

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)	Sri Gangadhar Mahto 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 (2020-21))	0.87 MTPY (2,30,250Te.)
4.	Year of Establishment:	1971
5.	Date of the last Environmental Statement: submitted	23rd September 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):

Sl. No.	Industrial / Mining	Consumption in m ³ /Day
1.a	Haul Road Dust Suppression	30
b	Dust Suppression at CHP/ Surface bunker	10
c	Dust Suppression at Siding	0
d	Fire Fighting	15
e	Workshop	5
f	Others	60
2.	Domestic	-
3.	Total in m³/Day	120

Name of Product	Water Consumption per unit of product (l/t)	
	2020-21	2021-22
COAL	161.35	158.95

(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)	0.166 (Departmental + Contractual)	0.507 (Departmental + Contractual)
Petrol (l/t)	0.001	0.001
Lubricants (l/t)	0.062	0.07
Electricity (KWh/t)	120	88.89
Explosives (kg/t)	0.457	0.47

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)					
		Mine effluent	OGT Outlet	STP Outlet	
TSS (mg/l)	Not possible to quantify	41.25	-	-	Within prescribed standards
BOD (mg/l)		-	-	-	
COD (mg/l)		35.33	-	-	
pH		7.3	-	-	
O & G (mg/l)		<4.0	-	-	
Air (Ambient air quality of one station – annual average) : Orient Mine no. 2					
SPM ($\mu\text{g}/\text{m}^3$)	Not possible to quantify	233.33			Within prescribed standards
PM ₁₀ ($\mu\text{g}/\text{m}^3$)		145.7			
PM _{2.5} ($\mu\text{g}/\text{m}^3$)		46.58			
SO ₂ ($\mu\text{g}/\text{m}^3$)		15.01			
NO _x ($\mu\text{g}/\text{m}^3$)		28.08			

Part-D

Hazardous Wastes

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

Hazardous waste	Total Quantity (kg)	
	During the previous financial year 2020-21	During the financial year 2021-22
(a) From process :		
i. Burnt Oil in Workshops	1.05 kL	1.05 kL
ii. Oil soaked filters	10 nos.	10 nos.
iii. Waste containing oil	0.02 te	0.01 te
iv. Empty oil barrels	10 nos. (210 liter drum)	05 nos. (210 liter drum)
(b) From pollution control facilities:		
i. Oil/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 2020-21	During the 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	Quantify generated in the year 2021-22	Disposal Practices
Burnt Oil etc (l) (from workshop)	1.05 kL	Deposited at Regional Store, Orient Area, wherefrom it is to be auctioned to authorized parties.
Waste containing oil	0.01 te	Stored in impervious container under cover shed for future disposal.
Oil soaked filters (kg) (from workshop)	10 nos.	The filters are stored in impervious container under cover shed for future disposal.
Empty oil barrels	05 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 (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	Quantify 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, 2022:

	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	Water sprinkling and grading of all roads to minimize air-borne dust from vehicles.	Provided	Water spraying is done along underground roadways
2	Biological reclamation of land.	Not Applicable	U/G Mine
3	Green belt around mine & infrastructure.	Provided	-
4	Drills fitted with dust control devices.	Water sprinkling is done prior to drilling.	Water spraying done with the help of hose pipes.
5	Dust suppression / dust extraction system to be provided in CHP.	Provided	No CHP. Fixed water sprinklers are operational at every transfer point along belt line in underground for effective dust suppression.
6	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/Additional precautions	Whether provided or not	Remarks
1	Mine Water is to be collected in central dump on dig 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.	U/G Mine
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.	Not Applicable.	U/G Mine
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	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.27.16 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	60,00,000
Consent to Operate fee	3,48,000
Others	10,00,000
Total	73,48,000

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.


Signature of the Project Officer,
 (with seal)
 Chief Manager (Mining)/S.A.#.
 Orient Sub- Area (Orient Area)

COAL STOCK NO-3



INDEX:-

- 01. SPRAYING PIPE LINE SHOWN THUS:
- 02. PLANTATION SHOWN THUS:
- 03. ROAD SHOWN THUS:-
- 04. ENVIROMEN MONITORING STATION:-
- 05. ORIENT COLLIERY RLY SIDING.

- ← AMBIENT AIR
- ← NOISE MONITORING STATION

WP GUEST HOUSE

WATER MONITORING STATION

BOUNDARY WALL

6TH INCLINE
SETTLING TANK
FILTER PLANT
WATER DIV.

COAL STOCK NO-2

SUB STATION

P.T. OFFICE

BRIDGE

SECURITY ROOM

BELT CONVEYOR

SURFACE DISCHARGE
HAULING HOUSE

7TH INCLINE
H. HOUSE

1/6 WATER DISCH. POINT

COAL STOCK NO-1

REST SHELTER

WORK SHOP

HAIRGATE

AMBIENT AIR NOISE MONITORING STN

POINT STN

TIPPLER

BOUNDARY WALL

PIPELINE

10TH INCLINE
SUR. OFFICE

SECURITY ROOM
Mkt. OFFICE

TO BRN STN.

M.C.L.
OA, OSA
ORIENT COLLIERY, 142 MINE
ENVIRONMENTAL PLAN
NOT TO SCALE

SURVEYOR
O.C. 142 MINE

COLLECTOR
O.C. 142 MINE