

FORM-V ENVIRONMENTAL STATEMENT

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

Part – A

- i) Name & Address of the owner/occupier : S.V.Joshi
of the industry operation or process : Project Officer (Balaram OCP)
(Name of the Project Officer/ Sub-Area : P.O – Danara, Talcher
Manager & Office address to be given) : Dist: Angul, Odisha
Pin: 759148
- ii) Industry Category : Primary (Coal Mining Operation)
- iii) Production Capacity (Coal production :
During the year 2021-22) : 8 MTPA (6.526 Million tonne)
- 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	1252
b	Dust Suppression at CHP	0
c	Dust Suppression at Siding & Coal Stocks	2410
d	Fire Fighting	28
e	Workshop	40
f	Others	22
2.	Domestic	1000
3.	Total in kℓ/ day	4752

Name of the Product	Water Consumption per unit of product (ℓ/ t)	
	2020-21	2021-22
Coal	225.77	265.78

(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)	0.738 (Dept+Contr)	1.538(Dept+Contr)
Petrol (ℓ/ t)	Nil	Nil
Lubricants (ℓ/ t)	0.022 (Dept+Contr)	0.013 (Dept+Contr)
Electricity (Units/ t)	2.490	6.236
Explosives (kg/ t)	0.990	2.404

(Handwritten Signature)

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)					
		Mine Effluent	OGT Outlet	STP Outlet	
TSS (mg/l)	Not possible to quantify	44	36.33	36.83	Within Prescribed Limit
BOD mg/l)			---	<2.00	
COD (mg/l)		32	27.66	---	
pH		7.35	7.69	7.33	
O & G (mg/l)		<4.0	<4.0	---	
Air (Ambient air quality of one station – annual average): South west of the mine- Compliance station					
SPM ($\mu\text{g}/\text{m}^3$)	Not possible to quantify		249.12		Within Prescribed Limit
PM ₁₀ ($\mu\text{g}/\text{m}^3$)			152		
PM _{2.5} ($\mu\text{g}/\text{m}^3$)			52.41		
SO ₂ ($\mu\text{g}/\text{m}^3$)			16.33		
NO _x ($\mu\text{g}/\text{m}^3$)			27.37		

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 current financial year (2021-22)
(a) From process :		
i. Burnt Oil in Workshops	50230 Ltr	49990 Ltr
ii. Oil soaked filters	212 Nos	185 Nos
(b) From pollution control facilities:		
i. Oil/ Oil imulsion recovery from Oil & Grease Trap	1.80 KL (Oil)	2.86 KL (Oil)
ii. Oily sludge	48 m ³ (Oily Sludge)	52 m ³ (Oily Sludge)
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)	15.788 Mm ³	15.435 Mm ³
(b) From pollution control facilities (STP & Sed-Pond Sludge)	38.28 m ³	39.18 m ³
(c) 1- Quantity recycled or re-utilized (OB back-filled)	15.788 Mm ³	15.435Mm ³
2- Sold	---	---
3- Disposed	---	---

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)	49990 Ltr	By Auction to authorized parties
Oil soaked filters(kg) (from W/Shop)	185 Nos	Disposed off in impervious lined pit
Oil & Grease (kg) (from ETP/ OGT)	2.86 KL(Oil)	By Auction to authorized parties
Oily Sludge (te.) (from ETP/ OGT)	52 m ³ (Oily Sludge)	Disposed off in impervious lined pit
Oil imulsion	Nil	---
Chemical Waste if any (kg)	Nil	---
Battery (nos.)	102	By Auction to authorized parties

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)	8250 m ³	Spread over OB dump for reclamation
OB (m ³)	15.427 Mm ³	Used to fill the quarry voids
STP & Sed-Pond Sludge	39.18 m ³	Used as manure

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

	Area (ha.)	OB Volume/ Nos. of Plants
1) External OB dump	50.82	11.28 Mm3
2) Excavated land	504.11	199.218 Mm3
3) Land affected (1+2)	554.93	-----
4) Backfilled (out of 2)	331.41	187.938 Mm3
5) Land physically reclaimed (out of 3)	263.48	-----
6) Land biologically reclaimed (out of 3) *includes 26.52 external OB dump biologically reclaimed area	122.98	288850 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	Water sprinkling and grading of all roads to minimize air-borne dust from vehicles.	Provided	
2	Biological reclamation of land.	Provided	
3	Green belt around mine & infrastructures.	Provided	
4	Drills fitted with dust control devices.	Provided	
5	Dust suppression/ dust extraction system to be provided in CHP.	Provided	
6	Improved maintenance of plant & machinery.	Provided	By scheduled maintenance
7	Mechanized coal transportation system.	Provided	

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	
2	Run-off around reclamation area will be controlled by providing catch drains and sedimentation lagoon combination.	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 will be re-utilised	Provided	
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 Balram Colony.
5	Workshop effluents will be treated in oil & grease trap & sedimentation tank.	Provided	
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	MTP-10 Inside the premises of Danara High School. MTP-12 In Betianalli village, opposite to sindhu deori's house. MTP-13 .Inside the premise of Ambapal Natarha high school. MTP -17 . Inside the premises of market building (through gram in rojgar yojna, Kandhaberani village

**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	
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	
3	Biological Reclamation: Plantation of suitable species of herbs, shrubs & indigenous trees over technically reclaimed dumps.	Provided	

IMPACT OF POLLUTION CONTROL MEASURES ON COST OF PRODUCTION

COST OF ENVIRONMENTAL MANAGEMENT DURING 2021-22 was Rs.5.16 per tonne of Coal.

Part – H


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

Head	Amount Rs. (approx)
Head	Expenditure (Rupees)
ETP/STP Operation /Maintenance	25,00,000
Tree plantation	80,00,000
Environmental Monitoring	1,00,00,000
Catch/Garland drain	3,00,000
Mobile & fixed water sprinklers and other dust suppression measures	30,00,000
Road Repairing	10,00,000
1 no. Continuous Ambient Air Quality Monitoring Station	1,00,00,000
Vertical green barrier system	44,43,912
Total	4,92,43,912

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.
 (With seal)
Project Officer
Bairam OCP, MCL



