FORM-V
ENVIRONMENTAL STATEMENT

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

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)	Agent- Sri P S Sinha, Sub-Area Manager, Hirakhand Bundia Mine, Post: Rampur colliery, via-Brajrajnagar, Dist.-Jharsuguda, Odisha-768225
2	Industry Category:	Primary (Coal Mining Operation)
3	Production Capacity [Coal Production during: the year (2021-22)]	0.95 MTPY (210000 Te.)
4	Year of Establishment:	1980
5	Date of the last Environmental Statement: submitted	23rd September, 2021

PART-B
Water & Raw Material Consumption

Note: Average Water Consumption (m^3 / Day) for the whole year is given. Raw material consumption is given per unit of coal produced.

(I) Water Consumption (m^3 /Day):

Sr. No.	Industrial / Mining	Consumption in m^3/Day
1.a	Haul/CT Road Dust Suppression	45
b	Dust Suppression at CHP/Bunker	15
c	Dust Suppression at Siding	0
d	Fire Fighting	15
e	Workshop	0
f	Other	72
2.	Domestic	100
3.	Total in m3/Day	247

Name of Product	Water Consumption per unit of product (L/t)	
	2020-21	**2021-22**
COAL	378.24	429.31

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

Name of Raw Material	Consumption of Raw Material (Per tonne of coal produced)	
	2020-21	**2021-22**
H.S.Diesel (l/t)	0.192 (Dept.+Cont.)	0.222 (Dept.+Cont.)
Petrol (l/t)	0.00	0.00
Lubricants (l/t)	0.026	0.05
Electricity (KWh/t)	69.78	49.23
Explosives (kg/t)	0.64	0.65

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**
Water (Annual Average): Discharge of HBI Mine-Mine Sump of HBI					
	Not possible to quantify	Mine effluent	OGT Outlet	STP Outlet	
TSS (mg/l)		32.08	-	-	Within prescribed standards
BOD (mg/l)		-	-	-	
COD (mg/l)		27	-	-	
pH		7.21	-	-	
O & G (mg/l)		<4.0	-	-	
Air (Ambient air quality of one station – annual average): HBI Mine					
SPM ($\mu g/m^3$)	Not possible to quantify	251.21			Within prescribed standards
PM_{10} ($\mu g/m^3$)		154.04			
$PM_{2.5}$ ($\mu g/m^3$)		51.41			
SO_2 ($\mu g/m^3$)		16.12			
NO_X ($\mu g/m^3$)		25.43			

PART-D

Hazardous Wastes

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

Hazardous waste	**Total Quantity (kg)**	
	During the financial year (2020-21)	During the financial year (2021-22)
(a) From process: (i) Burnt Oil in Workshops	1.23 KL (approx)	2.12 KL
(ii) Waste residue containing oil	0.02 ton	0.02 ton
(iii)Oil soaked filters	04 No's	04 No's
(iv) Empty oil barrels	10 No's	10 No's
(b) From pollution control facilities: (i)Oil/Oil emulsion recovery from Oil and 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 (2020-21)	During the current financial year (2021-22)
(a) from process (Top Soil & overburden)	Not Applicable	Not Applicable
(b) from pollution control facilities (STP & Sed-Pond Sludge)	Not Applicable	Not Applicable
(c) 1 – Quantity recycled or re-utilized (OB back filled)	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 2021-22	Disposal Practices
Burnt oil (l) (from W/Shop)	2.12 KL	These are re-used for lubrication of axle of coal Tubs, belt conveyor rollers, equalizing gears of drive head and pumps.
Waste residue containing oil	0.02 ton	Stored in impervious container under covered shed for future disposal.
Oil soaked filters(kg) (from W/Shop)	04 No's	Stored in impervious container for future disposal.
Empty oil barrels	10 No's	3 Nos empty barrels are reused for handling used oil and rest of the barrels are reused for handling/ transportation of new Hydraulic Oil & Transmission Oil.
Oil & Grease (kg) (from ETP/OGT)	Not Applicable	Not Applicable
Oily Sludge (tonne) (from ETP/OGT)	Not Applicable	Not Applicable
Oil Imulsion	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 2021-22	Disposal Practices
Top Soil (m^3)	Not Applicable	Not Applicable
OB (m^3)	Not Applicable	Not Applicable
STP & Sed-Pond Sludge	Not Applicable	Not Applicable

Land Reclamation & OB disposal – Progressive till March, 2020:

	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

Sl. No.	EMP Provisions	Whether provided or not	Remarks
1	Watering and grading of all roads to minimize air-borne dust from vehicles.	Provided	Regular water spraying on coal transportation road is being done to minimize airborne dust from vehicles.
2	Biological reclamation of land.	Not Applicable	U/G Mine
3	Green belt around mine & infrastructure.	Provided	Mine is surrounded by trees along the boundary.
4	Drills fitted with dust control devices.	Water sprinkling is done prior to drilling.	U/G Mine
5	Dust suppression / dust extraction system to be provided in CHP/along conveyor belt/ Surface bunker.	Provided	Fixed water sprinklers are present at every transfer point along belt line for effective dust suppression.
6	Improved maintenance of plant & machinery.	Provided	Scheduled maintenance of machinery is being practiced.
7	Mechanized coal transportation system.	Provided	Coal is transported to surface through a series of belts.

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.	U/G Mine Sump
2	Run-off around reclamation area will be controlled by providing catch drains and sedimentation lagoon combination.	Not Applicable.	
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 discharged to natural water course.	Not Applicable.	
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 the mine shall be maintained.	-	U/G Mine
7	Piezometers shall be installed for measurement of under-ground water depth and its quality.	Provided	Piezometer No. MIP-05 installed at Chhualiberna.

Table- 1.3

Land Reclamation

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

IMPACT OF POLLUTION CONTROL MEASURES ON COST OF PRODUCTION

Cost of environmental management during the year **2021-22** was Rs. 40.87 **per tonne of** Coal.

PART-H

Additional measures/ investment proposal for environment protection including abatement of pollution, prevention of pollution during the year 2022-23.

Head	Amount Rs. (Approx.)
Dust Suppression	3,00,000
CMPDIL Bill Payment	1,39,55,177
Road Cleaning	1,08,000
Consent to Operate fee	3,80,000
HWM fee	17,500
Plantation/ Distribution of saplings	2,50,000
Miscellaneous (Firefighting etc.)	2,00,000
Fog cannon	9,50,000
Vertical greenery system	5,00,000
Env. Display board	1,50,000
Total	**1,68,10,677**

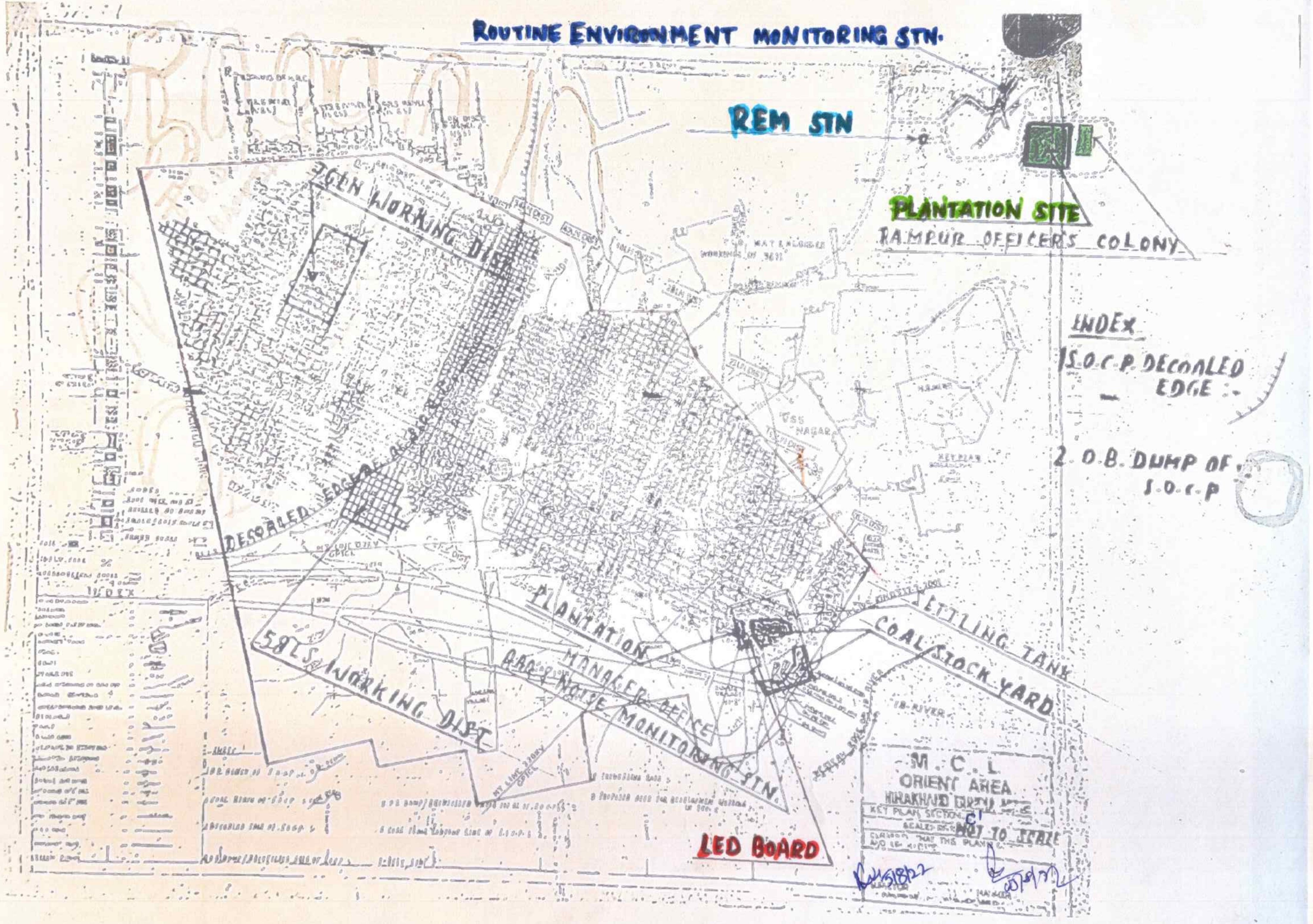
Part-I

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.

5/8/22

Sub-Area Manager,
Hirakhand Bundia Mine,
Rampur Sub-Area.


ROUTINE ENVIRONMENT MONITORING STN.
REM STN
PLANTATION SITE
RAMPUR OFFICERS COLONY
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1 S.O.C.P. DECOALED EDGE :-
2 O.B. DUMP OF S.O.C.P
30 CN WORKING DIST
DECOALED EDGE OF S.O.C.P
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MANAGER OFFICE
AAQ & NOISE MONITORING STN.
58 LS WORKING DIST
SETTLING TANK
COAL STOCK YARD
LED BOARD
VSS NAGAR
M.C.L
ORIENT AREA
HIRAKHAND
KEY PLAN SECTION C'
NOT TO SCALE