

# ENVIRONMENTAL DATA GENERATION

OF

## **HINDALCO INDUSTRIES LTD.**

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

July- 2020

Prepared by



**NABL Accredited; MOEF & CC Recognized; CECB Approved Laboratory**  
**An ISO 9001:2015, ISO 18001:2007 & ISO 14001:2004 Certified Laboratory**

Reg. Off. - HDD-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

<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/20-21/0931
<b>TO, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)</b>		<b>LAB REF NO</b>	UES/20-21/AAQM/1272
		<b>DATE OF SAMPLING</b>	03/07/2020 to 29/07/2020
		<b>DATE OF RECEIPT</b>	04/07/2020 to 30/07/2020
		<b>DATE OF REPORT</b>	04/08/2020
		<b>DATE OF ANALYSIS</b>	START: 31/07/2020      END: 04/08/2020
		<b>SAMPLE DETAILS</b>	
<b>MONITORING FOR</b>	AMBIENT AIR QUALITY MONITORING	<b>CUSTOMER REF. NO. &amp; DATE</b>	K/PO/SRV/2021/0033 DATED: 16/07/2020
<b>SAMPLING LOCATION</b>	R & R COLONY, CHANDAN NAGAR (BUFFER ZONE)		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 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 <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	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 <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.07.2020	46	22	12	22	1.0	N.D.
06.07.2020	40	24	10	26	1.6	N.D.
10.07.2020	38	26	08	30	1.2	N.D.
15.07.2020	52	20	12	25	1.4	N.D.
18.07.2020	46	28	16	28	1.2	N.D.
24.07.2020	42	24	08	25	1.0	N.D.
27.07.2020	48	22	11	24	1.6	N.D.
29.07.2020	50	26	08	26	1.2	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 test.

 <b>PREPARED BY</b> 04/08/2020	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 <b>AUTHORIZED SIGNATORY</b> 04/08/2020
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
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<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/20-21/0932	
<b>TO, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)</b>		LAB REF NO	UES/20-21/AAQM/1273	
		DATE OF SAMPLING	03/07/2020 to 29/07/2020	
		DATE OF RECEIPT	04/07/2020 to 30/07/2020	
		DATE OF REPORT	04/08/2020	
		DATE OF ANALYSIS	START: 31/07/2020	END: 04/08/2020
		<b>SAMPLE DETAILS</b>		
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 <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 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 <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	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 <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.07.2020	46	28	10	26	1.4	N.D.
06.07.2020	48	25	08	24	1.2	N.D.
10.07.2020	42	22	13	28	1.8	N.D.
15.07.2020	54	24	16	22	1.2	N.D.
18.07.2020	46	32	12	26	1.6	N.D.
24.07.2020	48	26	08	20	0.8	N.D.
27.07.2020	52	20	14	24	1.0	N.D.
29.07.2020	54	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.

 PREPARED BY 04/08/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS  AUTHORIZED SIGNATORY 04/08/2020
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-----End of the test report-----



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<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/20-21/0933	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>KATHAUTIA OPEN CAST COAL MINES,</b> <b>POST - NAUDIHA, P.S. PANDWA,</b> <b>DALTONGANJ, DISTT.- PALAMU (JH)</b>		LAB REF NO	UES/20-21/AAQM/1274	
		DATE OF SAMPLING	03/07/2020 to 29/07/2020	
		DATE OF RECEIPT	04/07/2020 to 30/07/2020	
		DATE OF REPORT	04/08/2020	
		DATE OF ANALYSIS	START: 31/07/2020	END: 04/08/2020
		<b>SAMPLE DETAILS</b>		
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 <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 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 <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	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 <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.07.2020	58	30	16	22	1.3	N.D.
06.07.2020	52	26	12	28	1.6	N.D.
10.07.2020	60	22	08	22	1.2	N.D.
15.07.2020	52	28	12	26	1.4	N.D.
18.07.2020	58	22	14	22	1.0	N.D.
24.07.2020	54	26	08	24	1.4	N.D.
27.07.2020	52	34	12	22	1.2	N.D.
29.07.2020	56	24	08	20	1.6	N.D.

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

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

 PREPARED BY 04/08/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS  AUTHORIZED SIGNATORY 04/08/2020
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-----End of the test report-----



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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/20-21/0934	
<b>TO, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)</b>		<b>LAB REF NO</b>	UES/20-21/AAQM/1275	
		<b>DATE OF SAMPLING</b>	03/07/2020 to 29/07/2020	
		<b>DATE OF RECEIPT</b>	04/07/2020 to 30/07/2020	
		<b>DATE OF REPORT</b>	04/08/2020	
		<b>DATE OF ANALYSIS</b>	START: 31/07/2020	END: 04/08/2020
		<b>SAMPLE DETAILS</b>		
<b>MONITORING FOR</b>	AMBIENT AIR QUALITY MONITORING	<b>CUSTOMER REF. NO. &amp; DATE</b>	K/PO/SRV/2021/0033 DATED: 16/07/2020	
<b>SAMPLING LOCATION</b>	SIKKA VILLAGE (BUFFER ZONE)			
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST	
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE			
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 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 <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	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 <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.07.2020	64	34	14	28	1.0	N.D.
06.07.2020	54	30	12	22	1.6	N.D.
10.07.2020	58	28	08	20	1.4	N.D.
15.07.2020	66	24	16	28	1.2	N.D.
18.07.2020	42	22	12	26	1.8	N.D.
24.07.2020	58	28	10	22	1.2	N.D.
27.07.2020	55	26	16	30	1.6	N.D.
29.07.2020	58	22	08	22	1.4	N.D.

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

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

 <b>PREPARED BY</b> 04/08/2020		<b>For ULTIMATE ENVIROLYTICAL SOLUTIONS</b>  <b>AUTHORIZED SIGNATORY</b> 04/08/2020
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
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<i>Name &amp; Address Of The Customer</i>		<b>REPORT NO</b>	UES/TR/20-21/0935	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>KATHAUTIA OPEN CAST COAL MINES,</b> <b>POST - NAUDIHA, P.S. PANDWA,</b> <b>DALTONGANJ, DISTT.- PALAMU (JH)</b>		<b>LAB REF NO</b>	UES/20-21/AAQM/1276	
		<b>DATE OF SAMPLING</b>	03/07/2020 to 29/07/2020	
		<b>DATE OF RECEIPT</b>	04/07/2020 to 30/07/2020	
		<b>DATE OF REPORT</b>	04/08/2020	
		<b>DATE OF ANALYSIS</b>	START: 31/07/2020	END: 04/08/2020
		<b>SAMPLE DETAILS</b>		
<b>MONITORING FOR</b>	AMBIENT AIR QUALITY MONITORING	<b>CUSTOMER REF. NO. &amp; DATE</b>	K/PO/SRV/2021/0033 DATED: 16/07/2020	
<b>SAMPLING LOCATION</b>	MINES OFFICE NEAR VTC (CORE ZONE)			
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST	
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE			
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 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 <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	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 <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.07.2020	52	28	10	28	1.6	N.D.
06.07.2020	56	26	16	26	1.8	N.D.
10.07.2020	62	20	12	24	1.2	N.D.
15.07.2020	60	26	18	20	1.8	N.D.
18.07.2020	52	28	12	26	1.4	N.D.
24.07.2020	66	26	10	20	1.1	N.D.
27.07.2020	60	22	15	24	1.8	N.D.
29.07.2020	42	24	16	28	1.2	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 test.

 <b>PREPARED BY</b> 04/08/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b> 04/08/2020
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-----\*End of the test report\*-----



HDD-272, Phase III - Near JP Chowk  
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<b>Name &amp; Address Of The Customer</b>		<b>REPORT NO</b>	UES/TR/20-21/0936	
<b>TO,</b>		<b>LAB REF NO</b>	UES/20-21/AAQM/1277	
<b>HINDALCO INDUSTRIES LIMITED,</b>		<b>DATE OF SAMPLING</b>	03/07/2020 to 29/07/2020	
<b>KATHAUTIA OPEN CAST COAL MINES,</b>		<b>DATE OF RECEIPT</b>	04/07/2020 to 30/07/2020	
<b>POST - NAUDIHA, P.S. PANDWA,</b>		<b>DATE OF REPORT</b>	04/08/2020	
<b>DALTONGANJ, DISTT.- PALAMU (JH)</b>		<b>DATE OF ANALYSIS</b>	START: 31/07/2020	END: 04/08/2020
<b>SAMPLE DETAILS</b>				
<b>MONITORING FOR</b>	AMBIENT AIR QUALITY MONITORING	<b>CUSTOMER REF. NO. &amp; DATE</b>	K/PO/SRV/2021/0033 DATED: 16/07/2020	
<b>SAMPLING LOCATION</b>	NEAR MAIN GATE (CORE ZONE)			
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST	
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE			
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 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 <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	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 <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.07.2020	52	28	08	26	1.0	N.D.
06.07.2020	46	26	12	22	1.8	N.D.
10.07.2020	58	28	08	30	1.2	N.D.
15.07.2020	50	24	18	26	1.2	N.D.
18.07.2020	52	26	14	22	1.8	N.D.
24.07.2020	62	24	06	26	1.6	N.D.
27.07.2020	38	28	08	22	1.2	N.D.
29.07.2020	47	22	10	28	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 test only.

 <b>PREPARED BY</b> 04/08/2020		<b>For ULTIMATE ENVIROLYTICAL SOLUTIONS</b>  <b>AUTHORIZED SIGNATORY</b> 04/08/2020
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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

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

<i>Name &amp; Address Of The Customer</i>		<b>REPORT NO</b>	UES/TR/20-21/0937
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>KATHAUTIA OPEN CAST COAL MINES,</b> <b>POST - NAUDIHA, P.S. PANDWA,</b> <b>DALTONGANJ, DISTT.- PALAMU (JH)</b>		<b>LAB REF NO</b>	UES/20-21/AAQM/1278
		<b>DATE OF SAMPLING</b>	03/07/2020 to 29/07/2020
		<b>DATE OF RECEIPT</b>	04/07/2020 to 30/07/2020
		<b>DATE OF REPORT</b>	04/08/2020
		<b>DATE OF ANALYSIS</b>	START: 31/07/2020      END: 04/08/2020
		<b>SAMPLE DETAILS</b>	
<b>MONITORING FOR</b>	AMBIENT AIR QUALITY MONITORING	<b>CUSTOMER REF. NO. &amp; DATE</b>	K/PO/SRV/2021/0033 DATED: 16/07/2020
<b>SAMPLING LOCATION</b>	NEAR DG STACK(CORE ZONE)		
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE		
<b>SAMPLE QUANTITY/PACKING</b>	FILTER PAPER (PM <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 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 <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	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 <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.07.2020	56	28	10	22	1.2	N.D.
06.07.2020	44	22	14	28	1.6	N.D.
10.07.2020	56	26	12	24	1.1	N.D.
15.07.2020	50	24	18	22	1.8	N.D.
18.07.2020	58	28	14	24	1.4	N.D.
24.07.2020	42	20	10	28	1.2	N.D.
27.07.2020	58	30	16	22	1.1	N.D.
29.07.2020	46	26	12	22	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 test.

 <b>PREPARED BY</b> 04/08/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b> 04/08/2020
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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

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

Name & Address Of The Customer		REPORT NO	UES/TR/20-21/0938	
<b>TO,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>KATHAUTIA OPEN CAST COAL MINES,</b> <b>POST - NAUDIHA, P.S. PANDWA,</b> <b>DALTONGANJ, DISTT.- PALAMU (JH)</b>		LAB REF NO	UES/20-21/AAQM/1279	
		DATE OF SAMPLING	03/07/2020 to 29/07/2020	
		DATE OF RECEIPT	04/07/2020 to 30/07/2020	
		DATE OF REPORT	04/08/2020	
		DATE OF ANALYSIS	START: 31/07/2020	END: 04/08/2020
		<b>SAMPLE DETAILS</b>		
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 <sub>10</sub> ): 1X1 NO., FILTER PAPER (PM <sub>2.5</sub> ): 1X1 NO. SO <sub>2</sub> : 30MLX1 NO. PVC BOTTLE, NO <sub>2</sub> : 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 <sub>10</sub> )	IS 5182 (Part 23): 2006 & CPCB Guidelines Vol.-I	100
Particulate Matter size less than 2.5 microns (PM <sub>2.5</sub> )	CPCB Guidelines Vol.-I	60
Sulphur Dioxide (SO <sub>2</sub> )	IS 5182 (Part 2): 2001, RA 2006 & CPCB Guidelines Vol.-I	80
Nitrogen Dioxide (NO <sub>2</sub> )	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 <sub>10</sub> µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>	Hg ng/m <sup>3</sup>
03.07.2020	58	24	08	28	1.4	N.D.
06.07.2020	50	28	12	26	1.8	N.D.
10.07.2020	64	22	16	32	1.2	N.D.
15.07.2020	54	32	10	26	1.6	N.D.
18.07.2020	58	24	18	22	1.8	N.D.
24.07.2020	46	28	06	28	1.2	N.D.
27.07.2020	54	26	08	20	1.1	N.D.
29.07.2020	48	20	12	24	1.6	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) only.

 <b>PREPARED BY</b> 04/08/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b> 04/08/2020
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-----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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<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/20-21/0939	
<b>To, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)</b>		LAB REF NO	UES/20-21/FE/1280	
		DATE OF SAMPLING	23/07/2020	
		DATE OF RECEIPT	26/07/2020	
		DATE OF REPORT	04/08/2020	
		DATE OF ANALYSIS	START: 26/07/2020	END: 03/08/2020
<b>SAMPLE DETAILS</b>				
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)	$\mu\text{g}/\text{m}^3$	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

- > 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 specific test(s) only.

 <b>PREPARED BY</b> 04/08/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS  <b>AUTHORIZED SIGNATORY</b> 04/08/2020
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-----End of the test report-----



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<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/20-21/0940		
<b>To, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)</b>		LAB REF NO	UES/20-21/FE/1281		
		DATE OF SAMPLING	23/07/2020		
		DATE OF RECEIPT	26/07/2020		
		DATE OF REPORT	04/08/2020		
		DATE OF ANALYSIS	START: 26/07/2020	END: 03/08/2020	
		<b>SAMPLE DETAILS</b>			
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)	$\mu\text{g}/\text{m}^3$	322	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 same test(s) only.

 PREPARED BY 04/08/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS  AUTHORIZED SIGNATORY 04/08/2020
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-----End of the test report-----



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<i>Name &amp; Address Of The Customer</i>		<b>REPORT NO</b>	UES/TR/20-21/0941	
<b>To,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>KATHAUTIA OPEN CAST COAL MINES,</b> <b>POST - NAUDIHA, P.S. PANDWA,</b> <b>DALTONGANJ, DISTT.- PALAMU (JH)</b>		<b>LAB REF NO</b>	UES/20-21/FE/1283	
		<b>DATE OF SAMPLING</b>	23/07/2020	
		<b>DATE OF RECEIPT</b>	26/07/2020	
		<b>DATE OF REPORT</b>	04/08/2020	
		<b>DATE OF ANALYSIS</b>	START: 26/07/2020	END: 03/08/2020
<b>SAMPLE DETAILS</b>				
<b>MONITORING FOR</b>	WORK ZONE MONITORING	<b>CUSTOMER REF. NO. &amp; DATE</b>	K/PO/SRV/2021/0033 DATED: 16/07/2020	
<b>SAMPLING LOCATION</b>	PIT "C"			
<b>DURATION OF SAMPLING</b>	24 HOURS	<b>SAMPLE COLLECTED BY</b>	LABORATORY CHEMIST	
<b>SAMPLING PROCEDURE</b>	AS PER METHOD REFERENCE			
<b>SAMPLE QUANTITY/PACKING</b>	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 <sup>3</sup>	388	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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- > This is for information as the party has asked for above test(s) only.

 <b>PREPARED BY</b> 04/08/2020		For <b>ULTIMATE ENVIROLYTICAL SOLUTIONS</b>  <b>AUTHORIZED SIGNATORY</b> 04/08/2020
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-----End of the test report-----



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<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/20-21/0942		
<b>To,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>KATHAUTIA OPEN CAST COAL MINES,</b> <b>POST - NAUDIHA, P.S. PANDWA,</b> <b>DALTONGANJ, DISTT.- PALAMU (JH)</b>		LAB REF NO	UES/20-21/FE/1284		
		DATE OF SAMPLING	23/07/2020		
		DATE OF RECEIPT	26/07/2020		
		DATE OF REPORT	04/08/2020		
		DATE OF ANALYSIS	START: 26/07/2020	END: 03/08/2020	
		<b>SAMPLE DETAILS</b>			
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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 <b>PREPARED BY</b> 04/08/2020		For <b>ULTIMATE ENVIROLYTICAL SOLUTIONS</b>  <b>AUTHORIZED SIGNATORY</b> 04/08/2020
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-----End of the test report-----



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<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/20-21/0943	
<b>To,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>KATHAUTIA OPEN CAST COAL MINES,</b> <b>POST - NAUDIHA, P.S. PANDWA,</b> <b>DALTONGANJ, DISTT.- PALAMU (JH)</b>		LAB REF NO	UES/20-21/FE/1285	
		DATE OF SAMPLING	23/07/2020	
		DATE OF RECEIPT	26/07/2020	
		DATE OF REPORT	04/08/2020	
		DATE OF ANALYSIS	START: 26/07/2020	END: 03/08/2020
<b>SAMPLE DETAILS</b>				
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)	$\mu\text{g}/\text{m}^3$	308	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 test(s) only.

PREPARED BY

*Pamela*  
04/08/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

*Chandrababu*  
04/08/2020  
AUTHORIZED SIGNATORY

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



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<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/20-21/0944	
<b>To,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>KATHAUTIA OPEN CAST COAL MINES,</b> <b>POST - NAUDIHA, P.S. PANDWA,</b> <b>DALTONGANJ, DISTT.- PALAMU (JH)</b>		LAB REF NO	UES/20-21/FE/1286	
		DATE OF SAMPLING	23/07/2020	
		DATE OF RECEIPT	26/07/2020	
		DATE OF REPORT	04/08/2020	
		DATE OF ANALYSIS	START: 26/07/2020	END: 03/08/2020
<b>SAMPLE DETAILS</b>				
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)	$\mu\text{g}/\text{m}^3$	338	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.

 <b>PREPARED BY 04/08/2020</b>		For <b>ULTIMATE ENVIROLYTICAL SOLUTIONS</b>  <b>AUTHORIZED SIGNATORY</b>
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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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<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/20-21/0945	
<b>To,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>KATHAUTIA OPEN CAST COAL MINES,</b> <b>POST - NAUDIHA, P.S. PANDWA,</b> <b>DALTONGANJ, DISTT.- PALAMU (JH)</b>		LAB REF NO	UES/20-21/FE/1287	
		DATE OF SAMPLING	23/07/2020	
		DATE OF RECEIPT	26/07/2020	
		DATE OF REPORT	04/08/2020	
		DATE OF ANALYSIS	START: 26/07/2020	END: 03/08/2020
<b>SAMPLE DETAILS</b>				
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)	$\mu\text{g}/\text{m}^3$	342	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.

 <b>PREPARED BY</b> 04/08/2020		For <b>ULTIMATE ENVIROLYTICAL SOLUTIONS</b>  04/08/2020 <b>AUTHORIZED SIGNATORY</b>
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-----End of the test report-----





HDD-272, Phase III - Near JP Chowk  
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<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/20-21/0946	
<b>To,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>KATHAUTIA OPEN CAST COAL MINES,</b> <b>POST - NAUDIHA, P.S. PANDWA,</b> <b>DALTONGANJ, DISTT.- PALAMU (JH)</b>		LAB REF NO	UES/20-21/FE/1288	
		DATE OF SAMPLING	23/07/2020	
		DATE OF RECEIPT	26/07/2020	
		DATE OF REPORT	04/08/2020	
		DATE OF ANALYSIS	START: 26/07/2020	END: 03/08/2020
<b>SAMPLE DETAILS</b>				
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)	$\mu\text{g}/\text{m}^3$	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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- > This is for information as the party has asked for above test(s) only.

 PREPARED BY 04/08/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS  AUTHORIZED SIGNATORY 04/08/2020
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-----End of the test report-----



HDD-272, Phase III - Near JP Chowk  
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<i>Name &amp; Address Of The Customer</i>		REPORT NO	UES/TR/20-21/0947
<b>TO, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)</b>		LAB REF NO	UES/20-21/N/1289
		DATE OF REPORT	04/08/2020
		DATE OF SAMPLING	23/07/2020 to 24/07/2020
<b>SAMPLE DETAILS</b>			
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		

<b>TEST REPORT</b>					
LOCATION	UNIT	RESULT		LIMIT (INDUSTRIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
<b>Inside Plant</b>					
MINES OFFICE NEAR VTC	dB(A)	62.2	52.2	75	70
NEAR MAIN GATE	dB(A)	70.6	64.5		
NEAR DG STACK	dB(A)	64.2	50.8		
NEAR SUBSTATION	dB(A)	68.8	58.6		
LOCATION	UNIT	RESULT		LIMIT (RESIDENTIAL ZONE)	
		DAY TIME	NIGHT TIME	DAY TIME	NIGHT TIME
<b>Outside Plant</b>					
R & R COLONY, CHANDAN NAGAR	dB(A)	48.6	42.4	55	45
KATHAUTIYA VILLAGE	dB(A)	50.4	40.6		
BATSARA VILLAGE	dB(A)	46.2	38.2		
SIKKA VILLAGE	dB(A)	40.5	36.8		

**REMARKS: RESULTS ARE AS ABOVE**

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 PREPARED BY 04/08/2020		For ULTIMATE ENVIROLYTICAL SOLUTIONS  AUTHORIZED SIGNATORY 04/08/2020
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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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to Name & Address Of The Customer		Report No	UES/TR/20-21/0948	
<b>To,</b> <b>HINDALCO INDUSTRIES LIMITED,</b> <b>KATHAUTIA OPEN CAST COAL MINES,</b> <b>POST - NAUDIHA, P.S. PANDWA,</b> <b>DALTONGANJ, DISTT.- PALAMU (JH)</b>		Lab Ref No	UES/20-21/W/1290	
		Date Of Sampling	23/07/2020	
		Date Of Receipt	26/07/2020	
		Date Of Report	04/08/2020	
		Date Of Analysis	Start:26/07/2020	End:03/08/2020
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 Cane (3 ltr.*1) Glass bottle (1 ltr.*1)	Sample Collected By	Laboratory Chemist	
Other Details	Sealed	Quantity Received	Approx. 4Ltr.	

#### REPORT NO. - 0948

### 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 <sup>nd</sup> Ed. 2012,2120-B,2-6	See 6 of Annexure-I	<1	<1
2	Odour	-	APHA 22 <sup>nd</sup> Ed. 2012,2120-B,2-6	See 6 of Annexure-I	Agreeable	Agreeable
3	Temperature	°C	APHA 22 <sup>nd</sup> Ed.2012,2130-B,2-13	Shall not exceed 5°C above the receiving water temperature	25.2	25.4
4	pH	-	APHA 22 <sup>nd</sup> Ed.2012,4500-H <sup>+</sup> -B,4-92	5.5 to 9.0	7.42	7.28
5	Total Residual Chlorine	mg/L	APHA 22 <sup>nd</sup> Ed.2012,4500-C1-G, 4 - 69	1.0	N.D.	N.D.
6	Total Suspended Solids	mg/L	APHA 22 <sup>nd</sup> Ed.2012,2540- D, 2-66	100	22.0	36.0
7	Dissolved Phosphate (as P)	mg/L	APHA 22 <sup>nd</sup> Ed.2012,4500-P-C, 4-153	5.0	N.D.	N.D.
8	Fluoride (as F)	mg/L	APHA 22 <sup>nd</sup> Ed.2012,4500-F-B&D,4-84 & 87	2.0	0.2	0.1
9	Lead (as Pb)	mg/L	APHA 22 <sup>nd</sup> Ed.2012,3111-B, 3-18	0.1	N.D.	N.D.
10	Zinc (as Zn)	mg/L	APHA 22 <sup>nd</sup> Ed.2012,3111-B, 3-18	5.0	0.12	0.16
11	Copper (as Cu)	mg/L	APHA 22 <sup>nd</sup> Ed.2012,3111-B, 3-18	3.0	N.D.	N.D.
12	Cadmium (as Cd)	mg/L	APHA 22 <sup>nd</sup> Ed.2012,3500-Cd, 3-105	2.0	N.D.	N.D.



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### 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 <sup>nd</sup> Ed.2012, 3112-B, 3-23	0.01	N.D.	N.D.
14	Arsenic (as As)	mg/L	APHA 22 <sup>nd</sup> Ed.2012, 3114-C, 3-38	0.2	N.D.	N.D.
15	Selenium (as Se)	mg/L	APHA 22 <sup>nd</sup> Ed.2012, 3114-C, 3-38	0.05	N.D.	N.D.
16	Total Chromium (as Cr)	mg/L	APHA 22 <sup>nd</sup> Ed.2012, 3500-Cr-B, 3-69	2.0	N.D.	N.D.
17	Chemical Oxygen Demand (COD)	mg/L	APHA 22 <sup>nd</sup> Ed.2012, 5520-B, 5-17	250	68.0	72.0
18	Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part 44):1993, RA 2003	30	6.4	8.8
19	Oil & Grease	mg/L	IS 3025 (Part 39):1991, RA 2003,	10.0	N.D.	N.D.
20	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	IS 3025 (Part 43):1992, RA 2003	1.0	N.D.	N.D.

Note: mg/lit.: milligram per liter.

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PREPARED BY

04/08/2020



For ULTIMATE ENVIROLYTICAL SOLUTIONS

AUTHORIZED SIGNATORY

04/08/2020

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



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<i>to Name &amp; Address Of The Customer</i>		<b>Report No</b>	UES/TR/20-21/0949		
<b>To, HINDALCO INDUSTRIES LIMITED, KATHAUTIA OPEN CAST COAL MINES, POST - NAUDIHA, P.S. PANDWA, DALTONGANJ, DISTT.- PALAMU (JH)</b>		<b>Lab Ref No</b>	UES/20-21/W/1291		
		<b>Date Of Sampling</b>	23/07/2020		
		<b>Date Of Receipt</b>	26/07/2020		
		<b>Date Of Report</b>	04/08/2020		
		<b>Date Of Analysis</b>	Start:26/07/2020	End:03/08/2020	
		<b>SAMPLE DETAILS</b>			
<b>Sampling Location</b>	1. SECURITY BAIRCK 2. SIKKS VILLAGE 3. BATSARA VILLAGE	<b>Customer Ref. No. &amp; Date</b>	K/PO/SRV/2021/0033 DATED: 16/07/2020		
<b>Monitoring For</b>	Piezometer Ground Water Depth	<b>Sample Condition At Receipt</b>	Ok		
<b>Sample Collected By</b>	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	6.1
2	NEAR SIKKA VILLAGE	24°06'54.88"N	84°05'34.33"E	METER	12.1
3	NEAR BATSARA VILLAGE	24°06'52.49"N	84°05'41.49"E	METER	11.6

Note: BGWL – Below Ground Water Level.

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