

ENVIRONMENTAL DATA GENERATION OF

HINDALCO INDUSTRIES LIMITED

Kathautia Open Cast Coal Mines,
Post – Naudiha, P.S. Pandwa,
Daltonganj, Distt. – Palamu
(Jharkhanand)

February - 2021

Prepared By



NABL Accredited; MOEF & CC Recognized; CECB Approved Laboratory
An ISO 9001:2015, ISO 18001:2007 & ISO 14001:2004 Certified Laboratory
Reg. Off. - IIDD-272 Phase-3, Kabir Nagar, Raipur (C.G.)-492099
Ph (0771)-4027777, ultimatenviro@gmail.com



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

Name & Address of The Customer		REPORT NO	UES/ER/20 21/04709
TO, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		LAB REF NO	UES/20-21/AAQM/04/00
		DATE OF SAMPLING	01/02/2021 to 26/02/2021
		DATE OF RECEIPT	02/02/2021 to 27/02/2021
		DATE OF REPORT	04/03/2021
		DATE OF ANALYSIS	START: 02/02/2021 END: 03/03/2021
SAMPLER DETAILS			
MONITORING NDM	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	K/EO/SRV/2021/0033 DATED: 16/07/2020
SAMPLING LOCATION	R & R COLONY, CHANDAN NAGAR (BUFFER ZONE)		
DURATION OF SAMPLING	24 HOURS	SAMPLER COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE NUMBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-7	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method 10-5	--

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.02.2021	48	20	12	22	1.0	N.D.
05.02.2021	46	20	08	20	0.8	N.D.
08.02.2021	44	22	14	28	1.1	N.D.
12.02.2021	58	23	17	22	1.2	N.D.
15.02.2021	42	23	18	26	1.4	N.D.
19.02.2021	56	26	10	28	1.2	N.D.
22.02.2021	42	22	16	20	1.0	N.D.
26.02.2021	53	24	12	24	0.8	N.D.

Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected

Terms & conditions

- The use of 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.

 04/03/2021 PREPARED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS 04/03/2021 AUTHORIZED SIGNATORY
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End of the test report



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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/04710
TO, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		LAB REF NO	UES/20-21/AAQM/04401
		DATE OF SAMPLING	01/02/2021 to 26/02/2021
		DATE OF RECEIPT	02/02/2021 to 27/02/2021
		DATE OF REPORT	04/03/2021
		DATE OF ANALYSIS	START:02/02/2021 END:03/03/2021
SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRV/2021/0533 DATED: 16/07/2020
SAMPLING LOCATION	KABIAUTIYA VILLAGS (DOPPER ZONE)		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, IS 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, IS 2003	4.0
Mercury (Hg)	EPA Method 10-5	--

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.02.2021	54	22	10	19	1.0	N.D.
05.02.2021	48	18	12	24	0.8	N.D.
08.02.2021	56	20	10	23	1.1	N.D.
12.02.2021	48	28	12	26	1.0	N.D.
15.02.2021	52	26	16	22	1.4	N.D.
19.02.2021	44	24	14	28	1.2	N.D.
22.02.2021	48	22	18	20	1.1	N.D.
26.02.2021	52	24	16	24	1.6	N.D.

Remarks: * Duration of sampling for CO - 1 Hour, 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 report unless otherwise agreed with customer.
- This is for information as the party has asked for a free test report.

 PREPARED BY 04/03/2021		For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY 04/03/2021
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk
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Name & Address of The Customer		REPORT NO	UES/TR/20-21/04711
TO, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		LAB REF NO	UES/20-21/AAQM/04402
		DATE OF SAMPLING	01/02/2021 to 26/02/2021
		DATE OF RECEIPT	02/02/2021 to 27/02/2021
		DATE OF REPORT	04/03/2021
		DATE OF ANALYSIS	START: 02/02/2021 END: 03/03/2021
		SAMPLE DETAILS	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRY/2021/0033 DATED: 16/07/2020
SAMPLING LOCATION	BATSARA VILLAGES (BUFFER ZONE)		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO, PVC BOTTLES, NO ₂ : 30MLX1 NO, PVC BOTTLES RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CEED Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method 10.5	--

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.02.2021	56	28	15	20	1.1	N.D.
05.02.2021	44	20	14	28	1.2	N.D.
08.02.2021	52	26	12	22	1.0	N.D.
12.02.2021	44	22	15	26	1.6	N.D.
15.02.2021	50	20	12	20	1.4	N.D.
19.02.2021	58	28	14	28	1.2	N.D.
22.02.2021	52	26	18	20	1.0	N.D.
26.02.2021	44	22	14	26	1.6	N.D.

Remarks: * Duration of sampling for CO - 1 Hour, 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 facility.

Prepared by
PREPARED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Authorized Signatory
AUTHORIZED SIGNATORY

-----End of the test report-----



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Name & Address of the Customer		REPORT NO	UPS/TR/20-21/04712
TO, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		LAB REF NO	UES/20-21/AAQM/04403
		DATE OF SAMPLING	01/02/2021 to 26/02/2021
		DATE OF RECEIPT	02/02/2021 to 27/02/2021
		DATE OF REPORT	04/03/2021
		DATE OF ANALYSIS	START: 02/02/2021 END: 03/03/2021
SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	R/PO/SAY/2021/5035 DATED: 16/07/2020
SAMPLING LOCATION	SIJGA VILLAGE/BUFFER ZONE)		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 5): 2006 & CPCB Guidelines vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	1.0
Mercury (Hg)	EPA Method TO-5	--

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.02.2021	64	22	10	28	1.2	N.D.
05.02.2021	60	24	12	29	1.1	N.D.
08.02.2021	48	20	14	28	1.4	N.D.
12.02.2021	56	26	16	22	1.2	N.D.
15.02.2021	48	22	14	23	1.6	N.D.
19.02.2021	54	28	16	24	1.2	N.D.
22.02.2021	44	20	12	22	1.8	N.D.
26.02.2021	42	24	10	28	1.2	N.D.

Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected

Terms & conditions

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- > This is for information as the party has asked for above. TEST ONLY.

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-----End of the test report-----



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Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
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Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

Name & Address Of The Customer		REPORT NO	URS/TR/20-21/047:3
TO, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		LAB REF NO	URS/20-21/AAQM/04404
		DAY OF SAMPLING	01/02/2021 to 26/02/2021
		DATE OF RECEIPT	02/02/2021 to 27/02/2021
		DATE OF REPORT	04/03/2021
		DATE OF ANALYSIS	START: 02/02/2021 END: 03/03/2021
		SAMPLE DETAILS	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO & DATE	K/DO/ENV/2021/0033 DATED: 16/07/2020
SAMPLING LOCATION	MINES OFFICE NEAR VYC (CORE ZONE)		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE ROUNDER BLADES: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines vol. 1	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method 10.3	

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.02.2021	66	24	10	26	1.0	N.D.
05.02.2021	70	22	14	24	1.2	N.D.
08.02.2021	58	26	16	20	1.4	N.D.
12.02.2021	66	24	14	28	1.3	N.D.
15.02.2021	68	28	16	20	1.2	N.D.
19.02.2021	64	32	10	22	1.6	N.D.
22.02.2021	74	30	18	26	1.0	N.D.
26.02.2021	60	28	16	30	0.8	N.D.

Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected

Terms & conditions

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PREPARED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

-----End of the test report-----



HDD-272, Phase III - Near JP Chowk
Ring Road No.-2, Kabir Nagar, Raipur (C.G.) - 492099
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Name & Address of The Customer		REPORT NO	URS/TR/20-21/04714
TO, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		LAD REF NO	UES/20-21/AAQM/04405
		DATE OF SAMPLING	01/02/2021 to 26/02/2021
		DATE OF RECEIPT	02/02/2021 to 27/02/2021
		DATE OF REPORT	04/03/2021
		DATE OF ANALYSIS	START: 02/02/2021 END: 03/03/2021
SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR (QUALITY MONITORING)	CUSTOMER REF. NO. & DATE	K/DO/SRV/2021/0033 DATED: 16/07/2020
SAMPLING LOCATION	NEAR MAIN GATE (CORE ZONE)		
DURATION OF SAMPLING	24 HOURS	SAMPLES COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-I	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	---

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.02.2021	64	30	14	28	1.1	N.D.
05.02.2021	50	28	16	22	1.4	N.D.
08.02.2021	64	20	14	26	1.2	N.D.
12.02.2021	54	26	12	22	1.6	N.D.
15.02.2021	58	22	10	28	1.4	N.D.
19.02.2021	54	28	16	20	1.1	N.D.
22.02.2021	56	30	12	28	1.0	N.D.
26.02.2021	60	32	14	24	1.2	N.D.

Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected

Terms & conditions

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- 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 only.

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



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

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Name & Address of The Customer		REPORT NO	UES/TR/20-21/04715
TO, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		LAB REF NO	URS/20-21/AAQM/04406
		DATE OF SAMPLING	01/02/2021 to 26/02/2021
		DATE OF RECEIPT	02/02/2021 to 27/02/2021
		DATE OF REPORT	04/03/2021
		DATE OF ANALYSIS	START: 02/02/2021 END: 03/03/2021
SAMPLE DETAILS			
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	R/EO/SRV/2021/0033 DATED: 16/07/2020
SAMPLING LOCATION	NEAR DG STACK (CORE ZONE)		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): 1X1 NO., FILTER PAPER (PM _{2.5}): 1X1 NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO.: 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X1 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 5): 2006 & CPCB Guidelines Vol. 1	80
Carbon Monoxide (CO)*	IS 5182(Part 10):1999, RA 2003	4.0
Mercury (Hg)	EPA Method 10.5	

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.02.2021	58	22	10	24	1.2	N.D.
05.02.2021	56	29	14	26	1.1	N.D.
08.02.2021	64	24	12	20	1.6	N.D.
12.02.2021	60	22	16	28	1.2	N.D.
15.02.2021	64	28	12	22	1.4	N.D.
19.02.2021	62	22	14	20	1.1	N.D.
22.02.2021	56	20	12	23	1.8	N.D.
26.02.2021	58	22	18	24	1.0	N.D.

Remarks: * Duration of sampling for CO - 1 Hour, 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 details only.

Shankar
04/03/2021
PREPARED BY



For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

Chandrababu
04/03/2021
AUTHORIZED SIGNATORY

-----End of the test report-----



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

Name & Address Of The Customer		REPORT NO	UES/TR/20-21/04716
TO, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		LAB REF NO	UES/20-21/AAQM/04407
		DATE OF SAMPLING	01/02/2021 to 26/02/2021
		DATE OF RECEIPT	02/02/2021 to 27/02/2021
		DATE OF REPORT	04/03/2021
		DATE OF ANALYSIS	START: 02/02/2021 END: 03/03/2021
		SAMPLE DETAILS	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	K/20/SRV/2021/0033 DATED: 16/07/2020
SAMPLING LOCATION	NEAR SUBSTATION(CORE ZONE)		
DURATION OF SAMPLING	24 HOURS	SAMPLES COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	FILTER PAPER (PM ₁₀): LXL NO., FILTER PAPER (PM _{2.5}): LXL NO. SO ₂ : 30MLX1 NO. PVC BOTTLE, NO ₂ : 30MLX1 NO. PVC BOTTLE RUBBER BLADDER: 1X7 NO.		

Test Method and NAAQM Standard for Ambient Air Quality Monitoring

Parameter	Method Reference	NAAQM Standard
Particulate Matter size less than 10 microns (PM ₁₀)	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-1	100
Particulate Matter size less than 2.5 microns (PM _{2.5})	CPCB Guidelines Vol.-1	60
Sulphur Dioxide (SO ₂)	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-1	80
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6): 2006 & CPCB Guidelines Vol.-1	80
Carbon Monoxide (CO)*	IS 5182 (Part 10): 1999, RA 2003	4.0
Mercury (Hg)	EPA Method IO-5	--

TEST REPORT

Date of Sampling	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³	Hg ng/m ³
01.02.2021	64	26	18	22	1.2	N.D.
05.02.2021	52	32	14	28	1.4	N.D.
08.02.2021	58	28	16	22	1.0	N.D.
12.02.2021	54	30	12	24	1.6	N.D.
15.02.2021	48	32	14	26	1.0	N.D.
19.02.2021	46	26	18	24	1.6	N.D.
22.02.2021	50	30	10	28	1.7	N.D.
26.02.2021	44	28	15	30	1.2	N.D.

Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected

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- > 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 special tests, only.

Prepared by
 PREPARED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Authorized Signatory
 AUTHORIZED SIGNATORY

-----End of the test report-----



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

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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/04717	
To, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		LAB REF NO	UES/20-21/FR/04408	
		DATE OF SAMPLING	26/02/2021	
		DATE OF RECEIPT	27/02/2021	
		DATE OF REPORT	04/03/2021	
		DATE OF ANALYSIS	START: 27/02/2021	END: 03/03/2021
SAMPLE DETAILS				
MONITORING FOR	WORK ZONE MONITORING	CUSTOMER REF. NO. & DATE	K/EO/SRV/2021/0033 DATED: 16/07/2020	
SAMPLING LOCATION	MINING PHASE PIT "A"			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	GMF FILTER PAPER (8 X 10 INCH): 1X1 NO.			

TEST REPORT

SR. NO.	PARAMETER	UNIT	RESULT	As per MOEF Notification (350-1)	METHOD REFERENCE
1	Total Suspended Particulate Matter (as SPM)	$\mu\text{g}/\text{m}^3$	342	500	EPA Method IO-2.1

Note: All results are on the basis of 24 hour sampling.

REMARKS: RESULTS ARE AS ABOVE

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PREPARED BY

Thakur
04/03/2021



For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

AUTHORIZED SIGNATORY

Amudra
04/03/2021

-----End of the test report-----



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Name & Address of The Customer		REPORT NO	UES/TR/20 21/04718	
To, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		LAB REF NO	UES/20-21/EE/04409	
		DATE OF SAMPLING	26/02/2021	
		DATE OF RECEIPT	27/02/2021	
		DATE OF REPORT	04/03/2021	
		DATE OF ANALYSIS	START: 27/02/2021	END: 03/03/2021
SAMPLE DETAILS				
MONITORING FOR	WORK ZONE MONITORING	CUSTOMER REF. NO. & DATE	K/PO/ERY/2021/0633 DATED: 16/07/2020	
SAMPLING LOCATION	PIT "B"			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	GMV KASHER PAPER (8 X 10 INCH); 1X1 NO.			

TEST REPORT

SR. NO.	PARAMETER	UNIT	RESULT	As per MOEF Notification (350-1)	METHOD REFERENCE
1	Total Suspended Particulate Matter (as SPM)	$\mu\text{g}/\text{m}^3$	364	500	EPA Method IO-2.1

Note: All results are on the basis of 24 hour sampling.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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 PREPARED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY
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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/04719	
To, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		JAR REP NO	UES/20-21/FR/04410	
		DATE OF SAMPLING	26/02/2021	
		DATE OF RECEIPT	27/02/2021	
		DATE OF REPORT	04/03/2021	
		DATE OF ANALYSIS	START: 27/02/2021	END: 03/03/2021
SAMPLE DETAILS				
MONITORING FOR	WORK ZONE MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRV/2021/0533 DATE: 16/07/2020	
SAMPLING LOCATION	PIY "C"			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	GMF FILTER PAPER (8 X 10 INCH) : 1X1 NO.			

TEST REPORT

SR. NO.	PARAMETER	UNIT	RESULT	As per MOEF Notification (350-1)	METHOD REFERENCE
1	Total Suspended Particulate Matter (as SPM)	$\mu\text{g}/\text{m}^3$	386	500	EPA Method IO-2.1

Note: All results are on the basis of 24 hour sampling.

REMARKS: RESULTS ARE AS ABOVE

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 PREPARED BY 04/03/2021		For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY 04/03/2021
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-----End of the test report-----



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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/04/20	
To, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		LAB REF NO	UES/20-21/YK/04411	
		DATE OF SAMPLING	26/02/2021	
		DATE OF RECEIPT	27/02/2021	
		DATE OF REPORT	04/03/2021	
		DATE OF ANALYSIS	START: 27/02/2021	END: 03/03/2021
SAMPLE DETAILS				
MONITORING FOR	WORK ZONE MONITORING	CUSTOMER REF. NO. & DATE	K/CD/ENV/2021/0033 DATED: 16/07/2020	
SAMPLING LOCATION	DUMP YARD EXTERNAL			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	GMF FILTER PAPER (8 X 10 INCH): 1X1 NO.			

TEST REPORT

SR. NO.	PARAMETER	UNIT	RESULT	As per MOEF Notification (350-1)	METHOD REFERENCE
1	Total Suspended Particulate Matter (as SPM)	$\mu\text{g}/\text{m}^3$	350	500	EPA Method IO-2.1

Note: All results are on the basis of 24 hour sampling.

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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/04721	
To, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		LAB REF NO	UES/20-21/FR/04412	
		DATE OF SAMPLING	26/02/2021	
		DATE OF RECEIPT	27/02/2021	
		DATE OF REPORT	04/03/2021	
		DATE OF ANALYSIS	START: 27/02/2021	END: 03/03/2021
SAMPLE DETAILS				
MONITORING FOR	WORK ZONE MONITORING	CUSTOMER REF. NO. & DATE	K/DG/ENV/2021/0033 DATED: 16/07/2020	
SAMPLING LOCATION	COAL STOCK YARD			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST SM	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	GMF FILTER PAPER (8 X 10 INCH); 1X1 NO.			

TEST REPORT

SR. NO.	PARAMETER	UNIT	RESULT	As per MOEF Notification (350-1)	METHOD REFERENCE
1	Total Suspended Particulate Matter (as TSP)	$\mu\text{g}/\text{m}^3$	344	500	EPA Method IO-2.1

Note: All results are on the basis of 24 hour sampling.

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Thakur
02/03/2021
PREPARED BY



For: ULTIMATE ENVIROLYTICAL SOLUTIONS

Thakur
02/03/2021
AUTHORIZED SIGNATORY

-----End of the test report-----



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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/04722	
To, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		LAB REF NO	UES/20-21/FE/04413	
		DATE OF SAMPLING	26/02/2021	
		DATE OF RECEIPT	27/02/2021	
		DATE OF REPORT	04/03/2021	
		DATE OF ANALYSIS	START: 27/02/2021	END: 03/03/2021
SAMPLE DETAILS				
MONITORING FOR	WORK ZONE MONITORING	CUSTOMER REF. NO. & DATE	K/PC/SVV/2021/0033 DATED: 16/07/2020	
SAMPLING LOCATION	HILL ROAD			
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST	
SAMPLING PROCEDURE	AS PER METHOD REFERENCE			
SAMPLE QUANTITY/PACKING	GMS FILTER PAPER (A X 10 INCH) : 1X1 NO.			

TEST REPORT

SR. NO.	PARAMETER	UNIT	RESULT	As per MOEF Notification (350-1)	METHOD REFERENCE
1	Total Suspended Particulate Matter (as SPM)	$\mu\text{g}/\text{m}^3$	370	500	EPA Method IO-2.1

Note: All results are on the basis of 24 hour sampling.

REMARKS: RESULTS ARE AS ABOVE

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Thakur
04/03/2021
PREPARED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Armutkar
04/03/2021
AUTHORIZED SIGNATORY

-----End of the test report-----



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<i>Name & Address of The Customer</i>		REPORT NO	UES/TR/20-21/04723
To,		LAB REF NO	UES/20-21/ES/04414
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	26/02/2021
KATHAUTIA OPEN CAST COAL MINES,		DATE OF RECEIPT	27/02/2021
POST - NAUDIHA, P.S. PANDWA,		DATE OF REPORT	04/03/2021
DALTONGANJ, DISTT.- PALAMU (JH)		DATE OF ANALYSIS	START: 27/02/2021 END: 03/03/2021
SAMPLE DETAILS			
MONITORING FOR	WORK ZONE MONITORING	CUSTOMER REF. NO. & DATE	X/PO/SRT/2021/0023 DATED: 16/07/2020
SAMPLING LOCATION	DALHARA RAILWAY SIDING		
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	AS PER METHOD REFERENCE		
SAMPLE QUANTITY/PACKING	GMF FILTER PAPER (8 X 10 INCH) : 121 NO.		

TEST REPORT

SR. NO.	PARAMETER	UNIT	RESULT	As per MOEF Notification (350-1)	METHOD REFERENCE
1	Total Suspended Particulate Matter (as SPM)	µg/m ³	360	500	EPA Method IO-2.1

Note: All results are on the basis of 24 hour sampling.

REMARKS: RESULTS ARE AS ABOVE

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Shankar
04/03/2021
PREPARED BY



For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

Amrinder
04/03/2021
AUTHORIZED SIGNATORY

-----End of the test report-----



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Name & Address of The Customer		REPORT NO	UES/TR/20-21/04724		
To, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		LAB REF NO	UES/20-21/FR/04415		
		DATE OF SAMPLING	26/02/2021		
		DATE OF RECEIPT	27/02/2021		
		DATE OF REPORT	04/03/2021		
		DATE OF ANALYSIS	START: 27/02/2021	END: 03/03/2021	
		SAMPLE DETAILS			
MONITORING FOR	WORK ZONE MONITORING	CINCYCAMP NO. & DATE	K/PO/SNV/2021/0055 DATED: 16/07/2020		
SAMPLING LOCATION	TRUCK PARKING ZONE				
DURATION OF SAMPLING	24 HOURS	SAMPLE COLLECTED BY	LABORATORY CHEMIST		
SAMPLING PROCEDURE	AS PER METHOD REFERENT				
SAMPLE QUANTITY/PACKING	GMF FILTER PAPER (8 X 10 INCH): 1X1 NO.				

TEST REPORT

SR. NO.	PARAMETER	UNIT	RESULT	As per MOEF Notification (350-1)	METHOD REFERENCE
1	Total Suspended Particulate Matter (as SPM)	µg/m ³	340	500	EPA Method IO-2.1

Note: All results are on the basis of 24 hour sampling.

REMARKS: RESULTS ARE AS ABOVE

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Shaker
04/03/2021
PREPARED BY



For **ULTIMATE ENVIROLYTICAL SOLUTIONS**

Ammita
04/03/2021
AUTHORIZED SIGNATORY

-----End of the test report-----



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Name & Address Of The Customer To, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)	REPORT NO	UES/TR/20 21/04725
	LAB REF NO	UES/20-21/M/04416
	DATE OF REPORT	04/03/2021
	DATE OF SAMPLING	26/02/2021 to 27/02/2021

SAMPLER DETAILS

MONITORING FOR	NOISE LEVEL MONITORING
CUSTOMER REF. NO. & DATE	K/PO/SRV/2021/0033, DATED: 16/07/2020
SAMPLING LOCATION	INSIDE COAL MINE & OUTSIDE COAL MINE (AS DESCRIBED BELOW)
SAMPLE COLLECTED BY	LABORATORY CHEMIST
SAMPLING PROCEDURE	MANUFACTURER'S INSTRUCTION

TEST REPORT

LOCATION	UNIT	RESULT		LIMIT (INDUSTRIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
Inside Plant					
MINES OFFICE NEAR VTC	dB(A)	56.4	48.2	75	70
NEAR MAIN GATE	dB(A)	64.7	52.4		
NEAR DG STACK	dB(A)	64.8	42.6		
NEAR SUBSTATION	dB(A)	62.4	54.2		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant					
R & R COLONY, CHANDAN NAGAR	dB(A)	48.2	38.4	55	15
KATHAUTIYA VILLAGE	dB(A)	52.6	42.6		
BATARA VILLAGE	dB(A)	42.8	38.2		
SINGU VILLAGE	dB(A)	54.2	34.6		

REMARKS: RESULTS ARE AS ABOVE

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 PREPARED BY 02/03/2021		For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY 02/03/2021
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-----End of the test report-----



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<i>To Name & Address Of The Customer</i>		Report No	UFS/TR/20-21/04726	
To, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		Lab Ref No	UES/20-21/W/04417	
		Date of Sampling	26/02/2021	
		Date of Receipt	27/02/2021	
		Date of Report	04/03/2021	
		Date of Analysis	Start: 27/02/2021	End: 03/03/2021
SAMPLE DETAILS				
Customer Sample ID	1. Near Workshop 2. Sump Water Pit-D	Customer Ref. No. & Date	K/PO/SRV/2021/0033 DATED: 16/07/2020	
Sample Type	Effluent Water	Sample Condition At Receipt	Ok	
Packing Of Sample	Jerry Can (3 ltr.*2) Glass bottle (300 ml.*2)	Sample Collected By	Laboratory Chemist	
Other Details	Sealed	Quantity Received	Approx. 3.3 Ltr.	

REPORT NO.- 04726

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 (SCHEDULE-VI) PART-A INLAND SURFACE WATER	NEAR WORK SHOP	SUMP WATER PIT-D
1	Colour	Maxeu	APHA 22 nd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-7	<1	<1
2	Odour	-	APHA 22 nd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-7	Agreeable	Agreeable
3	Temperature	°C	APHA 22 nd Ed. 2012, 2130-B, 2-13	Shall not exceed 5°C above the receiving water temperature	25.4	25.5
4	pH	-	APHA 22 nd Ed. 2012, 4510-H-B, 4-92	6.5 to 9.0	7.34	7.50
5	Total Residual Chlorine	mg/L	APHA 22 nd Ed. 2012, 4510-Cl-G, 4-69	1.0	N.D.	N.D.
6	Total Suspended Solids	mg/l.	APHA 22 nd Ed. 2012, 2540-D, 2-55	100	22.0	29.0
7	Dissolved Phosphate (as P)	mg/L	APHA 22 nd Ed. 2012, 4500-P-C, 4-153	5.0	N.D.	N.D.
8	Fluoride (as F)	mg/l.	APHA 22 nd Ed. 2012, 4500-F-55D, 4-84 & 87	2.0	0.08	0.12
9	Lead (as Pb)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-18	0.1	N.D.	N.D.
10	Zinc (as Zn)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-18	5.0	0.12	0.16
11	Copper (as Cu)	mg/L	APHA 22 nd Ed. 2012, 3111-B, 3-18	3.0	N.D.	N.D.
12	Cadmium (as Cd)	mg/l.	APHA 22 nd Ed. 2012, 3500-Cd, 3-105	2.0	N.D.	N.D.
13	Mercury (as Hg)	mg/l.	APHA 22 nd Ed. 2012, 3112-B, 3-23	0.01	N.D.	N.D.
14	Arsenic (as As)	mg/l.	APHA 22 nd Ed. 2012, 3114-C, 3-36	0.2	N.D.	N.D.

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REPORT NO.- 04726

TEST REPORT						
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	THE ENVIRONMENT (PROTECTION) RULES, 1986 [SCHEDULE-VI] PART-A INLAND SURFACE WATER	NEAR WORK SHOP	SUMP WATER PIT-D
15	Selenium (as Se)	mg/L	APHA 22 nd Ed.2012, 3114-C, 3-38	0.05	N.D.	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 22 nd Ed.2012, 3500-Cr-B, 3-69	2.0	N.D.	N.D.
17	Chemical Oxygen Demand (COD)	mg/l	APHA 22 nd Ed.2012, 5520 2,5-17	250	64.0	52.0
18	Biochemical Oxygen Demand (BOD)	mg/l	IS 3025 (Part 4):1993, RA 2003	10	16.8	13.6
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991, RA 2003,	10.0	N.D.	N.D.
20	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43):1992, RA 2003	1.0	N.D.	N.D.
21	Total Dissolved Solids (as TDS)	mg/l	IS 3025 (part 15):1994, RA 2006	-	286.0	376.0

Note: mg/lit.: milligram per liter., N.D.: Not Detected

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- > The use of 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 04/03/2021		For ULTIMATE ENVIROLYTICAL SOLUTIONS  AUTHORIZED SIGNATORY 04/03/2021
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-----End of the test report-----