

FORM-V

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

Part-A

- i. Name & Address of the owner/occupier of the industry operation or process. Sri Satya Bhusan Barik.
Project Officer Belpahar OCM.
PO: Bandhbahal Colony
Dist: Jharsuguda, Odisha
PIN-768211
- ii. Industry Category Primary (Coal Mining Operation)
- iii. Production Capacity (Coal production during the year 2021-22) 9.00 MTY (7.248 Mte.)
- 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 (kl/day) for the whole year is given. Raw material consumption is given per unit of coal produced.

1. Water Consumption (m³/day):

Sl. No.	Industrial/Mining	Consumption in m ³ /day
1.	Industrial	
a	Haul Road Dust Suppression	996
b	Dust Suppression at CHP	Nil(CHP closed)
c	Dust suppression at siding	351
d	Fire fighting	155
e	Workshop	189
f	Others	146
2.	Domestic	
	Total in kl/day	1905

Name of the product	Water Consumption per unit of product (l/t)	
	2020-21	2021-22
Coal	93.00	95.93

2. Raw Material Consumption (per tonne of coal)

Name of Raw Material	Consumption of Raw Material (per tonne of coal produced)	
	During 2020-21	During 2021-22
H.S. Diesel (l/t)	0.775 (Cont. and Dept.)	1.526(Cont. and Dept.)
Petrol (l/t)	Nil	Nil
Lubricants (l/t)	0.030(Cont. and Dept.)	0.023(Cont. and Dept.)
Electricity (Units/t)	2.712	2.186
Explosives(kg/t)	0.198	0.251

Part-C

Pollution Discharged to Environment/Unit of Output

Parameter as specified in the 'Consent' issued

Pollutants	Quantity of pollutants discharged (mass/day)	Concentration of pollutants in discharges (mass/volume)		Percentage variation from prescribed standards with reasons.
Water (annual average)				
		Clear water Tank of sedimentation tank	Mine sump Water	
pH	Not possible to quantify	6.88	6.63	Within prescribed limit
O & G (mg/l)		<4.0	<4.0	
TSS(mg/l)		41.82	40.05	
COD(mg/l)		35.82	30	
Air [Ambient air quality Near Magazine House (Core Zone Station)]				
		Annual Avg Value		
PM _{2.5} ($\mu\text{g}/\text{m}^3$)	Not possible to quantify	45.04		Within the prescribed limits.
PM ₁₀ ($\mu\text{g}/\text{m}^3$)		134.04		
SPM($\mu\text{g}/\text{m}^3$)		212.81		
SO ₂ ($\mu\text{g}/\text{m}^3$)		14.06		
NO _x ($\mu\text{g}/\text{m}^3$)		22.52		

Part-D

Hazardous Wastes

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

Hazardous Waste	Total quantity	
	During financial year (2020-21)	During financial year (2021-22)
(a) From process		
(i.) Used oil recovered in workshop	(i) 19,216 Ltrs.	(i) 31910 Ltrs.
(ii.) Used filters	(ii) 626 Nos.	(ii) 613 Nos.
(iii.) Used Battery	(iii) 22 Nos.	(iii) 52 Nos.
(b) From pollution control facilities		
(i.) Oil recovery from O & G Trap	(i) Nil	(i) Nil
(ii) Oily sludge	(ii) 3.48 m ³	(ii) 3.12 m ³
(iii) Chemical Waste (if any)	(iii) Not Applicable	(iii) Not Applicable

Part-E

Solid Wastes (other than hazardous)

Sl. no	Particulars	Total Quantity	
		During the current financial year (2020-21)	During the current financial year (2021-22)
1	(a) From process (Top soil and Over burden)	5.360 Mm ³	6.018 Mm ³
	(b) From pollution control facilities (STP and Sedimentation ponds)	0.045 Mm ³	
	(c) Quantity recycled or re-utilized OB back-filled)	5.405 Mm ³	6.018 Mm ³
2	Solid	-	-
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.

1. Hazardous Wastes:

Name of Hazardous Wastes	Quantity generated in the year 2021-22	Disposal Practices
Burnt oil etc (ltr) (from W/shop)	31910	Stored in containers over concrete floor under well ventilated covered shed followed by sale to actual users having valid authorization.
Oil soaked filters (from Workshop) (Nos)	613	Stored in impervious pits under well ventilated covered shed
Oil recovered (from ETP/OGT)	-	Deposited in store for auction to authorized parties
Oil Sludge(m ³)(From EP/OGT)	3.12	Stored in impervious pits under well ventilated covered shed
Oil emulsion	-	-
Chemical Waste if any (Kg)	Nil	Nil
Battery (nos.)	52	Deposited in store for auction to authorized parties

2. Solid Waste

Solid Waste	Quantity generated in the year 2021-22	Disposal Practices
Top Soil (m ³)	Nil	NA
OB(m ³)	6.018 Mm ³	Used for backfilling
STP Sludge & Sed Pond sludge	520 m ³	Used as manure

3. Land Reclamation & OB disposal – progressive till March,2022

	Area (ha)	OB Volume/Nos. of Plants
1) External OB dump	55.33	19.01 Mm ³ / 138250 Plants
2) Excavated land	502.51	169.143 Mm ³
3) Land affected (1+2)	557.84	-
4) Backfilled (out of 2)	397.50	150.133 Mm ³
5) Land physically reclaimed (out of 3)	194.34	-
6) Land biologically reclaimed (out of 3)	164.13 #	405000Plants

#the figure includes the biological reclaimed area of 55.33 Ha of external OB dump.

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

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	By usage of Fixed sprinklers, Mobile Water Tankers, truck/ trolley mounted fog cannons and graders.
2	Biological reclamation of land	Provided	Plantation is being done
3	Green belt around mine & infrastructures	Provided	Safety zone plantation & Avenue plantation
4	Drills fitted with dust control devices	Provided	Drills are fitted with dust extractor system.
5	Dust suppression/dust extraction system to be provided in CHP	CHP is closed.	Not Applicable
6	Improved maintenance of plant & machinery	Provided	Scheduled maintenance is carried out
7	Mechanized coal transportation system.	Provided	Coal is mainly transported to consumers through rail mode.

Table - 1.2
Water Pollution Control Measures

Sl. No.	EMP Provision	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 Sumps
2	Run-off around reclamation area will be controlled by providing catch drains and sedimentation lagoon.	Provided	Catch drains are 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 utilized for water sprinkling and Showering of plants.	Provided	Eco pond & MDTP
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 of 1.7 MLD capacity is provided for the colony of Integrated colony of Lakhanpur Area.
5	Workshop effluents will be treated in oil & grease trap & sedimentation tank.	Provided	WETP
6	Zero discharge from mine shall be maintained.	Provided	No water from mine is allowed to be discharged outside.
7	Piezometers installed for measurement of under-ground water depth and its quality	Provided	MIP-07: In front of DAV Public School Bandhabahal, inside premises of colony substation and MIP-08: Village- Kusraloi, inside premises of Prathamik Vidyalaya.

Table – 1.3
Land Reclamation

Sl. No.	EMP Provision	Whether provided or not	Remarks
1	<u>Top soil Management:</u> Proper stripping, Storage and Relocation of top soil.	Provided	Concurrently spread over backfilled areas
2	<u>Physical Reclamation of OB Dump:</u> Proper reshaping and regarding of top surface, Providing drainage arrangements and top soil spreading for external and internal dumps.	Provided	-
3	<u>Biological Reclamation:</u> Plantation of suitable species of herbs, shrubs & indigenous trees over technically reclaimed dumps.	Provided	164.13 Ha has been biologically reclaimed.

IMPACT OF POLLUTION CONTROL MEASURES ON COST OF PRODUCTION.
COST OF ENVIRONMENTAL MANAGEMENT DURING 2021-22 was Rs. 13.06/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	100 Lakhs
Drain cleaning	100 lakhs
Plant distribution	01 lakh
Haul road and CT road maintenance	200 lakhs
CTO & HWA charges	36 lakhs
Dust suppression by water tankers	25 lakhs
Mobile water tanker	500 lakhs
Fog Cannon	50 Lakhs
Truck Mounted Fog Cannon	500 Lakhs
ETP Maintenance	15 Lakhs

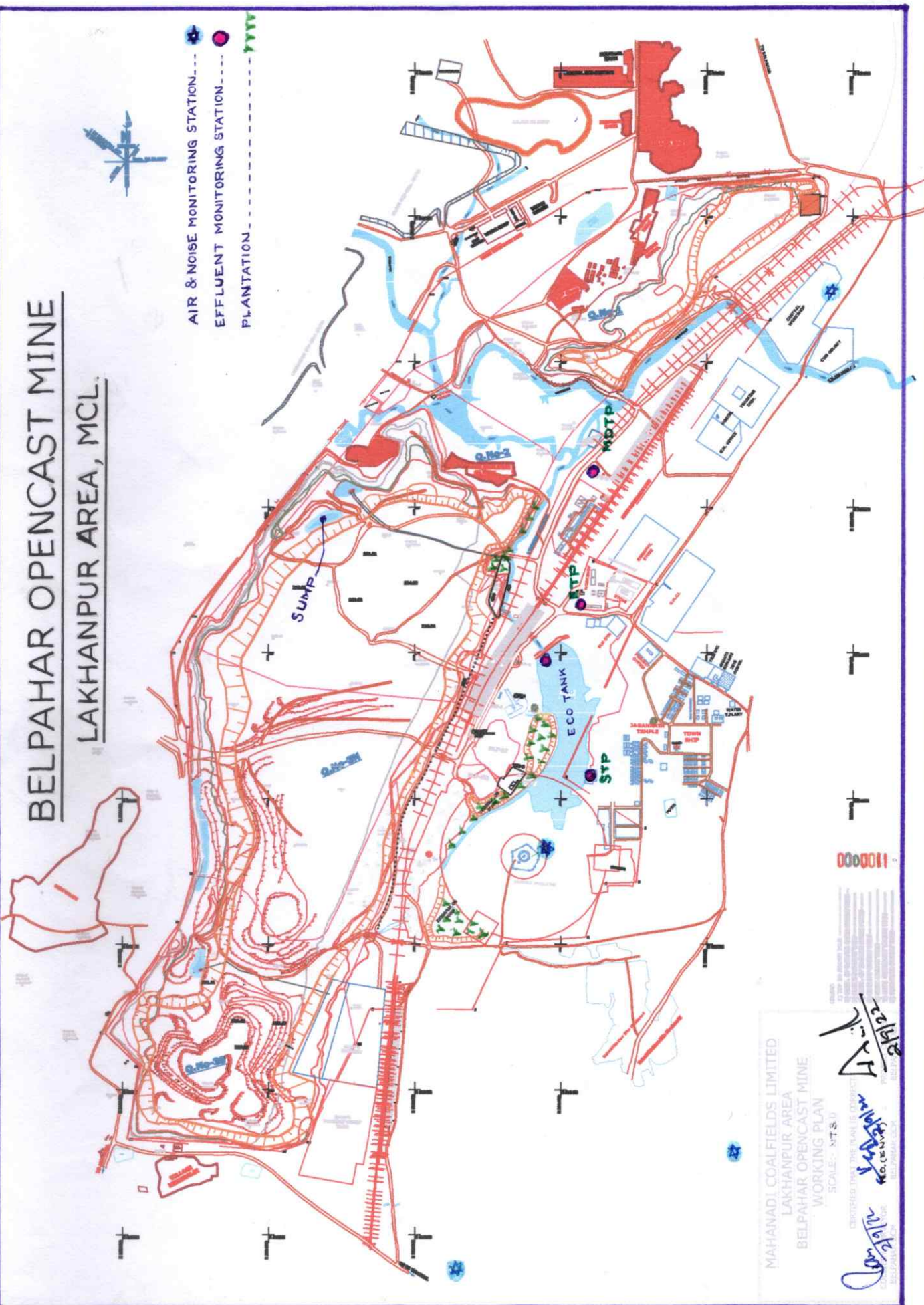
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31
29/22


 Signature of the Project Officer
 (With official seal)
PROJECT OFFICER
BELPAHAR O.C.M
Lakhanpur Area, MCL

BELPAHAR OPENCAST MINE LAKHANPUR AREA, MCL



- AIR & NOISE MONITORING STATION --- (blue star symbol)
- EFFLUENT MONITORING STATION --- (red circle symbol)
- PLANTATION --- (green wavy line symbol)



1:10000

MAHANADI COALFIELDS LIMITED
LAKHANPUR AREA
BELPAHAR OPENCAST MINE
WORKING PLAN
SCALE: N.T.S.U

Handwritten signatures and dates:
 22/11/18
 20/11/18
 20/11/18

CERTIFIED TRUE COPY
 MCL
 10.10.18