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## ENVIRONMENTAL MONITORING REPORT

# BALLARPUR OC

BALLARPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

Ballarpur OC is located in Chandrapur district of Maharashtra State. The project is administered by Ballarpur Area of Western Coalfields Limited. The Wardha River is the main drainage channel for the surrounding area. The climate of the area is tropical. The above-mentioned sources and the Township are also expected to contribute a lot in increasing the load of pollution in the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE- BALLARPUR UG:	BBOA1
2	SUBSTATION:	BBOA2
3	PREMISES OF SUB AREA OFFICE:	BBOA3
4	FILTER PLANT COLONY:	BBOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP/ COAL LOADING POINT:	BBOF1
2	WEIGHT BRIDGE:	BBOF2
3	RAILWAY SIDING:	BBOF3

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	BBOW1
2	ETP DISCHARGE:	BBOW2

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	BBON1
2	COLONY (BALLARPUR UG):	BBON2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A20	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	BALLARPUR OC	MONTH	JULY

<b>MANAGER OFFICE- BALLARPUR UG: BBOA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	54	37	27	16	12
25-07-19	84	58	37	28	26
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SUBSTATION: BBOA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	60	41	22	16	16
24-07-19	72	47	22	15	13
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>PREMISES OF SUB AREA OFFICE: BBOA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	68	54	36	14	11
25-07-19	142	61	26	14	13
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>FILTER PLANT COLONY: BBOA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	53	43	25	19	19
25-07-19	77	25	26	14	11
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
AUTHORIZED SIGNATORY

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**FUGITIVE DUST MONITORING DATA**

<b>CHP/ COAL LOADING POINT: BBOF1</b>			
DATE OF SAMPLING	PARAMETERS		
	SPM*	PM10	PM <sub>2.5</sub>
DETECTION LIMIT	5	5	2
25-07-19	484	165	31

<b>WEIGHT BRIDGE: BBOF2</b>			
DATE OF SAMPLING	PARAMETERS		
	SPM*	PM10	PM <sub>2.5</sub>
DETECTION LIMIT	5	5	2
24-07-19	248	121	34

<b>RAILWAY SIDING: BBOF3</b>			
DATE OF SAMPLING	PARAMETERS		
	SPM*	PM10	PM <sub>2.5</sub>
DETECTION LIMIT	5	5	2
24-07-19	316	109	36

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W20	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	BALLARPUR OC	MONTH	JULY

<b>MINE WATER DISCHARGE: BBOW1</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
08-07-19	7.5	36	40	<2
23-07-19	7.4	36	42	<2
TLV	5.5 - 9.0	250	100	10

<b>ETP DISCHARGE: BBOW2</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
08-07-19	7.8	40	42	<2
23-07-19	7.3	36	42	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

NAME OF AREA: BALLARPUR AREA  
NAME OF PROJECT: BALLARPUR OC

YEAR: 2019  
MONTH: JULY

CHP: BBON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	62.7	62.4
JULY 2019	22-07-19	63.7	63.5
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY (BALLARPUR UG): BBON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	43.2	42.4
JULY 2019	22-07-19	42.6	42.5
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# BALLARPUR UG

BALLARPUR AREA

WESTERN COALFIELDS LTD.

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## INTRODUCTION

Ballarpur - III & IV UG is located in Chandrapur district of Maharashtra state. The project is administered by Ballarpur Area of Western Coalfields Limited. The Wardha river is the main drainage channel for the surrounding area. The climate of the area is tropical. The above-mentioned sources and the Township are also expected to contribute a lot in increasing the load of pollution in the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE- BALLARPUR UG:	BBUA1
2	SUBSTATION:	BBUA2
3	PREMISES OF SUB AREA OFFICE:	BBUA3
4	FILTER PLANT COLONY:	BBUA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	BBUW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	BBUN1
2	COLONY:	BBUN2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A19	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	BALLARPUR UG	MONTH	JULY

<b>MANAGER OFFICE- BALLARPUR UG: BBUA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	54	37	27	16	12
25-07-19	84	58	37	28	26
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SUBSTATION: BBUA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	60	41	22	16	16
24-07-19	72	47	22	15	13
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>PREMISES OF SUB AREA OFFICE: BBUA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	68	54	36	14	11
25-07-19	142	61	26	14	13
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>FILTER PLANT COLONY: BBUA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	53	43	25	19	19
25-07-19	77	25	26	14	11
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W19	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	BALLARPUR UG	MONTH	JULY


<b>MINE WATER DISCHARGE: BBUW1</b>				
<b>DATE OF SAMPLE COLLECTION</b>	<b>ANALYSIS RESULTS</b>			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
08-07-19	7.4	58	32	<2
23-07-19	7.6	40	44	<2
TLV	5.5 - 9.0	250	100	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW19	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	BALLARPUR UG	MONTH	JULY
DATE OF SAMPLING	23-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	7.2	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	484	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	106	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.03	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.62	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	830	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	107	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	52	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	168	200	400

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BALLARPUR UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	9.8	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	228	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: BALLARPUR AREA                      YEAR: 2019  
NAME OF PROJECT: BALLARPUR UG                      MONTH: JULY

FAN HOUSE: BBUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	72.6	72.4
JULY 2019	22-07-19	72.7	72.4
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: BBUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	43.2	42.4
JULY 2019	22-07-19	42.6	42.5
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# GOURI- I& II (A) OC

BALLARPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

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3	WATER QUALITY MONITORING DATA	5
4	NOISE LEVEL DATA	6

## INTRODUCTION

Gouri I & II (A) OC is located in Chandrapur district of Maharashtra state. The project is administered by Ballarpur Area of Western Coalfields Limited. The Wardha river is the main drainage channel for the surrounding area. The climate of the area is tropical. Besides other coal mines, there is no other major industries nearby the project area. Vehicular traffic and local coal burning for domestic purposes are other source of pollution

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE- GOURI - I O/C:	BGOA1
2	SAM OFFICE GOURI- SUB AREA:	BGOA2
3	GOURI COLONY/ FILTER PLANT:	BGOA3
4	GOURI VILLAGE:	BGOF2

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	BGOF1
2	WEIGHT BRIDGE:	#REF!

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	BGOW1
2	ETP DISCHARGE	BGOW2

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	BGON1
2	GOURI COLONY:	BGON2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A21	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	GOURI- I& II (A) OC	MONTH	JULY

<b>MANAGER OFFICE- GOURI - I O/C: BGOA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	69	48	17	15	13
22-07-19	105	81	22	14	14
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SAM OFFICE GOURI- SUB AREA: BGOA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	68	36	27	21	17
21-07-19	69	41	27	14	11
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>GOURI COLONY/ FILTER PLANT: BGOA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	91	38	24	16	12
22-07-19	99	45	24	21	11
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>GOURI VILLAGE: BGOF2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	103	85	35	20	17
20-07-19	50	40	26	16	13
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W21	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	GOURI- I& II (A) OC	MONTH	JULY

<b>MINE WATER DISCHARGE: BGOW1</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
05-07-19	7.5	32	34	<2
20-07-19	7.6	36	40	<2
TLV	5.5 - 9.0	250	100	10

<b>ETP DISCHARGE BGOW2</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
05-07-19	7.3	60	68	<2
20-07-19	7.4	32	34	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

NAME OF AREA: BALLARPUR AREA                      YEAR: 2019  
NAME OF PROJECT: GOURI- I& II (A) OC              MONTH: JULY

CHP: BGON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	64.6	63.2
JULY 2019	19-07-19	63.8	63.6
<b>TLV</b>		<b>75</b>	<b>70</b>

GOURI COLONY: BGON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	43.2	42.6
JULY 2019	19-07-19	43.5	42.7
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# GOURI DEEP OC

BALLARPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

Gouri Deep OC is located in Chandrapur district of Maharashtra state. The project is administered by Ballarpur Area of Western Coalfields Limited. The Wardha river is the main drainage channel for the surrounding area. The climate of the area is tropical.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE:	BGDO1
2	MUTRA VILLAGE:	BGDO2
3	GOUEGAON VILLAGE:	BGDO3
4	ANTARGAON VILLAGE:	BGDO4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	BGDW1
2	ETP (WORKSHOP):	BGDW2

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE:	BGDN1

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A23	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	GOURI DEEP OC	MONTH	JULY

<b>MANAGER OFFICE: BGDO1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	79	52	42	20	12
19-07-19	372	60	33	14	11
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>MUTRA VILLAGE: BGDO2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	84	50	35	24	17
19-07-19	50	28	19	17	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>GOUEGAON VILLAGE: BGDO3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	63	39	28	22	12
19-07-19	88	64	39	14	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>ANTARGAON VILLAGE: BGDO4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	80	46	23	17	13
19-07-19	95	58	39	22	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W23	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	GOURI DEEP OC	MONTH	JULY

<b>MINE WATER DISCHARGE: BGDW1</b>				
<b>DATE OF SAMPLE COLLECTION</b>	<b>ANALYSIS RESULTS</b>			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
05-07-19	7.2	40	44	<2
18-07-19	7.4	36	38	<2
TLV	5.5 - 9.0	250	100	10

<b>ETP (WORKSHOP): BGDW2</b>				
<b>DATE OF SAMPLE COLLECTION</b>	<b>ANALYSIS RESULTS</b>			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
03-07-19	7.3	36	40	<2
18-07-19	7.6	40	46	<2
TLV	5.5 - 9.0	250	100	10

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TSET REPORT NO.	RIN/TR/JULY-19/DW23	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	GOURI DEEP OC	MONTH	JUNE
DATE OF SAMPLING			

SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	7.2	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	484	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	106	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.03	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.82	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	780	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	108	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	53	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	168	200	400

ENV. MONITORING REPORT  
SILEWERA UG (JUNE-19)

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	98	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	<0.2	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	228	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

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## NOISE LEVEL DATA

NAME OF AREA: BALLARPUR AREA                      YEAR: 2019  
NAME OF PROJECT: GOURI DEEP OC                      MONTH: JULY

MANAGER OFFICE: BGDN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	52.4	51.6
JULY 2019	19-07-19	52.7	52.4
<b>TLV</b>		<b>75</b>	<b>70</b>

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## ENVIRONMENTAL MONITORING REPORT

# NEW DHOPTALA OC

BALLARPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
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## **INTRODUCTION**

New Dhoptala OC is located in Chandrapur district of Maharashtra state. The project is administered by Ballarpur Area of Western Coalfields Limited. The Wardha river is the main drainage channel for the surrounding area. The climate of the area is tropical.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE- DHOPTALA SUB AREA:	BNDOA1
2	MANAGER OFFICE- DHOPTALA OC:	BNDOA2
3	SASTI COLONY:	BNDOA3
4	SASTI VILLAGE:	BNDOA4

#### **Fugitive Dust Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	BNDOF1
2	WEIGHT BRIDGE:	BNDOF2

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	BNDN1
2	SASTI COLONY:	BNDN2

### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A18	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	NEW DHOPTALA OC	MONTH	JULY

<b>SAM OFFICE- DHOPTALA SUB AREA: BNDOA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	49	33	19	16	14
23-07-19	73	61	21	14	18
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>MANAGER OFFICE- DHOPTALA OC: BNDOA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	90	35	22	13	14
24-07-19	50	39	27	15	11
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SASTI COLONY: BNDOA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	64	40	20	15	11
23-07-19	110	67	40	17	16
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>SASTI VILLAGE: BNDOA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	35	24	16	15	16
23-07-19	152	132	56	15	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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**FUGITIVE DUST MONITORING DATA**

<b>WEIGHT BRIDGE: BNDOF2</b>			
<b>DATE OF SAMPLING</b>	<b>PARAMETERS</b>		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
<b>DETECTION LIMIT</b>	5	5	2
23-07-19	503	412	49

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TSET REPORT NO.	RIN/TR/JULY-19/DW18	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	NEW DHOPTALA OC	MONTH	JULY
DATE OF SAMPLING	22-07-19		

NAME OF LOCATION: DRINKING WATER FROM MANAGER OFFICE						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	1	1	5
4	pH Value	IS 3025 Part-11	2	7.3	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	476	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	134	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.04	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.58	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	860	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	92	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	59	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	162	200	400

ENV. MONITORING REPORT  
NEW DHOPTALA OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	14.2	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	224	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: BALLARPUR AREA                      YEAR: 2019  
NAME OF PROJECT: NEW DHOPTALA OC              MONTH: JULY

CHP: BNDN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	46.8	46.7
JULY 2019	19-07-19	62.8	62.6
<b>TLV</b>		<b>75</b>	<b>70</b>

SASTI COLONY: BNDN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	42.7	42.4
JULY 2019	19-07-19	42.7	42.4
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# PAUNI O/C

BALLARPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

## CMPDI

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

AN ISO 9001:2015 COMPANY

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## INTRODUCTION

Pauni OC is located in Chandrapur district of Maharashtra state. The project is administered by Ballarpur Area of Western Coalfields Limited. The Wardha river is the main drainage channel for the surrounding area. The climate of the area is tropical.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE- PAUNI O/C:	BPOA1
2	WORKSHOP- PAUNI O/C:	BPOA2
3	PAUNI VILLAGE:	BPOA3
4	GOURI VILLAGE:	BPOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	WEIGHT BRIDGE:	BPOF1

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	BPOW1
2	ETP DISCHARGE:	BPOW2

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE:	BPON1
2	GOURI COLONY:	BPON2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A22	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	PAUNI O/C	MONTH	JULY

<b>MANAGER OFFICE- PAUNI O/C: BPOA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	62	42	25	12	14
20-07-19	100	76	38	22	11
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>WORKSHOP- PAUNI O/C: BPOA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	54	49	34	15	16
20-07-19	85	59	31	27	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>PAUNI VILLAGE: BPOA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	99	71	35	15	12
20-07-19	136	99	58	21	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>GOURI VILLAGE: BPOA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	103	85	35	20	17
20-07-19	50	40	26	16	13
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W22	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	PAUNI O/C	MONTH	JULY

<b>MINE WATER DISCHARGE: BPOW1</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
04-07-19	7.2	36	44	<2
19-07-19	7.3	36	42	<2
TLV	5.5 - 9.0	250	100	10

<b>ETP DISCHARGE: BPOW2</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
04-07-19	7.1	32	34	<2
19-07-19	7.2	52	62	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

NAME OF AREA: BALLARPUR AREA  
NAME OF PROJECT: PAUNI O/C

YEAR: 2019  
MONTH: JULY

MANAGER OFFICE: BPON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	52.6	52.2
JULY 2019	19-07-19	53.6	53.2
<b>TLV</b>		<b>75</b>	<b>70</b>

GOURI COLONY: BPON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	43.2	42.6
JULY 2019	19-07-19	43.5	42.7
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# PAUNI O/C II OC

BALLARPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
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## **INTRODUCTION**

Pauni-II OC is located in Chandrapur district of Maharashtra state. The project is administered by Ballarpur Area of Western Coalfields Limited. The Wardha river is the main drainage channel for the surrounding area. The climate of the area is tropical.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE OFFICE:	BP2OA1
2	SUBSTATION:	BP2OA2
3	SAKHARI VILLAGE:	BP2OA3
4	WORKSHOP:	BP2OA4

#### **Water Quality Monitoring location:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE	BP2OW1

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE:	BP2ON1

### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A24	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	PAUNI O/C II OC	MONTH	JULY

<b>MINE OFFICE: BP2OA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	74	39	24	21	14
21-07-19	143	76	32	15	12
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SUBSTATION: BP2OA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	57	32	19	16	12
21-07-19	65	56	31	17	12
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SAKHARI VILLAGE: BP2OA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	82	44	20	14	7
21-07-19	54	34	25	18	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>WORKSHOP: BP2OA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	54	49	34	15	16
20-07-19	85	59	31	27	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SCIENTIFIC ASSISTANT

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TSET REPORT NO.	RIN/TR/JULY-19/W24	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	PAUNI O/C II OC	MONTH	JULY

MINE WATER DISCHARGE BP2OW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
03-07-19	7.4	56	64	<2
20-07-19	7.5	60	72	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

NAME OF AREA: BALLARPUR AREA                      YEAR: 2019  
NAME OF PROJECT: PAUNI O/C II OC                      MONTH: JULY

MANAGER OFFICE: BP2ON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	53.7	52.6
JULY 2019	19-07-19	51.8	51.6
TLV		75	70

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## ENVIRONMENTAL MONITORING REPORT

# SASTI OC

BALLARPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

## CMPDI

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

The Silewara UG project is located in the Nagpur district of Maharashtra state and is administered by Nagpur Area of Western Coalfields Limited. The drainage of the area is controlled by Kolar river to the south and Kanhan river in the north. The climate of the area is tropical. The above-mentioned industries are also expected to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE-SASTI OC:	BSOA1
2	AREA STORE:	BSOA2
3	GOURI COLONY FILTER PLANT:	BSOA3
4	SASTI VILLAGE:	BSOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MAIN CHP:	BSOF1
2	WEIGHT BRIDGE:	BSOF2
3	RAILWAY SIDING:	BSOF3

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	BSOW1
2	ETP DISCHARGE:	BSOW2
3	STP (DOMESTIC EFFLUENT) TREATED	BSOW3

#### Noise Level Monitoring location :

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	BSON1
2	G. COLONY:	BSON2


### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.



<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A16	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	SASTI OC	MONTH	JULY

SAM OFFICE-SASTI OC: BSOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	82	51	35	24	16
22-07-19	184	75	38	15	11
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

AREA STORE: BSOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	67	59	31	20	20
22-07-19	76	52	33	19	15
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

GOURI COLONY FILTER PLANT: BSOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	91	38	24	16	12
22-07-19	99	45	24	21	11
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SASTI VILLAGE: BSOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	35	24	16	15	16
23-07-19	152	132	56	15	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W16	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	SASTI OC	MONTH	JULY

MINE WATER DISCHARGE: BSOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
06-07-19	7.2	28	30	<2
21-07-19	7.4	32	34	<2
TLV	5.5 - 9.0	250	100	10

ETP DISCHARGE: BSOW2				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
06-07-19	7.3	36	38	<2
21-07-19	7.6	40	44	<2
TLV	5.5 - 9.0	250	100	10

STP (DOMESTIC EFFLUENT) TREATED BSOW3		
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS	
	TSS	BOD
DETECTION LIMIT	10	2
07-07-19	64	12.6
22-07-19	66	11.4
TLV	100	30

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW16	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	SASTI OC	MONTH	JULY
DATE OF SAMPLING	20-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	7.4	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	324	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.06	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	76	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.03	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.72	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	660	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	65	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	39	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	142	200	400

ENV. MONITORING REPORT  
SASTI OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	13.2	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	184	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: BALLARPUR AREA  
NAME OF PROJECT: SASTI OC

YEAR: 2019  
MONTH: JULY

CHP: BSON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	63.7	63.2
JULY 2019	19-07-19	64.5	63.6
<b>TLV</b>		<b>75</b>	<b>70</b>

G. COLONY: BSON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	43.2	42.6
JULY 2019	19-07-19	43.5	42.7
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# SASTI UG

BALLARPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

## CMPDI

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

Sasti UG is located in Chandrapur district of Maharashtra state. The project is administered by Ballarpur Area of Western Coalfields Limited. The Wardha river is the main drainage channel for the surrounding area. The climate of the area is tropical.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE- DHUPTALA SUB AREA:	BSUA1
2	MANAGER OFFICE- DHOPTALA OC:	BSUA2
3	SASTI COLONY:	BSUA3
4	SASTI VILLAGE:	BSUA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MAIN CHP:	BSUF1

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	BSUW1

#### Noise Level Monitoring location :

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	BSUN1
2	SASTI COLONY:	BSUN2


#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.



<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A17	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	SASTI UG	MONTH	JULY

<b>SAM OFFICE- DHUPTALA SUB AREA: BSUA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	49	33	19	16	14
23-07-19	73	61	21	14	18
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>MANAGER OFFICE- DHOPTALA OC: BSUA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	90	35	22	13	14
24-07-19	50	39	27	15	11
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SASTI COLONY: BSUA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	64	40	20	15	11
23-07-19	110	67	40	17	16
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>SASTI VILLAGE: BSUA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	35	24	16	15	16
23-07-19	152	132	56	15	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JUNE-19/W17	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	SASTI UG	MONTH	JULY

<b>MINE WATER DISCHARGE: BSUW1</b>				
<b>DATE OF SAMPLE COLLECTION</b>	<b>ANALYSIS RESULTS</b>			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
07-07-19	7.6	32	34	<2
22-07-19	7.3	28	32	<2
TLV	5.5 - 9.0	100	250	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JUNE-19/DW17	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	BALLARPUR AREA	YEAR	2019
NAME OF PROJECT	SASTI UG	MONTH	JULY
DATE OF SAMPLING	22-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	1	1	5
4	pH Value	IS 3025 Part-11	2	7.6	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	308	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.072	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	78	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.02	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.52	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	630	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	59	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	39	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	126	200	400

ENV. MONITORING REPORT

SASTI UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	12.3	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	0.29	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	156	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: BALLARPUR AREA  
NAME OF PROJECT: SASTI UG

YEAR: 2019  
MONTH: JULY

FAN HOUSE: BSUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	71.7	71.5
JULY 2019	19-07-19	72.6	72.2
TLV		75	70

SASTI COLONY: BSUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	42.7	42.4
JULY 2019	19-07-19	42.7	42.4
TLV		55	45

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## ENVIRONMENTAL MONITORING REPORT

# BHATADI OC

CHANDRAPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
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## INTRODUCTION

Bhatadi Opencast Project is located in Chandrapur district of Maharashtra State and is administered by Chandrapur Area of Western Coalfields Limited. The climate of the area is dry to moist tropical. The above-mentioned industries are also likely to contribute in increasing the pollution load of the area

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	BHATADI SECURITY POST:	CBOA1
2	BHATADI MANAGER OFFICE:	CBOA2
3	BHATADI VILLAGE:	CBOA3
4	KITADI VILLAGE:	CBOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP/MGR LOADING POINT:	CBOF1
2	WEIGHT BRIDGE:	CBOF2

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	CBOW1
2	ETP DISCHARGE:	CBOW2
3	STP (DOMESTIC EFFULENT) TREATED:	CBOW3

#### Noise Level Monitoring location :

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR CHP:	CBON1
2	COLONY:	CBON2


### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.



<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A34	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	BHATADI OC	MONTH	JULY

<b>BHATADI SECURITY POST: CBOA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	154	74	39	22	24
29-07-19	114	55	18	16	21
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>BHATADI MANAGER OFFICE: CBOA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	262	188	36	21	20
30-07-19	139	73	35	23	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>BHATADI VILLAGE: CBOA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	79	66	39	11	15
28-07-19	107	52	24	15	19
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>KITADI VILLAGE: CBOA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	89	60	32	16	11
30-07-19	134	73	39	28	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
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**FUGITIVE DUST MONITORING DATA**

<b>CHP/MGR LOADING POINT: CBOF1</b>			
DATE OF SAMPLING	PARAMETERS		
	SPM*	PM10	PM <sub>2.5</sub>
DETECTION LIMIT	5	5	2
29-07-19	108	72	31

<b>WEIGHT BRIDGE: CBOF2</b>			
DATE OF SAMPLING	PARAMETERS		
	SPM*	PM10	PM <sub>2.5</sub>
DETECTION LIMIT	5	5	2
29-07-19	98	50	30

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W34	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	BHATADI OC	MONTH	JULY

MINE WATER DISCHARGE: CBOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
12-07-19	7.6	40	32	<2
28-07-19	7.7	40	30	<2
TLV	5.5 - 9.0	100	250	10

ETP DISCHARGE: CBOW2				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
12-07-19	7.1	32	18	<2
28-07-19	6.8	32	22	<2
TLV	5.5 - 9.0	100	250	10

STP (DOMESTIC EFFULENT) TREATED: CBOW3		
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS	
	TSS	BOD
DETECTION LIMIT	10	2
12-07-19	32	12.6
28-07-19	36	10.8
TLV	100	30

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## NOISE LEVEL DATA

NAME OF AREA: CHANDRAPUR AREA      YEAR: 2019  
NAME OF PROJECT: BHATADI OC      MONTH: JULY

NEAR CHP: CBON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	11-07-19	62.6	62.4
JULY 2019	29-07-19	62.6	62.4
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: CBON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	11-07-19	43.4	42.6
JULY 2019	29-07-19	42.7	42.6
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# CRC UG

CHANDRAPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

## CMPDI

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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4	NOISE LEVEL DATA	8

## INTRODUCTION

Chanda-Rayatwari Colliery is located in the Chandrapur district of Maharashtra State and is administered by Chandrapur Area of Western Coalfields Limited. The climate of the area is dry to moist tropical. The above-mentioned industries are also likely to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER'S OFFICE MAHAKALI UG:	CCRUA1
2	CRC SUBSTATION/ FILTER PLANT:	CCRUA2
3	JATWARA MILK SCHEME:	CCRUA3
4	COLONY:	CCRUA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	0	0
2	0	0
3	0	0

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE :	CCR UW1
2	0	0
3	0	0
4	0	0

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	CCR UN1
2	COLONY:	CCR UN2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A32	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	CRC UG	MONTH	JULY

<b>MANAGER'S OFFICE MAHAKALI UG: CCRUA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
30-07-19	101	55	28	22	17
30-07-19	101	55	15	22	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>CRC SUBSTATION/ FILTER PLANT: CCRUA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
31-07-19	119	68	35	28	16
31-07-19	119	68	55	36	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>JATWARA MILK SCHEME: CCRUA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
31-07-19	181	101	30	25	19
31-07-19	181	101	10	53	36
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>COLONY: CCRUA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
30-07-19	90	48	31	24	14
30-07-19	90	48	31	34	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W32	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	CRC UG	MONTH	JULY

MINE WATER DISCHARGE : CCROW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
112/07/19	7.4	24	18	<2
29-07-19	7.4	32	26	<2
TLV	5.5 - 9.0	250	100	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW32	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	CRC UG	MONTH	JULY
DATE OF SAMPLING	30-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	3	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	1	1	5
4	pH Value	IS 3025 Part-11	2	6.8	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	184	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	84	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	BDL	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.44	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	340	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	51.3	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	13	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	38	200	400

ENV. MONITORING REPORT  
SILEWERA UG (JUNE-19)

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	16	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	168	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

**NAME OF AREA: CHANDRAPUR AREA                      YEAR: 2019**  
**NAME OF PROJECT: CRC UG                                      MONTH: JULY**

CHP: CCRUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	09-07-19	62.8	62.7
JULY 2019	27-07-19	62.7	62.5
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: CCRUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	09-07-19	43.2	42.6
JULY 2019	27-09-19	42.7	42.5
<b>TLV</b>		<b>55</b>	<b>45</b>

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# ENVIRONMENTAL MONITORING REPORT

## DRC UG

CHANDRAPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

Durgapur-Rayatwari Underground Project is located in Chandrapur District of Maharashtra State and is administered by Chandrapur Area of Western Coalfields Limited. The drainage of the area is controlled by Erai River, which flows from North to South. The climate of the area is dry to moist tropica. The above-mentioned industries are also likely to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	PIT OFFICE-DRC- III UG:	CDRUA1
2	NEHRU NAGAR/ SUBSTATION:	CDRUA2
3	DRC- V COLONY:	CDRUA3
4	PIT OFFICE DRC-IV:	CDRUA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE :	CDRUW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	PIT OFFICE DRC- III UG:	CDRUN1
2	DURGAPUR COLONY:	CDRUN2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A33	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	DRC UG	MONTH	JULY

PIT OFFICE-DRC- III UG: CDRUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	86	44	33	22	11
31-07-19	109	61	32	29	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

NEHRU NAGAR/ SUBSTATION: CDRUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	54	38	25	15	14
28-07-19	114	66	34	18	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

DRC- V COLONY: CDRUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	58	31	20	16	22
28-07-19	112	51	27	18	20
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

PIT OFFICE DRC-IV: CDRUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	74	47	33	13	18
29-07-19	121	60	25	17	20
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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TSET REPORT NO.	RIN/TR/JULY-19/W33	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	DRC UG	MONTH	JULY

<b>MINE WATER DISCHARGE : CDRUW1</b>				
<b>DATE OF SAMPLE COLLECTION</b>	<b>ANALYSIS RESULTS</b>			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
12-07-19	7.1	32	18	<2
29-07-19	6.4	48	40	<2
TLV	5.5 - 9.0	100	250	10

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TSET REPORT NO.	RIN/TR/JULY-19/DW33	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	DRC UG	MONTH	JULY
DATE OF SAMPLING	29-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	7.2	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	156	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	78	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	BDL	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.72	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	270	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	49	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	7.7	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	13	200	400

ENV. MONITORING REPORT  
DRC UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	6	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	148	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: CHANDRAPUR AREA  
NAME OF PROJECT: DRC UG

YEAR: 2019  
MONTH: JULY

PIT OFFICE DRC- III UG: CDRUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	09-07-19	71.7	71.5
JULY 2019	27-07-19	72.4	72.2
<b>TLV</b>		<b>75</b>	<b>70</b>

DURGAPUR COLONY: CDRUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	11-07-19	42.6	42.4
JULY 2019	29-07-19	42.7	42.5
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# DURGAPUR OC

CHANDRAPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

The Durgapur opencast project is located in Chandrapur district of Maharashtra State and is administered by Chandrapur area of Western Coalfields Limited. The drainage of the area is controlled by two seasonal tributaries (Motaghat nalla and Upasa nalla) of Erai river, which flows west of the area. Climate of the area is dry to moist tropical. The above-mentioned industries specially the Super Thermal Power Station are likely to contribute in increasing the air pollution of nearby villages. Durgapur village has been affected maximum due to proximity of the thermal powerhouse.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER'S OFFICE- SECTOR V:	CDOA1
2	DURGAPUR VILLAGE:	CDOA2
3	MANAGER OFFICE Q-IV :	CDOA3
4	FILTER PLANT DOC/POC COLONY:	CDOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	CDOF1
2	CHECK POST/ AYYAPA MANDIR	CDOF2

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE Q-II:	CDOW1
2	MINE WATER DISCHARGE Q-IV:	CDOW2
3	WETP DISCHARGE:	CDOW3
4	STP DISCHARGE:	CDOW4

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	CDON1
2	DURGAPUR COLONY:	CDON2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A25	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	DURGAPUR OC	MONTH	JULY

<b>MANAGER'S OFFICE- SECTOR V: CDOA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	105	74	36	16	11
18-07-19	429	172	32	22	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>DURGAPUR VILLAGE: CDOA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	64	49	22	13	20
18-07-19	153	87	35	29	21
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>MANAGER OFFICE Q-IV : CDOA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	100	67	28	12	16
31-07-19	199	149	33	19	18
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>FILTER PLANT DOC/POC COLONY: CDOA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	74	37	23	12	15
18-07-19	176	95	44	21	21
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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TSET REPORT NO.	RIN/TR/JULY-19/W25	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	DURGAPUR OC	MONTH	JULY

MINE WATER DISCHARGE Q-II: CDOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
11-07-19	7.6	32	24	<2
29/0719	7.3	44	32	<2
TLV	5.5 - 9.0	100	250	10

MINE WATER DISCHARGE Q-IV: CDOW2				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
11-07-19	7.4	36	22	<2
27-07-19	6.8	36	26	<2
TLV	5.5 - 9.0	100	250	10


WETP DISCHARGE: CDOW3				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
11-07-19	7.2	40	32	<2
27-09-19	7.6	32	24	<2
TLV	5.5 - 9.0	100	250	10

STP DISCHARGE: CDOW4		
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS	
	TSS	BOD
DETECTION LIMIT	10	2
11-07-19	30	11.4
27-09-19	40	12
TLV	100	30

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW25	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	DURGAPUR OC	MONTH	JULY
DATE OF SAMPLING	18-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	2	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	7.7	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	276	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	88	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	BDL	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.5	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	470	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	59.2	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	31	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	84	200	400

ENV. MONITORING REPORT  
DURGAPUR OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	4	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	168	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

**NAME OF AREA: CHANDRAPUR AREA**                      **YEAR: 2019**  
**NAME OF PROJECT: DURGAPUR OC**                      **MONTH: JULY**

CHP: CDON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	11-07-19	64.4	63.5
JULY 2019	29-07-19	62.6	62.4
<b>TLV</b>		<b>75</b>	<b>70</b>

DURGAPUR COLONY: CDON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	11-07-19	42.6	42.4
JULY 2019	29-07-19	42.7	42.5
<b>TLV</b>		<b>55</b>	<b>45</b>

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# ENVIRONMENTAL MONITORING REPORT

## HLP OC

CHANDRAPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

AN ISO 9001:2015 COMPANY

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## INTRODUCTION

Hindustan Lalpeth Opencast Project is located in Chandrapur district of Maharashtra State and is administered by Chandrapur Area of Western Coalfields Limited. Erai river acts as the main drainage of the area which flows from North to South and meets Wardha river. The climate of the area is dry to moist tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution. The above-mentioned industries are also likely to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE(NANDGAON UG):	CHOA1
2	MANAGER OFFICE(HLP OC):	CHOA2
3	MANA VILLAGE :	CHOA3
4	COLONY (NANDGAON):	CHOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MAIN CHP:	CHOA1
2	WEIGHT BRIDGE:	CHOA2
3	RAILWAY SIDING:	CHOA3

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE DISCHARGE :	CHOW1
2	ETP DISCHARGE:	CHOW2

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	CHON1
2	COLONY:	CHON2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A28	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	HLP OC	MONTH	JULY

<b>MANAGER OFFICE(NANDGAON UG): CHO1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	68	39	23	15	14
27-07-19	108	58	31	24	19
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>MANAGER OFFICE(HLP OC): CHO2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	85	59	26	19	18
26-07-19	148	58	29	16	15
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>MANA VILLAGE : CHO3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	58	33	23	20	12
26-07-19	109	56	31	39	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>COLONY (NANDGAON): CHO4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	61	45	23	15	13
27-07-19	153	76	22	12	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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TSET REPORT NO.	RIN/TR/JULY-19/W28	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	HLP OC	MONTH	JULY


MINE DISCHARGE : CHOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
09-07-19	3.2	32	26	<2
25-07-19	3.1	36	26	<2
TLV	5.5 - 9.0	250	100	10

ETP DISCHARGE: CHOW2				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
09-07-19	7.5	36	24	<2
25-07-19	7.4	28	24	<2
TLV	5.5 - 9.0	250	100	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW28	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	HLP OC	MONTH	JULY
DATE OF SAMPLING	26-07-19		

NAME OF LOCATION: DRINKING WATER FROM MANAGER OFFICE						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	7.4	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	176	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	<b>72</b>	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	BDL	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.26	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	300	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	38	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	19	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	26	200	400

ENV. MONITORING REPORT

HLP OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	9	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	0.27	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	160	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: CHANDRAPUR AREA  
NAME OF PROJECT: HLP OC

YEAR: 2019  
MONTH: JULY

CHP: CHON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	64.6	63.7
JULY 2019	05-07-19	64.6	64.2
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: CHON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	42.7	42.4
JULY 2019	22-07-19	43.4	43.2
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

### HLP I& III UG

CHANDRAPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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4	NOISE LEVEL DATA	8

## **INTRODUCTION**

Hindustan Lalpeth -I & III Underground Projects are located in Chandrapur district of Maharashtra State and are administered by Chandrapur Area of Western Coalfields Limited. Erai river acts as the main drainage of the area which flows from North to South and meets Wardha river. The climate of the area is dry to moist tropical. The above-mentioned industries are also likely to contribute in increasing the pollution load of the area.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SUBSTATION HLC I UG:	CHUA1
2	PIT OFFICE - HLC-I INCLINE:	CHUA2
3	HLC-III COLONY :	CHUA3
4	RAJIV GANDHI ENGG. COLLEGE:	CHUA4

#### **Water Quality Monitoring location:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE - I UG:	CHUW1
2	MINE WATER DISCHARGE-III UG:	CHUW2

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE - I UG:	CHUN1
2	COLONY:	CHUN2

### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 TC-7102
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TSET REPORT NO.	RIN/TR/JULY-19/A27	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	HLP I& III UG	MONTH	JULY

SUBSTATION HLC I UG: CHUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	67	36	29	28	10
18-07-19	178	106	28	13	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

PIT OFFICE - HLC-I INCLINE: CHUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	95	69	34	23	11
27-07-19	111	59	34	31	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

HLC-III COLONY : CHUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	88	57	32	26	21
27-07-19	106	54	28	21	20
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

RAJIV GANDHI ENGG. COLLEGE: CHUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	69	45	25	14	18
28-07-19	117	71	24	15	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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TSET REPORT NO.	RIN/TR/JULY-19/W27	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	HLP I& III UG	MONTH	JULY


MINE WATER DISCHARGE - I UG: CHUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
03-07-19	7.5	36	20	<2
18-07-19	7	32	26	<2
TLV	5.5 - 9.0	100	250	10

MINE WATER DISCHARGE-III UG: CHUW2				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
10-07-19	7.4	28	22	<2
26-07-19	7.8	24	18	<2
TLV	5.5 - 9.0	100	250	10

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TSET REPORT NO.	RIN/TR/JULY-19/DW27	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	HLP I& III UG	MONTH	JULY
DATE OF SAMPLING	26-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	7.3	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	204	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	64	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	BDL	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.35	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	360	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	56	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	15	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	75	200	400

ENV. MONITORING REPORT

HLP -I and III UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	5	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	0.27	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	140	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: CHANDRAPUR AREA      YEAR: 2019  
NAME OF PROJECT: HLP I& III UG      MONTH: JULY

FAN HOUSE - I UG: CHUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	64.6	63.7
JULY 2019	22-07-19	62.4	62.3
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: CHUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	42.7	42.4
JULY 2019	22-07-19	43.2	42.6
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# MAHAKALI UG

CHANDRAPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
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## INTRODUCTION

Mahakali Underground Project is located in Chandrapur District of Maharashtra State and is administered by Chandrapur Area of Western Coalfields Limited. The climate of the area is dry to moist tropical. The above-mentioned industries are also expected to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER'S OFFICE MAHAKALI UG:	CMUA1
2	CRC SUBSTATION/ FILTER PLANT:	CMUA2
3	JATWARA MILK SCHEME:	CMUA3
4	COLONY:	CMUA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE :	CMUW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	CMUN1
2	COLONY:	CMUN2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A31	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	MAHAKALI UG	MONTH	JULY

<b>MANAGER'S OFFICE MAHAKALI UG: CMUA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	64	31	23	20	14
30-07-19	101	55	28	22	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>CRC SUBSTATION/ FILTER PLANT: CMUA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	57	36	26	22	17
31-07-19	119	68	35	28	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>JATWARA MILK SCHEME: CMUA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	74	45	32	18	16
31-07-19	181	101	30	25	19
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>


<b>COLONY: CMUA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	52	30	22	24	13
30-07-19	90	48	31	24	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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TSET REPORT NO.	RIN/TR/JULY-19/W31	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	MAHAKALI UG	MONTH	JULY

<b>MINE WATER DISCHARGE : CMUW1</b>				
<b>DATE OF SAMPLE COLLECTION</b>	<b>ANALYSIS RESULTS</b>			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
12-07-19	8.2	40	36	<2
30-07-19	7.6	32	30	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

**NAME OF AREA: CHANDRAPUR AREA**                      **YEAR: 2019**  
**NAME OF PROJECT: MAHAKALI UG**                      **MONTH: JULY**

FAN HOUSE: CMUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	09-07-19	67.7	67.6
JULY 2019	27-07-19	68.5	68.6
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: CMUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	09-07-19	43.5	42.6
JULY 2019	27-07-19	43.6	43.2
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# MANA UG

CHANDRAPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

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## **INTRODUCTION**

Mana Underground Project is located in Chandrapur district of Maharashtra State and is administered by Chandrapur Area of Western Coalfields Limited. The climate of the area is dry to moist tropical. The above-mentioned industries are also likely to contribute in increasing the pollution load of the area.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER'S OFFICE:	CMUA1
2	SUBSTATION MANA INCLINE:	CMUA2
3	COLONY (NANDGAON):	CMUA3
4	MANA VILLAGE:	CMUA4

#### **Water Quality Monitoring location:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	CMUW1

#### **Noise Level Monitoring location :**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	CMUN1
2	COLONY (HLP OC):	CMUN2

### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A30	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	MANA UG	MONTH	JULY

<b>MANAGER'S OFFICE: CMUA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	48	25	18	19	17
26-07-19	126	74	44	22	12
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SUBSTATION MANA INCLINE: CMUA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	57	37	28	13	17
26-07-19	132	65	38	19	12
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>COLONY (NANDGAON): CMUA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	61	45	23	15	13
27-07-19	153	76	22	12	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>MANA VILLAGE: CMUA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	58	33	23	20	12
26-07-19	109	56	31	39	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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TSET REPORT NO.	RIN/TR/JULY-19/W30	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	MANA UG	MONTH	JULY

MINE WATER DISCHARGE: CMUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
09-07-19	7.8	36	24	<2
25-07-19	6.4	48	40	<2
TLV	5.5 - 9.0	100	250	10

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## NOISE LEVEL DATA

NAME OF AREA: CHANDRAPUR AREA  
NAME OF PROJECT: MANA UG

YEAR: 2019  
MONTH: JULY

FAN HOUSE: CMUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	67.5	67.7
JULY 2019	22-07-19	68.5	68.2
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY (HLP OC): CMUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	42.7	42.4
JULY 2019	22-07-19	43.4	43.2
<b>TLV</b>		<b>55</b>	<b>45</b>



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## ENVIRONMENTAL MONITORING REPORT

# NANDGAON UG

CHANDRAPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

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## INTRODUCTION

Nandgaon Underground Project is located in Chandrapur district of Maharashtra State and is administered by Chandrapur Area of Western Coalfields Limited. The climate of the area is dry to moist tropical. The above-mentioned industries are also likely to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE NANDGAON UG:	CNUA1
2	SUBSTATION MANA INCLINE:	CNUA2
3	MANA VILLAGE :	CNUA3
4	COLONY (NANDGAON):	CNUA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	CNUW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	CNUN1
2	COLONY HLP OC:	CNUN2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A29	DATE OF ISSUE	22.07.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 31.08.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	NANDGAON UG	MONTH	JULY

<b>MANAGER OFFICE NANDGAON UG: CNUA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	68	39	23	15	14
27-07-19	108	58	31	24	19
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SUBSTATION MANA INCLINE: CNUA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	57	37	28	13	17
26-07-19	132	65	38	19	12
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>MANA VILLAGE : CNUA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	58	33	23	20	12
26-07-19	109	56	31	39	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>COLONY (NANDGAON): CNUA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	61	45	23	15	13
27-07-19	153	76	22	12	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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TSET REPORT NO.	RIN/TR/JULY-19/W29	DATE OF ISSUE	22.07.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 31.08.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	NANDGAON UG	MONTH	JULY

<b>MINE WATER DISCHARGE: CNUW1</b>				
<b>DATE OF SAMPLE COLLECTION</b>	<b>ANALYSIS RESULTS</b>			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
09-07-19	7.2	32	18	<2
26-07-19	6.7	44	36	<2
TLV	5.5 - 9.0	250	100	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW29	DATE OF ISSUE	22.07.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 31.08.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	NANDGAON UG	MONTH	JULY
DATE OF SAMPLING	26-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	7.6	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	128	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	86	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	BDL	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.56	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	250	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	33.6	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	10.6	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	20	200	400

ENV. MONITORING REPORT  
NANDGAON UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	1	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	140	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: CHANDRAPUR AREA      YEAR: 2019  
NAME OF PROJECT: NANDGAON UG      MONTH: JULY

FAN HOUSE: CNUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	72.6	72.5
JULY 2019	22-07-19	72.6	72.3
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY HLP OC: CNUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	42.7	42.4
JULY 2019	22-07-19	43.4	43.2
<b>TLV</b>		<b>55</b>	<b>45</b>



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## ENVIRONMENTAL MONITORING REPORT

# PADMAPUR OC

CHANDRAPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
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## INTRODUCTION

The Durgapur opencast project is located in Chandrapur district of Maharashtra State and is administered by Chandrapur area of Western Coalfields Limited. The drainage of the area is controlled by two seasonal tributaries (Motaghat nalla and Upasa nalla) of Erai river, which flows west of the area. Climate of the area is dry to moist tropical. The above-mentioned industries specially the Super Thermal Power Station are likely to contribute in increasing the air pollution of nearby villages. Durgapur village has been affected maximum due to proximity of the thermal powerhouse.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER'S OFFICE-Q-IV:	CPOA1
2	MANAGER OFFICE SECTOR-V:	CPOA2
3	KITADI VILLAGE :	CPOA3
4	FILTER PLANT DOC/POC COLONY:	CPOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP/MGR LOADING POINT:	CPOF1
2	WEIGHT BRIDGE:	CPOF2

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE Q IV:	CPOW1
2	ETP DISCHARGE:	CPOW2

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	CPON1
2	DURGAPUR COLONY:	CPON2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A26	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	PADMAPUR OC	MONTH	JULY

<b>MANAGER'S OFFICE-Q-IV: CPOA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	100	67	28	12	16
31-07-19	199	149	33	19	18
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>MANAGER OFFICE SECTOR-V: CPOA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	105	74	36	16	11
18-07-19	429	172	32	22	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>KITADI VILLAGE : CPOA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	89	60	32	16	11
30-07-19	134	73	39	28	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>FILTER PLANT DOC/POC COLONY: CPOA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	74	37	23	12	15
18-07-19	176	95	44	21	21
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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**FUGITIVE DUST MONITORING DATA**

<b>CHP/MGR LOADING POINT: CPOF1</b>			
DATE OF SAMPLING	PARAMETERS		
	SPM*	PM10	PM <sub>2.5</sub>
DETECTION LIMIT	5	5	2
12-07-19	66	41	29

<b>WEIGHT BRIDGE: CPOF2</b>			
DATE OF SAMPLING	PARAMETERS		
	SPM*	PM10	PM <sub>2.5</sub>
DETECTION LIMIT	5	5	2
11-07-19	60	47	24

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W26	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	CHANDRAPUR AREA	YEAR	2019
NAME OF PROJECT	PADMAPUR OC	MONTH	JULY

MINE WATER DISCHARGE Q IV: CPOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
11-07-19	7.7	24	20	<2
27-07-19	7.4	36	18	<2
TLV	5.5 - 9.0	100	250	10

ETP DISCHARGE: CPOW2				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
11-07-19	7.4	36	18	<2
27-07-19	7.4	28	22	<2
TLV	5.5 - 9.0	100	250	10

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## NOISE LEVEL DATA

NAME OF AREA: CHANDRAPUR AREA      YEAR: 2019  
NAME OF PROJECT: PADMAPUR OC      MONTH: JULY

CHP: CPON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	11-07-19	63.7	63.4
JULY 2019	29-07-19	63.8	63.6
<b>TLV</b>		<b>75</b>	<b>70</b>

DURGAPUR COLONY: CPON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	11-07-19	42.6	42.4
JULY 2019	29-07-19	42.7	42.5
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# DHORWASA OC

MAJRI AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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## INTRODUCTION

Dhorwasa OC is located in Chandrapur district of Maharashtra state. The project is administered by Majri Area of Western Coalfields Limited. The Wardha River is the main drainage channel for the surrounding area. A few seasonal nullahs drain the rainwater from the Area into Wardha River. The climate of the area is tropical. Transportation roads, agricultural and local activities vehicular traffic etc also contributes to the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	RC OFFICE:	MDOA1
2	TELWASA SECURITY OFFICE:	MDOA2
3	DHORWASA VILLAGE :	MDOA3
4	EKTA NAGAR COLONY:	MDOA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	DETP DISCHARGE:	MDOW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE:	MDON1
2	EKTA NAGAR COLONY:	MDON2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A47	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	MAJRI AREA	YEAR	2019
NAME OF PROJECT	DHORWASA OC	MONTH	JULY

RC OFFICE: MDOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	88	61	45	21	12
26-07-19	102	54	30	21	11
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

TELWASA SECURITY OFFICE: MDOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	67	49	36	21	19
25-07-19	65	37	30	23	19
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

DHORWASA VILLAGE : MDOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	62	42	30	20	16
26-07-19	89	46	23	20	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

EKTA NAGAR COLONY: MDOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	112	52	29	19	11
24-07-19	79	47	24	20	16
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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TSET REPORT NO.	RIN/TR/JUNE-19/W47	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	MAJRI AREA	YEAR	2019
NAME OF PROJECT	DHORWASA OC	MONTH	JULY

DETP DISCHARGE: MDOW1		
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS	
	TSS	BOD
DETECTION LIMIT	10	2
07-07-19	56	11
25-07-19	48	12
TLV	100	30

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## NOISE LEVEL DATA

NAME OF AREA: MAJRI AREA  
NAME OF PROJECT: DHORWASA OC

YEAR: 2019  
MONTH: JULY

MANAGER OFFICE: MDON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	06-07-19	52.4	51.6
JULY 2019	25-07-19	44	43.6
<b>TLV</b>		<b>75</b>	<b>70</b>

EKTA NAGAR COLONY: MDON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	06-07-19	43.6	42
JULY 2019	25-07-19	42.8	41.4
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# JUNA KUNADA OC

MAJRI AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

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## **INTRODUCTION**

Juna Kunada OC is located in Chandrapur district of Maharashtra state. The project is administered by Majri Area of Western Coalfields Limited. The Wardha River is the main drainage channel for the surrounding area. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	PIT OFFICE:	MJOA1
2	SAM OFFICE CHARGAON:	MJOA2
3	EKTA NAGAR COLONY:	MJOA3
4	CHARGAON INTAKE WELL:	MJOA4

#### **Fugitive Dust Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHARGAON CHP:	MJOF1

#### **Noise Level Monitoring location :**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE:	MJON1
2	EKTA NAGAR COLONY:	MJON2


#### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.



<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A46	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	MAJRI AREA	YEAR	2019
NAME OF PROJECT	JUNA KUNADA OC	MONTH	JULY

PIT OFFICE: MJOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	76	53	28	22	17
25-07-19	105	71	34	22	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SAM OFFICE CHARGAON: MJOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	90	71	46	19	12
25-07-19	159	80	37	19	11
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

EKTA NAGAR COLONY: MJOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	112	52	29	19	11
24-07-19	79	47	24	20	16
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

CHARGAON INTAKE WELL: MJOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	67	46	23	19	13
24-07-19	107	63	24	20	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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**FUGITIVE DUST MONITORING DATA**

<b>CHARGAON CHP: MJOF1</b>			
<b>DATE OF SAMPLING</b>	<b>PARAMETERS</b>		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
<b>DETECTION LIMIT</b>	5	5	2
<b>22-07-19</b>	226	94	33

SCIENTIFIC ASSISTANT

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## NOISE LEVEL DATA

NAME OF AREA: MAJRI AREA  
NAME OF PROJECT: JUNA KUNADA OC

YEAR: 2019  
MONTH: JULY

MANAGER OFFICE: MJON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	06-07-19	52.3	51
JULY 2019	25-07-19	45.2	44.4
<b>TLV</b>		<b>75</b>	<b>70</b>

EKTA NAGAR COLONY: MJON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	06-07-19	43.6	42
JULY 2019	25-07-19	42.8	41.4
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# NAVIN KUNADA OC

MAJRI AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

Navin Kunada OC is located in Chandrapur district of Maharashtra state. The project is administered by Majri Area of Western Coalfields Limited. The Wardha River is the main drainage channel for the surrounding area. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE CHARGAON:	MNOA1
2	EKTA NAGAR COLONY:	MNOA2
3	NEAR DEULWADA VILLAGE:	MNOA3
4	CHARGAON INTAKE WELL:	MNOA4

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHARGAON CHP:	MNON1
2	EKTA NAGAR COLONY:	MNON2

### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 TC-7102
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TSET REPORT NO.	RIN/TR/JULY-19/A45	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	MAJRI AREA	YEAR	2019
NAME OF PROJECT	NAVIN KUNADA OC	MONTH	JULY

SAM OFFICE CHARGAON: MNOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	90	71	46	19	12
25-07-19	159	80	37	19	11
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

EKTA NAGAR COLONY: MNOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	112	52	29	19	11
24-07-19	79	47	24	20	16
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

NEAR DEULWADA VILLAGE: MNOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	66	49	31	20	11
24-07-19	83	51	27	19	11
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

CHARGAON INTAKE WELL: MNOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	67	46	23	19	13
24-07-19	107	63	24	20	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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## NOISE LEVEL DATA

NAME OF AREA: MAJRI AREA                      YEAR: 2019  
NAME OF PROJECT: NAVIN KUNADA OC              MONTH: JULY

CHARGAON CHP: MNON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	55.6	54.3
JULY 2019	25-07-19	54.3	53.2
<b>TLV</b>		<b>75</b>	<b>70</b>

EKTA NAGAR COLONY: MNON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	06-07-19	43.6	42
JULY 2019	25-07-19	42.8	41.4
<b>TLV</b>		<b>55</b>	<b>45</b>



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## ENVIRONMENTAL MONITORING REPORT

# NEW MAJRI-II (A)OC

MAJRI AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

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3	WATER QUALITY MONITORING DATA	6 to 8
4	NOISE LEVEL DATA	9

## INTRODUCTION

New Majri (A) OC is located in Chandrapur district of Maharashtra state. The project is administered by Majri Area of Western Coalfields Limited. The Wardha river is the main drainage channel for the surrounding area. The Konda and Sirna nalla flowing to the North and East of the New Majri area discharge into the Wardha River. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollute

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NMOC SUBSTATION:	MMOA1
2	PATALA MAGAZINE:	MMOA2
3	PRIMARY HEALTH CENTRE, MAJRI BASTI:	MMOA3
4	KUCHANA VILLAGE:	MMOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FIELD MAIN. SHED AT SEC C HAUL ROAD:	MMOF1
2	NMOC CHP:	MMOF2

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	MMOW1
2	WETP DISCHARGE:	MMOW2

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FIELD MAIN. SHED:	MMON1
2	KUCHNA COLONY:	MMON2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A42	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	MAJRI AREA	YEAR	2019
NAME OF PROJECT	NEW MAJRI-II (A)OC	MONTH	JULY

<b>NMOC SUBSTATION: MMOA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	89	71	47	20	11
23-07-19	184	100	38	21	11
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>PATALA MAGAZINE: MMOA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	84	44	26	21	12
23-07-19	152	87	32	21	20
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>PRIMARY HEALTH CENTRE, MAJRI BASTI: MMOA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	81	53	31	21	13
23-07-19	154	91	27	21	19
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>KUCHANA VILLAGE: MMOA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	70	36	28	21	18
23-07-19	179	103	30	20	16
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
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**FUGITIVE DUST MONITORING DATA**

<b>FIELD MAIN. SHED AT SEC C HAUL ROAD: MMOF1</b>			
DATE OF SAMPLING	PARAMETERS		
	SPM*	PM10	PM <sub>2.5</sub>
DETECTION LIMIT	5	5	2
05-07-19	156	81	27

<b>NMOC CHP: MMOF2</b>			
DATE OF SAMPLING	PARAMETERS		
	SPM*	PM10	PM <sub>2.5</sub>
DETECTION LIMIT	5	5	2
22-07-19	126	91	23

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W42	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	MAJRI AREA	YEAR	2019
NAME OF PROJECT	NEW MAJRI-II (A)OC	MONTH	JULY

<b>MINE WATER DISCHARGE: MMOW1</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
04-07-19	7.2	12	62	<2
24-07-19	7.4	20	74	<2
TLV	5.5 - 9.0	250	100	10

<b>WETP DISCHARGE: MMOW2</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
04-07-19	7.8	64	60	<2
24-07-19	7.5	48	52	<2
TLV	5.5 - 9.0	250	100	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW42	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	MAJRI AREA	YEAR	2019
NAME OF PROJECT	NEW MAJRI-II (A)OC	MONTH	JULY
DATE OF SAMPLING	24-07-19		

NAME OF LOCATION: DRINKING WATER FROM SAM OFFICE						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	3	1	5
4	pH Value	IS 3025 Part-11	2	8	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	192	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	48	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.04	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.72	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	400	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	46	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	19	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	124	200	400

ENV. MONITORING REPORT  
NEW MAJRI (A) OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	20	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	120	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## ENVIRONMENTAL MONITORING REPORT

# NEW MAJRI-UG TO OC

MAJRI AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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4	NOISE LEVEL DATA	8

## **INTRODUCTION**

New Majri UG to OC Project is located in Chandrapur district of Maharashtra state. The project is administered by Majri Area of Western Coalfields Limited. The Wardha river is the main drainage channel for the surrounding area. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	PATALA MAGAZINE:	MMUA1
2	MANAGER OFFICE UG TO OC:	MMUA2
3	NMOC SUBSTATION:	MMUA3
4	KUCHANA COLONY:	MMUA4

#### **Fugitive Dust Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	RAILWAY SIDING:	MMUF1

#### **Water Quality Monitoring location:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	MMUW1

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE - MAJRI:	MMUN1
2	COLONY NAGLON COLONY:	MMUN2

#### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A43	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	MAJRI AREA	YEAR	2019
NAME OF PROJECT	NEW MAJRI-UG TO OC	MONTH	JULY

PATALA MAGAZINE: MMUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	84	44	26	21	12
23-07-19	152	87	32	21	20
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

MANAGER OFFICE UG TO OC: MMUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	61	39	28	21	14
24-07-19	81	53	28	22	23
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

NMOC SUBSTATION: MMUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	89	71	47	20	11
23-07-19	184	100	38	21	11
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

KUCHANA COLONY: MMUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	70	36	28	21	18
23-07-19	179	103	30	20	16
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W43	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	MAJRI AREA	YEAR	2019
NAME OF PROJECT	NEW MAJRI-UG TO OC	MONTH	JULY

<b>MINE WATER DISCHARGE: MMUW1</b>				
<b>DATE OF SAMPLE COLLECTION</b>	<b>ANALYSIS RESULTS</b>			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
05-07-19	7.7	28	34	<2
24-07-19	7.9	36	48	<2
TLV	5.5 - 9.0	100	250	10

SCIENTIFIC ASSISTANT

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW43	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	MAJRI AREA	YEAR	2019
NAME OF PROJECT	NEW MAJRI-UG TO OC	MONTH	JULY
DATE OF SAMPLING	24-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	3	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	8.2	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	224	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	50	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.03	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.62	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	428	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	62	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	152	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	92	200	400

ENV. MONITORING REPORT  
NEW MAJRI UG TO OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	10	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	152	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: MAJRI AREA                      YEAR: 2019  
NAME OF PROJECT: NEW MAJRI-UG TO OC      MONTH: JULY

FAN HOUSE - MAJRI: MMUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	44.6	43.4
JULY 2019	23-07-19	44.3	43.5
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY NAGLON COLONY: MMUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	44.4	43.5
JULY 2019	23-07-19	42.7	41.5
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# TELWASA OC

MAJRI AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

Telwasa OC is located in Chandrapur district of Maharashtra state. The project is administered by Majri Area of Western Coalfields Limited. The Wardha River is the main drainage channel for the surrounding area. A few seasonal nullahs drain the rainwater from the Area into Wardha River. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	TELWASA SECURITY OFFICE:	MTOA1
2	SAM OFFICE:	MTOA2
3	CHARGAON VILLAGE:	MTOA3
4	EKTA NAGAR COLONY:	MTOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	GROUND STOCK YARD:	MTOF1
2	WEIGHT BRIDGE:	MTOF2

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR PIT OFFICE:	MTON1
2	EKTA NAGAR COLONY:	MTON2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A43	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	MAJRI AREA	YEAR	2019
NAME OF PROJECT	TELWASA OC	MONTH	JULY

TELWASA SECURITY OFFICE: MTOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	67	49	36	21	19
25-07-19	65	37	30	23	19
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SAM OFFICE: MTOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	64	42	33	16	10
25-07-19	100	68	32	20	19
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

CHARGAON VILLAGE: MTOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	64	46	32	21	17
26-07-19	93	46	29	21	13
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

EKTA NAGAR COLONY: MTOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	112	52	29	19	11
24-07-19	79	47	24	20	16
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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**FUGITIVE DUST MONITORING DATA**

<b>GROUND STOCK YARD: MTOF1</b>			
<b>DATE OF SAMPLING</b>	<b>PARAMETERS</b>		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
<b>DETECTION LIMIT</b>	5	5	2
<b>26-07-19</b>	127	73	50

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW44	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	MAJRI AREA	YEAR	2019
NAME OF PROJECT	TELWASA OC	MONTH	JULY
DATE OF SAMPLING	25-07-19		

NAME OF LOCATION: DRINKING WATER FROM SAM OFFICE						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	8.1	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	248	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	54	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.02	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.6	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	432	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	78	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	13	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	80	200	400

ENV. MONITORING REPORT  
TELWASA OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	23	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	156	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: MAJRI AREA  
NAME OF PROJECT: TELWASA OC

YEAR: 2019  
MONTH: JULY

NEAR PIT OFFICE: MTON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	06-07-19	45	43.7
JULY 2019	25-07-19	50.4	49.5
<b>TLV</b>		<b>75</b>	<b>70</b>

EKTA NAGAR COLONY: MTON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	06-07-19	43.6	42
JULY 2019	25-07-19	42.8	41.4
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# YEKON I & II OC

MAJRI AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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## INTRODUCTION

Yekona I & II OC is located in Chandrapur district of Maharashtra state. The project is administered by Majri Area of Western Coalfields Limited. The Wardha River is the main drainage channel for the surrounding area. A few seasonal nullahs drain the rainwater from the Area into Wardha River. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	PIT OFFICE:	MYOA1
2	PENZUNI VILLAGE :	MYOA2
3	ASHIT VILLAGE:	MYOA3
4	SANSKAR BHARTI:	MYOA4

#### **Water Quality Monitoring location:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	MYOW1

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	PIT OFFICE:	MYON1

#### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A48	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	MAJRI AREA	YEAR	2019
NAME OF PROJECT	YEKON I & II OC	MONTH	JULY

PIT OFFICE: MYOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	75	51	40	20	13
27-07-19	107	59	28	21	13
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

PENZUNI VILLAGE : MYOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	75	53	44	16	11
27-07-19	152	83	19	13	13
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

ASHIT VILLAGE: MYOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	234	182	49	16	10
27-07-19	116	67	28	17	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SANSKAR BHARTI: MYOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	68	44	24	20	17
27-07-19	88	49	21	17	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W48	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	MAJRI AREA	YEAR	2019
NAME OF PROJECT	YEKON I& II OC	MONTH	JULY

<b>MINE WATER DISCHARGE: MYOW1</b>				
<b>DATE OF SAMPLE COLLECTION</b>	<b>ANALYSIS RESULTS</b>			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
08-07-19	7.5	48	46	<2
25-07-19	7.3	56	60	<2
TLV	5.5 - 9.0	100	250	10

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## NOISE LEVEL DATA

NAME OF AREA: MAJRI AREA  
NAME OF PROJECT: YEKON I& II OC

YEAR: 2019  
MONTH: JULY

PIT OFFICE: MYON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	06-07-19	56.7	55.4
JULY 2019	22-07-19	54.5	53.6
<b>TLV</b>		<b>75</b>	<b>70</b>

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# ENVIRONMENTAL MONITORING REPORT

## ADASA UG

NAGPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019



### Environment Laboratory

NABL Accredited vide Cert. No. TC-7102

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## **INTRODUCTION**

Adasa UG mine is situated in Nagpur District of Maharashtra State and is administered by the Nagpur area of the Western Coalfields Limited. The drainage of the project area is controlled by the easterly flowing Kolar and Chandrabhaga Rivers. The area has tropical climate. There are a few small industries near the town. There is no major industry, other then Saoner coal mines, near to the project. The state highway and road to Kalmeshwar, which is very busy due to vehicular movement, produce lot of dust. Transportation roads, agricultural and local activities , vehicular traffic etc also contributes to the pollution.

The above-mentioned industries are also expected to contribute in increasing the pollution load of the area.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	PROJECT MANAGER OFFICE:	NAUA1
2	AT PATHAKHEDI GP OFFICE :	NAUA2
3	COLONY WATER FILTER PLANT :	NAUA3
4	KOTODI VILLAGE :	NAUA4

#### **Water Quality Monitoring location:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	NAUW1

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	NAUN1
2	MANAGER OFFICE:	NAUN2
3	COLONY (SAONER):	NAUN3

#### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A5	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NO <sub>x</sub> (06:2006), SO <sub>2</sub> (02:2001)], PM-2.5 & SPM*		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	ADASA UG	MONTH	JULY

PROJECT MANAGER OFFICE: NAUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	94	63	36	11	15
25-07-19	104	71	31	16	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

AT PATHAKHEDI GP OFFICE : NAUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	108	70	35	21	17
26-07-19	64	28	18	10	12
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

COLONY WATER FILTER PLANT : NAUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	105	70	28	19	16
26-07-19	57	32	28	13	10
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

KOTODI VILLAGE : NAUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	126	91	32	14	18
25-07-19	53	32	24	18	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W5	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	ADASA UG	MONTH	JULY

MINE WATER DISCHARGE: NAUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	Ph	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
12-07-19	7.6	36	26	<2
24-07-19	7.8	24	18	<2
TLV	5.5 - 9.0	100	250	10

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## NOISE LEVEL DATA

**NAME OF AREA: NAGPUR AREA**  
**NAME OF PROJECT: ADASA UG**

**YEAR: 2019**  
**MONTH: JULY**

FAN HOUSE: NAUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	69.7	68.7
JULY 2019	25-07-19	70.4	68.6
<b>TLV</b>		<b>75</b>	<b>70</b>

MANAGER OFFICE: NAUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	47.9	46.1
JULY 2019	25-07-19	51.4	48.7
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY (SAONER): NAUN3			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	47.9	46.1
JULY 2019	25-07-19	51.4	48.7
<b>TLV</b>		<b>55</b>	<b>50</b>

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## ENVIRONMENTAL MONITORING REPORT

# BHANEGAON OC

NAGPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

The Bhanegaon opencast project is located in Nagpur district of Maharashtra state and administered by Nagpur area of Western Coalfields Ltd. Kanhan river acts as the main drainage channel of the area. The climate of the area is tropical. The above-mentioned industries are also expected to contribute in increasing the pollution load of the area. Transportation road, Vehicular traffic, Agricultural and local activities etc., also contribute to the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR MANGER OFFICE:	NBOA1
2	BINA SANGAM TEMPLE:	NBOA2
3	BINA VILLAGE:	NBOA3
4	DORLI VILLAGE :	NBOA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	NBOW1

#### Noise Level Monitoring location :

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CONTRACTOR CAMP:	NBON1


#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.



<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A9	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	BHANEGAON OC	MONTH	JULY

NEAR MANGER OFFICE: NBOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	168	68	44	#DIV/0!	#DIV/0!
20-07-19	176	83	25	17	22
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

BINA SANGAM TEMPLE: NBOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	85	60	43	12	13
20-07-19	121	64	33	22	16
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

BINA VILLAGE: NBOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	113	78	40	12	17
21-07-19	94	44	36	18	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

DORLI VILLAGE : NBOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	79	39	27	24	26
21-07-19	50	36	29	24	18
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W9	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	BHANEGAON OC	MONTH	JULY

<b>MINE WATER DISCHARGE: NBOW1</b>				
<b>DATE OF SAMPLE COLLECTION</b>	<b>ANALYSIS RESULTS</b>			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
08-07-19	8.5	36	26	<2
20-07-19	7.9	20	16	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

NAME OF AREA: NAGPUR AREA  
NAME OF PROJECT: BHANEGAON OC

YEAR: 2019  
MONTH: JULY

CONTRACTOR CAMP: NBON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	51.9	49.7
JULY 2019	23-07-19	53.1	52.1
TLV		75	70

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## ENVIRONMENTAL MONITORING REPORT

# GONDEGAON OC

NAGPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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## INTRODUCTION

The Silewara UG project is located in the Nagpur district of Maharashtra state and is administered by Nagpur Area of Western Coalfields Limited. The drainage of the area is controlled by Kolar river to the south and Kanhan river in the north. The climate of the area is tropical. The above-mentioned industries are also expected to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR SUBSTATION:	NGOA1
2	GONDEGAON VILLAGE SCHOOL:	NGOA2
3	COLONY/GUEST HOUSE:	NGOA3
4	GHATRONHA VILLAGE:	NGOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SECURITY CHECK POST/W. BRIDGE	NGOF1

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	NGOW1
2	ETP DISCHARGE:	NGOW2

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	NGON1
2	COLONY:	NGON2
3	GHATROHNA VILLAGE	NGON3
4	JUNI KAMPTEE VILLAGE:	NGON4

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A6	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	GONDEGAON OC	MONTH	JULY

NEAR SUBSTATION: NGOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	110	54	38	31	24
19-07-19	283	172	46	30	14
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

GONDEGAON VILLAGE SCHOOL: NGOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	117	64	42	30	17
19-07-19	323	130	37	32	13
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

COLONY/GUEST HOUSE: NGOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	83	62	43	32	23
19-07-19	191	95	39	28	16
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

GHATRONHA VILLAGE: NGOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	102	77	21	15	16
20-07-19	74	48	26	15	20
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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TSET REPORT NO.	RIN/TR/JULY-19/W6	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	GONDEGAON OC	MONTH	JULY

<b>MINE WATER DISCHARGE: NGOW1</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
07-07-19	8.2	28	24	<2
18-07-19	7.4	32	22	<2
TLV	5.5 - 9.0	100	250	10


<b>ETP DISCHARGE: NGOW2</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
07-07-19	8.5	24	18	<2
18-07-19	7.5	28	18	<2
TLV	5.5 - 9.0	100	250	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW6	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	GONDEGAON OC	MONTH	JULY
DATE OF SAMPLING	18-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	8.4	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	244	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	26	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.03	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.59	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	280	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	69	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	13	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	9	200	400

ENV. MONITORING REPORT  
GONDEGAON OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	9.79	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	280	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTIN LIMIT**

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## NOISE LEVEL DATA

**NAME OF AREA: NAGPUR AREA**  
**NAME OF PROJECT: GONDEGAON OC**

**YEAR: 2019**  
**MONTH: JULY**

CHP: NGON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	66.2	65.7
JULY 2019	19-07-19	61.1	59.2
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: NGON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	43.5	42.5
JULY 2019	19-07-19	44.2	42.1
<b>TLV</b>		<b>55</b>	<b>45</b>

GHATROHNA VILLAGE NGON3			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	42.5	41.6
JULY 2019	19-07-19	42.1	39.5
<b>TLV</b>		<b>55</b>	<b>45</b>

JUNI KAMPTEE VILLAGE: NGON4			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	41.5	40.7
JULY 2019	19-07-19	43.2	40.1
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# INDRE UG TO OC

NAGPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

Inder UG to OC Project is situated about 35 kms from Nagpur in Maharashtra State and is administered by the Nagpur Area of the Western Coalfields Limited. Kanhan river acts as the main drainage channel of the area. The climate of this area is tropical. The above-mentioned industries are also expected to contribute in increasing the pollution load of the area. The air pollution due to working of the UG mine is insignificant. Transportation road, Vehicular traffic, Agricultural and local activities etc., also contribute to the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR PIT NO.6 / MANAGER OFFICE:	NIOA1
2	CMPDI TEKADI STORE:	NIOA2
3	COLONY WATER TREATMENT PLANT:	NIOA3
4	G.P. OFFICE KANDRI VILLAGE:	NIOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	WEIGHT BRIDGE :	NIOF1
2	NEAR COAL STOCK- YARD:	NIOF2

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	NIOW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	R.C. OFFICE:	NION1

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A8	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	INDRE UG TO OC	MONTH	JULY

NEAR PIT NO.6 / MANAGER OFFICE: NIOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	123	78	37	29	18
18-07-19	383	255	32	29	21
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

CMPDI TEKADI STORE: NIOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	121	86	46	24	22
18-07-19	323	264	38	28	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

COLONY WATER TREATMENT PLANT: NIOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	105	70	28	19	16
26-07-19	57	32	28	13	10
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

G.P. OFFICE KANDRI VILLAGE: NIOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	55	36	22	11	14
18-07-19	196	135	37	34	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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**FUGITIVE DUST MONITORING DATA**

<b>WEIGHT BRIDGE : NIOF1</b>			
<b>DATE OF SAMPLING</b>	<b>PARAMETERS</b>		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
<b>DETECTION LIMIT</b>	5	5	2
<b>09-07-19</b>	339	206	45

<b>NEAR COAL STOCK- YARD: NIOF2</b>			
<b>DATE OF SAMPLING</b>	<b>PARAMETERS</b>		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
<b>DETECTION LIMIT</b>	5	5	2
<b>06-07-19</b>	134	106	34

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 TC-7102
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TSET REPORT NO.	RIN/TR/JULY-19/W8	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	INDRE UG TO OC	MONTH	JULY

MINE WATER DISCHARGE: NIOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
05-07-19	8.3	20	14	<2
17-07-19	7.2	24	18	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

NAME OF AREA: NAGPUR AREA  
NAME OF PROJECT: INDRE UG TO OC

YEAR: 2019  
MONTH: JULY

R.C. OFFICE: NION1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	54.7	53.5
JULY 2019	19-07-19	54.5	52.1
<b>TLV</b>		<b>75</b>	<b>70</b>

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## ENVIRONMENTAL MONITORING REPORT

# KAMPTEE DEEP OC

NAGPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

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## INTRODUCTION

The Kamptee UG to OC Project is located in Nagpur district of Maharashtra state and administered by Nagpur area of Western Coalfields Ltd. The climate of the area is tropical. The above-mentioned industries are also expected to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SUBSTATION KAMPTEE :	NKCA1
2	JUNI KAMPTEE VILLAGE:	NKCA2
3	COLONY WATER TREATMENT PALNT:	NKCA3
4	G.P. OFFICE KANDRI VILLAGE:	NKCA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP	NKCF1
2	RLY. SIDING	NKCF2

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	NKCW1

#### Noise Level Monitoring location :

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	NKCN1
2	COLONY:	NKCN2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A7	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	KAMPTEE DEEP OC	MONTH	JULY

<b>SUBSTATION KAMPTEE : NKCA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
00-01-00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
18-07-19	415	213	34	23	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>JUNI KAMPTEE VILLAGE: NKCA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
00-01-00	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
20-07-19	88	71	36	28	11
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>COLONY WATER TREATMENT PALNT: NKCA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	215	108	40	34	24
19-07-19	237	117	36	25	12
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>G.P. OFFICE KANDRI VILLAGE: NKCA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	55	36	22	11	14
18-07-19	196	135	37	34	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W7	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	KAMPTEE DEEP OC	MONTH	JULY

<b>MINE WATER DISCHARGE: NKCW1</b>				
<b>DATE OF SAMPLE COLLECTION</b>	<b>ANALYSIS RESULTS</b>			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
06-07-19	8.7	32	22	<2
17-07-19	7.7	32	24	<2
TLV	5.5 - 9.0	100	250	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW7	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	KAMPTEE DEEP OC	MONTH	JULY
DATE OF SAMPLING	17-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	7.8	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	292	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	82	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.02	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.28	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	320	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	72	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	54	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	7	200	400



ENV. MONITORING REPORT  
KAMPTEE UG to OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	1.14	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	252	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: NAGPUR AREA  
NAME OF PROJECT: KAMPTEE DEEP OC

YEAR: 2019  
MONTH: JULY

CHP: NKC1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	67.4	65.2
JULY 2019	19-07-19	62.4	60.1
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: NKC2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	67.4	65.2
JULY 2019	19-07-19	45.2	43.4
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# PATANSAONGI UG

NAGPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

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3	WATER QUALITY MONITORING DATA	5 to 7
4	NOISE LEVEL DATA	8

## INTRODUCTION

Patansaongi UG project is located in Nagpur district of Maharashtra state and is administered by Nagpur area of Western Coalfields Limited. The drainage of the area is controlled by Kolar river. The climate of the area is tropical. State highway is adjacent to the project. State highway and Khaparkheda Thermal Power Station are also expected to contribute in increasing the air pollution load of the area. The air pollution due to working of the UG mine is insignificant. Transportation road, Vehicular traffic, Agricultural and local activities etc., also contribute to the pollution load of the area.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	COLLIERY MANGER OFFICE:	NPTUA1
2	SADBHAVAN NAGAR (FILTER PLANT):	NPTUA2
3	NEAR LCH QR.:	NPTUA3

#### **Water Quality Monitoring location:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	NPTUW1

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	NPTUN1
2	COLONY:	NPTUN2

#### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A3	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	PATANSAONGI UG	MONTH	JULY

<b>COLLIERY MANGER OFFICE: NPTUA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	81	37	21	12	16
25-07-19	92	42	22	33	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SADBHAVAN NAGAR (FILTER PLANT): NPTUA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	69	42	20	12	15
25-07-19	106	59	40	11	24
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>NEAR LCH QR.: NPTUA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	89	51	19	13	15
24-07-19	86	45	30	20	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W3	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	PATANSAONGI UG	MONTH	JULY

<b>MINE WATER DISCHARGE: NPTUW1</b>				
<b>DATE OF SAMPLE COLLECTION</b>	<b>ANALYSIS RESULTS</b>			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
12-07-19	8.6	36	26	<2
24-07-19	7.5	36	32	<2
TLV	5.5 - 9.0	250	100	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW3	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	PATANSAONGI UG	MONTH	JULY
DATE OF SAMPLING	23-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	3	1	5
4	pH Value	IS 3025 Part-11	2	7.9	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	228	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	42	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.03	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.53	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	310	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	41.6	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	30.13	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	12.12	200	400



ENV. MONITORING REPORT  
PATANSAONGI UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	9.405	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	<0.2	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	348	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

**NAME OF AREA: NAGPUR AREA**                      **YEAR: 2019**  
**NAME OF PROJECT: PATANSAONGI UG**              **MONTH: JULY**

FAN HOUSE: NPTUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	12-07-19	57.7	56.9
JULY 2019	24-07-19	53.8	51.2
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: NPTUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	12-07-19	46.6	45.9
JULY 2019	24-07-19	44.9	42.2
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# PIPLA UG

NAGPUR AREA

### WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

## CMPDI

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
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3	WATER QUALITY MONITORING DATA	5 to 6
4	NOISE LEVEL DATA	7

## **INTRODUCTION**

Pipla Colliery is situated in the West of Silewara Colliery in Nagpur District of Maharashtra State. It is under the administrative control of Nagpur Area of Western Coalfields Limited. The drainage of the area is principally controlled by Kolar-Pimpri river in the South and Kanhan river in the North. There are a number of small seasonal nallahs which traverse over the area and discharge the water during rainy season into these two rivers. The climate of this area is tropica Nagpur - Chhindwara State highway is about 2 kms from the project. Road traffic is also likely to contribute to the air pollution in the surrounding area.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR MAGZINE / MANAGER OFFICE:	NPUA1
2	IN ZONE- 4:	NPUA2
3	FILTER PLANT:	NPUA3
4	SHIV MANDIR:	NPUA4

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	NPUN1

#### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A2	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	PIPLA UG	MONTH	July

NEAR MAGZINE / MANAGER OFFICE: NPUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	102	59	41	30	15
24-07-19	114	67	47	13	24
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

IN ZONE- 4: NPUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	114	59	36	18	17
23-07-19	120	70	37	14	14
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

FILTER PLANT: NPUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	120	68	30	32	26
24-07-19	180	60	21	15	21
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SHIV MANDIR: NPUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	149	82	35	31	22
24-07-19	104	51	26	19	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW2	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	PIPLA UG	MONTH	July
DATE OF SAMPLING	22-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	3	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	3	1	5
4	pH Value	IS 3025 Part-11	2	8.3	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	244	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	56	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.03	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.49	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	230	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	60	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	24	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	79	200	400

ENV. MONITORING REPORT

PIPLA UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	9.85	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmin	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	284	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: NAGPUR AREA  
NAME OF PROJECT: PIPLA UG

YEAR: 2019  
MONTH: July

FAN HOUSE: NPUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	45.5	45.1
JULY 2019	23-07-19	44.9	47.2
<b>TLV</b>		<b>75</b>	<b>70</b>

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# ENVIRONMENTAL MONITORING REPORT

## SAONER UG

NAGPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019



**Environment Laboratory**  
NABL Accredited vide Cert. No. TC-7102

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## INTRODUCTION

SaonerUG mine is situated in Nagpur District of Maharashtra State and is administered by the Nagpur area of the Western Coalfields Limited. There are three projects - Saoner-I UG, Saoner -II UG and Saoner -III UG. The drainage is principally controlled by Kolar river. The area has tropical climate. The above-mentioned industries are also expected to contribute in increasing the pollution load of the area. The air pollution due to working of the UG mine is insignificant.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	C.M. OFFICE - SAONER - I UG :	NSNUA1
2	C.M. OFFICE- SAONER- II UG :	NSNUA2
3	COLONY WATER FILTER PLANT:	NSNUA3
4	KOTODI VILLAGE :	NSNUA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	NSNUF1
2	RLY. SIDING:	NSNUF2

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE I UG:	NSNUW1
2	MINE WATER DISCHARGE II UG:	NSNUW2
3	MINE WATER DISCHARGE III UG:	NSNUW3

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE I UG:	NSNUN1
2	FAN HOUSE II UG:	NSNUN2
3	FAN HOUSE III UG:	NSNUN3
4	COLONY:	NSNUN4

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report quality monitoring data</b>	<b>Air</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A4	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	SAONER UG	MONTH	JULY

<b>C.M. OFFICE - SAONER - I UG : NSNUA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	86	52	23	12	19
26-07-19	80	52	28	45	12
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>C.M. OFFICE- SAONER- II UG : NSNUA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	70	35	24	21	22
26-07-19	73	49	29	17	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>COLONY WATER FILTER PLANT: NSNUA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	105	70	28	19	16
26-07-19	57	32	28	13	10
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>KOTODI VILLAGE : NSNUA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	126	91	32	14	18
25-07-19	53	32	24	18	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W4	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	SAONER UG	MONTH	JULY

MINE WATER DISCHARGE I UG: NSNUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
12-07-19	8.5	24	16	<2
25-07-19	7.3	28	24	<2
TLV	5.5 - 9.0	250	100	10


MINE WATER DISCHARGE II UG: NSNUW2				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
12-07-19	7.5	20	14	<2
25-07-19	7.7	24	22	<2
TLV	5.5 - 9.0	250	100	10

MINE WATER DISCHARGE III UG: NSNUW3				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
12-07-19	7.7	28	18	<2
25-07-19	7.3	28	24	<2
TLV	5.5 - 9.0	250	100	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW4	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	SAONER UG	MONTH	JULY
DATE OF SAMPLING	12-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	8.1	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	272	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	64	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.02	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.38	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	390	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	86.4	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	13.6	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	128.12	200	400

ENV. MONITORING REPORT  
SANOER UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	2.95	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	<b>BDL</b>	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	<b>BDL</b>	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	<b>BDL</b>	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	<b>164</b>	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	<b>BDL</b>	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	<b>BDL</b>	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

**NAME OF AREA: NAGPUR AREA**                      **YEAR: 2019**  
**NAME OF PROJECT: SAONER UG**                      **MONTH: JULY**

FAN HOUSE I UG: NSNUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	69.1	68.9
JULY 2019	25-07-19	68.4	67.2
<b>TLV</b>		<b>75</b>	<b>70</b>

FAN HOUSE II UG: NSNUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	68.8	68.1
JULY 2019	25-07-19	68.2	67.9
<b>TLV</b>		<b>75</b>	<b>70</b>

FAN HOUSE III UG: NSNUN3			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	69.2	68.7
JULY 2019	25-07-19	68.9	68.1
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: NSNUN4			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	45.5	45.1
JULY 2019	25-07-19	46.2	43.8
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# SILEWARA UG

NAGPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
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3	WATER QUALITY MONITORING DATA	7
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## INTRODUCTION

The Silewara UG project is located in the Nagpur district of Maharashtra state and is administered by Nagpur Area of Western Coalfields Limited. The drainage of the area is controlled by Kolar river to the south and Kanhan river in the north. The climate of the area is tropical. The above-mentioned industries are also expected to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	WATER FILTER FLANT:	NSUA1
2	V.T.C. SILEWARA:	NSUA2
3	MANDIR NEAR KANHAN RIVER:	NSUA3
4	CHANKAPUR PUMP HOUSE/ COLONY:	NSUA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	NSUW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	NSUN1
2	COLONY:	NSUN2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A1	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	SILEWARA UG	MONTH	JULY

<b>WATER FILTER FLANT: NSUA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	61	26	19	12	14
23-07-19	134	80	31	19	18
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>V.T.C. SILEWARA: NSUA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	71	57	31	30	20
23-07-19	225	114	35	26	15
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>MANDIR NEAR KANHAN RIVER: NSUA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	95	47	38	33	24
23-07-19	116	68	31	18	21
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>CHANKAPUR PUMP HOUSE/ COLONY: NSUA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	146	91	27	30	20
22-07-19	138	81	52	25	11
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W1	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	SILEWARA UG	MONTH	JULY

MINE WATER DISCHARGE: NSUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
10-07-19	8.4	28	18	<2
27-07-19	7.2	32	28	<2
TLV	5.5 - 9.0	250	100	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW1	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	SILEWARA UG	MONTH	JULY
DATE OF SAMPLING	22-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	7.5	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	300	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	114	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.02	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.37	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	440	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	84	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	23	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	98	200	400

ENV. MONITORING REPORT  
SILEWERA UG (JULY-19)

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	1.98	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	288	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

**NAME OF AREA: NAGPUR AREA**  
**NAME OF PROJECT: SILEWARA UG**

**YEAR: 2019**  
**MONTH: JULY**

FAN HOUSE: NSUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	69.8	68.9
JULY 2019	23-07-19	69.9	67.9
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: NSUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	44.6	44.1
JULY 2019	23-07-19	45.2	48.9
<b>TLV</b>		<b>55</b>	<b>45</b>

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# ENVIRONMENTAL MONITORING REPORT

## SINGORI OC

NAGPUR AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**  
NABL Accredited vide Cert. No. TC-7102

**CMPDI**

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## **INTRODUCTION**

Singori OC mine is situated in Nagpur District of Maharashtra State and is administered by the Nagpur area of the Western Coalfields Limited. The drainage is principally controlled by Kolar river. The area has tropical climate. The above-mentioned industries are also expected to contribute in increasing the pollution load of the area. The air pollution due to working of the UG mine is insignificant

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CONTRACTOR CAMP:	NSOA1
2	SOHOLI VILLAGE :	NSOA2
3	HINGNA VILLAGE:	NSOA3
4	DORLI VILLAGE:	NSOA4

#### **Fugitive Dust Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR COAL STOCK YARD:	NSOF1
2	WEIGHT BRIDGE:	NSOF2

#### **Water Quality Monitoring location:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	NSOW1

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CONTRACTOR CAMP:	NSON1
2	SOHOLI VILLAGE :	NSON2

### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A10	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NO <sub>x</sub> (06:2006), SO <sub>2</sub> (02:2001)], PM-2.5 & SPM*		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	SINGORI OC	MONTH	JULY

CONTRACTOR CAMP: NSOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	217	150	56	34	20
21-07-19	127	55	26	21	18
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SOHOLI VILLAGE : NSOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	106	76	26	13	19
22-07-19	117	88	28	24	11
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

HINGNA VILLAGE: NSOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	155	67	24	19	15
21-07-19	128	76	26	20	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

DORLI VILLAGE: NSOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	79	39	27	24	26
21-07-19	50	36	29	24	18
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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**FUGITIVE DUST MONITORING DATA**


<b>NEAR COAL STOCK YARD: NSOF1</b>			
DATE OF SAMPLING	PARAMETERS		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
DETECTION LIMIT	5	5	2
22-07-19	272	133	47

<b>WEIGHT BRIDGE: NSOF2</b>			
DATE OF SAMPLING	PARAMETERS		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
DETECTION LIMIT	5	5	2
22-07-19	446	244	49

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TSET REPORT NO.	RIN/TR/JULY-19/W10	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	NAGPUR AREA	YEAR	2019
NAME OF PROJECT	SINGORI OC	MONTH	JULY

MINE WATER DISCHARGE: NSOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
09-07-19	8.2	28	18	<2
21-07-19	8.1	24	14	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

**NAME OF AREA: NAGPUR AREA**  
**NAME OF PROJECT: SINGORI OC**

**YEAR: 2019**  
**MONTH: JULY**

CONTRACTOR CAMP: NSON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	50.5	49.4
JULY 2019	23-07-19	52.7	51.3
<b>TLV</b>		<b>75</b>	<b>70</b>

SOHOLI VILLAGE : NSON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	44.2	42.2
JULY 2019	23-07-19	44.4	42.3
<b>TLV</b>		<b>55</b>	<b>45</b>



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## ENVIRONMENTAL MONITORING REPORT

# CWS TADALI

CWS TADALI

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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4	NOISE LEVEL DATA	8

## INTRODUCTION

Central Workshop Tadali is located in Chandrapur Tahsil of Chandrapur district of Maharashtra State. It is administered by Central Workshop Tadali of Western Coalfields Limited. The drainage of the area is controlled by Wardha River. The climate of this area is tropical with The above-mentioned industries are also expected to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SUB STATION:	CWSA1
2	NEAR FILTER PLANT:	CWSA2
3	ADMINISTRATIVE BUILDING:	CWSA3

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	ETP DISCHARGE:	CWSW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR WORKSHOP:	CWSN1
2	COLONY:	CWSN2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A41	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	CWS TADALI	YEAR	2019
NAME OF PROJECT	CWS TADALI	MONTH	JULY

SUB STATION: CWSA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	102	59	33	25	20
31-07-19	63	44	33	25	22
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

NEAR FILTER PLANT: CWSA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	93	55	36	21	16
31-07-19	67	47	37	27	18
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

ADMINISTRATIVE BUILDING: CWSA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	73	42	29	25	22
31-07-19	72	55	44	21	19
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W41	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	CWS TADALI	YEAR	2019
NAME OF PROJECT	CWS TADALI	MONTH	JULY

ETP DISCHARGE: CWSW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
10-07-19	6.8	64	40	3.8
30-07-19	2.2	24	56	4.8
TLV	5.5 - 9.0	250	100	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW41	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	CWS TADALI	YEAR	2019
NAME OF PROJECT	CWS TADALI	MONTH	JULY
DATE OF SAMPLING	30-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	3	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	1	1	5
4	pH Value	IS 3025 Part-11	2	7.3	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	112	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.068	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	24	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	BDL	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.46	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	230	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	32	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	8	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	38	200	400

ENV. MONITORING REPORT  
CWS TADALI

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	8	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	116	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: CWS TADALI  
NAME OF PROJECT: CWS TADALI

YEAR: 2019  
MONTH: JULY

NEAR WORKSHOP: CWSN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	10-07-19	62.5	61.8
JULY 2019	26-07-19	63.9	62.5
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: CWSN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	10-07-19	42.6	42.2
JULY 2019	26-07-19	43.7	42.9
<b>TLV</b>		<b>55</b>	<b>45</b>



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# ENVIRONMENTAL MONITORING REPORT

## DINESH OC

UMRER AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019



**Environment Laboratory**  
NABL Accredited vide Cert. No. TC-7102

### CMPDI

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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3	WATER QUALITY MONITORING DATA	5
4	NOISE LEVEL DATA	6

## INTRODUCTION

The Dinesh/ Makardhokra- III OC project is located in Nagpur district of Maharashtra State and is administered by the Umrer area of Western Coalfields Limited. The drainage of the area is controlled by Amb river which flows in the east of the area. The climate of the area is generally. As there is no other major industry nearby the project area, only road transport is the other source, which JUNE contribute to the air pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE:	UM3OA1
2	NEAR RLY. WEIGHT BRIDGE:	UM3OA2
3	KANWA VILLAGE :	UM3OA3
4	SIRPUR VILLAGE:	UM3OA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	UM3OW1
2	ETP (WORKSHOP):	UM3OW2

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR PIT OFFICE:	UM3ON1

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A14	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	UMRER AREA	YEAR	2019
NAME OF PROJECT	DINESH OC	MONTH	JULY

<b>MANAGER OFFICE: UM30A1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	118	75	43	16	19
20-07-19	68	54	34	12	19
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>NEAR RLY. WEIGHT BRIDGE: UM30A2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	143	82	42	16	19
20-07-19	52	40	25	13	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>KANWA VILLAGE : UM30A3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	103	83	37	15	14
18-07-19	48	37	26	11	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>SIRPUR VILLAGE: UM30A4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	119	77	27	12	19
20-07-19	45	30	32	17	13
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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TSET REPORT NO.	RIN/TR/JULY-19/W14	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	UMRER AREA	YEAR	2019
NAME OF PROJECT	DINESH OC	MONTH	JULY

<b>MINE WATER DISCHARGE: UM3OW1</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
02-07-19	6.9	60	34	<2
18-07-19	6.9	36	22	<2
TLV	5.5 - 9.0	250	100	10

<b>ETP (WORKSHOP): UM3OW2</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
02-07-19	7	52	32	<2
18-07-19	6.9	40	24	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

NAME OF AREA: UMRER AREA  
NAME OF PROJECT: DINESH OC

YEAR: 2019  
MONTH: JULY

NEAR PIT OFFICE: UM30N1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	02-07-19	55.1	52.7
JULY 2019	18-07-19	54.8	53.3
TLV		75	70

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## ENVIRONMENTAL MONITORING REPORT

# GOKUL OC

UMRER AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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## INTRODUCTION

The Gokul OC project is located in Nagpur district of Maharashtra State and is administered by the Umrer area of Western Coalfields Limited. The drainage of the area is controlled by Amb river which flows in the east of the area. The climate of the area is generally dry and hot. As there is no other major industry nearby the project area, only road transport is the other source, which may contribute to the air pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CONTRACTOR CAMP:	UGOA1
2	BESUR VILLAGE :	UGOA2
3	NAND VILLAGE:	UGOA3
4	POLGAON VILLAGE :	UGOA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	UGOW1
2	ETP (WORKSHOP):	UGOW2

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CONTRACTOR CAMP:	UGON1

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A14	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	UMRER AREA	YEAR	2019
NAME OF PROJECT	GOKUL OC	MONTH	JULY

CONTRACTOR CAMP: UGOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	128	81	23	15	14
21-07-19	58	31	26	15	20
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

BESUR VILLAGE : UGOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	169	113	36	15	13
20-07-19	60	29	20	11	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

NAND VILLAGE: UGOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	146	104	27	11	12
21-07-19	55	44	33	14	12
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

POLGAON VILLAGE : UGOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	166	125	26	15	18
21-07-19	105	93	25	11	10
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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TSET REPORT NO.	RIN/TR/JULY-19/W14	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	UMRER AREA	YEAR	2019
NAME OF PROJECT	GOKUL OC	MONTH	JULY


<b>MINE WATER DISCHARGE: UGOW1</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
02-07-19	6.9	40	28	<2
20-07-19	6.9	60	38	<2
TLV	5.5 - 9.0	250	100	10

<b>ETP (WORKSHOP): UGOW2</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
02-07-19	6.9	44	30	<2
20-07-19	6.9	68	40	<2
TLV	5.5 - 9.0	250	100	10

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TSET REPORT NO.	RIN/TR/JULY-19/DW14	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	UMRER AREA	YEAR	2019
NAME OF PROJECT	GOKUL OC	MONTH	JULY
DATE OF SAMPLING	20-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	1	1	5
4	pH Value	IS 3025 Part-11	2	7.5	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	184	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	268	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.03	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.91	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	810	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	57.6	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	9.76	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	187	200	400

ENV. MONITORING REPORT  
GOKUL OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	33	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	296	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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| 3 | * Test parameter not under NABL scope.   |

## NOISE LEVEL DATA

NAME OF AREA: UMRER AREA  
NAME OF PROJECT: GOKUL OC

YEAR: 2019  
MONTH: JULY

CONTRACTOR CAMP: UGON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	02-07-19	52.1	50.2
JULY 2019	22-07-19	53.6	52.4
TLV		75	70

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## ENVIRONMENTAL MONITORING REPORT

# MAKARDHOKRA- II OC

UMRER AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
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4	NOISE LEVEL DATA	6



## INTRODUCTION

The Makardhokra- II OC project is located in Nagpur district of Maharashtra State and is administered by the Umrer area of Western Coalfields Limite.The drainage of the area is controlled by Amb river which flows in the east of the area. The climate of the area is generally dry and hot.As there is no other major industry nearby the project area, only road transport is the other source, which JUNE contribute to the air pollution.

### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR MANAGER OFFICE:	UMOA1
2	SAM OFFICE:	UMOA2
3	KANWA VILLAGE :	UMOA3
4	NEAR PUMP HOUSE COLONY:	UMOA4

### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	UMOW1
2	ETP DISCHARGE:	UMOW2

### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR PIT OFFICE:	UMON1
2	COLONY (UMRER OC):	UMON2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A12	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	UMRER AREA	YEAR	2019
NAME OF PROJECT	MAKARDHOKRA- II OC	MONTH	JULY

NEAR MANAGER OFFICE: UMOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	117	81	34	16	17
19-07-19	130	65	19	12	20
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SAM OFFICE: UMOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	131	85	40	16	15
19-07-19	50	25	17	14	15
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

KANWA VILLAGE : UMOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	103	83	37	15	14
18-07-19	48	37	26	11	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

NEAR PUMP HOUSE COLONY: UMOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	104	69	20	11	17
19-07-19	84	68	36	14	19
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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TSET REPORT NO.	RIN/TR/JULY-19/W12	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	UMRER AREA	YEAR	2019
NAME OF PROJECT	MAKARDHOKRA- II OC	MONTH	JULY

<b>MINE WATER DISCHARGE: UMOW1</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
03-07-19	7.1	36	18	<2
TLV	5.5 - 9.0	250	100	10

<b>ETP DISCHARGE: UMOW2</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
03-07-19	6.8	56	32	<2
17-07-19	7	52	32	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

NAME OF AREA: UMRER AREA                      YEAR: 2019  
NAME OF PROJECT: MAKARDHOKRA- II OC      MONTH: JULY

NEAR PIT OFFICE: UMON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	53.6	51.5
JULY 2019	18-07-19	53.7	52.2
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY (UMRER OC): UMON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	02-07-19	43.5	42.1
JULY 2019	18-07-19	44.2	43.4
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# MAKARDHOKHRA- I OC

UMRER AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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4	NOISE LEVEL DATA	6

## INTRODUCTION

Umrer opencast project falls in the Nagpur district of Maharashtra state and is administered by Umrer Area of Western Coalfields Limited. The drainage of the area is controlled by Amb river. The climate of the area is tropical. The state highway roads which are adjacent to the project produce lot of dust due to heavy vehicular traffic.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	PIT OFFICE:	UM10A1
2	NEAR PUMP HOUSE COLONY:	UM10A2
3	KANWA VILLAGE :	UM10A3
4	SIRPUR VILLAGE :	UM10A4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	UM10W1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR PIT OFFICE:	UM10N1

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A13	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	UMRER AREA	YEAR	2019
NAME OF PROJECT	MAKARDHOKHRA- I OC	MONTH	JULY

<b>PIT OFFICE: UM10A1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	108	61	26	16	19
19-07-19	82	65	27	12	18
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>NEAR PUMP HOUSE COLONY: UM10A2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	104	69	20	11	17
19-07-19	84	68	36	14	19
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>KANWA VILLAGE : UM10A3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	103	83	37	15	14
18-07-19	48	37	26	11	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>SIRPUR VILLAGE : UM10A4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	119	77	27	12	19
20-07-19	45	30	32	17	13
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 TC-7102
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TSET REPORT NO.	RIN/TR/JULY-19/W13	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	UMRER AREA	YEAR	2019
NAME OF PROJECT	MAKARDHOKHRA- I OC	MONTH	JULY

MINE WATER DISCHARGE: UM1OW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
02-07-19	7	48	30	<2
18-07-19	6.9	40	24	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

**NAME OF AREA: UMRER AREA**                      **YEAR: 2019**  
**NAME OF PROJECT: MAKARDHOKHRA- I OC**      **MONTH: JULY**

NEAR PIT OFFICE: UM1ON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	55.1	54.2
JULY 2019	08-07-19	54.4	53
<b>TLV</b>		<b>75</b>	<b>70</b>

#REF! #REF!			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	02-07-19	43.5	42.1
JULY 2019	18-07-19	44.2	43.4
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# MURPAR UG

UMRER AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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## INTRODUCTION

Murpar Underground Project is located in Chandrapur district of Maharashtra State and is administered by Umrer Area of Western Coalfields Limited. Drainage of the area is controlled by Gani nalla, which flows through central part of the project area. The climate of the area is tropical. As there is no other major industry nearby the project area, only road transport is the other source, which JUNE contribute to the air pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR PIT OFFICE:	UMUA1
2	NEAR MAGAZINE BUILDING:	UMUA2
3	COLONY :	UMUA3
4	MORPAR VILLAGE :	UMUA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	UMUW1

#### Noise Level Monitoring location :

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	UMUN1
2	COLONY:	UMUN2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A15	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	UMRER AREA	YEAR	2019
NAME OF PROJECT	MURPAR UG	MONTH	JULY

NEAR PIT OFFICE: UMUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	165	116	39	16	14
21-07-19	95	71	43	15	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

NEAR MAGAZINE BUILDING: UMUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	133	82	30	11	13
22-07-19	36	28	18	16	19
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

COLONY : UMUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	130	88	39	15	15
22-07-19	53	39	34	12	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

MORPAR VILLAGE : UMUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	148	96	39	15	13
22-07-19	37	26	33	17	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W15	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	UMRER AREA	YEAR	2019
NAME OF PROJECT	MURPAR UG	MONTH	JULY

MINE WATER DISCHARGE: UMUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
02-07-19	7.2	44	30	<2
21-07-19	7.6	52	30	<2
TLV	5.5 - 9.0	250	100	10

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TSET REPORT NO.	RIN/TR/JULY-19/DW15	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	UMRER AREA	YEAR	2019
NAME OF PROJECT	MURPAR UG	MONTH	JULY
DATE OF SAMPLING	21-07-19		

NAME OF LOCATION: DRINKING WATER FROM SAM OFFICE						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	1	1	5
4	pH Value	IS 3025 Part-11	2	7.1	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	68	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	46	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.02	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.12	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	238	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	14.4	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	7.8	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	35.5	200	400



ENV. MONITORING REPORT  
MORPAR UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	1.27	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	128	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELLOW DETECTION LIMIT**

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## NOISE LEVEL DATA

**NAME OF AREA: UMRER AREA**  
**NAME OF PROJECT: MURPAR UG**

**YEAR: 2019**  
**MONTH: JULY**

FAN HOUSE: UMUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	02-07-19	69.4	67.4
JULY 2019	22-07-19	62.7	61.2
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: UMUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	02-07-19	42.2	39.1
JULY 2019	22-07-19	43.3	42
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# UMRER OC

UMRER AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

Umrer opencast project falls in the Nagpur district of Maharashtra state and is administered by Umrer Area of Western Coalfields Limited. The drainage of the area is controlled by Amb river. The climate of the area is tropical. The state highway roads which are adjacent to the project produce lot of dust due to heavy vehicular traffic.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	UMRER MANAGER OFFICE:	UUOA1
2	NEAR WORKSHOP:	UUOA2
3	KANWA VILLAGE :	UUOA3
4	NEAR PUMP HOUSE COLONY:	UUOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	UUOF1
2	WEIGHT BRIDGE:	UUOF2
3	RLY. SIDING:	UUOF3

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	UUOW1
2	ETP DISCHARGE:	UUOW2

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	UUON1
2	COLONY:	UUON2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A11	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	UMRER AREA	YEAR	2019
NAME OF PROJECT	UMRER OC	MONTH	JULY

UMRER MANAGER OFFICE: UUA01					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	112	64	47	16	17
18-07-19	178	154	18	12	19
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

NEAR WORKSHOP: UUA02					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	196	119	52	16	14
18-07-19	98	55	27	12	20
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

KANWA VILLAGE : UUA03					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	103	83	37	15	14
18-07-19	48	37	26	11	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

NEAR PUMP HOUSE COLONY: UUA04					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	104	69	20	11	17
19-07-19	84	68	36	14	19
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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**FUGITIVE DUST MONITORING DATA**

<b>CHP: UUOF1</b>			
DATE OF SAMPLING	PARAMETERS		
	SPM*	PM10	PM <sub>2.5</sub>
DETECTION LIMIT	5	5	2
05-07-19	142	57	42

<b>WEIGHT BRIDGE: UUOF2</b>			
DATE OF SAMPLING	PARAMETERS		
	SPM*	PM10	PM <sub>2.5</sub>
DETECTION LIMIT	5	5	2
05-07-19	142	80	38

<b>RLY. SIDING: UUOF3</b>			
DATE OF SAMPLING	PARAMETERS		
	SPM*	PM10	PM <sub>2.5</sub>
DETECTION LIMIT	5	5	2
18-07-19	215	171	32

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W11	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	UMRER AREA	YEAR	2019
NAME OF PROJECT	UMRER OC	MONTH	JULY

MINE WATER DISCHARGE: UUOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
04-07-19	7.6	68	42	<2
17-07-19	6.9	36	22	<2
TLV	5.5 - 9.0	250	100	10


ETP DISCHARGE: UUOW2				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
04-07-19	6.8	60	36	<2
17-07-19	7.1	56	32	<2
TLV	5.5 - 9.0	250	100	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW11	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	UMRER AREA	YEAR	2019
NAME OF PROJECT	UMRER OC	MONTH	JULY
DATE OF SAMPLING	19-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	1	1	5
4	pH Value	IS 3025 Part-11	2	7.2	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	164	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	44	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.02	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.15	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	272	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	41.6	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	15	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	35.5	200	400

ENV. MONITORING REPORT  
UMRER OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	1.59	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	152	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: UMRER AREA  
NAME OF PROJECT: UMRER OC

YEAR: 2019  
MONTH: JULY

CHP: UUON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	02-07-19	67.2	66.5
JULY 2019	18-07-19	61.5	60.4
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: UUON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	02-07-19	43.5	42.1
JULY 2019	18-07-19	44.2	43.4
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# GHUGUS OC

WANI AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
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## INTRODUCTION

Ghugus Opencast Project is located in Chandrapur district of Maharashtra State. It is administered by Wani Area of Western Coalfields Limited. Wardha river and its tributaries serve as the main drainage of the area. The climate of this area is tropical. The above-mentioned industries and the busy road traffic are also expected to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	ACC PATCH NEAR ACC COLONY:	WGOA1
2	SAM OFFICE:	WGOA2
3	RAM NAGAR COLONY :	WGOA3
4	GHUGUS VILLAGE (GP OFFICE):	WGOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	WGOF1
2	RAILWAY SIDING:	WGOF2

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	WGON1
2	COLONY:	WGON2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A38	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	WANI AREA	YEAR	2019
NAME OF PROJECT	GHUGUS OC	MONTH	JULY

<b>ACC PATCH NEAR ACC COLONY: WGOA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	51	44	22	21	14
27-07-19	119	56	34	21	13
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SAM OFFICE: WGOA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	67	49	25	20	11
26-07-19	459	159	40	23	20
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>RAM NAGAR COLONY : WGOA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	80	57	27	21	17
26-07-19	176	69	24	22	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>GHUGUS VILLAGE (GP OFFICE): WGOA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	68	59	35	17	11
26-07-19	301	134	69	21	19
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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**FUGITIVE DUST MONITORING DATA**

<b>CHP: WGO1</b>			
<b>DATE OF SAMPLING</b>	<b>PARAMETERS</b>		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
<b>DETECTION LIMIT</b>	5	5	2
27-07-19	144	85	52


<b>RAILWAY SIDING: WGO2</b>			
<b>DATE OF SAMPLING</b>	<b>PARAMETERS</b>		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
<b>DETECTION LIMIT</b>	5	5	2
27-07-19	130	63	16

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW38	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	WANI AREA	YEAR	2019
NAME OF PROJECT	GHUGUS OC	MONTH	JULY
DATE OF SAMPLING	25-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	1	1	5
4	pH Value	IS 3025 Part-11	2	8.1	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	240	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.071	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	64	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.02	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.93	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	536	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	59	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	22	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	166	200	400

ENV. MONITORING REPORT  
GHUGUS OC


16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	20	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	128	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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| 3 | * Test parameter not under NABL scope.   |

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW38	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	WANI AREA	YEAR	2019
NAME OF PROJECT	GHUGUS OC	MONTH	JULY
DATE OF SAMPLING	25-07-19		

NAME OF LOCATION: DRINKING WATER FROM TRANSIT HOSTEL						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	7.9	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	232	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.17	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	52	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.03	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.61	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	562	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	61	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	20	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	178	200	400

ENV. MONITORING REPORT  
GHUGUS OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	22	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	116	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: WANI AREA  
NAME OF PROJECT: GHUGUS OC

YEAR: 2019  
MONTH: JULY

CHP: WGON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	65.6	65.4
JULY 2019	25-07-19	66.5	65.8
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: WGON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	44.5	42.9
JULY 2019	25-07-19	44.7	43.5
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# KOLGAON OC

WANI AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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4	NOISE LEVEL DATA	6

## INTRODUCTION

Kolgaon Opencast Project is located in Wani Tahsil of Yeotmal district of Maharashtra State. It is administered by Wani Area of Western Coalfields Limited. Drainage of the area is controlled by Wardha river in North and Penganga river in South. The climate of this area is tropical. Besides other coal mines, ACC Cement Factory and Sindhale Limestone mines are the major industries nearby the project area. The above mentioned industries and the heavy road traffic are also expected to contribute in increasing the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE:	WKOA1
2	SAM OFFICE:	WKOA2
3	KOLGAON VILLAGE :	WKOA3
4	KAILSHNAGAR TOWNSHIP - FILTER PLANT:	WKOA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	WKOW1

#### Noise Level Monitoring location :

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE:	WKON1
2	COLONY (MUGOLI):	WKON2


#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.



<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A39	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	WANI AREA	YEAR	2019
NAME OF PROJECT	KOLGAON OC	MONTH	JULY

MANAGER OFFICE: WKOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	103	53	23	23	16
28-07-19	131	61	30	20	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SAM OFFICE: WKOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	67	49	25	20	11
26-07-19	459	159	40	23	20
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

KOLGAON VILLAGE : WKOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	111	91	33	21	16
29-07-19	195	72	31	19	13
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

KAILSHNAGAR TOWNSHIP - FILTER PLANT: WKOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	104	80	47	19	10
30-07-19	165	93	24	17	10
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W39	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	WANI AREA	YEAR	2019
NAME OF PROJECT	KOLGAON OC	MONTH	JULY

<b>MINE WATER DISCHARGE: WKOW1</b>				
<b>DATE OF SAMPLE COLLECTION</b>	<b>ANALYSIS RESULTS</b>			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
08-07-19	8	36	38	<2
28-07-19	8.2	28	30	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

**NAME OF AREA: WANI AREA**  
**NAME OF PROJECT: KOLGAON OC**

**YEAR: 2019**  
**MONTH: JULY**

MANAGER OFFICE: WKON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	10-07-19	56.6	55.8
JULY 2019	26-07-19	54.3	53.8
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY (MUGOLI): WKON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	42.9	41.9
JULY 2019	26-07-19	42.6	41.9
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# MUGOLI OC

WANI AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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## **INTRODUCTION**

Mugoli Opencast Project is located in Wani Tahsil of Yeotmal district of Maharashtra State. It is administered by Wani Area of Western Coalfields Limited. Drainage of the area is controlled by Wardha river in North and Penganga river in South. The climate of this area is tropical. The above mentioned industries and the busy road traffic are also expected to contribute in increasing the pollution load of the area.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SUB - STATION:	WMOA1
2	SAM OFFICE:	WMOA2
3	KAILSHNAGAR TOWNSHIP FILTER PLANT :	WMOA3
4	TUBEWELL NEAR SAKHARA VILLAGE:	WMOA4

#### **Fugitive Dust Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SECURITY CHECK POST OFFICE:	WMOF1

#### **Water Quality Monitoring location:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	WMOW1
2	ETP DISCHARFE	WMOW2

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	WMON1
2	COLONY:	WMON2

#### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A36	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	WANI AREA	YEAR	2019
NAME OF PROJECT	MUGOLI OC	MONTH	JULY

<b>SUB - STATION: WMOA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	188	149	53	23	16
29-07-19	111	61	19	20	15
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SAM OFFICE: WMOA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	159	73	33	21	13
30-07-19	129	78	19	20	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>KAILSHNAGAR TOWNSHIP FILTER PLANT : WMOA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	104	80	47	19	10
30-07-19	165	93	24	17	10
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>TUBEWELL NEAR SAKHARA VILLAGE: WMOA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	241	112	33	22	17
30-07-19	132	62	30	21	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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**FUGITIVE DUST MONITORING DATA**

<b>SECURITY CHECK POST OFFICE: WMOF1</b>			
<b>DATE OF SAMPLING</b>	<b>PARAMETERS</b>		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
<b>DETECTION LIMIT</b>	5	5	2
<b>30-07-19</b>	181	113	72

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W36	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	WANI AREA	YEAR	2019
NAME OF PROJECT	MUGOLI OC	MONTH	JULY


<b>MINE WATER DISCHARGE: WMOW1</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
09-07-19	7.4	48	52	<2
29-07-19	6.8	68	72	<2
TLV	5.5 - 9.0	100	250	10

<b>ETP DISCHARGE WMOW2</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
09-07-19	8.1	44	40	<2
29-07-19	7.8	32	26	<2
TLV	5.5 - 9.0	100	250	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW36	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	WANI AREA	YEAR	2019
NAME OF PROJECT	MUGOLI OC	MONTH	JULY
DATE OF SAMPLING	29-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT

SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	1	1	5
4	pH Value	IS 3025 Part-11	2	8.3	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	284	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	58	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.04	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.75	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	624	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	75	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	23	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	182	200	400

ENV. MONITORING REPORT  
MUGOLI OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	29	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	112	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: WANI AREA  
NAME OF PROJECT: MUGOLI OC

YEAR: 2019  
MONTH: JULY

CHP: WMON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	65.9	64.9
JULY 2019	26-07-19	65.8	64.8
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: WMON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	42.9	41.9
JULY 2019	26-07-19	42.6	41.9
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# NAIGAON OC

WANI AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

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JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

Bellora-Naigaon Opencast Project is located in Wani Tahsil of Yeotmal district of Maharashtra State. It is administered by Wani Area of Western Coalfields Limited. Drainage of the area is controlled by Wardha River in North and Penganga River in South. The climate of this area is tropical. The above-mentioned industries and busy road traffic are also expected to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE:	WNGOA1
2	WORKSHOP ETP NOCM - I:	WNGOA2
3	BELLORA REHABILITATION VILLAGE:	WNGOA3
4	FILTER PLANT NEAR VIP GUEST HOUSE:	WNGOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	WEIGHT BRIDGE:	WNGOF1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	WNGON1
2	COLONY (GHUGUS):	WNGON3

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A37	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	WANI AREA	YEAR	2019
NAME OF PROJECT	NAIGAON OC	MONTH	JULY

<b>SAM OFFICE: WNGO1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	86	67	17	20	11
25-07-19	253	196	35	23	19
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>WORKSHOP ETP NOCM - I: WNGO2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	139	84	20	21	14
18-07-19	136	58	34	20	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>BELLORA REHABILITATION VILLAGE: WNGO3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	86	51	23	23	19
26-07-19	145	86	45	21	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>FILTER PLANT NEAR VIP GUEST HOUSE: WNGO4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	59	25	19	22	17
27-07-19	126	62	26	22	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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**FUGITIVE DUST MONITORING DATA**

<b>WEIGHT BRIDGE: WNGOF1</b>			
<b>DATE OF SAMPLING</b>	<b>PARAMETERS</b>		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
<b>DETECTION LIMIT</b>	5	5	2
25-07-19	1082	586	53

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## NOISE LEVEL DATA

NAME OF AREA: WANI AREA  
NAME OF PROJECT: NAIGAON OC

YEAR: 2019  
MONTH: JULY

CHP: WNGON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	64.9	63.9
JULY 2019	25-07-19	64.8	63.9
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY (GHUGUS): WNGON3			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	44.5	42.9
JULY 2019	25-07-19	44.7	43.5
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# NILJAI DEEP OC

WANI AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

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## INTRODUCTION

Niljai opencast project is administered by Wani Area of Western Coalfields Limited. It falls in Wani Tahsil of Yeotmal district of Maharashtra state. Wardha River serves as the main drainage during rainy season. The climate of this area is tropical. The industries like Cement Plant, Lloyed Steel, and Brick Kiln are also likely to contribute in increasing the pollution in nearby villages/colony

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CIVIL OFFICE- NILJAI:	WNOA1
2	WORKSHOP ETP NOCM:	WNOA2
3	NILJAI COLONY:	WNOA3
4	TARODA VILLAGE:	WNOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	WNOF1
2	WEIGHT BRIDGE:	WNOF2

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	WNOW1
2	ETP (NILJAI-S) TREATED WATER:	WNOW2
3	ETP(DOMESTIC EFFLUENT) - TREATED WATER	WNOW3

#### Noise Level Monitoring location :

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	WNON1
2	CHP (S):	WNON2
3	COLONY:	WNON3

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A35	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	WANI AREA	YEAR	2019
NAME OF PROJECT	NILJAI DEEP OC	MONTH	JULY

<b>CIVIL OFFICE- NILJAI: WNOA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	86	51	36	21	11
25-07-19	528	406	57	21	12
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>WORKSHOP ETP NOCM: WNOA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	139	84	20	21	14
18-07-19	136	58	34	20	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>NILJAI COLONY: WNOA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	105	88	48	17	10
18-07-19	146	83	39	21	10
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>TARODA VILLAGE: WNOA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	100	66	36	21	16
18-07-19	207	124	27	21	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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**FUGITIVE DUST MONITORING DATA**

<b>CHP: WNOF1</b>			
DATE OF SAMPLING	PARAMETERS		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
DETECTION LIMIT	5	5	2
18-07-19	470	325	21

<b>WEIGHT BRIDGE: WNOF2</b>			
DATE OF SAMPLING	PARAMETERS		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
DETECTION LIMIT	5	5	2
25-07-19	773	341	85

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W35	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	WANI AREA	YEAR	2019
NAME OF PROJECT	NILJAI DEEP OC	MONTH	JULY

<b>MINE WATER DISCHARGE: WNOW1</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
03-07-19	7.8	28	30	<2
17-07-19	7.6	36	38	<2
TLV	5.5 - 9.0	250	100	10

<b>ETP (NILJAI-S) TREATED WATER: WNOW2</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
04-07-19	8.2	56	50	<2
17-07-19	7.9	44	40	<2
TLV	5.5 - 9.0	250	100	10

<b>P(DOMESTIC EFFLUENT) - TREATED WATER: WNOW3</b>		
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS	
	TSS	BOD
DETECTION LIMIT	10	2
03-07-19	62	14
17-07-19	36	10
TLV	100	30

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW35	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	WANI AREA	YEAR	2019
NAME OF PROJECT	NILJAI DEEP OC	MONTH	JULY
DATE OF SAMPLING	18-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	8	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	200	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.068	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	44	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.02	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.74	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	478	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	53	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	17	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	160	200	400

ENV. MONITORING REPORT  
NILJAI DEEP OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	12	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	148	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

**NAME OF AREA: WANI AREA**  
**NAME OF PROJECT: NILJAI DEEP OC**

**YEAR: 2019**  
**MONTH: JULY**

CHP: WNON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	62.9	65.9
JULY 2019	25-07-19	63.8	64.5
<b>TLV</b>		<b>75</b>	<b>70</b>

CHP (S): WNON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	63.9	63.2
JULY 2019	25-07-19	64.7	63.9
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: WNON3			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	04-07-19	44.5	43.8
JULY 2019	25-07-19	44.7	43.5
<b>TLV</b>		<b>55</b>	<b>45</b>



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## ENVIRONMENTAL MONITORING REPORT

# PENGANGA OC

WANI AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

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## INTRODUCTION

Penganga Opencast Project is located in Wani Tahsil of Yeotmal district of Maharashtra State. It is administered by Wani Area of Western Coalfields Limited. Drainage of the area is controlled by Wardhariver and Penganga river. The climate of this area is tropical. The above mentioned industries and the busy road traffic are also expected to contribute in increasing the pollution load of the area.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE:	WPOA1
2	NEAR MINE:	WPOA2
3	VIRUR VILLAGE :	WPOA3
4	GADEGAON VILLAGE:	WPOA4

#### **Fugitive Dust Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR WORKSHOP:	WPOF1

#### **Water Quality Monitoring location:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	WPOW1

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR WORKSHOP:	WPON1

### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A40	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	WANI AREA	YEAR	2019
NAME OF PROJECT	PENGANGA OC	MONTH	JULY

MANAGER OFFICE: WPOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	75	54	42	21	13
28-07-19	187	97	53	18	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

NEAR MINE: WPOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	62	45	37	22	14
28-07-19	109	50	38	21	21
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

VIRUR VILLAGE : WPOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	79	48	26	18	10
28-07-19	251	56	34	22	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

GADEGAON VILLAGE: WPOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	104	78	25	23	17
29-07-19	124	64	59	17	11
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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**FUGITIVE DUST MONITORING DATA**

<b>NEAR WORKSHOP: WPOF1</b>			
<b>DATE OF SAMPLING</b>	<b>PARAMETERS</b>		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
<b>DETECTION LIMIT</b>	5	5	2
<b>29-07-19</b>	107	60	35

SCIENTIFIC ASSISTANT

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| 3 | * Test parameter not under NABL scope.   |

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 TC-7102
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TSET REPORT NO.	RIN/TR/JULY-19/W40	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	WANI AREA	YEAR	2019
NAME OF PROJECT	PENGANGA OC	MONTH	JULY

MINE WATER DISCHARGE: WPOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
07-07-19	7.3	28	30	<2
27-07-19	6.9	56	64	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

NAME OF AREA: WANI AREA                      YEAR: 2019  
NAME OF PROJECT: PENGANGA OC              MONTH: JULY

NEAR WORKSHOP: WPON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	56.6	55.8
JULY 2019	26-07-19	54.9	55.9
TLV		75	

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## ENVIRONMENTAL MONITORING REPORT

# GHONSA OC

WANI NORTH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

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## INTRODUCTION

Ghonsa Open Cast Project is located in Wani Tahsil of Yeotmal district of Maharashtra State. It is administered by Wani North Area of Western Coalfields Limited. Vidarbha river serves as the main drainage of the area during rainy season. The climate of this area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE:	WNGOA1
2	SAM OFFICE/ CANTEEN:	WNGOA2
3	GHONSA VILLAGE:	WNGOA3
4	GUEST HOUSE/ COLONY:	WNGOA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	WNGOW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE:	WNGON1

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A55	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	WANI NORTH AREA	YEAR	2019
NAME OF PROJECT	GHONSA OC	MONTH	JULY

MANAGER OFFICE: WNGO1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	80	45	25	20	17
23-07-19	125	71	19	12	14
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SAM OFFICE/ CANTEEN: WNGO2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	122	114	58	22	20
23-07-19	183	66	48	21	25
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

GHONSA VILLAGE: WNGO3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	97	63	35	19	13
23-07-19	53	42	30	14	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

GUEST HOUSE/ COLONY: WNGO4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	127	84	30	16	23
23-07-19	143	59	51	20	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JUNE-19/W55	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	WANI NORTH AREA	YEAR	2019
NAME OF PROJECT	GHONSA OC	MONTH	JULY

MINE WATER DISCHARGE: WNGOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
11-07-19	7.3	36	22	<2
22-07-19	7.2	84	66	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

NAME OF AREA: WANI NORTH AREA      YEAR: 2019  
NAME OF PROJECT: GHONSA OC      MONTH: JULY

MANAGER OFFICE: WNGON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	09/07019	55.6	53.4
JULY 2019	22-07-19	56.5	55.9
TLV		75	70

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## ENVIRONMENTAL MONITORING REPORT

# JUNAD OC

WANI NORTH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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## INTRODUCTION

Junad Opencast Project is located in Wani Tahsil of Yeotmal district of Maharashtra State. It is administered by Wani North Area of Western Coalfields Limited. The drainage of the area is controlled by Wardha river. The climate of this area is tropical. The above-mentioned industries are also expected to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE:	WNJOA1
2	BORGAON VILLAGE:	WNJOA2
3	BHALAR TOWNSHIP:	WNJOA3
4	UKNI VILLAGE:	WNJOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SECURITY POST:	WNJOF1

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	WNJOW1
2	ETP (TREATED):	WNJOW2

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE:	WNJON1
2	BHALAR COLONY:	WNJON2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A53	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	WANI NORTH AREA	YEAR	2019
NAME OF PROJECT	JUNAD OC	MONTH	JULY

SAM OFFICE: WNJOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	90	71	22	22	13
20-07-19	98	49	32	18	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

BORGAON VILLAGE: WNJOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	93	65	32	28	10
19-07-19	53	37	26	18	19
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

BHALAR TOWNSHIP: WNJOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	131	115	36	21	19
18-07-19	74	62	39	24	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

UKNI VILLAGE: WNJOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	129	62	45	28	10
19-07-19	100	70	25	22	20
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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TSET REPORT NO.	RIN/TR/JULY-19/W53	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	WANI NORTH AREA	YEAR	2019
NAME OF PROJECT	JUNAD OC	MONTH	JULY

<b>MINE WATER DISCHARGE: WNJOW1</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
05-07-19	7	24	20	<2
19-07-19	7.2	28	26	<2
TLV	5.5 - 9.0	250	100	10

<b>ETP (TREATED): WNJOW2</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
05-07-19	6.8	32	24	<2
19-07-19	7.3	36	30	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

NAME OF AREA: WANI NORTH AREA  
NAME OF PROJECT: JUNAD OC

YEAR: 2019  
MONTH: JULY

MANAGER OFFICE: WNJON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	55.7	54.9
JULY 2019	19-07-19	55.8	54.7
<b>TLV</b>		<b>75</b>	<b>70</b>

BHALAR COLONY: WNJON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	43.5	42.9
JULY 2019	19-07-19	44.6	43.8
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# KOLARPIMPRI OC

WANI NORTH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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## INTRODUCTION

Kolar-Pimpri Opencast Project is located on the right bank of Wardha river in Wani Tahsil of Yeotmal district of Maharashtra State. It is administered by Wani North Area of Western Coalfields Limited. Wardha river serves as the main drainage of the area. The climate of this area is tropical. The above-mentioned industries are also expected to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SUBSTATION KOLARPIMPRI:	WNKOA1
2	REST SHELTER:	WNKOA2
3	PIMPRI VILLAGE:	WNKOA3
4	WATER FILTER PLANT PRAGATI NAGAR:	WNKOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	WEIGHT BRIDGE:	WNKOF1
2	CHP:	WNKOF2
3	WANI.RLY. SIDING	WNKOF3

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	WNKOW1
2	ETP (TREATED):	WNKOW2

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	WNKON1
2	COLONY PRAGATI NAGAR:	WNKON2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A50	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	WANI NORTH AREA	YEAR	2019
NAME OF PROJECT	KOLARPIMPRI OC	MONTH	JULY

SUBSTATION KOLARPIMPRI: WNKO1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	83	76	22	17	18
22-07-19	78	64	33	19	25
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

REST SHELTER: WNKO2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	69	50	35	26	11
22-07-19	106	70	45	22	22
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

PIMPRI VILLAGE: WNKO3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	102	73	45	22	13
21-07-19	126	43	26	20	18
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

WATER FILTER PLANT PRAGATI NAGAR: WNKO4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	86	52	27	25	20
20-07-19	125	60	31	21	22
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W50	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	WANI NORTH AREA	YEAR	2019
NAME OF PROJECT	KOLARPIMPRI OC	MONTH	JULY

<b>MINE WATER DISCHARGE: WNKOW1</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
00-01-00	6.6	28	20	<2
21-07-19	7.1	116	84	<2
TLV	5.5 - 9.0	100	250	10

<b>ETP (TREATED): WNKOW2</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
10-07-19	7.4	36	24	<2
21-07-19	7.3	24	18	<2
TLV	5.5 - 9.0	100	250	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW50	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	WANI NORTH AREA	YEAR	2019
NAME OF PROJECT	KOLARPIMPRI OC	MONTH	JULY
DATE OF SAMPLING	19-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT (PRAGATI NAGAR)						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	4	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	1	1	5
4	pH Value	IS 3025 Part-11	2	7.6	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	128	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	28	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	BDL	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.56	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	250	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	38	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	9	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	42	200	400

ENV. MONITORING REPORT  
KOLARPIMPRI OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	10	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	128	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
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## NOISE LEVEL DATA

NAME OF AREA: WANI NORTH AREA      YEAR: 2019  
NAME OF PROJECT: KOLARPIMPRI OC      MONTH: JULY

CHP: WNKON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	09-07-19	61.2	60
JULY 2019	19-07-19	64.5	63.7
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY PRAGATI NAGAR: WNKON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	44.6	43.8
JULY 2019	19-07-19	43.8	42.9
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# KUMBHARKHANI UG

WANI NORTH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

Junad Opencast Project is located in Wani Tahsil of Yeotmal district of Maharashtra State. It is administered by Wani North Area of Western Coalfields Limited. The drainage of the area is controlled by Wardha river. The climate of this area is tropical. The above-mentioned industries are also expected to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	PROJECT MANAGER OFFICE:	WNKUA1
2	SAM OFFICE/ CANTEEN:	WNKUA2
3	GUEST HOUSE / COLONY:	WNKUA3
4	GHONSA VILLAGE:	WNKUA4

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	WNKUN1
2	COLONY:	WNKUN2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A54	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	WANI NORTH AREA	YEAR	2019
NAME OF PROJECT	KUMBHARKHANI UG	MONTH	JULY

PROJECT MANAGER OFFICE: WNKUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	78	50	36	21	16
22-07-19	73	40	32	18	19
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SAM OFFICE/ CANTEEN: WNKUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	122	114	58	22	20
23-07-19	183	66	48	21	25
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

GUEST HOUSE / COLONY: WNKUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	127	84	30	16	23
23-07-19	143	59	51	20	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

GHONSA VILLAGE: WNKUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	97	63	35	19	13
23-07-19	53	42	30	14	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
AUTHORIZED SIGNATORY

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## NOISE LEVEL DATA

NAME OF AREA: WANI NORTH AREA      YEAR: 2019  
NAME OF PROJECT: KUMBHARKHANI UG      MONTH: JULY

FAN HOUSE: WNKUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	09-07-19	43.6	42.2
JULY 2019	22/07/019	47.5	46.8
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: WNKUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	09-07-19	42.6	41.4
JULY 2019	22-07-19	42.9	41.8
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# PIMPALGAON OC

WANI NORTH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
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## **INTRODUCTION**

Pimpalgaon Opencast Project is located in Wani Tahsil of Yeotmal district of Maharashtra State. It is administered by Wani North Area of Western Coalfields Limited. Wardha river which flows from North to west acts as the main drainage of the area and is about 2.5 km to 3 km from Pimpalgaon. The climate of this area is tropical. The above-mentioned industries are also expected to contribute in increasing the pollution load of the area.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE:	WNPOA1
2	WORKSHOP:	WNPOA2
3	WATER FILTER PLANT PRAGATI NAGAR:	WNPOA3
4	BORGAON VILLAGE:	WNPOA4

#### **Fugitive Dust Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	WEIGHT BRIDGE:	WNPOF1
2	CHP:	WNPOF2

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	WNPON1
2	COLONY PRAGATI NAGAR:	WNPON2

### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A51	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	WANI NORTH AREA	YEAR	2019
NAME OF PROJECT	PIMPALGAON OC	MONTH	JULY

SAM OFFICE: WNPOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	65	50	32	25	28
20-07-19	147	67	47	19	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

WORKSHOP: WNPOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	77	48	27	22	24
20-07-19	62	30	21	20	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

WATER FILTER PLANT PRAGATI NAGAR: WNPOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	86	52	27	25	20
20-07-19	125	60	31	21	22
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

BORGAON VILLAGE: WNPOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	93	65	32	28	10
19-07-19	53	37	26	18	19
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
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## NOISE LEVEL DATA

NAME OF AREA: WANI NORTH AREA                      YEAR: 2019  
NAME OF PROJECT: PIMPALGAON OC                      MONTH: JULY

CHP: WNPN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	65.8	64.9
JULY 2019	19-07-19	64.5	63.1
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY PRAGATI NAGAR: WNPN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	44.6	43.8
JULY 2019	19-07-19	43.8	42.9
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# RAJUR UG

WANI NORTH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

## CMPDI

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## INTRODUCTION

Rajur Underground Project is located in Wani Tahsil of Yeotmal district of Maharashtra State. It is administered by Wani North Area of Western Coalfields Limited. Wardha river serves as the main drainage of the area. The climate of this area is tropical. Besides other coal mines, there are a lot of lime kiln and fire bricks industries near the project area. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution. The above-mentioned industries are also expected to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR BANDEWADA INCLINE:	WNRUA1
2	SAM OFFICE:	WNRUA2
3	PIT OFFICE/ COLONY:	WNRUA3
4	HUTMENT:	WNRUA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	WNRUW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	WNRUN1
2	COLONY:	WNRUN2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A52	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	WANI NORTH AREA	YEAR	2019
NAME OF PROJECT	RAJUR UG	MONTH	JULY

NEAR BANDEWADA INCLINE: WNRUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	66	58	30	22	22
24-07-19	86	46	30	22	22
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SAM OFFICE: WNRUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	58	48	34	21	21
24-07-19	60	42	27	20	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

PIT OFFICE/ COLONY: WNRUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	83	69	45	22	11
24-07-19	46	33	19	15	15
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

HUTMENT: WNRUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	63	51	31	21	18
27-07-19	71	35	20	20	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W52	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	WANI NORTH AREA	YEAR	2019
NAME OF PROJECT	RAJUR UG	MONTH	JULY

MINE WATER DISCHARGE: WNRUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
12-07-19	7.8	40	26	<2
23-07-19	7.6	44	28	<2
TLV	5.5 - 9.0	250	100	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW52	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	WANI NORTH AREA	YEAR	2019
NAME OF PROJECT	RAJUR UG	MONTH	JULY
DATE OF SAMPLING	23-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	3	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	1	1	5
4	pH Value	IS 3025 Part-11	2	7.5	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	326	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	100	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	BDL	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.76	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	680	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	88	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	23	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	88	200	400

ENV. MONITORING REPORT

RAJUR UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	18	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	224	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

SCIENTIFIC ASSISTANT

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AUTHORIZED SIGNATORY

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## NOISE LEVEL DATA

NAME OF AREA: WANI NORTH AREA  
NAME OF PROJECT: RAJUR UG

YEAR: 2019  
MONTH: JULY

FAN HOUSE: WNRUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	09-07-19	64.2	62.3
JULY 2019	22-07-19	68.9	67.9
TLV		75	70

COLONY: WNRUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	09-07-19	42.8	41.8
JULY 2019	22-07-19	43.8	42.9
TLV		55	45

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# ENVIRONMENTAL MONITORING REPORT

## UKNI OC

WANI NORTH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

### CMPDI

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## INTRODUCTION

Ukni Opencast Project is located in Wani Tahsil of Yeotmal district of Maharashtra State. It is administered by Wani North Area of Western Coalfields Limited. Wardha river serves as the main drainage of the area during rainy season. The climate of this area is tropical. The above-mentioned industries are also expected to contribute in increasing the pollution load of the area.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	WORKSHOP PREMISES:	WNUOA1
2	BHALAR TOWNSHIP:	WNUOA2
3	UKNI VILLAGE:	WNUOA3
4	PIMPRI VILLAGE:	WNUOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	WEIGHT BRIDGE:	WNUOF1
2	CHP:	WNUOF2

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	WNUOW1
2	ETP (TREATED):	WNUOW2
3	STP DISCHARGE:	WNUOW3

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	WNUON1
2	BHALAR COLONY:	WNUON2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A49	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	WANI NORTH AREA	YEAR	2019
NAME OF PROJECT	UKNI OC	MONTH	JULY

<b>WORKSHOP PREMISES: WNUOA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	95	67	39	25	24
19-07-19	85	70	40	23	22
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>BHALAR TOWNSHIP: WNUOA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	131	115	36	21	19
18-07-19	74	62	39	24	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>UKNI VILLAGE: WNUOA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	129	62	45	28	10
19-07-19	100	70	25	22	20
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>PIMPRI VILLAGE: WNUOA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	102	73	45	22	13
21-07-19	126	43	26	20	18
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JUNE-19/W49	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	WANI NORTH AREA	YEAR	2019
NAME OF PROJECT	UKNI OC	MONTH	JULY

MINE WATER DISCHARGE: WNUOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
04-07-19	6	72	66	<2
18-07-19	6.2	68	50	<2
TLV	5.5 - 9.0	250	100	10

ETP (TREATED): WNUOW2				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
04-07-19	7.1	24	18	<2
18-07-19	7.6	100	62	<2
TLV	5.5 - 9.0	250	100	10

STP DISCHARGE: WNUOW3		
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS	
	TSS	BOD
DETECTION LIMIT	10	2
04-07-19	54	16
18-07-19	48	14
TLV	100	30

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## NOISE LEVEL DATA

NAME OF AREA: WANI NORTH AREA  
NAME OF PROJECT: UKNI OC

YEAR: 2019  
MONTH: JULY

CHP: WNUON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	65.7	64.6
JULY 2019	19-07-19	65.5	64.9
<b>TLV</b>		<b>75</b>	<b>70</b>

BHALAR COLONY: WNUON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	43.5	42.9
JULY 2019	19-07-19	44.6	43.8
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# WANI RAILWAY SIDING

WANI NORTH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000003



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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## INTRODUCTION

Barkuhi OC is located in Chhindwara district of Madhya Pradesh. The project is administered by Pench Area of Western Coalfields Limited. Drainage of the area is mainly controlled by Penchrivier. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FARMHOUSE NEAR MSH6 :	WNRSA1
2	SHETHKARI DHANYA BAZAR :	WNRSA2
3	RES.HOUSE VITTALWADI WANI:	WNRSA3

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	WANI RAILWAY SIDING	WNRSF1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	COAL STOCK YARD:	WNRS1
2	NEAR INCHARGE OFFICE:	WNRS2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A56	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	WANI NORTH AREA	YEAR	2019
NAME OF PROJECT	WANI RAILWAY SIDING	MONTH	JULY

<b>FARMHOUSE NEAR MSH6 : WNRS1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	90	58	20	21	12
21-07-19	107	53	40	20	22
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SHETHKARI DHANYA BAZAR : WNRS2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	79	41	23	20	15
21-07-19	61	47	33	21	12
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>RES.HOUSE VITTALWADI WANI: WNRS3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	111	83	33	18	21
21-07-19	59	33	21	25	11
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW56	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	WANI NORTH AREA	YEAR	2019
NAME OF PROJECT	WANI RAILWAY SIDING	MONTH	JULY
DATE OF SAMPLING	26-07-19		

NAME OF LOCATION: DRINKING WATER FROM SITE INCHARGE OFFICE						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	1	1	5
4	pH Value	IS 3025 Part-11	2	7.5	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	264	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.062	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	80	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	BDL	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.74	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	550	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	84	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	12	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	66	200	400

ENV. MONITORING REPORT  
WANI RAILWAY SIDING

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	16	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	208	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

**NAME OF AREA: WANI NORTH AREA                      YEAR: 2019**  
**NAME OF PROJECT: WANI RAILWAY SIDING            MONTH: JULY**

COAL STOCK YARD: WNRS1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	44.6	43.5
JULY 2019	19-07-19	44.9	43.7
<b>TLV</b>		<b>75</b>	<b>70</b>

NEAR INCHARGE OFFICE: WNRS2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	56.8	54.9
JULY 2019	19-07-19	57.5	56.9
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# AMBARA OC

KANHAN AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

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## INTRODUCTION

Ambara OC Project is located in Chhindwara district of Madhya Pradesh. The project is administered by Kanhan Area of Western Coalfields Limited. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE :	KAOA1
2	PIT OFFICE- MOHAN:	KAOA2
3	COLONY- HEALTH CENTRE:	KAOA3
4	AMBARA VILLAGE:	KAOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	KAOF1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE:	KAON1
2	COLONY (MOHAN/MAORI):	KAON2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 TC-7102
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TSET REPORT NO.	RIN/TR/JULY-19/A74	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	AMBARA OC	MONTH	JULY

MANAGER OFFICE : KAOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	279	181	44	18	10
30-07-19	72	46	38	25	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

PIT OFFICE- MOHAN: KAOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	119	92	35	21	16
31-07-19	59	35	27	23	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

COLONY- HEALTH CENTRE: KAOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	60	26	21	19	16
30-07-19	61	41	30	22	20
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

AMBARA VILLAGE: KAOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	93	71	26	21	10
30-07-19	55	40	26	21	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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**FUGITIVE DUST MONITORING DATA**

<b>CHP: KAOF1</b>			
<b>DATE OF SAMPLING</b>	<b>PARAMETERS</b>		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
<b>DETECTION LIMIT</b>	5	5	2
<b>13-07-19</b>	205	164	50

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## NOISE LEVEL DATA

NAME OF AREA: KANHAN AREA  
NAME OF PROJECT: AMBARA OC

YEAR: 2019  
MONTH: JULY

MANAGER OFFICE: KAON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	12-07-19	50.1	45.2
JULY 2019	30-07-19	55.1	50.2
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY (MOHAN/MAORI): KAON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	12-07-19	43.3	39.8
JULY 2019	30-07-19	39.1	35.4
<b>TLV</b>		<b>55</b>	<b>45</b>

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# ENVIRONMENTAL MONITORING REPORT

## AMBARA UG

KANHAN AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019



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JARIPATKA, NAGPUR, PIN – 440 014

AN ISO 9001:2015 COMPANY



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## **INTRODUCTION**

Ambara UG is located in Chhindwara district of Madhya Pradesh. The project is administered by Kanhan Area of Western Coalfields Limited. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE- AMBARA :	KAUA1
2	PIT OFFICE- MOHAN:	KAUA2
3	COLONY- HEALTH CENTRE:	KAUA3
4	AMBARA VILLAGE:	KAUA4

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	COLONY( MOHAN/MAORI)	KAUN1

### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 TC-7102
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TSET REPORT NO.	RIN/TR/JULY-19/A72	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	AMBARA UG	MONTH	JULY

SAM OFFICE- AMBARA : KAUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	284	228	42	24	18
31-07-19	89	51	29	22	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

PIT OFFICE- MOHAN: KAUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	119	92	35	21	16
31-07-19	59	35	27	23	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

COLONY- HEALTH CENTRE: KAUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	60	26	21	19	16
30-07-19	61	41	30	22	20
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

AMBARA VILLAGE: KAUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	93	71	26	21	10
30-07-19	55	40	26	21	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
 AUTHORIZED SIGNATORY

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## NOISE LEVEL DATA

**NAME OF AREA: KANHAN AREA**  
**NAME OF PROJECT: AMBARA UG**

**YEAR: 2019**  
**MONTH: JULY**

COLONY( MOHAN/MAORI) KAUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	12-07-19	43.3	39.8
JULY 2019	30-07-19	39.1	35.4
<b>TLV</b>		<b>55</b>	<b>45</b>

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# ENVIRONMENTAL MONITORING REPORT

## AREA WORKSHOP

KANHAN AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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### **INTRODUCTION**

Area Workshop is located in Chhindwara district of Madhya Pradesh state. The project is administered by Kanhan Area of Western Coalfields Limite.The climate of the area is tropical Transportation roads, agricultural and local activities vehicular traffic etc also contributes to the pollution.

#### **Sampling Location:**

##### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	AREA WORKSHOP :	KAWA1

##### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	WORKSHOP PREMISES:	KAWN1

#### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A80	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	AREA WORKSHOP	MONTH	JULY

AREA WORKSHOP : KAWA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
13-07-19	117	92	33	13	12
31-07-19	52	44	30	24	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW80	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	AREA WORKSHOP	MONTH	JULY
DATE OF SAMPLING	28-07-19		

NAME OF LOCATION: DRINKING WATER FROM CANTEEN						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	1	1	5
4	pH Value	IS 3025 Part-11	2	7.4	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	28	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.1	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	8	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	BDL	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.09	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	50	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	11	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	1	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	6	200	400

ENV. MONITORING REPORT  
AREA WORKSHOP

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	1.19	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01		0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	24	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
AUTHORIZED SIGNATORY

- |   |  |
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## NOISE LEVEL DATA

**NAME OF AREA: KANHAN AREA**                      **YEAR: 2019**  
**NAME OF PROJECT: AREA WORKSHOP**              **MONTH: JULY**

WORKSHOP PREMISES: KAWN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	63.1	60.2
JULY 2019	30-07-19	59.3	55.7
<b>TLV</b>		<b>75</b>	<b>70</b>



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## ENVIRONMENTAL MONITORING REPORT

# DAMUA OC

KANHAN AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## **INTRODUCTION**

Damua OC Project is located in Chhindwara district of Madhya Pradesh. The project is administered by Kanhan Area of Western Coalfields Limited. Drainage of the area is mainly controlled by Kanhan river and Bhor nalla ( a tributary of Kanhan river).The climate of the area is tropical.Transportation roads, agricultural and local activities ,vehicular traffic etc also contributes to the pollution.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	OC OFFICE :	KDOA1
2	SAM OFFICE- DAMUA:	KDOA2
3	RESCUE STATION (NEAR INCLINE 24&25):	KDOA3
4	NANDORA VILLAGE:	KDOA4

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR MANAGER OFFICE:	KDON1

#### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A78	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	DAMUA OC	MONTH	JULY

OC OFFICE : KDOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	66	44	28	15	10
28-07-19	65	42	28	20	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SAM OFFICE- DAMUA: KDOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	115	74	36	23	10
28-07-19	81	61	27	23	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

RESCUE STATION (NEAR INCLINE 24&25): KDOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	141	74	29	15	16
28-07-19	64	38	23	17	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

NANDORA VILLAGE: KDOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	140	97	25	20	16
28-07-19	57	34	23	17	16
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
AUTHORIZED SIGNATORY

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## NOISE LEVEL DATA

NAME OF AREA: KANHAN AREA  
NAME OF PROJECT: DAMUA OC

YEAR: 2019  
MONTH: JULY

NEAR MANAGER OFFICE: KDON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	52.6	45.5
JULY 2019	27-07-19	46.9	43.3
TLV		75	70

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## ENVIRONMENTAL MONITORING REPORT

# DAMUA UG

KANHAN AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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## **INTRODUCTION**

Damua UG is located in Chhindwara district of Madhya Pradesh. The project is administered by Kanhan Area of Western Coalfields Limited. Drainage of the area is mainly controlled by Kanhan river and Bhor nalla ( a tributary of Kanhan river). The climate of the area is tropical. Transportation roads, agricultural and local activities ,vehicular traffic etc also contributes to the pollution.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE- DAMUA:	KDUA1
2	RESCUE STATION (NEAR INCLINE 24&25):	KDUA2
3	NANDORA VILLAGE:	KDUA3

#### **Noise Level Monitoring location :**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	COLONY:	KDUN1


#### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.



<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A77	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	DAMUA UG	MONTH	JULY

<b>SAM OFFICE- DAMUA: KDUA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	115	74	36	23	10
28-07-19	81	61	27	23	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>


<b>RESCUE STATION (NEAR INCLINE 24&amp;25): KDUA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	141	74	29	15	16
28-07-19	64	38	23	17	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>NANDORA VILLAGE: KDUA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	140	97	25	20	16
28-07-19	57	34	23	17	16
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW77	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	DAMUA UG	MONTH	JULY
DATE OF SAMPLING	28-07-19		

NAME OF LOCATION: DRINKING WATER FROM SAM OFFICE						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	20	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	15	1	5
4	pH Value	IS 3025 Part-11	2	6.9	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	500	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.097	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	50	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.02	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.8	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	680	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	158	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	25	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	86	200	400

ENV. MONITORING REPORT  
DAMUA UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	8.2	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	96	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

SCIENTIFIC ASSISTANT

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## NOISE LEVEL DATA

NAME OF AREA: KANHAN AREA  
NAME OF PROJECT: DAMUA UG

YEAR: 2019  
MONTH: JULY

COLONY: KDUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	38.7	35.2
JULY 2019	27-07-19	41.7	39.2
TLV		75	70

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## ENVIRONMENTAL MONITORING REPORT

# GHORAWARI OC

KANHAN AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

Ghorawadi OC Project is located in Chhindwara district of Madhya Pradesh state. The project is administered by Kanhan Area of Western Coalfields Limited. The climate of the area is tropical.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE-OC :	KGOA1
2	SAM - OFFICE GHORAWARI :	KGOA2
3	COLONY- HEALTH CENTRE JHARNA:	KGOA3
4	PANARA VILLAGE:	KGOA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	PALACHAURI:	KGOF1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE:	KGON1
2	COLONY (JHARNA UG)	KGON2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A76	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	GHORAWARI OC	MONTH	JULY

<b>MANAGER OFFICE-OC : KGOA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	115	90	32	22	21
30-07-19	51	37	23	23	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SAM - OFFICE GHORAWARI : KGOA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	112	70	26	21	16
29-07-19	79	39	28	19	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>COLONY- HEALTH CENTRE JHARNA: KGOA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	181	144	28	22	11
29-07-19	53	38	26	18	13
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>PANARA VILLAGE: KGOA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	52	39	24	19	16
29-07-19	58	29	19	12	16
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
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**FUGITIVE DUST MONITORING DATA**

<b>PALACHAURI: KGOF1</b>			
<b>DATE OF SAMPLING</b>	<b>PARAMETERS</b>		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
<b>DETECTION LIMIT</b>	5	5	2
<b>13-07-19</b>	<b>186</b>	<b>119</b>	<b>54</b>

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## NOISE LEVEL DATA

NAME OF AREA: KANHAN AREA  
NAME OF PROJECT: GHORAWARI OC

YEAR: 2019  
MONTH: JULY

MANAGER OFFICE: KGON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	12-07-19	50.5	43.1
JULY 2019	30-07-19	50.3	45.2
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY (JHARNA UG) KGON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	12-07-19	47.8	45.2
JULY 2019	30-07-19	38.2	35.9
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# JHARNA - UG

KANHAN AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

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## INTRODUCTION

Jharna / Ghorawadi UG Project is located in Chhindwara district of Madhya Pradesh state. The project is administered by Kanhan Area of Western Coalfields Limited. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE- JHARNA UG :	KJUA1
2	SAM OFFICE- GHORAWARI:	KJUA2
3	COLONY- HEALTH CENTRE JHARNA:	KJUA3
4	PANARA VILLAGE:	KJUA4

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	KJUN1
2	COLONY:	KJUN2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 TC-7102
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TSET REPORT NO.	RIN/TR/JULY-19/A75	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	JHARNA - UG	MONTH	JULY

MANAGER OFFICE- JHARNA UG : KJUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	57	39	22	17	16
29-07-19	75	33	18	14	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SAM OFFICE- GHORAWARI: KJUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	112	70	26	21	16
29-07-19	79	39	28	19	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

COLONY- HEALTH CENTRE JHARNA: KJUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	181	144	28	22	11
29-07-19	53	38	26	18	13
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

PANARA VILLAGE: KJUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	52	39	24	19	16
29-07-19	58	29	19	12	16
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 TC-7102
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TSET REPORT NO.	RIN/TR/JULY-19/DW75	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	JHARNA - UG	MONTH	JULY
DATE OF SAMPLING	27-07-19		

NAME OF LOCATION: DRINKING WATER FROM DISPENSARY						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	3	1	5
4	pH Value	IS 3025 Part-11	2	7.2	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	672	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.1	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	28	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.04	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.61	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	860	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	190	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	48	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	99	200	400

ENV. MONITORING REPORT  
 JHARNA/GHORAWARI UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	9.9	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	132	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 TC-7102
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TSET REPORT NO.	RIN/TR/JULY-19/DW75	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	JHARNA - UG	MONTH	JULY
DATE OF SAMPLING	27-07-19		

NAME OF LOCATION: DRINKING WATER FROM MANAGER OFFICE						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	7.4	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	640	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.12	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	26	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.03	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.7	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	830	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	187	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	42	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	92	200	400

ENV. MONITORING REPORT  
 JHARNA/GHORAWARI UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	7.22	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	144	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: KANHAN AREA  
NAME OF PROJECT: JHARNA - UG

YEAR: 2019  
MONTH: JULY

FAN HOUSE: KJUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	12-07-19	65.9	63.1
JULY 2019	30-07-19	62.1	60.2
TLV		75	70

COLONY: KJUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	12-07-19	47.8	45.2
JULY 2019	30-07-19	38.2	35.9
TLV		55	45

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## ENVIRONMENTAL MONITORING REPORT

# MOHAN/ MAORI UG

KANHAN AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

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## **INTRODUCTION**

Mohan / Maori UG is located in Chhindwara district of Madhya Pradesh. The project is administered by Kanhan Area of Western Coalfields Limited. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE- AMBARA :	KMUA1
2	PIT OFFICE- MOHAN:	KMUA2
3	COLONY- HEALTH CENTRE:	KMUA3
4	AMBARA VILLAGE:	KMUA4

#### **Water Quality Monitoring location:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE DISCHARGE:	KMUW1

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	KMUN1
2	COLONY:	KMUN2

#### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A73	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	MOHAN/ MAORI UG	MONTH	JULY

SAM OFFICE- AMBARA : KMUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	284	228	42	24	18
31-07-19	89	51	29	22	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

PIT OFFICE- MOHAN: KMUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	119	92	35	21	16
31-07-19	59	35	27	23	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

COLONY- HEALTH CENTRE: KMUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	60	26	21	19	16
30-07-19	61	41	30	22	20
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

AMBARA VILLAGE: KMUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	93	71	26	21	10
30-07-19	55	40	26	21	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
AUTHORIZED SIGNATORY

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W73	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	MOHAN/ MAORI UG	MONTH	JULY

MINE DISCHARGE: KMUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
10-07-19	3.2	32	46	<2
30-07-19	3.8	24	22	<2
TLV	5.5 - 9.0	100	250	10

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## NOISE LEVEL DATA

NAME OF AREA: KANHAN AREA                      YEAR: 2019  
NAME OF PROJECT: MOHAN/ MAORI UG              MONTH: JULY

FAN HOUSE: KMUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	12-07-19	63.7	39.8
JULY 2019	30-07-19	69.2	65.7
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: KMUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	12-07-19	43.3	39.8
JULY 2019	30-07-19	39.1	35.4
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# NANDAN UG

KANHAN AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
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## INTRODUCTION

Nandan UG Project is located in Chhindwara district of Madhya Pradesh state. The project is administered by Kanhan Area of Western Coalfields Limited. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE- NANDAN I UG:	KNUA1
2	PIT OFFICE- NANDAN II UG:	KNUA2
3	HEALTH CENTRE- NANDAN UG:	KNUA3
4	NANDAN WATER FILTER PLANT:	KNUA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE DISCHARGE:	KNUW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE UG II:	KNUN1
2	COLONY:	KNUN2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A71	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	NANDAN UG	MONTH	JULY

SAM OFFICE- NANDAN I UG: KNUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	136	87	37	17	16
27-07-19	65	48	34	24	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

PIT OFFICE- NANDAN II UG: KNUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	110	77	21	19	10
27-07-19	51	41	26	21	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

HEALTH CENTRE- NANDAN UG: KNUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	86	45	32	16	10
27-07-19	53	41	31	20	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

NANDAN WATER FILTER PLANT: KNUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	53	40	33	17	10
27-07-19	81	51	35	24	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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TSET REPORT NO.	RIN/TR/JULY-19/W71	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	NANDAN UG	MONTH	JULY

MINE DISCHARGE: KNUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
08-07-19	7.4	36	38	<2
26-07-19	7.2	36	26	<2
TLV	5.5 - 9.0	250	100	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW71	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	NANDAN UG	MONTH	JULY
DATE OF SAMPLING	27-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	18	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	12	1	5
4	pH Value	IS 3025 Part-11	2	7	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	488	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.1	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	40	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.03	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	1.15	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	680	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	157	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	23	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	72	200	400

ENV. MONITORING REPORT  
NANDAN UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	4.26	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	96	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: KANHAN AREA  
NAME OF PROJECT: NANDAN UG

YEAR: 2019  
MONTH: JULY

FAN HOUSE UG II: KNUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	62.4	60.1
JULY 2019	27-07-19	67.8	64.3
TLV		75	70

COLONY: KNUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	40.7	36.8
JULY 2019	27-07-19	40.2	37.7
TLV		55	45

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## ENVIRONMENTAL MONITORING REPORT

# NANDAN WASHERY

KANHAN AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

Nandan Washery is located in Chhindwara district of Madhya Pradesh state. The project is administered by Kanhan Area of Western Coalfields Limited. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SUBSTATION :	KNWA1
2	SAM OFFICE- NANDAN I UG:	KNWA2
3	COLONY-GUEST HOUSE:	KNWA3
4	NANDAN WATER FILTER PLANT:	KNWA4

#### Noise Level Monitoring location :

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	WASHERY:	KNWN1
2	COLONY:	KNWN2

#### Frequency of Monitoring:

- AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.
- WATER:** Water quality is monitored on fortnightly basis
- NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A70	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	NANDAN WASHERY	MONTH	JULY

SUBSTATION : KNWA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	153	62	20	16	8
26-07-19	68	50	30	23	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SAM OFFICE- NANDAN I UG: KNWA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	136	87	37	17	16
27-07-19	65	48	34	24	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>


COLONY-GUEST HOUSE: KNWA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	151	75	24	15	11
26-07-19	58	41	31	22	12
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

NANDAN WATER FILTER PLANT: KNWA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	53	40	33	17	10
27-07-19	81	51	35	24	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW70	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	NANDAN WASHERY	MONTH	JULY
DATE OF SAMPLING	27-07-19		

NAME OF LOCATION: DRINKING WATER FROM GUEST HOUSE						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	3	1	5
4	pH Value	IS 3025 Part-11	2	7.5	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	372	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.11	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	56	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.02	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.4	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	570	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	115	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	20	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	67	200	400

ENV. MONITORING REPORT  
NANDAN WASHERY

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	3.99	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	164	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

**NAME OF AREA: KANHAN AREA**                      **YEAR: 2019**  
**NAME OF PROJECT: NANDAN WASHERY**            **MONTH: JULY**

WASHERY: KNWN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	61.1	55.2
JULY 2019	27-07-19	60.2	55.1
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: KNWN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	41.1	35.2
JULY 2019	27-07-19	37.8	35.2
<b>TLV</b>		<b>55</b>	<b>45</b>



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## ENVIRONMENTAL MONITORING REPORT

# TANDSI UG

KANHAN AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

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## INTRODUCTION

Tandsi UG is located in Chhindwara district of Madhya Pradesh state. The project is administered by Kanhan Area of Western Coalfields Limited. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	WORKSHOP :	KTUA1
2	LAMP ROOM:	KTUA2
3	COLONY-NEAR HEALTH CENTRE:	KTUA3
4	JET HOSTEL:	KTUA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE DISCHARGE:	KTUW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	KTUN1
2	COLONY:	KTUN2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A79	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	TANDSI UG	MONTH	JULY

WORKSHOP : KTUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	68	39	24	19	16
25-07-19	63	45	25	23	20
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

LAMP ROOM: KTUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	78	55	28	21	16
25-07-19	87	77	26	19	13
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

COLONY-NEAR HEALTH CENTRE: KTUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	86	46	31	21	17
26-07-19	51	39	25	21	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

JET HOSTEL: KTUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	121	68	25	20	13
26-07-19	54	30	15	13	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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DEEPANSHU SAHU  
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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W79	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	TANDSI UG	MONTH	JULY

MINE DISCHARGE: KTUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
07-07-19	6.8	36	26	<2
24-07-19	7.3	32	28	<2
TLV	5.5 - 9.0	250	100	10

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TSET REPORT NO.	RIN/TR/JULY-19/DW79	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	TANDSI UG	MONTH	JULY
DATE OF SAMPLING	24-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	1	1	5
4	pH Value	IS 3025 Part-11	2	7.3	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	112	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.083	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	26	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	BDL	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.17	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	260	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	27	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	11	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	49	200	400

ENV. MONITORING REPORT  
TANDSI UG


16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	2.9	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	0.028	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	224	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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TSET REPORT NO.	RIN/TR/JULY-19/DW79	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	KANHAN AREA	YEAR	2019
NAME OF PROJECT	TANDSI UG	MONTH	JULY
DATE OF SAMPLING	24-07-19		

NAME OF LOCATION: DRINKING WATER FROM CANTEEN						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	7.2	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	100	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.11	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	24	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	BDL	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.66	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	260	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	19	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	13	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	42	200	400



ENV. MONITORING REPORT  
TANDSI UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	2.82	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	0.06	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	204	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: KANHAN AREA  
NAME OF PROJECT: TANDSI UG

YEAR: 2019  
MONTH: JULY

FAN HOUSE: KTUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	68.9	65.7
JULY 2019	27-07-19	65.8	63.1
TLV		75	70

COLONY: KTUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	53.2	47.6
JULY 2019	27-07-19	42.2	39.5
TLV		55	45

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## ENVIRONMENTAL MONITORING REPORT

# CHATTARPUR-I & II UG

PATHAKHERA AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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3	WATER QUALITY MONITORING DATA	5
4	NOISE LEVEL DATA	6

## INTRODUCTION

Chattarpur - I & II UG Project is located in Betul district of Madhya Pradesh. The project is administered by Pathekhera Area of Western Coalfields Limited. Drainage is mainly controlled by two / three drains, which drains into the Tawa river. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SUBSTATION- CHATTARPUR I UG:	PKCUA1
2	SAM OFFICE:	PKCUA2
3	SUBSTATION- CHATTARPUR II UG:	PKCUA3
4	CHATTARPUR VILLAGE:	PKCUA4

#### **Water Quality Monitoring location:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE DISCHARGE-I UG:	PKCUW1
2	MINE DISCHARGE-II UG:	PKCUW2

#### **Noise Level Monitoring location :**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE- I UG:	PKCUN1
2	FAN HOUSE- II UG:	PKCUN2
3	COLONY:	PKCUN3

#### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A81	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PATHAKHERA AREA	YEAR	2019
NAME OF PROJECT	CHATTARPUR-I & II UG	MONTH	JULY

<b>SUBSTATION- CHATTARPUR I UG: PKCUA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	119	72	33	16	28
21-07-19	97	48	16	11	13
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SAM OFFICE: PKCUA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	114	89	39	19	20
21-07-19	266	204	34	28	21
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SUBSTATION- CHATTARPUR II UG: PKCUA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	93	49	24	14	10
21-07-19	161	105	46	19	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>CHATTARPUR VILLAGE: PKCUA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	100	58	35	25	10
21-07-19	152	92	29	18	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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TSET REPORT NO.	RIN/TR/JULY-19/W81	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	PATHAKHERA AREA	YEAR	2019
NAME OF PROJECT	CHATTARPUR-I & II UG	MONTH	JULY

MINE DISCHARGE-I UG: PKCUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
03-07-19	7.9	36	22	<2
21-07-19	8.2	36	26	<2
TLV	5.5 - 9.0	100	250	10

MINE DISCHARGE-II UG: PKCUW2				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
03-07-19	8.3	32	22	<2
21-07-19	8.4	40	38	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

**NAME OF AREA: PATHAKHERA AREA                      YEAR: 2019**  
**NAME OF PROJECT: CHATTARPUR-I & II UG              MONTH: JULY**

FAN HOUSE- I UG: PKCUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	65.7	62.3
JULY 2019	21-07-19	67.3	64.3
<b>TLV</b>		<b>75</b>	<b>70</b>
FAN HOUSE- II UG: PKCUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	66.9	63.2
JULY 2019	21-07-19	68.1	65.2
<b>TLV</b>		<b>75</b>	<b>70</b>
COLONY: PKCUN3			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	39.2	35.2
JULY 2019	21-07-19	38.2	35.9
<b>TLV</b>		<b>55</b>	<b>45</b>



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## ENVIRONMENTAL MONITORING REPORT

# SARNI UG

PATHAKHERA AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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## INTRODUCTION

SarniUG Project is located in Betul district of Madhya Pradesh. The project is administered by Pathakhera Area of Western Coalfields Limited. The drainage of the area is mainly controlled by Tawariver. The climate of the area is tropical. Transportation roads, agricultural and local activities ,vehicular traffic etc also contributes to the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SUBSTATION SARNI UG:	PKSUA1
2	NEAR DY. CME OFFICE:	PKSUA2
3	GM OFFICE ENTRANCE GATE:	PKSUA3
4	PATHAKHERA COLONY:	PKSUA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	PKSUF1

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE DISCHARGE:	PKSUW1
2	NALA WATER:	PKSUW2

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	PKSUN1
2	COLONY:	PKSUN2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A83	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PATHAKHERA AREA	YEAR	2019
NAME OF PROJECT	SARNI UG	MONTH	JULY

SUBSTATION SARNI UG: PKSUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	150	103	35	20	16
22-07-19	100	44	31	19	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

NEAR DY. CME OFFICE: PKSUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	105	51	27	19	16
22-07-19	105	49	25	20	16
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

GM OFFICE ENTRANCE GATE: PKSUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
01-04-19	80	60	44	34	26
25-07-19	553	419	30	16	19
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

PATHAKHERA COLONY: PKSUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
04-07-19	126	82	32	26	21
22-07-19	133	69	41	28	21
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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**FUGITIVE DUST MONITORING DATA**

<b>CHP: PKSUF1</b>			
<b>DATE OF SAMPLING</b>	<b>PARAMETERS</b>		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
<b>DETECTION LIMIT</b>	5	5	2
<b>22-07-19</b>	111	53	39

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W83	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	PATHAKHERA AREA	YEAR	2019
NAME OF PROJECT	SARNI UG	MONTH	JULY

<b>MINE DISCHARGE: PKS UW1</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
04-07-19	8.6	32	30	<2
21-07-19	7.4	40	28	<2
TLV	5.5 - 9.0	100	250	10

<b>NALA WATER: PKS UW2</b>				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
22-07-19	6.9	36	44	<2
-	-	-	-	-
TLV	5.5 - 9.0	100	250	10

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## NOISE LEVEL DATA

NAME OF AREA: PATHAKHERA AREA  
NAME OF PROJECT: SARNI UG

YEAR: 2019  
MONTH: JULY

FAN HOUSE: PKSUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	03-07-19	67.7	62.8
JULY 2019	21-07-19	66.9	64.9
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: PKSUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	03-07-19	45.9	40.1
JULY 2019	21-07-19	37.3	35.7
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# SHOBHAPUR UG

PATHAKHERA AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
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## INTRODUCTION

Shobhapur UG Project is located in Betul district of Madhya Pradesh. The project is administered by Pathakheda Area of Western Coalfields Limited. The drainage of the area is mainly controlled by Tawa River. RET nalla is the most important drainage course running through the area flowing into Tawa river. A no. of small nalla and gullies connect RET nalla. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE:	PKSUA1
2	SUBSTATION:	PKSUA2
3	SHOBHAPUR VILLAGE:	PKSUA3
4	SHOBHAPUR COLONY:	PKSUA4

#### Fugitive Dust Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHP:	PKSUF1

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE DISCHARGE:	PKSUW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	PKSUN1
2	COLONY:	PKSUN2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A82	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PATHAKHERA AREA	YEAR	2019
NAME OF PROJECT	SHOBHAPUR UG	MONTH	JULY

SAM OFFICE: PKSUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	116	77	29	18	20
23-07-19	415	342	19	21	25
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SUBSTATION: PKSUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	118	72	40	15	11
24-07-19	591	500	42	29	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SHOBHAPUR VILLAGE: PKSUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	130	102	26	19	16
23-07-19	166	93	37	25	13
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SHOBHAPUR COLONY: PKSUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	133	66	30	21	16
23-07-19	111	87	33	15	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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**FUGITIVE DUST MONITORING DATA**

<b>CHP: PKSUF1</b>			
<b>DATE OF SAMPLING</b>	<b>PARAMETERS</b>		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
<b>DETECTION LIMIT</b>	5	5	2
24-07-19	513	432	24

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W82	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	PATHAKHERA AREA	YEAR	2019
NAME OF PROJECT	SHOBHAPUR UG	MONTH	JULY

MINE DISCHARGE: PKS UW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
04-07-19	8.4	48	32	<2
23-07-19	7.8	32	22	<2
TLV	5.5 - 9.0	250	100	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW82	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	PATHAKHERA AREA	YEAR	2019
NAME OF PROJECT	SHOBHAPUR UG	MONTH	JULY
DATE OF SAMPLING	24-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	3	1	5
4	pH Value	IS 3025 Part-11	2	7.2	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	100	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	42	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	BDL	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.79	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	180	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	29	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	7	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	16	200	400

ENV. MONITORING REPORT  
SHOBHAPUR UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	7	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	116	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: PATHAKHERA AREA      YEAR: 2019  
NAME OF PROJECT: SHOBHAPUR UG      MONTH: JULY

FAN HOUSE: PKSUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	67.1	64.4
JULY 2019	21-07-19	66.2	63.7
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: PKSUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	05-07-19	41.2	36
JULY 2019	21-07-19	40.7	35.6
<b>TLV</b>		<b>55</b>	<b>45</b>



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## ENVIRONMENTAL MONITORING REPORT

# TAWA II UG

PATHAKHERA AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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4	NOISE LEVEL DATA	8

## INTRODUCTION

Tawa UG Project is located in Betul district of Madhya Pradesh. The project is administered by Pathakhera Area of Western Coalfields Limited. The drainage of the area is mainly controlled by Tawa river. A number of seasonal nallahs also flow through the area. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE- TAWA II:	PKT2UA1
2	SAM OFFICE:	PKT2UA2
3	MPEB COLONY:	PKT2UA3
4	HIRA PALLA/BHAGIKHAAPA VILLAGE:	PKT2UA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE DISCHARGE:	PKTUW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	PKTUN1
2	COLONY:	PKTUN2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A85	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PATHAKHERA AREA	YEAR	2019
NAME OF PROJECT	TAWA II UG	MONTH	JULY

<b>MANAGER OFFICE- TAWA II: PKT2UA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	92	58	35	12	18
24-07-19	742	591	31	36	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SAM OFFICE: PKT2UA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	92	65	27	10	17
24-07-19	717	474	23	18	11
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>MPEB COLONY: PKT2UA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	60	43	21	11	22
25-07-19	395	287	34	25	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>HIRA PALLA/BHAGIKHAAPA VILLAGE: PKT2UA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	255	164	42	12	10
23-07-19	257	169	37	23	34
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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TSET REPORT NO.	RIN/TR/JULY-19/W85	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	PATHAKHERA AREA	YEAR	2019
NAME OF PROJECT	TAWA II UG	MONTH	JULY

MINE DISCHARGE: PKTUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
05-07-19	7.6	36	24	<2
22-07-19	7.9	36	34	<2
TLV	5.5 - 9.0	100	250	10

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TSET REPORT NO.	RIN/TR/JULY-19/DW85	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	PATHAKHERA AREA	YEAR	2019
NAME OF PROJECT	TAWA II UG	MONTH	JULY
DATE OF SAMPLING	22-07-19		

NAME OF LOCATION: DRINKING WATER FROM GUEST HOUSE						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	8.3	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	144	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.07	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	BDL	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.21	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	233	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	12	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	BDL	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	BDL	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	12	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	2	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	BDL	200	400

ENV. MONITORING REPORT

TAWA-II UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	BDL	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	112	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: PATHAKHERA AREA  
NAME OF PROJECT: TAWA II UG

YEAR: 2019  
MONTH: JULY

FAN HOUSE: PKTUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	03-07-19	64.2	61.7
JULY 2019	24-07-19	68.9	65.1
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: PKTUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	03-07-19	47.8	42.3
JULY 2019	24-07-19	40.9	37.1
<b>TLV</b>		<b>55</b>	<b>45</b>



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# ENVIRONMENTAL MONITORING REPORT

## TAWA UG

PATHAKHERA AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
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## INTRODUCTION

Tawa UG Project is located in Betul district of Madhya Pradesh. The project is administered by Pathakhera Area of Western Coalfields Limited. The drainage of the area is mainly controlled by Tawa river. A number of seasonal nallahs also flow through the area. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE:	PKTUA1
2	MANAGER OFFICE- TAWA II:	PKTUA2
3	MPEB COLONY:	PKTUA3
4	HIRA PALLA/BHAGIKHAAPA VILLAGE:	PKTUA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE DISCHARGE:	PKTUW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	PKTUN1
2	COLONY:	PKTUN2

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A84	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PATHAKHERA AREA	YEAR	2019
NAME OF PROJECT	TAWA UG	MONTH	JULY

SAM OFFICE: PKTUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	92	65	27	10	17
24-07-19	717	474	23	18	11
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

MANAGER OFFICE- TAWA II: PKTUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	92	58	21	12	18
24-07-19	742	591	31	36	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

MPEB COLONY: PKTUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	60	43	21	11	22
25-07-19	395	287	34	25	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

HIRA PALLA/BHAGIKHAAPA VILLAGE: PKTUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
03-07-19	255	164	42	12	10
23-07-19	257	169	37	23	34
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W84	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	PATHAKHERA AREA	YEAR	2019
NAME OF PROJECT	TAWA UG	MONTH	JULY

MINE DISCHARGE: PKTUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	10	4	2
05-07-19	7.8	28	22	<2
22-07-19	7.2	36	24	<2
TLV	5.5 - 9.0	250	100	10

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TSET REPORT NO.	RIN/TR/JULY-19/DW84	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	PATHAKHERA AREA	YEAR	2019
NAME OF PROJECT	TAWA UG	MONTH	JULY
DATE OF SAMPLING	24-07-19		

NAME OF LOCATION: DRINKING WATER FROM GM OFFICE						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	3	1	5
4	pH Value	IS 3025 Part-11	2	7.9	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	128	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.086	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	42	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	BDL	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.36	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	220	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	36.8	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	8.7	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	26	200	400

ENV. MONITORING REPORT

TAWA UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	1	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	167	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: PATHAKHERA AREA  
NAME OF PROJECT: TAWA UG

YEAR: 2019  
MONTH: JULY

FAN HOUSE: PKTUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	03-07-19	68.9	64.6
JULY 2019	24-07-19	68.7	65.2
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: PKTUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	03-07-19	47.8	42.3
JULY 2019	24-07-19	40.9	37.1
<b>TLV</b>		<b>55</b>	<b>45</b>



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## ENVIRONMENTAL MONITORING REPORT

# BARKUHI OC

PENCH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**  
NABL Accredited vide Cert. No. TC-7102  
**CMPDI**  
REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

Barkuhi OC is located in Chhindwara district of Madhya Pradesh. The project is administered by Pench Area of Western Coalfields Limited. Drainage of the area is mainly controlled by Penchrivier. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE :	PBOA1
2	SAM OFFICE:	PBOA2
3	CHANDAMETA WORKSHOP:	PBOA3
4	CENTRAL SCHOOL:	PBOA4

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR BARKUHI HOSPITAL:	PBON1

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report quality monitoring data</b>	<b>Air</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A57	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NO <sub>x</sub> (06:2006), SO <sub>2</sub> (02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	BARKUHI OC	MONTH	JULY

<b>MANAGER OFFICE : PBOA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	55	43	19	14	11
27-07-19	75	46	30	13	14
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SAM OFFICE: PBOA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	108	72	30	24	15
27-07-19	69	33	28	24	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>


<b>CHANDAMETA WORKSHOP: PBOA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	112	77	17	13	18
27-07-19	52	37	42	24	15
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>CENTRAL SCHOOL: PBOA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	129	67	33	31	16
27-07-19	59	38	27	24	16
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW57	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	BARKUHI OC	MONTH	JULY
DATE OF SAMPLING	10-07-19		

NAME OF LOCATION: DRINKING WATER FROM BARKUHI HOSPITAL						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	3	1	5
4	pH Value	IS 3025 Part-11	2	6.8	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	228	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	16	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.03	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.46	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	240	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	71	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	13	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	10	200	400

ENV. MONITORING REPORT  
BARKUHI OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	4.62	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	188	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: PENCH AREA  
NAME OF PROJECT: BARKUHI OC

YEAR: 2019  
MONTH: JULY

NEAR BARKUHI HOSPITAL: PBON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	10-07-19	45.9	42.7
JULY 2019	26-07-19	45.7	43.6
<b>TLV</b>		<b>75</b>	<b>70</b>

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## ENVIRONMENTAL MONITORING REPORT

# CHANDAMETA WORKSHOP

PENCH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**  
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<b>3</b>	<b>WATER QUALITY MONITORING DATA</b>	<b>5 to 6</b>
<b>4</b>	<b>NOISE LEVEL DATA</b>	<b>7</b>

## **INTRODUCTION**

Chandameta Workshop is located in Chhindwara district of Madhya Pradesh. The project is administered by

ENV. MONITORING REPORT  
CHANDAMETA WORKSHOP

Pench Area of Western Coalfields Limited. Drainage of the area is mainly controlled by Pench river. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

**Sampling Location:**

**Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	CHANDAMETA WORKSHOP :	PCWA1

**Noise Level Monitoring location :**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR CHANDAMETA WORKSHOP:	PCWN1

**Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report</b> quality monitoring data	Air	 TC-7102
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TSET REPORT NO.	RIN/TR/JULY-19/A58	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NO <sub>x</sub> (06:2006), SO <sub>2</sub> (02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	CHANDAMETA WORKSHOP	MONTH	JULY

<b>CHANDAMETA WORKSHOP : PCWA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	112	77	17	13	18
27-07-19	52	37	42	24	15
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW58	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	CHANDAMETA WORKSHOP	MONTH	JULY
DATE OF SAMPLING	10-07-19		

NAME OF LOCATION: DRINKING WATER FROM FILTER PLANT						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	3	1	5
4	pH Value	IS 3025 Part-11	2	6.7	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	372	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.08	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	44	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.02	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.65	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	390	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	109	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	25	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	40	200	400

ENV. MONITORING REPORT  
CHANDAMETA WORKSHOP

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	3.19	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	<0.01	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	148	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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# ENVIRONMENTAL MONITORING REPORT

## CHINDA OC

PENCH AREA

**WESTERN COALFIELDS LTD.**

JOB NO. 8000004



**JULY 2019**

**Environment Laboratory**  
NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

Chinda OC is located in Chhindwara district of Madhya Pradesh. The project is administered by Pench Area of Western Coalfields Limited. Drainage of the area is mainly controlled by Pench river. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE:	PCOA1
2	CHINDA OC - SITE:	PCOA2
3	CHINDA VILLAGE:	PCOA3
4	CHINDA COLONY:	PCOA4

#### **Water Quality Monitoring location:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	PCOW1

#### **Noise Level Monitoring location :**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR MANAGER OFFICE:	PCON1
2	COLONY:	PCON2

#### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report quality monitoring data</b>	Air	 TC-7102
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TSET REPORT NO.	RIN/TR/JULY-19/A64	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NO <sub>x</sub> (06:2006), SO <sub>2</sub> (02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	CHINDA OC	MONTH	JULY

SAM OFFICE: PCOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	84	43	24	31	15
30-07-19	66	48	26	16	21
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

CHINDA OC - SITE: PCOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	75	56	36	22	25
29-07-19	49	35	22	18	14
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>


CHINDA VILLAGE: PCOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	92	44	41	35	18
29-07-19	48	35	24	11	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

CHINDA COLONY: PCOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	83	52	36	34	20
30-07-19	45	37	21	13	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W64	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	CHINDA OC	MONTH	JULY

MINE WATER DISCHARGE: PCOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
08-07-19	6.7	32	22	<2
28-07-19	7.3	20	12	<2
TLV	5.5 - 9.0	100	250	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW64	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	CHINDA OC	MONTH	JULY
DATE OF SAMPLING	08-07-19		

NAME OF LOCATION: DRINKING WATER FROM COLONY						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	7.7	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	232	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	46	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.02	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.35	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	390	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	77	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	10	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	14	200	400

ENV. MONITORING REPORT  
CHINDA OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	26.59	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	5	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	<0.01	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	204	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: PENCH AREA  
NAME OF PROJECT: CHINDA OC

YEAR: 2019  
MONTH: JULY

NEAR MANAGER OFFICE: PCON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	50.4	47.3
JULY 2019	26-07-19	49.7	47.4
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: PCON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	45.1	43.8
JULY 2019	26-07-19	46.8	42.6
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# GANPATI UG

PENCH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
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## **INTRODUCTION**

Ganpati UG is located in Chhindwara district of Madhya Pradesh state. The project is administered by Pench Area of Western Coalfields Limited. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contribute to the pollution.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	LAMP ROOM :	PGUA1
2	MANAGER OFFICE:	PGUA2
3	COLONY EDC- DISPENSARY:	PGUA3
4	GUEST HOUSE- PARASIA:	PGUA4

#### **Fugitive Dust Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	BG SIDING:	PGUF1

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	PGUN1
2	COLONY:	PGUN2

### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis.

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A60	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	GANPATI UG	MONTH	JULY

<b>LAMP ROOM : PGUA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	79	46	20	18	15
29-07-19	58	40	22	15	14
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>MANAGER OFFICE: PGUA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	89	35	25	26	22
28-07-19	63	34	21	16	14
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>COLONY EDC- DISPENSARY: PGUA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	91	70	42	34	19
28-07-19	57	37	25	15	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>GUEST HOUSE- PARASIA: PGUA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	114	72	36	30	16
28-07-19	58	34	24	18	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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**FUGITIVE DUST MONITORING DATA**

<b>BG SIDING: PGUF1</b>			
<b>DATE OF SAMPLING</b>	<b>PARAMETERS</b>		
	<b>SPM*</b>	<b>PM10</b>	<b>PM<sub>2.5</sub></b>
<b>DETECTION LIMIT</b>	5	5	2
10-07-19	105	73	35
28-07-19	52	33	18

SCIENTIFIC ASSISTANT

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## NOISE LEVEL DATA

NAME OF AREA: PENCH AREA  
NAME OF PROJECT: GANPATI UG

YEAR: 2019  
MONTH: JULY

FAN HOUSE: PGUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	10-07-19	47.8	44.4
JULY 2019	26-07-19	46.6	44.4
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: PGUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	10-07-19	45.2	42.9
JULY 2019	26-07-19	44.8	43.9
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# JAMUNIYA UG

PENCH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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## INTRODUCTION

Barkuhi OC is located in Chhindwara district of Madhya Pradesh. The project is administered by Pench Area of Western Coalfields Limited. Drainage of the area is mainly controlled by Penchrive. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE :	PJUA1
2	SUBSTATION:	PJUA2
3	JAMUNIYA VILLAGE:	PJUA3

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	PJUW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE:	PJUN1

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A69	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	JAMUNIYA UG	MONTH	JULY

MANAGER OFFICE : PJUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	68	52	27	14	19
20-07-19	196	92	49	25	25
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SUBSTATION: PJUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	56	40	25	20	22
20-07-19	94	49	28	22	12
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

JAMUNIYA VILLAGE: PJUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	65	50	35	28	21
20-07-19	71	42	39	16	10
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W69	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	JAMUNIYA UG	MONTH	JULY

MINE WATER DISCHARGE: PJUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
05-07-19	6.8	28	18	<2
19-07-19	7.2	20	14	<2
TLV	5.5 - 9.0	100	250	10

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## NOISE LEVEL DATA

NAME OF AREA: PENCH AREA  
NAME OF PROJECT: JAMUNIYA UG

YEAR: 2019  
MONTH: JULY

MANAGER OFFICE: PJUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	06-07-19	45.5	41.9
JULY 2019	27-07-19	46.4	43.8
TLV		75	70

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## ENVIRONMENTAL MONITORING REPORT

# MAHADEOPURI UG

PENCH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**  
NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## **INTRODUCTION**

Mahadeopuri UG is located in Chhindwara district of Madhya Pradesh. The project is administered by Pench Area of Western Coalfields Limited. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MANAGER OFFICE :	PMUA1
2	LAMP ROOM:	PMUA2
3	GUEST HOUSE PARASIA:	PMUA3
4	COLONY EDC- DISPENSARY:	PMUA4

#### **Fugitive Dust Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	EDC SIDING:	PMUF1

#### **Water Quality Monitoring location:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	PMUW1

#### **Noise Level Monitoring location :**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	PMUN1
2	COLONY:	PMUN2

#### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report quality monitoring data</b>	Air	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A59	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NO <sub>x</sub> (06:2006), SO <sub>2</sub> (02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	MAHADEOPURI UG	MONTH	JULY

<b>MANAGER OFFICE : PMUA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	89	35	25	26	22
28-07-19	63	34	21	16	14
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>LAMP ROOM: PMUA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
11-07-19	79	46	20	18	15
29-07-19	58	40	22	15	14
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>


<b>GUEST HOUSE PARASIA: PMUA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	114	72	36	30	16
28-07-19	58	34	24	18	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>COLONY EDC- DISPENSARY: PMUA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
12-07-19	91	70	42	34	19
28-07-19	57	37	25	15	17
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 TC-7102
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TSET REPORT NO.	RIN/TR/JULY-19/W59	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	MAHADEOPURI UG	MONTH	JULY

MINE WATER DISCHARGE: PMUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
10-07-19	6.8	24	16	<2
27-07-19	6.8	28	24	<2
TLV	5.5 - 9.0	250	100	10

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TSET REPORT NO.	RIN/TR/JULY-19/DW59	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	MAHADEOPURI UG	MONTH	JULY
DATE OF SAMPLING	09-07-19		

NAME OF LOCATION: DRINKING WATER FROM GUEST HOUSE						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	3	1	5
4	pH Value	IS 3025 Part-11	2	7.3	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	152	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.1	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	28	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.02	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.57	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	260	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	56	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	3	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	78	200	400



ENV. MONITORING REPORT  
MAHADEOPURI UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	0.9	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	<0.005	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	<0.005	0.01	No relaxation
19	Selenium (Se) -mg/l	APHA, 22nd Edition AAS-VGA	0.005	<0.005	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	<0.005	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	196	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

**NAME OF AREA: PENCH AREA**  
**NAME OF PROJECT: MAHADEOPURI UG**

**YEAR: 2019**  
**MONTH: JULY**

FAN HOUSE: PMUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	10-07-19	70.7	68.5
JULY 2019	26-07-19	70.2	68.5
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: PMUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	10-07-19	44.9	43.6
JULY 2019	26-07-19	45	42.8
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# NEHARIA UG

PENCH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**  
NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

Naheria UG project is located in Chhindwara district of Madhya Pradesh. The project is administered by Pench Area of Western Coalfields Limited. The drainage of area is mainly controlled by the Perennial Gunor river and Dhankasa nullah. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE :	PNUA1
2	LAMP ROOM/ SUBSTATION:	PNUA2
3	NEHARIA VILLAGE:	PNUA3
4	BOKAI TOWNSHIP:	PNUA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	PNUW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE:	PNUN1
2	COLONY:	PNUN2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report quality monitoring data</b>	<b>Air</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A67	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	NEHARIA UG	MONTH	JULY

SAM OFFICE : PNUA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	88	74	51	30	20
18-07-19	158	85	44	28	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

LAMP ROOM/ SUBSTATION: PNUA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	51	36	29	22	14
19-07-19	134	84	45	45	26
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

NEHARIA VILLAGE: PNUA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	85	46	18	12	14
19-07-19	87	51	25	13	10
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

BOKAI TOWNSHIP: PNUA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	64	41	31	24	17
19-07-19	110	37	31	26	19
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W67	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	NEHARIA UG	MONTH	JULY

MINE WATER DISCHARGE: PNUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
05-07-19	8.2	24	16	<2
18-07-19	6.9	28	22	<2
TLV	5.5 - 9.0	100	250	10

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TSET REPORT NO.	RIN/TR/JULY-19/DW67	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	NEHARIA UG	MONTH	JULY
DATE OF SAMPLING	05-07-19		

NAME OF LOCATION: DRINKING WATER FROM GUEST HOUSE						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	6.8	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	60	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	<0.06	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	26	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.03	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.29	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	200	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	21	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	2	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	<0.03	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	<0.02	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	53	200	400



ENV. MONITORING REPORT  
NEHARIA UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	0.79	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	<0.005	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	<0.005	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	<0.005	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	<0.005	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	<0.01	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	<0.01	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carminie	0.2	<0.2	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	304	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	<0.02	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	<0.005	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: PENCH AREA  
NAME OF PROJECT: NEHARIA UG

YEAR: 2019  
MONTH: JULY

FAN HOUSE: PNUN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	06-07-19	69.9	67.1
JULY 2019	27-07-19	69.9	67.8
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: PNUN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	06-07-19	45.4	43.8
JULY 2019	27-07-19	44.6	42.7
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# NEW SETHIA OC

PENCH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019



**Environment Laboratory**  
NABL Accredited vide Cert. No. TC-7102

### CMPDI

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## **INTRODUCTION**

New Sethia OC is located in Chhindwara district of Madhya Pradesh. The project is administered by Pench Area of Western Coalfields Limited. Drainage of the area is mainly controlled by Pench river. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEW SETHIA OC SITE:	PSOA1
2	SAM OFFICE:	PSOA2
3	CHINDA VILLAGE:	PSOA3
4	CHINDA COLONY:	PSOA4

#### **Water Quality Monitoring location:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	PSOW1

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR MANAGER OFFICE:	PSON1
2	COLONY- CHINDA:	PSON2

#### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report quality monitoring data</b>	<b>Air</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A1	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	NEW SETHIA OC	MONTH	JULY

NEW SETHIA OC SITE: PSOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	120	49	38	21	14
29-07-19	61	41	25	13	14
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SAM OFFICE: PSOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	84	43	24	31	15
30-07-19	66	48	26	16	21
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

CHINDA VILLAGE: PSOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	92	44	41	35	18
29-07-19	48	35	24	11	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

CHINDA COLONY: PSOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	83	52	36	34	20
30-07-19	45	37	21	13	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W65	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	NEW SETHIA OC	MONTH	JULY

MINE WATER DISCHARGE: PSOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
09-07-19	7.2	36	26	<2
28-07-19	7.4	24	14	<2
TLV	5.5 - 9.0	250	100	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW65	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	NEW SETHIA OC	MONTH	JULY
DATE OF SAMPLING	08-07-19		

NAME OF LOCATION: DRINKING WATER FROM SAM OFFICE						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	3	1	5
4	pH Value	IS 3025 Part-11	2	6.9	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	140	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.06	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	26	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.03	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.41	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	420	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	58	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	2	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	19	200	400



ENV. MONITORING REPORT  
NEW SETHIA OC

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	1.45	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmin	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	152	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: PENCH AREA  
NAME OF PROJECT: NEW SETHIA OC

YEAR: 2019  
MONTH: JULY

NEAR MANAGER OFFICE: PSON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	50.7	48.6
JULY 2019	26-07-19	52.4	49.2
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY- CHINDA: PSON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	45.1	43.8
JULY 2019	26-07-19	46.8	42.6
<b>TLV</b>		<b>55</b>	<b>45</b>

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## ENVIRONMENTAL MONITORING REPORT

# SHIVPURI OC

PENCH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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## INTRODUCTION

Shivpuri OC is located in Chhindwara district of Madhya Pradesh. The project is administered by Pench Area of Western Coalfields Limited. Drainage of the area is mainly controlled by Pench river. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SITE OFFICE:	PSOA1
2	SUBSTATION-VISHNUPURI UG:	PSOA2
3	COLONY GUEST HOUSE SHIVPURI:	PSOA3
4	CHINDA VILLAGE:	PSOA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	PSOW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR MANAGER OFFICE:	PSON1
2	COLONY:	PSON2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A63	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	SHIVPURI OC	MONTH	JULY

<b>SITE OFFICE: PSOA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	62	38	31	13	15
31-07-19	52	46	30	26	20
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>SUBSTATION-VISHNUPURI UG: PSOA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	108	54	21	16	12
30-07-19	84	49	32	18	14
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>COLONY GUEST HOUSE SHIVPURI: PSOA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	226	152	43	32	19
31-07-19	58	32	30	18	22
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>CHINDA VILLAGE: PSOA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	92	44	41	35	18
29-07-19	48	35	24	11	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/W63	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	SHIVPURI OC	MONTH	JULY

<b>MINE WATER DISCHARGE: PSOW1</b>				
<b>DATE OF SAMPLE COLLECTION</b>	<b>ANALYSIS RESULTS</b>			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
07-07-19	6.5	28	18	<2
30-07-19	7.2	28	18	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

NAME OF AREA: PENCH AREA  
NAME OF PROJECT: SHIVPURI OC

YEAR: 2019  
MONTH: JULY

NEAR MANAGER OFFICE: PSON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	49.4	48.2
JULY 2019	26-07-19	51.4	48.7
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY: PSON2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	44.2	42.9
JULY 2019	26-07-19	43.4	41.6
<b>TLV</b>		<b>55</b>	<b>45</b>



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## ENVIRONMENTAL MONITORING REPORT

# THESGORA MATHANI -UG

PENCH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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## **INTRODUCTION**

Thesgora & Mathani UG projects are located in Chhindwara district of Madhya Pradesh. The projects are administered by Pench Area of Western Coalfields Limited. A no. of seasonal nallas flow through the area, which finally drain into Pench river and Gunar nadi. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc contributes to the pollution

### **Sampling Location:**

#### **Ambient Air Quality Monitoring locations:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MATHANI VILLAGE:	PTUA1
2	SAM OFFICE:	PTUA2
3	MANAGER OFFICE- MATHANI:	PTUA3
4	JHURE COLONY- FILTER PLANT	PTUA4
5	MANAGER OFFICE- THESGORA	PTUA5

#### **Water Quality Monitoring location:**

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE DISCHARGE:	PTUW1

#### **Noise Level Monitoring location :**


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE- MATHANI:	PTUN1
2	COLONY- THESGORA:	PTUN2

### **Frequency of Monitoring:**

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report quality monitoring data</b>	Air	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A66	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NO <sub>x</sub> (06:2006), SO <sub>2</sub> (02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	THESGORA MATHANI -UG	MONTH	JULY

<b>MATHANI VILLAGE: PTUA1</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	57	45	26	22	15
18-07-19	174	110	32	23	20
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>SAM OFFICE: PTUA2</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
08-07-19	77	44	16	11	14
31-07-19	51	36	22	19	18
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>MANAGER OFFICE- MATHANI: PTUA3</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	69	52	18	12	14
18-07-19	207	142	67	35	17
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

<b>JHURE COLONY- FILTER PLANT PTUA4</b>					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	71	42	29	11	16
18-07-19	285	83	39	31	11
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

<b>MANAGER OFFICE- THESGORA PTUA5</b>					
DATE OF SAMPLING	PARAMETERS				
	<b>SPM*</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>NO<sub>x</sub></b>	<b>SO<sub>2</sub></b>
DETECTION LIMIT	5	5	2	6	10
08-07-19	65	45	32	22	18
31-07-19	57	39	29	23	21
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Effluent water quality monitoring data</b>	 TC-7102
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TSET REPORT NO.	RIN/TR/JULY-19/W66	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	THESGORA MATHANI -UG	MONTH	JULY

MINE DISCHARGE: PTUW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
07-07-19	7.5	28	18	<2
19-07-19	7.1	32	24	<2
TLV	5.5 - 9.0	250	100	10

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<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW66	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	THESGORA MATHANI -UG	MONTH	JULY
DATE OF SAMPLING	07-07-19		

NAME OF LOCATION: DRINKING WATER FROM SAM OFFICE						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	2	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	3	1	5
4	pH Value	IS 3025 Part-11	2	7.3	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	172	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	BDL	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	24	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.02	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.38	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	230	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	61	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	5	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	39	200	400

ENV. MONITORING REPORT  
THESGORA MATHANI UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	1.14	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmin	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	112	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## ENVIRONMENTAL MONITORING REPORT

# URDHAN OC

PENCH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

**CMPDI**

REGIONAL INSTITUTE-IV, KASTURBA NAGAR,  
JARIPATKA, NAGPUR, PIN – 440 014

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## INTRODUCTION

UrdhanOC project is located in Chhindwara district of Madhya Pradesh. The project is administered by Pench Area of Western Coalfields Limited. The drainage of area is mainly controlled by the Perennial Gunorrivver and Dhankasanullah. The climate of the area is tropical. Transportation roads, agricultural and local activities ,vehicular traffic etc also contributes to the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	URDHAN MANAGER OFFICE:	PUOA1
2	URDHAN VILLAGE:	PUOA2
3	NEHARIA VILLAGE:	PUOA3
4	BOKAI TOWNSHIP:	PUOA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE:	PUOW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	NEAR MANGER OFFICE:	PUON1

### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A68	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	URDHAN OC	MONTH	JULY

URDHAN MANAGER OFFICE: PUOA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	66	33	25	14	19
19-07-19	131	65	48	27	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

URDHAN VILLAGE: PUOA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
05-07-19	128	91	38	30	16
20-07-19	89	39	26	18	15
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

NEHARIA VILLAGE: PUOA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
06-07-19	85	46	18	12	14
19-07-19	87	51	25	13	10
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

BOKAI TOWNSHIP: PUOA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	64	41	31	24	17
19-07-19	110	37	31	26	19
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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TSET REPORT NO.	RIN/TR/JULY-19/W68	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	URDHAN OC	MONTH	JULY

MINE WATER DISCHARGE: PUOW1				
DATE OF SAMPLE COLLECTION	ANALYSIS RESULTS			
	pH	COD	TSS	O & G
DETECTION LIMIT	0.2	4	10	2
05-07-19	8.3	36	26	<2
19-07-19	6.8	24	16	<2
TLV	5.5 - 9.0	250	100	10

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## NOISE LEVEL DATA

**NAME OF AREA: PENCH AREA**  
**NAME OF PROJECT: URDHAN OC**

**YEAR: 2019**  
**MONTH: JULY**

NEAR MANGER OFFICE: PUON1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	06-07-19	50.6	48.7
JULY 2019	27-07-19	52.4	48.7
<b>TLV</b>		<b>75</b>	<b>70</b>

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## ENVIRONMENTAL MONITORING REPORT

# VISHNUPURI -II UG

PENCH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**

NABL Accredited vide Cert. No. TC-7102

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## INTRODUCTION

Vishnupuri – II UG is located in Chhindwara district of Madhya Pradesh. The project is administered by Pench Area of Western Coalfields Limited. Drainage of the area is controlled by Pench river. There are some seasonal nalla also flowing through the area. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contributes to the pollution

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE:	PV2UA1
2	SUBSTATION:	PV2UA2
3	COLONY GUEST HOUSE SHIVPURI:	PV2UA3
4	CHINDA VILLAGE:	PV2UA4

#### Water Quality Monitoring location:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	MINE WATER DISCHARGE- II :	PV2UW1

#### Noise Level Monitoring location :


SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE UG-I:	PV2UN1
2	COLONY (VISHNUPURI -I):	PV2UN2

#### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Air quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A62	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NOx(06:2006), SO2(02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	VISHNUPURI -II UG	MONTH	JULY

SAM OFFICE: PV2UA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	92	53	31	21	26
30-07-19	64	43	23	15	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SUBSTATION: PV2UA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	108	54	21	16	12
30-07-19	84	49	32	18	14
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

COLONY GUEST HOUSE SHIVPURI: PV2UA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	226	152	43	32	19
31-07-19	58	32	30	18	22
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

CHINDA VILLAGE: PV2UA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	92	44	41	35	18
29-07-19	48	35	24	11	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

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TSET REPORT NO.	RIN/TR/JULY-19/W62	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 3025 (Part 11):1983, IS 3025 (Part 17):1984, IS 3025(Part 58):2006 & IS 3025(Part 39):1991		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	VISHNUPURI -II UG	MONTH	JULY

<b>MINE WATER DISCHARGE- II : PV2UW1</b>				
<b>DATE OF SAMPLE COLLECTION</b>	<b>ANALYSIS RESULTS</b>			
	pH	TSS	COD	O & G
DETECTION LIMIT	0.2	4	10	2
08-07-19	6.7	20	14	<2
29-07-19	6.9	24	14	<2
TLV	5.5 - 9.0	100	250	10

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## NOISE LEVEL DATA

NAME OF AREA: PENCH AREA  
NAME OF PROJECT: VISHNUPURI -II UG

YEAR: 2019  
MONTH: JULY

FAN HOUSE UG-I: PV2UN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	69.4	67.2
JULY 2019	26-07-19	68.7	67.4
TLV		75	70

COLONY (VISHNUPURI -I): PV2UN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	46.4	44.5
JULY 2019	26-07-19	45.6	42.8
TLV		55	45

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## ENVIRONMENTAL MONITORING REPORT

# VISHNUPURI -I UG

PENCH AREA

WESTERN COALFIELDS LTD.

JOB NO. 8000004



JULY 2019

**Environment Laboratory**  
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## INTRODUCTION

Vishnupuri – I UG is located in Chhindwara district of Madhya Pradesh. The project is administered by Pench Area of Western Coalfields Limited. Drainage of the area is controlled by Pench river. There are some seasonal nalla also flowing through the area. The climate of the area is tropical. Transportation roads, agricultural and local activities, vehicular traffic etc also contribute to the pollution.

### Sampling Location:

#### Ambient Air Quality Monitoring locations:

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	SAM OFFICE:	PV1UA1
2	SUBSTATION:	PV1UA2
3	COLONY GUEST HOUSE SHIVPURI:	PV1UA3
4	CHINDA VILLAGE:	PV1UA4

#### Noise Level Monitoring location :

SL. NO.	LOCATION DETAIL	LOCATION CODE
1	FAN HOUSE UG-I:	PV1UN1
2	COLONY (VISHNUPURI -I):	PV1UN2


### Frequency of Monitoring:

**AIR:** Frequency of monitoring is as per the Env. (Protection) Amendment Rules published vide Gazette dt. 25.9.2000.

**WATER:** Water quality is monitored on fortnightly basis

**NOISE:** Noise level is monitored on fortnightly basis.



<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report quality monitoring data</b>	<b>Air</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/A61	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	AIR SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS-5182 [PM-10(04:1999), NO <sub>x</sub> (06:2006), SO <sub>2</sub> (02:2001)], PM-2.5 & SPM*		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	VISHNUPURI -I UG	MONTH	JULY

SAM OFFICE: PV1UA1					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	92	53	31	21	26
30-07-19	64	43	23	15	10
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>

SUBSTATION: PV1UA2					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
09-07-19	108	54	21	16	12
30-07-19	84	49	32	18	14
<b>TLV</b>	<b>600</b>	<b>300</b>	<b>60</b>	<b>120</b>	<b>120</b>


COLONY GUEST HOUSE SHIVPURI: PV1UA3					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
07-07-19	226	152	43	32	19
31-07-19	58	32	30	18	22
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

CHINDA VILLAGE: PV1UA4					
DATE OF SAMPLING	PARAMETERS				
	SPM*	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	SO <sub>2</sub>
DETECTION LIMIT	5	5	2	6	10
10-07-19	92	44	41	35	18
29-07-19	48	35	24	11	14
<b>TLV</b>	<b>200</b>	<b>100</b>	<b>60</b>	<b>80</b>	<b>80</b>

SCIENTIFIC ASSISTANT

DEEPANSHU SAHU  
AUTHORIZED SIGNATORY

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3	* Test parameter not under NABL scope.

<b>Environment Laboratory CMPDI RI-IV, NAGPUR</b>	<b>Test Report Drinking water quality monitoring data</b>	 <b>TC-7102</b>
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TSET REPORT NO.	RIN/TR/JULY-19/DW61	DATE OF ISSUE	31.08.19
NAME OF CUSTOMER	WCL, NAGPUR	SAMPLE DESCRIPTION	WATER SAMPLE
CUSTOMER LETTER REFERENCE NO.	WCL/HQ/ENV/17-K/520-522 DATED: 18.04.19		
TEST REQUIRED	IS 10500:2012		
NAME OF AREA	PENCH AREA	YEAR	2019
NAME OF PROJECT	VISHNUPURI -I UG	MONTH	JULY
DATE OF SAMPLING	08-07-19		

NAME OF LOCATION: DRINKING WATER FROM SAM OFFICE						
SL NO.	PARAMETER	TEST METHOD	DETECTION LIMIT	ANALYSIS RESULT	DESIRABLE LIMIT	PLV IN THE ABSENCE OF ALTERNATE SOURCE
1	Colour ( Hz )	IS 3025 Part-4	1	1	5	15
2	Odour	IS 3025 Part-5	Qualitative	Agreeable	Agreeable	Agreeable
3	Turbidity (NTU)	IS 3025 Part-10	1	2	1	5
4	pH Value	IS 3025 Part-11	2	7.5	6.5 to 8.5	No relaxation
5	Total Hardness as CaCO <sub>3</sub> - mg/l	IS 3025 Part-21	4	140	200	600
6	Iron (as Fe) -mg/l	IS 3025 Part-53	0.06	0.061	0.3	No relaxation
7	Chlorides (as Cl)- mg/l	IS 3025 Part-32	2	34	250	1000
8	Residual Chlorine -mg/l	APHA, 22nd Edition DPD	0.02	0.03	0.2	1
9	Fluoride (as F)- mg/l	APHA, 22nd Edition SPADNS	0.02	0.65	1	1.5
10	TDS -mg/l	IS 3025 Part-16	25	690	500	2000
11	Calcium (as Ca) -mg/l	IS 3025 Part-40	1.6	55	75	200
12	Magnesium (as Mg) -mg/l*	IS-3025/40: 1991 EDTA	3	1	30	100
13	Copper as(Cu) -mg/l	IS 3025 Part-42	0.03	BDL	0.05	1.5
14	Manganese as (Mn)- mg/l	IS 3025 Part-59	0.02	BDL	0.1	0.3
15	Sulphate (as SO <sub>4</sub> ) -mg/l	APHA (22nd Edition) 4500E Turbidity Method	2	16	200	400

ENV. MONITORING REPORT  
VISHNUPURI-I UG

16	Nitrates (as NO <sub>3</sub> ) - mg/l	IS-3025/34:1988 Nessler's method	0.5	9.36	45	No relaxation
17	Cadmium as (Cd)- mg/l	APHA, 22nd Edition AAS-GTA	0.005	<0.005	0.003	No relaxation
18	Lead as (Pb) -mg/l	APHA, 22nd Edition AAS-GTA	0.005	BDL	0.01	No relaxation
19	Selenium (Se) –mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.01	No relaxation
20	Arsenic (Ar)-mg/l	APHA, 22nd Edition AAS-VGA	0.005	BDL	0.05	No relaxation
21	Zinc as (Zn) -mg/l	IS 3025 Part-49	0.01	BDL	5	15
22	Total Chromium -mg/l	IS 3025 Part-52	0.01	BDL	0.05	No relaxation
23	Boron as (B) -mg/l	APHA, 22 <sup>nd</sup> Edition Carmine	0.2	BDL	0.5	1
24	Alkalinity -mg/l	IS 3025 Part-23	4	128	200	600
25	Nickel-mg/l	IS 3025 Part-54	0.02	BDL	0.02	No relaxation
26	Aluminum (Al)-mg/l	APHA (22nd Edition) 3114B AAS-VGA	0.005	BDL	0.1	0.2

**BDL: BELOW DETECTION LIMIT**

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## NOISE LEVEL DATA

NAME OF AREA: PENCH AREA  
NAME OF PROJECT: VISHNUPURI -I UG

YEAR: 2019  
MONTH: JULY

FAN HOUSE UG-I: PV1UN1			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	46.8	44.5
JULY 2019	26-07-19	45.9	42.4
<b>TLV</b>		<b>75</b>	<b>70</b>

COLONY (VISHNUPURI -I): PV1UN2			
MONTH	DATE OF DATA COLLECTION	NOISE LEVEL IN dB(A)	
		DAY TIME	NIGHT TIME
JULY 2019	08-07-19	46.4	44.5
JULY 2019	26-07-19	45.6	42.8
<b>TLV</b>		<b>55</b>	<b>45</b>