

Letter No.: -HIL/ESR/GP-IV/5 -20-21/09-298

Date: 14.09.2021

The Member Secretary,
Chhattisgarh Environment Conservation Board,
Paryawas Bhawan, North Block Sector-19,
Naya Raipur Chhattisgarh - 490099.

Sub.: Submission of Environmental Statement Report of the 1 MTPA Under Ground Captive Coal Mine, Gare Palma IV/5 Coal Mines of Hindalco Industries Limited, Village – Milupara, Tehsil – Tamnar, District – Raigarh, Chhattisgarh.

Ref. Consent under section 25/26 of the Water (Prevention and control of pollution) Act, 1974 & Consent under section 21 of the Air (Prevention and control of pollution) Act, 1981 no. 10775/TS/CECB/2021, Naya Raipur, dated 06/03/2021.

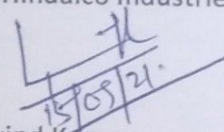
Dear Sir,

With reference to above subject we are submitting herewith the Environmental Statement Report in the prescribed format (Form - V) in respect of the 1 MTPA Under Ground Captive Coal Mine, Gare Palma IV/5 Coal Mine of M/s Hindalco Industries Limited, Village – Milupara, Tehsil – Tamnar, District – Raigarh, Chhattisgarh for the Financial Year 2020 -21.

Receipt of the statement may kindly be acknowledged.

Thanking you,

Yours faithfully,
For Hindalco Industries Limited,


Govind Kumar
(Agent- GP Mines)

Encl.: As above

- CC: 1. The Integrated Regional Office, Ministry of Environment Forests & Climate Change (MoEF & CC) Aranya Bhawan, North Block, Sector – 19, Naya Raipur, Atal Nagar, Chhattisgarh, 492002
2. The Director, Ministry of Environment, Forest & Climate Change, Paryavaran Bhawan, Jorbagh Road New Delhi – 110003.
3. The Regional Director, Regional Directorate (Central), Bhopal, Central Pollution Control Board (MoEF & CC, GOI), "Parivesh Bhawan" Paryavaran Parishar, E – 5, Arera Colony, Bhopal (MP), 462016
4. Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, New Delhi - 110032
5. Regional Officer, Chhattisgarh Environment Conservation Board (CECB), T. V. Tower Road, Raigarh (C.G.)

Hindalco Industries Limited

Gare Palma Mines (IV/4 & IV/5), Vill & Po: Milupara , Tehsil: Tamnar Dist: Raigarh- 496107 , Chhattisgarh
T: +91 7762 228212, Website : www.hindalco.com E mail : hindalco@adityabirla.com
Registered Office : Ahura Centre, 1st Floor, B Wing, Mahakali Caves Road Andheri (East) , Mumbai 400093, India
T: + 912266917000 | Fax: + 912266917001
Corporate ID No: L27020MH1958PLC011238

FORM V

(See rule 14 of Environmental Protection Act, 1986)

Environmental Statement for the financial year 1st April -2020 to 31st March 2021.

PART A

(i)	Name and address of the owner/occupier of the industry operation or process.	Sh. Govind Kumar (Mines Agent), Gare Palma IV/5 Coal Mine of M/s Hindalco Industries Limited, Village – Milupara, Tehsil – Tamnar, District – Raigarh, Chhattisgarh 496107
(ii)	Industry category Primary – (STC Code) Secondary - (STC Code)	Primary
(iii)	Production Capacity – Units -	Coal – 1.0 MTPA
(iv)	Year of establishment	Coal Mine vested to Hindalco Industries Limited vide order no. 104/13/2015/NA dated 23rd March 2015. The EUPs are as follow- 1. CPP (900 MW), Lapanga, Sambalpur, Odisha 2. CPP (467.5 MW), Hirakud, Sambalpur, Odisha
(v)	Date of the last environmental statement submitted	21.09.2020 for FY 2019- 20

PART B

(1) Water consumption M3/day: For the Period April' 20 to March 2021

(i)	Process	311
	Cooling	
(ii)	Domestic	
a	Inside the Mine Premises	12
b	Outside the Mine Premises	53
(iii)	Irrigation & Agriculture use (Community Supply not for drinking purpose)	7300
	Total	7676

S. No.	Name of Product	Process water consumption per unit of product output	
		During the Previous financial year (2019 - 20)	During the current financial year (2020 - 21)
(1)	Coal	NA	NA

This is a coal mine and there is no processing / cleaning of coal is being done.

(2) Raw material consumption

S. No.	Name of Raw material	Name of product	Consumption of raw material per unit	
			During the Previous financial year (2019 - 20)	During the current financial year (2020 - 21)
1.	NA	Coal production for FY 2020 -21 : 00.00 Million Metric Ton	NA	NA

Industry may use codes in disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw material used.

PART C

**Pollution discharged to environment/ unit of output.
(Parameter as specified in the consent issued)**

S. No.	Pollution	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons	
1	Water	No Discharge	No Discharge	No Variation 05 Nos. of settling pond & 02 nos of ETP (Capacity 200 m ³ / Hr Each) along with Lamella clarifier and chemical dosing arrangement have been established for the treatment of mine seepage water. 02 Nos. of RO plants has been installed for supplying the pure & safe water at mines office & other areas inside the mine premises for drinking purpose. Remaining water from outlet of ETPs are being used by the community for irrigation & agriculture purpose (not for drinking purpose).	
2	Air	The ambient air quality in the mining lease area conforms to the standard prescribed by CPCB as per NAAQS – 2009. As per the monitoring reports submitted by CECB & MoEF & CC approved & NABL accredited Laboratory, the concentration of ambient air quality parameters varies in the following ranges throughout the year conforming the standard- AAQM Report attached as <u>Annexure - 1</u>			
	Parameters	Pollutant Concentration	Standards (NAAQS - 2009)	Variation from prescribed standards	
	2(i)	PM10	34 – 51 (Average : 41)	100	No variation
	2(ii)	PM2.5	19 – 25 (Average : 23)	60	No variation
	2(iii)	SO2	8 – 13 (Average : 11)	80	No variation
	2(iv)	NOx	13 – 25 (Average : 21)	80	No variation
	2(v)	CO	0.6 – 1.3 (Average : 1)	4	No variation

PART D

Hazardous Wastes.

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

S. No.	Hazardous Wastes	Total Quantity (kg)	
		During the previous financial year (2019 - 20)	During the current financial year (2020 - 21)
a	From process	Generated: 500 kg. Used Oil (Category - 5.1), 70 kg Waste/ Residue containing Oil (Category - 5.2), 0.0 kg	Generated: 1750 kg of Used Oil (Category - 5.1), 30 kg Waste/ Residue containing Oil (Category - 5.2), 15.0 kg

		Contaminated Cotton Waste/ Other Cleaning Material (Category - 33.2)	Contaminated Cotton Waste/ Other Cleaning Material (Category - 33.2) Disposed off through authorized recycler: 1680 Kg. of Used Oil (Category - 5.1) Due to small quantity of HW category, 5.1 5.2 & 33.2 no recyclers wise to lift it from the mine site, so the quantity is stored in HIL Hazardous Waste storage site in a safe manner for further disposal i.e. 70 kg of Used Oil (Category - 5.1), 30.0 kg Waste/ Residue containing Oil (Category - 5.2), 15.0 kg Contaminated Cotton Waste/ Other Cleaning Material (Category - 33.2).
b	From pollution control facilities	Nil	Nil
c	Quantity recycled or re - utilized	<p>Hazardous Waste generated at mine site is disposed off through CECB/CPCB authorized recycler following due standard practices.</p> <p>Recycler: M/s Columbia Petro Chemical, 22 industrial Area, Bhanpuri, Raipur (CG)</p> <p>HW Authorization No.: 10334/HSMD/HO/CECB/2020 dated 19/02/2020.</p> <p>Valid up to : 05.01.2025</p>	

PART E
Solid Wastes

S. No.	Solid Waste	Total quantity	
		Previous financial Year (2019 - 20)	Current financial year (2020 - 21)
A	From process	NA	NA
B	From pollution control facility	NA	NA
C	Quantity recycled or re- utilizes within the unit		
(i)		NA	NA
(ii)	Sold	NA	NA
(iii)	Disposed	NA	NA

Gare Palma IV/5 is underground coal mine producing ROM coal. There is no processing / cleaning is being done. Thus no solid waste generated.

PART F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes

Characteristics of Used Oil (Cat. 5.1)

A. Physical

- 1. State - Liquid/ Semi Liquid.
- 2. Density@ 25 °C gm/ml - 0.816
- 3. Flash Point °C - 62.8

B Chemical

- 1. Sulphur (%by mass) - 2.24
- 2. Total Ash (% by mass) - 0.864

Characteristics of Waste/Residue containing Oil (Cat. 5.2)

A. Physical

- 1. State - Liquid/ Semi Liquid.
- 2. Density@ 25 °C gm/ml - 0.541
- 3. Flash Point °C - 44.2

B Chemical

- 1. Sulphur (%by mass) - 1.20
- 2. Total Ash (% by mass) - 0.568

Characteristics of Contaminated Cotton Rags/Other cleaning material (Cat. 33.2)

A. Physical

- 1. State - Liquid/ Semi Liquid.
- 2. Density@ 25 °C gm/ml - 0.280
- 3. Flash Point °C - 32.8

B Chemical

- 1. Sulphur (%by mass) - 0.94
- 2. Total Ash (% by mass) - 0.264

Used Oil (HW Cat 5.1), Waste/ Residue containing Oil (Category - 5.2) & Contaminated Cotton Rags/Other cleaning material (Cat. 33.2) which is generated from the HEMM/ equipment during scheduled maintenance is collected and stored securely in MS barrels after due segregation and kept over an impervious floor under specifically designed HW storage shed.

Analysis report attached as Annexure - 2

PART G

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

We have adopted eco-friendly technologies in mining operation and measures are taken as- construction of ETPs, STP & RO Plants, Fixed type & Truck mounted water sprinklers, Green belt development, installation of Automatic ground water level recorder & Automatic weather monitoring station, DWFM with telemetric provision, installation of LED display board to display the monitoring data of environmental quality parameters of GP Mines at the entrance of the Mine main gate etc.

PART H

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

For strengthening of environmental protection measures like Air pollution control measure, Water pollution control measure, water sprinkling, plantation etc. The Environmental expenditure details enclosed as Annexure-3.

PART I

Any other particulars for improving the quality of the environment

Company have planted approx. 48100 saplings in mines area details enclosed as Annexure - 4. Company have further plan for phase wise plantation in available open/available area. Company is providing safety training to all working staff before assignment of job in V.T. Center that is established by the company inside the mine premises.

Personal Protective equipment's- Like Nose mask, Safety Helmet, Earmuff etc. have been provided to all workers that are working in mines.

To avoid fugitive dust emission regular water sprinkling on road is being done. Company is being provided job specific PPEs like noise protective equipment – earplug & ear muff to worker engaged in high noise area.

Ambient Air Quality Monitoring Report of GP IV/5 Coal Mine of Hindalco Industries Limited, Raigarh (CG)

Sr.N O.	Locations	Parameters	Standards	2020-21												Average
				Apr'20	May'20	Jun'20	Jul'20	Aug'20	Sep'20	Oct'20	Nov'20	Dec'20	Jan'21	Feb'21	Mar'21	
1	MAIN OFFICE AREA MILUPARA	PM ₁₀	100 µg/m ³	35.33	52.75	40.38	40.25	39.00	42.75	43.50	41.25	44.00	40.25	42.25	44.00	42.14
		PM _{2.5}	60 µg/m ³	19.33	23.25	22.00	22.75	22.00	22.75	24.00	22.75	24.25	20.75	22.75	22.00	22.38
		SO ₂	80 µg/m ³	8.00	11.75	9.75	11.00	10.00	10.50	14.00	10.25	9.50	9.50	11.25	8.75	10.35
		NO _x	80µg/m ³	11.33	25.25	18.13	18.25	15.00	19.75	22.00	20.00	21.75	18.00	20.00	20.25	19.14
		CO	4 mg/m ³	0.57	0.91	0.80	1.03	0.96	1.05	1.28	0.95	0.96	0.86	1.05	1.09	0.96
2	STAFF QUARTER MILUPARA	PM ₁₀	100 µg/m ³	33.00	50.00	36.75	37.25	35.75	38.00	38.50	38.00	40.25	36.00	35.25	40.00	38.23
		PM _{2.5}	60 µg/m ³	18.67	23.25	20.25	22.50	21.25	23.25	24.25	23.50	24.25	21.50	23.50	20.25	22.20
		SO ₂	80 µg/m ³	8.00	10.75	8.75	11.25	10.25	12.75	13.00	11.00	10.75	9.00	11.00	10.75	10.60
		NO _x	80µg/m ³	13.00	23.75	16.75	22.25	21.25	23.50	23.75	23.75	22.50	21.75	23.75	23.00	21.58
		CO	4 mg/m ³	0.67	1.11	0.65	0.73	0.65	0.81	1.01	0.93	0.93	0.79	0.95	1.13	0.86
3	HIL COLONY KONDKEL	PM ₁₀	100 µg/m ³	31.00	49.00	38.63	40.00	38.00	42.00	43.50	40.00	43.50	38.50	38.50	41.00	40.30
		PM _{2.5}	60 µg/m ³	18.00	23.50	25.50	25.38	22.50	22.00	24.50	24.75	24.50	22.75	22.75	22.75	23.24
		SO ₂	80 µg/m ³	8.00	13.63	9.25	10.75	9.25	13.00	13.50	10.75	11.50	8.75	8.75	9.75	10.57
		NO _x	80µg/m ³	14.67	25.50	16.50	22.75	21.25	23.00	21.50	23.00	24.00	21.00	21.00	23.75	21.49
		CO	4 mg/m ³	0.60	1.34	1.03	1.08	0.91	0.96	0.94	0.98	0.84	0.88	0.88	1.05	0.96
4	ETP AREA KONDKEL	PM ₁₀	100 µg/m ³	38.00	52.00	40.50	41.00	39.75	43.00	43.50	42.50	44.00	40.25	42.25	44.25	42.58
		PM _{2.5}	60 µg/m ³	21.00	24.00	25.88	24.25	22.00	24.75	23.00	23.25	23.75	21.25	23.25	22.75	23.26
		SO ₂	80 µg/m ³	9.00	11.88	11.38	10.25	10.75	12.75	9.75	11.75	13.50	10.00	12.00	11.75	11.23
		NO _x	80µg/m ³	13.33	26.25	20.13	21.50	21.13	23.50	24.00	23.25	23.50	21.75	23.75	23.75	22.15
		CO	4 mg/m ³	0.63	1.26	1.09	1.28	1.13	1.25	1.21	1.21	0.98	1.04	1.08	1.03	1.10

Annexure - 1

	Parameters	Pollutant Concentration ($\mu\text{g}/\text{m}^3$)	Standards (NAAQS – 2009)	Variation from prescribed standards
2(i)	PM10	34 – 51 (Average : 41)	100	No variation
2(ii)	PM2.5	19 – 25 (Average : 23)	60	No variation
2(iii)	SO2	8 – 13 (Average : 11)	80	No variation
2(iv)	NO2	13 – 25 (Average : 21)	80	No variation
2(v)	CO	0.6 – 1.3 (Average : 1)	4	No variation



HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/0226	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA,BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/MISC/0270	
		DATE OF SAMPLING	17/03/2021	
		DATE OF RECEIPT	18/03/2021	
		DATE OF REPORT	01/04/2021	
		DATE OF ANALYSIS	START:19/03/2021	END:31/03/2021
SAMPLE DETAILS				
CUSTOMER REF. NO. & DATE	M/PO/SRV/2021/0044, DTD. 21-AUG-2020			
CUSTOMER SAMPLE ID	OIL (BANJHIKHOL)			
SAMPLE TYPE	WASTE / RESIDUES CONTAINING OIL (HW CATEGORY - 5.2)			
SAMPLE CONDITION AT RECEIPT	OK			
PACKING OF SAMPLE	PLASTIC BOTTLE			
SAMPLE COLLECTED BY	LABORATORY CHEMIST			
QUANTITY RECEIVED	APPROX 1.0 LTR.			

TEST REPORT

SR. NO	PARAMETERS	UNIT	METHOD OF TEST	RESULTS
1	Total Ash	%/mass	IS:1448 (Part-4) : 1984	0.568
2	Flash Point	°C	IS:1448 (Part-20) : 1998	44.2
3	Sulphur	%/mass	IS:1448 (Part-33) : 1991	1.20
4	Density @ 25°C	Gm/ml	IS:1448 (Part-16) : 1990	0.541

Remarks: N.D. - Not Detected

Terms & conditions

- The report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 PREPARED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 AUTHORIZED SIGNATORY
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-----End of the test report-----



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Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/0227	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA,BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/MISC/0271	
		DATE OF SAMPLING	17/03/2021	
		DATE OF RECEIPT	18/03/2021	
		DATE OF REPORT	01/04/2021	
		DATE OF ANALYSIS	START: 19/03/2021	END: 31/03/2021
SAMPLE DETAILS				
CUSTOMER REF. NO. & DATE	M/PO/SRV/2021/0044, DTD. 21-AUG-2020			
CUSTOMER SAMPLE ID	OIL (BANJHIKHOL)			
SAMPLE TYPE	CONTAMINATED COTTON RAGS OR OTHER CLEANING MATERIAL (33.2)			
SAMPLE CONDITION AT RECEIPT	OK			
PACKING OF SAMPLE	PLASTIC BOTTLE			
SAMPLE COLLECTED BY	LABORATORY CHEMIST			
QUANTITY RECEIVED	APPROX 1.0 LTR.			

TEST REPORT				
SR. NO	PARAMETERS	UNIT	METHOD OF TEST	RESULTS
1	Total Ash	%/mass	IS:1448 (Part-4) : 1984	0.264
2	Flash Point	°C	IS:1448 (Part-20) : 1998	32.8
3	Sulphur	%/mass	IS:1448 (Part-33) : 1991	0.94
4	Density @ 25°C	Gm/ml	IS:1448 (Part-16) : 1990	0.280

Remarks: N.D. - Not Detected

Terms & conditions

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 PREPARED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 AUTHORIZED SIGNATORY
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-----End of the test report-----



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Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/0101	
TO, HINDALCO INDUSTRIES LIMITED, GARE PALMA - IV/5, MILUPARA U/G COAL MINE, VILLAGE - MILUPARA,BLOCK-TAMNAR, DISTT. - RAIGARH (C.G.) 496107		LAB REF NO	UES/20-21/MISC/0102	
		DATE OF SAMPLING	17/03/2021	
		DATE OF RECEIPT	18/03/2021	
		DATE OF REPORT	01/04/2021	
		DATE OF ANALYSIS	START: 19/03/2021	END: 31/03/2021
		SAMPLE DETAILS		
CUSTOMER REF. NO. & DATE	M/PO/SRV/2021/0044, DTD. 21-AUG-2020			
CUSTOMER SAMPLE ID	OIL (BANJHIKHOL)			
SAMPLE TYPE	USED OIL (HW CATEGORY - 5.1)			
SAMPLE CONDITION AT RECEIPT	OK			
PACKING OF SAMPLE	PLASTIC BOTTLE			
SAMPLE COLLECTED BY	LABORATORY CHEMIST			
QUANTITY RECEIVED	APPROX 1.0 LTR.			

TEST REPORT				
SR. NO	PARAMETERS	UNIT	METHOD OF TEST	RESULTS
1	Total Ash	%/mass	IS:1448 (Part-4) : 1984	0.864
2	Flash Point	°C	IS:1448 (Part-20) : 1998	62.8
3	Sulphur	%/mass	IS:1448 (Part-33) : 1991	2.24
4	Density @ 25°C	Gm/ml	IS:1448 (Part-16) : 1990	0.816

Remarks: N.D. - Not Detected

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- This is for information as the party has asked for above test(s) only.

 PREPARED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 AUTHORIZED SIGNATORY
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-----End of the test report-----

Gare Palma IV/5 Coal Mine
M/s Hindalco Industries Limited,
Environmental Expenditure Details for FY 2020-21

Particulars	Amount (Lakh)
Water Quality Management	12.07
Air Quality Management	12.44
Plantation, Green Belt Development	7.49
Others	9.32
Total	41.32

Hindalco Industries Limited Green Belt Development Status

Year wise plantation detail of Gare Palma IV/5 Coal Mine									
Sl No.	Name of the Organisation	Year		Location	Area Covered in Plantation (hectare)	No. of Tree Planted (Approx.)	Number of Plant Survived	Survival Rate (%)	Sapling Details
1	Hindalco Industries Limited, GP IV/5 coal Mine, Village - Milupara, Tehsil - Tamnar, Dist. Raigarh (CG) 496107	Upto 2015		Coal mine lease area	9.84	30000	24600	82.00	Neem, Mahua, , Jamun, Mango, Guava, Imli,. Drumstick, Teak, Shivan / Ghamar, Sisham, Sirus, Bamboo, Peltafarm, Nilgiri, Amla etc
		2016	2000		0.68	2000	1700	85.00	
		2017	5000		1.60	5000	4000	80.00	
		2018	5000		1.70	5000	4250	85.00	
		2019	5000		1.80	5000	4500	90.00	
		2020	1100		0.44	1100	1100	100.00	
Total					16.1	48100	40150	83.47	

Note : Gap filling of plants is a continous process

Green Belt Development Photographs



Annexure - 4

