

**FORM-V**  
**ENVIRONMENTAL STATEMENT**

**Environmental statement for the financial year ending 31<sup>st</sup> March, 2022**

**Part – A**

- i) Name & Address of the owner/ occupier : S. K. Prusti, Project Officer  
Of the industry operation or process : Lajkura Open Cast Project  
(Name of the Project Officer/ Sub-Area : Post- Lamtibahal, Brajrajnagar  
Manager & Office address to be given) : Dist- Jharsuguda, Odisha.
- ii) Industry Category : Primary (Coal Mining Operation)
- iii) Production Capacity (Coal production) : 4.5 MTY (Production 4.499 MT during 21-22)
- iv) Year of establishment : 1984
- 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 kl / day
1.a	Haul and Transport Road Dust Suppression	973
b	Dust Suppression at CHP	16
c	Dust Suppression at Siding	120
d	Fire Fighting	55
e	Workshop	40
f	Others	16
g	Surface Miner Operation	40
2.	Domestic	330
3.	<b>Total in kℓ/ day</b>	<b>1590</b>

Name of the Product	Water Consumption per unit of product (ℓ/ t)	
	2020-21	2021-22
Coal (production 2021-22-4.4999MT)	130.43	128.96

**(II) Raw Material Consumption (per tonne of coal):**

Name of Raw Material	Consumption of Raw Material (per tonne of Coal produced)	
	2020-21(Dept+Cont)	2021-22(Dept+Cont)
H.S. Diesel (ℓ/ t)	1.14	2.228
Petrol (ℓ/ t)	Nil	Nil
Lubricants (ℓ/ t)	0.630	0.043
Electricity (Units/ t)	1.629	1.634
Explosives (kg/ t)	0.773	1.30

**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 reasons
<b>Water (annual average)</b>					
		<b>Mine Effluent</b>	<b>OGT Outlet</b>	<b>STP Outlet</b>	
TSS (mg/ℓ)	Not possible to quantify	40.91	37.5	38.57	Within permissible limit
BOD mg/ℓ)		<2		<2	
COD (mg/ℓ)		29	29	28	
pH		6.0	5.66	7.00	
O & G (mg/ℓ)		<4	<4	--	
<b>Air (Ambient air quality of one station – annual average) , Mine Station No.1 (NW)</b>					
SPM (µg/m <sup>3</sup> )	Not possible to quantify	211.45			Within permissible limit.
RPM (µg/m <sup>3</sup> )		NA			
SO <sub>2</sub> (µg/m <sup>3</sup> )		13.65			
NO <sub>x</sub> (µg/m <sup>3</sup> )		24.9			
PM 2.5(µg/m <sup>3</sup> )		42.5			
PM 10(µg/m <sup>3</sup> )		119.95			

**Part – D****Hazardous Wastes**

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

Hazardous Waste	Total Quantity (kg)	
	During the previous financial year (2020-21)	During the current financial year (2021-22)
<b>(a) From process</b>		
i. Burnt Oil in Workshop	24787 lit.	27930 lit.
ii. Oil soaked filters	435 Nos.	354 Nos.
<b>(b) From pollution control facilities</b>		
i. Oil/Oil imulsion recovery from Oil & Grease Trap )	203 lit.	212 lit.
ii. Oily sludge	35 m <sup>3</sup>	46 m <sup>3</sup>
iii. Chemical Waste (if any)	Nil	Nil

**Part – E**  
**Solid Wastes (other than hazardous)**

Particulars	Total Quantity	
	During the previous financial year (2020-21)	During the current financial year (2021-22)
(a) From process (Top soil and Over burden)	8.806 Mm <sup>3</sup>	12.140 Mm <sup>3</sup>
(b) From pollution control facilities (STP & Sed-Pond Sludge)	Nil	Nil
(c) 1- Quantity recycled or re-utilized (OB back-filled)	8.806 Mm <sup>3</sup>	8.359 Mm <sup>3</sup>
2- Sold	Nil	Nil
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.**

**(I) Hazardous Wastes:**

Name of Hazardous Wastes	Quantity generated in the year 2021-22	Disposal Practices
Burnt Oil, etc. (ℓ) (from W/Shop)	27930 lit.	Deposited at Regional Store, IBVA wherefrom it is to be auctioned to authorized parties.
Oil soaked filters(kg) (from w/shop)	354	Disposed into impervious lined pit.
Oil & Grease (kg) (from ETP/ OGT)	212 lit.	Deposited at Regional Store, IBVA wherefrom it is to be auctioned to authorized parties.
Oily Sludge (tonne.) (from ETP/ OGT)	46 m <sup>3</sup>	Disposed into impervious lined pit.
Oil imulsion	Nil	
Chemical Waste if any (kg)	Nil	
Battery (nos.)	41 nos	Deposited at Regional Store, IBVA wherefrom it is to be auctioned to authorized parties.

**(II) Solid Wastes:**

Solid Waste	Quantity generated in the year 2021-22	Disposal Practices
Top Soil (m <sup>3</sup> )	0.008 Mm <sup>3</sup>	The Top soil generated is spread over north dump and external dump.
OB (m <sup>3</sup> )	12.132 Mm <sup>3</sup>	Out of 12.132 Mm <sup>3</sup> , 8.359 Mm <sup>3</sup> was used for backfilling of quarry voids.
STP & Sed-Pond Sludge	Nil	-

## Land Reclamation & OB disposal – progressive till March, 2022:

	Area (ha.)	OB Volume/ Nos. of Plants
1) External OB dump	43.705	10.010 Mm <sup>3</sup> - 83250 Nos
2) Excavated land	193.66	141.696 Mm <sup>3</sup>
3) Land affected (1+2)	237.365	-
4) Backfilled (out of 2)	129.597	131.686 Mm <sup>3</sup>
5) Land physically reclaimed (out of 3)	41.43	
6) Land biologically reclaimed(out of 3)	67.53 (including Ext. OB dump)	163825 nos

### 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 to 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	4 nos. of 28KL water sprinkler along with 2 nos. of 9/12 KL capacity outsourced water sprinklers are used and fixed water sprinklers are being installed along CT road to arrest the coal dust.
2	Biological reclamation of land.	Provided	
3	Green belt around infrastructures & mine.	Provided	Saplings are being planted around the mine.
4	Drills fitted with dust control devices.	Provided	All drill machines are fitted with dust collectors.
5	Dust suppression/ dust extraction system to be provided in CHP.	Provided	Dust is being suppressed by continuous fixed water spraying arrangement.
6	Improved maintenance of plant & machinery.	Provided	Plants and machineries are maintained as per checklist/ schedule.
7	Mechanized coal transportation system.	Provided	

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

Sl. No	EMP Provisions	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 water is collected in the two sumps namely, north sump and south sump, which acts as sedimentation lagoon.
2	Run-off around reclamation area will be controlled by providing catch drains and sedimentation lagoon combination.	Provided	Garland drains are provided at top and toe of the reclaimed dump area, which are connected to the mine sump. From the mine sump it is pumped out to MDTP where it is treated and reused.
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 will be re-utilised.	Provided	Drains are present at the toe of external dumps, which is connected to MDTP where it is treated and reused again.
4	Domestic wastewater will be treated in screens, oxidation pond/ aerated lagoon. Sanitary waste to be disposed off into septic tank & soak-pit.	Provided	Septic tank and soak pit provided. Also STP of 0.5 MLD is Provided
5	Workshop effluents will be treated in oil & grease trap & sedimentation tank.	Provided	Workshop effluents are being treated in oil & grease trap & sedimentation tank.
6.	Zero discharge from mine shall be maintained.	Maintained	
7.	Piezometers shall be installed for measurement of under-ground water depth and its quality.	Provided	MIP 04, Near Jamkani High School (Gumadera), Lajkura OCP

**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.	Provided	
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.	Provided	In the dumps which have reached the permissible height limit, technical reclamation has been done and Top soil has been spread over them for biological reclamation
3	<b>Biological Reclamation:</b> Plantation of suitable species of herbs, shrubs & indigenous trees over technically reclaimed dumps.	Provided	Plantation is done over the technically reclaimed area.

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

COST OF ENVIRONMENTAL MANAGEMENT DURING 2021-22 was Rs.25.26 per tonne of Coal.

**Part – H**

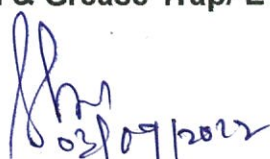
Additional measures/ investment proposal for environmental protection including abatement of pollution, prevention of pollution.


Head	Amount Rs. (approx)
Biological reclamation	07 Lakh
Dust suppression	19 Lakh
Cleaning	02 Lakh
Environmental Monitoring	25 Lakh
Other fee	33 Lakh
Operation & maintenance of Pollution control measures	119 Lakh
Miscellaneous	08 Lakh
<b>Total</b>	<b>213 Lakh</b>

**Part – I**

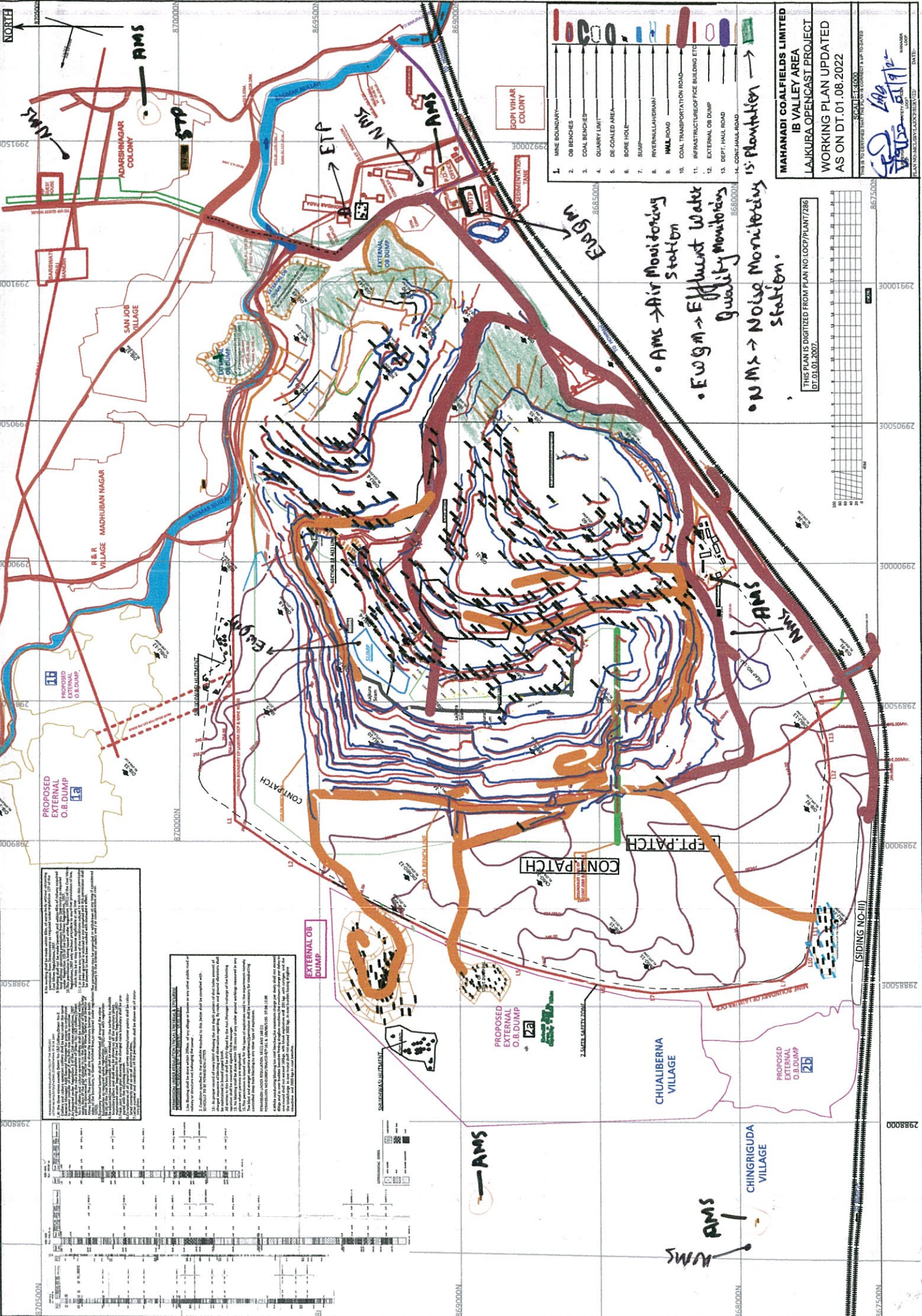
Any other particulars for improving the quality of the environment.

**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.**

  
**Signature of the Project Officer, Lajkura OGP**


**लजकुरा ओ.सी.पी. ईब वैली क्षेत्र  
Project Officer**

Lajkura O.C.P. IB Valley Area



**MAHANADI COALFIELDS LIMITED**  
**IB VALLEY AREA**  
**LAJUBA OPENCAST PROJECT**  
**WORKING PLAN UPDATED**  
**AS ON DT. 01.08.2022**

SCALE: 1:15,000

THIS IS DERIVED FROM THE PLAN NO. LCP/PLAN/7/286  
 DT. 01.01.2007.

DATE: \_\_\_\_\_

- AMS → Air Monitoring Station
- EWQM → Effluent Water Quality Monitoring Station
- NMS → Noise Monitoring Station.

**PROPOSED EXTERNAL OB DUMP**  
 1a

**PROPOSED EXTERNAL OB DUMP**  
 1b

**PROPOSED EXTERNAL OB DUMP**  
 2a

**PROPOSED EXTERNAL OB DUMP**  
 2b

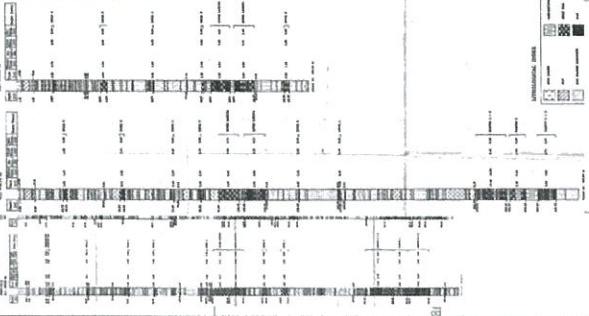
**EXTERNAL OB DUMP**

**CONTRAPATCH**

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MAHANADI COALFIELDS LIMITED  
 IB VALLEY AREA  
 LAJUBA OPENCAST PROJECT  
 WORKING PLAN UPDATED  
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