of such accessories to be monitored.	Common in condition no. – 4.d.i of EC issued on date – 14.02.2022
(iii)	Controlled blasting techniques shall be practiced in order to mitigate ground vibrations and fly rocks as per the guidelines prescribed by the DGMS.	Common in condition no. – 4.d.ii of EC issued on date – 14.02.2022

(iv)	The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.	Common in condition no. – 4.d.iii of EC issued on date – 14.02.2022

(e) Occupational health & safety

(i)	The project proponent shall undertake occupational health survey for initial and periodical medical examination of the workers engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% 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.	Common in condition no. – 4.h.ii of EC issued on date – 14.02.2022
(ii)	Personnel (including outsourcing employees) working in dusty areas shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.	Common in condition no. – 4.h.iii of EC issued on date – 14.02.2022
(iii)	Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standard in mines.	Complied. Safety is of prime concern at Kulda OCP and it is made sure that all workmen including the outsourcing employees are aware of the standard operating practices. Safety talks are being given before starting every shift regularly and are being reported to the highest authority of mines.

(f) Ecosystem and biodiversity conservation

(i)	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora/fauna, if any, spotted/reported in the study area The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.	Common in condition no. – 4.g.i of EC issued on date – 14.02.2022

(g) Public hearing, R&R and CSR

(i)	Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land	Common in condition no. – 4.h.iv of EC issued on date – 14.02.2022

	oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.	
(ii)	The project proponent shall ensure the expenditure towards socio-economic development in and around the mine, in every financial year in pursuance of the Corporate Social Responsibility Policy as per the provisions under Section 135 of the Companies Act 2013.	The socio economic development has been discussed in Annexure - XXXVI
(iii)	The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.	Common in condition no. – 4.h.v of EC issued on date – 14.02.2022
(iv)	The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.	Common in condition no. – 4.f.vi of EC issued on date – 14.02.2022

(h) Corporate environment responsibility

(i)	The Company shall have a well laid down environment policy duly approved by Board of Directors. The environment policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions. Also, the company shall have a defined system of reporting of non-compliances/violations of environmental norms to the Board of Directors and/or shareholders/stakeholders.	Common in condition no. – 4.i.i of EC issued on date – 14.02.2022
(ii)	The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions should be displayed on website of the Company.	Environment management cell has been established in Project which has been attached in Annexure – XXXVIII and head quarter level. The details of which are uploaded in the company's website https://mahanadicoal.in/

(iii)	A separate environmental management cell both at the project and company headquarter level, with suitable qualified personnel shall be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.	Common in condition no. – 4.i.iii of EC issued on date – 14.02.2022
(iv)	Action plan for implementing EMP and environmental conditions shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.	Common in condition no. – 4.i.iv of EC issued on date – 14.02.2022
(v)	Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	Common in condition no. – 4.i.v. of EC issued on date – 14.02.2022

(i) Statutory Obligations

(i)	The environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Court, NGT and any other Court of Law from time to time, and as applicable to the project.	Noted and Agreed.
(ii)	This environmental clearance shall be subject to obtaining wildlife clearance, if applicable, from the Standing Committee of National Board for Wildlife.	Forest clearance has been obtained and wildlife clearance is not applicable as no further forest diversion is being undertaken.
(iii)	The project proponent shall obtain Consent to Establish/Operate under the Air Act, 1981 and the Water Act, 1974 from the concerned State Pollution Control Board.	Common in condition no. – i of EC issued on date – 14.02.2022
(iv)	The project proponent shall obtain the necessary permission from the Central Ground Water Authority (CGWA).	Common in condition no. – xvii of EC issued on date – 14.02.2022

(j) Monitoring of project

(i)	Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring	Common in condition no. – 4.b.i of EC issued on date – 14.02.2022

	of pollutants, namely PM ₁₀ , PM _{2.5} , SO ₂ and NO _x . 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. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.	
(ii)	The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.	Common in condition no. – 4.b.ii of EC issued on date – 14.02.2022
(iii)	The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Coal Industry Standards vide GSR 742 (E) dated 25.9.200 and as amended from time to time by the Central Pollution Control Board.	Common in condition no. – 4.c.i of EC issued on date – 14.02.2022
(iv)	The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-IA.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.	Common in condition no. – 4.c.ii of EC issued on date – 14.02.2022
(v)	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon	Common in condition no. – 4.c.iii of EC issued on date – 14.02.2022

	and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to Ministry of Environment, Forest and Climate Change/Regional Office.	
(vi)	Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.	Common in condition no. – 4.c.iv of EC issued on date – 14.02.2022
(vii)	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental conditions to the Ministry of Environment, Forest and Climate Change/Regional Office. For half yearly monitoring reports, the data should be monitored for the period of April to September and October to March of the financial years.	Noted and Agreed.
(viii)	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.	Common in condition no. – 4.j.xv of EC issued on date – 14.02.2022

(k) Miscellaneous

(i)	Efforts should be made to reduce energy consumption by conservation, efficiency improvements and use of renewable energy.	Common in condition no. – 4.e.iv of EC issued on date – 14.02.2022
(ii)	The project authorities shall inform to the Regional Office regarding commencement of mining operations.	Common in condition no. – 4.j.viii of EC issued on date – 14.02.2022
(iii)	A copy of the environmental clearance shall be marked to concerned Panchayat. A copy of the same shall also be sent to the concerned State Pollution Control Board, Regional Office, District Industry Sector and Collector's Office/Tahsildar Office for information in public domain within 30	Common in condition no. – 4.j.ii of EC issued on date – 14.02.2022

	days.	
(iv)	The EC shall be uploaded on the company's website. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain.	Common in condition no. – 4.j.iii of EC issued on date – 14.02.2022
(v)	The project authorities shall advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of this clearance, informing that the project has been accorded environmental clearance and a copy of the same is available with the State Pollution Control Board and also at website of the Ministry.	Common in condition no. – 4.j.i of EC issued on date – 14.02.2022
(vi)	The environmental statement for each financial year ending 31 March in Form-V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the Company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEF & CC by e-mail. Concerns raised during public hearing.	Common in condition no. – 4.j.vii of EC issued on date – 14.02.2022
(vii)	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981 the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India/High Courts and any other Court of Law relating to the subject matter.	Common in condition no. – 4.j.xvi of EC issued on date – 14.02.2022

5.	The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during presentation to the EAC. All the commitments made on the issues raised during public hearing shall also be implemented in letter and spirit.	Common in condition no. – 5 of EC issued on date – 14.02.2022
6.	The proponent shall obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection. The Ministry or any other competent authority may stipulate any further condition for environmental protection.	Common in condition no. – 6 of EC issued on date – 14.02.2022
7.	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Common in condition no. – 7 of EC issued on date – 14.02.2022
8.	The coal company/project proponent shall be liable to pay the compensation against the illegal mining, if any, and as raised by the respective State Governments at any point of time, in terms of the orders dated 2 nd August, 2017 of Hon'ble Supreme Court in WP (Civil) No.114/2014 in the matter of 'Common Cause Vs Union of India & others'.	Common in condition no. – 8 of EC issued on date – 14.02.2022
9.	The project proponent, without prejudice to this environmental clearance, shall be bound to comply with any other interpretation of the orders of Hon'ble Supreme Court also, in due course of time.	Common in condition no. – 10 of EC issued on date – 14.02.2022
10.	This environmental clearance supersedes the earlier one granted vide letter No. J-11015/10/1995-IA. II (M) dated 24 th December, 2002 for a capacity 10 MTPA.	Noted and Agreed.

EC issued w.r.t. Kulda OCP vide J-11015/10/1995-I.A.II(M), dt.-10.01.2020

4.	Conditions	Compliance Status
(i)	EAC asked project proponent to plant 50,000 nos. of native trees with broad leaves along the villages and transportation route to prevent the effect of air pollution. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer.	A total of 232513 nos. of plants has been planted as a part of compliance in the period of 2022-23. Plantation has been done outside mine lease area (1,50,000 nos.) as on 30.09.2023 as per the stipulated condition in the vacant spaces along the transportation routes of Kulda OCP. Plantation has been done at backfilled area (45750 nos.), safety zone (43000 nos.), external OB Dump (11,250 nos.) & outside mine lease area (1,50,000 nos.) in the coal transportation route and Plantation of 87050 Nos. in external OB dump and 11,625 (3-Tier plantation) at safety zone is under progress as on 30.09.2023.
(ii)	EAC desired that the MoC may direct CIL subsidiaries to comply the EC/FC/CTO conditions strictly within certain time bound manner so that the mining operations will be environmentally sustainable/viable etc.	Assured to comply.
(iii)	The project proponent shall complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2 nd August 2017 in write petition (Civil) No. 114 of 2014 in the matter of common cause versus Union of India and Ors. State Government shall ensure that the entire compensation levied, if any, for illegal mining paid by the project proponent through their respective Department in strict compliance of judgment of Hon'ble Supreme Court dated the 2 nd August 2017 in writ Petition (Civil) No. 114 of 2014 in the matter of common cause versus Union of India and Ors.	Common in condition no. – xxx of EC issued on date – 14.02.2022
(iv)	Project proponent shall obtain the necessary prior permission from the Central Ground Water Authority (CGWA) in case of intersecting the Ground water table. The intersecting ground water table can only be commence after conducting detailed hydrogeological study and necessary permission from the CGWA. The report on six monthly basis on changes in Ground water level and quality shall be submitted to the Regional Office of the Ministry, CGWA and State Pollution Control Board.	Common in condition no. – 4.b.v of EC issued on date – 14.02.2022
(v)	Proponent shall appoint an Occupational Health Specialist for Regular and periodical medical examination	Common in condition no. – 4.h.ii of EC issued on date – 14.02.2022

	of the workers engaged in the project and maintains records accordingly. also Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented; The prevention measures for burns, malaria and provision of anti snake venom including all other paramedical safeguards may be ensured before initiating the mining activities.	
(vi)	Project Proponent shall follow the mitigation measures provided in Office Memorandum No. Z-11013/57/2014-IA.II(M), dated 29 th October, 2014, titled 'Impact of mining activities on Habitations-Issues related to the mining projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area.	Common in condition no. – 4.h.v of EC issued on date – 14.02.2022
(vii)	The illumination and sound at night at project sites disturb the village in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed. By orienting the floodlights/ mask away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours.	Common in condition no. – xxvii of EC issued on date – 14.02.2022
(viii)	The Project Proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna, if any, spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. A copy of action plan shall be submitted to the ministry of Environment, Forest and Climate Changes and its Regional Office.	Common in condition no. – 4.g.i of EC issued on date – 14.02.2022
(ix)	Hon'ble Supreme Court in an writ Petition(s) Civil No. 114/2014, Common Cause vs. Union of India & Ors vide its judgment dated 8 th January 2020 has directed the union of India to impose a condition in the mining lease and similar condition in the Environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. compliance of this condition	Common in condition no. – xxx of EC issued on date – 14.02.2022

	after the mining activity is over at the cost of the mining lease holders/Project Proponent”. The implementation report of the above said condition shall be sent to the Ministry’s Regional Office for site inspection/verification.	

EC issued w.r.t. Kulda OCP vide J-11015/10/1995-I.A.II(M), dt.- 02.03.2021

4.	Conditions	Compliance Status
(i)	All previous Environmental clearances issued by ministry for this project shall be applicable along with this conditions.	Noted and Agreed.
(ii)	All the 3 continuous air quality monitoring station should be made operation by March 2021 and the real time data so generated to be uploaded on company website. In addition, data should also be displayed digitally at entry and exist gate of mine lease area for public display.	Common in condition no. – 4.b.i of EC issued on date – 14.02.2022
(iii)	Adequate effectiveness of EMP should be analyzed from the offset/hike of air pollution data from continuous monitoring station and quarterly report shall be generated and submitted with 6 monthly compliance report to RO, MoEF&CC.	Common in condition no. – xviii of EC issued on date – 14.02.2022
(iv)	The PP shall complete all non-compliance in one year and the action taken report shall be submitted to Regional Office of the MoEF&CC.	Assured to comply.
(v)	PP should opt specific mitigative measures for the straightening of Chattan Jhor. Regular monitoring of the flow rate of chattan Jhor Nallah shall be carried out and record maintain.	Chhatnajor nallah has been straightened with the competent approval from State Government and embankment has been provided all along the stream. Embankment of 2.7Km has been constructed near Kulda OCP on the banks of Basundhara nallah to prevent sudden rush of water. Stone pitching has been done along the embankment. Plantation of 1350 nos. of plants has been planted at the edge of embankment to prevent soil erosion. The flow rate is being submitted with the half yearly EC compliance report.
(vi)	Quality of polluted water generated from the operations which include COD and acid mine drainage and metal contamination shall be monitored along with TDS, DO, TSS. The monitored data shall be uploaded on the website of the company as well as displayed at the site in public domain.	Effluent monitoring is done fortnightly. The treated water confirms to the prescribed standard GSR 742 (E) dated 25th September, 2000. The effluent quality report is enclosed in Annexure-XXI as well as displayed in the website of the company.
(vii)	PP shall submit a third party assessment of EC Compliance shall be undertaken once in three years through agency like ICFRI/NEERI/IIT or any other expert agency identified by the Ministry's Regional Office.	Common in condition no. – 4.f.v of EC issued on date – 14.02.2022

(viii)	Continuous Monitoring at Occupational safety and health hazards and the Corrective action need to be ensured.	Common in condition no. – xxiii of EC issued on date – 14.02.2022
(ix)	Persons of nearby villages shall be given training on livelihood and skill development to make them employable.	Common in condition no. – xxvi of EC issued on date – 14.02.2022
(x)	PP to plant 100,000 nos. of native trees with broad leaves along the villages and 50,000 no of trees along the transportation route to prevent the effect of air pollution in 2 years. A proper mechanism to be put in place for massive plantation by hiring expert agency in 2 years for proper survival of trees.	Common in condition no. – xxii of EC issued on date – 14.02.2022
(xi)	Mining shall be carried out only by surface miners for the project (as proposed) and silo loading till railway siding through in-pit conveyor should be installed to avoid road.	Common in condition no. – v of EC issued on date – 14.02.2022
(xii)	Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India &Ors vide its judgment dated 8 th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operation, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.	Common in condition no. – xxx of EC issued on date – 14.02.2022

4.1 The grant of environmental clearance is further subject to compliance of the Standard EC conditions as under:

(a) Statutory compliance		
(i)	The project proponent shall obtain forest clearance under the provision of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.	Common in condition no. – 4.a.i of EC issued on date – 14.02.2022
(ii)	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.	Common in condition no. – 4.a.ii of EC issued on date – 14.02.2022

(iii)	The project proponent shall prepare a site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendation of the approved Site-Specific Conservation Plan/Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of schedule-I species in the study area).	Common in condition no. – 4.a.iii of EC issued on date – 14.02.2022
(iv)	The project proponent shall obtain Consent to Establish/Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/Committee.	Common in condition no. – 4.a.iv of EC issued on date – 14.02.2022
(v)	The project proponent shall obtain the necessary permission from the Central Ground Water Authority.	Common in condition no. – 4.a.v of EC issued on date – 14.02.2022
(vi)	Solid/hazardous waste generated in the mines needs to addressed in accordance to the Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules, 2016.	Common in condition no. – 4.a.vi of EC issued on date – 14.02.2022

(b) Air quality monitoring and preservation

(i)	Continuous ambient air quality monitoring station as prescribed in the statue be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM ₁₀ , PM _{2.5} , SO ₂ , and NO _x , Location of the station shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive target in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring station as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.	Common in condition no. – 4.b.i of EC issued on date – 14.02.2022
(ii)	The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742(E) dated 25 th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr, and other monitoring data shall be regularly reported to the	Common in condition no. – 4.b.ii of EC issued on date – 14.02.2022

	Ministry/Regional Office and to the CPCB/SPCB.	
(iii)	Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM_{10} , $PM_{2.5}$) such as haul road, loading/unloading and transfer points. Fugitive dust emission from all sources shall be controlled regularly. It shall be ensured that the ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.	Common in condition no. – 4.b.iii of EC issued on date – 14.02.2022
(iv)	The transportation of coal shall be carried out as per the provision and envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.	Common in condition no. – 4.b.iv of EC issued on date – 14.02.2022
(v)	Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centers.	Common in condition no. – 4.b.v of EC issued on date – 14.02.2022
(vi)	Coal stock pile/crusher/feeder and breaker material transfer point shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.	Common in condition no. – 4.b.vi of EC issued on date – 14.02.2022
(vii)	Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.	Common in condition no. – 4.b.vii of EC issued on date – 14.02.2022

(c) Water quality monitoring and preservation		
(i)	The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the water Act,	Common in condition no. – 4.c.i of EC issued on date – 14.02.2022

	1974 Coal Standards vide GSR 742 € dated 25 th September, 2000 and as amended from time to time by the Central Pollution Control Board.	
(ii)	The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular no.J-20012/2006-1A.11 (M) dated 27 th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.	Common in condition no. – 4.c.ii of EC issued on date – 14.02.2022
(iii)	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water level shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MoEFCC/RO.	Common in condition no. – 4.c.iii of EC issued on date – 14.02.2022
(iv)	Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.	Common in condition no. – 4.c.iv of EC issued on date – 14.02.2022
(v)	Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.	Common in condition no. – 4.c.v of EC issued on date – 14.02.2022
(vi)	Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly settling of silt material. The water so collected in the sump shall be utilized for dust suppression and green belt development and other industrial use. Dimension of the	Common in condition no. – 4.c.vi of EC issued on date – 14.02.2022

	retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.	
(vii)	Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).	Common in condition no. – 4.c.vii of EC issued on date – 14.02.2022
(viii)	Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP/STP needs to be provided.	Common in condition no. – 4.c.viii of EC issued on date – 14.02.2022
(ix)	The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development etc. the drains shall be regularly desilted particularly after monsoon and maintained properly.	Common in condition no. – 4.c.ix of EC issued on date – 14.02.2022
(x)	The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/Gol Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.	Common in condition no. – 4.c.x of EC issued on date – 14.02.2022
(xi)	The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and	Common in condition no. – 4.c.xi of EC issued on date – 14.02.2022

	implemented in consultation with the irrigation/water resource department in the state government.	

D Noise and Vibration monitoring and prevention		
(i)	Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipment's (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.	Common in condition no. – 4.d.i of EC issued on date – 14.02.2022
(ii)	Controlled blasting techniques shall be practiced in order to mitigate ground vibration, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.	Common in condition no. – 4.d.ii of EC issued on date – 14.02.2022
(iii)	The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six monthly basis.	Common in condition no. – 4.d.iii of EC issued on date – 14.02.2022

E Mining Plan		
(i)	Mining shall be carried out under strict adherence to provision of the Mines Act 1952 and subordinate legislation made there-under as applicable.	Common in condition no. – 4.e.i of EC issued on date – 14.02.2022
(ii)	Mining shall be carried out as per the approved mining plan (including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).	Common in condition no. – 4.e.ii of EC issued on date – 14.02.2022
(iii)	No mining shall be carried out in forest land without obtaining Forest Clearance as per Forest (Conservation) Act, 1980.	Common in condition no. – 4.e.iii of EC issued on date – 14.02.2022
(iv)	Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.	Common in condition no. – 4.e.iv of EC issued on date – 14.02.2022

F Land reclamation		
(i)	Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MoEFCC) from time to time shall be submitted to MoEFCC/Regional Office (RO).	Common in condition no. – 4.f.i of EC issued on date – 14.02.2022
(ii)	The final mine void depth should preferably be as the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27 th August, 2009 and subsequent amendments.	Common in condition no. – 4.f.ii of EC issued on date – 14.02.2022
(iii)	The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the “during mining”/”post mining” land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-à-vis the post mining land use pattern shall be submitted to the MoEFCC/RO.	Common in condition no. – 4.f.iii of EC issued on date – 14.02.2022
(iv)	Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provision contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3 rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from flue gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC and SPCB.	Common in condition no. – 4.f.iv of EC issued on date – 14.02.2022
(v)	Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept utilized. The top soil	Common in condition no. – 4.f.v of EC issued on date – 14.02.2022

	shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilized with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and managements of rehabilitated areas shall continue the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.	
(vi)	The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the state government to provide alternate area for livestock grazing, if any. In this context, the project proponents shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.	Common in condition no. – 4.f.vi of EC issued on date – 14.02.2022

G Green Belt		
(i)	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.	Common in condition no. – 4.g.i of EC issued on date – 14.02.2022
(ii)	Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/coal transportation roads.	Common in condition no. – 4.g.ii of EC issued on date – 14.02.2022

H Public hearing and Human health issues		
(i)	Adequate illumination shall be ensured in all mine location (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & it's RO on six-monthly basis.	Common in condition no. – 4.h.i of EC issued on date – 14.02.2022
(ii)	The project proponent shall undertake occupational health survey for initial and	Common in condition no. – 4.h.ii of EC issued on date – 14.02.2022

	periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time safety and health aspects.	
(iii)	Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.	Common in condition no. – 4.h.iii of EC issued on date – 14.02.2022
(iv)	Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the task/measures as per the action plan submitted with budgetary provisions during the public hearing Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.	Common in condition no. – 4.h.iv of EC issued on date – 14.02.2022
(v)	The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29 th October, 2014, titled 'impact of mining activities on habitations-issues related to the mining projects wherein habitations and village are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.	Common in condition no. – 4.h.v of EC issued on date – 14.02.2022

I Corporate Environment Responsibility		
(i)	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.	Common in condition no. – 4.i.i of EC issued on date – 14.02.2022
(ii)	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control senior Executive, who will directly to the head of the	Common in condition no. – 4.i.ii of EC issued on date – 14.02.2022

	organization.	
(iii)	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.	Common in condition no. – 4.i.iii of EC issued on date – 14.02.2022
(iv)	Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall carried out.	Common in condition no. – 4.i.iv of EC issued on date – 14.02.2022

J Miscellaneous		
(i)	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	Common in condition no. – 4.j.i of EC issued on date – 14.02.2022
(ii)	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	Common in condition no. – 4.j.ii of EC issued on date – 14.02.2022
(iii)	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	Common in condition no. – 4.j.iii of EC issued on date – 14.02.2022
(iv)	The project proponent shall monitor the criteria pollutants level namely; PM ₁₀ , SO ₂ , NO _x (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.	Common in condition no. – 4.j.iv of EC issued on date – 14.02.2022
(v)	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest	Common in condition no. – 4.j.v of EC issued on date – 14.02.2022

	and Climate Change an environment clearance portal.	
(vi)	The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/512014-IA.II (M) dated 29 th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining project wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.	Common in condition no. – 4.j.vi of EC issued on date – 14.02.2022
(vii)	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	Common in condition no. – 4.j.vii of EC issued on date – 14.02.2022
(viii)	The project authorities shall inform to the regional Office of the MoEFCC regarding commencement of mining operations.	Common in condition no. – 4.j.viii of EC issued on date – 14.02.2022
(ix)	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	Common in condition no. – 4.j.ix of EC issued on date – 14.02.2022
(x)	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentations to the Expert Appraisal Committee.	Common in condition no. – 4.j.x of EC issued on date – 14.02.2022
(xi)	No further expansion or modifications in the plant shall be out without prior approval of the Ministry of Environment, Forest and Climate Change.	Common in condition no. – 4.j.xi of EC issued on date – 14.02.2022
(xii)	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provision of Environment (Protection) Act, 1986.	Common in condition no. – 4.j.xii of EC issued on date – 14.02.2022
(xiii)	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Common in condition no. – 4.j.xiii of EC issued on date – 14.02.2022
(xiv)	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Common in condition no. – 4.j.xiv of EC issued on date – 14.02.2022
(xv)	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The	Common in condition no. – 4.j.xv of EC issued on date – 14.02.2022

	project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	
(xvi)	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India/High Courts and any other Court of Law relating to the subject matter.	Common in condition no. – 4.j.xvi of EC issued on date – 14.02.2022
5.	The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during presentation to the EAC. All the commitments made on the issues raised during public hearing shall also be implemented in letter and spirit.	Common in condition no. – 5 of EC issued on date – 14.02.2022
6.	The proponent shall obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection. The Ministry or any other competent authority may stipulate any further condition for environmental protection.	Common in condition no. – 6 of EC issued on date – 14.02.2022
7.	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Common in condition no. – 7 of EC issued on date – 14.02.2022
8.	The coal company/project proponent shall be liable to pay the compensation against the illegal mining, if any, and as raised by the respective State Governments at any point of time, in terms of the orders dated 2 nd August, 2017 of Hon'ble Supreme Court in WP (Civil) No.114/2014 in the matter of 'Common Cause Vs Union of India & others.	Common in condition no. – 8 of EC issued on date – 14.02.2022
9.	The concerned State Government shall ensure no mining operations to commence till the entire compensation for illegal mining, if any,, is paid by the project proponent through their respective	Common in condition no. – 9 of EC issued on date – 14.02.2022

	Department of Mining & Geology, in strict compliance of the judgment of Hon'ble Supreme Court.	
10	This environmental clearance shall not be operational till such time the project proponent complies with the above said judgment of Hon'ble Supreme Court, as applicable, and other statutory requirements.	Common in condition no. – 10 of EC issued on date – 14.02.2022