Central Coalfields Limited Office of the General Manager P.O.- Dhori Distt – Bokaro.

Ref. No.-GM (D)/ PS/ Env. Statements/2020-21/ 130

Dated: - 30.09.2021

To,

Member Secretary, JSPCB, HEC, Dhurwa, Ranchi.

Sub: Submission of Environment Statement / Audit Reports - 2020-21.

Dear Sir,

We are enclosing herewith the Environment Statement / Audit Reports for the financial year 2020-21 in respect of following projects of Dhori Area duly signed by respective Project Officers for your kind perusal.

During 2020-21, Dhori OCP production was suspended due to non availability of Land.

- Amlo OCP
- 2. Tarmi OCP
- 3. Selected Dhori Group of Mines (SDGOM)

Dhori (Khas) UGP

- Dhori OCP
- 6. Tarmi Siding

Encl: As above.

Yours faithfully,

General Manager
Dhori Area.

General Manager
C.C.L., Dhori Area

Copy to:

- Regional officer, JSPCB, HIG-1, Housing colony, Dhanbad.
- 2. Staff Officer (Env), Dhori Area
- Project Officers- Amlo / Dhori (E)/ Tarmi / Selected Dhori Group of mines (SDGOM) / Dhori (K) UG/Tarmi Siding.

ENVIRONMENT STATEMENT/AUDIT REPORT

DHORI(K) UNDERGROUND PROJECT CENTRAL COAFILEDS LIMITED DHORI AREA

FOR 2020 -21

SUBMITTED TO
JHARKHAND POLLUTION CONTROL
BOARD

FORM – V (See rule 14)

Environmental Statement for the financial year ending the 31st March 2021.

PART- A.

I	Name and address of the project.	Dhori (K) UGP
		PO: Dhori
		Dist: Bokaro- 825102
		State: Jharkhand.
ii.	Industry category primary – (STC- Code)	Primary
iii	Production capacity	0.19MTPA
		(as per approved EC)
		J-11015/305/2007-IA.II(M)
		DT. 03-05-2011.
		Prod (2020-21) = 0.1127 Mte
iv	Date of last environment statement submitted.	30/09/2020 (2019-20).

PART-B.

Water and Raw material composition:

Water Consumption	
1. Mining	40 cum/Day
2 Domestic	320 cum/day
Total	360 cum/day

2. Raw material consumption:

Name of Raw	Name of product	Consumption of Raw materials			
material		During the previous During the current			
		financial year	Financial year		
		(2019-20)	(2020-21)		
POL (Lit/Te)	COAL	0.041	0.056		
Explosive (Kg/te)	COAL	0.192	0.149		

PART- C
Pollution discharged to Environment / unit of output
(Parameters as specified in the consent issued)

Pollution	Quantity of pollutants discharged (Cum/day)	Percentage of variation from prescribed standards with reason.
a) Water	10 (Mine discharge)	The quality of water is meeting the prescribed standard.
b) Air (SPM, Sox, NOx are main pollutant)	The quantity of air pollutants from mine is difficult to measure. However, concentrations of air pollutants are measurable and are given in annexure.	The results of SPM/RPM/SOx & NOx generated are well within the prescribed standard.
c) Noise	Recorded Noise levels are attached as annexure.	Noise level in around project is under prescribed standard.

PART-D

<u>Hazardous Waste (As specified under Hazardous Waste / management and Handling rules – 1989.</u>

The project does not produce and/ or release any hazardous waste which is governed by Hazardous Waste Management & Handling rule 1989.

PART – E SOLID WASTE:

(Not Applicable since UG Project)

Solid Waste	Total Quantity (M.cum)			
	During the previous	During the current		
	financial year (2019-20)	Financial year (2020-21)		
a) From process (OB)	NOT APPLICABLE			
_		NA		
b) From pollution control	NOT APPLICABLE	NA		
facility				

PART-F

PLEASE SPECIFY THE CHARACTERISTICS IN TERMS OF CONCENTRATION AND QUANTITY OF HAZARDOUS AS WELL AS SOLID WASTE AND INDICATE, DISPOSAL PRACTICE ADOPTED FOR BOTH THESE CATEGORIES OF WASTES

As already mentioned in PART-D above that the entire process of Coal mining, handling and dispatch do not give rise to production of any hazardous wastes.

In an underground mine, only coal is extracted by Board and Pillar Method and no solid waste material is generated during mining operation. Coal dust, carbon monoxide gas and methane gas are generated during mining and concentration in working environment is kept below Threshold limit by providing adequate ventilation.

PART-G

IMPACT OF POLLUTION CONTROL MEASURES ON CONSERVATION OF NATIONAL RESOURCE AND CONSEQUENTLY ON COST OF PRODUCTION

In order to carry out mining operations in an eco-friendly manner the following pollution control measures have been implemented:

a. Air Pollution Control Measures:

- i. Adequate amount of fresh air is circulated in the mine to keep the coal dust concentration below TLV.
- ii. Water spraying over coal stock is in practiced.

b. Water Pollution Control Measures:

i) Mine water is collected in the underground sump and pumped to one nearby pond before the water joins surface Nala.

c. Noise Pollution Control:

The following control measures are followed and proposed-

- Ear muffs are provided to each worker exposed to high noise levels.
- ii. Efforts are being made to produce least noise levels. Result of noise monitoring reveal that the noise level is well below the permissible limit.

PART-H

ADDITIONAL INVESTMENT PROPOSAL FOR ENVIRONMENTAL PROTECTION INCLUDING ABATEMENT OF POLLUTION

The regular monitoring of the ambient air and water quality, noise level is being continued.

<u>P A R T –I</u>

ANY OTHER PARTICULARS IN RESPECT OF ENVIRONMENTAL PROTECTION AND ABATEMENT OF POLLUTION.

The suggestion made by different statutory agency e.g., Ministry of Environment & Forest, Central Pollution Control Board and State Pollution Control Board etc. are being implemented from time to time in the project for better environmental conditions in and around the project.

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Signature of Project Officer Officer Officer Officer Officer (Khas) Upport (Khas) Colliery

TECT	ODT
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TEOT REL ORT								
06/20 Test Report no. 1600	Job No. 0943120075	Year	FY2020-21					
Type of Sample	Ambient Air	Quarter Ending	Jun-20					
Customer	CCL							
Mode of Receipt of Sample:	Joint sampling with customer							
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32							
Remarks & Observation:	All samplers placed 1.5 m above ground	level						

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori Project: Dhori Khas Colliery Stations: Sarda Colony

					W/:J				
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Matter	Particulate Matter (PM)	Particulate Matter (PM2.5)	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO ₂)	Wind Direction (from) & Weather
Apr-20 1st FN	07/04/20- 08/04/20	16-04-2020	16/04/20- 20/04/20	167	82	47	< 25	< 6	West Sunny
Apr-20 2nd FN	16/04/20- 17/04/20	01-05-2020	01/05/20- 08/05/20	162	73	34	< 25	< 6	West Sunny
May-20 3rd FN	05/05/20- 06/05/20	18-05-2020	18/05/20- 20/05/20	149	76	41	< 25	< 6	East Cloud
May-20 4th FN	19/05/20- 20/05/20	01-06-2020	01/06/20- 03/06/20	152	69	35	< 25	< 6	East Sunny
Jun-20 5th FN	02/06/20- 03/06/20	16-06-2020	16/06/20- 18/06/20	167	81	48	< 25	< 6	East Sunny
Jun-20 6th FN	17/06/20- 18/06/20	01-07-2020	01/07/20- 03/07/20	147	70	33	< 25	< 6	East Sunny

Note:

- 1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is enclosed along for reference applicable in core zone.
- 2. Gazette Notification No. G.S.R 826 (E) dt. Nov. 2009 is enclosed for reference applicable in buffer zone.

Analysed By

Checked By

TEST REPORT								
06/20 Test Report no. 1601	Job No. 0943120075	Year	FY2020-21					
Type of Sample	Ambient Air	Quarter Ending	Jun-20					
Customer	CCL							
Mode of Receipt of Sample:	Joint sampling with customer							
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32							
Remarks & Observation:	Remarks & Observation: All samplers placed 1.5 m above ground level							

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori Project: Dhori Khas Colliery Stations: Makuli Colony

					Parameters (in µg/m³)				227, 1
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate Matter (PM ₁₀)	Particulate Matter (PM2.5)	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO ₂)	Wind Direction (from) & Weather
Apr-20 1st FN	07/04/20- 08/04/20	16-04-2020	16/04/20- 20/04/20	217	91	58	< 25	< 6	West Sunny
Apr-20 2nd FN	16/04/20- 17/04/20	04-05-2020	04/05/20- 06/05/20	193	93	51	< 25	< 6	West Sunny
May-20 3rd FN	05/05/20- 06/05/20	18-05-2020	18/05/20- 20/05/20	228	97	50	< 25	< 6	East Cloud
May-20 4th FN	19/05/20- 20/05/20	01-06-2020	01/06/20- 03/06/20	193	87	41	< 25	< 6	East Sunny
Jun-20 5th FN	02/06/20- 03/06/20	16-06-2020	16/06/20- 18/06/20	175	91	54	< 25	< 6	East Sunny
Jun-20 6th FN	17/06/20- 18/06/20	01-07-2020	01/07/20- 03/07/20	176	81	38	< 25	< 6	East Sunny

Note:

- 1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is enclosed along for reference applicable in core zone.
- 2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is enclosed for reference applicable in buffer zone.

Analysed By

Checked By

TEST REPORT								
06/20 Test Report no. 1602	Job No. 0943120075	Year	FY2020-21					
Type of Sample	Ambient Air	Quarter Ending	Jun-20					
Customer	CCL							
Mode of Receipt of Sample:	Joint sampling with customer	_						

IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32

TEST RESULT

All samplers placed 1.5 m above ground level

The sample has been tested with the following results: -

Testing/Sampling Protocol: Remarks & Observation:

Area: Dhori Project: Dhori Khas Colliery Stations: Pichari Village

					Parameters (in µg/m³)				W: J
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate Matter (PM ₁₀)	Particulate Matter (PM2.5)	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO ₂)	Wind Direction (from) & Weather
Apr-20 1st FN	07/04/20- 08/04/20	16-04-2020	16/04/20- 20/04/20	193	91	54	< 25	< 6	West Sunny
Apr-20 2nd FN	17/04/20- 18/04/20	04-05-2020	04/05/20- 06/05/20	122	64	28	< 25	< 6	West Sunny
May-20 3rd FN	06/05/20- 07/05/20	18-05-2020	18/05/20- 20/05/20	190	78	41	< 25	< 6	East Cloud
May-20 4th FN	20/05/20- 21/05/20	01-06-2020	01/06/20- 03/06/20	162	73	27	< 25	< 6	East Sunny
Jun-20 5th FN	03/06/20- 04/06/20	16-06-2020	16/06/20- 18/06/20	121	65	45	< 25	< 6	East Sunny
Jun-20 6th FN	18/06/20- 19/06/20	01-07-2020	01/07/20- 03/07/20	131	78	30	< 25	< 6	East Sunny

Note:

- 1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is enclosed along for reference applicable in core zone.
- 2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is enclosed for reference applicable in buffer zone.

Analysed By

Checked By

TEST REPORT

	I LOT KET OKT				
06/20 Test Report no. 1603	Job No. 0943120075	Year	FY2020-21		
Type of Sample	Ambient Air	Quarter Ending	Jun-20		
Customer	CCL				
Mode of Receipt of Sample:	Joint sampling with customer				
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32				
Remarks & Observation:	All samplers placed 1.5 m above ground level				

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori Project: Dhori Khas Colliery Stations: Central Colony (filter plant)

				Parameters (in μg/m³)				Wind	
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate Matter (PM ₁₀)	Particulate Matter (PM2.5)	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO ₂)	Direction (from) & Weather
Apr-20 1st FN	07/04/20- 08/04/20	16-04-2020	16/04/20- 20/04/20	178	79	46	< 25	< 6	West Sunny
Apr-20 2nd FN	17/04/20- 18/04/20	04-05-2020	04/05/20- 06/05/20	164	76	33	< 25	< 6	West Sunny
May-20 3rd FN	06/05/20- 07/05/20	18-05-2020	18/05/20- 20/05/20	146	79	37	< 25	< 6	East Cloud
May-20 4th FN	20/05/20- 21/05/20	01-06-2020	01/06/20- 03/06/20	253	90	53	< 25	< 6	East Sunny
Jun-20 5th FN	03/06/20- 04/06/20	16-06-2020	16/06/20- 18/06/20	155	86	53	< 25	< 6	East Sunny
Jun-20 6th FN	18/06/20- 19/06/20	01-07-2020	01/07/20- 03/07/20	124	68	22	< 25	< 6	East Sunny

Note:

- 1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is enclosed along for reference applicable in core zone.
- 2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is enclosed for reference applicable in buffer zone.

Analysed By

Checked By

TEST REPORT

		• • • • • • • • • • • • • • • • • • • •			
06/20 Test Report no. 1604	Job No. 0943120075	Year	FY2020-21		
Type of Sample:	Noise	Quarter Ending	Jun-20		
Customer	CCL				
Testing/Sampling Protocol:	'The noise pollution (Regulation and Control), Rules,2000, LQR34				
Remarks:					

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori **Project: Dhori Khas Colliery**

	Noise Level									
Station Name	Apr-20 1st FN	Apr-20 2nd FN	May-20 3rd FN	May-20 4th FN	Jun-20 5th FN	Jun-20 6th FN				
Date of recording	09-04-2020	16-04-2020	05-05-2020	19-05-2020	02-06-2020	17-06-2020				
Sarda Colony	48.7	48.7	47.8	48.6	48.2	48.6				
Date of recording	09-04-2020	16-04-2020	05-05-2020	19-05-2020	02-06-2020	17-06-2020				
Makuli Colony	49.3	49.4	49.3	49.3	49.5	49.5				
Date of recording	07-04-2020	16-04-2020	05-05-2020	19-05-2020	02-06-2020	17-06-2020				
Pichari Village	50.5	50.5	50.4	50.4	51.3	50.6				
Date of recording	07-04-2020	17-04-2020	06-05-2020	20-05-2020	03-06-2020	18-06-2020				
Central Colony (Filter Plant)	52.2	51.2	50.2	51.2	52.4	53.7				

Ambient Air Quality Standards in respect of Noise as per 'The noise pollution (Regulation and Control), Rules,2000						
Time Frame	Limits in dB(A) Leq					
	Day Time 6.00 AM to 10.00 PM	Night Time 10.00 PM to 6.00 AM				
Industrial Area	75	70				
Commercial Area	65	55				
Residential area	55	45				
Silence Zone	50	40				

Analysed By

Checked By

TEST REPORT

TEOT RELIGITI						
06/20 Test Report no. 1605	Job No. 0943120075	Year	FY2020-21			
Type of Sample:	Effluent Water	Quarter Ending	Jun-20			
Customer	CCL					
Mode of Receipt of Sample:	Joint sampling with customer					
Testing/Sampling Protocol:	MOEF -SCH-VI STANDARDS, Class 'A'. LQR 33					
Remarks & Observation:	ks & Observation: Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent					

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori **Project: Dhori Khas Colliery Stations:** Lagoon Discharge

	Analysis Results of FN Effluent Water							
Parameters →				COD	O & G	pH value	TSS	
	Detection Limit				2	0.2	10	
MOI	MOEF -SCH-VI, STANDARDS, Class 'A'				10	5.5 to 9.0	100	
Month	Date of Sampling	Date of Receipt of Sample	Date of Analysis	Value in mg/l, except pH				
Apr-20 1st FN	10/04/20	16/04/20	16/04/20-04/05/20	40	<2.00	7.61	45	
Apr-20 2nd FN	20/04/20	04/05/20	04/05/20-20/05/20	20	<2.00	7.66	24	
May-20 3rd FN	07/05/20	18/05/20	18/05/20-31/05/20	32	<2.00	8.07	40	
May-20 4th FN	22/05/20	01/06/20	01/06/20-18/06/20	20	<2.00	8.13	24	
Jun-20 5th FN	05/06/20	16/06/20	16/06/20-02/07/20	32 <2.00		7.79	36	
Jun-20 6th FN	20/06/20	01/07/20	01/07/20-16/07/20	20	<2.00	7.92	28	
BIS Standard & Method				APHA, 23rd Edition, Closed Reflux, Titrimetric	IS 3025/39:1991, R: 2003, Partition Gravimetric	IS-3025/11:1983, R-1996, Electrometric	IS 3025/17:1984, R :1996, Gravimetric	

Analysed By

Checked By

TEST REPORT

06/20 Test Report no. 1606	Job No. 0943120075	Year	FY2020-21				
Type of Sample:	Surface Water	Quarter Ending	Jun-20				
Customer	CCL	Date of Receipt:	16-04-2020				
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	16.04.20-30.04.20				
Testing/Sampling Protocol:	LQR 33						
Remarks & Observation:	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent						

TEST RESULT

The sample has been tested with the following results: -

Dhori Khas Colliery Date of Sampling: Dhori **Project:** Area: **Stations:**

Jhoria Nala before Conf. with Damodar

10-04-2020

Sl.No	Parameter		Sampling	Stations		Detection	BIS Standard & Method
		1	2	3	4	Limit	
1	Arsenic (as As), mg/l, Max	<0.002		-		0.002	IS 3025/37:1988 R : 2003, AAS-VGA
2	BOD (3 days 27°C), mg/l, Max	2				2.00	IS 3025 /44: 1993, R : 2003 3 day incubation at 27°C
3	Cadmium(as Cd), mg/l, Max	<0.0005				0.0005	APHA, 23rd Edition AAS-GTA
4	Chlorides (as Cl), mg/l, Max	24				2.00	IS-3025/32:1988, R-2007, Argentometric
5	Copper (as Cu), mg/l, Max	<0.03				0.03	IS 3025 /42: 1992 R : 2009, AAS-Flame
6	Dissolved Oxygen, min.	5.8				0.10	IS 3025/381989, R: 2003, Winkler Azide
7	Fluoride (as F) mg/l, Max	0.68				0.02	APHA, 23rd Edition SPADNS
8	Hexavalent Chromium, mg/l, Max	<0.01				0.01	APHA, 23rd Edition, 1,5 - Diphenylcarbohydrazide
9	Iron (as Fe), mg/l, Max	<0.06				0.06	IS 3025 /53: 2003, R: 2009, AAS-Flame
10	Lead (as Pb), mg/l, Max	<0.005				0.005	APHA, 23rd Edition AAS-GTA
11	Nitrate (as NO ₃), mg/l, Max	4.88				0.50	APHA, 23rd Edition, UV-Spectrophotometric
12	pH value	7.64				0.2	IS-3025/11:1983, R-1996, Electrometric
13	Phenolic compounds (as C ₆ H ₅ OH), mg/l, Max	<0.001				0.001	APHA, 23rd Edition 4-Amino Antipyrine
14	Selenium (as Se), mg/l, Max	<0.002				0.002	APHA, 23rd Edition AAS-GTA
15	Sulphate (as SO ₄) mg/l, Max	98				2.00	APHA, 23rd Edition Turbidity
16	Total Dissolved Solids, mg/l, Max	244				25.00	IS 3025 /16:1984 R : 2006, Gravimetric
17	Total Suspended Solids, mg/l, Max	36				10.00	IS 3025 /17:1984, R :1996, Gravimetric
18	Zinc (as Zn), mg/l, Max	<0.01				0.01	IS 3025 /49: 1994, R : 2009, AAS-Flame

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TEST REPORT

06/20 Test Report no. 1607	Job No. 0943120075	Year	FY2020-21		
Type of Sample:	Drinking Water	Quarter Ending	Jun-20		
Customer	CCL	Date of Receipt:	16-04-2020		
Mode of Receipt of Sample:	Joint sampling with customer	Joint sampling with customer Date of Analysis:			
Testing/Sampling Protocol:	esting/Sampling Protocol: IS:10500 Drinking Water Standards, LQR 33				
Remarks & Observation:	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent				

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori **Project: Dhori Khas Colliery Date of Sampling: Stations:**

1. Central Colony Filter Plant, Near DAV Makoli 10-04-2020

Sl.N	Parameter	Sampl	ing Stati	Stations Detection		IS:10500	Standard / Test Method
0		1	2	3	Limit	Standards	
1	Boron (as B), mg/l, Max	< 0.20			0.20	0.5	APHA, 23rd Edition ,Carmine
2	Cadmium (as Cd), mg/l, Max	< 0.0005			0.0005	0.003	APHA, 23rd Edition, AAS-GTA
3	Calcium (as Ca), mg/l, Max	27.2			1.60	75	IS-3025/40:1991, EDTA
4	Chloride (as Cl), mg/l, Max	16			2.00	250	IS-3025/32: 1988, R- 2007, Argentometric
5	Copper (as Cu), mg/l, Max	< 0.03			0.03	0.05	IS 3025/42: 1992 R : 2009, AAS-Flame
6	Fluoride (as F) mg/l, Max	0.56			0.02	1.0	APHA, 23rd Edition, SPADNS
7	Free Residual Chlorine, mg/l, Min	0.03			0.02	0.2	APHA, 23rd Edition, DPD
8	Iron (as Fe), mg/l, Max	< 0.06			0.06	0.3	IS 3025 /53: 2003, R: 2009, AAS-Flame
9	Lead (as Pb), mg/l, Max	< 0.005			0.005	0.01	APHA, 23rd Edition, AAS-GTA
10	Manganese (as Mn), mg/l, Max	0.05			0.02	0.1	IS-3025/59:2006,AAS- Flame
11	Nickel (as Ni), mg/l, Max	< 0.01			0.01	0.02	IS-3025/54:2003, AAS-Flame
12	Nitrate (as NO ₃), mg/l, Max	6.00			0.5	45	APHA, 23rd Edition, UV-Spectrophotometric
13	Odour	Agreeable			Qualitative	Agreeable	IS 3025 /05:1983, R- 2012, Qualitative
14	pH value	8.04			0.2	6.5 to 8.5	IS-3025/11:1983, R- 1996, Electrometric
15	Phenolic compounds (as C ₆ H ₅ OH), mg/l, Max	< 0.001			0.001	0.001	APHA, 23rd Edition,4- Amino Autipyrine
16	Selenium (as Se), mg/l, Max	< 0.002			0.002	0.01	APHA, 23rd Edition, AAS-GTA
17	Sulphate (as SO ₄) mg/l, Max	74			2.00	200	APHA, 23rd Edition. Turbidity
18	Total Alkalinity (caco3),mg/l, Max	64			4.00	200	IS- 3025/23:1986,Titration
19	Total Arsenic (as As), mg/l, Max	< 0.002			0.002	0.01	IS 3025/ 37:1988 R : 2003, AAS-VGA
20	Total Chromium (as Cr), mg/l, Max	< 0.04			0.04	0.05	IS-3025/52:2003, AAS- Flame
21	Total Dissolved Solids, mg/l, Max	232			25.00	500	IS 3025 /16:1984 R : 2006, Gravimetric
22	Total Hardness (caco3), mg/l, Max	120			4.00	200	IS-3025/21:1983, R-2002, EDTA
23	Turbidity, NTU, Max	1.4			1.0	1	IS-3025/10:1984 R-1996, Nephelometric
24	Zinc (as Zn), mg/l, Max	0.02			0.01	5.0	IS 3025/ 49: 1994, R : 2009, AAS-Flame

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³⁾ This is computer generated report and requires no signature.

TEST REPORT								
09/20 Test Report no. 1600	Job No. 094320075	Year	FY2020-21					
Type of Sample	Ambient Air	Quarter Ending	Sep-20					
Customer	CCL	·						
Mode of Receipt of Sample:	Joint sampling with customer							
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32							
Remarks & Observation:	All samplers placed 1.5 m abo	ve ground level						

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori Project: Dhori Khas Colliery Stations: Sarda Colony

					Paramete	ers (in µg/m	³)		Wind
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate Matter (PM)	Particulate Matter (PM2.5)	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO ₂)	Direction (from) & Weather
Jul-20 1st FN	07/07/20- 08/07/20	20-07-2020	20/07/20- 22/07/20	162	88	45	< 25	< 6	West Sunny
Jul-20 2nd FN	21/07/20- 22/07/20	03-08-2020	03/08/20- 10/08/20	161	73	35	< 25	< 6	West Sunny
Aug-20 3rd FN	03/08/20- 04/08/20	17-08-2020	17/08/20- 19/08/20	85	34	21	< 25	< 6	East Cloud
Aug-20 4th FN	17/08/20- 18/08/20	01-09-2020	01/09/20- 03/09/20	112	60	30	< 25	< 6	East Sunny
Sep-20 5th FN	01/09/20- 02/09/20	16-09-2020	16/09/20- 18/09/20	119	60	29	< 25	< 6	East Rain
Sep-20 6th FN	17/09/20- 18/09/20	01-10-2020	01/10/20- 05/07/20	137	72	32	< 25	< 6	East Rain

Note:

- 1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is enclosed along for reference applicable in core zone.
- 2. Gazette Notification No. G.S.R 826 (E) dt. Nov. 2009 is enclosed for reference applicable in buffer zone.

Analysed By

Checked By

TEST REPORT								
09/20 Test Report no. 1601	Job No. 094320075	Year	FY2020-21					
Type of Sample	Ambient Air	Quarter Ending	Sep-20					
Customer	CCL							
Mode of Receipt of Sample:	Joint sampling with customer							
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32							
Remarks & Observation:	All samplers placed 1.5 m abo	ove ground level						

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori Project: Dhori Khas Colliery Stations: Makuli Colony

					Paramete	ers (in µg/m	3)		XX7: 1
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Matter	Particulate Matter (PM 10)	Particulate Matter (PM2.5)	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO ₂)	Wind Direction (from) & Weather
Jul-20 1st FN	07/07/20- 08/07/20	20-07-2020	20/07/20- 22/07/20	117	61	27	< 25	< 6	West Sunny
Jul-20 2nd FN	21/07/20- 22/07/20	03-08-2020	03/08/20- 04/08/20	180	83	40	< 25	< 6	West Sunny
Aug-20 3rd FN	03/08/20- 04/08/20	17-08-2020	17/08/20- 19/08/20	106	61	28	< 25	< 6	East Cloud
Aug-20 4th FN	17/08/20- 18/08/20	01-09-2020	01/09/20- 03/09/20	133	68	35	< 25	< 6	East Sunny
Sep-20 5th FN	01/09/20- 02/09/20	16-09-2020	16/09/20- 18/09/20	171	95	46	< 25	< 6	East Rain
Sep-20 6th FN	17/09/20- 18/09/20	01-10-2020	01/10/20- 05/07/20	164	88	41	< 25	< 6	East Rain

Note:

- 1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is enclosed along for reference applicable in core zone.
- 2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is enclosed for reference applicable in buffer zone.

Analysed By

Checked By

TEST REPORT								
09/20 Test Report no. 1602	Job No. 094320075	Year	FY2020-21					
Type of Sample	Ambient Air	Quarter Ending	Sep-20					
Customer	CCL	·						
Mode of Receipt of Sample:	Joint sampling with customer							
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -20	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32						
Remarks & Observation:	All samplers placed 1.5 m abo	ove ground level						

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori Project: Dhori Khas Colliery Stations: Pichari Village

Month	Date of	Date of	Date of		Parame	ters (in µg	g/m ³)		Wind
	Sampling	receipt of sample	analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate Matter (PM ₁₀)	Particulate Matter (PM2.5)	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO ₂)	Direction (from) & Weather
Jul-20 1st FN	08/07/20- 09/07/20	20-07-2020	20/07/20- 22/07/20	146	77	37	< 25	< 6	West Sunny
Jul-20 2nd FN	22/07/20- 23/07/20	03-08-2020	03/08/20- 04/08/20	163	83	37	< 25	< 6	West Sunny
Aug-20 3rd FN	04/08/20- 05/08/20	17-08-2020	17/08/20- 19/08/20	111	60	24	< 25	< 6	East Cloud
Aug-20 4th FN	18/08/20- 19/08/20	01-09-2020	01/09/20- 03/09/20	107	57	27	< 25	< 6	East Sunny
Sep-20 5th FN	02/09/20- 03/09/20	16-09-2020	16/09/20- 18/09/20	101	50	29	< 25	< 6	East Rain
Sep-20 6th FN	18/09/20- 19/09/20	01-10-2020	01/10/20- 05/07/20	196	91	45	< 25	< 6	East Rain

Note:

- 1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is enclosed along for reference applicable in core zone.
- 2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is enclosed for reference applicable in buffer zone.

Analysed By

Checked By

TEST REPORT								
09/20 Test Report no. 1603	Job No. 094320075	Year	FY2020-21					
Type of Sample	Ambient Air	Quarter Ending	Sep-20					
Customer	CCL							
Mode of Receipt of Sample:	Joint sampling with customer							
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -201	0, Methods for Measurement of Air	Pollution, LQR 32					
Remarks & Observation:	All samplers placed 1.5 m abov	e ground level						

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori Project: Dhori Khas Colliery Stations: Central Colony (filter plant)

					Paramete	ers (in μg/m	3)		Wind
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate Matter (PM ₁₀)	Particulate Matter (PM2.5)	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO ₂)	Direction (from) & Weather
Jul-20 1st FN	08/07/20- 09/07/20	20-07-2020	20/07/20- 22/07/20	194	66	34	< 25	< 6	West Sunny
Jul-20 2nd FN	22/07/20- 23/07/20	03-08-2020	03/08/20- 04/08/20	136	77	41	< 25	< 6	West Sunny
Aug-20 3rd FN	04/08/20- 05/08/20	17-08-2020	17/08/20- 19/08/20	120	80	31	< 25	< 6	East Cloud
Aug-20 4th FN	18/08/20- 19/08/20	01-09-2020	01/09/20- 03/09/20	130	61	24	< 25	< 6	East Sunny
Sep-20 5th FN	02/09/20- 03/09/20	16-09-2020	16/09/20- 18/09/20	139	64	33	< 25	< 6	East Rain
Sep-20 6th FN	18/09/20- 19/09/20	01-10-2020	01/10/20- 05/07/20	133	56	23	< 25	< 6	East Rain

Note:

- 1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is enclosed along for reference applicable in core zone.
- 2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is enclosed for reference applicable in buffer zone.

Analysed By

Checked By

TEST REPORT								
09/20 Test Report no. 1604	Job No. 094320075	Year	FY2020-21					
Type of Sample:	Noise	Quarter Ending	Sep-20					
Customer	CCL							
Testing/Sampling Protocol:	'The noise pollution (Regu	lation and Control), Rules,2000, Ly	QR34					
Remarks:								

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori **Project: Dhori Khas Colliery**

	Noise Level								
Station Name	Jul-20 1st FN	Jul-20 2nd FN	Aug-20 3rd FN	Aug-20 4th FN	Sep-20 5th FN	Sep-20 6th FN			
Date of recording	07-07-2020	21-07-2020	03-08-2020	17-08-2020	01-09-2020	17-09-2020			
Sarda Colony	48.7	48.3	49.8	48.7	47.4	49.4			
Date of recording	07-07-2020	21-07-2020	03-08-2020	17-08-2020	01-09-2020	17-09-2020			
Makuli Colony	49.5	49.5	50.2	49.2	48.3	50.2			
Date of recording	07-07-2020	21-07-2020	03-08-2020	17-08-2020	01-09-2020	17-09-2020			
Pichari Village	50.6	51.4	51.3	50.3	50.2	51.5			
Date of recording	08-07-2020	22-07-2020	04-08-2020	18-08-2020	02-09-2020	18-09-2020			
Central Colony (Filter Plant)	51.5	52.2	49.7	52.2	51.3	52.3			

Ambient Air Quality Standards in respect of Noise as per 'The noise pollution (Regulation and Control), Rules,2000							
Time Frame	Limits in	dB(A) Leq					
	Day Time Night Time 6.00 AM to 10.00 PM 10.00 PM to 6.00 AM						
Industrial Area	75	70					
Commercial Area	65	55					
Residential area	55 45						
Silence Zone	50	40					

Analysed By

Checked By

TEST REPORT									
09/20 Test Report no. 1605	Job No. 094320075	Year	FY2020-21						
Type of Sample:	Effluent Water	Quarter Ending	Sep-20						
Customer	CCL								
Mode of Receipt of Sample:	Joint sampling with customer								
Testing/Sampling Protocol:	MOEF -SCH-VI STANDARDS	MOEF -SCH-VI STANDARDS, Class 'A'. LQR 33							
Remarks & Observation:	Samples received in 5 ltrs plastic	Jerri cane, Colour as observed is tra	ansparent						

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori **Project: Dhori Khas Colliery Stations:** Lagoon Discharge

	Analysis Results of FN Effluent Water								
Parameters →				COD	O & G	pH value	TSS		
Detection Limit				4	2	1	10		
MOEF -SCH-V	I, STANDARDS	S, Class 'A'		250	10	5.5 to 9.0	100		
Month	Date of Sampling	Date of Receipt of Sample	Date of Analysis	Value in mg/l, except pH					
Jul-20 1st FN	08/07/20	20/07/20	20/07/20- 04/08/20	24	<2.00	8.19	30		
Jul-20 2nd FN	24/07/20	03/08/20	03/08/20- 19/08/20	20	<2.00	7.86	27		
Aug-20 3rd FN	07/08/20	17/08/20	17/08/20- 29/08/20	20	<2.00	7.77	24		
Aug-20 4th FN	19/08/20	01/09/20	01/09/20- 16/09/20	32	<2.00	7.9	37		
Sep-20 5th FN	04/09/20	16/09/20	16/09/20- 30/09/20	12	<2.00	7.74	18		
Sep-20 6th FN	21/09/20	01/10/20	01/10/20- 12/10/20	24	<2.00	7.28	28		
BIS Standard & Method				APHA, 23rd Edition, Closed Reflux, Titrimetric Method, 2017	IS 3025/39:1991, R: 2003, Partition Gravimetric	IS-3025/11:1983, R-1996, Electrometric	IS 3025/17:1984, R :1996, Gravimetric Method		

Analysed By

Checked By

TEST REPORT								
09/20 Test Report no. 1606	Job No. 094320075	Year	FY2020-21					
Type of Sample:	Surface Water	Quarter Ending	Sep-20					
Customer	CCL	Date of Receipt:	20-07-2020					
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	20.07.20-20.09.20					
Testing/Sampling Protocol:	LQR 33							
Remarks & Observation:	Samples received in 5 ltrs plastic J	erri cane, Colour as observed	d is transparent					

TEST RESULT

The sample has been tested with the following results: -

Dhori Khas Colliery Date of Sampling: Dhori **Project:** Area: **Stations:**

Jhoria Nala before Conf. with Damodar

08-07-2020

Sl.No	Parameter		Sampling	Stations		Detection	BIS Standard & Method
		1	2	3	4	Limit	
1	Arsenic (as As), mg/l, Max	<0.002				0.002	IS 3025/37:1988
2	BOD (3 days 27°C), mg/l, Max	₹0.002				2.00	R: 2003, AAS-VGA, Method IS 3025 /44: 1993, R: 2003
2	BOD (3 days 27°C), Hig/I, Wax	2.4				2.00	3 day incubation at 27°C
3	Cadmium(as Cd), mg/l, Max	<0.0004				0.0004	APHA, 23rd Edition
		<0.0004				2.00	AAS-GTA Method, 2017 IS-3025/32:1988, R-2007,
4	Chlorides (as Cl), mg/l, Max	6				2.00	Argentometric Method
5	Copper (as Cu), mg/l, Max					0.02	IS 3025/42: 1992, R : 2009,
	copper (us cu), mg/1, wux	<0.02					AAS (Air-Ac-Flame)
6	Dissolved Oxygen, min.	5.4				0.10	IS 3025/38: 1989, R:2003,
	FI 11 (F) (136	5.4				0.02	Winkler Azide Method
7	Fluoride (as F) mg/l, Max	0.8				0.02	APHA, 23rd Edition, SPADNS Method, 2017
8	Hexavalent Chromium, mg/l, Max					0.01	APHA, 23rd Edition, 2017
	Tiexavaient emonium, mg/i, wax	<0.01					Diphenylcarbohydrazide,
9	Iron (as Fe), mg/l, Max	<0.04				0.04	IS 3025 /53: 2003, R : 2009,
10	T 1 (DI) // DE	<u> </u>				0.001	AAS (Air-Ac-Flame) APHA, 23rd Edition
10	Lead (as Pb), mg/l, Max	< 0.001				0.001	AAS-GTA Method, 2017
11	Nitrate (as NO ₃), mg/l, Max					0.50	APHA, 23rd Edition, UV -
	1 (11 acc (us 1 (5)), 11 g. 1, 11 acc	2.60					Spectrophotometric, 2017
12	pH value	7.22				1.0	IS-3025/11:1983, R-1996,
12	DI 1' 1	7.22				0.001	Electrometric Method APHA, 23rd Edition, 2017,
13	Phenolic compounds	<0.001				0.001	4-Amino Antipyrine Method,
1.4	(as C ₆ H ₅ OH), mg/l, Max	₹0.001				0.0005	IS 3025/56:2003
14	Selenium (as Se), mg/l, Max	<0.0005				0.0003	AAS-VGA Method
15	Sulphate (as SO ₄) mg/l, Max					2.00	APHA, 23rd Edition
		16					Turbidity Method, 2017
16	Total Dissolved Solids, mg/l, Max	152				25.00	IS 3025 /16:1984
17	Total Suspended Solids, mg/l, Max	132				10.00	R: 2006, Gravimetric Method IS 3025 /17:1984,
1/	Total Suspended Solids, Ilig/1, Max	48				10.00	R :1996, Gravimetric Method
18	Zinc (as Zn), mg/l, Max	0.04				0.005	IS 3025 /49: 1994, R : 2009,
	- (/,/-	0.04					AAS (Air-Ac-Flame)

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Note: 1) This Report refers to the values obtained at the time of testing and results related to the items tested 2) This Report cannot be reproduced in part or full without written permission of the management.

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TEST REPORT

09/20 Test Report no. 1607	Job No. 094320075	Year	FY2020-21				
Type of Sample:	Drinking Water	Quarter Ending	Sep-20				
Customer	CCL	Date of Receipt:	20-07-2020				
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	20.07.20-20.09.20				
Testing/Sampling Protocol:	IS:10500 Drinking Water Standards, LQR 33						
Remarks & Observation:	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent						

TEST RESULT

The sample has been tested with the following results: -

Dhori **Project: Dhori Khas Colliery** Area: **Date of Sampling: Stations:**

1. Central Colony Filter Plant, Near DAV Makoli

Sl.N	Parameter	Sampl	ing Statio	ons	Detection	IS:10500	Standard / Test Method
0		1	2	3	Limit	Standards	
1	Boron (as B), mg/l, Max	<0.20			0.20	0.5	APHA, 23rd Edition Carmine Method; 2017
2	Cadmium (as Cd), mg/l, Max	<0.0004			0.0004	0.003	APHA, 23rd Edition AAS-GTA Method, 2017
3	Calcium (as Ca), mg/l, Max	43.2			1.60	75	IS-3025/40:1991, EDTA
4	Chloride (as Cl), mg/l, Max	60			2.00	250	IS-3025/32:1988, R-2007, Argentometric Method
5	Copper (as Cu), mg/l, Max	<0.02			0.02	0.05	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)
6	Fluoride (as F) mg/l, Max	0.4			0.02	1.0	APHA, 23rd Edition, SPADNS Method, 2017
7	Free Residual Chlorine, mg/l, Min	0.05			0.02	0.2	APHA, 23rd Edition, DPD Method, 2017
8	Iron (as Fe), mg/l, Max	<0.04			0.04	0.3	IS 3025 /53: 2003, R : 2009, AAS (Air-Ac-Flame)
9	Lead (as Pb), mg/l, Max	<0.001			0.001	0.01	APHA, 23rd Edition AAS-GTA Method, 2017
10	Manganese (as Mn), mg/l, Max	<0.01			0.01	0.1	IS-3025/59:2006, AAS (Air- Ac-Flame) Method
11	Nickel (as Ni), mg/l, Max	<0.003			0.003	0.02	APHA, 23rd Edition, 3120 B, ICP Method: 2017
12	Nitrate (as NO ₃), mg/l, Max	7.10			0.5	45	APHA, 23rd Edition, UV- Spectrophotometric, 2017
13	Odour	Agreable			Qualitative	Agreeable	IS 3025 /05:1983, R-2012, Qualitative
14	pH value	7.14			1.0	6.5 to 8.5	IS-3025/11:1983, R-1996, Electrometric Method
15	Phenolic compounds (as C ₆ H ₅ OH), mg/l, Max	<0.001			0.001	0.001	APHA, 23rd Edition,4-Amino Autipyrine, 2017
16	Selenium (as Se), mg/l, Max	<0.0005			0.0005	0.01	IS 3025/56:2003 AAS-VGA Method
17	Sulphate (as SO ₄) mg/l, Max	102			2.00	200	APHA, 23rd Edition. Turbidity Method, 2017
18	Total Alkalinity (caco3),mg/l, Max	260			4.00	200	IS-3025/23:1986,R: 2009, Titration Method
19	Total Arsenic (as As), mg/l, Max	<0.002			0.002	0.01	IS 3025/ 37:1988 R : 2003, AAS-VGA: 1998
20	Total Chromium (as Cr), mg/l, Max	0.008			0.002	0.05	APHA, 23rd Edition, 3120 B, ICP Method: 2017
21	Total Dissolved Solids, mg/l, Max	576			25.00	500	IS 3025 /16:1984 R: 2006, Gravimetric Method
22	Total Hardness (caco3), mg/l, Max	364			4.00	200	IS-3025/21:1983, R-2009, EDTA Method
23	Turbidity, NTU, Max	1			1.0	1	IS-3025/10:1984 R-1996, Nephelometric Method
24	Zinc (as Zn), mg/l, Max	0.067			0.005	5.0	IS 3025 /49: 1994, R : 2009, AAS (Air-Ac-Flame)

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TEST REPORT							
12/20 Test Report no. 1600	Job No. 094320075	Year	FY2020-21				
Type of Sample	Ambient Air	Quarter Ending	Dec-20				
Customer	CCL	·					
Mode of Receipt of Sample:	Joint sampling with customer						
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32						
Remarks & Observation:	All samplers placed 1.5 m abo	All samplers placed 1.5 m above ground level					

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori Project: Dhori Khas Colliery Stations: Sarda Colony

					Paramete	ers (in µg/m	³)		Wind
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate	Particulate Matter (PM2.5)	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO ₂)	Direction (from) & Weather
Oct-20 1st FN	01/10/20- 02/10/20	16-10-2020	16/10/20- 19/10/20	182	70	34	< 25	< 6	East Rain
Oct-20 2nd FN	17/10/20- 18/10/20	02-11-2020	02/11/20- 05/11/20	309	110	69	< 25	< 6	West Sunny
Nov-20 3rd FN	02/11/20- 03/11/20	17-11-2020	17/11/20- 19/11/20	107	58	24	< 25	< 6	West Sunny
Nov-20 4th FN	17/11/20- 18/11/20	01-12-2020	01/12/20- 03/12/20	113	60	36	< 25	< 6	West Cloud
Dec-20 5th FN	01/12/20- 02/12/20	16-12-2020	16/12/20- 19/12/20	206	94	54	< 25	< 6	West Sunny
Dec-20 6th FN	17/12/21- 18/12/21	01-01-2021	01/01/21- 05/01/21	131	74	44	< 25	< 6	West Sunny

Note:

- $1.\ Gazette\ Notification\ No.\ G.S.R\ 742 (E)\ dt. 25 th\ Sept. '2000\ is\ enclosed\ along\ for\ reference\ applicable\ in\ core\ zone.$
- 2. Gazette Notification No. G.S.R 826 (E) dt. Nov. 2009 is enclosed for reference applicable in buffer zone.

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TEST REPORT							
12/20 Test Report no. 1601	Job No. 094320075	Year	FY2020-21				
Type of Sample	Ambient Air	Quarter Ending	Dec-20				
Customer	CCL	·					
Mode of Receipt of Sample:	Joint sampling with customer						
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32						
Remarks & Observation:	: All samplers placed 1.5 m above ground level						

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori Project: Dhori Khas Colliery Stations: Makuli Colony

					Parameters (in µg/m³)				
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Matter	Particulate Matter (PM 10)	Particulate Matter (PM2.5)	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO ₂)	Wind Direction (from) & Weather
Oct-20 1st FN	02/10/20- 03/10/20	16-10-2020	16/10/20- 19/10/20	129	56	23	< 25	< 6	East Rain
Oct-20 2nd FN	17/01/20- 18/01/20	02-11-2020	02/11/20- 05/11/20	157	78	36	< 25	< 6	West Sunny
Nov-20 3rd FN	02/11/20- 03/11/20	17-11-2020	17/11/20- 19/11/20	168	81	37	< 25	< 6	West Sunny
Nov-20 4th FN	17/11/20- 18/11/20	01-12-2020	01/12/20- 03/12/20	155	79	39	< 25	< 6	West Cloud
Dec-20 5th FN	01/12/20- 02/12/20	16-12-2020	16/12/20- 19/12/20	318	157	77	< 25	< 6	West Sunny
Dec-20 6th FN	17/12/21- 18/12/21	01-01-2021	01/01/21- 05/01/21	305	148	84	< 25	< 6	West Sunny

^{1.} Gazette Notification No. G.S.R 742(E) dt.25th Sept. 2000 is enclosed along for reference applicable in core zone.

^{2.} Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is enclosed for reference applicable in buffer zone.

TEST REPORT							
12/20 Test Report no. 1602	Job No. 094320075	Year	FY2020-21				
Type of Sample	Ambient Air	Quarter Ending	Dec-20				
Customer	CCL	<u> </u>					
Mode of Receipt of Sample:	Joint sampling with customer						
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32						
Remarks & Observation:	All samplers placed 1.5 m abo	All samplers placed 1.5 m above ground level					

TEST RESULT

The sample has been tested with the following results: -

Dhori **Project: Dhori Khas Colliery** Pichari Village Area: **Stations:**

					Parameters (in µg/m³)				
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate	Particulate Matter (PM2.5)	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO ₂)	Wind Direction (from) & Weather
Oct-20 1st FN	02/10/20- 03/10/20	16-10-2020	16/10/20- 19/10/20	160	77	40	< 25	< 6	East Rain
Oct-20 2nd FN	18/10/20- 19/10/20	02-11-2020	02/11/20- 05/11/20	115	68	32	< 25	< 6	West Sunny
Nov-20 3rd FN	03/11/20- 04/11/20	17-11-2020	17/11/20- 19/11/20	115	63	30	< 25	< 6	West Sunny
Nov-20 4th FN	18/11/20- 19/11/20	01-12-2020	01/12/20- 03/12/20	307	146	69	< 25	< 6	West Cloud
Dec-20 5th FN	02/12/20- 03/12/20	16-12-2020	16/12/20- 19/12/20	144	78	41	< 25	< 6	West Sunny
Dec-20 6th FN	18/12/21- 19/12/21	01-01-2021	01/01/21- 05/01/21	167	83	43	< 25	< 6	West Sunny

Note:

- 1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is enclosed along for reference applicable in core zone.
- 2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is enclosed for reference applicable in buffer zone.

Analysed By

Checked By

TEST REPORT								
12/20 Test Report no. 1603	Job No. 094320075	Year	FY2020-21					
Type of Sample	Ambient Air	Quarter Ending	Dec-20					
Customer	CCL							
Mode of Receipt of Sample:	Joint sampling with customer							
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32							
Remarks & Observation:	All samplers placed 1.5 m above	All samplers placed 1.5 m above ground level						

TEST RESULT

The sample has been tested with the following results: -

Central Colony (filter plant) Area: Dhori **Project: Dhori Khas Colliery Stations:**

					Parameters (in µg/m³)				Wind
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Matter	Particulate Matter (PM ₁₀)	Particulate Matter (PM2.5)	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO ₂)	Direction (from) & Weather
Oct-20 1st FN	03/10/20- 04/10/20	16-10-2020	16/10/20- 19/10/20	143	62	29	< 25	< 6	East Rain
Oct-20 2nd FN	18/10/20- 19/10/20	02-11-2020	02/11/20- 05/11/20	203	81	52	< 25	< 6	West Sunny
Nov-20 3rd FN	03/11/20- 04/11/20	17-11-2020	17/11/20- 19/11/20	150	71	32	< 25	< 6	West Sunny
Nov-20 4th FN	18/11/20- 19/11/20	01-12-2020	01/12/20- 03/12/20	203	92	45	< 25	< 6	West Cloud
Dec-20 5th FN	02/12/20- 03/12/20	16-12-2020	16/12/20- 19/12/20	206	108	58	< 25	< 6	West Sunny
Dec-20 6th FN	18/12/21- 19/12/21	01-01-2021	01/01/21- 05/01/21	134	76	36	< 25	< 6	West Sunny

Note:

- 1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is enclosed along for reference applicable in core zone.
- 2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is enclosed for reference applicable in buffer zone.

Analysed By

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	I LOT IVET OILT					
12/20 Test Report no. 1604	Job No. 094320075	Year	FY2020-21			
Type of Sample:	Noise	Quarter Ending	Dec-20			
Customer	CCL					
Testing/Sampling Protocol:	'The noise pollution (Regu	'The noise pollution (Regulation and Control), Rules, 2000, LQR34				
Remarks:						

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori **Project: Dhori Khas Colliery**

	Noise Level								
Station Name	Oct-20 1st FN	Oct-20 2nd FN	Nov-20 3rd FN	Nov-20 4th FN	Dec-20 5th FN	Dec-20 6th FN			
Date of recording	01-10-2020	17-10-2020	02-11-2020	17-11-2020	01-12-2020	17-12-2020			
Sarda Colony	49.3	50.3	49.2	50.4	49.2	49.6			
Date of recording	01-10-2020	17-10-2020	02-11-2020	17-11-2020	01-12-2020	17-12-2020			
Makuli Colony	50.2	49.3	51.3	49.8	50.5	50.2			
Date of recording	02-10-2020	17-10-2020	02-11-2020	17-11-2020	01-12-2020	17-12-2020			
Pichari Village	52.4	51.7	52.2	51.6	51.3	51.7			
Date of recording	02-10-2020	18-10-2020	03-11-2020	18-11-2020	02-12-2020	18-12-2020			
Central Colony (Filter Plant)	55.2	50.6	53.4	51.7	52.2	52.5			

Ambient Air Quality Standards in respect of Noise as per 'The noise pollution (Regulation and Control), Rules,2000							
Time Frame	Limits in dB(A) Leg						
	Day Time 6.00 AM to 10.00 PM	Night Time 10.00 PM to 6.00 AM					
Industrial Area	75	70					
Commercial Area	65	55					
Residential area	55	45					
Silence Zone	50	40					

Analysed By

Checked By

TEST REPORT							
12/20 Test Report no. 1605	Job No. 094320075	Year	FY2020-21				
Type of Sample:	Effluent Water	Quarter Ending	Dec-20				
Customer	CCL	1					
Mode of Receipt of Sample:	Joint sampling with customer						
Testing/Sampling Protocol:	MOEF -SCH-VI STANDARDS	MOEF -SCH-VI STANDARDS, Class 'A'. LQR 33					
Remarks & Observation:	Samples received in 5 ltrs plastic	Jerri cane, Colour as observed is tra	nsparent				

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori **Project: Dhori Khas Colliery Stations:** Lagoon Discharge

Analysis Results of FN Effluent Water								
	Paran	neters >	-	COD	O & G	pH value	TSS	
	Detect	tion Limit		4	2	0.2	10	
MOI	EF -SCH-VI, S	TANDARDS, (Class 'A'	250	10	5.5 to 9.0	100	
Month	Date of Sampling	Date of Receipt of Sample	Date of Analysis	Value in mg/l, except pH				
Oct-20 1st FN	06/10/20	16/10/20	16/10/20-05/11/20	24	<2.00	7.98	30	
Oct-20 2nd FN	19/10/20	02/11/20	02/11/20-13/11/20	20	<2.00	8.17	26.2	
Nov-20 3rd FN	06/11/20	17/11/20	17/11/20-01/12/20	20	20 <2.00		25.2	
Nov-20 4th FN	20/11/20	01/12/20	01/12/20-16/12/20	24	<2.00	7.84	30.4	
Dec-20 5th FN	00/01/00	00/01/00	00/01/00-00/01/00	0	0	0	0	
Dec-20 6th FN	21/12/20	01/01/21	01/01/21-08/01/21	20	<2.00	7.88	23.8	
BIS Standard & Method				APHA, 23rd Edition, Closed Reflux, Titrimetric Method, 2017	IS 3025/39:1991, R: 2003, Partition Gravimetric		IS 3025/17:1984, R :1996, Gravimetric Method	

Analysed By

Checked By

TEST REPORT

12/20 Test Report No. 1606	Job No. 094320075	Year	2020-21		
Type of Sample:	Effluent Water	Quarter Ending	Dec.'20		
Customer / W. O. no. & Date:	CCL	Date of Receipt of Sample:	16/12/20		
Mode of Receipt of Sample:	Joint sampling with customer	16/12/20-11/01/21			
Testing Protocol:	MOEF -SCH-VI STANDARDS, Class 'A', LQR 33				
Remarks & Observation:	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent				

TEST RESULT

The sample has been tested with the following results:-

Dhori **Project: Dhori Khas Colliery** Area:

Date of Sampling: Stations:

04/12/2020 1. Lagoon Discharge 2.

R; 2009, Ness R; 2009, Ness R; 2009, Ness R; 2003, A R; 2003	Sl.No.	Parameter	Sam	pling Stati	ons	Detection	MOEF -SCH-VI	BIS Standard & Method
1			1	2	3	Limit		
Arsenic (as As), mg/l, Max	1 Ammonical	Nitrogen, mg/l, Max				0.02	50.0	IS 3025/34:1988, R: 2009, Nessler's Method
R : 2003	2 Arsenic (as	As), mg/l, <i>Max</i>	< 0.002			0.002	0.2	IS 3025/37:1988
3 day incubal	i i							R : 2003, AAS-VGA
Section Sect			<2.00			2.00	30.0	IS 3025 /44:1993, R:2003 3 day incubation at 27°C
5 COD, mg/l, Max 24 4.00 250.0 APHA, 23rd Edition Trimetric M Trimetric M Trimetric M Onto Trimetric M	4 Cadmium(as	Cd), mg/l, Max	<0.0004			0.0004	2.0	APHA, 23rd Edition 3120 B ICP Method, 2017
6 Copper (as Cu), mg/l, Max < 0.02 3.0 IS 3025/42: 1992. R 7 Dissolved Phosphate, mg/l, Max 0.38 0.30 5.0 APHA. 287 8 Fluoride (as F) mg/l, Max 1.36 0.02 2.0 APHA. 287 9 Free Ammonia, mg/l, Max < 0.02	5 COD, mg/l, l	Max	24			4.00	250.0	APHA, 23rd Edition, Closed Reflux, Titrimetric Method: 2017
Molybdovanadata Residual Chlorine, mg/l, Max 1.36 0.02 2.0 APHA, 23r Ediction Residual Chlorine, mg/l, Max 1.36 0.02 2.0 APHA, 23r Ediction Residual Chromium Residual Chlorine, mg/l, Max 1.36 0.02 0.02 5.0 S.3025/3 S.2025/3 S.2025/3 Nesse 10 Hexavalent Chromium, mg/l, Max 0.01 0.01 0.1 0.01 0.1 APHA, 23r Size 12 Lead (as Pb), mg/l, Max 0.04 0.04 0.04 3.0 IS 3025/5 R. 2009, AAS-6 AAS (Air-4 Nickel (as Ni), mg/l, Max 0.01 0.01 2.0 IS 3025/3 AAS (Air-4 Nickel (as Ni), mg/l, Max 0.03 0.003 3.0 APHA, 23r 3ize B ICP M AAS (Air-4 Nickel (as Ni), mg/l, Max 0.93 0.50 10.0 APHA, 23rd Ediction AAS (Air-4 Nickel (as Ni), mg/l, Max 0.93 0.50 10.0 Sozo5/39:1991, R. Graviment 16 Oil & Grease, mg/l, Max 0.93 0.50 10.0 IS 3025/39:1991, R. Graviment 17 PH value 7.98 1.0 5.5 to 9.0 IS 3025/31:19 Electrometri 18 Phenolic compounds 0.001 0.001 1.0 APHA, 23rd Ediction			<0.02			0.02	3.0	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)
SPADNS Mc	7 Dissolved Ph	nosphate, mg/l, Max	0.38			0.30	5.0	APHA, 23rd Edition Molybdovanadate Method, 2017
Pree Ammonia, mg/l, Max	8 Fluoride (as	F) mg/l, Max	1.36			0.02	2.0	APHA, 23rd Edition, SPADNS Method, 2017
10 Hexavalent Chromium, mg/l, Max <0.01 0.01 0.1 APHA, 23n Diphenylcarb 11 Iron (as Fe), mg/l, Max <0.04 0.04 3.0 IS 3025/5 12 Lead (as Pb), mg/l, Max <0.001 0.001 0.1 APHA, 23n 23120 B ICP M 13 Manganese(as Mn), mg/l, Max <0.01 0.01 2.0 IS 3025/5 14 Nickel (as Ni), mg/l, Max <0.003 0.003 3.0 APHA, 23n 3120 B ICP M 15 Nitrate Nitrogen, mg/l, Max <0.093 0.50 10.0 APHA, 23n 3120 B ICP M 16 Oil & Grease, mg/l, Max <2.00 2.00 10.0 IS 3025/31:19 17 pH value 7.98 1.0 5.5 to 9.0 IS 3025/31:19 18 Phenolic compounds (as CaHsOH),mg/l, Max <0.001 0.001 1.0 APHA, 23nd Edit 19 Selenium (as Se), mg/l, Max <0.0005 0.0005 0.05 APHA, 23nd Edit 19 Selenium (as Se), mg/l, Max <0.0005 0.0005 0.05 APHA, 23nd Edit 20 Sulphide (as SO3), mg/l, Max <0.0005 0.0005 0.05 APHA, 23nd Edit 21 Temperature (°C) 24.2 Shall not exceed S°C above the receiving temp. Thermore 22 Total Chromium (as Cr), mg/l, Max <0.002 <0.002 2.0 APHA, 23nd Edit 23 Total Kjeldahl Nitrogen, mg/l, Max <0.002 0.002 1.0 APHA, 23nd Edit 24 Total Residual Chlorine, mg/l, Max <0.002 0.002 1.0 APHA, 23nd Edit 24 Total Residual Chlorine, mg/l, Max <0.002 0.002 1.0 APHA, 23nd Edit 24 Total Residual Chlorine, mg/l, Max <0.002 0.002 1.0 APHA, 23nd Edit 24 Total Residual Chlorine, mg/l, Max <0.002 0.002 1.0 APHA, 23nd Edit 26 Total Chromium (as Cr), mg/l, Max <0.002 0.002 1.0 APHA, 23nd Edit 26 Total Chromium (as C	9 Free Ammor	nia, mg/l, Max	< 0.02			0.02	5.0	IS:3025/34:1988, Nesseler's
11 Iron (as Fe), mg/l, Max <0.04 0.04 3.0 IS 3025/5 R: 2009, AAS-1 12 Lead (as Pb), mg/l, Max <0.001 0.001 0.1 APHA, 23rd Side (as Calso), mg/l, Max <0.001 0.001 0.001 2.0 IS-3025/5 13 Manganese(as Mn), mg/l, Max <0.003 0.001 2.0 IS-3025/3 14 Nickel (as Ni), mg/l, Max <0.003 0.003 3.0 APHA, 23rd Side (as Calso), mg/l, Max <0.003 0.50 10.0 APHA, 23rd Edita (as Calso), mg/l, Max <2.00 2.00 10.0 IS 3025/39/1991, R 16 Oil & Grease, mg/l, Max <2.00 2.00 10.0 IS 3025/39/1991, R 17 pH value 7.98 1.0 5.5 to 9.0 IS-3025/11/19 18 Phenolic compounds <0.001 0.001 1.0 APHA, 23rd Edita (as CalsoH), mg/l, Max <0.001 0.0005 0.05 APHA, 23rd Edita (as Calso), mg/l, Max <0.0005 0.0005 0.05 APHA, 23rd Edita (as Calso), mg/l, Max <0.0005 0.0005 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.0005 0.0005 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.0005 0.0005 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as Calso), mg/l, Max <0.002 2.0 APHA, 23rd Edita (as	10 Hexavalent 0	Chromium, mg/l, Max	<0.01			0.01	0.1	APHA, 23rd Edition, Diphenylcarbohydrazide
12 Lead (as Pb), mg/l, Max	11 Iron (as Fe),	mg/l, Max	< 0.04			0.04	3.0	IS 3025 /53: 2003, R: 2009, AAS-(Air-Ac-Flame)
13 Manganese(as Mn), mg/l, Max <0.01 0.01 2.0 IS-3025/5 AAS (Air-4 14 Nickel (as Ni), mg/l, Max <0.003 0.003 3.0 APHA, 23r 15 Nitrate Nitrogen, mg/l, Max 0.93 0.50 10.0 APHA, 23r I 16 Oil & Grease, mg/l, Max <2.00 2.00 10.0 IS 3025/39:1991, R 17 pH value 7.98 1.0 5.5 to 9.0 IS-3025/11:15 18 Phenolic compounds (as Celf-6H),mg/l, Max <0.001 0.001 1.0 APHA, 23r I Edectrometri 19 Selenium (as Se), mg/l, Max <0.0005 0.0005 0.05 APHA, 23r 20 Sulphide (as SO ₃), mg/l, Max <0.005 0.005 2.0 APHA, 23r 21 Temperature (°C) 24.2 Shall not exceed IS-3025/9:15 22 Total Chromium (as Cr), mg/l, Max <0.002 3.120 B I CP M 23 Total Kjeldahl Nitrogen, mg/l, Max 2.8 1.00 10.00 APHA, 23r 24 Total Residual Chlorine, mg/l, Max <0.02 0.02 1.0 APHA, 23r 24 Total Residual Chlorine, mg/l, Max <0.02 0.02 1.0 APHA, 23r 310 Editic 201	12 Lead (as Pb)	, mg/l, Max	< 0.001			0.001	0.1	APHA, 23rd Edition 3120 B ICP Method, 2017
14 Nickel (as Ni), mg/l, Max <0.003 0.003 3.0 APHA, 23r 15 Nitrate Nitrogen, mg/l, Max 0.93 0.50 10.0 APHA, 23rd Edit (as CeHsOH),mg/l, Max <2.00 2.00 10.0 IS 3025/39:1991, R Gravimetric (as CeHsOH),mg/l, Max <0.001 0.001 1.0 APHA, 23rd Edit (as CeHsOH),mg/l, Max <0.005 0.005 2.0 APHA, 23rd Edit (as CeHsOH),mg/l, Max <0.005 0.005 2.0 APHA, 23rd Edit (as CeHsOH),mg/l, Max <0.005 0.005 2.0 APHA, 23rd Edit (as CeHsOH),mg/l, Max <0.005 0.005 2.0 APHA, 23rd Edit (as CeHsOH),mg/l, Max <0.005 0.005 2.0 APHA, 23rd Edit (as CeHsOH),mg/l, Max <0.005 0.005 2.0 APHA, 23rd Edit (as CeHsOH),mg/l, Max <0.005 0.005 2.0 APHA, 23rd Edit (as CeHsOH),mg/l, Max <0.005 0.005 2.0 APHA, 23rd Edit (as CeHsOH),mg/l, Max <0.005 2.0 APHA, 23rd Edit (as CeHsOH),mg/l, Max <0.002 2.0 APHA, 23rd Edit (as CeHsOH),mg/l, Max <0.002 2.0 APHA, 23rd Edit (as CeHsOH),mg/l, Max 2.8 1.00 100.0 APHA, 23rd Edit (as CeHsOH),mg/l, Max <0.002 0.002 1.0 APHA, 23rd Editi (as CeHsOH),mg/l, Max <0.002 0.002 1.0 APHA, 23rd Editi (as CeHsOH),mg/l, Max <0.002 0.002 1.0 APHA, 23rd Editi (as CeHsOH),mg/l, Max <0.002 0.002 1.0 APHA, 23rd Editi (as CeHsOH),mg/l, Max <0.002 0.002 1.0 APHA, 23rd Editi (as CeHsOH),mg/l, Max <0.002 0.002 1.0 APHA, 23rd Editi (as CeHsOH),mg/l, Max <0.002 0.002 0.002 1.0 APHA, 23rd Editi (as CeHsOH),mg/l, Max <0.002 0.002	13 Manganese(a	as Mn), mg/l, Max	< 0.01			0.01	2.0	IS-3025/59:2006, AAS (Air-Ac-Flame)
15 Nitrate Nitrogen, mg/l, Max	14 Nickel (as N	i), mg/l, Max	< 0.003			0.003	3.0	APHA, 23rd Edition 3120 B ICP Method, 2017
16 Oil & Grease, mg/l, Max	15 Nitrate Nitro	gen, mg/l, Max	0.93			0.50	10.0	APHA, 23rd Edition, UV- Spectrphotometric Method, 2017
17 pH value 7.98 1.0 5.5 to 9.0 IS-3025/11:19 Electrometr 18 Phenolic compounds (as C ₆ H ₅ OH),mg/l, Max <0.001 0.001 1.0 APHA, 23rd Edit Antipyrine M 19 Selenium (as Se), mg/l, Max <0.0005 0.0005 0.005 APHA, 23r 3120 B ICP M 20 Sulphide (as SO ₃), mg/l, Max <0.005 0.005 2.0 APHA, 23r Methylene Blue 21 Temperature (°C) 24.2 Shall not exceed 5° C above the receiving temp. IS-3025/09:15 Thermore 22 Total Chromium (as Cr), mg/l, Max <0.002 <0.002 2.0 APHA, 23r 3120 B ICP M 23 Total Kjeldahl Nitrogen, mg/l, Max 2.8 1.00 100.0 APHA, 23rd Editic 201 24 Total Residual Chlorine, mg/l, Max <0.02 0.02 1.0 APHA, 23rd Editic 201	16 Oil & Grease	e, mg/l, Max	<2.00			2.00	10.0	IS 3025/39:1991, R : 2003, Partition Gravimetric Method
Antipyrine M Antipyrine M Antipyrine M Selenium (as Se), mg/l, Max <0.0005 0.0005 0.005 APHA, 23r 3120 B ICP M	17 pH value		7.98			1.0	5.5 to 9.0	IS-3025/11:1983, R-1996, Electrometric Method
19 Selenium (as Se), mg/l, Max <0.0005 0.0005 0.005 APHA, 23r 3120 B ICP M 20 Sulphide (as SO ₃), mg/l, Max <0.005			< 0.001			0.001	1.0	APHA, 23rd Edition, 4- Amino Antipyrine Method, 2017
20 Sulphide (as SO ₃), mg/l, Max <0.005 0.005 2.0 APHA, 23r Methylene Blue 21 Temperature (°C) 24.2 Shall not exceed 5° C above the receiving temp. IS-3025/09:15 Thermon 22 Total Chromium (as Cr), mg/l, Max <0.002	19 Selenium (as	s Se), mg/l, Max	< 0.0005			0.0005	0.05	APHA, 23rd Edition 3120 B ICP Method, 2017
21 Temperature (°C) 24.2 Shall not exceed 5° C above the receiving temp. IS-3025/09:19 Thermore 22 Total Chromium (as Cr), mg/l, Max <0.002	20 Sulphide (as	SO ₃), mg/l, Max	< 0.005			0.005	2.0	APHA, 23rd Edition Methylene Blue Method, 2017
22 Total Chromium (as Cr), mg/l, Max <0.002 <0.002 2.0 APHA, 23r 3120 B ICP M 23 Total Kjeldahl Nitrogen, mg/l, Max 2.8 1.00 100.0 APHA, 23r Kjeldahl Me 24 Total Residual Chlorine, mg/l, Max <0.02 0.02 1.0 APHA, 23r Editic 201 APHA, 23r Editic 23r Editic 201 APHA, 23r Editic	21 Temperature	(°C)	24.2					IS-3025/09:1984, R;2002, Thermometeric
23 Total Kjeldahl Nitrogen, mg/l, Max 2.8 1.00 100.0 APHA, 23n Kjeldahl Me 24 Total Residual Chlorine, mg/l, Max <0.02	22 Total Chrom	ium (as Cr), mg/l, Max	< 0.002			< 0.002	2.0	APHA, 23rd Edition 3120 B ICP Method, 2017
24 Total Residual Chlorine, mg/l, Max <0.02 0.02 1.0 APHA, 23rd Edition 201 201 201 201 201 201 201	23 Total Kjelda	hl Nitrogen, mg/l, Max	2.8			1.00	100.0	APHA, 23rd Edition, Kjeldahl Method: 2017
	24 Total Residu	al Chlorine, mg/l, Max	< 0.02			0.02	1.0	APHA, 23rd Edition, DPD Method, 2017
20 Total Buspended Bolles, 112, 17tax 50.1	25 Total Susper	nded Solids, mg/l, Max	30.4			10.00	100.0	IS 3025/17:1984, R:1996, Gravimetric Method
26 Zinc (as Zn), mg/l, <i>Max</i> <0.005 0.005 5.0 IS 3025 /49: 19	26 Zinc (as Zn).	, mg/l, Max	< 0.005			0.005	5.0	IS 3025 /49: 1994, R: 2009, AAS (Air-Ac-Flame)

Analysed By

Checked By

Note: 1) This Report refers to the values obtained at the time of testing and results related to the items tested 2) This Report cannot be reproduced in part or full without written permission of the management.

³⁾ This is computer generated report and requires no signature.

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12/20 Test Report no. 1607	Job No. 094320075	Year	FY2020-21					
Type of Sample:	Surface Water	Quarter Ending	Dec-20					
Customer	CCL	Date of Receipt:	16-10-2020					
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	16.10.20-10.01.21					
Testing/Sampling Protocol:	LQR 33							
Remarks & Observation:	Samples received in 5 ltrs plastic J	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent						

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori Project: Dhori Khas Colliery Stations: Date of Sampling:

1. Jhoria Nala before Conf. with Damodar

06-10-2020

Sl.No	Parameter Sampling Stations			Detection	BIS Standard & Method		
		1	2	3	4	Limit	
1	Arsenic (as As), mg/l, Max	<0.002				0.002	IS 3025/37:1988
2	BOD (3 days 27°C), mg/l, Max	\0.002				2.00	R: 2003, AAS-VGA, Method IS 3025 /44: 1993, R: 2003
	BOD (3 days 27°C), hig/i, Max	2				2.00	3 day incubation at 27°C
3	Cadmium(as Cd), mg/l, Max	<0.0004				0.0004	APHA, 23rd Edition
		<u> </u>				2.00	AAS-GTA Method, 2017 IS-3025/32:1988, R-2007,
4	Chlorides (as Cl), mg/l, Max	8				2.00	Argentometric Method
5	Copper (as Cu), mg/l, Max	_				0.02	IS 3025/42: 1992, R : 2009,
	copper (us cu), mg/i, mux	<0.02					AAS (Air-Ac-Flame)
6	Dissolved Oxygen, min.	6				0.10	IS 3025/38: 1989, R:2003,
		O				0.02	Winkler Azide Method
7	Fluoride (as F) mg/l, Max	1.27				0.02	APHA, 23rd Edition, SPADNS Method, 2017
8	Hexavalent Chromium, mg/l, Max					0.01	APHA, 23rd Edition, 2017
	Tiexavaient emonium, mg/i, wax	< 0.01				0.00	Diphenylcarbohydrazide,
9	Iron (as Fe), mg/l, Max	<0.04				0.04	IS 3025 /53: 2003, R : 2009,
	7 1 (71)	<0.04				0.004	AAS (Air-Ac-Flame)
10	Lead (as Pb), mg/l, Max	< 0.001				0.001	APHA, 23rd Edition AAS-GTA Method, 2017
11	Nitrate (as NO ₃), mg/l, Max					0.50	APHA, 23rd Edition, UV -
11	1 vitrate (us 1 vo 3), 111g/1, 1 viux	3.20				0.50	Spectrophotometric, 2017
12	pH value	0.3				1.0	IS-3025/11:1983, R-1996,
		8.2					Electrometric Method
13	Phenolic compounds	10.001				0.001	APHA, 23rd Edition, 2017, 4-Amino Antipyrine Method,
	(as C ₆ H ₅ OH), mg/l, Max	<0.001					= =
14	Selenium (as Se), mg/l, Max	<0.0005				0.0005	IS 3025/56:2003 AAS-VGA Method
15	Sulphate (as SO ₄) mg/l, Max	10.0003				2.00	APHA, 23rd Edition
13	Surpriace (as 504) mg/1, wax	15				2.00	Turbidity Method, 2017
16	Total Dissolved Solids, mg/l, Max	100				25.00	IS 3025 /16:1984
		196				10.00	R: 2006, Gravimetric Method
17	Total Suspended Solids, mg/l, Max	24.2				10.00	IS 3025 /17:1984, R :1996, Gravimetric Method
18	Zinc (as Zn), mg/l, Max	27.2				0.005	IS 3025 /49: 1994, R : 2009,
10	Zinc (as Zii), ilig/i, iviax	0.01				0.003	AAS (Air-Ac-Flame)

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TEST REPORT

12/20 Test Report no. 1608	Job No. 094320075	Year	FY2020-21			
Type of Sample:	Drinking Water	Quarter Ending	Dec-20			
Customer	CCL	Date of Receipt:	16-10-2020			
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	16.10.20-10.01.21			
Testing/Sampling Protocol:	IS:10500 Drinking Water Standards, LQR 33					
Remarks & Observation:	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent					

TEST RESULT

The sample has been tested with the following results: -

Dhori **Project: Dhori Khas Colliery** Area: Date of Sampling: **Stations:**

1. Central Colony Filter Plant, Near DAV Makoli

Sl.N	Parameter	Sampli	ng Station	ıs	Detectio	IS:10500	Standard / Test Method
0		1	2	3	n Limit	Standards	
1	Boron (as B), mg/l, Max	<0.20			0.20	0.5	APHA, 23rd Edition Carmine Method; 2017
2	Cadmium (as Cd), mg/l, Max	<0.0004			0.0004	0.003	APHA, 23rd Edition AAS-GTA Method, 2017
3	Calcium (as Ca), mg/l, Max	10			1.60	75	IS-3025/40:1991, EDTA
4	Chloride (as Cl), mg/l, Max	10			2.00	250	IS-3025/32:1988, R-2007, Argentometric Method
5	Copper (as Cu), mg/l, Max	<0.02			0.02	0.05	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)
6	Fluoride (as F) mg/l, Max	0.58			0.02	1.0	APHA, 23rd Edition, SPADNS Method, 2017
7	Free Residual Chlorine, mg/l, Min	<0.02			0.02	0.2	APHA, 23rd Edition, DPD Method, 2017
8	Iron (as Fe), mg/l, Max	<0.04			0.04	0.3	IS 3025 /53: 2003, R : 2009, AAS (Air-Ac-Flame)
9	Lead (as Pb), mg/l, Max	<0.001			0.001	0.01	APHA, 23rd Edition AAS-GTA Method, 2017
10	Manganese (as Mn), mg/l, Max	<0.01			0.01	0.1	IS-3025/59:2006, AAS (Air- Ac-Flame) Method
11	Nickel (as Ni), mg/l, Max	<0.003			0.003	0.02	APHA, 23rd Edition, 3120 B, ICP Method: 2017
12	Nitrate (as NO ₃), mg/l, Max	4.60			0.5	45	APHA, 23rd Edition, UV- Spectrophotometric, 2017
13	Odour	Agreeable			Qualitative	Agreeable	IS 3025 /05:1983, R-2012, Qualitative
14	pH value	7.43			1.0	6.5 to 8.5	IS-3025/11:1983, R-1996, Electrometric Method
15	Phenolic compounds (as C ₆ H ₅ OH), mg/l, Max	<0.001			0.001	0.001	APHA, 23rd Edition,4-Amino Autipyrine, 2017
16	Selenium (as Se), mg/l, Max	<0.0005			0.0005	0.01	IS 3025/56:2003 AAS-VGA Method
17	Sulphate (as SO ₄) mg/l, Max	35			2.00	200	APHA, 23rd Edition. Turbidity Method, 2017
18	Total Alkalinity (caco3),mg/l, Max	64			4.00	200	IS-3025/23:1986,R: 2009, Titration Method
19	Total Arsenic (as As), mg/l, Max	<0.002			0.002	0.01	IS 3025/ 37:1988 R : 2003, AAS-VGA: 1998
20	Total Chromium (as Cr), mg/l, Max	<0.002			0.002	0.05	APHA, 23rd Edition, 3120 B, ICP Method: 2017
21	Total Dissolved Solids, mg/l, Max	154			25.00	500	IS 3025 /16:1984 R: 2006, Gravimetric Method
22	Total Hardness (caco3), mg/l, Max	96			4.00	200	IS-3025/21:1983, R-2009, EDTA Method
23	Turbidity, NTU, Max	1			1.0	1	IS-3025/10:1984 R-1996, Nephelometric Method
24	Zinc (as Zn), mg/l, Max	0.045			0.005	5.0	IS 3025 /49: 1994, R : 2009, AAS (Air-Ac-Flame)

Analysed By

Checked By

TEST REPORT

STATION STATE	Lab No. T-2	b No. T-2187							
AND WEEK	12/20 Test Report No. Metal/01		Job No. 094320075	2020-21					
TC - 7470									
Type of Sample	e	Ambient Air	Quarter Ending	Dec.'20					
Customer		CCL	Date of Receipt of Sample:	16/12/2020					
Mode of Recei	pt of Sample:	Joint sampling with customer Date of Analysis:		17/02-17/02/2021					
Sampling Protocol:		USEPA IO-3.2: 1999, LQR 32							
Remarks & Observation: All samplers placed 1.5 m above ground level									

TEST RESULT

The sample has been tested with the following results: -

Area:	Dhori	Project:	Dhori Khas Colliery
Stations:			Date of Sampling:
	1. Sarda Colony		01-02/12/2020
	2. Makuli Colony		01-02/12/2020
	3. Pichari Village		01-02/12/2020
	4. Central Colony (filter plant)		02-03/12/2020

S.N o	Test Parameters	Units		Test Result		Method detection	Limit (NAAQS-	Test Method	
	Stations:		1	2	3	4	Limit	2011)	
1	Conc. of As in Air	ng/m ³	2.94	5.63	6.64	3.78	0.1	6.00	USEPA IO- 3.2:1999
2	Conc. of Pb in Air	μg/m ³	<0.02	0.03	0.06	< 0.02	0.02	0.5	USEPA IO- 3.2:1999
3	Conc. of Ni in Air	ng/m ³	4.04	7.33	15.31	1.20	0.1	20.00	USEPA IO- 3.2: 1999

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TEST REPORT							
03/21 Test Report no. 1600	Job No. 094320075	Year	FY2020-21				
Type of Sample	Ambient Air	Quarter Ending	Mar-21				
Customer	CCL	· · · · · · · · · · · · · · · · · · ·					
Mode of Receipt of Sample:	Joint sampling with customer						
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32						
Remarks & Observation:	All samplers placed 1.5 m above	ve ground level					

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori Project: Dhori Khas Colliery Stations: Sarda Colony

		Date of			Paramete	ers (in µg/m	3)		Wind
Month	Date of Sampling	receipt of sample	Date of analysis		Particulate Matter (PM ₁₀)	Particulate Matter (PM _{2.5})	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO _x)	Direction (from) & Weather
Jan-21 1st FN	05/01/21- 06/01/21	18-01-2021	18/01/21- 20/01/21	314	136	71	< 25	< 6	East Rain
Jan-21 2nd FN	19/01/21- 20/01/21	01-02-2021	01/02/21- 04/01/21	133	75	37	< 25	< 6	West Cloud
Feb-21 3rd FN	02/02/21- 03/02/21	16-02-2021	16/02/21- 19/02/21	131	77	36	< 25	< 6	West Sunny
Feb-21 4th FN	16/02/21- 17/02/21	01-03-2021	01/03/21- 04/03/21	149	85	45	< 25	< 6	West Sunny
Mar-21 5th FN	01/03/21- 02/03/21	16-03-2021	16/03/21- 19/03/21	243	83	42	< 25	< 6	West Sunny
Mar-21 6th FN	17/03/21- 18/03/21	01-04-2021	01/04/21- 05/04/21	164	82	36	< 25	< 6	West Sunny

- 1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
- 2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

TEST REPORT							
03/21 Test Report no. 1601	Job No. 094320075	Year	FY2020-21				
Type of Sample	Ambient Air	Quarter Ending	Mar-21				
Customer	CCL	<u> </u>					
Mode of Receipt of Sample:	Joint sampling with customer						
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32						
Remarks & Observation:	All samplers placed 1.5 m abo	ve ground level					

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori Project: Dhori Khas Colliery Stations: Makuli Colony

		D. C			Paramete	ers (in µg/m²	3)		Wind
Month	Date of Sampling	Date of receipt of sample	Date of analysis		Particulate Matter (PM ₁₀)	Particulate Matter (PM _{2.5})	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO _x)	Direction (from) & Weather
Jan-21 1st FN	05/01/21- 06/01/21	18-01-2021	18/01/21- 20/01/21	126	68	28	< 25	< 6	East Rain
Jan-21 2nd FN	19/01/21- 20/01/21	01-02-2021	01/02/21- 04/01/21	186	92	55	< 25	< 6	West Cloud
Feb-21 3rd FN	02/02/21- 03/02/21	16-02-2021	16/02/21- 19/02/21	171	87	41	< 25	< 6	West Sunny
Feb-21 4th FN	17/02/21- 18/02/21	01-03-2021	01/03/21- 04/03/21	173	66	31	< 25	< 6	West Sunny
Mar-21 5th FN	02/03/21- 03/03/21	16-03-2021	16/03/21- 19/03/21	161	73	34	< 25	< 6	West Sunny
Mar-21 6th FN	18/03/21- 19/03/21	01-04-2021	01/04/21- 05/04/21	338	115	77	< 25	< 6	West Sunny

- 1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
- 2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

TEST REPORT							
03/21 Test Report no. 1602	Job No. 094320075	Year	FY2020-21				
Type of Sample	Ambient Air	Quarter Ending	Mar-21				
Customer	CCL						
Mode of Receipt of Sample:	Joint sampling with customer						
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32						
Remarks & Observation:	All samplers placed 1.5 m abo	ve ground level					

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori Project: Dhori Khas Colliery Stations: Pichari Village

		D-tf			Paramete	ers (in µg/m	3)		Wind
Month	Date of Sampling	Date of receipt of sample	Date of analysis		Particulate Matter (PM ₁₀)	Particulate	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO _x)	Direction (from) & Weather
Jan-21 1st FN	06/01/21- 07/01/21	18-01-2021	18/01/21- 20/01/21	180	84	50	< 25	< 6	East Rain
Jan-21 2nd FN	20/01/21- 21/01/21	01-02-2021	01/02/21- 04/01/21	155	79	39	< 25	< 6	West Cloud
Feb-21 3rd FN	03/02/21- 04/02/21	16-02-2021	16/02/21- 19/02/21	202	94	50	< 25	< 6	West Sunny
Feb-21 4th FN	17/02/21- 18/02/21	01-03-2021	01/03/21- 04/03/21	137	73	43	< 25	< 6	West Sunny
Mar-21 5th FN	02/03/21- 03/03/21	16-03-2021	16/03/21- 19/03/21	304	154	81	< 25	< 6	West Sunny
Mar-21 6th FN	18/03/21- 19/03/21	01-04-2021	01/04/21- 05/04/21	174	85	42	< 25	< 6	West Sunny

- 1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
- 2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

TEST REPORT							
03/21 Test Report no. 1603	Job No. 094320075	Year	FY2020-21				
Type of Sample	Ambient Air	Quarter Ending	Mar-21				
Customer	CCL						
Mode of Receipt of Sample:	Joint sampling with customer						
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32						
Remarks & Observation:	All samplers placed 1.5 m above	ground level					

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori Project: Dhori Khas Colliery Stations: Central Colony (filter plant)

	Parameters (in μg/m³)						Wind		
Month	Date of Sampling	receipt of analysis			Particulate Matter (PM ₁₀)	Particulate	Sulphur Dioxide (SO ₂)	Nitrogen Oxides (as NO _x)	Direction (from) & Weather
Jan-21 1st FN	06/01/21- 07/01/21	18-01-2021	18/01/21- 20/01/21	234	97	57	< 25	< 6	East Rain
Jan-21 2nd FN	20/01/21- 21/01/21	01-02-2021	01/02/21- 04/01/21	195	98	57	< 25	< 6	West Cloud
Feb-21 3rd FN	03/02/21- 04/02/21	16-02-2021	16/02/21- 19/02/21	138	76	38	< 25	< 6	West Sunny
Feb-21 4th FN	18/02/21- 19/02/21	01-03-2021	01/03/21- 04/03/21	301	132	74	< 25	< 6	West Sunny
Mar-21 5th FN	03/03/21- 04/03/21	16-03-2021	16/03/21- 19/03/21	140	69	30	< 25	< 6	West Sunny
Mar-21 6th FN	18/03/21- 19/03/21	01-04-2021	01/04/21- 05/04/21	152	65	32	< 25	< 6	West Sunny

- 1. Gazette Notification No. G.S.R 742(E) dt.25th Sept.'2000 is applicable in core zone.
- 2. Gazette Notification No. G.S.R 826 (E) dt.Nov.'2009 is applicable in buffer zone.

TEST REPORT

03/21 Test Report no. 1604	Job No. 094320075	Year	FY2020-21					
Type of Sample:	Noise	Quarter Ending	Mar-21					
Customer	CCL	CCL						
Testing/Sampling Protocol:	'The noise pollution (Regulation and Control), Rules, 2000, LQR34							
Remarks:								

TEST RESULT

The sample has been tested with the following results: -

Dhori **Project: Dhori Khas Colliery** Area:

	Noise Level dB(A) Leq								
Station Name	Jan-21 1st FN Day	Jan-21 2nd FN Day	Feb-21 3rd FN Day	Feb-21 4th FN Day	Mar-21 5th FN Day/Night	Mar-21 6th FN Day/night			
Date of recording	05-01-2021	19-01-2021	02-02-2021	16-02-2021	01-03-2021	17-03-2021			
1. Sarda Colony	49.2	50.2	50.2	49.7	49.2/42.3	49.8/44.3			
Date of recording	05-01-2021	19-01-2021	02-02-2021	16-02-2021	01-03-2021	17-03-2021			
2. Makuli Colony	50.3	50.5	49.4	50.2	50.4/44.2	50.5/45.2			
Date of recording	05-01-2021	19-01-2021	02-02-2021	17-02-2021	02-03-2021	18-03-2021			
3. Pichari Village	51.5	52.5	50.5	51.5	51.3/45.2	51.5/45.2			
Date of recording	06-01-2021	20-01-2021	03-02-2021	17-02-2021	02-03-2021	18-03-2021			
4. Central Colony (Filter Plant)	53.7	51.3	52.3	52.3	52.2/46.3	52.2/45.4			

Ambient Air Quality Standards in respect of Noise as per 'The noise pollution							
(Regulation and Control), Rules,2000							
Time Frame	Limits in	dB(A) Leq					
	Day Time 6.00 AM to 10.00 PM	Night Time 10.00 PM to 6.00 AM					
Industrial Area	75	70					
Commercial Area	65	55					
Residential area	55	45					
Silence Zone	50	40					

Analysed By

TEST REPORT							
03/21 Test Report no. 1605	Job No. 094320075	Year	FY2020-21				
Type of Sample:	Effluent Water	Quarter Ending	Mar-21				
Customer	CCL	1					
Mode of Receipt of Sample:	Joint sampling with customer						
Testing/Sampling Protocol:	MOEF -SCH-VI STANDARDS	MOEF -SCH-VI STANDARDS, Class 'A'. LQR 33					
Remarks & Observation:	Samples received in 5 ltrs plastic	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent					

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori **Project: Dhori Khas Colliery Stations:** Lagoon Discharge

Analysis Results of FN Effluent Water								
Parameters →				COD	O & G	pH value	TSS	
	Detect	tion Limit		4	2	1.0	10	
MOI	EF -SCH-VI, S	TANDARDS, (Class 'A'	250	10	5.5 to 9.0	100	
Month	Date of Sampling	Date of Receipt of Sample	Date of Analysis	Value in mg/l, except pH				
Jan-21 1st FN	09/01/21	18/01/21	18/01/21-01/02/21	28	<2.00	8.28	35.4	
Jan-21 2nd FN	22/01/21	01/02/21	01/02/21-16/02/21	20	<2.00	7.86	25.4	
Feb-21 3rd FN	05/02/21	16/02/21	16/02/21-25/02/21	20	<2.00	7.97	25.4	
Feb-21 4th FN	20/02/21	01/03/21	01/03/21-16/03/21	20 <2.00 8.		8.08	25.2	
Mar-21 5th FN	04/03/21	16/03/21	16/03/21-31/03/21	20 <2.00 7.6		7.62	25.2	
Mar-21 6th FN	20/03/21	01/04/21	01/04/21-10/04/21	24	<2.00	7.92	30.4	
BIS Standard & Method				APHA, 23rd Edition, Closed Reflux, Titrimetric Method, 2017	IS 3025/39:1991, R : 2003, Partition Gravimetric		IS 3025/17:1984, R :1996, Gravimetric Method	

Analysed By

TEST REPORT								
03/21 Test Report no. 1606	Job No. 094320075	Year	FY2020-21					
Type of Sample:	Surface Water	Quarter Ending	Mar-21					
Customer	CCL	Date of Receipt:	18-01-2021					
Mode of Receipt of Sample:	Joint sampling with customer	Date of Analysis:	18.01.21-31.03.21					
Testing/Sampling Protocol:	LQR 33	·						
Remarks & Observation:	narks & Observation: Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent							

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori Project: Dhori Khas Colliery Stations: Date of Sampling:

1. Jhoria Nala before Conf. with Damodar

09-01-2021

Sl.No	Parameter		Sampling	Stations		Detection	BIS Standard & Method
		1	2	3	4	Limit	
1	Arsenic (as As), mg/l, Max	<0.002		-		0.002	IS 3025/37:1988 R: 2003, AAS-VGA, Method
2	BOD (3 days 27°C), mg/l, Max	2.6				2.00	IS 3025 /44: 1993, R: 2003 3 day incubation at 27°C
3	Cadmium(as Cd), mg/l, Max	<0.0004				0.0004	APHA, 23rd Edition AAS-GTA Method, 2017
4	Chlorides (as Cl), mg/l, Max	16				2.00	IS-3025/32:1988, R-2007, Argentometric Method
5	Copper (as Cu), mg/l, Max	<0.02				0.02	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)
6	Dissolved Oxygen, min.	5.6				0.10	IS 3025/38: 1989, R:2003, Winkler Azide Method
7	Fluoride (as F) mg/l, Max	1.5				0.02	APHA, 23rd Edition, SPADNS Method, 2017
8	Hexavalent Chromium, mg/l, Max	<0.01				0.01	APHA, 23rd Edition, 2017 Diphenylcarbohydrazide,
9	Iron (as Fe), mg/l, Max	<0.04				0.04	IS 3025 /53: 2003, R : 2009, AAS (Air-Ac-Flame)
10	Lead (as Pb), mg/l, Max	<0.001				0.001	APHA, 23rd Edition AAS-GTA Method, 2017
11	Nitrate (as NO ₃), mg/l, Max	9.80				0.50	APHA, 23rd Edition, UV - Spectrophotometric, 2017
12	pH value	8.26				1.0	IS-3025/11:1983, R-1996, Electrometric Method
13	Phenolic compounds (as C ₆ H ₅ OH), mg/l, Max	<0.001				0.001	APHA, 23rd Edition, 2017, 4-Amino Antipyrine Method,
14	Selenium (as Se), mg/l, Max	<0.0005				0.0005	IS 3025/56:2003 AAS-VGA Method
15	Sulphate (as SO ₄) mg/l, Max	35				2.00	APHA, 23rd Edition Turbidity Method, 2017
16	Total Dissolved Solids, mg/l, Max	253				25.00	IS 3025 /16:1984 R : 2006, Gravimetric Method
17	Total Suspended Solids, mg/l, Max	36.8				10.00	IS 3025 /17:1984, R :1996, Gravimetric Method
18	Zinc (as Zn), mg/l, Max	<0.005				0.005	IS 3025 /49: 1994, R : 2009, AAS (Air-Ac-Flame)

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TEST REPORT

03/21 Test Report no. 1607	Job No. 094320075	Year	FY2020-21				
Type of Sample:	Drinking Water	Quarter Ending	Mar-21				
Customer	CCL	Date of Receipt:	18-01-2021				
Mode of Receipt of Sample:	Joint sampling with customer	Joint sampling with customer Date of Analysis:					
Testing/Sampling Protocol:	Sampling Protocol: IS:10500 Drinking Water Standards, LQR 33						
Remarks & Observation:	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent						

TEST RESULT

The sample has been tested with the following results: -

Area: Dhori Project: Dhori Khas Colliery Stations: Date of Sampling:

1. Central Colony Filter Plant, Near DAV Makoli

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Sl.N	Parameter	Sampling Stations			Detection	IS:10500	Standard / Test Method	
0		1	2	3	Limit	Standards		
1	Boron (as B), mg/l, Max	<0.20			0.20	0.5	APHA, 23rd Edition Carmine Method; 2017	
2	Cadmium (as Cd), mg/l, Max	<0.0004			0.0004	0.003	APHA, 23rd Edition AAS-GTA Method, 2017	
3	Calcium (as Ca), mg/l, Max	36.8			1.60	75	IS-3025/40:1991, EDTA	
4	Chloride (as Cl), mg/l, Max	14			2.00	250	IS-3025/32:1988, R-2007, Argentometric Method	
5	Copper (as Cu), mg/l, Max	<0.02			0.02	0.05	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)	
6	Fluoride (as F) mg/l, Max	1.47			0.02	1.0	APHA, 23rd Edition, SPADNS Method, 2017	
7	Free Residual Chlorine, mg/l, Min	0.03			0.02	0.2	APHA, 23rd Edition, DPD Method, 2017	
8	Iron (as Fe), mg/l, Max	<0.04			0.04	1.0	IS 3025 /53: 2003, R : 2009, AAS (Air-Ac-Flame)	
9	Lead (as Pb), mg/l, Max	<0.001			0.001	0.01	APHA, 23rd Edition AAS-GTA Method, 2017	
10	Manganese (as Mn), mg/l, Max	<0.01			0.01	0.1	IS-3025/59:2006, AAS (Air- Ac-Flame) Method	
11	Nickel (as Ni), mg/l, Max	<0.003			0.003	0.02	APHA, 23rd Edition, 3120 B, ICP Method: 2017	
12	Nitrate (as NO ₃), mg/l, Max	6.20			0.5	45	APHA, 23rd Edition, UV- Spectrophotometric, 2017	
13	Odour	Agreeable			Qualitative	Agreeable	IS 3025 /05:1983, R-2012, Qualitative	
14	pH value	8.14			1.0	6.5 to 8.5	IS-3025/11:1983, R-1996, Electrometric Method	
15	Phenolic compounds (as C ₆ H ₅ OH), mg/l, Max	<0.001			0.001	0.001	APHA, 23rd Edition,4-Amino Autipyrine, 2017	
16	Selenium (as Se), mg/l, Max	<0.0005			0.0005	0.01	IS 3025/56:2003 AAS-VGA Method	
17	Sulphate (as SO ₄) mg/l, Max	38			2.00	200	APHA, 23rd Edition. Turbidity Method, 2017	
18	Total Alkalinity (caco3),mg/l, Max	176			4.00	200	IS-3025/23:1986,R: 2009, Titration Method	
19	Total Arsenic (as As), mg/l, Max	<0.002			0.002	0.01	IS 3025/ 37:1988 R: 2003, AAS-VGA: 1998	
20	Total Chromium (as Cr), mg/l, Max	<0.002			0.002	0.05	APHA, 23rd Edition, 3120 B, ICP Method: 2017	
21	Total Dissolved Solids, mg/l, Max	240			25.00	500	IS 3025 /16:1984 R: 2006, Gravimetric Method	
22	Total Hardness (caco3), mg/l, Max	164			4.00	200	IS-3025/21:1983, R-2009, EDTA Method	
23	Turbidity, NTU, Max	2			1.0	1	IS-3025/10:1984 R-1996, Nephelometric Method	
24	Zinc (as Zn), mg/l, Max	<0.005			0.005	5.0	IS 3025 /49: 1994, R : 2009, AAS (Air-Ac-Flame)	

Analysed By

Note: 1) This Report refers to the values obtained at the time of testing and results related to the items tested

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