

# FORM-V

## Environmental statement for the financial year ending 31<sup>st</sup> March, 2024

### Part-A

- i. Name & Address of the owner/occupier of the industry operation or process. Sri Satya Bhusan Barik.  
Project Officer Belpahar Opencast Mine  
PO: Bandhbahal Colony  
Dist: Jharsuguda, Odisha  
PIN-768211
- ii. Industry Category Primary (Coal Mining Operation)
- iii. Production Capacity (Coal production during the year 2023-24) 9.00 MTY (8999894.05 T.)
- iv. Year of establishment 1984
- v. Date of the last environmental Statement submitted. 22 September, 2023

### Part-B

#### Water & Raw Material Consumption

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

#### 1. Water Consumption (m<sup>3</sup>/day):

Sl. No.	Industrial/Mining	Consumption in m <sup>3</sup> /day
1.	<b>Industrial</b>	
a	Haul Road Dust Suppression	1491
b	Dust Suppression at CHP	Nil(CHP closed)
c	Dust suppression at siding	864
d	Fire fighting	186
e	Workshop	148
f	Others	154
2.	<b>Domestic</b>	79
	<b>Total in kl/day</b>	<b>2922</b>

Name of the product	Water Consumption per unit of product(l/t)	
	2022-23	2023-24
Coal	106.78	118.50

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2. Raw Material Consumption (per tonne of coal)

Name of Raw Material	Consumption of Raw Material(per tonne of coal produced)	
	During 2021-22	During 2023-24
H.S. Diesel (l/t)	0.908	0.440
Petrol (l/t)	Nil	Nil
Lubricants (l/t)	0.0125(Cont. and Dept.)	0.0054
Electricity (Units/t)	1.330	0.979
Explosives(kg/t)	0.217	0.0856

**Part-C**

Pollution Discharged to Environment/Unit of Output

Parameter as specified in the 'Consent' issued

Pollutants	Quantity of pollutants discharged (mass/day)	Concentration of pollutants in discharges (mass/volume)			Percentage variation from prescribed standards with reasons.
<b>Water (annual average)</b>					
		MDTP Outlet	ETP Outlet	Mine sump Water	
pH	Not possible to quantify	7.25	7.11	6.41	Within prescribed limit
O & G (mg/l)		<4.0	<4.0	<4.0	
TSS(mg/l)		36.5	41.14	48	
COD(mg/l)		26	32.57	34	
<b>Air [Ambient air quality Near Magazine House(Core Zone Station)]</b>					
		Annual Avg Value			
PM <sub>2.5</sub> ( $\mu\text{g}/\text{m}^3$ )	Not possible to quantify	49.17			Within the prescribed limits.
PM <sub>10</sub> ( $\mu\text{g}/\text{m}^3$ )		121.58			
SPM( $\mu\text{g}/\text{m}^3$ )		216.58			
SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )		14.87			
NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )		16.83			

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## Part-D

### Hazardous Wastes

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

Hazardous Waste	Total quantity	
	During financial year 2022-23	During financial year 2023-24
(a) From process		
(i.) Used oil recovered in workshop	(i) 7140Ltrs.	(i) 9002Ltrs.
(ii.) Used filters	(ii) 166 Nos.	(ii) 176 Nos.
(iii.) Used Battery	(iii) 10 Nos.	(iii) 23 Nos.
(b) From pollution control facilities		
(i.) Oil recovery from O & G Trap	(i) Nil	(i) Nil
(ii) Oily sludge	(ii) 3.15m <sup>3</sup>	(ii) 3.75m <sup>3</sup>
(iii) Chemical Waste (if any)	(iii) Not Applicable	(iii) Not Applicable

## Part-E

### Solid Wastes (other than hazardous)

Sl. no	Particulars	Total Quantity	
		During the year 2022-23	During the financial year 2023-24
1	(a) From process (Top soil and Over burden)	6.616Mm <sup>3</sup>	4.75Mm <sup>3</sup>
	(b) From pollution control facilities (STP and Sedimentation ponds)	0.050Mm <sup>3</sup>	0.050Mm <sup>3</sup>
	(c) Quantity recycled or re-utilized OB back-filled)	6.616Mm <sup>3</sup>	4.75Mm <sup>3</sup>
2	Solid	-	-
3	Disposed	Nil	Nil

## 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 wastes.

### 1. Hazardous Wastes:

Name of Hazardous Wastes	Quantity generated in the year 2023-24	Disposal Practices
Burnt oil etc(ltr) (from W/shop)	9002 Ltrs	Stored in containers over concrete floor under well-ventilated covered shed followed by sale to actual users having valid authorization.

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Oil-soaked filters (from Workshop)(Nos)	176 Nos.	Stored in impervious pits under well-ventilated covered shed
Oil recovered (from ETP/OGT)	-	Deposited in store for auction to authorized parties
Oil Sludge(m <sup>3</sup> )(From EP/OGT)	3.75m <sup>3</sup>	Stored in impervious pits under well-ventilated covered shed
Oil emulsion	-	-
Chemical Waste if any (Kg)	Nil	Nil
Battery (nos.)	10	Deposited in store for auction to authorized parties

## 2. Solid Waste

Solid Waste	Quantity generated in the year 2023-24	Disposal Practices
Top Soil (m <sup>3</sup> )	101307	NA
OB(m <sup>3</sup> )	4.75Mm <sup>3</sup>	Used for backfilling
STP Sludge& Sed. Pond sludge	590m <sup>3</sup>	Used as manure

## 3. Land Reclamation & OB disposal – progressive till March,2024

	Area (ha)	OB Volume/Nos. of Plants
1) External OB dump	55.33	19.01 Mm <sup>3</sup> / 138250 Plants
2) Excavated land	584.569	180.509 Mm <sup>3</sup>
3) Land affected (1+2)	639.89	-
4) Backfilled (out of 2)	433.757	161.499 Mm <sup>3</sup>
5) Land physically reclaimed (out of 3)	194.336	-
6) Land biologically reclaimed (out of 3)	164.13#	405000Plants

#The figure includes the biological reclaimed area of 55.33 Ha of external OB dump.

## Part-G

### Impact of pollution control measures on conservation of natural resources and consequently on cost of production.

In order to carry out mining in an eco-friendly manner, 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 – 1.1-1.3.

**Table – 1.1**  
**Air Pollution Control Measures.**

Sl. No.	EMP Provisions	Whether provided or not	Remarks
1	Watering and grading of all roads to minimize air-borne dust from vehicles.	Provided	Static fog cannons, mobile fog cannons, mist sprayers, fixed sprinklers and mobile water tankers are deployed.
2	Biological reclamation of land	Provided	Plantation is being done
3	Green belt around mine & infrastructures	Provided	Safety zone plantation & Avenue plantation
4	Drills fitted with dust control devices	Provided	Drills are fitted with dust extractor system.
5	Dust suppression/dust extraction system to be provided in CHP	CHP is closed.	Not Applicable
6	Improved maintenance of plant & machinery	Provided	Scheduled maintenance is carried out
7	Mechanized coal transportation system.	Provided	Coal is mainly transported to consumers through rail mode.

**Table – 1.2**  
**Water Pollution Control Measures**

Sl. No.	EMP Provision	Whether provided or not	Remarks
1	Mine water is to be collected in central sump on dip side of pit. This will act as sedimentation lagoon.	Provided	Mine Sumps
2	Run-off around reclamation area will be controlled by providing catch drains and sedimentation lagoon.	Provided	Catch drains are provided
3	Surface run-off from external dump would be collected through a series of contour drains which would be connected to a water retention pond. The clear water from this pond utilized for water sprinkling and showering of plants.	Provided	Eco pond & MDTP
4	Domestic waste water will be treated in screens oxidation pond/aerated lagoon. Sanitary waste to be disposed off into	Provided	STP of 1.7MLD capacity is provided for the colony of Integrated colony of Lakhanpur Area.

	septic tank & soak-pit.		
5	Workshop effluents will be treated in oil & grease trap & sedimentation tank.	Provided	ETP at Departmental Workshop.
6	Zero discharge from mine shall be maintained.	Provided	No water from mine is allowed to be discharged outside.
7	Piezometers installed for measurement of under-ground water depth and its quality	Provided	<b>MIP-07:</b> In front of DAV Public School Bandhbahal, inside premises of colony substation and <b>MIP-08:</b> Village- Kusraloi, inside premises of Prathamik Vidyalaya.

**Table – 1.3**  
**Land Reclamation**

Sl. No.	EMP Provision	Whether provided or not	Remarks
1	<u>Top soil Management:</u> Proper stripping, Storage and Relocation of top soil.	Provided	Concurrently spread over backfilled areas
2	<u>Physical Reclamation of OB Dump:</u> Proper reshaping and regarding of top surface, providing drainage arrangements and top soil spreading for external and internal dumps.	Provided	-
3	<u>Biological Reclamation:</u> Plantation of suitable species of herbs, shrubs & indigenous trees over technically reclaimed dumps.	Provided	164.13 Ha has been biologically reclaimed.

**IMPACT OF POLLUTION CONTROL MEASURES ON COST OF PRODUCTION.**  
**COST OF ENVIRONMENTAL MANAGEMENT DURING 2023-24 was Rs.21.07/tonne of coal.**

### **Part-H**

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

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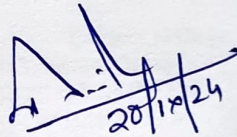
The Belpahar Opencast Mine has been amalgamated into the Integrated-Lakhanpur-Belpahar-Lilari Opencast Project (40.0 MTPA) and the Integrated-Lakhanpur-Belpahar-Lilari Opencast Project has started its operations from 27.03.2024. Additional environmental protection measures/investment will be taken in the Integrated-Lakhanpur-Belpahar-Lilari Opencast Project.

### Part – I

Any other particulars for improving the quality of the environment.

**Note:** Please attach a 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. and Environmental Monitoring Stations.

2/2/

  
20/11/24

Signature of the Project Officer

(With official seal)

PROJECT OFFICER

BELPAHAR O.C.M

Lakhanpur Area, MCL

2/2/

Expenditure made on environment protection measures in 2023-24

Sl.No.	Works	Expenditure (Rs.)
1.	CTO charges	3600000
2.	CMPDI Environmental Monitoring	18443734.83
3.	Water Charges (From April to march)	4781145
4.	House keeping	450000
5.	Dust suppression & Firefighting	53254656
6.	Plantation	89055639
7.	Contractual ETP	1000000
8.	IP Cameras	1000000
9.	Continuous Ambient Air Quality Monitoring Station	18069132
	<b>Total</b>	<b>189654307.83</b>

25/01  
20/09/24.

Nodal Officer(Environment)  
Belpahar Opencast Mine

20/09/24

Project Officer  
Belpahar Opencast Mine  
PROJECT OFFICER  
BELPAHAR O.C.M  
Lakhanpur Area, MCI

