

FORM-V

ENVIRONMENTAL STATEMENT

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

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 Asit Kumar, 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 2021-22)	Prod. Capacity: 0.33 MTPA Prod. FY 2021-22: 60160 Met.te
(iv)	Year of establishment	1962
(v)	Date of the last Environmental Statement submitted	23.09.2021

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	329
b	Dust Suppression at CHP/coal stock yard	1016
c	Dust Suppression at Siding	-
d	Fire Fighting	514
e	Workshop	-
f	Others	4157
2.	Domestic	706
3.	Total in KL/ day	6722

Name of the Product	Water Consumption per unit of product (ℓ/ t)	
	2020-21	2021-22
Coal	33023.86	40785.10

(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)	0.440	0.548
Petrol (ℓ/ t)	0.003	0.0018
Lubricants (ℓ/ t)	0.210	0.227
Electricity (Units/ t)	122.94	137.55
Explosives (kg/ t)	0.530	0.609

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	28.61	NA	NA	Within permissible limits
BOD mg/ℓ)		-	NA	NA	
COD (mg/ℓ)		27.13	NA	NA	
pH		7.29	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	199.78			Within permissible limits
RPM (μg/m ³)		a) 123.04			
a)PM ₁₀		b) 43.04			
b)PM _{2.5}		16.90			
SO ₂ (μg/m ³)		25.53			
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 (2020-21)	During the current financial year (2021-22)
(a) From process :	-	-
i) Burnt Oil in Workshops	500 Liters	500 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 (2020-21)	During the current financial year (2021-22)
(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 2021-22	Disposal Practices
Burnt Oil, etc. (ℓ) (from W/Shop)	500 Liters	Sent to Regional stores; thereon it is being disposed to authorized recyclers by e-auction
Oil soaked filters(kg) (from W/Shop)	NA	NA
Oil & Grease (kg) (from ETP/ OGT)	NA	NA
Oily Sludge (te.) (from ETP/ OGT)	NA	NA
Oil imulsion	NA	NA
Chemical Waste if any (kg)	NA	NA
Battery (nos.)	Nil	Sent to Regional stores; thereon it is being disposed to authorized recyclers by e-auction

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)	Not Applicable	Not Applicable
OB (m ³)		
STP & Sed-Pond Sludge (m ³)	72	Collected sludge (mud) is being utilized for filling low lying areas

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

**	Area (ha.)	OB Volume/ Nos. of Plants
1) External OB dump	Not Applicable	
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.	NA	-
2	Biological reclamation of land.	NA	-
3	Green belt around mine & infrastructures.	Provided	In 2021-22, around 650 no. of fruit bearing plants were planted over an area of 1.2 Ha in the only vacant place behind coal stockyard of the mine. It will act as green belt very shortly.
4	Drills fitted with dust control devices.	NA	-
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	Transportation of coal from u/g to surface through conveyor belt and from surface to railway siding through 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	
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	
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	Construction of STP using MBBR technology (Capacity of 0.5 MLD) is under progress;
5	Workshop effluents will be treated in oil & grease trap & sedimentation tank.	NA	
6	Zero discharge from mine shall be maintained.	Maintained	Mine Water fully utilized
7	Piezometers shall be installed for measurement of under-ground water depth and its quality	Provided	MTP-11; inside the premises of Hingula area office

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	
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 **2021-22** was **Rs.150.01 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	75.97
Plantation, Plant distribution, Development of Garden	6.00
Cleaning of Slow sand filter beds	3.00
Digital Water Level Recorder for peizometer	2.00
Honey Bee keeping	0.35
Installation of Vertical Greenery system	3:00
STP for Nandira Colony	284.00
Blacktopping of existing WBM CT road	37.777
Comprehensive Hydrogeological report with modeling	4.757
Water Audit Report	2.035
Celebration of World Environment Day	0.25
Renewal of NOC/Ground Water Abstraction fee (for 02 years)	160.00
Installation of Fixed type water sprinklers	5.00
Progressive Mine Closure Activities Report	12.00
Development of Nursery	1.00
Total	597.139

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)

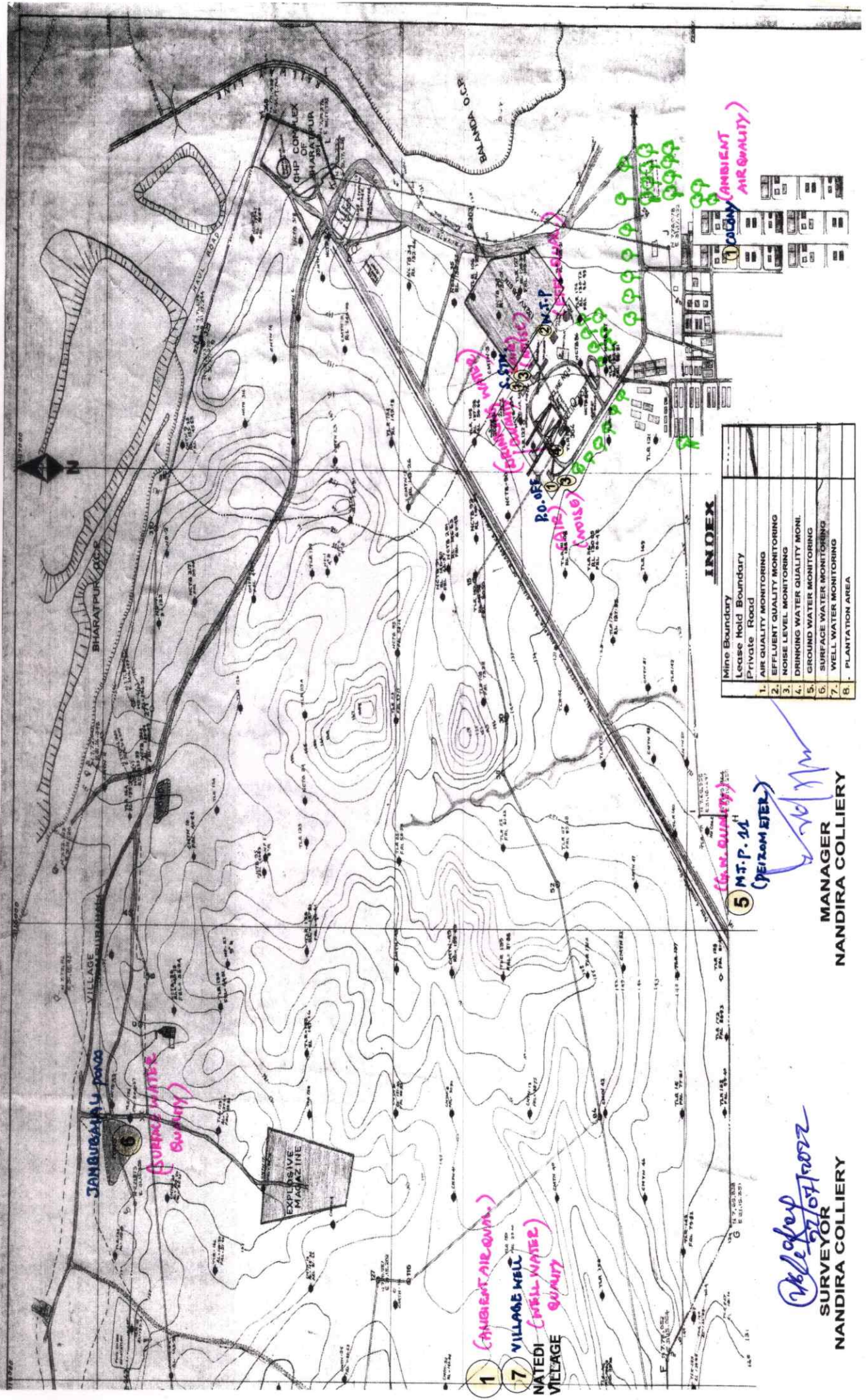



Project Officer(N&N)
Nandira Colliery
MCL, Taluk A. 12

NANDIRA COLLIERY

PLAN SHOWING ENVIRONMENTAL ASPECTS OF THE MINE

NOT TO SCALE



INDEX	
1	Ambient Air Quality
2	Effluent Quality Monitoring
3	Noise Level Monitoring
4	Drinking Water Quality Mon.
5	Surface Water Monitoring
6	Well Water Monitoring
7	Plantation Area

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 SURVEYOR
 NANDIRA COLLIERY

M.T.P. 21
 (Peram Etl)
 MANAGER
 NANDIRA COLLIERY

1 (Ambient Air Quality)
 7 Village Well Natedi Village
 6 (Surface Water Quality)
 5 (Ambient Air Quality)
 3 (Noise)
 4 (Drinking Water Quality)
 8 (Plantation Area)