



MAHANADI COALFIELDS LIMITED

(A Subsidiary of Coal India Limited)

**Presentation on Compliance of EC conditions in
respect of Bhubaneswari OCP of MCL.**

Date: 19.07.2021

CONTENT

Sl No	Description	Slide No
1	Introduction	3
2	Location of Bhubaneswari OCP	4
3	Location Plan of Bhubaneswari OCP	5
4	Brief note on Environment Clearance of Bhubaneswari OCP	6
5	Observation of last inspection of Regional Office, MoEF&CC, Bhubaneswar	7
6	Summary of compliance of EC conditions for Bhubaneswari OCP	8
7	Summary of condition-wise compliance status of EC conditions of Bhubaneswari OCP	9-13
8	Summary of Environmental expenditure for last 3 years for Bhubaneswari OCP	14
9	Details of environmental expenditure during last three years - Bhubaneswari OCP	15
10	Pre-mining land use of Bhubaneswari OCP	16-17
11	Planned land use-during mining of Bhubaneswari OCP	18-19
12	Post Mining land use of Bhubaneswari OCP	20-21
13	Present land use of Bhubaneswari OCP	22-24
14	EC Compliance Status-Details of Bhubaneswari OCP	25-100



MAHANADI COALFIELDS LIMITED

BHUBANESWARI OPENCAST PROJECT

Tehsil: Talcher , District: Angul, State: Odisha

EC Capacity-28 MTPA

EC No.J-11015/280/2013-IA-II(M) PT, dt: 18.03.2019

Project Area- 787.911 Ha; Mine Lease Area- 638.341 Ha

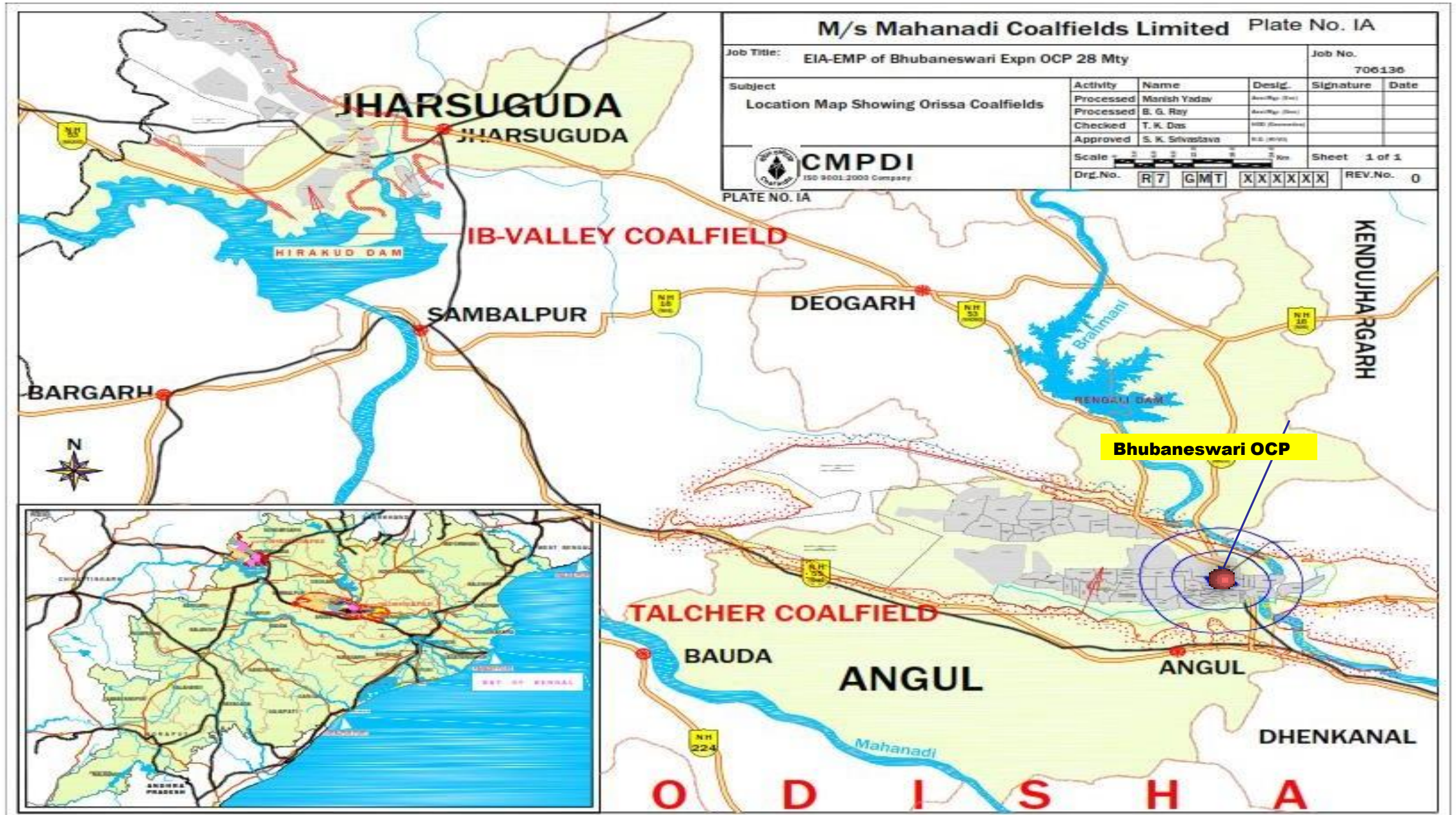
LOCATION OF BHUBANESWARI OCP

- ❑ **Bhubaneswari OCP** is located in the eastern part of the **Talcher Coalfield** in **Angul district** of **Odisha**.

Particulars	Details
Latitudes	20° 57' 59" to 20° 58' 43" (N)
Longitudes	85° 09' 10" to 85° 11' 37" (E)
Survey of India Toposheet No.	73 H/1 on RF 1 : 50,000

- ❑ **Other nearby operating mines** are **Lingaraj OCP** and **Ananta OCP**.
- ❑ **Nearest town** : **Talcher- 09 Km.**
- ❑ **Nearest Railway Station** : **Talcher- 06 Km.**
- ❑ **Nearest Airport** : **Bhubaneswar- 170 Km.**
- ❑ **Well connected with Bhubaneswar & Sambalpur by all weather road.**

LOCATION PLAN OF BHUBANESWARI OCP



BRIEF NOTE ON ENVIRONMENT CLEARANCE BHUBANESWARI OPENCASST PROJECT

THE PROJECT HAS ENVIRONMENT CLEARANCE & FOREST CLEARANCE AS GIVEN BELOW:

Environment Clearance - 28 MTPA:

- EC granted vide No. J-11015/280/2013-IA-II(M) pt., dated: **16.02.2018**.
- It was clarified Vide No. J-11015/280/2013-IA-II(M) pt., dated: **18.03.2019** that the EC dated 16.02.2018 is **valid for life of mine or 30 years whichever is earlier**.

Forest Clearance – 112.521 Ha :

- Forestry Clearance has been obtained for 112.521 Ha vide letter no. 8(18)/2002-FC dated **06.12.2004**.

Observation of last inspection of Regional Office, MoEF&CC, Bhubaneswar For Bhubaneswari OCP

- ❑ To verify the status of compliance of EC conditions for Bhubaneswari OCP 28 MTPA, the **Regional Office of MoEF&CC**, Bhubaneswar has carried out the **site inspection on 31.10.2017 & 09.11.2018**.
- ❑ **Certified Compliance Report** issued by RO, MoEF&CC vide file no. 101-1026/EPE/482, dtd: **24.12.2018**.
- ❑ **ATR** on the observations of the RO, MoEF&CC was submitted by MCL vide letter **dtd: 26.12.2018**.
- ❑ **Recommendation of Regional Office, MoEF&CC, Bhubaneswar :**
Compliance Satisfactory, minor non-compliances detected (not of immediate danger to health & safety of the people).

Summary of compliance of EC conditions for Bhubaneswari OCP

- ❑ Total number of EC conditions: **50**
- ❑ EC conditions complied: **47**
- ❑ EC condition compliance under progress: **3**
 - **Additional air quality measures** to be implemented:
 - **Vertical wind barrier & Vertical greenery system** – Bamboo plantation barrier at siding no. 1 taken up, and 200 -250 mts Vertical greenery system at railway sidings to be completed by Dec.2021.
 - **Mechanical road sweeper** – Tender floated, cancelled due to high rate (26.5%), re-tendering done, expected by Oct.2021.
 - **Carrying capacity study** of the eco-system of Bhubaneswari OCP:
 - Work awarded to CMPDI and study under progress for 3 seasons.
 - Report to be submitted by Dec.2021.
 - **Development of green belt** all along the ML area in a phased manner of not less than 100 Ha:
 - Green belt of 40 Ha already developed
 - Green belt of 20 Ha proposed during this FY 2021-22
 - Green belt of 40 Ha proposed during FY 2022-23

SUMMARY OF CONDITION-WISE COMPLIANCE STATUS OF EC CONDITIONS OF BHUBANESWARI OCP

Sl.	EC Condition No.	EC Conditions (in short)	Compliance Status		
			Complied	Under Compliance	Not Complied
		Special Conditions			
1	i	Adequate ambient air quality monitoring stations shall be established.	Complied		
2	ii	RO, MoEF&CC inspection before Dec 2018	Complied		
3	iii	The crusher & in pit belt conveyors shall be provided with mist type sprinklers.	Complied		
4	<u>iv</u>	Mitigative measures to control dust and other fugitive emissions .	Complied	Addl. measures	
5	v	Thick greenbelt of 50 m width at final boundary in downwind direction	Complied		
6	vi	Training and Skill development to nearby villages	Complied		
7	vii	Regular Medical camps for nearby villages	Complied		
8	<u>viii</u>	Carrying Capacity of ecosystem by expert agencies		Study under progress by CMPDI	
9	ix	A stage wise response plan vis-a-vis varying level of air pollution level be prepared and implemented in the mine during its operation.	Complied		
10	x	A mechanism of inter- project environmental audit shall be devised and implemented with reporting to this ministry along-with half yearly reports.	Complied		
		General Conditions			
11	4.1 (a) i	Mining as per Mines Act 1952 and subordinate legislations.	Complied		
12	ii	Mining as per approved Mining Plan and Mine Closure Plan	Complied		

Sl.	EC Condition No.	EC Conditions (in short)	Compliance Status		
			Complied	Under Compliance	Not Complied
13	4.1 (b) i	Satellite Remote Sensing Survey of entire leasehold area	Complied		
14	ii	Final mine void up to 40 m. post mining land shall be rendered usable for agricultural/forestry purposes.	Future action		
15	iii	Topsoil stacking at earmarked sites and vegetation on OB dumps.	Complied		
16	<u>iv</u>	Greenbelt shall be developed all along the mine lease area in a phased manner. Width not less than 7.5 m and total area shall be 100 Ha		40 Ha completed, balance in 2 yrs.	
17	4.1 (c) i	Transportation of coal by road to be carried out by covered trucks/ Conveyors	Complied		
18	ii	PUC certificate for all the vehicles engaged in Mining from authorized pollution testing centers.	Complied		
19	iii	Adequate ambient air quality monitoring stations shall be established. Monitoring of heavy metals such as Mg, As, Ni, Cd, Cr etc. carried out at least once in six months.	Complied		
20	iv	Crusher/feeder breaker material transfer points should invariably be provided with dust suppression system. Covered belt conveyors and drills shall be wet operated	Complied		
21	v	Appropriate embankment should be provided along the side of the river/nallah flowing near or adjacent to the mine.	Complied		

Sl.	EC Condition No.	EC Conditions (in short)	Compliance Status		
			Complied	Under Compliance	Not Complied
22	vi	Rainwater harvesting structures	Complied		
23	vii	Catch/garland drains and siltation ponds around mine working, Coal heaps and OB dumps. Retention wall at the toe of OB dumps	Complied		
24	viii	Industrial wastewater (CHP, workshop and wastewater from the mine) should be properly collected and treated to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under.	Complied		
25	4.1 (d) i	Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment.	Complied		
26	ii	Controlled blasting techniques shall be adopted.	Complied		
27	4.1 (e) i	Occupational health survey of workers. 20% of the workers shall be diagonised.	Complied		
28	ii	Wearing of protective respiratory devices by the personnel working in dusty areas	Complied		
29	iii	In case of outsourcing of work through MDO , the project proponent shall ensure the strict enforcement of the above conditions.	Complied		
30	4.1 (f) i	Action plan for conservation and protection of endangered flora/fauna if spotted/reported in the study area.	Complied		

Sl.	EC Condition No.	EC Conditions (in short)	Compliance Status		
			Complied	Under Compliance	Not Complied
31	4.1 (g) i	Implementation of the action plan on Public Hearing issues .	Complied		
32	ii	Expenditure on socio-economic development as per Companies Act 2013.	Complied		
33	4.1 (h)	Corporate Environment Policy	Complied		
34	ii	Hierarchical system of the Company to deal with environmental issues.	Complied		
35	iii	Separate Environment cell both at the project and company HQ level reporting to the Head of organization.	Complied		
36	iv	Year wise funds earmarked for environmental protection measures not to be diverted for any other purpose.	Complied		
37	4.1 (i) i	Environment clearance subject to Hon'ble Supreme Court of India, NGT or any other court as applicable.	Complied		
38	ii	Wildlife clearance , if applicable from Standing Committee of National Board for Wildlife.	Complied		
39	iii	CTE/CTO under Air Act, 1981 and Water Act 1974	Complied		
40	iv	NOC from Central Ground Water Authority , New Delhi	Complied		
41	4.1 (j) i	Regular monitoring of ground water level and quality four times a year.	Complied		

Sl.	EC Condition No.	EC Conditions (in short)	Compliance Status		
			Complied	Under Compliance	Not Complied
42	ii	Submission of half yearly monitoring reports for April-September and October-March every year.	Complied		
43	iii	Inspection by Regional Office , MoEF&CC and full cooperation needed by the project proponent in furnishing the requisite data.	Complied		
44	iv	The activities pertaining to development of green belt/horticulture shall be reported to concerned Regional Office of MoEF&CC on six monthly basis	Complied		
45	v	Submission of half yearly monitoring reports for April-September and October-March every year.	Complied		
46	4.1 (k) i	EC letter copy to Panchayat/local NGO	Complied		
47	ii	EC letter's electronic copy to Regional Office (SPCB) and Collector within 30 days	Complied		
48	iii	Uploading of EC letter on Company's website along with compliance status of stipulated EC conditions	Complied		
49	iv	Advertisement of EC granted, in at least two local newspapers	Complied		
50	v	Submission of Environment statement for each financial year ending 31 March in Form V	Complied		

SUMMARY OF ENVIRONMENTAL EXPENDITURE - BHUBANESWARI OCP FOR LAST 03 YEARS

Year	Expenditure in Rs. Crores
2018-19	9.705
2019-20	32.711
2020-21	36.181
Total	78.597

DETAILS OF ENVIRONMENTAL EXPENDITURE DURING LAST THREE YEARS - BHUBANESWARI OCP

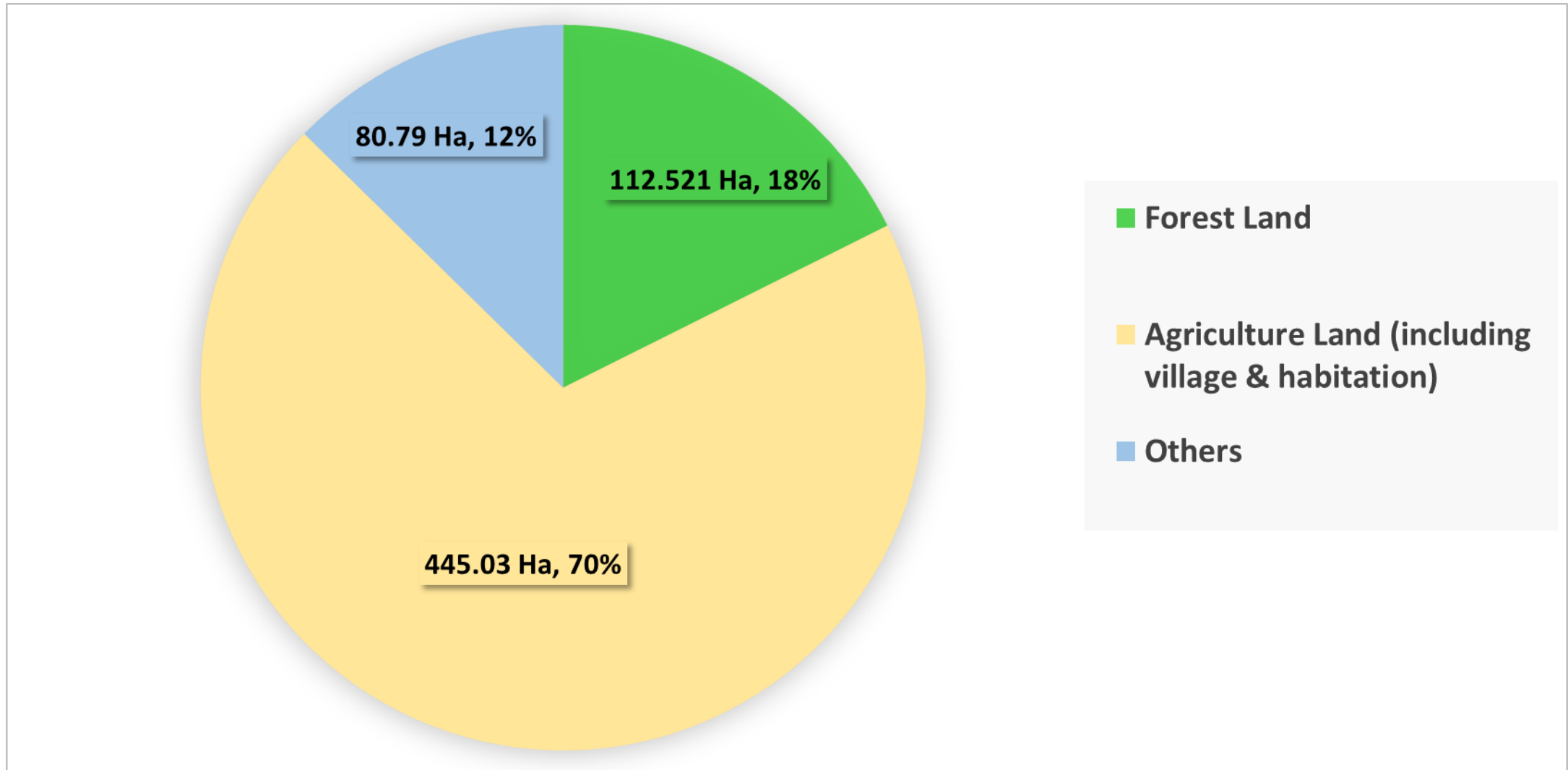
Sl. No.	Expenditure Under	Total Expenditures for last 03 years (in Rs. Crores)		
		2018-19	2019-20	2020-21
1.	Restoration of Land	4.739	19.867	19.867
2.	Pollution Control Measures (ETP maintenance, Water spraying through fixed sprinklers, instant shower system, fog canons, Monsoon preparedness plan, Pond renovation, etc.)	4.963	12.618	10.714
3.	Environment Statutory Payments+ Forest Land, Statutory Payments	0.003	0.226	5.6
Total		9.705	32.711	36.181

PRE-MINING LAND USE (Ha) OF BHUBANESWARI OCP

Forest Land	Agriculture Land (including village & habitation)	Barren Land	Water Body	Others	Total*
112.521	445.030	0.00	0.00	80.790	638.341

* 638.341 Ha is the Total Mining Lease Area

PRE-MINING LAND USE (Ha) - BHUBANESWARI OCP



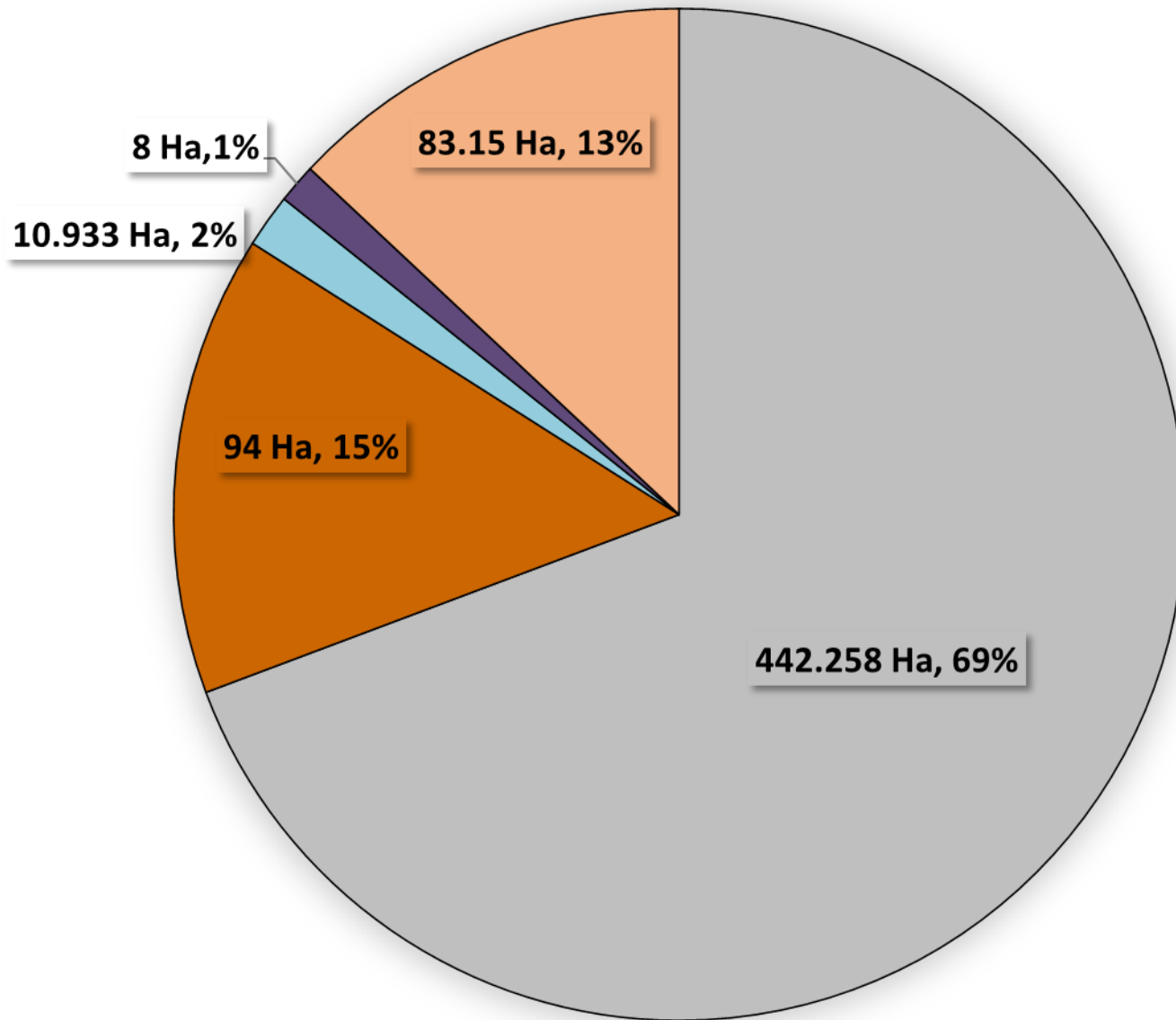
Total Mining Lease: 638.341 Ha

PLANNED LAND USE –DURING MINING - BHUBANESWARI OCP



Particulars	Forest Land (Ha)	Non-Forest (Ha)	Total Land (Ha)
Within Mine Lease			
Quarry Area	105.808	336.45	442.258
External OB dump	0	94.00	94.00
Infrastructure etc.	6.713	4.22	10.933
Railway Siding	0	8.00	8.00
Blasting danger zone (excluding the part of OB dump)	0	83.15	83.15
Sub-Total	112.521	525.820	638.341
Outside Mine Lease Area			
Residential colony	-	32.00	32.00
R&R site	-	117.570	117.570
Sub-Total	-	149.570	149.570
Total Land	112.521	675.390	787.911

PLANNED LAND USE – DURING MINING- BHUBANESWARI OCP



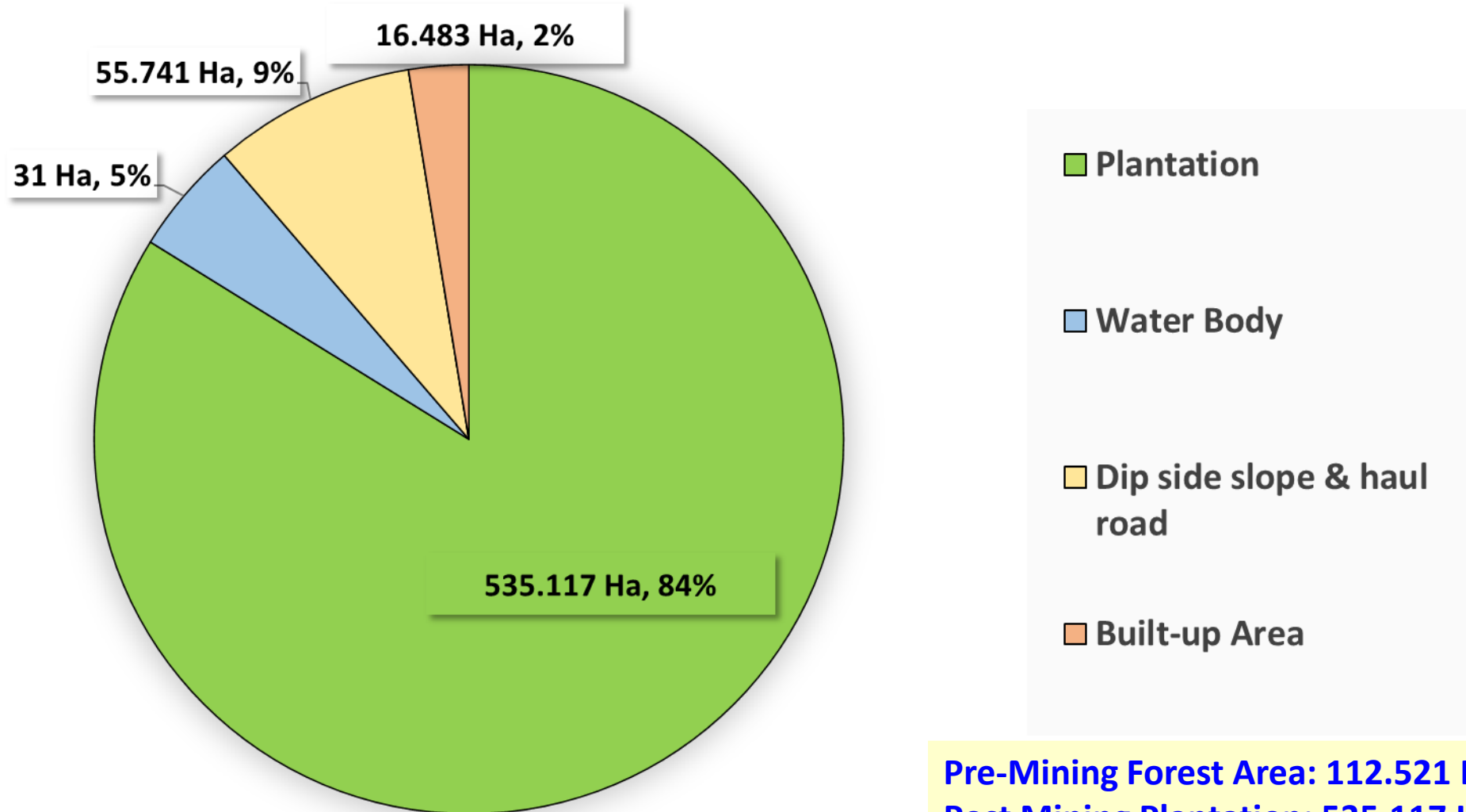
- Quarry Area
- External OB dump
- Infrastructure etc.
- Railway Siding
- Blasting danger zone (excluding the part of OB dump)

Total Mining Lease: 638.341 Ha

POST-MINING LAND USE - BHUBANESWARI OCP

S No	Pattern of utilization	Within Mining Lease Area (Ha)	Outside Mining Lease Area (Ha)	Total Project Area (Ha)
1.	Plantation (Reclaimed External, Internal dumps, Blasting danger zone, Infrastructure, R&R site and colony)	535.117	29.92	565.037
2.	Water Body	31.00	0.00	31.000
3.	Dip side slope & haul road	55.741	0.00	55.741
4.	Built-up Area	16.483	119.65	136.133
	Total Project Area	638.341	149.57	787.911

POST-MINING LAND USE - BHUBANESWARI OCP



Total Mining Lease: 638.341 Ha

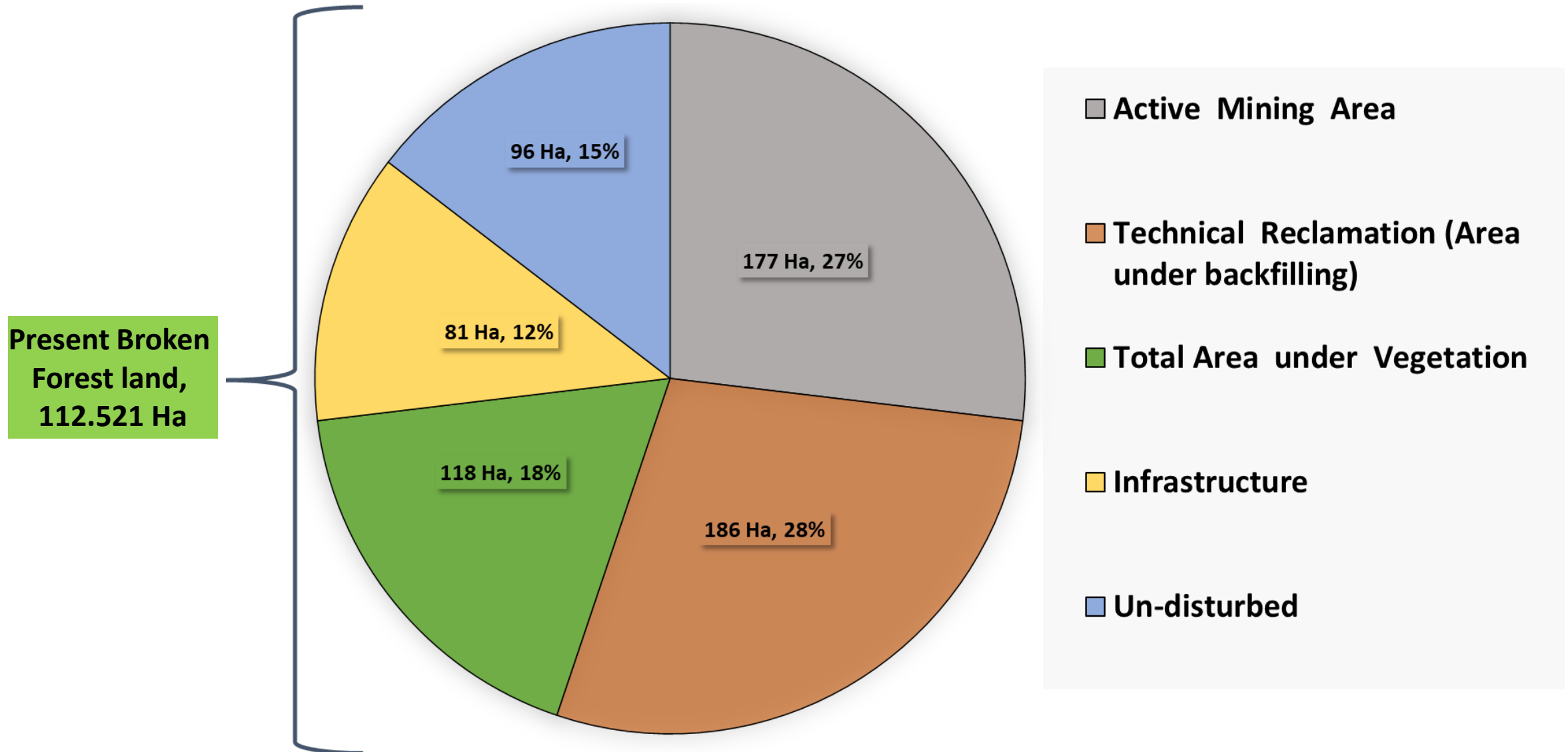
Pre-Mining Forest Area: 112.521 Ha (18 %)
Post Mining Plantation: 535.117 Ha (84 %)

Present Land Use based on satellite data of the year 2020 – Bhubaneswari OCP

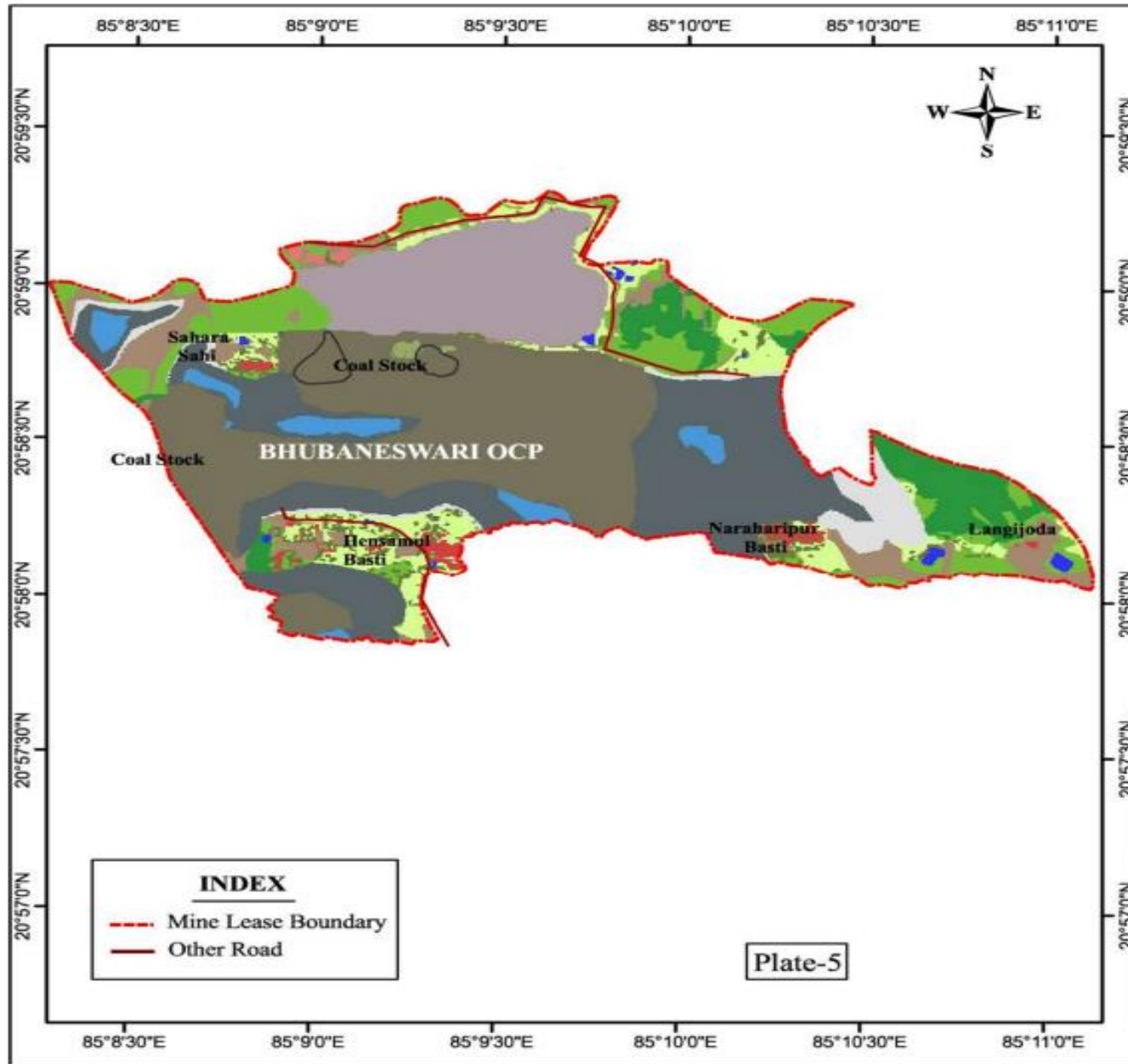
Present land use of Lease Area (in Ha)						Present Broken Forest area (Ha)
Active Mining Area	Technical Reclamation (Area under backfilling)	Total Area under Vegetation	Infrastructure Area and others	Un-disturbed Area	Total*	
177	186	118	81	96	658	112.521

* **638.314 Ha + 20.383 Ha (non-diverted forest land)**

Present Land Use based on satellite data of the year 2020



Present Land Use based on satellite data of the year 2020 – Bhubaneswari OCP



Classes		Colour	Area	
Level-I	Level-II		Area (Km ²)	% of Total
	Open Forest (A)		0.37	5.62
Scrubs	Scrubs (B)		0.65	9.88
Plantation	Social Forestry		0.15	2.28
	Plantation on Backfill		0.01	0.15
	Total Plantation (C)		0.16	2.43
	Total Vegetation(A+B+C)		1.18	17.93
Agriculture	Agriculture Land		0.43	6.53
Waste Land	Waste Land		0.44	6.69
Mining Area	Coal Quarry		1.36	20.67
	Barren OB Dump		0.79	12.01
	Area Under Backfilling		1.86	28.27
	Water Filled Quarry		0.17	2.58
	Coal Dump		0.00	0.00
	Advance Quarry Site		0.24	3.65
	Total Mining Area		4.42	67.17
Settlements	Rural Settlement		0.06	0.91
	Industrial Settlement		0.02	0.30
	Total Settlement Area		0.08	1.22
Water Body	River, Ponds		0.03	0.46
	Total		6.58	100.00

Customer		Mahanadi Coalfields Limited			
Title		Land Reclamation Monitoring of OC Projects			Job No. 561410027
Subject Land Reclamation Status of Bhubaneswari OCP based on Satellite Data (RS-2/L-IV) of the year 2020	Activity	Name	Designation	Signature	Date
	Prepared	A. Biswas	Mgr.(Geology)	<i>ABiswas</i>	
	Checked	T.Mondal	CM (RSC)	<i>Tmondal</i>	
	Approved	R. Kumar	GM (Geomatics)	<i>Rkumar</i>	
Scale:		0 0.275 0.55 1.1 Km			Sheet 1
Drg No.		HQ REM 07 A4 20 05			Rev No.0

Plate-5

EC COMPLIANCE STATUS
OF
BHUBANESWARI OPENCAST PROJECT
28 MTPA
ENVIRONMENTAL CLEARANCE
DATED 18.03.2019

Compliance of EC Conditions – Bhubaneswari OCP

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
A.	SPECIFIC CONDITIONS	
i	<p>Adequate ambient air quality monitoring stations shall be established in consultation with the State Pollution Control Board and regular monitoring shall be carried out for particulate emissions (both PM₁₀, PM_{2.5}), SO₂, NO_x. The monitoring results for the period during summer season (April-June 2018) shall be submitted to the SPCB and Regional Office of the Ministry.</p>	<p>Complied.</p> <ul style="list-style-type: none"> • Four nos. of Ambient air quality monitoring stations have been jointly decided and established in the core zone as well as in the buffer zone in consultation with the State Pollution Control Board and the monitoring is carried out fortnightly. • Fortnightly <u>monitoring</u> is carried out for SPM, PM₁₀, PM_{2.5}, SO₂, and NO_x. • The monitoring results for the period during summer season (April-June 2018) submitted to the SPCB and Regional Office of MoEF&CC vide letter dated 22.11.2018.

Compliance of EC Conditions – Bhubaneswari OCP

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
A	SPECIFIC CONDITIONS	
ii	<p>The EAC shall review the compliance of the action taken on the observations of the Regional Office, before December 2018 and makes its recommendation for continuance of the project thereafter. Also based on the monitoring results, the Committee shall examine efficacy and adequacy of the proposed control measures and its impact on the ambient air quality.</p>	<p>Complied. Officials from, Regional Office, MoEF&CC visited the mine on dated 09.11.2018. After review of the compliance of the action taken on the observations of the RO & recommendation of EAC, the MoEF&CC has clarified EC vide no. J-11015/280/2013-IA-II(M).pt., dtd: 18.03.2019, is valid for 30 years or life of the mine, whichever is earlier.</p>
iii	<p>Control of dust generation at source, the crusher and in-pit belt conveyors shall be provided with mist type sprinklers.</p>	<p>Complied.</p> <ul style="list-style-type: none"> • Better environment friendly technology has been adopted. • 100% coal is excavated through eco-friendly surface miners which eliminates the drilling, blasting and crushing operations. • CHP-Pipe Conveyor-SILO system is under advance stage of construction.

Compliance of EC Conditions – Bhubaneswari OCP

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
A.	SPECIFIC CONDITIONS	
iv	<p>Mitigative measures shall be undertaken to control dust and other fugitive emissions all along the roads providing sufficient numbers of water sprinklers. Adequate corrective measures shall be undertaken to control dust emissions as prescribed 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 suppression arrangement at railway sidings etc.</p>	<p>Under Compliance.</p> <p>Mitigative measures to control dust and other fugitive emissions are detailed below.</p> <ul style="list-style-type: none"> • 16 nos. of mobile water sprinklers having capacity ranging from 9 to 34 KL. • 03 nos. of Volvo 28 KL Mist sprinklers, • 25 nos of fixed sprinklers in siding no. 1&2. • 02 nos of instant shower systems. • 01 no. of 40m throw truck mounted fog cannon. • 04 nos of 100m throw trolley mounted fog cannons at Railway siding no. 3&4 are in operation. • A dedicated coal transportation corridor of 20.99 Km length (1.82 Km in Bhubaneswari OCP) has been constructed bypassing the residential areas and other habitation. • Four nos. of underpasses have been constructed on the coal corridor to avoid crossing of public road, thereby improving ambient air quality, congestion and safety.

Compliance of EC Conditions – Bhubaneswari OCP

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
iv		<ul style="list-style-type: none">• 100% coal production is done through Environment friendly Surface Miner.• More than 85% coal dispatch is done through eco-friendly Rail mode.• CHP-Pipe Conveyor-SILO System (10 MTY) - 98.8% work completed. Completion & handover is expected by December,2021.• The following proposals are in pipeline:<ul style="list-style-type: none">○ Mechanical road sweeper – Tender floated, cancelled due to high rate (26.5%), re-tendering done, expected by Oct.2021.○ Vertical wind barrier – Bamboo plantation taken up, to be completed by Dec.2021.○ Vertical greenery system – Will be completed by March 2022.



MOBILE MIST TYPE WATER SPRINKLER AT BHUBANESWARI OCP



- # VOLVO make
- # 28 KL Capacity
- # Spiral coned nozzle for mist – 500 μ size droplets
- # 10 m wide x 3 m long area wetting in one go

100 M THROW FOG CANNON AT RAILWAY SIDING- BHUBANESWARI OCP



100 M throw # 37 Kw Blower fan # 10 Kw pump # Electric Powered # Droplet Size – 30 to 50 micron
50 Bar Operating Pressure # H. Swing – 0 to 320 degree # V. Swing – 0 to 45 degree

DUST SUPPRESSION ARRANGEMENT AT SIDINGS - BHUBANESWARI OCP



Fixed sprinklers in operation at siding no. 1 & 2

DUST SUPPRESSION ARRANGEMENT AT EXIT-BHUBANESWARI OCP



**ALL COAL TRANSPORTATION
TIPPERS ARE PASSING
THROUGH INSTANT SHOWER
SYSTEM AT EXIT POINT OF
MINE**



SURFACE MINER WITH WATER JETS- BHUBANESWARI OCP



100% COAL PRODUCTION IS DONE THROUGH ENVIRONMENT FRIENDLY SURFACE MINER

CHP – PIPE CONVEYOR - SILO SYSTEM UNDER CONSTRUCTION – BHUBANESWARI OCP



Conv : C2/2A



Conv : C5/5A



Drive House-1

CHP – PIPE CONVEYOR - SILO SYSTEM UNDER CONSTRUCTION- BHUBANESWARI OCP



Transfer House - 3



Transfer House - 4

ELECTRICAL SUB-STATION- BHUBANESWARI OCP



Compliance of EC Conditions- Bhubaneswari OCP

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
A.	SPECIFIC CONDITIONS	
v	Thick green belt of 50m width at the final boundary in the down wind direction of the project site shall be developed to mitigate/check the dust pollution.	<p>Complied.</p> <p>Thick green belt of more than 50m width with 45,650 nos. of plants have been planted in the down wind direction.</p>
vi.	Persons of nearby villages shall be given training for their livelihood and skill development.	<p>Complied.</p> <ul style="list-style-type: none"> • 1048 nos. of direct employment provided as per R&R policy of Govt. of Odisha. • Persons of nearby villages are given training in tailoring, carpet weaving, computer learning etc. During the last three years 89 persons have been trained. • Machine operator training and Handy-man training were provided to 184 unemployed/under privileged youths through CIPET (Central Institute of Petrochemicals Engineering and Technology), Bhubaneswar.

SKILL DEVELOPMENT TRAINING PROGRAMME AT CIPET, BHUBANESWAR- FOR BHUBANESWARI OCP



Compliance of EC Conditions- Bhubaneswari OCP

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
A.	SPECIFIC CONDITIONS	
vii.	To ensure health and welfare of nearby villages regular medical camps shall be organized at least once in six months.	Complied. To ensure health and welfare of nearby villages, this year various steps have been taken to combat COVID-19 which is listed below.
Year	Action Taken against COVID-19 Pandemic	
2020-21	<ul style="list-style-type: none"> • A 150 bedded COVID-19 hospital has been set up at Nehru Shatabdi Central Hospital in Talcher to serve the patients of COVID-19. • Mine management took initiatives for the awareness among the public to combat against through publicity & propaganda. • Face masks - 1,75,000 nos. and alcohol based (500ml) hand sanitizers - 14,500 nos. were distributed among peripheral villages as preventive measures against COVID-19. • 1384 nos. of 5 liters capacity sodium hypochlorite containers were used for disinfection of peripheral villages as preventive measures against COVID-19. 	

Compliance of EC Conditions- Bhubaneswari OCP

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
A.	SPECIFIC CONDITIONS	
viii.	In view of the mining potential of the area and the prevailing environmental concerns, carrying capacity of the eco-system shall be studied through some expert agencies to assess optimal mining operations in the area with minimal impact on the environmental components.	<p>Under Compliance</p> <ul style="list-style-type: none"> The study of carrying capacity of eco-system is under progress by CMPDIL and the report will be submitted by 31st December 2021.
ix.	The mine is surrounded by large opencast mines operated by M/s MCL and shall have a cascading impact on air pollution. Therefore, a stage wise response plan vis-a-vis varying level of air pollution level be prepared and implemented in the mine during its operation.	<p>Complied.</p> <p>The study of cascading impact on air pollution has been completed by CMPDIL. The recommendations as per the report and current status are detailed below:</p>

Sl. No.	CURRENT STATUS OF COMPLIANCE	
	Recommendations	Current Status
	Stage I: It should be ensured that all surface miners runs with water jet.	Complied.
	Automated sprinkler should be installed at coal stock yard.	Water spraying is done by mobile water sprinklers of capacity ranging from 09 KL to 34 KL. 100 m throw fog cannon will be installed.
	Haul roads should be equipped with fixed sprinklers.	01 no. of 40m throw truck mounted fog cannon along with 03 nos. of Volvo 28 KL Mist sprinklers are deployed presently.
	All railways siding must be covered with wind barrier and vertical greenery system.	04 nos. of 100 m throw fog cannon has been installed. The proposal for installation of Vertical Greenery System (350 m) at 3&4 railway siding & Bamboo Plantation (800 m) at 1 & 2 siding has been taken up.
	Stage-2: Dedicated coal corridor must be used for coal transportation	Complied. 20.99 Kms long dedicated coal corridor has been constructed through mine area bypassing habitation areas.

Compliance of EC Conditions- Bhubaneswari OCP



Sl.	CONDITIONS	CURRENT STATUS OF COMPLIANCE	
A.	SPECIFIC CONDITIONS		
		<p style="text-align: center;">Recommendations</p>	<p style="text-align: center;">Current Status</p>
		<p>CAAQMS should be installed</p>	<p>Complied.</p>
		<p>There should be use of Mechanical sweeper</p>	<p>Will be commissioned by Dec 2021.</p>
		<p>There should be use of Fog Cannon</p>	<p>4 nos. installed in siding.</p>
		<p>Stage-3: All coal loading should be done through in-pit conveyors to silo and washing of coal must be ensured to reduce the dust at source.</p>	<p>CHP- Pipe Conveyor- SILO system is under construction, 98.8% completed. Will be commissioned by Dec 2021.</p>
x.	<p>A mechanism of inter project environmental audit shall be devised and implemented with reporting to this ministry along with half yearly reports.</p>	<p>Complied.</p> <ul style="list-style-type: none"> A multi-disciplinary team consisting of Staff Officers of Mining, E&M, Civil, Personnel and Environment from different areas of Talcher Coalfield carry out the Environmental Audit on quarterly basis. Report is submitted along with Half-yearly compliance report. 	

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
A.	GENERIC CONDITIONS	
4.1 a. (i)	<p>No change in Mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forest & Climate Change. No Change in the calendar plan including excavation, quantum of mineral coal and waste should be made.</p>	<p>Complied. The project proponent is complying the condition & OM No. 22-44/2018-IA.III dated 14.05.2020 of MoEF&CC.</p>
4.1 a. (ii)	<p>Mining shall be carried out as per the approved mining plan and abiding by the relevant laws related to coal mining and the circulars issued by Directorate General of Mines Safety (DGMS). An approved progressive Mine Closure Plan shall strictly be complied with and submitted.</p>	<p>Complied.</p>

Compliance of EC Conditions- Bhubaneswari OCP

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 b. (i)	<p>Digital processing of the entire lease area using remote sensing technique shall be carried out regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment, Forest & Climate Change its Regional Office.</p>	<p>Complied.</p> <ul style="list-style-type: none"> • Digital processing of entire lease area using remote sensing technique is being carried out regularly on yearly basis for monitoring land use pattern and the report is regularly submitted to Regional office MoEF&CC, Bhubaneswar. • Copy of the same is also available in the Company's website i.e www.mcl.gov.in.
4.1 b. (ii)	<p>Final mine void depth will not be more than 40 m. The void area should be converted into water body. The remaining area should be back filled up to the ground level and covered with thick topsoil. The land after mining should be restored for agriculture or forestry purpose.</p>	<p>Will be complied.</p> <p>The condition is related to activity which requires compliance during mine closure stage.</p>

Compliance of EC Conditions- Bhubaneswari OCP



SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 b. (iii)	<p>The top soil, if any shall be temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation. The overburden dumps should be vegetated with suitable native species to prevent erosion and surface run off. The entire excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to Ministry of Environment, Forest & Climate Change its Regional Office on six monthly basis.</p>	<p>Complied.</p> <ul style="list-style-type: none"> • Topsoil is being stacked separately and concurrently spread over technically reclaimed backfilled area before plantation. It is a continual process. <ul style="list-style-type: none"> ○ Quantity of Topsoil generated till 31.03.2021: 349500 m³ ○ Quantity Topsoil spread on reclaimed land till 31.03.2021: 340700 m³ ○ Balance quantity of Topsoil till 31.03.2021: 8800 m³. • Biological reclamation on 14 Ha of internal dump comprising of native species like Neem, Gamhari, Sirsa, Maha neem, etc. has been done. • Grassing with species like <i>Stylosanthes Hamata</i>, <i>Pennisetum pedicellatum</i> and <i>Chrysopogon zizanioides</i> covering 94 Ha of external dump has been done. • 20 Ha of internal dump area has been taken up for plantation during this monsoon.

GRASSING OVER TOP & SLOPES OF THE EXTERNAL DUMP- BHUBANESWARI OCP



- Grass species such as *Stylosanthes Hamata*, *Pennisetum pedicellatum* and *Chrysopogon zizanioides* are planted on external OB dump

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 b. (iv)	<p>Green belt shall be developed all along the mine lease area in a phased manner.</p> <p>The width of the green belt along forest area should not be less than 7.5m, and the total area covered by 3 tier green belt shall not be less than 100 Ha. A 3 tier green belt comprising of a mix of native species shall be developed all along the major approach roads.</p>	<p>Under Compliance</p> <ul style="list-style-type: none"> • Green belt of 25.98 Ha outside the leasehold area under vacant/safety zone comprising of native species have been planted through Odisha Forest Development Corporation. • Biological reclamation on 14 Ha of internal dump comprising of native species like Neem, Gamhari, Sisoo, Maha Neem, Chatiyani, Karanj, Mahua etc. has been done. • Plantation of 20 Ha proposed during this FY • Plantation of 40 Ha proposed during 2022-23.

PLANTATION-BHUBANESWARI OCP



**THICK GREEN BELT OF MORE THAN 50M WIDTH HAS BEEN DEVELOPED IN
DOWN WIND DIRECTION**

MAHATMA GANDHI UDHYAN AT BHUBANESWARI OCP



**MAHATMA GANDHI UDHYAN - INAUGURATED ON 02.10.2020 - Raising of Fruit bearing plants 1500 nos.
Species-Mango, Bel, Guava, Jamun, Coconut, and Amla etc.**

COMMUNITY ORGANIC FARMING ON INTERNAL BACKFILLED AREA-BHUBANESWARI OCP



COMMUNITY ORGANIC FARMING ON INTERNAL BACKFILLED AREA-BHUBANESWARI OCP



COMMUNITY ORGANIC FARMING ON INTERNAL BACKFILLED AREA-BHUBANESWARI OCP



COMMUNITY ORGANIC FARMING ON INTERNAL BACKFILLED AREA-BHUBANESWARI OCP



SMALL GARDEN DEVELOPED AT WORKSHOP USING HEMM REJECTS- BHUBANESWARI OCP



PLANTATION PROGRAM ON VAN MAHOTSAV – 2020: BHUBANESWARI OCP



Species planted: Guava, Mango, Custard Apple, Amla and Litchi

PLANTATION ON INTERNAL DUMP & GRASS ON EXTERNAL DUMP- BHUBANESWARI OCP



Species planted: Neem, Chatiyani, Karanj, Gamhari, Sisso, Mahua are planted.

GREEN BELT DEVELOPED AT MINE PERIPHERY-BHUBANESWARI OCP

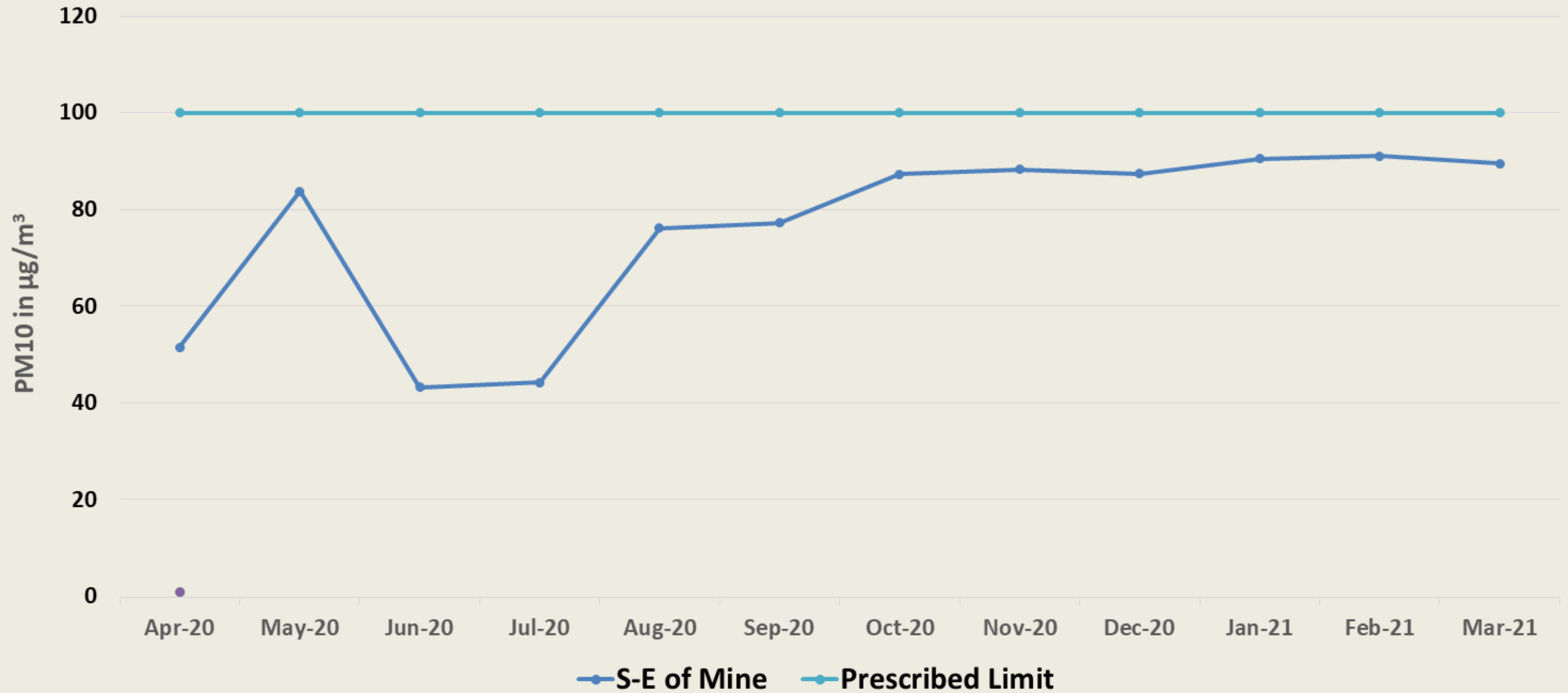


Compliance of EC Conditions- Bhubaneswari OCP

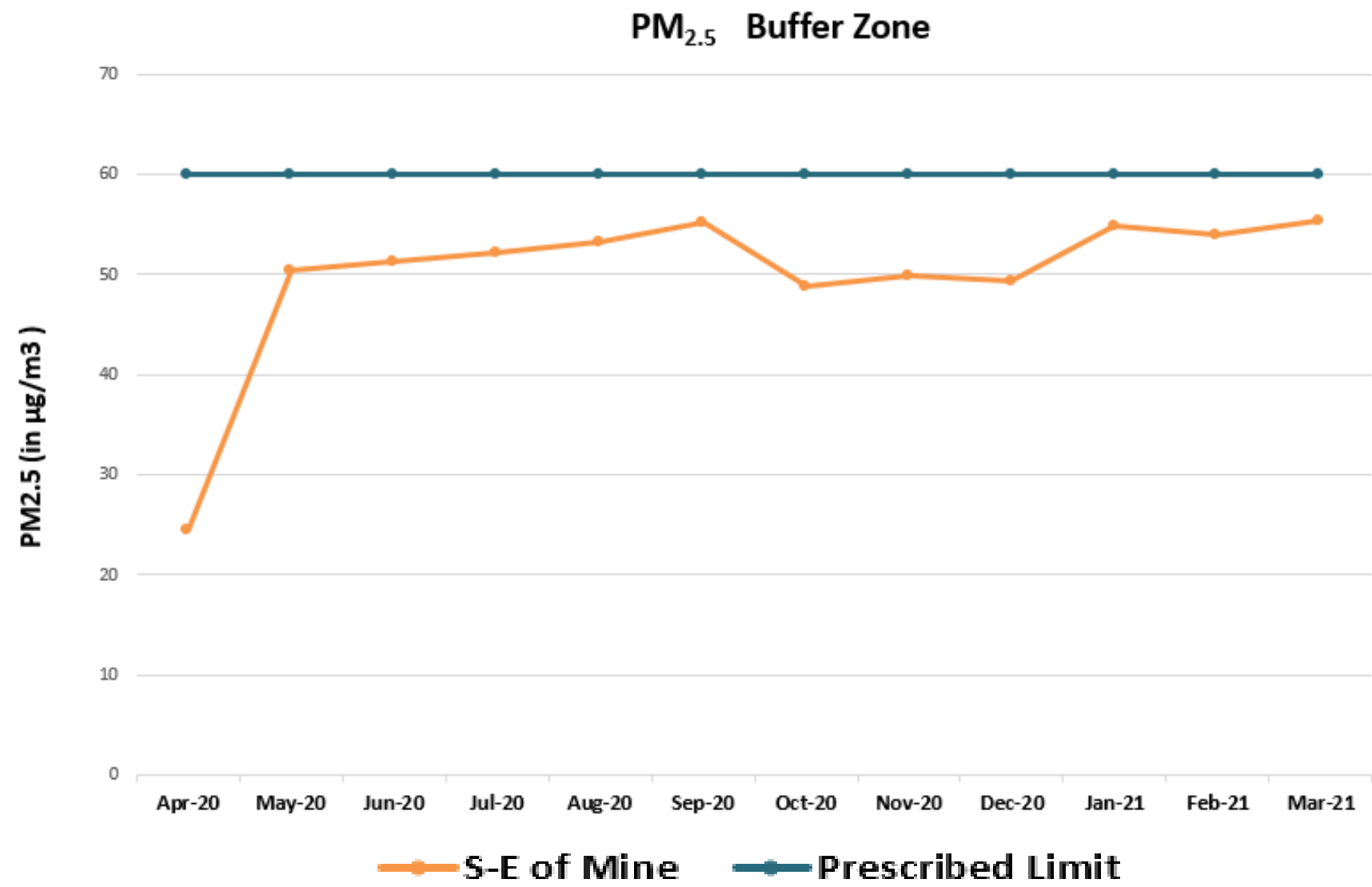


SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 c. (i)	<p>Transportation of coal by road should be carried out by covered trucks only. Effective measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM10 and PM2.5 such as haul road, loading and unloading point and transfer points. Fugitive dust emissions from all the 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 in this regard.</p>	<p>Complied.</p> <ul style="list-style-type: none"> • Road sale trucks and vehicles used for transportation of coal outside the mine area are covered with tarpaulin. • Mitigative measures to control dust and other fugitive emissions are detailed below. <ul style="list-style-type: none"> ○ 100% coal production by Surface miner with inbuilt dust suppression arrangement. ○ 16 nos. of water sprinklers having capacity ranging from 9 to 34 KL. ○ 03 nos. of Volvo 28 KL Mist sprinklers, ○ 25 nos. of fixed sprinklers in siding no. 1&2. ○ 02 nos. of instant shower systems, ○ 01 no. of 40m throw truck mounted fog cannon on hiring basis, ○ 04 nos. of fog Cannon of 100m throw at Railway siding no. 3&4 are in operation. ○ A dedicated coal transportation corridor of 20.99 Km length (1.82 Km in Bhubaneswari OCP) has been constructed bypassing the residential areas and other habitation. • The Ambient Air Quality parameters are within prescribed norms.

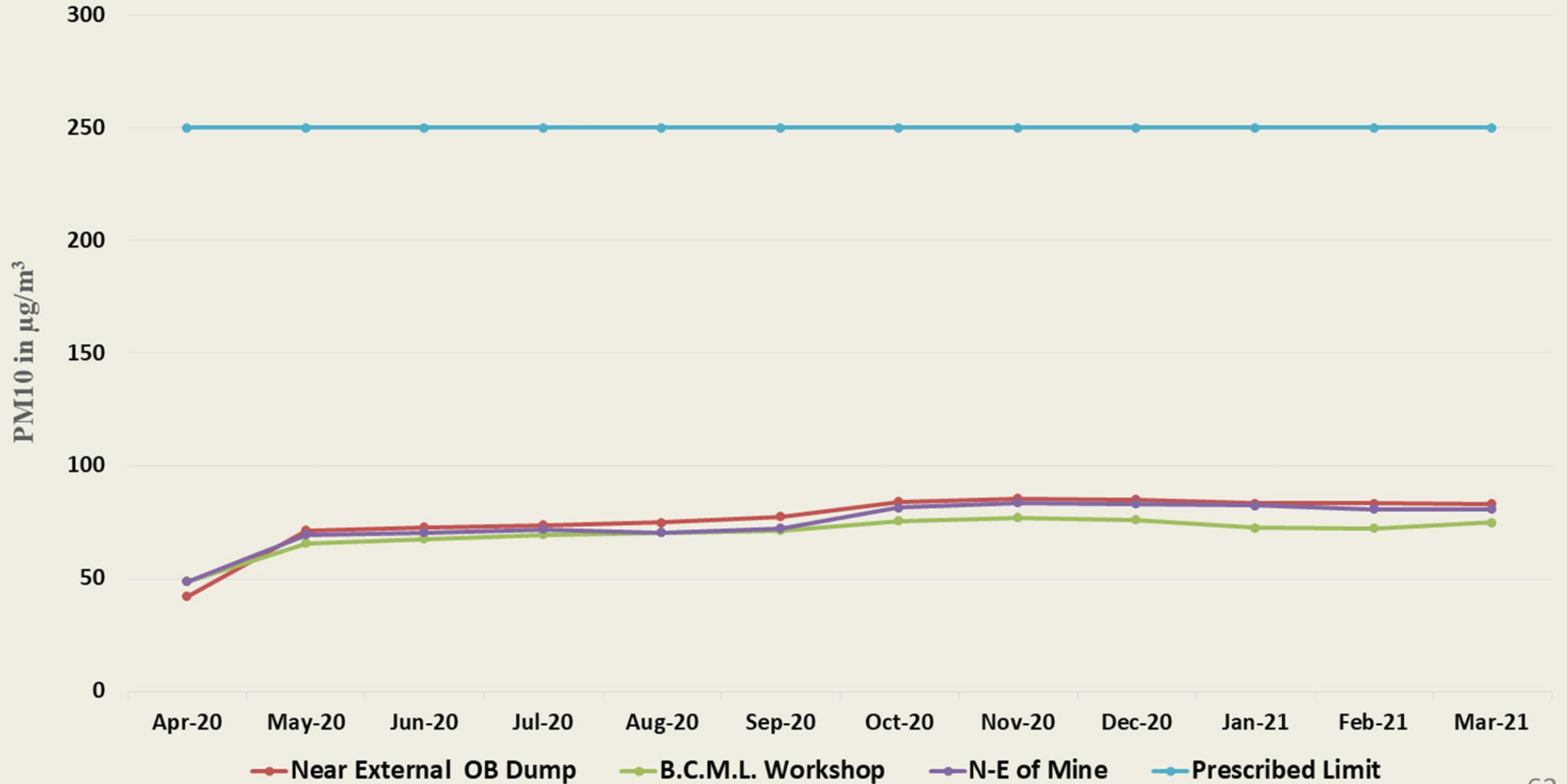
AIR QUALITY DATA PM₁₀ Buffer Zone, Bhubaneswari OCP



AIR QUALITY DATA- BHUBANESWARI OCP



AIR QUALITY DATA PM₁₀ Core Zone, Bhubaneswari OCP



ROAD SALE TRUCK COVERED WITH TARPAULIN-BHUBANESWARI OCP



UNDERPASSES FOR PUBLIC ROAD FOR DE-CONGESTION, IMPROVEMENT IN ENVIRONMENT & SAFETY-BHUBANESWARI OCP



SISHU MANDIR CHOWK-UNDERPASS



BAIDYASAHI CHOWK-UNDERPASS

SEPARATE COAL CORRIDOR FOR COAL TRANSPORTATION-BHUBANESWARI OCP



CONCRETE COAL TRANSPORTATION ROAD CONSTRUCTED AT BHUBANESWARI OCP

Compliance of EC Conditions- Bhubaneswari OCP



SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 c. (ii)	<p>Vehicular emissions shall be kept under control and regularly monitored. Project should obtain ‘PUC’ certificate for all the vehicles from authorized pollution testing centers.</p>	<p>Complied.</p> <ul style="list-style-type: none"> • All the vehicles plying in the mine premises carries valid PUC certificate issued by authorized pollution testing center and is renewed on six monthly basis. A copy of the PUC certificate is submitted to the PP by the concerned agency.
4.1 c. (iii)	<p>Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants namely PM₁₀, PM_{2.5}, SO₂ 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. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. carried out at least once in six months.</p>	<p>Complied.</p> <ul style="list-style-type: none"> • Four nos. of ambient air quality monitoring stations have been jointly decided in consultation with RO, OSPCB and established in the core zone as well as in the buffer zone • Monitoring of pollutants namely PM₁₀, PM_{2.5}, SO₂ and No_x are done at fortnightly interval • Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. carried out at six monthly interval.

HEAVY METALS IN AMBIENT AIR : BHUBANESWARI OCP

DATE OF SAMPLING	NAME OF THE STATIONS	Arsenic ng/cum	Nickle ng/cum	Mercury µg/cum	Cadmium µg/cum	Chromium µg/cum
JUNE-20	N-E OF MINE	BDL	BDL	BDL	BDL	BDL
DECEMBER-20						
JUNE-20	S-E OF MINE	BDL	BDL	BDL	BDL	BDL
DECEMBER-20						
JUNE-20	BCML WORKSHOP	BDL	BDL	BDL	BDL	BDL
DECEMBER-20						
JUNE-20	NEAR EXTERNAL OB DUMP	BDL	BDL	BDL	BDL	BDL
DECEMBER-20						
PERMISSIBLE LIMIT		6.0	20.0	-	-	-

BDL- Below Detection Limit

Compliance of EC Conditions- Bhubaneswari OCP



SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 c. (iv)	<p>Crusher/feeder and breaker material points should invariably be provided with dust suppression system. Belt conveyors should be fully covered to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.</p>	<p>Complied.</p> <ul style="list-style-type: none"> • There is no crusher/feeder in mine, since 100% coal production is through surface miner technology. • CHP – Pipe conveyor – SILO system is under advance stage of construction & will be commissioned by Dec’2021 • All drill machines are provided with dust extractor & wet drilling arrangement.
4.1 c. (v)	<p>The project proponent shall not alter the major channels around the site. Appropriate embankment should be provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary should be of suitable dimensions and critical patches should be strengthened by stone pitching on the river front side and stabilized with plantation to withstand the peak water flow and prevent mine inundation.</p>	<p>Complied.</p> <ul style="list-style-type: none"> • An earthen bund embankment has been made adjacent to the Bangaru Nallah. • The bund height is about 5m; width is 20m and its side slope is about 50 to 60 degrees. • The bund was stabilized with vegetation of <i>Artistida setacea (Ghasa)</i>, <i>Hyptis suaveolens (Pig nut)</i> <i>Tridax procumbens (Coat buttons)</i> , <i>Saccharum spontaneum (Wild sugarcane)</i>, <i>Azadirachta indica (Neem)</i>, <i>Alstonia scholaris (White cheese wood)</i>, etc.

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 c. (vi)	<p>Rain water harvesting shall be implemented for conversation and augmentation of ground water resources in the area in consultation with Central Ground Water Board.</p>	<p>Complied.</p> <ul style="list-style-type: none"> • Mine is zero discharge mine. During monsoon, the rainwater from the mining area is collected in 03 nos. of mine sumps having capacity of 4.64 M Cum which acts as a reservoir cum recharge structures. • 2 nos. of rainwater harvesting arrangement in the Project office and 1 no. constructed at Bhubaneswari Guest House for recharge of ground water.

RAIN-WATER HARVESTING THROUGH MINE SUMPS-BHUBANESWARI OCP



**North Sump of
Bhubaneswari OCP**



**South Sump of
Bhubaneswari OCP**

RAINWATER HARVESTING STRUCTURES-BHUBANESWARI OCP



Compliance of EC Conditions- Bhubaneswari OCP

Sl	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 c. (vii)	<p>Catch drains and siltation ponds of appropriate size shall be constructed around mine working, coal heaps, and OB dumps to prevent runoff of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly de-silted particularly after monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. Dimension of the retaining wall to be constructed at the toe of the dumps and OB benches within the mine to check runoff and siltation should be based on the rainfall data.</p>	<p>Complied.</p> <ul style="list-style-type: none"> • Catch drains of dimension 2m x 2m x 2200 m has been provided around external dump with 2 nos. of siltation ponds of capacity 90×25×3 Cu.m and 80×60×3 Cu.m. • Catch Drain around mine (7km x 1.5m x 1m) has been provided • Catch drain has been provided around coal stock. The water is channelised to mine sump. • Catch drains are de-silted and regularly cleaned before monsoon. • 03 nos. of mine sump act as a huge rain water harvesting structure <ul style="list-style-type: none"> North side sump-1969500 Cu.m South side sump-2044500 Cu.m North west sump-624000 Cu.m • Water from the sump after settling is being re-used for firefighting, dust suppression and watering of plants etc.

TOE WALL-BHUBANESWARI OCP



Compliance of EC Conditions- Bhubaneswari OCP

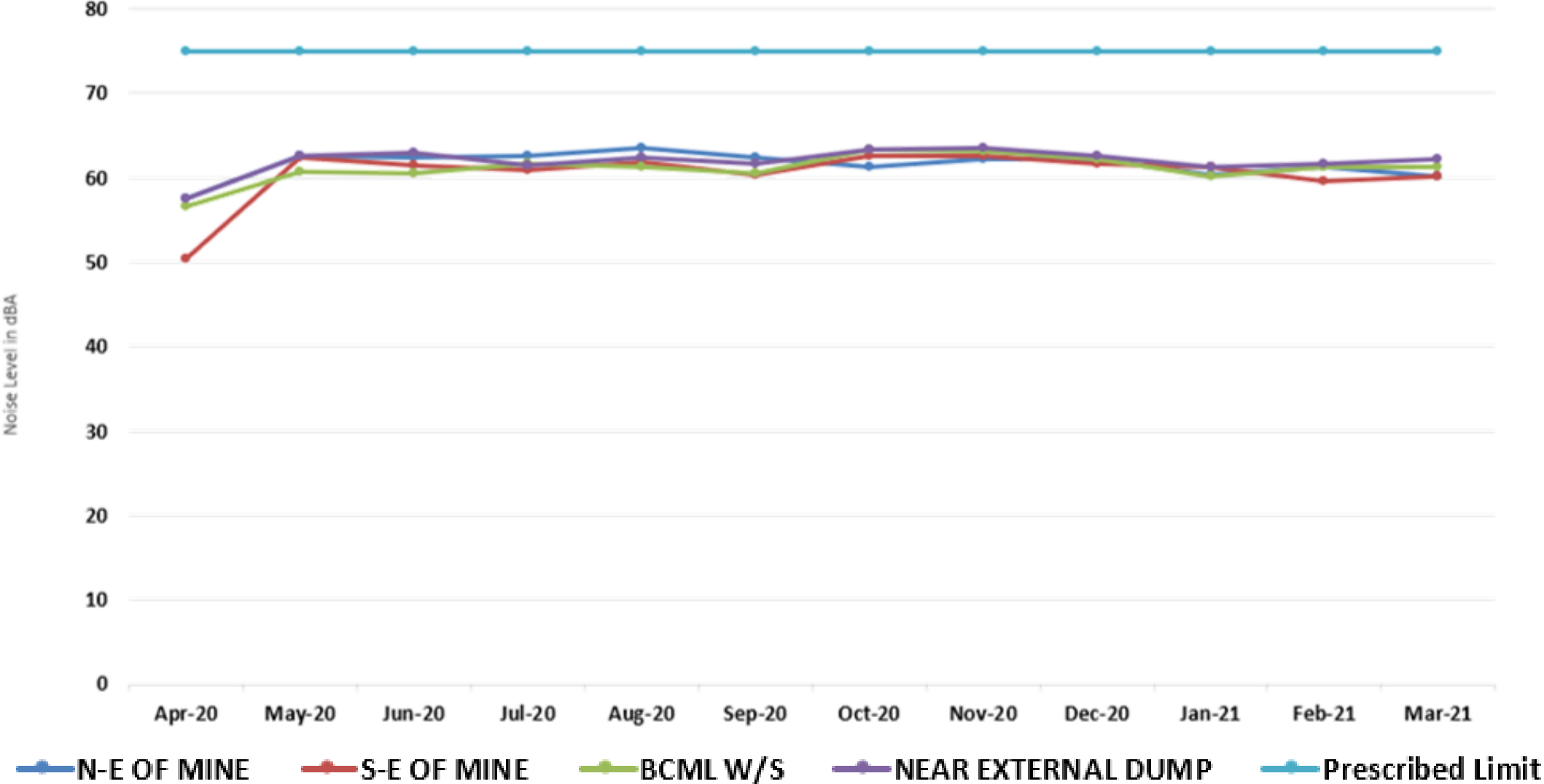
SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 c. (vii i)	<p>Industrial waste water (CHP, workshop, and waste from the mine) should be collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the rules made there under, and as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.</p>	<p>Complied.</p> <ul style="list-style-type: none"> • The ETP (400 m³/hr.) equipped with oil and grease trap has been provided for treatment of wastewater at workshop. • The water is recirculated and reused for industrial purposes.
4.1 d. (i)	<p>Adequate measures shall be taken for control noise level below 85dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM etc. shall be provided with ear plugs/muffs.</p>	<p>Complied.</p> <ul style="list-style-type: none"> • The noise levels are within the prescribed limits. Workers engaged in blasting and drilling operations, operations of HEMM, etc. are provided with ear plugs/muffs. • Earplugs/muffs distributed during 2020-21- 150 nos.

EFFLUENT TREATMENT PLANT AT HEMM WORKSHOP-BHUBANESWARI OCP

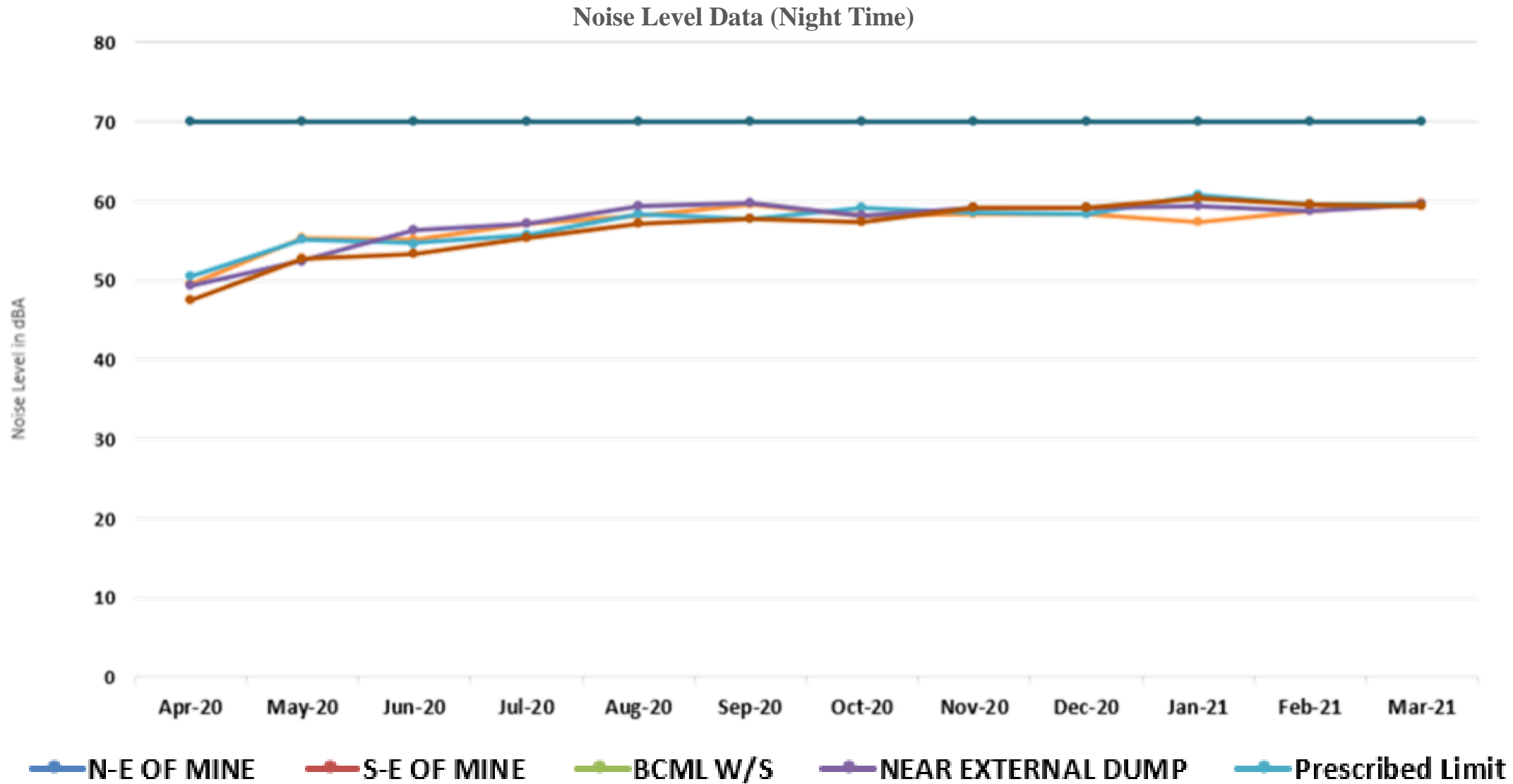


NOISE LEVEL DATA-BHUBANESWARI OCP

Noise Level Data (Day Time)

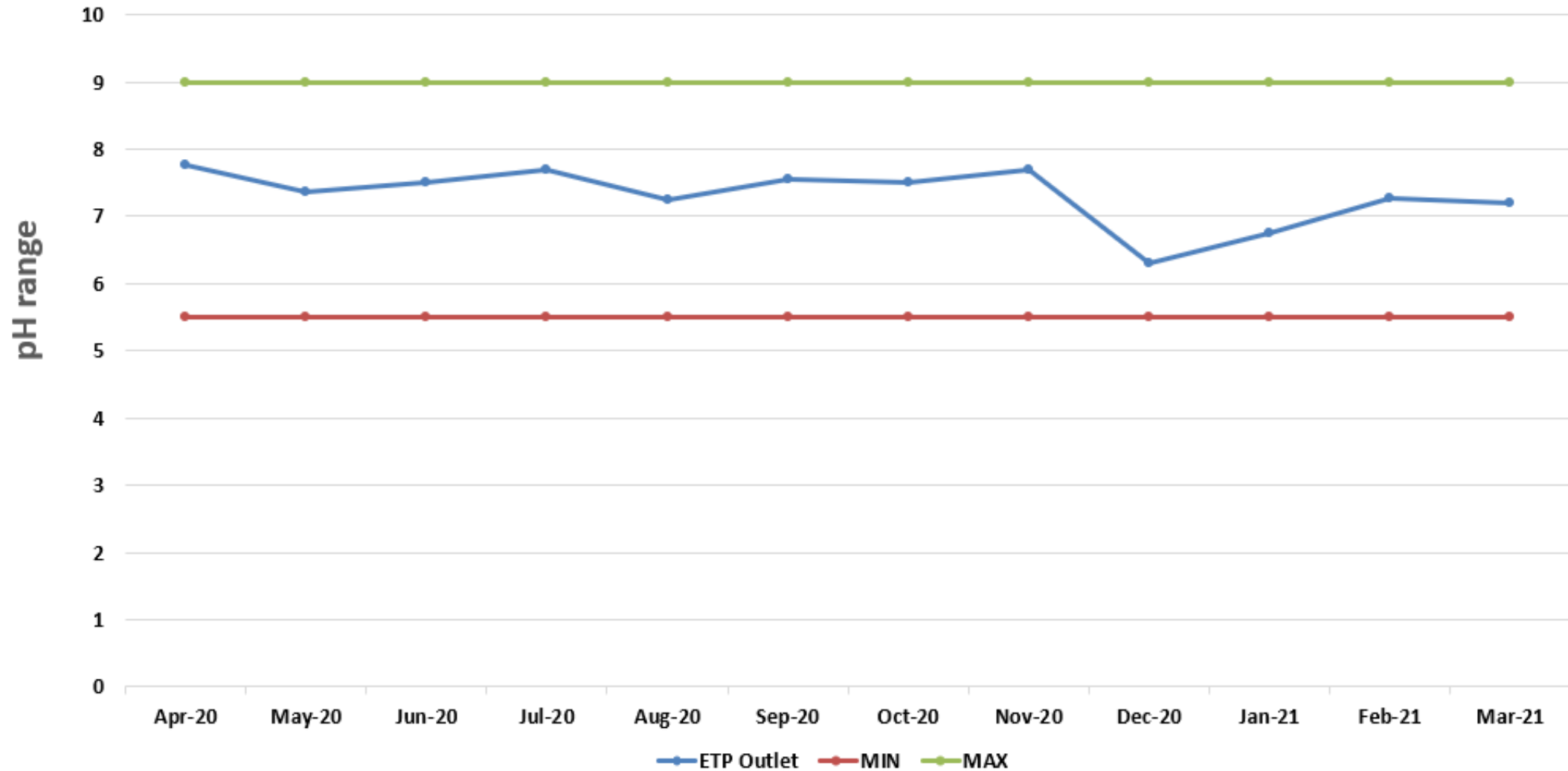


NOISE LEVEL DATA – NIGHT TIME-BHUBANESWARI OCP



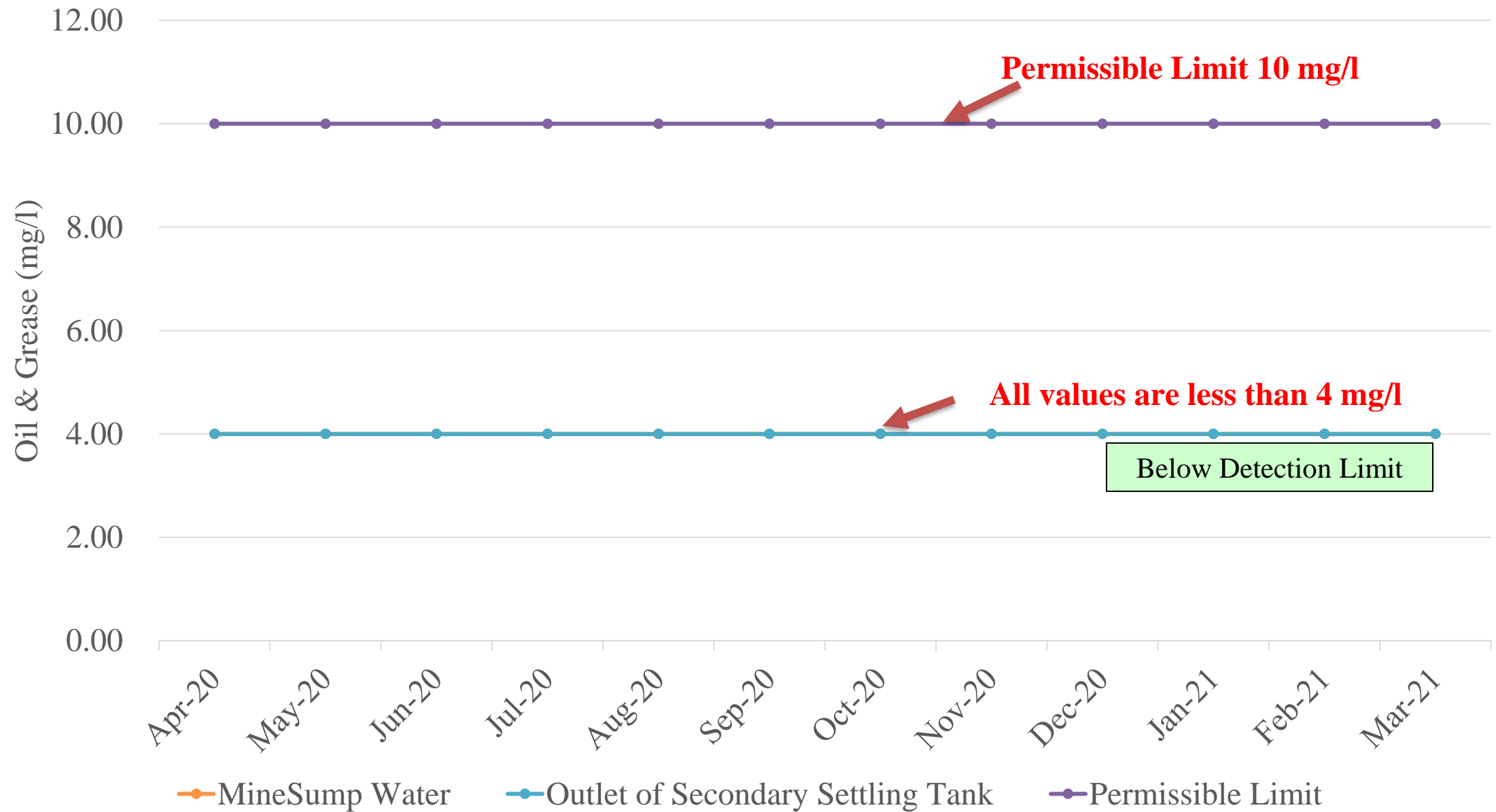
MINE EFFLUENT QUALITY-BHUBANESWARI OCP

pH value ETP Outlet, Bhubaneswari OCP



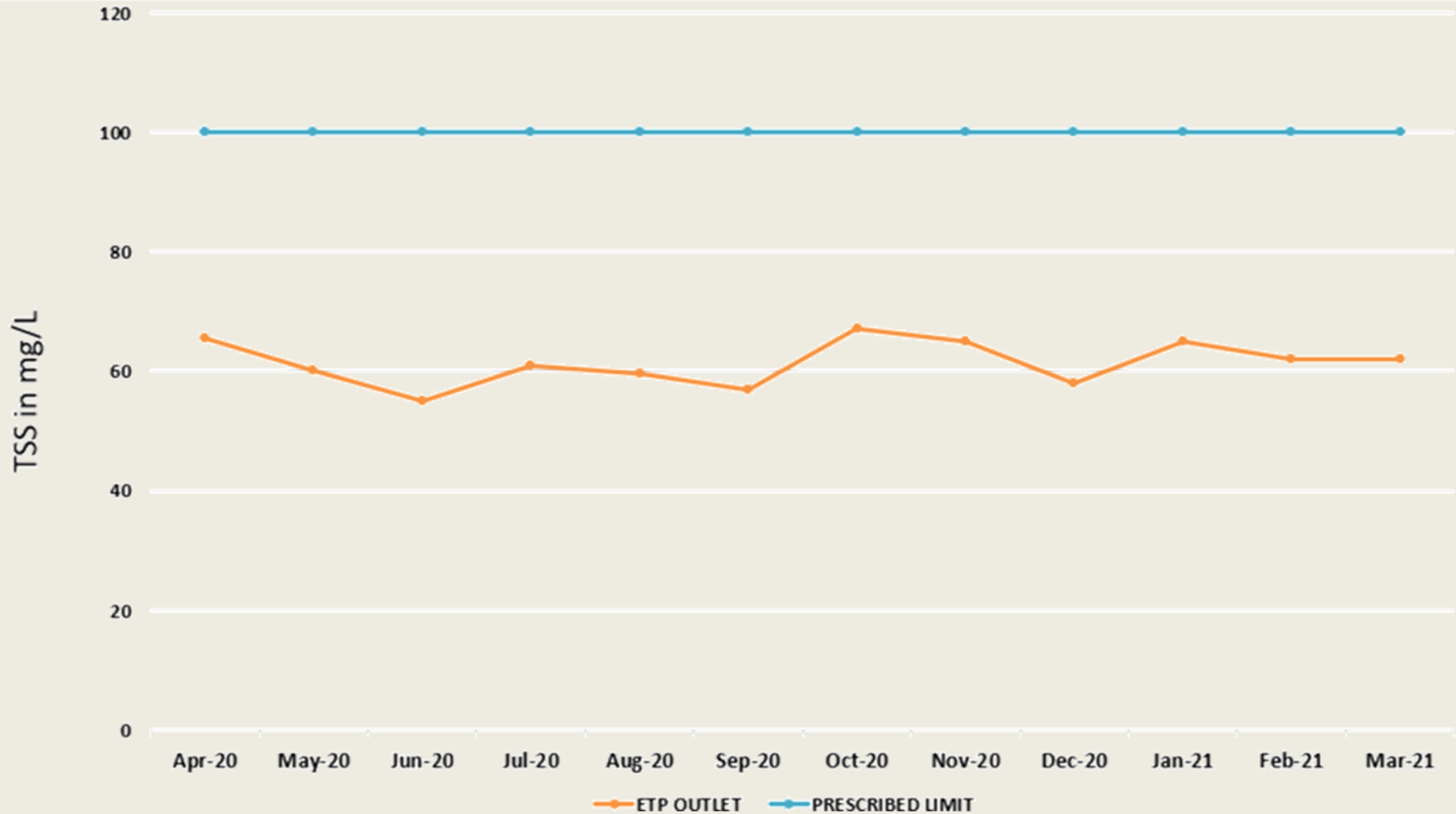
Effluent Water Quality

Oil & Grease (mg/l): Bhubaneswari OCP



MINE EFFLUENT: BHUBANESWARI OCP

Total Suspended Solids (TSS), ETP Outlet, Bhubaneswari OCP



Compliance of EC Conditions-Bhubaneswari OCP

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 d. (ii)	<p>Controlled blasting techniques should be practiced with use of delay detonators to mitigate ground vibrations and fly rocks.</p>	<p>Complied.</p> <ul style="list-style-type: none"> • Controlled blasting by NONEL technology is practiced and ground vibration is monitored by Blastmate with proper maintenance of records. • Vibration reading dt: 08.06.2021. • Threshold Limit :- 10 PPV • Readings of the Vibration :- 1-5 PPV

Compliance of EC Conditions- Bhubaneswari OCP

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE												
4.1 e. (i)	<p>Besides carrying out regular periodic health checkup of their workers, 20% of the workers identified from workforce engaged in active mining operations shall be subjected to health checkup for occupational diseases and hearing impairment, if any, through a specialized agency/ institute within the District/ State and the results reported to this Ministry and to DGMS.</p>	<p>Complied.</p> <ul style="list-style-type: none"> • In compliance to provisions of Mines Act'1952 and DGMS circular, regular periodic health checkup of workers initially and in 5 years (both contractual and departmental) and the workers above 45 years of age are subjected to health checkup in every 3 years. 20% of employees engaged in active mining are also included in the above provision. • Medical examination of all the contractual workers are conducted through M/s SRL Limited, Kolkata and no case related to occupational disease detected so far. • Report is submitted to DGMS & to RO, MoEF&CC. <table border="1" data-bbox="1098 1021 2453 1332"> <thead> <tr> <th>Year</th> <th>Total Manpower</th> <th>20% of workers</th> <th>Workers undergone PME</th> </tr> </thead> <tbody> <tr> <td>2019-20</td> <td>1163</td> <td>233</td> <td>426</td> </tr> <tr> <td>2020-21</td> <td>2082</td> <td>416</td> <td>348</td> </tr> </tbody> </table>	Year	Total Manpower	20% of workers	Workers undergone PME	2019-20	1163	233	426	2020-21	2082	416	348
Year	Total Manpower	20% of workers	Workers undergone PME											
2019-20	1163	233	426											
2020-21	2082	416	348											

Compliance of EC Conditions- Bhubaneswari OCP

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 e. (ii)	Personal working in dusty areas should wear protective respiratory devices and they should be provided with adequate training and information on safety and health aspects. Supervisory staff shall be held responsible for ensuring compulsory wearing of dust mask.	<p>Complied.</p> <p>All persons working in the dusty areas have been provided with dust mask. Supervisory staff not only bring awareness on safety and health aspects but also ensure compulsory wearing of dust mask by the work persons.</p> <p>Dust masks distributed during 2020-21- 3,600 nos.</p>
4.1 e. (iii)	In case of outsourcing of work through MDO , the project proponent shall ensure the strict enforcement of the above conditions.	<p>Complied.</p>
4.1 f. (i)	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 Change and its Regional Office.	<p>Complied.</p> <p>The project has deposited Rs.50 lakhs vide challan no. 422052,dtd. 04.09.2004 to the Forest Dept. for Habitat improvement Plan of the surrounding area. Habitat improvement Plan has been prepared as per FC clearance conditions. The project has planted variety of locally available native species such as Mango, Neem, etc.</p> <p>Stone pack wall, barbed wire fencing and garland drains are constructed all along mine boundary to ensure there is no entry of animals within the mining area.</p>

BARBED WIRE FENCING ALL AROUND THE MINE-BHUBANESWARI OCP



GARLAND DRAIN-BHUBANESWARI OCP



Compliance of EC Conditions- Bhubaneswari OCP

Sl	CONDITIONS	CURRENT STATUS OF COMPLIANCE												
4.1 g. (i)	<p>Implementation of Action Plan on the issues raised during the Public Hearing shall be ensured. The PP shall complete all the tasks as per the Action Plan submitted with budgetary provisions during the Public Hearing. Land oustees should be compensated as per the norms laid out R&R policy of the company or the National R&R policy or R&R policy of the State government, whichever is higher.</p>	<p>Complied.</p> <ul style="list-style-type: none"> • The Public Hearing was held on 10-02-2009. • The issues raised during Public Hearing were regarding Employment, Supply of drinking water, Blasting vibration, Plantation, dust in pond in core zone, dust suppression & sprinkling on peripheral roads. • All the issues have been addressed. • The R&R of the land oustees are done as per the R&R policy of Govt. of Odisha. 												
4.1 g. (ii)	<p>The board of every company shall ensure that, the spends in every financial year at least two percent of the average net profit of the company made during the three immediately preceding financial years in pursuance of its Corporate Social Responsibility under section 135 of the companies Act, 2013 for the socio economic development of the neighborhood.</p>	<p>Complied.</p> <p>MCL has spent more than two percent of the average net profit of the company made during the three immediately preceding financial years in pursuance of its Corporate Social Responsibility.</p> <table border="1" data-bbox="1207 1029 2418 1319"> <thead> <tr> <th>Year</th> <th>Budget (₹ crores)</th> <th>Expenditure (₹ crores)</th> </tr> </thead> <tbody> <tr> <td>2018-19</td> <td>136.36</td> <td>167.16</td> </tr> <tr> <td>2019-20</td> <td>156.5</td> <td>165.5</td> </tr> <tr> <td>2020-21</td> <td>168.44</td> <td>205.34</td> </tr> </tbody> </table>	Year	Budget (₹ crores)	Expenditure (₹ crores)	2018-19	136.36	167.16	2019-20	156.5	165.5	2020-21	168.44	205.34
Year	Budget (₹ crores)	Expenditure (₹ crores)												
2018-19	136.36	167.16												
2019-20	156.5	165.5												
2020-21	168.44	205.34												

CSR ACTIVITIES

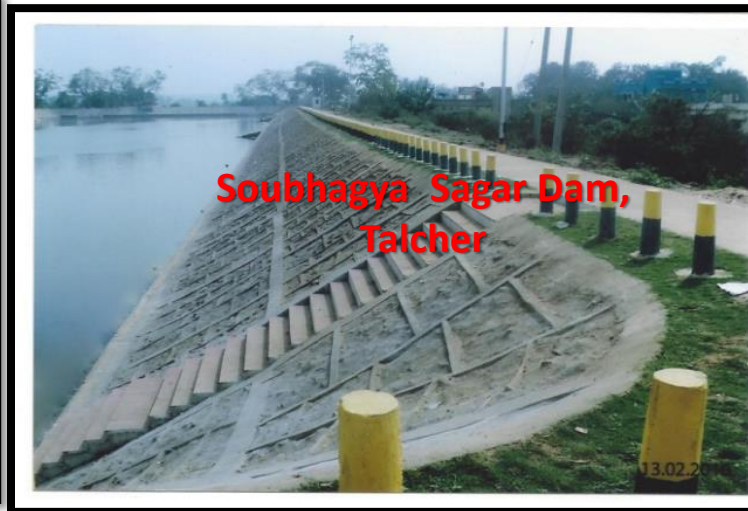
Medical college-cum-Hospital, Talcher 100-seat medical college & 500 bed hospital



MCL has constructed Medical College-cum-Hospital at Talcher. Project cost is 492.62 Crore.

Water Supply Schemes

Project	Cost
Summer water supply through tankers in 200 peripheral villages and municipal wards in MCL command Areas	6 to 7Cr (every year)
Piped Water Supply (PWS) 19 villages of Talcher – Completed in 2014	22.0 Cr
PWS in 9 villages, Talcher - Completed in 2019	2.1 Cr
PWS in 35 peripheral villages of Talcher (on-going - to be completed in 2021-22)	57.0 Cr
PWS in 37 villages, Talcher (on-going - to be completed in 2021-22)	17.5 Cr



CSR ACTIVITIES



Black topping of road from Radharamanpur village to Jillinda chhak & Arakhapal to Biraramchanderpur
Location: Jillinda, Angul District
Amount: Rs. 210.13 Lakhs
Beneficiary: 20,000 nos. (approx)



Organising Free Mega Health Camp at Brajanathpur village
Location: Brajanathpur, Angul District
Amount: Rs. 0.75 Lakhs
Year of Construction: 2017-18
Beneficiary: 350 nos. (approx)

CSR ACTIVITIES



Compliance of EC Conditions- Bhubaneswari OCP

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 h. (i)	The company should have a well laid down Environment policy approved by the Board of Directors.	Complied. MCL has a a well laid down Environmental policy approved by the Board of Directors dated 09.05.2019. The copy of this is available online at- http://www.mahanadicoal.in/Environment/pdf/MCL%20CEP-2018.pdf .
4.1 h. (ii)	To have proper checks and balances, the company should have a well laid down system of reporting of non-compliance/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.	Complied. A multidisciplinary committee has been formed at MCL under the chairmanship of Director (Technical/ P&P), MCL vide letter no. 556 dt. 28.06.2019. Similar multidisciplinary committee has also been formed at Area level for reviewing compliance of EC and FC conditions on quarterly basis and reporting the non-compliance/violations of environmental norms. The audit report is submitted to HQ, which is subsequently submitted to MCL Board for review of compliance of conditions.

Compliance of EC Conditions- Bhubaneswari OCP

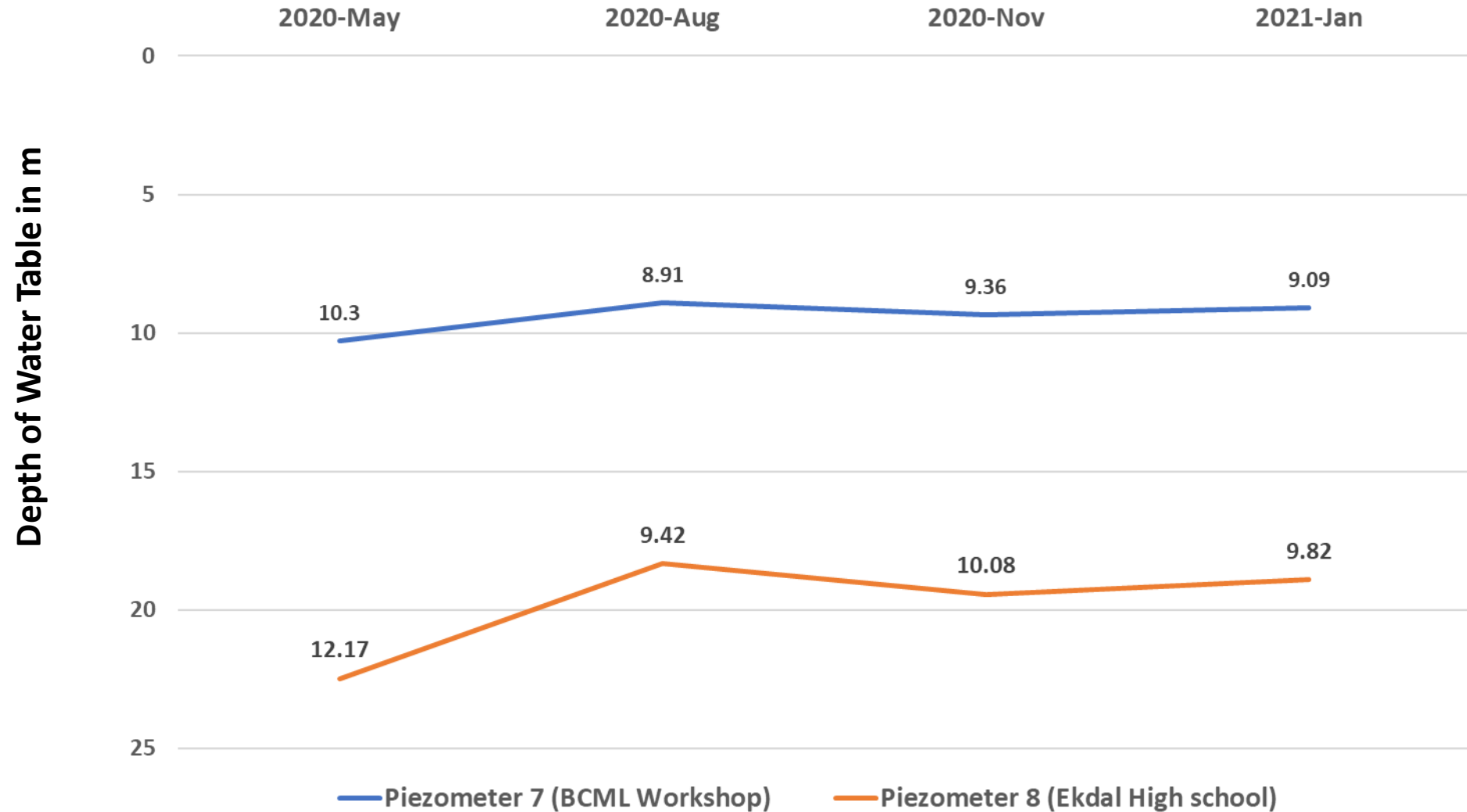
Sl	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 h. (iv)	The funds earmarked for environmental protection measures should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office.	Complied.
4.1 i. (i)	Environmental Clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, NGT and any other Court of Law , if any as applicable to the project.	Agreed and Complied.
4.1 i. (ii)	This Environmental Clearance is subject to obtaining requisite NBWL Clearance from the standing Committee of National Board for wildlife , if any as applicable to the project.	Complied
4.1 i. (iii)	The Project Proponent shall obtain Consent to Establish and Consent to Operate from the concerned State Pollution Control Board prior to increase in capacity of washery and effectively implement all the conditions stipulated therein.	Complied. The CTE & CTO for 28 MTPA has been obtained from OSPCB vide CTE no. 2385/IND-II-NOC-6139, dtd: 06.03.2018 and CTO no. 5282/IND-I-CON-4829,dtd: 26.03.2021.

Compliance of EC Conditions- Bhubaneswari OCP

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 (i) iv.	Project Proponent shall obtain the necessary prior permission from the Central Ground Water Authority (CGWA) for drawl of water (surface and ground water).	Complied. NOC from CGWA for groundwater withdrawal has been granted vide letter dt: 16-12-2020 with validity up to 15-12-2022.
4.1 (j) i.	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring shall be carried out four times in a year pre-monsoon (April- May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board.	Complied. Piezometric water level data during pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) are sent to RO, MoEF&CC in half yearly compliance reports of EC conditions.

PIEZOMETER READING YEAR 2020-21: BHUBANESWARI OCP

Depth from Surface- Ground water level



RO PLANT CONSTRUCTED AT BHUBANESWARI OCP



Compliance of EC Conditions- Bhubaneswari OCP



SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 (j) ii.	The project proponent shall submit six monthly report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment, Forest and Climate Change , its Regional Office, Central Pollution Control Board and State Pollution Control Board.	Complied. Project Proponent is regularly submitting the six-monthly compliance report and monitoring data to RO, MoEF&CC and SPCB. The last submission was vide letter no. PO/BBSRI-OCP/Envvt/2021/3370, dtd. 28.05.2021 for the period October'20- March'21.
4.1 (j) iii.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions furnishing the requisite data/information/monitoring reports.	Complied.
4.1 (j) iv.	The activities pertaining to development of green belt/horticulture shall be reported to the concerned Regional Office of MoEF& CC on six monthly basis from the date of commencement of mining operations.	Complied. The said activities are submitted regularly along with the half yearly compliance report.
4.1 (j) v.	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 and submitted to the concerned authorities within 2 months of the completion of periodicity of monitoring.	Complied. Project Proponent is regularly submitting the six-monthly compliance report along with the monitored data timely.

Compliance of EC Conditions- Bhubaneswari OCP



SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 (k) i.	A copy of clearance letter will be marked to concerned Panchayat/local NGO, if any, from whom suggestion/representation has been received while processing the proposals.	Complied. A copy of clearance letter has be marked vide letter No.PO/BBSRI-OCP/Envt./2018/1410,dtd.20.02.2018 to concerned Sarpanch, Hensmul Gram Panchayat, Talcher.
4.1 (k) ii.	An electronic copy of the EC letter shall be marked to the concerned State Pollution Control Board, Regional Office, District Industry Sector and Collector's Office/Tehsildar Office for information in public domain within 30 days	Complied An electronic copy of the EC letter has been marked vide letter no. No.PO/BBSRI OCP/Envt./2018/1407,1408 & 1409, dtd.20.02.2018 to Collector, Tahsildar, Sub-Collector, State Pollution Control Board, Regional Office, and also uploaded in company's website .
4.1 (k) iii.	The EC letter shall be uploaded on Company's website. The compliance 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. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM ₁₀ , PM _{2.5} , SO ₂ and NO _x (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.	Complied An electronic copy of the EC letter has been uploaded on Company's website along with half yearly compliance of the stipulated EC conditions. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM ₁₀ , PM _{2.5} , SO ₂ and NO _x (ambient) and critical sectoral parameters is also displayed at the entrance of the project premises and mine office.

ELECTRONIC DISPLAY OF ENVIRONMENTAL PARAMETERS



**Mahanadi
Coalfields
limited**

(A Subsidiary of Coal India Limited)

15/12/2020

17 43

AIR QUALITY

110-51.5 PM2.5-24.4 SO2

Compliance of EC Conditions- Bhubaneswari OCP

SI	CONDITIONS	CURRENT STATUS OF COMPLIANCE
4.1 (k) iv.	<p>The project authorities should 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 the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment, Forest and Climate Change at www.environmentclearance.nic.in and a copy of the same should be forwarded to the Regional Office.</p>	<p>Complied.</p> <p>Project Proponent has advertised EC related information in Anchalik, Odia daily newspaper and Times Business newspaper on dated 28.02.2018.</p>
4.1 (k) v.	<p>The Environmental Statement for each financial year ending 31 March in Form V is mandated to be submitted by the PP 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.</p>	<p>Complied.</p> <p>The Environmental Statement for each financial year ending 31st March in Form V is submitted regularly and uploaded on Company's website .</p> <p>Environmental Statement for financial year 2020-21 ending 31 March, 2021 in Form V, vide letter no. PO/BBSRI-OCP/Envvt/2021/3411, dtd: 29.05.2021.</p>

THANK
YOU