



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/20-21/1368
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/1755
		DATE OF SAMPLING	01/09/2020 to 29/09/2020
		DATE OF RECEIPT	02/09/2020 to 30/09/2020
		DATE OF REPORT	03/10/2020
		DATE OF ANALYSIS	START: 03/09/2020 END: 03/10/2020
		SAMPLE DETAILS	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRV/2021/0033 DATED: 16/07/2020
SAMPLING LOCATION	R & R COLONY, CHANDAN NAGAR (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 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
01.09.2020	42	26	6	26	1.4	N.D.
04.09.2020	44	22	10	22	0.8	N.D.
07.09.2020	46	20	8	20	0.8	N.D.
10.09.2020	56	28	12	28	1.1	N.D.
14.09.2020	44	24	16	20	1.4	N.D.
19.09.2020	48	22	10	26	1.0	N.D.
21.09.2020	40	24	14	22	1.6	N.D.
27.09.2020	52	26	10	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.

 PREPARED BY 03/10/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY 03/10/2020
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-----End of the test report-----



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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/1369
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/1756
		DATE OF SAMPLING	01/09/2020 to 29/09/2020
		DATE OF RECEIPT	02/09/2020 to 30/09/2020
		DATE OF REPORT	03/10/2020
		DATE OF ANALYSIS	START: 03/09/2020 END: 03/10/2020
		SAMPLE DETAILS	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRV/2021/0033 DATED: 16/07/2020
SAMPLING LOCATION	KATHAUTIYA 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 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
01.09.2020	48	22	14	26	0.8	N.D.
04.09.2020	42	26	8	20	1.0	N.D.
07.09.2020	46	20	12	26	1.2	N.D.
10.09.2020	38	18	10	24	1.0	N.D.
14.09.2020	48	24	18	22	0.8	N.D.
19.09.2020	42	22	10	26	0.6	N.D.
21.09.2020	44	30	14	18	0.8	N.D.
27.09.2020	48	26	10	24	1	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
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End of the test report



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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/1370
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/1757
		DATE OF SAMPLING	01/09/2020 to 29/09/2020
		DATE OF RECEIPT	02/09/2020 to 30/09/2020
		DATE OF REPORT	03/10/2020
		DATE OF ANALYSIS	START: 03/09/2020 END: 03/10/2020
		SAMPLE DETAILS	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRV/2021/0033 DATED: 16/07/2020
SAMPLING LOCATION	BATSARA 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 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
01.09.2020	50	26	8	26	1.2	N.D.
04.09.2020	44	24	6	22	1.6	N.D.
07.09.2020	52	28	10	20	1.0	N.D.
10.09.2020	44	22	14	24	1.8	N.D.
14.09.2020	48	28	12	28	1.4	N.D.
19.09.2020	46	22	10	20	1.6	N.D.
21.09.2020	54	28	16	22	1.0	N.D.
27.09.2020	48	23	10	24	1.1	N.D.

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

Terms & conditions

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



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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/1371	
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/1758	
		DATE OF SAMPLING	01/09/2020 to 29/09/2020	
		DATE OF RECEIPT	02/09/2020 to 30/09/2020	
		DATE OF REPORT	03/10/2020	
		DATE OF ANALYSIS	START: 03/09/2020	END: 03/10/2020
		SAMPLE DETAILS		
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRV/2021/0033 DATED: 16/07/2020	
SAMPLING LOCATION	SIKKA 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 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
01.09.2020	56	26	12	20	1.6	N.D.
04.09.2020	48	28	16	26	1.0	N.D.
07.09.2020	44	22	10	24	1.8	N.D.
10.09.2020	52	26	18	22	1.2	N.D.
14.09.2020	40	20	10	26	1.8	N.D.
19.09.2020	46	24	8	20	1.6	N.D.
21.09.2020	44	23	12	24	1.4	N.D.
27.09.2020	40	32	10	22	1.2	N.D.

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

Terms & conditions

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



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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/1372	
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/1759	
		DATE OF SAMPLING	01/09/2020 to 29/09/2020	
		DATE OF RECEIPT	02/09/2020 to 30/09/2020	
		DATE OF REPORT	03/10/2020	
		DATE OF ANALYSIS	START: 03/09/2020	END: 03/10/2020
		SAMPLE DETAILS		
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRV/2021/0033 DATED: 16/07/2020	
SAMPLING LOCATION	MINES OFFICE NEAR VTC (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 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
01.09.2020	58	26	16	26	0.8	N.D.
04.09.2020	60	24	10	22	0.6	N.D.
07.09.2020	54	20	12	28	1.0	N.D.
10.09.2020	62	28	14	20	1.2	N.D.
14.09.2020	58	22	18	26	1.0	N.D.
19.09.2020	64	28	10	22	1.6	N.D.
21.09.2020	68	26	12	16	1.0	N.D.
27.09.2020	52	22	16	20	0.8	N.D.

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

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 PREPARED BY 03/10/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY 03/10/2020
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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/20-21/1373	
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/1760	
		DATE OF SAMPLING	01/09/2020 to 29/09/2020	
		DATE OF RECEIPT	02/09/2020 to 30/09/2020	
		DATE OF REPORT	03/10/2020	
		DATE OF ANALYSIS	START:03/09/2020	END:03/10/2020
		SAMPLE DETAILS		
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRV/2021/0033 DATED: 16/07/2020	
SAMPLING LOCATION	NEAR MAIN GATE (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 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
01.09.2020	58	26	12	26	1.2	N.D.
04.09.2020	46	24	16	28	1.0	N.D.
07.09.2020	50	22	10	20	1.6	N.D.
10.09.2020	48	28	17	22	1.0	N.D.
14.09.2020	52	22	16	28	0.8	N.D.
19.09.2020	56	26	8	26	0.6	N.D.
21.09.2020	44	24	14	30	1.0	N.D.
27.09.2020	48	30	12	32	1.2	N.D.

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

Terms & conditions

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 PREPARED BY 03/10/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY 03/10/2020
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk
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Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

Name & Address Of The Customer		REPORT NO	UES/TR/20-21/1374
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/1761
		DATE OF SAMPLING	01/09/2020 to 29/09/2020
		DATE OF RECEIPT	02/09/2020 to 30/09/2020
		DATE OF REPORT	03/10/2020
		DATE OF ANALYSIS	START: 03/09/2020 END: 03/10/2020
		SAMPLE DETAILS	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	K/PO/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 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
01.09.2020	54	28	16	24	0.8	N.D.
04.09.2020	48	22	10	20	0.6	N.D.
07.09.2020	56	26	18	28	1.0	N.D.
10.09.2020	50	18	12	26	0.8	N.D.
14.09.2020	62	28	8	20	1.0	N.D.
19.09.2020	60	22	10	24	1.2	N.D.
21.09.2020	52	28	16	22	1.0	N.D.
27.09.2020	56	26	18	28	1.6	N.D.

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

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 PREPARED BY 03/10/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY 03/10/2020
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-----End of the test report-----



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

Name & Address Of The Customer		REPORT NO	UES/TR/20-21/1375
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/1762
		DATE OF SAMPLING	01/09/2020 to 29/09/2020
		DATE OF RECEIPT	02/09/2020 to 30/09/2020
		DATE OF REPORT	03/10/2020
		DATE OF ANALYSIS	START:03/09/2020 END:03/10/2020
		SAMPLE DETAILS	
MONITORING FOR	AMBIENT AIR QUALITY MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRV/2021/0033 DATED: 16/07/2020
SAMPLING LOCATION	NEAR SUBSTATION (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 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
01.09.2020	58	22	12	26	1.2	N.D.
04.09.2020	46	26	8	24	1.0	N.D.
07.09.2020	50	20	16	20	1.2	N.D.
10.09.2020	48	30	10	28	1.0	N.D.
14.09.2020	44	22	18	22	1.6	N.D.
19.09.2020	38	18	10	26	1.0	N.D.
21.09.2020	46	26	16	24	1.0	N.D.
27.09.2020	40	28	12	20	0.8	N.D.

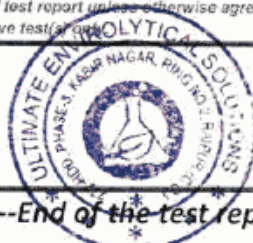
Remarks: * Duration of sampling for CO - 1 Hour, N.D. - Not Detected

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(s)

PREPARED BY

Thakur
03/10/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

Thakur
03/10/2020

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



HDD-272, Phase III - Near JP Chowk
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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/1376	
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/1763	
		DATE OF SAMPLING	19/09/2020	
		DATE OF RECEIPT	23/09/2020	
		DATE OF REPORT	03/10/2020	
		DATE OF ANALYSIS	START: 23/09/2020	END: 30/09/2020
SAMPLE DETAILS				
MONITORING FOR	WORK ZONE MONITORING	CUSTOMER REF. NO. & DATE	K/PO/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)	$\mu\text{g}/\text{m}^3$	326	500	EPA Method IO-2.1

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

REMARKS: RESULTS ARE AS ABOVE

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 (as is) only.

Thakur
03/10/2020
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For ULTIMATE ENVIROLYTICAL SOLUTIONS

Thakur
03/10/2020
AUTHORIZED SIGNATORY

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



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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/13771	
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/1764	
		DATE OF SAMPLING	19/09/2020	
		DATE OF RECEIPT	23/09/2020	
		DATE OF REPORT	03/10/2020	
		DATE OF ANALYSIS	START: 23/09/2020	END: 30/09/2020
SAMPLE DETAILS				
MONITORING FOR	WORK ZONE MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRV/2021/0033 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	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)	$\mu\text{g}/\text{m}^3$	356	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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- > This is for information as the party has asked for above test(s) only.

Thakur
03/10/2020
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Thakur
03/10/2020
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End of the test report

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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/1378	
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/1765	
		DATE OF SAMPLING	19/09/2020	
		DATE OF RECEIPT	23/09/2020	
		DATE OF REPORT	03/10/2020	
		DATE OF ANALYSIS	START: 23/09/2020	END: 30/09/2020
SAMPLE DETAILS				
MONITORING FOR	WORK ZONE MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRV/2021/0033 DATED: 16/07/2020	
SAMPLING LOCATION	PIT "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)	$\mu\text{g}/\text{m}^3$	372	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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- > 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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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/1379	
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/1766	
		DATE OF SAMPLING	19/09/2020	
		DATE OF RECEIPT	23/09/2020	
		DATE OF REPORT	03/10/2020	
		DATE OF ANALYSIS	START: 23/09/2020	END: 30/09/2020
SAMPLE DETAILS				
MONITORING FOR	WORK ZONE MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRV/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)	$\mu\text{g}/\text{m}^3$	346	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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- > This is for information as the party has asked for and we test(s) only.

PREPARED BY

Thakur
03/10/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

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Thakur
03/10/2020

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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/1380	
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/1767	
		DATE OF SAMPLING	19/09/2020	
		DATE OF RECEIPT	23/09/2020	
		DATE OF REPORT	03/10/2020	
		DATE OF ANALYSIS	START: 23/09/2020	END: 30/09/2020
SAMPLE DETAILS				
MONITORING FOR	WORK ZONE MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRV/2021/0033 DATED: 16/07/2020	
SAMPLING LOCATION	COAL STOCK YARD			
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)	$\mu\text{g}/\text{m}^3$	332	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
03/10/2020
PREPARED BY



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Thakur
03/10/2020
AUTHORIZED SIGNATORY

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



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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/1381	
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/1768	
		DATE OF SAMPLING	19/09/2020	
		DATE OF RECEIPT	23/09/2020	
		DATE OF REPORT	03/10/2020	
		DATE OF ANALYSIS	START: 23/09/2020	END: 30/09/2020
SAMPLE DETAILS				
MONITORING FOR	WORK ZONE MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRV/2021/0033 DATED: 16/07/2020	
SAMPLING LOCATION	HAUL ROAD			
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)	$\mu\text{g}/\text{m}^3$	340	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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- > This is for information as the party has asked for analytical (s) only.

Shakur S.
03/10/2020
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For ULTIMATE ENVIROLYTICAL SOLUTIONS

Shakur S.
03/10/2020
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-----End of the test report-----



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<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/1382		
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/1769		
		DATE OF SAMPLING	19/09/2020		
		DATE OF RECEIPT	23/09/2020		
		DATE OF REPORT	03/10/2020		
		DATE OF ANALYSIS	START: 23/09/2020	END: 30/09/2020	
		SAMPLE DETAILS			
MONITORING FOR	WORK ZONE MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRV/2021/0033 DATED: 16/07/2020		
SAMPLING LOCATION	RAJHARA RAILWAY SIDEING				
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)	$\mu\text{g}/\text{m}^3$	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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 03/10/2020 PREPARED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS 03/10/2020 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/20-21/1383	
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/1770	
		DATE OF SAMPLING	19/09/2020	
		DATE OF RECEIPT	23/09/2020	
		DATE OF REPORT	03/10/2020	
		DATE OF ANALYSIS	START: 23/09/2020	END: 30/09/2020
SAMPLE DETAILS				
MONITORING FOR	WORK ZONE MONITORING	CUSTOMER REF. NO. & DATE	K/PO/SRV/2021/0033 DATED: 16/07/2020	
SAMPLING LOCATION	TRUCK PARKING ZONE			
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)	$\mu\text{g}/\text{m}^3$	320	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
03/10/2020
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For ULTIMATE ENVIROLYTICAL SOLUTIONS

Teerambay
03/10/2020
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-----End of the test report-----



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To Name & Address Of The Customer		Report No	UES/TR/20-21/1384
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/1771	
	Date Of Sampling	19/09/2020	
	Date Of Receipt	23/09/2020	
	Date Of Report	03/10/2020	
	Date Of Analysis	Start: 24/09/2020	End: 30/09/2020
	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.*1) Glass bottle (1 ltr.*1)	Sample Collected By	Laboratory Chemist
Other Details	Sealed	Quantity Received	Approx. 4ltr.

REPORT NO. - 1384

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	Hazen	APHA 22 nd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	<1	<1
2	Odour	-	APHA 22 nd Ed. 2012, 2120-B, 2-6	See 6 of Annexure-I	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	25.6
4	pH	-	APHA 22 nd Ed. 2012, 4500-H ⁺ -B, 4-92	5.5 to 9.0	7.18	7.23
5	Total Residual Chlorine	mg/L	APHA 22 nd Ed. 2012, 4500-Cl-G, 4 - 69	1.0	N.D.	N.D.
6	Total Suspended Solids	mg/L	APHA 22 nd Ed. 2012, 2540- D, 2-66	100	22.0	28.0
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-B&D, 4-84 & 87	2.0	0.14	0.18
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	0.21	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.

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REPORT NO. - 1384

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
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, 3-38	0.2	N.D.	N.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-B, 5-17	250	56.0	68.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993, RA 2003	30	6.2	10.8
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.

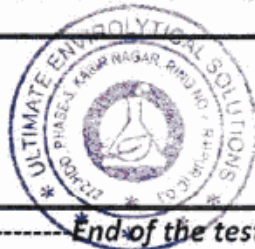
Note: mg/lit.: milligram per liter., N.D.: Not Detected

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

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

Thakur
03/10/2020
PREPARED BY



For ULTIMATE ENVIROLYTICAL SOLUTIONS

Thakur
03/10/2020
AUTHORIZED SIGNATORY

End of the test report



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<i>To Name & Address Of The Customer</i>		Report No	UES/TR/20-21/1385	
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/1772	
		Date Of Sampling	19/09/2020	
		Date Of Receipt	23/09/2020	
		Date Of Report	03/10/2020	
		Date Of Analysis	Start: 24/09/2020	End: 30/09/2020
SAMPLE DETAILS				
Sampling Location	1. SECURITY BARRACK 2. SIKKS VILLAGE 3. BATSARA VILLAGE	Customer Ref. No. & Date	K/PO/SRV/2021/0033 DATED: 16/07/2020	
Monitoring For	Piezometer Ground Water Depth	Sample Condition At Receipt	OK	
Sample Collected By	Laboratory Chemist			

TEST REPORT

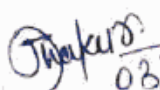

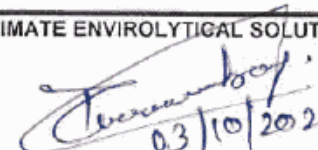
SR. NO.	LOCATION	LATITUDE	LONGITUDE	UNIT	RESULT (DEPTH/BELOW GROUND WATER LEVEL)
1	NEAR SECURITY BARRAK	24°01'10.28"N	84°05'18.88"E	METER	6.2
2	NEAR SIKKA VILLAGE	24°06'54.88"N	84°05'34.33"E	METER	12.2
3	NEAR BATSARA VILLAGE	24°06'52.49"N	84°05'41.49"E	METER	11.7

Note: BGWL – Below Ground Water Level.

REMARKS: RESULTS ARE AS ABOVE

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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(s) only.

 03/10/2020 PREPARED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS  03/10/2020 AUTHORIZED SIGNATORY
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-----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/20-21/1386
To,		LAB REF NO	UES/20-21/W/1773
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	19/09/2020
KATHAUTIA OPEN CAST COAL MINES,		DATE OF RECEIPT	23/09/2020
POST - NAUDIHA, P.S. PANDWA,		DATE OF REPORT	03/10/2020
DALTONGANJ, DISTT.- PALAMU (JH)		DATE OF ANALYSIS	START:23/09/2020 END: 30/09/2020
SAMPLE DETAILS			
SAMPLE TYPE	SURFACE WATER	ORDER /REFERENCE:	K/PO/SRV/2021/0033 DATED: 16/07/2020
CUSTOMER SAMPLE ID	KOEL RIVER (UP-STREAM)	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

Report No.1386

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)	RESULT
1	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1.0 (max)	68
2	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5 To 8.5	7.19
3	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	--	156.8
4	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4 - 69	0.2 (max)	N.D.
5	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	--	143.0
6	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500 (max)	95.0
7	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	--	48.0
8	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200 (max)	26.0
9	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200 (max)	42.0
10	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	--	20.0
11	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	--	22.0
12	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75 (max)	8.0
13	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30 (max)	5.3
14	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250 (max)	8.9
15	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200 (max)	22.2
16	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45 (max)	1.8
17	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	--	N.D.
18	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	--	2.8
19	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	--	0.26
20	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5 (max)	N.D.
21	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3 (max)	N.D.
22	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B & D, 4-84 & 87	1.0 (max)	0.24
23	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1 (max)	N.D.
24	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01 (max)	N.D.
25	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02 (Max)	N.D.
26	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5.0 (max)	N.D.
27	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05 (max)	N.D.
28	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003 (Max)	N.D.
29	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001 (max)	N.D.
30	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01 (max)	N.D.
31	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.1 (max)	N.D.

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Report No.1386

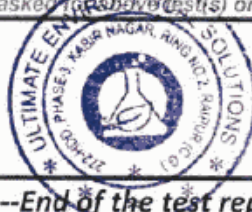
TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)	RESULT
32	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.001 (max)	N.D.
33	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.02 (max)	N.D.
34	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001 (max)	N.D.
35	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001 (max)	N.D.
36	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.05 (max)	N.D.
37	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	--	N.D.
Microbiological Analysis					
1	Total Coliforms	MPN/100 ML	APHA 22 nd Ed.2012,9921-B & C, 9-66 & 69	Shall not be detectable in any 100 ml sample	83
Pesticides					
1	p,p DDT	µg/L	US EPA 508-1995	1	N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1	N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1	N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1	N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04	N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04	N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4	N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4	N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4	N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1	N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3	N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30	N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2	N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-	N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-	N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30	N.D.
20	Alachlor	µg/L	US EPA 508-1995	20	N.D.
21	Atrazine	µg/L	US EPA 532-2000	2	N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3	N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-	N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190	N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	-	N.D.
26	Aldrin	µg/L	US EPA 508-1995	0.03	N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03	N.D.


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

REMARKS: RESULTS ARE AS ABOVE**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 (copy) tests only.


 03/10/2020
PREPARED BY


For ULTIMATE ENVIROLYTICAL SOLUTIONS


 03/10/2020
AUTHORIZED SIGNATORY

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



HDD-272, Phase III - Near JP Chowk
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Ph : 0771 - 4027777 | Email : ultimatenviro@gmail.com

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Name & Address Of The Customer		REPORT NO	UES/TR/20-21/1387	
To,		LAB REF NO	UES/20-21/W/1774	
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	19/09/2020	
KATHAUTIA OPEN CAST COAL MINES,		DATE OF RECEIPT	23/09/2020	
POST - NAUDIHA, P.S. PANDWA,		DATE OF REPORT	03/10/2020	
DALTONGANJ, DISTT.- PALAMU (JH)		DATE OF ANALYSIS	START: 23/09/2020	END: 30/09/2020
SAMPLE DETAILS				
SAMPLE TYPE	SURFACE WATER		ORDER /REFERENCE:	K/PO/SRV/2021/0033 DATED: 16/07/2020
CUSTOMER SAMPLE ID	KEOL RIVER (DOWN-STREAM)		SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39		QUANTITY RECEIVED	5 LTR

Report No.1387

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)	RESULT
1	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1.0 (max)	226
2	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5 To 8.5	7.28
3	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	--	164.4
4	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4 - 69	0.2 (max)	N.D.
5	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	--	244.6
6	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500 (max)	96.6
7	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	--	148.0
8	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200 (max)	16.0
9	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200 (max)	32.0
10	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	--	18.0
11	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	--	14.0
12	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75 (max)	7.2
13	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30 (max)	3.4
14	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250 (max)	6.9
15	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200 (max)	10.6
16	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45 (max)	0.86
17	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	--	N.D.
18	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	--	1.2
19	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	--	0.12
20	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5 (max)	N.D.
21	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3 (max)	0.521
22	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B & D, 4-84 & 87	1.0 (max)	0.18
23	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1 (max)	N.D.
24	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01 (max)	N.D.
25	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02 (Max)	N.D.
26	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5.0 (max)	N.D.
27	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05 (max)	N.D.
28	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003 (Max)	N.D.
29	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001 (max)	N.D.
30	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01 (max)	N.D.
31	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.1 (max)	N.D.
32	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.001 (max)	N.D.

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Report No.1387

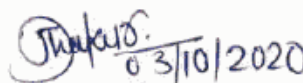
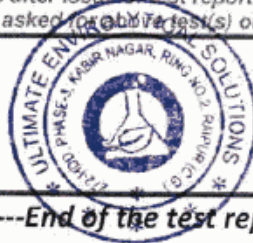
TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)	RESULT
33	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.02 (max)	N.D.
34	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001 (max)	N.D.
35	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001 (max)	N.D.
36	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.05 (max)	N.D.
37	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	--	N.D.
Microbiological Analysis					
1	Total Coliforms	MPN/100 ML	APHA 22 nd Ed.2012,9921-B & C, 9-66 & 69	Shall not be detectable in any 100 ml sample	220.0
Pesticides					
1	p,p DDT	µg/L	US EPA 508-1995	1	N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1	N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1	N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1	N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04	N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04	N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4	N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4	N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4	N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1	N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3	N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30	N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2	N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-	N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-	N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30	N.D.
20	Alachlor	µg/L	US EPA 508-1995	20	N.D.
21	Atrazine	µg/L	US EPA 532-2000	2	N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3	N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-	N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190	N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	-	N.D.
26	Aldrin	µg/L	US EPA 508-1995	0.03	N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03	N.D.

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

REMARKS: RESULTS ARE AS ABOVE**Terms & conditions**

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


 03/10/2020
 PREPARED BY


For ULTIMATE ENVIROLYTICAL SOLUTIONS


 03/10/2020
 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/20-21/1388
To,		LAB REF NO	UES/20-21/W/1775
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	19/09/2020
KATHAUTIA OPEN CAST COAL MINES,		DATE OF RECEIPT	23/09/2020
POST - NAUDIHA, P.S. PANDWA,		DATE OF REPORT	03/10/2020
DALTONGANJ, DISTT.- PALAMU (JH)		DATE OF ANALYSIS	START: 23/09/2020 END: 30/09/2020
SAMPLE DETAILS			
SAMPLE TYPE	SURFACE WATER	ORDER /REFERENCE:	K/PO/SRV/2021/0033 DATED: 16/07/2020
CUSTOMER SAMPLE ID	AMANAT RIVER (UP-STREAM)	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS:3025 (PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

Report No.1388

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)	RESULT
1	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1.0 (max)	88.0
2	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5 To 8.5	7.10
3	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	--	162.8
4	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4 - 69	0.2 (max)	N.D.
5	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	--	160.6
6	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500 (max)	98.6
7	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	--	62.0
8	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200 (max)	32.0
9	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200 (max)	40.0
10	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	--	22.0
11	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	--	18.0
12	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75 (max)	8.8
13	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30 (max)	4.3
14	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250 (max)	6.9
15	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200 (max)	12.4
16	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45 (max)	1.6
17	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	--	N.D.
18	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	--	2.8
19	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	--	0.21
20	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5 (max)	N.D.
21	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3 (max)	0.450
22	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B & D, 4-84 & 87	1.0 (max)	0.34
23	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1 (max)	N.D.
24	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01 (max)	N.D.
25	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02 (Max)	N.D.
26	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5.0 (max)	N.D.
27	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05 (max)	N.D.
28	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003 (Max)	N.D.
29	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001 (max)	N.D.
30	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01 (max)	N.D.
31	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.1 (max)	N.D.
32	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.001 (max)	N.D.

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

Report No.1388

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)	RESULT
33	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.02 (max)	N.D.
34	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001 (max)	N.D.
35	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001 (max)	N.D.
36	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.05 (max)	N.D.
37	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	--	N.D.
Microbiological Analysis					
1	Total Coliforms	MPN/100 ML	APHA 22 nd Ed.2012,9921-B & C, 9-66 & 69	Shall not be detectable in any 100 ml sample	90.0
Pesticides					
1	p,p DDT	µg/L	US EPA 508-1995	1	N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1	N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1	N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1	N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04	N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04	N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4	N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4	N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4	N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1	N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3	N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30	N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2	N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-	N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-	N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30	N.D.
20	Alachlor	µg/L	US EPA 508-1995	20	N.D.
21	Atrazine	µg/L	US EPA 532-2000	2	N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3	N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-	N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190	N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	-	N.D.
26	Aldrin	µg/L	US EPA 508-1995	0.03	N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03	N.D.

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

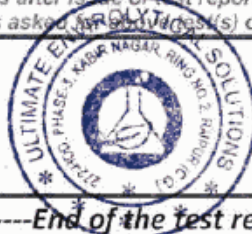
REMARKS: RESULTS ARE AS ABOVE

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 analytical test only.

PREPARED BY

Thakur D.
03/10/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

Thakur D.
03/10/2020

-----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

<i>Name & Address Of The Customer</i>		REPORT NO	UES/TR/20-21/1389
To,		LAB REF NO	UES/20-21/W/1776
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	19/09/2020
KATHAUTIA OPEN CAST COAL MINES,		DATE OF RECEIPT	23/09/2020
POST - NAUDIHA, P.S. PANDWA,		DATE OF REPORT	03/10/2020
DALTONGANJ, DISTT.- PALAMU (JH)		DATE OF ANALYSIS	START: 23/09/2020 END: 30/09/2020
SAMPLE DETAILS			
SAMPLE TYPE	SURFACE WATER	ORDER /REFERENCE:	K/PO/SRV/2021/0033 DATED: 16/07/2020
CUSTOMER SAMPLE ID	AMANAT RIVER (DOWN-STREAM)	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SEALED	SAMPLE COLLECTED BY CHEMIST
SAMPLING PROCEDURE	IS:3025(PART I):1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

Report No.1389

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)	RESULT
1	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1.0 (max)	168
2	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5 To 8.5	7.86
3	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	--	158.4
4	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4 - 69	0.2 (max)	N.D.
5	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	--	204.0
6	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500 (max)	96.0
7	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	--	108.0
8	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200 (max)	32.0
9	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200 (max)	46.0
10	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	--	18.0
11	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	--	28.0
12	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75 (max)	7.2
13	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30 (max)	6.8
14	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250 (max)	10.9
15	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200 (max)	12.8
16	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45 (max)	6.2
17	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	--	N.D.
18	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	--	10.8
19	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	--	0.21
20	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5 (max)	N.D.
21	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3 (max)	0.284
22	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B & D, 4-84 & 87	1.0 (max)	0.20
23	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1 (max)	N.D.
24	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01 (max)	N.D.
25	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02 (Max)	N.D.
26	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5.0 (max)	N.D.
27	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05 (max)	N.D.
28	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003 (Max)	N.D.
29	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001 (max)	N.D.
30	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01 (max)	N.D.
31	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.1 (max)	N.D.
32	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.001 (max)	N.D.

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

Report No.1389

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)	RESULT
33	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.02 (max)	N.D.
34	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001 (max)	N.D.
35	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001 (max)	N.D.
36	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.05 (max)	N.D.
37	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	--	N.D.
Microbiological Analysis					
1	Total Coliforms	MPN/100 ML	APHA 22 nd Ed.2012,9921-B & C, 9-66 & 69	Shall not be detectable in any 100 ml sample	170.0
Pesticides					
1	p,p DDT	µg/L	US EPA 508-1995	1	N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1	N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1	N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1	N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04	N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04	N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4	N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4	N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4	N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1	N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3	N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30	N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2	N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-	N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-	N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30	N.D.
20	Alachlor	µg/L	US EPA 508-1995	20	N.D.
21	Atrazine	µg/L	US EPA 532-2000	2	N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3	N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-	N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190	N.D.
25	Malaoxon	µg/L	US EPA 8141A-1994	-	N.D.
26	Aldrin	µg/L	US EPA 508-1995	0.03	N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03	N.D.

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

REMARKS: RESULTS ARE AS ABOVE

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 (analysis) only.

PREPARED BY

Shreyas
03/10/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

Shreyas
03/10/2020

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



HDD-272, Phase III - Near JP Chowk
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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/20-21/1390
To,		LAB REF NO	UES/20-21/W/1777
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	19/09/2020
KATHAUTIA OPEN CAST COAL MINES,		DATE OF RECEIPT	23/09/2020
POST - NAUDIHA, P.S. PANDWA,		DATE OF REPORT	03/10/2020
DALTONGANJ, DISTT.- PALAMU (JH)		DATE OF ANALYSIS	START: 23/09/2020 END: 30/09/2020
SAMPLE DETAILS			
SAMPLE TYPE	SURFACE WATER	ORDER /REFERENCE:	K/PO/SRV/2021/0033 DATED: 16/07/2020
CUSTOMER SAMPLE ID	DURGAWATI RIVER (UP-STREAM)	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS: 3025 (PART I): 1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

Report No.1390

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)	RESULT
1	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1.0 (max)	168
2	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5 To 8.5	7.12
3	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	--	196.8
4	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4 - 69	0.2 (max)	N.D.
5	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	--	238.0
6	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500 (max)	120.0
7	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	--	118.0
8	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200 (max)	36.0
9	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200 (max)	48.0
10	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	--	26.0
11	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	--	22.0
12	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75 (max)	10.4
13	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30 (max)	5.3
14	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250 (max)	9.9
15	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200 (max)	14.2
16	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45 (max)	2.8
17	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	--	N.D.
18	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	--	2.1
19	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	--	0.22
20	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5 (max)	N.D.
21	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3 (max)	0.324
22	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B & D, 4-84 & 87	1.0 (max)	0.28
23	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1 (max)	N.D.
24	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01 (max)	N.D.
25	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02 (Max)	N.D.
26	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5.0 (max)	N.D.
27	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05 (max)	N.D.
28	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003 (Max)	N.D.
29	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001 (max)	N.D.
30	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01 (max)	N.D.
31	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.1 (max)	N.D.
32	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.001 (max)	N.D.



HDD-272, Phase III - Near JP Chowk
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Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

Report No.1390

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)	RESULT
33	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.02 (max)	N.D.
34	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001 (max)	N.D.
35	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001 (max)	N.D.
36	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.05 (max)	N.D.
37	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	--	N.D.

Microbiological Analysis

1	Total Coliforms	MPN/100 ML	APHA 22 nd Ed.2012,9921-B & C, 9-66 & 69	Shall not be detectable in any 100 ml sample	110.0
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Pesticides

1	p,p DDT	µg/L	US EPA 508-1995	1	N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1	N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1	N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1	N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04	N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04	N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4	N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4	N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4	N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1	N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3	N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30	N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2	N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-	N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-	N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30	N.D.
20	Alachlor	µg/L	US EPA 508-1995	20	N.D.
21	Atrazine	µg/L	US EPA 532-2000	2	N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3	N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-	N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190	N.D.
25	Malaaxon	µg/L	US EPA 8141A-1994	-	N.D.
26	Aldrin	µg/L	US EPA 508-1995	0.03	N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03	N.D.

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

REMARKS: RESULTS ARE AS ABOVE

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.

<p>Shankar 03/10/2020 PREPARED BY</p>		<p>For ULTIMATE ENVIROLYTICAL SOLUTIONS 03/10/2020 AUTHORIZED SIGNATORY</p>
---	--	---

-----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/20-21/1391
To,		LAB REF NO	UES/20-21/W/1778
HINDALCO INDUSTRIES LIMITED,		DATE OF SAMPLING	19/09/2020
KATHAUTIA OPEN CAST COAL MINES,		DATE OF RECEIPT	23/09/2020
POST - NAUDIHA, P.S. PANDWA,		DATE OF REPORT	03/10/2020
DALTONGANJ, DISTT.- PALAMU (JH)		DATE OF ANALYSIS	START: 23/09/2020 END: 30/09/2020
SAMPLE DETAILS			
SAMPLE TYPE	SURFACE WATER	ORDER /REFERENCE:	K/PO/SRV/2021/0033 DATED: 16/07/2020
CUSTOMER SAMPLE ID	DURGAWATI RIVER (DOWN-STREAM)	SAMPLE CONDITION AT RECEIPT	OK
PACKING OF SAMPLE	3 L X 1 NO. PVC CAN 1 L X 1 NO. PVC CAN 1 L X 1 NO. GLASS BOTTLE	SAMPLE COLLECTED BY	CHEMIST
SAMPLING PROCEDURE	IS: 3025 (PART I): 1987 RA 2003; APHA 22ND ED. 2012, 1060-B, 1-39	QUANTITY RECEIVED	5 LTR

Report No.1391

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)	RESULT
1	Turbidity	NTU	APHA 22 nd Ed.2012,2130-B,2-13	1.0 (max)	248
2	pH	-	APHA 22 nd Ed.2012,4500-H ⁺ -B, 4-92	6.5 To 8.5	7.24
3	Electrical Conductivity	µS/cm	IS 3025(part-14):1984, RA 2013	--	198.8
4	Residual Chlorine	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-G, 4 - 69	0.2 (max)	N.D.
5	Total Solid	mg/Lit	APHA 22 nd Ed.2012,2540- B, 2-64	--	266.0
6	Total Dissolved Solids	mg/Lit	IS 3025(part-16):1984, RA 2006	500 (max)	120.0
7	Total Suspended Solids	mg/Lit	APHA 22 nd Ed.2012,2540- D, 2-66	--	146.0
8	Alkalinity Total (as CaCO ₃)	mg/Lit	IS 3025(part-23):1986, RA 2003	200 (max)	28.0
9	Total Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,2340-C, 2-44,45	200 (max)	46.0
10	Calcium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	--	26.0
11	Magnesium Hardness (as CaCO ₃)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	--	20.0
12	Calcium (as Ca)	mg/Lit	APHA 22 nd Ed.2012,3500-Ca-B, 3-67	75 (max)	10.4
13	Magnesium (as Mg)	mg/Lit	APHA 22 nd Ed.2012,3500-Mg-B, 3-84	30 (max)	4.8
14	Chloride (as Cl)	mg/Lit	APHA 22 nd Ed.2012,4500-Cl-B, 4-72	250 (max)	16.9
15	Sulphate (as SO ₄)	mg/Lit	APHA 22 nd Ed.2012,4500-SO ₄ -E, 4-190	200 (max)	28.4
16	Nitrate (as NO ₃)	mg/Lit	APHA 22 nd Ed.2012,4500-NO ₃ -B, 4-122	45 (max)	6.5
17	Phosphate (as P)	mg/Lit	APHA 22 nd Ed.2012,4500-P-C, 4-153	--	N.D.
18	Sodium (as Na)	mg/Lit	APHA 22 nd Ed.2012,3500-Na-B, 3-97	--	4.2
19	Potassium (as K)	mg/Lit	APHA 22 nd Ed.2012,3500-K-B, 3-87	--	0.21
20	Boron (as B)	mg/Lit	APHA 22 nd Ed.2012,4500-B-B, 4-25	0.5 (max)	N.D.
21	Iron (as Fe)	mg/Lit	APHA 22 nd Ed.2012,3111-B,3-18	0.3 (max)	0.568
22	Fluoride (as F)	mg/Lit	APHA 22 nd Ed.2012,4500-F-B & D, 4-84 & 87	1.0 (max)	0.16
23	Manganese (as Mn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.1 (max)	N.D.
24	Lead (as Pb)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.01 (max)	N.D.
25	Nickel (as Ni)	mg/Lit	APHA 22 nd Ed.2012,3500-Ni, 3-108	0.02 (Max)	N.D.
26	Zinc (as Zn)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	5.0 (max)	N.D.
27	Copper (as Cu)	mg/Lit	APHA 22 nd Ed.2012,3111-B, 3-18	0.05 (max)	N.D.
28	Cadmium (as Cd)	mg/Lit	APHA 22 nd Ed.2012,3500-Cd, 3-105	0.003 (Max)	N.D.
29	Mercury (as Hg)	mg/Lit	APHA 22 nd Ed.2012,3112-B, 3-23	0.001 (max)	N.D.
30	Arsenic (as As)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.01 (max)	N.D.
31	Selenium (as Se)	mg/Lit	APHA 22 nd Ed.2012,3114-C, 3-38	0.1 (max)	N.D.
32	Chromium (as Cr)	mg/Lit	APHA 22 nd Ed.2012,3500-Cr-B, 3-69	0.001 (max)	N.D.

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

Report No.1391

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	ACCEPTABLE LIMIT FOR DRINKING WATER (IS 10500:2012)	RESULT
33	Anionic Detergent (as MBAS)	mg/Lit	APHA 22 nd Ed.2012,5540-C, 5-53	0.02 (max)	N.D.
34	Phenolic Compound (as C ₆ H ₅ OH)	mg/Lit	APHA 22 nd Ed.2012,5540-B & C, 5-47	0.001 (max)	N.D.
35	Poly-nuclear Aromatic Hydrocarbon (PAH)	µg/Lit	APHA 22 nd Ed.2012,6440-6-93	0.0001 (max)	N.D.
36	Mineral Oil	mg/Lit	IS 3025 (part-39) : 1991, RA 2003	0.05 (max)	N.D.
37	Oil & Grease	mg/Lit	IS 3025 (Part 39):1991, RA 2003	--	N.D.
Microbiological Analysis					
1	Total Coliforms	MPN/100 ML	APHA 22 nd Ed.2012,9921-B & C, 9-66 & 69	Shall not be detectable in any 100 ml sample	240.0
Pesticides					
1	p,p DDT	µg/L	US EPA 508-1995	1	N.D.
2	o,p DDT	µg/L	US EPA 508-1995	1	N.D.
3	p,pDDE	µg/L	US EPA 508-1995	1	N.D.
4	p,p DDD	µg/L	US EPA 508-1995	1	N.D.
5	O,p DDD	µg/L	US EPA 508-1995	1	N.D.
6	Gamma-HCH (Lindane)	µg/L	US EPA 508-1995	2	N.D.
7	Alpha-HCH	µg/L	US EPA 508-1995	0.01	N.D.
8	Beta-HCH	µg/L	US EPA 508-1995	0.04	N.D.
9	Delta HCH	µg/L	US EPA 508-1995	0.04	N.D.
10	Alpha-Endosulfan	µg/L	US EPA 508-1995	0.4	N.D.
11	Beta-Endosulfan	µg/L	US EPA 508-1995	0.4	N.D.
12	Endosulfansulphate	µg/L	US EPA 508-1995	0.4	N.D.
13	Monocrotophos	µg/L	US EPA 8141A-1994	1	N.D.
14	Ethion	µg/L	US EPA 8141A-1994	3	N.D.
15	Chloropyrifos	µg/L	US EPA 8141A-1994	30	N.D.
16	Phorate	µg/L	US EPA 8141A-1994	2	N.D.
17	Phoratesulphoxide	µg/L	US EPA 8141A-1994	-	N.D.
18	Phoratesulphone	µg/L	US EPA 8141A-1994	-	N.D.
19	2,4-D	µg/L	US EPA 515.1-1995	30	N.D.
20	Alachlor	µg/L	US EPA 508-1995	20	N.D.
21	Atrazine	µg/L	US EPA 532-2000	2	N.D.
22	Methyl parathion	µg/L	US EPA 8141A-1994	0.3	N.D.
23	Methyl paraxone	µg/L	US EPA 8141A-1994	-	N.D.
24	Malathion	µg/L	US EPA 8141A-1994	190	N.D.
25	Malaaxon	µg/L	US EPA 8141A-1994	-	N.D.
26	Aldrin	µg/L	US EPA 508-1995	0.03	N.D.
27	Dieldrin	µg/L	US EPA 508-1995	0.03	N.D.

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

REMARKS: RESULTS ARE AS ABOVE

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 a confirmative test(s) only.

PREPARED BY

Shakir
03/10/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

Shakir
03/10/2020

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

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

Name & Address Of The Customer		REPORT NO	UES/TR/20-21/1392
TO, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)		LAB REF NO	UES/20-21/N/1779
		DATE OF REPORT	03/10/2020
		DATE OF SAMPLING	19/09/2020 to 20/09/2020
		SAMPLE 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)	60.4	52.6	75	70
NEAR MAIN GATE	dB(A)	70.0	58.2		
NEAR DG STACK	dB(A)	62.6	46.8		
NEAR SUBSTATION	dB(A)	64.5	50.4		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
Outside Plant					
R & R COLONY, CHANDAN NAGAR	dB(A)	46.2	40.0	55	45
KATHAUTIYA VILLAGE	dB(A)	52.4	44.2		
BATSARA VILLAGE	dB(A)	48.6	40.6		
SIKKA VILLAGE	dB(A)	52.5	38.2		

REMARKS: RESULTS ARE AS ABOVE

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 PREPARED BY 03/10/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS  AUTHORIZED SIGNATORY 03/10/2020
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-----End of the test report-----