

FORM-V

ENVIRONMENTAL STATEMENT

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

Part – A

- i) Name & Address of the owner/ occupier : **Shri V.K. Singh,**
of the industry operation or process: **Project Officer,**
(Name of the Project Officer/ Sub-Area **Lakhanpur Opencast Project,**
Manager & Office address to be given) **P.O. Ubuda, VIA- Belpahar,**
Jharsuguda, Odisha- 768214
- ii) Industry Category : Primary (Coal Mining Operation)
- iii) Production Capacity (Coal production during the year (2020-21) : 21.000MT (20.999MT)
- iv) Year of establishment : 1991
- v) 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):

Ser No.	Industrial/ Mining	Consumption in Cu-m/ day
1. a	Haul Road Dust Suppression	4736
b	Dust Suppression at CHP	0
c	Dust Suppression at Siding	2916
d	Fire Fighting	650
e	Workshop	200
f	Others	0
2.	Domestic	250
3.	Total in kℓ/ day	8752

Name of the Product	Water Consumption per unit of product (ℓ/ t)	
	2020-21	2021-22
Coal	107.15	152.11

(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) (dept. +cont.)	2.320	2.075
Petrol (ℓ/ t)	--	--
Lubricants (ℓ/ t) (dept. +cont.)	0.034	0.022
Electricity (Units/ t) (dept. +cont.)	0.230	0.849
Explosives (kg/ t)	0.540	0.790

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
Water (annual average)					
		MDTP	OGT Outlet 1	Mine sump water	Within standard limits
TSS (mg/ℓ)	Not possible to quantify	43.67	46	45.58	
BOD mg/ℓ)		-	-	-	
COD (mg/ℓ)		36.5	32	36.20	
pH		6.89	6.89	6.98	
O&G (mg/ℓ)		<4.0	<4.0	<4.0	
Air (Ambient air quality of one station– annual average)South of Quarry 6					
SPM (µg/m ³)	Not possible to quantify	143.42			Within standard limits
RPM (µg/m ³)		76.33			
SO ₂ (µg/m ³)		15.68			
NO _x (µg/m ³)		15.69			

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	83100 Ltr	80640 Ltr
ii. Oil soaked filters	1683 Nos.	2361 Nos.
(b) From pollution control facilities:		
i. Oil/ Oil emulsion recovery from Oil & Grease Trap	250 Ltr	275 Ltr
ii. Oily sludge	220 m ³	230 m ³
iii. Chemical Waste(if any)	Not applicable	Not applicable

Part – E
Solid Wastes (other than hazardous)

Particulars	Total Quantity	
	During the financial year 2020-21	During the financial year 2021-22
(a) From process (Top soil and Over burden)	39.772 Mm ³	38.343 Mm ³
(b) From pollution control facilities (STP)	Nil	Nil
Sedimentation pond sludge	3600 m ³	3600 m ³
(c) 1- Quantity recycled or re-utilized (OB back-filled)	39.772 Mm ³	38.343 Mm ³
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 wastes.

(I) Hazardous Wastes:

Name of Hazardous Wastes	Quantity generated in the year 2021-22	Disposal Practices
Burnt Oil, etc. (ℓ)(from W/Shop)	806400 L	Stored in barrels under covered shed and sold to authorized recyclers through auction.
Oil soaked filters(kg) (from W/Shop)	2361 Nos.	Excess oil is removed from filters and disposed in impervious lined pit
Oil & Grease (kg)(from ETP/ OGT)	275 L	Collected and Stored in barrels under covered shed and sold to authorized recyclers through auction.
Oily Sludge (te.) (from ETP/ OGT)	230 m ³	Dried off in bed and disposed in impervious lined pit
Oil emulsion	Nil	Not applicable
Chemical Waste if any (kg)	Nil	Not applicable
Battery (nos.)	47 Nos.	Stored in separate battery storage room and sold to authorized recyclers

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)	0.144 Mm ³	Spread over the backfilled area
OB (m ³)	38.199 Mm ³	Used for backfilling of quarry voids
STP & Sed-Pond Sludge	520 m ³	Used as manure

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

	Area (ha.)	OB Volume/ Nos. of Plants
1) External OB dump	17.50 Ha	1.94 Mm ³ / 43750
2) Excavated land	863.92 Ha.	405.065 Mm ³
3) Land affected (1+2)	881.42 Ha.	-
4) Backfilled (out of 2)	503.97 Ha.	403.125 Mm ³
5) Land physically reclaimed (out of 3)	305.37 Ha	-
6) Land biologically reclaimed (out of 3)	147.20 Ha. #	5,12,094 Plants *

the figure includes 17.50 Ha of external OB dump.

*the figure includes plantation in external OB dump, back filled areas and other areas.

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	Water sprinkling and grading of all roads to minimize air-borne dust from vehicles.	Provided	Fixed sprinklers and both departmental and contractual water tankers have been deployed
2	Biological reclamation of land.	Provided	147.20 Ha. have been biologically reclaimed since inception
3	Green belt around mine & infrastructures.	Provided	Dense plantation have been developed around the mine boundary
4	Drills fitted with dust control devices.	Provided	Dust extractor have been provided
5	Dust suppression/ dust extraction system to be provided in CHP.	Not Applicable	CHP closed
6	Improved maintenance of plant & machinery.	Provided	Scheduled maintenance is being carried out
7	Mechanized coal transportation system.	Provided	Rail transport capacity have been increased

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 sump on dip side of pit. This will act as sedimentation lagoon.	Provided	Quarry void is used as mine sump
2	Run-off around reclamation area will be controlled by providing catch drains and sedimentation lagoon combination.	Provided	Garland drains channelized to mine sumps
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	Garland drains channelized to mine sumps
4	Domestic waste water will be treated in screens, oxidation pond/ aerated lagoon. Sanitary waste to be disposed off into septic tank & soak-pit.	Provided	STP provided for three projects under Lakhanpur Area administrative control.
5	Workshop effluents will be treated in oil & grease trap & sedimentation tank.	Provided	3 ETP's of 240 m ³ /day out of which one ETP of 50 KLD has been renovated with state art of technology
6	Zero discharge from mine shall be maintained.	Provided	No water is being discharged outside. Mine water is being stored and used for various mining activities.
7	Piezometers shall be installed for measurement of under-ground water depth and its quality	Provided	Two piezometers installed, one, MIP-10, at Dahaldera school premises (21°46'51.61"N 83°48'47.60"E) and one, MIP-09, at State Govt. Horticulture Institute (21°45'49.21"N 83°47'42.22"E)

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.	Provided	Spread over backfilled area
2	Physical Reclamation of OB Dump: Proper reshaping and regrading of top surface, Providing drainage arrangements and top soil spreading on external and internal dumps.	Provided	305.37 Ha. area technically reclaimed since inception
3	Biological Reclamation: Plantation of suitable species of herbs, shrubs & indigenous trees over technically reclaimed dumps.	Provided	147.20 Ha area biologically reclaimed since inception

IMPACT OF POLLUTION CONTROL MEASURES ON COST OF PRODUCTION:

Cost of environmental management during 2021-22 was Rs. 17.58 per tonne of Coal.

Part – H

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

Head	Amount Rs. (approx.)
Environmental monitoring charges	100 Lakhs
Plantation	200 Lakhs
Drain cleaning	100 lakhs
Plant distribution	01 lakh
ETP maintenance	05 lakhs
Haul road and CT road maintenance	300 lakhs
CTO & HWA charges	84 lakhs
Dust suppression by water tankers	45 lakhs
Mobile water tanker	1000 lakhs
Fog Cannon	350 Lakhs
Truck Mounted Fog Cannon	2000 Lakhs
ETP	15 Lakhs

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.

Handwritten signature and date: 02/09/22

Signature of the Project Officer.

Project Officer
Lakhanpur OCP
Lakhanpur Area, MCL

