

ENVIRONMENTAL STATEMENT

(Form – V)

*Under Rule – 14 of Environment Protection Rules, 1986
and Amendment, 1993*

of

Nandira Underground Mine

For the year 2024-25



MCL

Mahanadi Coalfields Ltd.

Post: Jagruti Vihar, Burla,

Dist: Sambalpur, Orissa-768020

FORM-V

ENVIRONMENTAL STATEMENT

Environmental statement for the financial year ending 31st March 2025

Part - A

(i)	Name & 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 A.A.Ansari Project Officer (N&N), Nandira Colliery, At/Po: N.S.Nagar, Bharatpur, Dist: Angul, Odisha, Pin-759148.
(ii)	Industry Category	Primary (Coal mining operation)
(iii)	Production Capacity (Coal production during the year 2024-25)	Prod. Capacity: 0.33 MTPA Prod. FY 2024-25: 0.054 Met.te
(iv)	Year of establishment	1962
(v)	Date of the last Environmental Statement submitted	30.09.2024

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	-
b	Dust Suppression at CHP/ coal stock yard	1345
c	Dust Suppression at Siding	-
d	Fire Fighting	514
e	Workshop	-
f	Others	4071
2.	Domestic	822
3.	Total in KL/ day	6752

Name of the Product	Water Consumption per unit of product (l/ t)	
	2023-24	2024-25
Coal	44681.64	45375.51

(II) Raw Material Consumption (per tonne of coal):

Name of Raw Material	Consumption of Raw Material (per tonne of Coal produced)	
	2023-24	2024-25
H.S. Diesel (ℓ/ t)	0.56	0.545
Petrol (ℓ/ t)	0.00053	0.00051
Lubricants (ℓ/ t)	0.162	0.158
Electricity (Units/ t)	84.355	83.454
Explosives (kg/ t)	0.626	0.614

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
		Mine Effluent	OGT Outlet	STP Outlet	
Water (annual average)					
TSS (mg/ℓ)	Not possible to quantify	41.24	NA	NA	Within permissible limits
BOD (mg/ℓ)		-	NA	NA	
COD (mg/ℓ)		28.14	NA	NA	
pH		7.34	NA	NA	
O & G (mg/ℓ)		< 4.0	NA	NA	
Air (Ambient air quality of one station - annual average)					
Monitoring Station: Project Office, Nandira Colliery					
SPM (µg/m ³)	Not possible to quantify	158.74			Within permissible limits
RPM (µg/m ³)		a) 72.54			
a)PM ₁₀		b) 29.12			
b)PM _{2.5}		13.68			
SO ₂ (µg/m ³)		15.42			
NO _x (µg/m ³)					

Part - D

Hazardous Wastes

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

Hazardous Waste	Total Quantity (kg)	
	During the previous financial year (2023-24)	During the current financial year (2024-25)
(a) From process :	-	-
i) Burnt Oil in Workshops	400 Liters	600 Liters
ii) Oil soaked filters	Nil	Nil
(b) From pollution control facilities:	-	-
i) Oil/ Oil emulsion recovery from Oil & Grease Trap	Nil	Nil
ii) Oily sludge	Nil	Nil
iii) Chemical Waste(if any)	Nil	Nil

Part - E
Solid Wastes (other than hazardous)

Particulars	Total Quantity	
	During the previous financial year (2023-24)	During the current financial year (2024-25)
(a) From process (Top soil and Over burden)	Not Applicable	Not Applicable
(b) From pollution control facilities (STP & Sedi-Pond Sludge)	Nil	Nil
(c) 1- Quantity recycled or re-utilized (OB back-filled)	Not Applicable	Not Applicable
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 2024-25	Disposal Practices
Burnt Oil, etc. (l) (from W/Shop)	600 Liters	Sent to Regional stores; thereon it is being disposed to authorized recyclers through e-auction
Oil soaked filters(kg) (from W/Shop)	NA	NA
Oil & Grease (kg) (from ETP/ OGT)	NA	NA
Oily Sludge (ie.) (from ETP/ OGT)	NA	NA
Oil imulsion	NA	NA
Chemical Waste if any (kg)	NA	NA
Battery (nos.)	Nil	-

Note: A detailed note on disposal practices of the above should be given separately.

(II) Solid Wastes:

Solid Waste	Quantity generated in the year 2024-25	Disposal Practices
Top Soil (m ³)	Not Applicable	Not Applicable
OB (m ³)		
STP & Sed-Pond Sludge (m ³)	57	Collected sludge (mud) is being utilized for filling low lying areas

Land Reclamation & OB disposal - progressive till March'2025:

**	Area (ha.)	OB Volume/ Nos. of Plants
1) External OB dump	Not Applicable, as it an underground mine	
2) Excavated land		
3) Land affected (1+2)		
4) Backfilled (out of 2)		
5) Land physically reclaimed (out of 3)		
6) Land biologically reclaimed (out of 3)		

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	Mobile water sprinkler has been provided to control air borne dust
2	Biological reclamation of land.	NA	As it is an underground mine
3	Green belt around mine & infrastructures.	Provided	Sufficient no. of plants were planted (as avenue/block) around coal handling areas which acts as greenbelt. Further, around 500 no. of ornamental and avenue plants were planted all over the mine premises. In addition, 01 no. of vertical garden (each 860 sq.ft) installed around coal stockyard during the year 2024-25.
4	Drills fitted with dust control devices.	Provided	Wet drillers are being operated
5	Dust suppression/ dust extraction system to be provided in CHP.	No	CHP not exists
6	Improved maintenance of plant & machinery.	Provided	Preventive maintenance system is being done
7	Mechanized coal transportation system.	Provided	Coal is being transported from u/g (face) to surface (stockyard area) through a series of conveyor belts. From stockyard, customers used to take coal to their plant through tarpaulin covered trucks

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	There are sumps available for each sections at underground to collect all mine water and these acts as primary sedimentation lagoon.
2	Run-off around reclamation area will be controlled by providing catch drains and sedimentation lagoon combination.	NA	As it is an underground 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	NA	As it is an underground mine
4	Domestic waste water will be treated in screens, oxidation pond/ aerated lagoon. Sanitary waste to be disposed off into septic tank & soak-pit.	Septic Tank & Soak pit provided	A STP based on MBBR technology (Capacity of 0.5 MLD) is operation at Nandira Colony to handle domestic effluent
5	Workshop effluents will be treated in oil & grease trap & sedimentation tank.	NA	As no workshop involved in the mine and hence no effluent generation
6	Zero discharge from mine shall be maintained.	Maintained	Mine Water is being properly utilized
7	Piezometers shall be installed for measurement of under-ground water depth and its quality	Provided	Ground Water level & quality are being monitored through existing piezometers

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	As it is an UG mine
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.		
3	Biological Reclamation: Plantation of suitable species of herbs, shrubs & indigenous trees over technically reclaimed dumps.		

IMPACT OF POLLUTION CONTROL MEASURES ON COST OF PRODUCTION

Cost of Environmental Management during 2024-25 was **Rs.443.02 per tonne** of Coal. The Expenditure made towards environment management is given in/as Annexure-I.

Part - H

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

Head	Amount in Lakhs. (approx)
Routine Environmental Monitoring	106.57
Plantation, Plant distribution, Development of Garden/park	15.00
Annual upkeep of Mine Water treatment plant	3.50
Installation of Vertical Greenery system	0.00
Compliance of NoC-CGWA conditions	20.00
Celebration of World Environment Day	0.50
Renewal of NOC/GW Abstraction fee (for 01 year)	105.50
Progressive Mine Closure Activities Report	11.80
Miscellaneous/Others	5.00
Landscaping and other activities	2.00
Total	269.87

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.

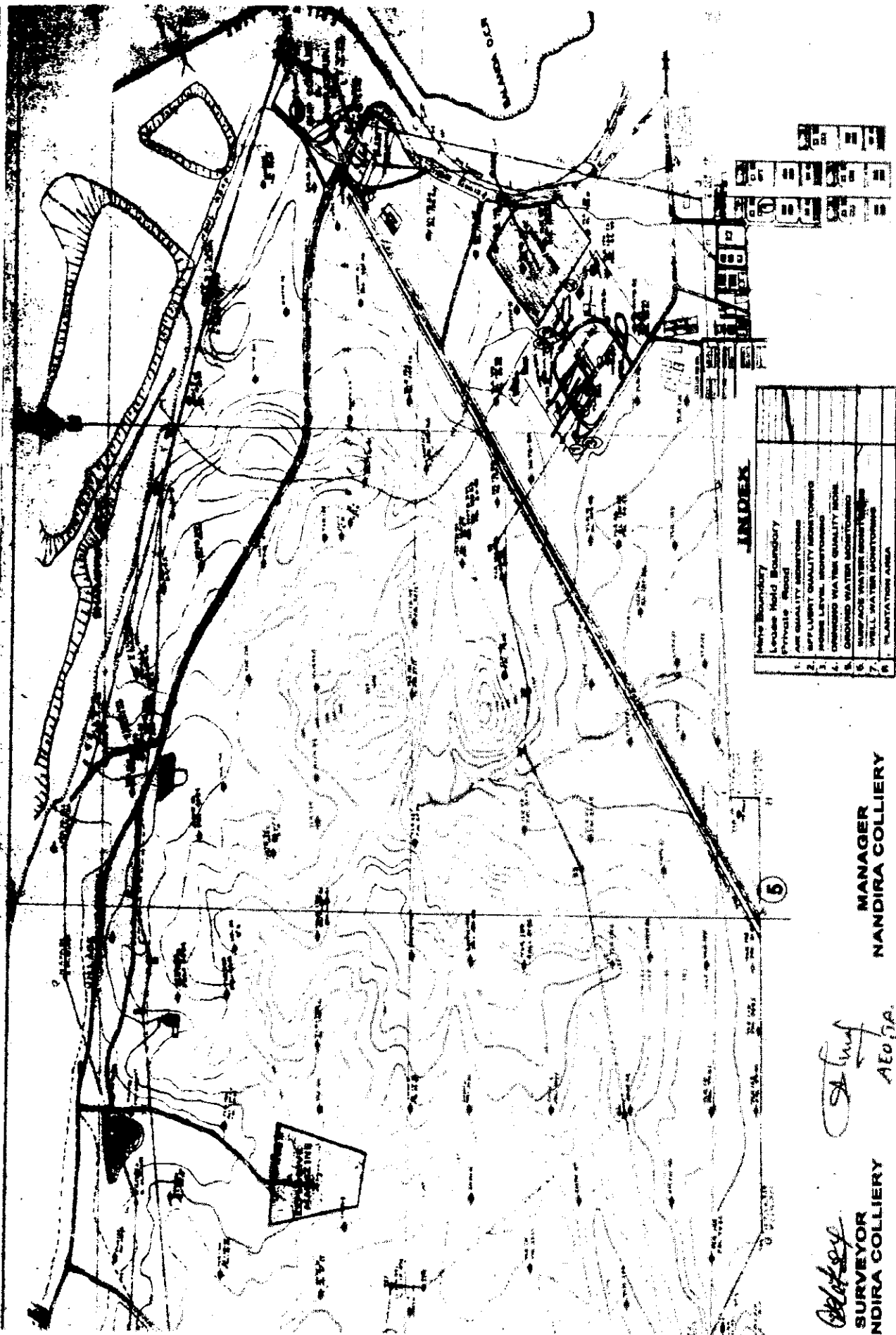

Signature of the Project Officer

Project Officer (MCL)
MCL, Nandwa Colliery

NANDIRA COLLIERY

PLAN SHOWING ENVIRONMENTAL ASPECTS OF THE MINE

NOT TO SCALE



Blakely
 SURVEYOR
 NANDIRA COLLIERY

St. King
 MANAGER
 NANDIRA COLLIERY

AEO/PA