

# **ENVIRONMENTAL STATEMENT**

**(Form – V)**

*Under Rule – 14 of Environment Protection Rules, 1986  
and Amendment, 1993  
of*

## **Mines of Orient Area**

**For the year 2024-25**



# **MCL**

**Mahanadi Coalfields Ltd.**

**Post: Jagruti Vihar, Burla,**

**Dist: Sambalpur, Orissa-768020**

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## **Orient Area, MCL**

**For the year 2024-25**



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## **Mahanadi Coalfields Ltd.**

**Post: Jagruti Vihar, Burla,**

**Dist: Sambalpur, Orissa-768020**

# **ENVIRONMENTAL STATEMENT**

**(Form – V)**

*Under Rule – 14 of Environment Protection Rules, 1986  
and Amendment, 1993  
of*

## **Orient Mine No. 1&2 Underground Mine**

**For the year 2024-25**



# **MCL**

**Mahanadi Coalfields Ltd.**

**Post: Jagruti Vihar, Burla,**

**Dist: Sambalpur, Orissa-768020**

**FORM-V**

**ENVIRONMENTAL STATEMENT**

**Environmental statement for the financial year ending 31st March, 2025**

**PART-A**

1.	Name of Address of the owner/occupier of the industry operation or process (Name of the Project Officer/Sub-Area Manager & Office Address to be given)	Sri Arvind Kumar Verma Chief Manager /Sub Area Manager , Orient Sub-Area, Mine no-1&2 Post: Orient Colliery, Brajrajnagar Dist: Jharsuguda, Odisha
2.	Industry Category:	Primary (Coal Mining Operation)
3.	Production Capacity (Coal Production during: the year (2024-25))	0.215 MTPY
4.	Year of Establishment:	1971
5.	Date of the last Environmental Statement: submitted	24 <sup>Th</sup> September 2024

**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):**

Sl. No.	Industrial / Mining	Consumption in m <sup>3</sup> /Day
1.a	Haul Road Dust Suppression	35
b	Dust Suppression at CHP/ Surface bunker	0
c	Dust Suppression at Siding	2.9
d	Fire Fighting	22
e	Workshop	2.12
f	Others	43
2.	Domestic (Drinking Water Supply)	-
3.	<b>Total in m<sup>3</sup>/Day</b>	<b>105.02</b>

Name of Product	Water Consumption per unit of product (l/t)	
	2023-24	2024-25
COAL	157.86	154.97

**(II) Raw Material Consumption (Per tonne of Coal):**

Name of Raw Material	Consumption of Raw Material (per tonne of coal produced)	
	2023-24	2024-25
H.S.Diesel (l/t)	0.121 (Departmental + Contractual)	0.130 (Departmental + Contractual)
Petrol (l/t)	0.001	0.001
Lubricants (l/t)	0.103	0.89
Electricity (KWh/t)	116.16	108.54
Explosives (kg/t)	0.47	0.48

**PART-C**

**Pollution Discharged to Environment / Unit of Output**

(Parameter as specified in the Consent issued)

Pollutants	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants in discharges(mass/Volume)			Percentage variation from prescribed standards with reason
<b>Water (Annual Average)</b>					
		Mine effluent	OGT Outlet	STP Outlet	
TSS (mg/l)	Not possible to quantify	35.12	-	-	Within prescribed standards
BOD (mg/l)		-	-	-	
COD (mg/l)		25.5	-	-	
pH		7.55	-	-	
O & G (mg/l)		<4.0	-	-	
<b>Air (Ambient air quality of one station – annual average) :</b>					
<b>Orient Mine no. 2</b>					
SPM ( $\mu\text{g}/\text{m}^3$ )	Not possible to quantify	200.40			Within prescribed standards
PM <sub>10</sub> ( $\mu\text{g}/\text{m}^3$ )		91.07			
PM <sub>2.5</sub> ( $\mu\text{g}/\text{m}^3$ )		45.31			
SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )		14.43			
NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )		22.80			

**Part-D**

**Hazardous Wastes**

As specified under Hazardous Wastes (Management & Handling) Rules, 1989.

Hazardous waste	Total Quantity (kg)	
	During the previous financial year 2023-24	During the financial year 2024-25
<b>(a) From process :</b>		
i. Burnt Oil in Workshops	1.05 KL	Nil
ii. Oil soaked filters	10 Nos.	Nil
iii. Waste containing oil	0.01 Te	Nil
iv. Empty oil barrels	05 nos. (210 Liter drum)	04 nos. (210 Liter drum)
<b>(b) From pollution control facilities:</b>		
i. Oil emulsion recovery from Oil & Grease Trap	Not applicable	Not applicable
ii. Oily sludge	Not applicable	Not applicable
iii. Chemical Waste(if any)	NIL	NIL

**Part-E**

**Solid Wastes (Other than hazardous)**

Particulars	Total Quantity (kg)	
	During the previous financial year 2023-24	During the financial year 2024-25
<b>(a) From process (Top Soil &amp; overburden)</b>	Not applicable	Not applicable
<b>(b) From pollution control facilities (STP &amp; Sed-Pond Sludge)</b>	Not applicable	Not applicable
<b>(c) 1 - Quantity recycled or re-utilized (OB back filled)</b>	Not applicable	Not applicable
2 - Sold	Not applicable	Not applicable
3- Disposed	Not applicable	Not applicable

**Part-F**

**Please specify the characteristics ( in terms of concentration & quantum ) of hazardous as well as solid waste and indicate the disposal practice adopted for both these categories of waste.**

**(I) Hazardous Waste:**

Name of Hazardous Waste	Quantity generated in the year 2024-25	Disposal Practices
Burnt Oil etc (l) (from workshop)	Nil	Deposited at Regional Store, Orient Area, wherefrom it is to be auctioned to authorized parties.
Waste containing oil	Nil	Stored in impervious container under cover shed for future disposal.
Oil soaked filters (kg) (from workshop)	Nil	The filters are stored in impervious container under covered shed for future disposal.
Empty oil barrels	04 nos. (210 Liter drum)	Deposited at Regional Store, Orient Area, wherefrom it is to be auctioned to authorized parties.
Oil & Grease (kg) (from ETP/OGT)	Not Applicable	Not Applicable
Oily Sludge (tons) (from ETP/OGT)	Not Applicable	Not Applicable
Oil emulsion	Not Applicable	Not Applicable
Chemical waste if any (kg)	NIL	NA
Battery (Nos.)	NIL	NA

Note: A detailed note on disposal practices of the above should be given separately

**(II) Solid Wastes:**

Solid Waste	Quantity generated in the year 2024-25	Disposal Practices
Top Soil (m <sup>3</sup> )	Not Applicable	Not Applicable
OB (m <sup>3</sup> )	Not Applicable	Not Applicable
STP & Sed-Pond Sludge	Not Applicable	Not Applicable

**Land Reclamation & OB disposal – Progressive till March, 2025:**

	Area (Ha.)	OB Volume / Nos. of Plants
1) External OB Dump	Not Applicable	Not Applicable
2) Excavated land	Not Applicable	Not Applicable
3) Land affected (1+2)	Not Applicable	Not Applicable
4) Backfilled (Out of 2)	Not Applicable	Not Applicable
5) Land physically reclaimed (out of 3)	Not Applicable	Not Applicable
6) Land biologically reclaimed (out of 3)	Not Applicable	Not Applicable

**Part-G**

**Impact of pollution control measures on conservation of natural resource and consequently on cost of production.**

In order to carry out mining in an eco-friendly manner, a detailed Environmental Management Plan (EMP) was prepared by Regional Institute-VII of CMPDIL. The main pollution control measures suggested in EMP along with the measures implemented so far have been summarized in the Table-1.1 to 1.3.

**Table- 1.1**  
**Air Pollution Control Measures**

<b>Sl. No.</b>	<b>EMP Provisions</b>	<b>Whether provided or not</b>	<b>Remarks</b>
1	Water sprinkling and grading of all roads to minimize air-borne dust from vehicles.	Provided	Water spraying is being done along all the coal transportation roads with water tanker. Grading is being done as per requirement.
2	Biological reclamation of land.	Not Applicable	U/G Mine
3	Green belt around mine & infrastructure.	Provided	-
4	Drills fitted with dust control devices.	Not Applicable	U/G Mine
5	Dust suppression / dust extraction system to be provided in CHP.	Provided	There is no CHP at Mine No. 1&2. However, water spraying arrangement functions at discharge point of belt conveyor. In addition, Fog canon is being used for dust suppression at coal stock.
6	Mechanized coal transportation system.	Provided	Coal is being transported by Truck/Tipper of 18 tonne capacity.

**Table- 1.2**  
**Water Pollution Control Measures**

<b>Sl. No.</b>	<b>EMP Provisions/Additional precautions</b>	<b>Whether provided or not</b>	<b>Remarks</b>
1	Mine Water is to be collected in central sump on dip side of pit. This will act as sedimentation lagoon.	Not Applicable at Surface.	U/G Mine
2	Run-off around reclamation area will be controlled by providing catch drains and sedimentation lagoon combination.	Not Applicable.	U/G Mine
3	Surface run-off from external dump would be collected through a series of contour drains which	Not Applicable.	U/G Mine

	would be connected to a water retention pond. The clear water from this pond will be re-utilized.		
4	Domestic waste water will be treated in screens, oxidation pond/ aerated lagoon. Sanitary waste to be disposed off into septic tank and soak -pit.	Provided.	Septic Tank & Soak Pit has been provided.
5	Workshop effluents will be treated in Oil & Grease trap & sedimentation tank.	Not Applicable.	U/G Mine
6	Zero discharge from mine shall be maintained	-	U/G Mine
7	Piezometers shall be installed for measurement of under-ground water depth and its quality.	Provided	Piezometer MIP 03 installed beside IB Valley GM House.

**Table- 1.3**  
**Land Reclamation**

Sl. No.	EMP Provisions	Whether provided or not	Remarks
1	<b>Top Soil Management:</b> Proper stripping, storage and relocation of top soil.	Not Applicable	U/G Mine
2	<b>Physical Reclamation of OB dump:</b> Proper reshaping and regarding of top surface, providing drainage arrangements and top soil spreading for external and internal dumps.	Not Applicable	U/G Mine
3	<b>Biological Reclamation:</b> Plantation of suitable species of herbs, shrubs & indigenous trees over technically reclaimed dumps.	Not Applicable	U/G Mine

**IMPACT OF POLLUTION CONTROL MEASURES ON COST OF PRODUCTION**

Cost of environmental management during the year 2024-25 was Rs 50.72/- per tonne of Coal (Approx.)

**Part-H**

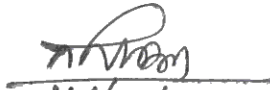
**Additional measures/ investment proposal for environment protection including abatement of pollution, prevention of pollution.**

Head	Amount Rs. (Approx.)
CMPDIL Bill Payment	97,13,534.62/-
Consent to Operate fee	2,25,000 /-
CGWA	5,06,325/-
Total	<b>1,04,44,859.62/-</b>

**Part-I**

**Any other particular in respect of environmental protection and abatement of pollution.**

**Note: Please attach plan showing the relevant features like Present Working/ Quarry, External Dump, Back filling, Plantation, Sedimentation Pond/MDTP, Oil & Grease Trap/ETP, Workshop, CHP, STP etc. & Environment Monitoring Stations.**

  
 17/9/25  
**Signature of the Project Officer,**


(with seal)  
 मुख्य प्रबंधक (खनन) उ.क्षे. प्र.  
 ओरिएण्टल उप-क्षेत्र/ ओरिएण्टल क्षेत्र।  
**Chief Manager (Mining)/S. A. M.**

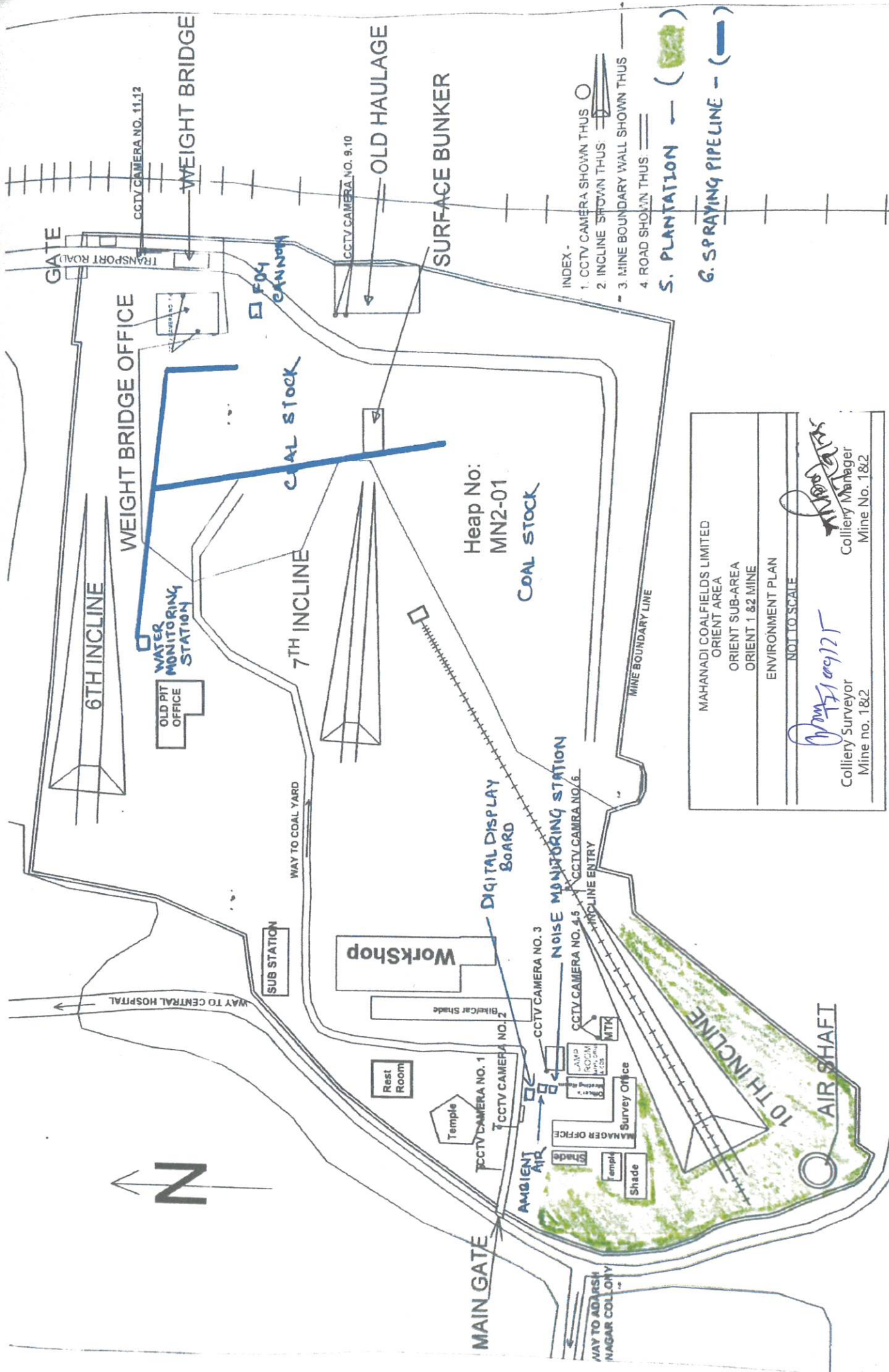
**Cost of Environmental Management for the year 2024-2025**  
**in respect of Orient Colliery Mine no. 1&2**

Activity during 2024-25	Cost (in Rs.)
CMPDIL Environment Monitoring Fee	97,13,534.62/-
Hazardous Waste Fee	4,500/-
CTO FEE	2,25,000 /-
CGWA	5,06,325/-
Digital Water Flow Meter	-
Hydrological Study	-
TOTAL	1,04,49,359.62/-

Coal Production of Orient Colliery Mine No. 1&2 during 2024-25- 2,06,005.00 Te.

Cost of environmental management during the year 2024-25 was Rs. 50.72/- per ton of Coal.

  
Sub Area Manager  
Orient Colliery mine no. 1&2  
Orient Area, M/s. MCL  
मुख्य प्रबंधक (खनन) उ क्षेत्र  
ओरिएण्ट उप-क्षेत्र (ओरिएण्ट क्षेत्र)  
Chief Manager (Mining) S.A.M.  
Orient Sub- Area (Orient Area)



- INDEX -
1. CCTV CAMERA SHOWN THUS ○
  2. INCLINE SHOWN THUS —
  3. MINE BOUNDARY WALL SHOWN THUS —
  4. ROAD SHOWN THUS —

5. PLANTATION — ( )

6. SPRAYING PIPELINE — ( )

MAHANADI COALFIELDS LIMITED ORIENT AREA ORIENT SUB-AREA ORIENT 1 & 2 MINE ENVIRONMENT PLAN NOT TO SCALE	Colliery Manager Mine No. 1&2
Colliery Surveyor Mine no. 1&2	

Heap No:  
MN2-01  
COAL STOCK

