



**एन टी पी सी लिमिटेड**  
(भारत सरकार का उद्यम)

**NTPC Limited**  
(A Govt. of India Enterprise)

दुलंगा /Dulanga

Ref.: 1070/NTPC/DLCMP/EMG/295

Date: 24/09/2021

To,

**The Member Secretary,**  
State Pollution Control Board, Odisha,  
A/118, Nilakantha Nagar, Unit – VIII,  
Bhubaneswar – 751 012

Sub. : Submission of Environmental Statement in Form – V as prescribed under E (P) Rules, 1986 for the Financial Year 2021 - 2022 w.r.to Dulanga Opencast Coal Mining Project of M/s NTPC Limited, Sundargarh, Odisha.

Ref. : 1. OSPCB Consent to Operate Order no. 2846 vide letter no. 5124/IND-I-CON-6623 dated 26/03/2021.  
2. MoEFCC EC Letter No: J-11015/1140/2007-IA.II (M) dtd. 03<sup>rd</sup> March, 2014,  
J-11015/1140/2007-IA.II (M) dtd. file dated 28<sup>th</sup> Oct. 2015,  
J-11015/1140/2007-IA.II (M) dtd 9<sup>th</sup> February, 2016 and  
J-11015/1140/2007-IA-II (M) dtd d 8<sup>th</sup> August, 2018.

Dear Sir,

With reference to the subject cited above, we are submitting herewith the **Environmental Statement in Form – V as prescribed under E (P) Rules, 1986 for the Financial Year 2021-2022** pertaining to Dulanga Opencast Coal Mining Project of M/s NTPC Limited, Sundargarh, Odisha, for your kind perusal and necessary action/record please.

This is for your kind information and the needful please.

Thanking You.

Yours Faithfully,

(Neeraj Jalota)

General Manager & Head of Project

Copy to: (1) **The Director (s),**  
Govt. of India,  
Ministry of Environment, Forests and Climate Change,  
Eastern Regional Office, A-3 Chandrashekharpur,  
Bhubaneswar-751023, Odisha  
(2) **The Regional Officer,**  
State Pollution Control Board, Odisha,  
Regional Office, Jharsuguda

दुलंगा कोल माइनिंग प्रोजेक्ट, खापुरिकछार, पोस्ट - संघुमुड़ा, तहसील - हेमगीर, जिला - सुंदरगढ़ 770013  
Dulanga Coal Mining Project, Khapurikachhar, PO - Sanghumuda, Tehsil-Hemgir, Dist- Sundargarh 770013

पंजीकृत कार्यालय: एन टी पी सी भवन, स्कोप कॉम्प्लेक्स, 7 इंस्टीट्यूशनल एरिया, लोधी रोड, नई दिल्ली 110003

कॉर्पोरेट पहचान नंबर: L40101DL1975GOI007966, टेलीफोन नं: 011-24387333, फैक्स नं: 011-24361018, ई मेल: ntpccc@ntpc.co.in, वेबसाइट: www.ntpc.co.in

Registered Office: NTPC Bhavan, Scope Complex, 7 Institutional Area, Lodhi Road, New Delhi – 110003

Corporate Identification No: L40101DL1975GOI007966, Telephone No: 011-24387333, Fax No: 011-24361018, Email: ntpccc@ntpc.co.in, Website: www.ntpc.co.in

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**ENVIRONMENTAL STATEMENT**  
**FOR**  
**NTPC LTD – DULANGA COAL MINING PROJECT**

[For The Financial Year Ending 31 March 2022]  
[Under Rule 14 of the Environment (Protection) Rule -1986]

**Dulanga Opencast Coal Mining Project, NTPC Limited**  
**At: Khapurikachhar, PO: Sanghumuda**  
**Dist: Sundargarh, Odisha – 770013**

[FORM – V]  
(See rule 14)

**Environmental Statement for the Financial Year ending the 31<sup>st</sup> March, 2022**

**PART-A**  
**General Information**

<b>S.NO</b>	<b>DISCRIPTION</b>	
1	Name and Address of the Owner/occupier of the Industry Operation/Process	<b>Dulanga Coal Mining Project M/s NTPC Limited At: Khapurikachhar, PO: Sanghumuda Dist.: Sundargarh, Odisha – 770013</b>
2	Industry category	Opencast Coal Mining Project (Major)
3	Production Capacity	7 MT 5.292MT (Achieved:2021-22)
4	Year of establishment	2018 (The mine activity commenced on 28/02/2018)
5	Date of last environmental Statement submitted	14/09/2021 Via Letter no.-1070/NTPC/DLCMP/EMG/148

**PART-B**  
**Water and Raw Material Consumption**

**1. Water consumption (M<sup>3</sup> /Day)**

Process	: Nil
Green Belt Development	: 6.487
Dust Suppression	: 208.317
Domestic	: 9.931
Miscellaneous	: 4.865
<b>Total</b>	<b>: 229.6</b>

Name of the Product	Process water consumption per unit of product Output( m <sup>3</sup> / Ton)	
	During the previous Financial Year (2020-21)	During the Current Financial Year (2021-22)
Raw Coal	Nil	Nil

**2. Raw Material Consumption**

S.No	Name of the Raw Materials	Name of Product	Unit	Consumption of Raw Material Per Unit of Output	
				2020-21	2021-22
1	Explosive*	ROM Coal	Kg/Tonne	0.426	0.251
2	HSD		Litre/tonne	1.61	1.383

\*Explosive is only used in Over-Burden. No Blasting is being carried out in Coal Seam.

**PART-C**

**POLLUTION DISCHARGED TO ENVIRONMENT PER UNIT OF PRODUCT OUTPUT  
(Parameters as specified in the Consent Order)**

**A. Water: Not applicable\***

Pollutants	Quantity of Pollutants Discharged (mass/day) (kg/day)	Concentration of Pollutants in Discharges (mass/volume) (mg/l) (mg/Nm <sup>3</sup> )	Percentage of Variation from prescribed standard with reasons.
TSS	Nil	Nil	Nil
Oil & Grease	Nil	Nil	Nil
Copper (total)	Nil	Nil	Nil
Iron (total)	Nil	Nil	Nil
Free Chlorine	Nil	Nil	Nil
Zinc	Nil	Nil	Nil
Chromium (total)	Nil	Nil	Nil
Phosphate	Nil	Nil	Nil

\*Zero Effluent Discharge is maintained. Storm water collected in the mine/ sedimentation pond is being used for industrial purpose in the form of Water sprinkling, Green Belt Development and Fire Fighting. For Vehicle Washing , ETP has been constructed for re-cycling the used water (Photo of ETP is enclosed in **Annexure I** ). Hence Zero Effluent Discharge is maintained.

**B. Air**

Pollutants (Particulate Matter)	Quantity of Pollutants Discharged (mass/day) (kg/day)	Concentration of Pollutants in Discharges (mass/volume) (mg/l) (mg/Nm <sup>3</sup> )	Percentage of Variation from prescribed standard with reasons.
Air	Dust is the only common pollutant generated in mines and its allied activities. Dust emission sources are extensive and fugitive in nature like moving of vehicles, coal loading and unloading operation, coal crushing and handling. Ambient air quality is being monitored in core as well as buffer zone at eight locations as per the direction of SPCB. Data of the above monitoring are enclosed as <b>Annexure-II</b> .		

**PART - D**  
**HAZARDOUS WASTES**

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

As per the Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and amended thereafter, the following wastes are identified as Hazardous Wastes.

<b>Sl. No</b>	<b>Waste Description</b>	<b>Schedule</b>	<b>Waste Category/ Class</b>
1	Used Oil / Spent Oil	1	5.1
2	Waste / Residue Containing Oil	1	5.2
3	Contaminated Cotton Rags or Other Cleaning Materials	1	33.2
4	Discarded Containers / Barrels / Liners contaminated with Hazardous Wastes / Chemicals	1	33.1

**Quantities Generated:**

<b>Sl. No</b>	<b>Waste Description</b>	<b>During the previous Financial Year (2020-21)</b>	<b>During the Current Financial Year (2021-22)</b>
1	Used / Spent Oil (Hydraulic Oil, Engine Oil and Gear Oil)	21.39 KL	28.315 KL
2	Waste / Residue Containing Oil	0.19 Ton	0.09 Tonne
3	Contaminated Cotton Rags or Other Cleaning Materials	3.4 Ton	4.549 Tonne
4	Discarded Containers contaminated with Hazardous Waste / Chemicals	7.87 Ton	4.65 Tonne

**PART - E  
SOLID WASTES**

**A. From Process**

Solid Wastes		Total Quantity(m <sup>3</sup> )	
		During the previous financial year (2020-21)	During the Current financial year
(A)	<b>From Process</b> <ul style="list-style-type: none"> <li>• From Mining as Overburden &amp; Top Soil</li> </ul>	49,14,639.98	69,08,898.44
(B)	<b>From pollution control facilities</b>	Nil	Nil
(C)	<b>1. Quantity recycled or reutilized within the unit</b>		
	<ul style="list-style-type: none"> <li>• Overburden</li> <li>• Top Soil</li> </ul>	Nil Nil	15,25,300 4,963.78
	<b>2.Sold</b>	Nil	Nil
	<b>3. Disposed</b>	Nil	Nil

\*Solid waste from the mine is generally of two categories, i.e. Top Soil & Overburden. Currently we have Three active O.B dump which is stabilized by proper Dozing and Grading. Non-Active Prat of OB dump has been stabilized with Grassing and Sapling Plant over the Dump and 4,963.78 m<sup>3</sup> of topsoil has been utilized for Biological Reclamation. (Photo has been attached as **Annexure-III**). Top soil of 3,61,295.55 m<sup>3</sup> has been stacked within ML with proper slope at earmarked site. During 2021-22 total 1.27 Ha of Top Soil Dump has been stabilized with grassing activities (Scientific Name-Stylo Hamata). Photograph has been attached as **Annexure-IV**

**PART - F**

**Characterization (in terms of composition and quantum) of hazardous as well as solid wastes and disposal practices adopted for both these categories of wastes.**

<b>Sl. No</b>	<b>Waste Description</b>	<b>During the previous Financial Year (2020-21)</b>	<b>During the Current Financial Year (2021-22)</b>
1	Used / Spent Oil (Hydraulic Oil, Engine Oil and Gear Oil)	20.71 KL	27.92 KL*+6.8 KL**
2	Waste / Residue Containing Oil	0.11 Tonne	0.10 Tonne
3	Contaminated Cotton Rags or Other Cleaning Materials	0 Tonne	8.849 Tonne***
4	Discarded Containers contaminated with Hazardous Waste / Chemicals	6.84 Tonne	2.789 Tonne**** + 3.6 Tonne*****

**Note-** \*Hazardous Waste were disposed off to authorize Recycler on 7<sup>th</sup> July'21, 6<sup>th</sup>Oct'21, 28<sup>th</sup>Jan'22. (White copy of the Form-10 has been enclosed as **Annexure-V** and photograph during disposal of Hazardous waste has been attached as **Annexure-VI**)

\*\* Hazardous waste was used in different process during operation like Oiling and Grassing of Different moving part used in CHP.( and photograph during disposal of Hazardous waste has been attached as **Annexure-VII**)

\*\*\*Cotton Rags generated has been disposed by use of Incinerator.

\*\*\*\*Discarded Barrels contaminated with Hazardous Waste/ Chemical was handed over to Authorised dealer along with waste oil.

\*\*\*\*\* Discarded Barrels contaminated with Hazardous Waste/ Chemical was used at our site for different area like plantation site for watering plant, Dustbin etc.

## PART - G

### Impact of pollution abatement measures taken on conservation of natural resources and on the cost of production

The following measures in the mine are adopted for the control of air pollution and water pollution of the mine.

- Adequate dust suppression arrangement is being made at all dust prone area are as follows:- (Photograph has been attached as **Annexure-VIII**)
  - Dust Suppression is being carried by the help 6 No. water tanker (i.e. 3nos 18 KL and 3nos of 14 KL)
  - 0.9 km length of fixed water sprinkling system has been installed in fixed haul road.
  - 350m fixed type dust suppression system was installed at MGR Siding.
  - One no of Tyre mounted Fog canon having capacity 12KL has been deployed for combating airborne dust at different locations.
- Water sprinkling through spray nozzles installed and under operation at Interim Crusher.
- 50KLD ETP has been installed and working smoothly and the waste water generated is being treated and re-cycled for vehicle washing. Hence Zero Discharge is being maintained.
- Efforts were made to reduce the consumption of lubricant oil used in Heavy Mining Equipment's by timely maintenance, arresting leakages and eliminating spillages.
- Avenue plantation is being developed along the diversion road and approach roads to the mine. Also, plantation activity is being carried out in safety zone. During FY 2020-21, about 8400 numbers of saplings have been planted or distributed among locals in the available safety zone area, gap plantation and distributed among local villagers. Photo of such activities is attached in **Annexure-IX**.
- Dumpers engaged for transportation of Overburden are maintained properly and emissions there from are maintained below specified limits.
- Ambient Air Quality monitoring being carried out at 04 (four) numbers of AAQ monitoring stations each in the core zone and buffer zone of the lease area for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO and heavy metals such as Hg, Ni, As, Cr and Cd.
- Wet drilling is being practiced for drilling OB benches for OB removal.
- Surface Miner used for coal extraction is equipped with Water suppression measures through nozzles at cutting drum.
- Micro-meteorological station has been installed in the mine and all the parameters like wind speed, wind directions, temperature, rainfall etc are being monitored continuously. Photograph of Micro-meteorological station is attached in **Annexure-X**.
- One no. of Continuous Ambient Air Quality Monitoring Station has been installed at our site to monitor the air quality. Photograph has been attached as **Annexure-XI**

- In order to measure the ground water level, five (5) numbers of piezometers has been installed in and around mine area and has being continuous monitoring through online cloud based server system. ( Photograph is being attached as **Annexure-XII**)
- Ground water quality and level and surface water quality in and around the mine leased area being monitored regularly.
- Noise level are being monitored regularly and found to be within permissible limit.
- So far 14 nos. of Pond deepening and cleaning is being done at locations in surrounding of mine to increase the water table.

### **PART - H**

#### **Additional measures / investment proposed for environmental protection including abatement of pollution and prevention of pollution.**

- Presently we are complying the measures specified in the Environmental Clearance conditions. Investment proposed for environmental protection, as suggested in the EC, is being carried out in phased manner.
- Various skill development programmes are being undertaken. Training to employed persons for different skills like fitter, electrician, driving, welding, etc. are being taken up for the project affected people before employment in mine. Various other income generation schemes like Tie & dye training, mushroom cultivation, skill development etc. have been taken up. The expenditure incurred on CD/CSR activities on health, education, water, infrastructure, skill development/ capacity building, need based, renewable energy etc. by the project is Rs 2.23 Crores (approx.) during 2021-22. (Photograph of different step has been attached as **Annexure-XIII**)

### **PART - I**

#### **Additional steps taken to maintain the quality of environment**

- Sewage treatment plan, water treatment plant facilities are being constructed in the R&R colony for ensuring a clean environment for the PAPs to reside in.
- Celebration of World Environment Day, World Nature Conservation day Day etc. are being done regularly observed for creating environmental awareness among employees, agencies, contract workmen as well as local villagers in and around the mine. Photo has been enclosed in **Annexure-XIV**.

Effluent Treatment Plant





**Annexure-II**

This is an Opencast Mine and does not have single point source of air pollution .So, the quantity of air pollutants discharge can't be calculated from single point. Therefore total 4 point in different zone i.e Core Zone and Buffer Zone has been identified in consult with State pollution control board and monitoring has been done throughout. The below data shows the ambient quantity throughout the year.

Sl. No	Monitoring Stations	Month	Dt. of Monitoring	Analysis Result in $\mu\text{g}/\text{m}^3$					CO in $\text{mg}/\text{m}^3$
				SPM	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>x</sub>	
1	Near Site Office, Khapurikachhar (Core Zone)	April 2021	13/04/2021	207.17	74.16	32.37	7.73	11.27	< 1.14
			16/04/2021	218.18	70.27	33.83	6.31	12.41	< 1.14
		May 2021	21/05/2021	205.50	72.63	30.16	7.69	12.95	< 1.14
			24/05/2021	218.87	77.31	35.21	7.76	12.84	< 1.14
		June 2021	12/06/2021	204.47	69.15	30.75	7.52	12.65	< 1.14
			22/06/2021	209.86	74.22	32.34	7.30	13.54	< 1.14
		July 2021	13/07/2021	200.55	70.67	33.51	7.33	12.22	< 1.14
			21/07/2021	198.25	69.88	30.09	7.44	11.61	< 1.14
		August 2021	12/08/2021	186.26	71.16	32.32	7.72	10.51	< 1.14
			21/08/2021	210.38	78.95	34.55	8.54	14.20	< 1.14
		September 2021	13/09/2021	208.58	75.07	30.70	8.11	12.71	< 1.14
			19/09/2021	185.83	78.93	29.44	6.41	12.12	< 1.14
		October 2021	04/10/2021	174.45	62.58	37.88	7.63	11.55	< 1.14
			26/10/2021	208.61	72.27	32.39	8.31	13.23	< 1.14
		November 2021	11/11/2021	195.12	72.06	33.80	8.27	12.87	< 1.14
			16/11/2021	182.96	67.78	30.91	7.05	11.31	< 1.14
		December 2021	07/12/2021	212.63	74.38	33.07	8.59	13.70	< 1.14
			16/12/2021	181.71	73.14	33.79	9.57	14.07	< 1.14
		January 2022	05/01/2022	201.47	70.56	35.61	8.06	13.92	< 1.14
			19/01/2022	201.95	68.43	32.85	8.57	11.67	< 1.14
February 2022	04/02/2022	206.07	72.13	32.92	7.08	12.35	< 1.14		
	17/02/2022	189.74	73.25	30.07	6.98	10.73	< 1.14		
March 2022	08/03/2022	202.26	73.17	34.65	8.61	13.50	< 1.14		
	22/03/2022	201.39	77.74	31.25	7.12	10.94	< 1.14		
2	Near Coal Lab (Core Zone)	April 2021	13/04/2021	210.84	76.63	34.97	7.16	13.17	< 1.14
			16/04/2021	212.37	79.51	31.90	7.51	12.55	< 1.14
		May 2021	21/05/2021	210.59	78.74	36.52	8.40	14.56	< 1.14
			24/05/2021	205.76	78.33	32.19	8.63	14.15	< 1.14
		June 2021	12/06/2021	194.47	71.52	31.32	8.25	12.10	< 1.14
			22/06/2021	201.95	73.43	34.09	8.74	12.95	< 1.14
		July 2021	13/07/2021	189.97	69.47	35.04	7.59	13.00	< 1.14
			21/07/2021	202.77	72.15	32.82	8.81	12.18	< 1.14
		August 2021	12/08/2021	193.18	70.65	30.92	7.12	11.09	< 1.14
			21/08/2021	218.69	77.81	30.56	7.49	10.62	< 1.14
September 2021	13/09/2021	182.87	71.91	33.56	7.77	12.09	< 1.14		
	19/09/2021	198.65	70.68	34.25	8.57	11.92	< 1.14		

		October 2021	04/10/2021	227.23	85.94	40.97	9.80	14.87	< 1.14		
			26/10/2021	188.15	74.24	28.73	6.73	13.61	< 1.14		
		November 2021	11/11/2021	188.07	71.85	36.43	7.31	11.01	< 1.14		
			16/11/2021	190.21	73.13	29.06	7.27	10.22	< 1.14		
		December 2021	07/12/2021	207.24	70.80	34.18	7.95	13.69	< 1.14		
			16/12/2021	229.14	72.15	35.42	8.91	12.34	< 1.14		
		January 2022	05/01/2022	184.26	71.45	30.46	9.17	13.30	< 1.14		
			19/01/2022	203.08	72.23	36.78	9.11	14.56	< 1.14		
		February 2022	04/02/2022	202.04	72.86	32.91	8.70	12.80	< 1.14		
			17/02/2022	212.33	75.75	36.90	8.97	14.32	< 1.14		
		March 2022	08/03/2022	205.32	76.11	30.11	9.35	15.70	< 1.14		
			22/03/2022	195.03	70.14	33.50	9.06	14.48	< 1.14		
		3	Near Work shop (Core Zone)	April 2021	13/04/2021	179.07	67.18	32.99	7.56	10.49	< 1.14
					16/04/2021	196.66	76.26	31.57	7.53	11.16	< 1.14
				May 2021	21/05/2021	194.00	72.77	29.83	8.01	14.10	< 1.14
					24/05/2021	192.92	74.29	32.76	8.57	14.80	< 1.14
June 2021	12/06/2021			196.40	73.67	31.14	8.58	13.63	< 1.14		
	22/06/2021			200.62	70.41	30.94	7.14	12.55	< 1.14		
July 2021	13/07/2021			201.47	70.88	29.29	8.06	12.10	< 1.14		
	21/07/2021			197.64	72.03	30.71	8.35	12.37	< 1.14		
August 2021	12/08/2021			184.98	69.84	31.23	7.63	11.08	< 1.14		
	21/08/2021			198.89	74.14	36.29	8.46	12.20	< 1.14		
September 2021	13/09/2021			191.98	71.38	29.45	8.38	11.90	< 1.14		
	19/09/2021			213.45	64.05	35.95	8.09	12.05	< 1.14		
October 2021	04/10/2021			181.02	67.49	34.43	7.65	13.30	< 1.14		
	26/10/2021			200.89	71.91	31.29	7.29	10.76	< 1.14		
November 2021	11/11/2021			205.65	70.83	31.93	8.54	13.78	< 1.14		
	16/11/2021			182.76	70.80	32.22	8.85	12.77	< 1.14		
December 2021	07/12/2021			200.64	69.12	32.03	7.13	14.57	< 1.14		
	16/12/2021			173.01	71.73	29.81	8.11	11.84	< 1.14		
January 2022	05/01/2022			197.26	67.63	28.52	8.94	10.07	< 1.14		
	19/01/2022			196.16	71.06	33.60	8.41	11.99	< 1.14		
February 2022	04/02/2022	212.15	74.16	36.10	8.81	14.61	< 1.14				
	17/02/2022	196.35	71.13	32.45	8.09	11.54	< 1.14				
March 2022	08/03/2022	186.31	70.69	34.46	8.54	14.31	< 1.14				
	22/03/2022	204.70	71.57	30.54	8.41	13.49	< 1.14				
4	Near Village Dulanga (Core Zone)	April 2021	13/04/2021	190.37	70.26	34.20	8.55	14.19	< 1.14		
			16/04/2021	195.99	60.25	32.66	8.78	13.40	< 1.14		
		May 2021	21/05/2021	181.21	63.79	31.26	7.93	10.35	< 1.14		
			24/05/2021	188.47	68.15	29.43	7.88	10.97	< 1.14		
		June 2021	12/06/2021	170.59	65.60	28.39	6.89	10.28	< 1.14		
			22/06/2021	208.85	78.64	33.49	7.16	10.97	< 1.14		
		July 2021	13/07/2021	192.14	73.59	33.06	8.41	14.16	< 1.14		
			21/07/2021	200.07	69.79	32.72	7.88	11.83	< 1.14		
		August 2021	12/08/2021	204.27	77.90	37.40	8.41	13.71	< 1.14		
			21/08/2021	161.43	53.03	29.53	8.78	14.22	< 1.14		

		September 2021	13/09/2021	186.75	62.55	35.20	8.11	14.65	< 1.14		
			19/09/2021	204.81	71.79	33.30	9.11	13.13	< 1.14		
		October 2021	04/10/2021	151.99	76.83	19.85	9.67	11.50	< 1.14		
			26/10/2021	191.78	82.88	30.65	7.53	10.97	< 1.14		
		November 2021	11/11/2021	175.59	68.74	30.17	7.79	13.32	< 1.14		
			16/11/2021	185.75	64.05	30.96	8.92	10.74	< 1.14		
		December 2021	07/12/2021	177.11	63.52	28.58	8.55	10.05	< 1.14		
			16/12/2021	177.11	61.51	29.25	6.20	12.32	< 1.14		
		January 2022	05/01/2022	171.33	59.39	31.74	7.55	11.61	< 1.14		
			19/01/2022	190.29	71.92	29.03	7.22	12.11	< 1.14		
		February 2022	04/02/2022	188.11	65.02	28.28	7.89	11.30	< 1.14		
			17/02/2022	188.01	71.06	27.09	7.43	12.36	< 1.14		
		March 2022	08/03/2022	180.53	69.96	30.15	7.67	10.98	< 1.14		
			22/03/2022	154.53	69.74	32.0	8.10	13.60	< 1.14		
		5	Near Village Bendrichua (Buffer Zone)	April 2021	14/04/2021	207.66	71.51	28.96	8.48	13.82	< 1.14
					17/04/2021	201.39	70.51	35.08	7.56	11.94	< 1.14
				May 2021	22/05/2021	200.59	70.95	28.01	8.56	11.83	< 1.14
					25/05/2021	198.63	67.72	31.30	7.74	11.51	< 1.14
June 2021	13/06/2021			206.33	70.02	30.87	7.79	12.58	< 1.14		
	23/06/2021			221.77	79.66	34.58	8.07	15.71	< 1.14		
July 2021	14/07/2021			207.62	70.46	30.94	7.73	12.47	< 1.14		
	22/07/2021			192.10	71.68	28.75	7.01	13.35	< 1.14		
August 2021	13/08/2021			231.29	79.01	30.88	8.99	14.10	< 1.14		
	25/08/2021			207.64	77.27	31.61	7.60	11.27	< 1.14		
September 2021	14/09/2021			216.86	74.27	35.35	7.25	16.70	< 1.14		
	20/09/2021			177.28	66.86	28.60	6.82	10.31	< 1.14		
October 2021	05/10/2021			150.73	67.31	25.50	7.95	11.40	< 1.14		
	27/10/2021			187.32	84.56	27.98	8.60	12.80	< 1.14		
November 2021	12/11/2021			166.32	64.91	28.07	7.90	10.79	< 1.14		
	17/11/2021			186.89	65.66	28.49	6.60	11.67	< 1.14		
December 2021	08/12/2021			183.46	71.75	30.20	6.32	10.71	< 1.14		
	17/12/2021			194.27	63.52	32.19	9.71	13.60	< 1.14		
January 2022	06/01/2022			194.70	60.79	30.79	7.50	12.69	< 1.14		
	20/01/2022			189.17	66.92	27.88	7.26	10.04	< 1.14		
February 2022	05/02/2022			186.90	67.62	29.18	7.21	13.80	< 1.14		
	18/02/2022			192.43	68.07	25.99	6.97	10.04	< 1.14		
March 2022	09/03/2022			195.97	70.90	32.51	8.36	11.41	< 1.14		

			23/03/2022	180.68	70.80	29.10	7.10	12.27	< 1.14
6	Near Village Rengalmunr (Buffer Zone)	April 2021	14/04/2021	204.51	68.08	31.20	7.09	13.52	< 1.14
			17/04/2021	209.30	67.59	30.06	8.04	14.15	< 1.14
		May 2021	22/05/2021	199.17	70.11	34.94	6.51	11.46	< 1.14
			25/05/2021	192.09	71.09	31.34	7.28	11.86	< 1.14
		June 2021	13/06/2021	171.01	69.35	28.36	6.57	10.01	< 1.14
			23/06/2021	198.86	70.03	29.90	6.94	11.12	< 1.14
		July 2021	14/07/2021	204.31	72.09	33.24	6.83	10.40	< 1.14
			22/07/2021	191.95	71.50	30.58	6.30	10.31	< 1.14
		August 2021	13/08/2021	199.91	78.73	34.30	8.87	14.15	< 1.14
			25/08/2021	187.39	68.96	28.96	7.08	10.93	< 1.14
		September 2021	14/09/2021	215.06	68.05	33.86	8.04	12.65	< 1.14
			20/09/2021	211.41	77.63	35.71	8.56	13.21	< 1.14
		October 2021	05/10/2021	164.15	83.95	21.24	6.39	11.51	< 1.14
			27/10/2021	190.08	77.70	32.08	8.32	11.45	< 1.14
		November 2021	12/11/2021	173.80	53.93	26.31	6.98	10.94	< 1.14
			17/11/2021	174.18	55.63	28.10	7.43	11.00	< 1.14
		December 2021	08/12/2021	196.42	67.03	34.65	7.93	11.40	< 1.14
			17/12/2021	173.08	67.27	29.20	7.71	11.68	< 1.14
		January 2022	06/01/2022	175.08	62.09	27.92	6.90	12.92	< 1.14
			20/01/2022	184.74	60.53	25.77	6.68	10.33	< 1.14
February 2022	05/02/2022	192.38	68.22	31.49	7.91	11.37	< 1.14		
	18/02/2022	199.46	69.27	31.69	7.77	12.95	< 1.14		
March 2022	09/03/2022	195.40	70.41	30.09	8.25	11.91	< 1.14		
	23/03/2022	194.07	68.55	30.14	7.18	12.41	< 1.14		
7	Near Village Khuntjharia (Buffer Zone)	April 2021	14/04/2021	176.87	64.26	29.71	6.23	11.80	< 1.14
			17/04/2021	185.30	69.29	30.72	8.43	12.91	< 1.14
		May 2021	22/05/2021	174.21	66.46	27.86	6.42	10.63	< 1.14
			25/05/2021	182.62	69.24	34.37	8.30	12.01	< 1.14
		June 2021	13/06/2021	188.39	71.35	32.40	8.19	12.94	< 1.14
			23/06/2021	194.74	70.08	30.91	7.35	13.33	< 1.14
		July 2021	14/07/2021	209.14	77.84	32.16	7.72	14.33	< 1.14
			22/07/2021	204.42	74.62	35.03	8.44	10.65	< 1.14
		August 2021	13/08/2021	188.10	68.12	29.18	7.85	13.07	< 1.14

			25/08/2021	191.02	63.46	31.33	6.48	12.07	< 1.14
		September 2021	14/09/2021	200.55	68.34	34.72	8.27	12.71	< 1.14
			20/09/2021	187.29	73.87	32.18	7.93	11.37	< 1.14
		October 2021	05/10/2021	168.70	81.11	26.53	9.88	9.96	< 1.14
			27/10/2021	177.71	69.39	30.45	9.41	10.50	< 1.14
		November 2021	12/11/2021	169.25	63.20	25.93	7.88	11.11	< 1.14
			17/11/2021	164.52	60.61	25.76	8.14	11.51	< 1.14
		December 2021	08/12/2021	194.66	63.68	28.27	8.43	14.19	< 1.14
			17/12/2021	202.70	68.44	31.07	8.48	10.25	< 1.14
		January 2022	06/01/2022	181.60	69.35	31.44	7.90	10.13	< 1.14
			20/01/2022	178.0	69.43	32.46	7.79	12.33	< 1.14
		February 2022	05/02/2022	201.04	72.13	36.77	8.21	14.06	< 1.14
			18/02/2022	200.59	69.12	32.01	9.72	11.56	< 1.14
		March 2022	09/03/2022	199.88	71.72	29.49	8.59	14.27	< 1.14
			23/03/2022	202.57	73.83	34.18	8.49	10.91	< 1.14
		April 2021	14/04/2021	185.37	54.01	30.61	6.63	11.72	< 1.14
			17/04/2021	179.41	65.68	31.15	7.38	10.21	< 1.14
		May 2021	22/05/2021	189.46	69.15	29.36	7.31	12.22	< 1.14
			25/05/2021	198.97	67.77	29.34	6.24	10.41	< 1.14
		June 2021	13/06/2021	176.34	66.30	27.08	6.52	10.59	< 1.14
			23/06/2021	207.96	73.92	31.39	8.16	11.69	< 1.14
		July 2021	14/07/2021	189.41	71.19	29.34	6.31	10.24	< 1.14
			22/07/2021	200.31	70.96	30.92	7.88	11.17	< 1.14
		August 2021	13/08/2021	218.40	74.47	32.50	7.84	11.94	< 1.14
			25/08/2021	183.24	61.83	30.83	8.96	12.17	< 1.14
		September 2021	14/09/2021	197.68	71.00	33.46	8.20	10.31	< 1.14
			20/09/2021	194.36	69.81	34.76	8.49	12.61	< 1.14

	October 2021	05/10/2021	176.48	77.05	25.74	7.74	10.21	< 1.14	
		27/10/2021	213.23	76.59	35.26	6.98	14.56	< 1.14	
	November 2021	12/11/2021	174.22	62.97	27.66	7.29	10.81	< 1.14	
		17/11/2021	156.42	57.68	26.83	6.37	10.23	< 1.14	
	December 2021	08/12/2021	206.34	70.48	28.67	8.60	11.03	< 1.14	
		17/12/2021	173.63	64.93	25.78	7.33	10.56	< 1.14	
	January 2022	06/01/2022	170.70	34.40	29.15	7.68	10.33	< 1.14	
		20/01/2022	198.71	63.46	25.98	7.95	10.53	< 1.14	
	February 2022	05/02/2022	180.75	62.59	27.09	7.48	11.00	< 1.14	
		18/02/2022	187.25	65.35	27.57	7.49	12.14	< 1.14	
	March 2022	09/03/2022	170.04	67.11	26.85	7.40	10.87	< 1.14	
		23/03/2022	188.6	67.68	27.49	7.38	12.20	< 1.14	
	<b>Permissible Limits as per NAAQS, 2009</b>			-	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>	<b>2.0</b>

**Biological Reclamation over In-Active Overburden Dump**



**Before plantation over the Overburden.(1 of 3)**



**After plantation and grassing over the Overburden.(2 of 3)**



**Grassing Activities along slope of Non-Active Overburden Dump. (3 of 3)**

## Grassing activities at Top Soil Dump



Before Grassing Activities along the slope.



**Grassing Activities along slope of Top Soil.**

**FORM 10**

[(See rule 19 (1))]

**MANIFEST FOR HAZARDOUS AND OTHER WASTE**

2021-22

Sender's name and mailing address (including Phone No. and e-mail)	Sainik Mining & Allied Services Ltd. Dulanga Coal mining project. At: Majhapada, P.S. Hengir, Dist - Sundergarh. Mob: 9771488140 Email: b.jay.tripathy@sainikmining.com.
Sender's authorisation No.:	IND-IV-HW 1326/1089 Dated: 31/01/2020
Manifest Document No.:	SMASL/DLCMP/2021-22/EMD
Transporter's name & address : (including Phone No. & e-mail)	Mr. Navin Agarwal Gurunanak Industries, B-12, Industrial Estate, Rourkela, Odisha - 769004 Mob: 9437042690
Type of Vehicle :	<input checked="" type="checkbox"/> Truck / Tanker / Special vehicle
Transporter's registration No.:	NA
Vehicle registration No.:	OD - 14V - 4256
Receiver's name & address : (including Phone No. & e-mail)	Mr. Navin Agarwal Gurunanak Industries, B-12, Industrial Estate, Rourkela, Odisha - 769004 9437042690, email: gurunanakindustries.rourkela@gmail.com
Receiver's authorisation No.:	IND-IV-HW-1285/6327 dated: 27/06/2019
Waste description :	used oil
Total quantity :	9.02 m <sup>3</sup> or MT or KL
No. of Containers :	41 Nos.
Physical form :	(Solid / Semi Solid / Sludge / Oil / Tarry / Slurry / Liquid)
Special handling instructions and additional information :	In case of fire, extinguish with DCP or CO <sub>2</sub> extinguisher
Sender's Certificate :	I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorised, packed, marked, and labelled, and are in all respects in proper conditions for transport by road according to applicable national government regulations.

Name & Stamp: Sainik Mining & Allied Services Limited.

Signature: 

01 28 20 22

Transporter's acknowledgement of receipt of Wastes

Name & Stamp: GURU NANAK INDUSTRIES B/12, Industrial Estate Rourkela-769004  
Signature: Rama SCh Kumar

01 28 20 22

Receiver's certification for receipt of hazardous and other waste

Name & Stamp: Gurunanak Industries B/12, Industrial Estate Rourkela-769004  
Signature: Rama SCh Kumar

01 28 20 22

**FORM 10**  
[(See rule 19 (1))]

**MANIFEST FOR HAZARDOUS AND OTHER WASTE**

Sender's name and mailing address (including Phone No. and e-mail)	Sainik Mining & Allied Services Ltd. Dulong coal mining project. At Mayhapada, P.S. - Hemgin, Dist. Sundergarh, Mob: 9741488140 Email: bijay.tripathy@sainikmining.com
Sender's authorisation No.:	IND-IV-HW/1326/1089 dated: 31/01/2020
Manifest Document No.:	SMASL/DLCMP/2021-22/EMD-
Transporter's name & address (including Phone No. & e-mail)	Mr. Navin Agarwal Gurunanak Industries, B-12, Industrial Estate Rourkela, Odisha - 769004 mob: 9437042690
Type of Vehicle :	(Truck / Tanker / Special vehicle)
Transporter's registration No.:	NA
Vehicle registration No.:	OD-14V-4256
Receiver's name & address (including Phone No. & e-mail)	Mr. Navin Agarwal Gurunanak Industries, B-12, Industrial Estate Rourkela, Odisha - 769004. mob: 9437042690 gurunanakindustries.rourkela@gmail.com
Receiver's authorisation No.:	IND-IV-HW-1285/6327 dated: 27.06.2019
Waste description :	used oil.
Total quantity :	5.72 m <sup>3</sup> or MTank L
No. of Containers :	26 Nos.
Physical form :	(Solid / Semi Solid / Sludge / Gity / Tarry / Slurry / Liquid)
Special handling instructions and additional information :	In case of fire, extinguish with DCP or CO <sub>2</sub> extinguisher.
Sender's Certificate :	I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorised, packed, marked, and labelled, and are in all respects in proper conditions for transport by road according to applicable national government regulations.

Name & Stamp: Sainik Mining & Allied Services Limited.

Signature:  06/10/2021

10 06 20 21

Transporter acknowledgement of receipt of Wastes

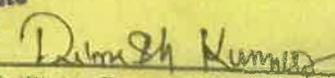
Name & Stamp: GURUNANAK INDUSTRIES

Signature: B/12, Industrial Estate Rourkela-769004 

10 06 20 21

Receiver's certification for receipt of hazardous and other waste

Name & Stamp: GURUNANAK INDUSTRIES

Signature: B/12, Industrial Estate Rourkela-769004 

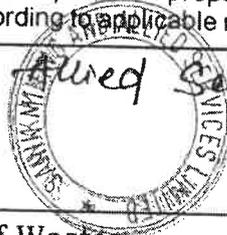
10 06 20 21

**MANIFEST FOR HAZARDOUS AND OTHER WASTE**

Sender's name and mailing address (including Phone No. and e-mail)	Sainik Mining & Allied Services Limited. Deulanga coal Mining project At: Majhapada; Ps: Hengga Sundargarh M: 977468140; Email: buay.tripathy@sainikmining.com
Sender's authorisation No.:	IND-IV-HW/1326/1089 dt: 31/01/2020
Manifest Document No.:	SMASL/DLCMP/2020-21/EMD-04
Transporter's name & address (including Phone No. & e-mail)	Jai ma Roadways C/o Raju Gupta Rourkela, Odisha. Mob - 8260553491
Type of Vehicle :	(Truck / Tanker / Special vehicle)
Transporter's registration No.:	N/A
Vehicle registration No.:	OR 15 M 9801
Receiver's name & address (including Phone No. & e-mail)	Mr. Navin Agarwal, Gurusanak Industries, B-12 Industrial estate Rourkela, Odisha - 769004 M: 9437042690; Gurusanakindustries.rourkela@gmail.com
Receiver's authorisation No.:	IND-IV-HW-1285/6327, dt: 27.06.2019
Waste description :	used oil
Total quantity :	.....13.20..... m <sup>3</sup> or MT or KL
No. of Containers :	.....60..... Nos.
Physical form :	(Solid / Semi Solid / Sludge / Oily / Tarry / Slurry / Liquid)
Special handling instructions and additional information :	In case of fire, extinguish with DCP or CO <sub>2</sub> Extinguisher
Sender's Certificate :	I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are categorised, packed, marked, and labelled, and are in all respects in proper conditions for transport by road according to applicable national government regulations.

Name & Stamp: Sainik Mining & Allied Services Limited

Signature: *[Signature]* 02/08/2021



07072021

Transporter acknowledgement of receipt of Wastes

Name & Stamp: Gurusanak Industries

Signature: *[Signature]*  
 GURU NANAK INDUSTRIES,  
 B/12, Industrial Estate  
 Rourkela-769004

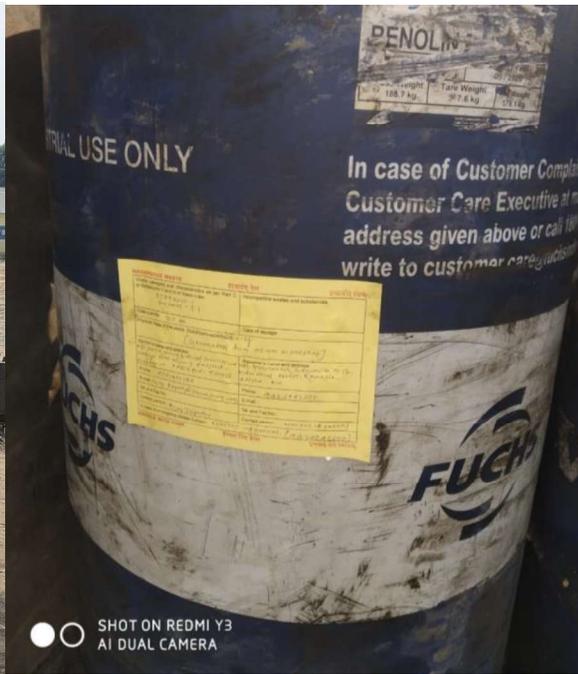
07072021

Receiver's certification for receipt of hazardous and other waste

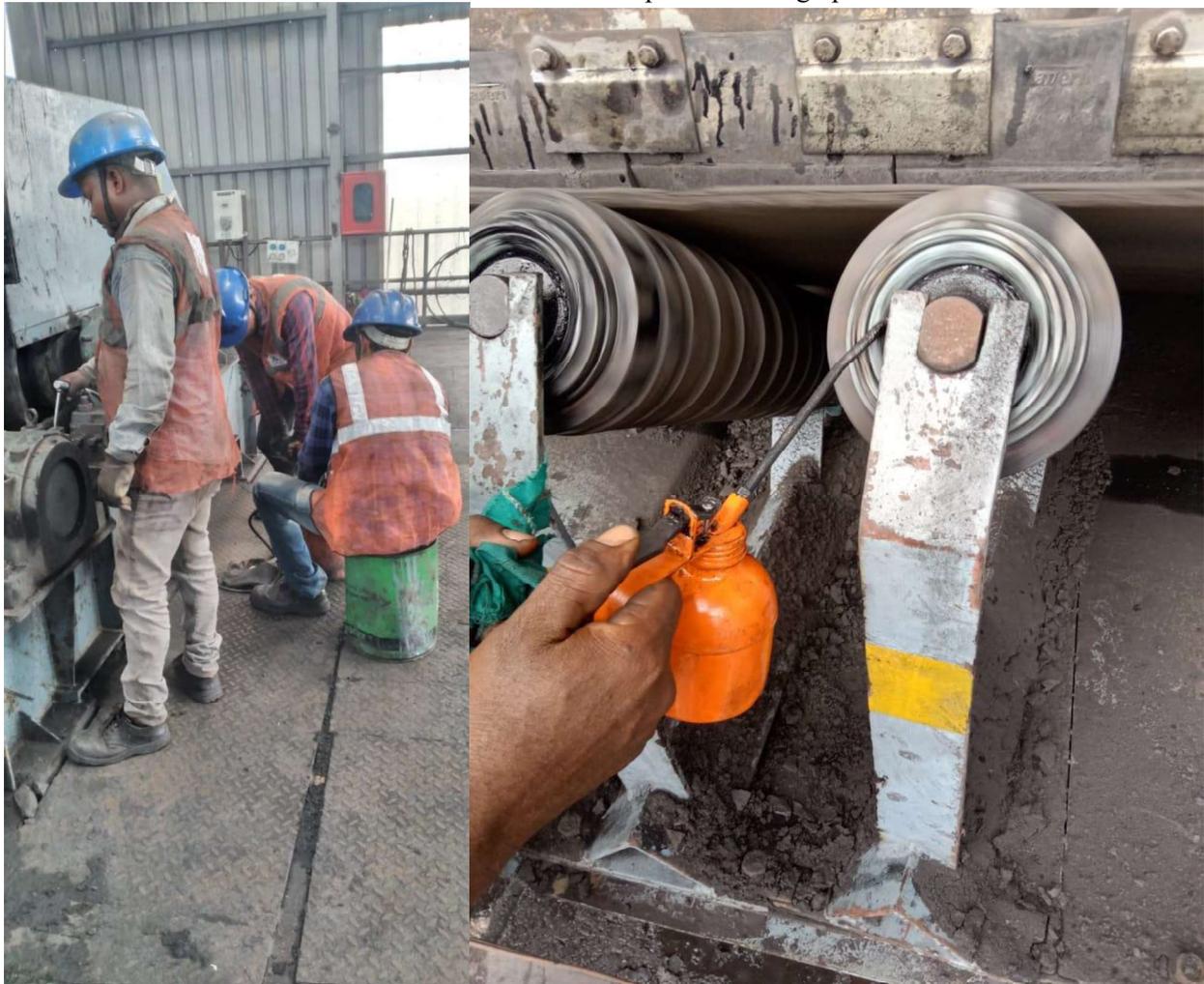
Name & Stamp: Gurusanak Industries

Signature: *[Signature]*  
 GURU NANAK INDUSTRIES  
 B/12, Industrial Estate  
 Rourkela-769004

07072021



Used of Hazardous waste oil in process during operation



Dust Suppression system in different areas





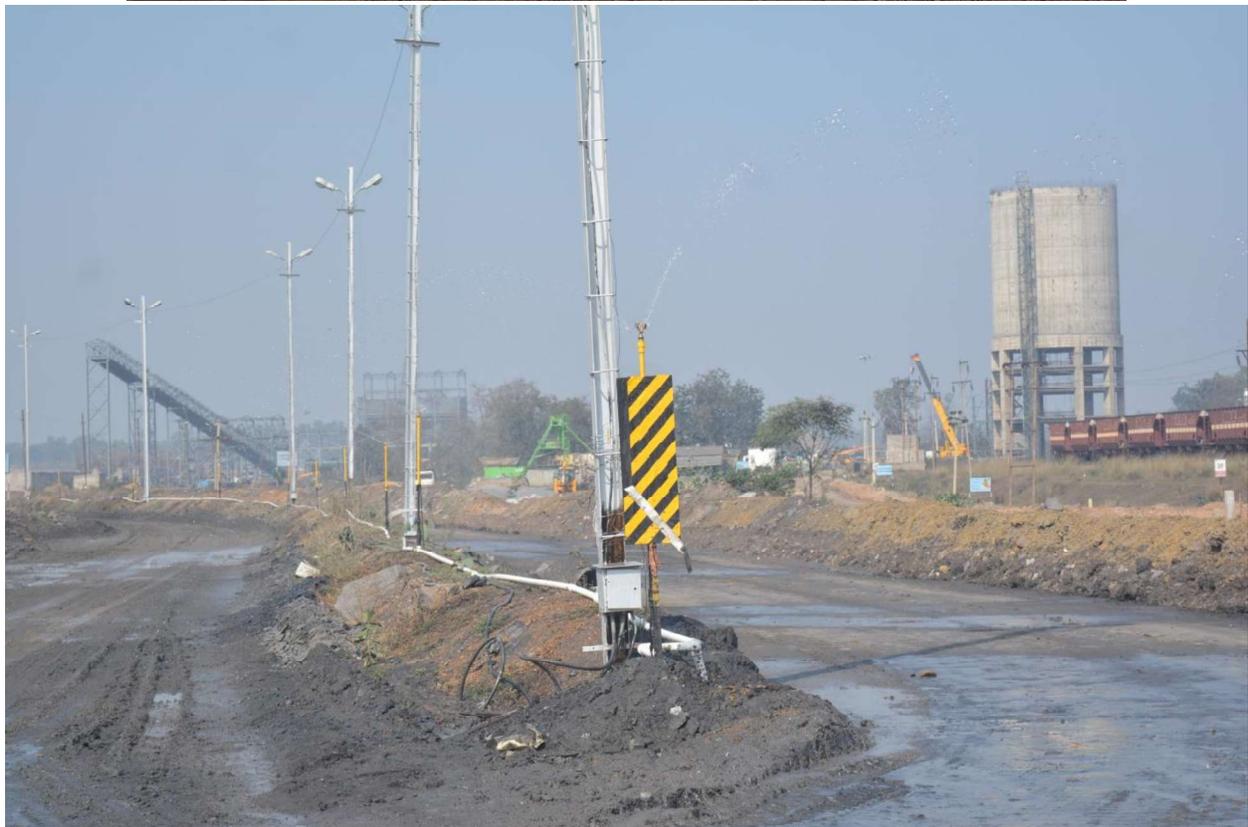
WRQ6+PPC, Majhapada, Odisha 770021, India

Latitude  
21.93958833333333  
7°

Longitude  
83.81347°

Local 05:01:45 PM  
GMT 11:31:45 AM

Altitude 241.7 meters  
Tuesday, 15-03-2022



Plantation Activities



Before Plantation over Earlier Coal Stock (Photo 1 of 3)



After Plantation over Earlier Coal Stock (Photo- 2 of 3)



**Plantation along Kalamegha – Dhumamunda Road.**



**Plantation at ETP area.(1 of 2)**



**Plantation at ETP area. (2of 2)**



**Plantation at different offices area.(1 of6)**



**Plantation at different offices area.(2 of6)**



**Plantation at different offices area.(3 of6)**



**Plantation at different offices area.(4 of6)**



**Plantation at different offices area.(5 of6)**



**Plantation at different offices area.(6 of6)**



**Plantation over the Overburden.**



**Plantation over the Safety Zone**



**Distribution of Sapling among the Local Villager.**

Micro-meteorological station



Continuous Ambient Air Quality Monitoring Station





Ground Water Level Monitoring Through Piezometer(Tele-Monitoring Type)



WRP8+848, Majhapada, Odisha 770021, India

Latitude

21.935893333333336°

Longitude

83.81563999999999°

Local 01:07:02 PM

GMT 07:37:02 AM

Altitude 229.7 meters

Monday, 14-03-2022



WRP8+848, Majhapada, Odisha 770021, India

Latitude  
21.936875°

Local 01:09:43 PM  
GMT 07:39:43 AM

Longitude  
83.81754000000001°

Altitude 233.7 meters  
Monday, 14 03 2022



Unnamed Road, Kalamegha, Odisha 770021, India

Latitude  
21.953331666666666  
7°

Local 12:27:30 PM  
GMT 06:57:30 AM

Longitude  
83.84371666666667°  
Altitude 229.5 meters  
Monday, 14-03-2022

**Highlights of CSR activities**



**Food Distribution drive during Covid-19 pandemic among workers and near-by villagers**



**Vaccination drive against Covid'19 among the Project Affected People**



**Sanitization at R&R Colony, Kalamegha**



Phenyl preparation programme among the project affected people



**Distribution programme among local people.**



**Observation of International Girl child day for spreading awareness among the locals.**



Different Awareness Programme conducted at DLCMP