# 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.

- 1. Amlo OCP
- 2. Tarmi OCP
- 3. Selected Dhori Group of Mines (SDGOM)
- 4. Dhori (Khas) UGP
- 5. Dhori OCP
- 6. Tarmi Siding

Encl: As above.

Yours faithfully,

General Manager Dhori Area. General Manager C.C.L., Dhori Area

Copy to:

- 1. 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

# Selected Dhori Group of Mines (SDGOM) 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 31<sup>st</sup> March 2021.

Ι	Name and address of the project.	Selected Dhori Group of
		Mines (SDGOM)
		PO: Turiyo
		Dist: Bokaro
		State; Jharkhand
ii.	Industry category primary – (STC- Code)	Primary
iii	Production capacity	11 MTPA
		(As per approved EC)
		F.No.23-80/2018-IA.III(M)
		<u>27.04.2020</u>
		OF MOEF, NEW DELHI
		<u>Production (2020-21) = 1.59 MTe</u>
iv	Date of last environment statement submitted.	30/09/2020 (2019-20).

# PART-A.

# PART-B.

# Water and Raw material composition:

Water Consumption	
1. Mining	1971 cum/Day
2 Domestic	870 cum/day
Total	2841 cum/day

# 2. Raw material consumption:

Name of Raw material	Name of product	Consumption of Raw materials per unit of product output			
	-	During the previous During the current			
		financial year Financial year			
		(2019-20)	(2020-21)		
Explosive (Kg/Te)		0.176	0.146		
Diesel (Lit/Te)	Coal and	0.95	1.52		
Lubricant (Lit/Te)	OB	0.03	0.046		

# 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	487 (Workshop and domestic discharge after treatment)	The quality of water is meeting the prescribed standard.
<b>b) Air</b> (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.

# Hazardous Waste -(As specified under Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016

	Total quantity				
Hazardous waste	During Previous financial year	During current financial			
	(2019-2020)	year (2020-2021)			
A) From Mining					
process	Nil	Nil			
B) From Pollution	Nil	Nil			
control facilities					
B) From material	Used oil : 37.036 KL	Used Oil: 23.97 KL			
handling system	Battery returned: 32 Nos.	Battery returned: 24 Nos.			

# $\mathbf{PART} - \mathbf{E}$

# **SOLID WASTE:**

Solid Waste	Total Quantity (M.cum)			
	During the previous	During the current		
	financial year (2019-20)	Financial year (2020-21)		
a) From process (OB)	1.50	2.02		
b) From pollution control	Nil	Nil		
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.

# • <u>1. HAZARDOUS WASTES :</u>

• Hazardous wastes is not being produced either from mining operation or from any pollution control facilities. Used oil such as mobile & lubricant are used for the lubrication of HEMM etc.

# • <u>2. SOLID WASTES :</u>

• During opencast mining over burden produced as solid wastes temporarily as these materials are used for land reclamation. During the year 2019-20, is 1.50 million cubic meter of overburden was generated. The overburden material is more or less homogeneous comprising mainly shale, sand, silt, clay and gravel.

# • <u>3. DISPOSAL PRACTICE :</u>

• Presently, the OB material is being filled in de-coaled area of quarry.

# PART-G

Impact of pollution control measures on conservation of natural resources and consequently on cost of production.

Following pollution control measures have been adopted by the mine management:

## 1) Air [Pollution Control Measures:

- i) Regular water sprinkling of water on haul roads and other roads.
- ii) Dust suppression at all transfer points
- iii) Vegetation of OB dumps
- iv) Regular monitoring of all environment parameters.

## 2) Water Pollution control measures:

- i) The mine water collected in the lagoons acts as sedimentation pond where all suspended particles are settled. The clear water is used for spraying / industrial purpose. The excess water overflows to nallah.
- ii) Work shop ETP is in operation.
- iii) Regular monitoring is done to check the parameters.

## 3) Noise pollution control measures.

- i) All HEMM provided with noise /sound proof cabins.
- ii) Ear muffs/plugs are provided to workers.

# PART- H

# Additional investment proposal for Environmental protection including abatement of pollution.

The following are the additional investment proposal for Environmental protection

- 1. All residential quarters constructed for the project has been provided with septic latrines and effluents are disposed of in soak pits.
- The Environmental Monitoring of the project will be continued quarterly as per guidelines of MOEF
- Environmental statement report will be prepared for each financial year ending 31st March.

# PART-I

# Any other particulars in respect of environment protection and abatement of pollution.

- The Environmental monitoring is carried out quarterly for the project by CMPDI as per the guidelines of the Ministry of Environment & Forest (MOEF).
- The Environmental Statement for the project is prepared every year.
- Ambient air quality, quality of effluent discharged from the mine and noise level all conform to the prescribed limits.
- To control fugitive dust on haul road arrangement of water sprinkling on the haul road has been made.

aaaaa

09:2021

Project Officer SDGOM

Bolog 121 (Enve forest)

# • SDGOM PHOTOGRAPHS





Plantation Near Workshop of SDGOM





Wetting of Coal before feeding to crusher to suppress dust.



TEST REPORT							
06/20 Test Report no. 1608	Job No. 0943120075	Year	FY2020-21				
Type of Sample	Ambient Air	Quarter Ending	Jun-20				
Customer	CCL	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	: Selecte	ed Dhori	Stations	s: Color	ny		
					Paramete	ers(in µg/n	<b>1</b> <sup>3</sup> )		Wind
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate Matter (PM <sub>10</sub> )	Particulate Matter (PM2.5)	Sulphur Dioxide (SO <sub>2</sub> )	Nitrogen Oxides (as NO <sub>2</sub> )	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.

Authorized Signatory

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TEST REPORT							
06/20 Test Report no. 1609	Job No. 0943120075	Year	FY2020-21				
Type of Sample	Ambient Air	Quarter Ending	Jun-20				
Customer	CCL	CCL					
Mode of Receipt of Sample:	Joint sampling with customer	Joint sampling with customer					
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32						
Remarks & Observation:	servation: All samplers placed 1.5 m above ground level						

#### TEST RESULT

The sample has been tested with the following results: -

Area :	Dhori	Project	t: Select	ed Dhori	Station	s: Tunio	o Village	9	
					Paramete	ers(in µg/m	<b>1</b> <sup>3</sup> )		Wind
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate Matter (PM <sub>10</sub> )	Particulate Matter (PM2.5)	Sulphur Dioxide (SO <sub>2</sub> )	Nitrogen Oxides (as NO <sub>2</sub> )	Direction (from) & Weather
Apr-20 1st FN	07/04/20- 08/04/20	16-04-2020	16/04/20- 20/04/20	182	95	53	< 25	< 6	West Sunny
Apr-20 2nd FN	17/04/20- 18/04/20	04-05-2020	04/05/20- 06/05/20	132	67	30	< 25	< 6	West Sunny
May-20 3rd FN	06/05/20- 07/05/20	18-05-2020	18/05/20- 20/05/20	170	82	44	< 25	< 6	East Cloud
May-20 4th FN	20/05/20- 21/05/20	01-06-2020	01/06/20- 03/06/20	145	89	32	< 25	< 6	East Sunny
Jun-20 5th FN	03/06/20- 04/06/20	16-06-2020	16/06/20- 18/06/20	190	94	43	< 25	< 6	East Sunny
Jun-20 6th FN	18/06/20- 19/06/20	01-07-2020	01/07/20- 03/07/20	142	75	36	< 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.

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TEST REPORT							
06/20 Test Report no. 1610	FY2020-21						
Type of Sample	Ambient Air	Quarter Ending	Jun-20				
Customer	CCL	CCL					
Mode of Receipt of Sample:	Joint sampling with customer	Joint sampling with customer					
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2010, Methods for Measurement of Air Pollution, LQR 32						
Remarks & Observation:	eservation: All samplers placed 1.5 m above ground level						

#### TEST RESULT

The sample has been tested with the following results: -

Area :	Dhori	Project	: Selecto	ed Dhori	Station	s: Gunj	adih Ma	gazine	
					Paramete	ers(in µg/m	1 <sup>3</sup> )		
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate Matter (PM <sub>10</sub> )	Particulate Matter (PM2.5)	Sulphur Dioxide (SO <sub>2</sub> )	Nitrogen Oxides (as NO <sub>2</sub> )	Wind Direction (from) & Weather
Apr-20 1st FN	08/04/20- 09/04/20	16-04-2020	16/04/20- 20/04/20	227	85	48	< 25	< 6	West Sunny
Apr-20 2nd FN	18/04/20- 19/04/20	04-05-2020	04/05/20- 06/05/20	192	92	45	< 25	< 6	West Sunny
May-20 3rd FN	07/05/20- 08/05/20	18-05-2020	18/05/20- 20/05/20	144	77	31	< 25	< 6	East Cloud
May-20 4th FN	21/05/20- 22/05/20	01-06-2020	01/06/20- 03/06/20	160	76	43	< 25	< 6	East Sunny
Jun-20 5th FN	04/06/20- 05/06/20	16-06-2020	16/06/20- 18/06/20	186	68	33	< 25	< 6	East Sunny
Jun-20 6th FN	19/06/20- 20/06/20	01-07-2020	01/07/20- 03/07/20	159	90	55	< 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.

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TEST REPORT							
06/20 Test Report no. 1611	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, LQR 34						
Remarks:							

#### TEST RESULT

The sample has been tested with the following results: -

ea :	Dhor	i		Project	:	Selected Dho		
		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	07-04-2020	17-04-2020	06-05-2020	20-05-2020	03-06-2020	18-06-2020		
Colony	51.4	50.4	47.7	50.5	50.5	50.2		
Date of recording	07-04-2020	17-04-2020	06-05-2020	20-05-2020	03-06-2020	18-06-2020		
Tunio Village	48.5	48.2	50.3	48.2	48.1	48.3		

Ambient Air Quality Standards in respect of Noise as per 'The noise pollution (Regulation and Control), Rules,2000							
Time Frame		dB(A) Leg					
Time Flame	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					

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TEST REPORT							
06/20 Test Report no. 1612	Job No. 0943120075	Year	FY2020-21				
Type of Sample:	Effluent Water	Quarter Ending	Jun-20				
Customer	CCL	CCL					
Mode of Receipt of Sample:	Joint sampling with customer	Joint sampling with customer					
Testing/Sampling Protocol:	MOEF -SCH-VI STANDARDS, Class 'A', LQR 33						
Remarks & Observation:	Samples received in 5 ltrs plasti	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:	Selected Dhori	Stati	ons: Lagoo	on Discharge	
		Anal	ysis Results of FN B	Effluent Wat	er		
	Paran	neters $\rightarrow$		COD	0 & G	pH value	TSS
	Detect	ion Limit		4	2	0.2	10
MOI	EF -SCH-VI, S	TANDARDS, O	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			
Apr-20 1st FN	10/04/20	16/04/20	16/04/20-04/05/20	32	<2.00	7.75	36
Apr-20 2nd FN	20/04/20	04/05/20	04/05/20-20/05/20	32	<2.00	7.69	28
May-20 3rd FN	07/05/20	18/05/20	18/05/20-31/05/20	40	40 <2.00		44
May-20 4th FN	22/05/20	01/06/20	01/06/20-18/06/20	28	<2.00	8.06	36
Jun-20 5th FN	05/06/20	16/06/20	16/06/20-02/07/20	20	<2.00	7.83	24
Jun-20 6th FN	20/06/20	01/07/20	01/07/20-16/07/20	28	<2.00	7.98	32
BIS Standard & N	lethod			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

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TEST REPORT							
06/20 Test Report no. 1613	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 **Project:** Area : **Stations:**

**Selected Dhori Date of Sampling:** 10-04-2020

1. Tisri Nala (2) before confluence with Damodar 2. Damodar after conf. with Tisri Nala

	2. Damodal alter				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			0.002	IS 3025/37:1988 R : 2003, AAS-VGA	
2	BOD (3 days 27°C), mg/l, Max	<2.00	<2.00			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			0.0005	APHA, 23rd Edition AAS-GTA	
4	Chlorides (as Cl), mg/l, Max	22	20			2.00	IS-3025/32:1988, R-2007, Argentometric	
5	Copper (as Cu), mg/l, Max	<0.03	<0.03			0.03	IS 3025 /42 : 1992 R : 2009, AAS-Flame	
6	Dissolved Oxygen, min.	5.8	6			0.10	IS 3025/381989, R : 2003, Winkler Azide	
7	Fluoride (as F) mg/l, Max	0.74	0.9			0.02	APHA, 23rd Edition SPADNS	
8	Hexavalent Chromium, mg/l, Max	<0.01	<0.01			0.01	APHA, 23rd Edition, 1,5 - Diphenylcarbohydrazide	
9	Iron (as Fe), mg/l, Max	<0.06	0.07			0.06	IS 3025 /53 : 2003, R : 2009 , AAS-Flame	
10	Lead (as Pb), mg/l, Max	<0.005	<0.005			0.005	APHA, 23rd Edition AAS-GTA	
11	Nitrate (as NO <sub>3</sub> ), mg/l, Max	5.02	5.36			0.50	APHA, 23rd Edition, UV-Spectrophotometric	
12	pH value	7.78	7.86			0.2	IS-3025/11:1983, R-1996, Electrometric	
13	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH), mg/l, Max	<0.001	<0.001			0.001	APHA, 23rd Edition 4-Amino Antipyrine	
14	Selenium (as Se), mg/l, Max	<0.002	<0.002			0.002	APHA, 23rd Edition AAS-GTA	
15	Sulphate (as SO <sub>4</sub> ) mg/l, Max	122	148			2.00	APHA, 23rd Edition Turbidity	
16	Total Dissolved Solids, mg/l, Max	282	296			25.00	IS 3025 /16:1984 R : 2006, Gravimetric	
17	Total Suspended Solids, mg/l, Max	30	26			10.00	IS 3025 /17:1984, R :1996, Gravimetric	
18	Zinc (as Zn), mg/l, Max	0.02	<0.01			0.01	IS 3025 /49 : 1994, R : 2009, AAS-Flame	

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# **TEST REPORT**

06/20 Test Report no. 1614	Job No. 0943120075	FY2020-21				
Type of Sample:	Drinking Water	Quarter Ending	Jun-20			
Customer	CCL	16-04-2020				
Mode of Receipt of Sample:	Joint sampling with customer Date of Analysis:		16.04.20-30.04.20			
Testing/Sampling Protocol:	IS:10500 Drinking Water Standards, LQR 33					
Remarks & Observation:	ion: Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent					
TEST RESULT						

Dhori

The sample has been tested with the following results: -

Area : **Stations:**  **Project:** 

#### **Selected Dhori Date of Sampling:** 10-04-2020

SI.N	Parameter	Sampling Stations			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	
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	24			1.60	75	IS-3025/40:1991, EDTA	
4	Chloride (as Cl), mg/l, Max	18			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	0.48			0.02	1.0	APHA, 23rd Edition, SPADNS	
7	Free Residual Chlorine, mg/l, Min	< 0.02			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	0.04			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 <sub>3</sub> ), mg/l, Max	3.10			0.5	45	APHA, 23rd Edition, UV-Spectrophotometric	
13	Odour	Agreeable			Qualitativ e	Agreeable	IS 3025 /05:1983, R- 2012, Qualitative	
14	pH value	7.66			0.2	6.5 to 8.5	IS-3025/11:1983, R- 1996, Electrometric	
15	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> 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 <sub>4</sub> ) mg/l, Max	68			2.00	200	APHA, 23rd Edition. Turbidity	
18	Total Alkalinity (caco3),mg/l, Max	48			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	188			25.00	500	IS 3025 /16:1984 R : 2006, Gravimetric	
22	Total Hardness (c <sub>a</sub> co <sub>3</sub> ), mg/l, Max	92			4.00	200	IS-3025/21:1983, R-2002, EDTA	
23	Turbidity, NTU, Max	1.1			1.0	1	IS-3025/10:1984 R-1996, Nephelometric	
24	Zinc (as Zn), mg/l, Max	<0.01			0.01	5.0	IS 3025/ 49 : 1994, R : 2009, AAS-Flame	

1 Project Office, Borewell Water

Analysed By

Checked By

Authorized Signatory

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TEST REPORT							
09/20 Test Report no. 1608	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 above ground level						

#### TEST RESULT

The sample has been tested with the following results: -

Area :	Dhori	Project	: Selecte	ed Dhori	Stations	s: Colon	y		
					Paramete	ers(in µg/m	<sup>3</sup> )		XX7' 1
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate Matter (PM <sub>10</sub> )	Particulate Matter (PM2.5)	Sulphur Dioxide (SO <sub>2</sub> )	Nitrogen Oxides (as NO <sub>2</sub> )	Wind 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.

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TEST REPORT							
09/20 Test Report no. 1609	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	All samplers placed 1.5 m above ground level					

#### TEST RESULT

The sample has been tested with the following results: -

Area :	Dhori	Project	: Select	ed Dhori	Station	s: Tuni	io Village	e	
					Paramete	ers(in µg/ı	<b>n</b> <sup>3</sup> )		Wind
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate Matter (PM <sub>10</sub> )	Particulate Matter (PM2.5)	Sulphur Dioxide (SO <sub>2</sub> )	Nitrogen Oxides (as NO <sub>2</sub> )	Wind Direction (from) & Weather
Jul-20 1st FN	08/07/20- 09/07/20	20-07-2020	20/07/20- 22/07/20	179	73	43	< 25	< 6	West Sunny
Jul-20 2nd FN	22/07/20- 23/07/20	03-08-2020	03/08/20- 04/08/20	115	67	28	< 25	< 6	West Sunny
Aug-20 3rd FN	04/08/20- 05/08/20	17-08-2020	17/08/20- 19/08/20	94	62	29	< 25	< 6	East Cloud
Aug-20 4th FN	18/08/20- 19/08/20	01-09-2020	01/09/20- 03/09/20	114	70	35	< 25	< 6	East Sunny
Sep-20 5th FN	02/09/20- 03/09/20	16-09-2020	16/09/20- 18/09/20	151	86	34	< 25	< 6	East Rain
Sep-20 6th FN	18/09/20- 19/09/20	01-10-2020	01/10/20- 05/07/20	151	75	34	< 25	< 6	East Rain

Note:

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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							
09/20 Test Report no. 1610	Job No. 094320075	Year	FY2020-21				
Type of Sample	Ambient Air	Quarter Ending	Sep-20				
Customer	CCL	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	t: Selec	cted Dhori	Station	s: Gunja	adih Mag	gazine	
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate	rs ( in μg/m <sup>3</sup> Particulate Matter (PM2.5)	) Sulphur Dioxide (SO <sub>2</sub> )	Nitrogen Oxides (as NO <sub>2</sub> )	Wind Direction (from) & Weather
Jul-20 1st FN	08/07/20- 09/07/20	20-07-2020	20/07/20- 22/07/20	112	62	28	< 25	< 6	West Sunny
Jul-20 2nd FN	23/07/20- 24/07/20	03-08-2020	03/08/20- 04/08/20	145	70	30	< 25	< 6	West Sunny
Aug-20 3rd FN	05/08/20- 06/08/20	17-08-2020	17/08/20- 19/08/20	86	57	25	< 25	< 6	East Rain
Aug-20 4th FN	19/08/20- 20/08/20	01-09-2020	01/09/20- 03/09/20	125	63	26	< 25	< 6	East Sunny
Sep-20 5th FN	03/09/20- 04/09/20	16-09-2020	16/09/20- 18/09/20	112	63	26	< 25	< 6	East Rain
Sep-20 6th FN	19/09/20- 20/09/20	01-10-2020	01/10/20- 05/07/20	129	51	26	< 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.

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TEST REPORT						
09/20 Test Report no. 1611	Job No. 094320075	Year	FY2020-21			
Type of Sample:	Noise	Quarter Ending	Sep-20			
Customer	CCL					
Testing/Sampling Protocol:	'The noise pollution (Regulat	'The noise pollution (Regulation and Control), Rules, 2000, LQR 34				
Remarks:						

#### TEST RESULT

The sample has been tested with the following results: -

Area :	Dhori			Project:	Sel	ected Dhori
			Noi	se 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	08-07-2020	22-07-2020	04-08-2020	18-08-2020	02-09-2020	18-09-2020
Colony	50.2	51.5	50.6	50.4	50.6	50.2
Date of recording	08-07-2020	22-07-2020	04-08-2020	18-08-2020	02-09-2020	18-09-2020
Tunio Village	48.5	48.5	49.2	48.4	47.4	48.8

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					

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TEST REPORT							
09/20 Test Report no. 1612	Job No. 094320075	Year	FY2020-21				
Type of Sample:	Effluent Water	Quarter Ending	Sep-20				
Customer	CCL	CCL					
Mode of Receipt of Sample:	Joint sampling with customer						
Testing/Sampling Protocol:	MOEF -SCH-VI STANDARDS, Class 'A', LQR 33						
Remarks & Observation:	Samples received in 5 ltrs plas	tic Jerri cane, Colour as observ	ved is transparent				

#### TEST RESULT

The sample has been tested with the following results: -

Area: Dhor	i	Project:	Selected Dhori	Stati	ons: Lagoo	on Discharge			
Analysis Results of FN Effluent Water									
	Paran	neters $\rightarrow$		COD	0 & G	pH value	TSS		
	Detect	tion Limit		4	2	1	10		
МО	EF -SCH-VI, S	TANDARDS, O	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	28	<2.00	8.16	32		
Jul-20 2nd FN	24/07/20	03/08/20	03/08/20-19/08/20	24	<2.00	7.82	32		
Aug-20 3rd FN	07/08/20	17/08/20	17/08/20-29/08/20	24	<2.00	7.59	32		
Aug-20 4th FN	19/08/20	01/09/20	01/09/20-16/09/20	20	<2.00	7.74	28		
Sep-20 5th FN	04/09/20	16/09/20	16/09/20-30/09/20	16	<2.00	7.68	20		
Sep-20 6th FN	21/09/20	01/10/20	01/10/20-12/10/20	20	<2.00	7.32	26		
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		

Authorized Signatory

TEST REPORT							
09/20 Test Report no. 1613	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 Jerri cane. Colour as observed is transparent						

#### TEST RESULT

The sample has been tested with the following results: -

#### Area : Dhori Stations:

#### Project:

Selected Dhori Date of Sampling:

08-07-2020

Tisri Nala (2) before confluence with Damodar
Damodar after conf. with Tisri Nala

	2. Damodar arter et						08-07-2020
Sl.No	Parameter		Sampling St	ations		Detection	BIS Standard & Method
		1	2	3	4	Limit	
1	Arsenic (as As), mg/l, Max	<0.002	<0.002			0.002	IS 3025/37:1988
-		<0.00Z	<0.00Z			2.00	R : 2003, AAS-VGA, Method
2	BOD (3 days 27°C), mg/l, Max	2.4	2.4			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			0.0004	APHA, 23rd Edition AAS-GTA Method, 2017
4	Chlorides (as Cl), mg/l, Max	8	8			2.00	IS-3025/32:1988, R-2007, Argentometric Method
5	Copper (as Cu), mg/l, Max	<0.02	<0.02			0.02	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)
6	Dissolved Oxygen, min.	5.4	5.4			0.10	IS 3025/38: 1989, R:2003, Winkler Azide Method
7	Fluoride (as F) mg/l, Max	0.78	0.39			0.02	APHA, 23rd Edition, SPADNS Method, 2017
8	Hexavalent Chromium, mg/l, Max	<0.01	<0.01			0.01	APHA, 23rd Edition, 2017 Diphenylcarbohydrazide,
9	Iron (as Fe), mg/l, Max	<0.04	0.07			0.04	IS 3025 /53: 2003, R : 2009, AAS (Air-Ac-Flame)
10	Lead (as Pb), mg/l, Max	<0.001	<0.001			0.001	APHA, 23rd Edition AAS-GTA Method, 2017
11	Nitrate (as NO <sub>3</sub> ), mg/l, Max	2.50	3.60			0.50	APHA, 23rd Edition, UV - Spectrophotometric, 2017
12	pH value	7.27	7.13			1.0	IS-3025/11:1983, R-1996, Electrometric Method
13	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH), mg/l, Max	<0.001	<0.001			0.001	APHA, 23rd Edition, 2017, 4-Amino Antipyrine Method,
14	Selenium (as Se), mg/l, Max	<0.0005	<0.0005			0.0005	IS 3025/56:2003 AAS-VGA Method
15	Sulphate (as SO <sub>4</sub> ) mg/l, Max	15	28			2.00	APHA, 23rd Edition Turbidity Method, 2017
16	Total Dissolved Solids, mg/l, Max	151	165			25.00	IS 3025 /16:1984 R : 2006, Gravimetric Method
17	Total Suspended Solids, mg/l, Max	44	46			10.00	IS 3025 /17:1984, R :1996, Gravimetric Method
18	Zinc (as Zn), mg/l, Max	0.01	0.01			0.005	IS 3025 /49: 1994, R : 2009, AAS (Air-Ac-Flame)

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## **TEST REPORT**

09/20 Test Report no. 1614	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:	pling 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:
Stations:		
	1 Project Office, Bo	orewell Water

SI.N Detectio IS:10500 Standard / Test Method Parameter **Sampling Stations** n Limit Standards 0 3 1 2 1 Boron (as B), mg/l, Max 0.20 0.5 APHA, 23rd Edition Carmine <0.20 Method; 2017 APHA, 23rd Edition 2 Cadmium (as Cd), mg/l, Max 0.0004 0.003 < 0.0004 AAS-GTA Method, 2017 75 IS-3025/40:1991, 3 Calcium (as Ca), mg/l, Max 1.60 22.4 EDTA 2.00 250 IS-3025/32:1988, R-2007, 4 Chloride (as Cl), mg/l, Max 12 Argentometric Method Copper (as Cu), mg/l, Max 0.02 0.05 IS 3025/42: 1992, R: 2009, 5 < 0.02 AAS (Air-Ac-Flame) 6 Fluoride (as F) mg/l, Max 0.02 1.0 APHA, 23rd Edition 0.64 SPADNS Method, 2017 7 Free Residual Chlorine, mg/l, Min 0.02 0.2 APHA, 23rd Edition, DPD < 0.02 Method, 2017 IS 3025 /53: 2003, R : 2009 8 Iron (as Fe), mg/l, Max 0.04 0.3 < 0.04 AAS (Air-Ac-Flame) 0.01 Lead (as Pb), mg/l, Max 0.001 APHA, 23rd Edition 9 < 0.001 AAS-GTA Method, 2017 IS-3025/59:2006, AAS (Air-0.01 0.1 10 Manganese (as Mn), mg/l, Max < 0.01 Ac-Flame) Method 0.003 0.02 11 Nickel (as Ni), mg/l, Max APHA, 23rd Edition. < 0.003 3120 B, ICP Method: 2017 0.5 45 APHA, 23rd Edition, UV-12 Nitrate (as NO<sub>3</sub>), mg/l, Max 4.10 Spectrophotometric, 2017 Qualitativ Agreeable IS 3025 /05:1983, R-2012, 13 Odour Agreable Qualitative IS-3025/11:1983, R-1996, 14 pH value 1.0 6.5 to 8.5 7.32 Electrometric Method APHA, 23rd Edition,4-Amino 15 Phenolic compounds 0.001 0.001 < 0.001 Autipyrine Method, 2017 (as C<sub>6</sub>H<sub>5</sub>OH), mg/l, Max 16 Selenium (as Se), mg/l, Max 0.0005 0.01 IS 3025/56:2003 < 0.0005 AAS-VGA Method 200 17 Sulphate (as SO<sub>4</sub>) mg/l, Max 2.00 APHA, 23rd Edition. 34 Turbidity Method, 2017 4.00 200 IS-3025/23:1986,R: 2009, 18 Total Alkalinity (caco3),mg/l, Max 68 Titration Method 19 0.002 0.01 IS 3025/ 37:1988 Total Arsenic (as As), mg/l, Max < 0.002 R: 2003, AAS-VGA: 1998 20 Total Chromium (as Cr), mg/l, Max 0.002 0.05 APHA, 23rd Edition, 0.011 3120 B, ICP Method: 2017 500 21 Total Dissolved Solids, mg/l, Max 25.00 IS 3025 /16:1984 168 : 2006, Gravimetric Method 22 Total Hardness (caco3), mg/l, Max 4.00 200 IS-3025/21.1983 104 R-2009 EDTA Method 23 IS-3025/10:1984 R-1996. Turbidity, NTU, Max 1.0 1 9 Nephelometric Method 24 Zinc (as Zn), mg/l, Max 0.005 5.0 IS 3025 /49: 1994, R : 2009. 0.009

#### Analysed By

#### Checked By

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Selected Dhori **Date of Sampling:** 

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

AAS (Air-Ac-Flame)

TEST REPORT							
12/20 Test Report no. 1609	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	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:	Selected Dhori	Stations:	Colony
Alta.	DHOTT	I I UJECI.	Selected Diloi	Stations.	Cololly

					Paramete	ers(in µg/m	<sup>3</sup> )		Wind
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate Matter (PM <sub>10</sub> )	Particulate Matter (PM2.5)	Sulphur Dioxide (SO <sub>2</sub> )	Nitrogen Oxides (as NO <sub>2</sub> )	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:

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TEST REPORT							
12/20 Test Report no. 1610	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	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	t: Select	ed Dhori	Station	s: Tuni	o Village	•	
					Paramete	ers(in µg/n	n <sup>3</sup> )		Wind
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate Matter (PM <sub>10</sub> )	Particulate Matter (PM2.5)	Sulphur Dioxide (SO <sub>2</sub> )	Nitrogen Oxides (as NO <sub>2</sub> )	Direction (from) & Weather
Oct-20 1st FN	03/10/20- 04/10/20	16-10-2020	16/10/20- 19/10/20	176	78	41	< 25	< 6	East Rain
Oct-20 2nd FN	18/10/20- 19/10/20	02-11-2020	02/11/20- 05/11/20	169	90	41	< 25	< 6	West Sunny
Nov-20 3rd FN	03/11/20- 04/11/20	17-11-2020	17/11/20- 19/11/20	154	83	49	< 25	< 6	West Sunny
Nov-20 4th FN	18/11/20- 19/11/20	01-12-2020	01/12/20- 03/12/20	285	106	61	< 25	< 6	West Cloud
Dec-20 5th FN	02/12/20- 03/12/20	16-12-2020	16/12/20- 19/12/20	149	75	35	< 25	< 6	West Sunny
Dec-20 6th FN	18/12/21- 19/12/21	01-01-2021	01/01/21- 05/01/21	161	87	47	< 25	< 6	West Sunny

Note:

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TEST REPORT							
12/20 Test Report no. 1611	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	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	: Select	ed Dhori	Station	s: Gunj	adih Ma	gazine	
					Paramete	ers(in µg/n	n <sup>3</sup> )		Wind
Month	Date of Sampling	Date of receipt of sample	Date of analysis	Total Particulate Matter (PM10+ >PM10)TPM	Particulate Matter (PM <sub>10</sub> )	Particulate Matter (PM2.5)	Sulphur Dioxide (SO <sub>2</sub> )	Nitrogen Oxides (as NO <sub>2</sub> )	Direction (from) & Weather
Oct-20 1st FN	04/10/20- 05/10/20	16-10-2020	16/10/20- 19/10/20	195	66	53	< 25	< 6	East Rain
Oct-20 2nd FN	19/10/20- 20/10/20	02-11-2020	02/11/20- 05/11/20	147	77	36	< 25	< 6	West Sunny
Nov-20 3rd FN	04/11/20- 05/11/20	17-11-2020	17/11/20- 19/11/20	133	76	29	< 25	< 6	West Sunny
Nov-20 4th FN	19/11/20- 20/11/20	01-12-2020	01/12/20- 03/12/20	182	99	44	< 25	< 6	West Cloud
Dec-20 5th FN	03/12/20- 04/12/20	16-12-2020	16/12/20- 19/12/20	159	81	39	< 25	< 6	West Sunny
Dec-20 6th FN	19/12/21- 20/12/21	01-01-2021	01/01/21- 05/01/21	131	69	33	< 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.

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TEST REPORT
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12/20 Test Report no. 1612	Job No. 094320075	Year	FY2020-21				
Type of Sample:	Noise	Quarter Ending	Dec-20				
Customer	CCL		I				
Testing/Sampling Protocol:	'The noise pollution (Regulation and Control), Rules,2000, LQR 34						
Remarks:							

#### TEST RESULT

The sample has been tested with the following results: -

rea :	Dhori			Project:		Selected Dhori
	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	03-10-2020	18-10-2020	03-11-2020	18-11-2020	02-12-2020	18-12-2020
Colony	50.6	50.2	51.4	50.2	51.5	51.3
Date of recording	03-10-2020	18-10-2020	03-11-2020	18-11-2020	02-12-2020	18-12-2020
Tunio Village	48.4	48.2	49.6	48.7	48.3	48.7

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	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					

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TEST REPORT						
12/20 Test Report no. 1613	Job No. 094320075	Year	FY2020-21			
Type of Sample:	Effluent Water	Quarter Ending	Dec-20			
Customer	CCL	· · ·				
Mode of Receipt of Sample:	Joint sampling with customer	Joint sampling with customer				
Testing/Sampling Protocol:	MOEF -SCH-VI STANDAR	MOEF -SCH-VI STANDARDS, Class 'A', LQR 33				
Remarks & Observation:	Samples received in 5 ltrs plas	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: Dhor	i	Project:	Selected Dhori	Stati	ons: Lagoo	on Discharge			
Analysis Results of FN Effluent Water									
	Paran	neters $\rightarrow$		COD	0 & G	pH value	TSS		
	Detect	ion Limit		4	2	0.2	10		
MO	EF -SCH-VI, S	TANDARDS, C	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	28	<2.00	8.11	34		
Oct-20 2nd FN	19/10/20	02/11/20	02/11/20-13/11/20	24	<2.00	8.06	30.4		
Nov-20 3rd FN	06/11/20	17/11/20	17/11/20-01/12/20	24	<2.00	7.61	30.4		
Nov-20 4th FN	20/11/20	01/12/20	01/12/20-16/12/20	28	<2.00	7.73	35.6		
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	24	<2.00	7.49	28.4		
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			

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# **TEST REPORT**

12/20 Test Report No. 1614	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	Date of Analysis:	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

**Project:** 

The sample has been tested with the following results:-

$\Delta reg$	•
1 <b>M</b> Ca	•

**Stations:** 

# Dhori

# 1. Lagoon Discharge

**Date of Sampling:** 04/12/2020

**Selected Dhori** 

Sl.No.	2. Parameter	mling Stati	Stations Detection		MOEF -SCH-VI	BIS Standard & Method		
51.140.	rarameter	Sampling Stations			Limit	STANDARDS	bis standard & memor	
		1	2	3		Class 'A'		
1	Ammonical Nitrogen, mg/l, Max	1.58			0.02	50.0	IS 3025/34:1988,	
							R : 2009, Nessler's Method	
2	Arsenic (as As), mg/l, Max	< 0.02			0.002	0.2	IS 3025/37:1988	
	D O D (2.1 070G) /1 M	2.00			2.00	20.0	R : 2003, AAS-VGA IS 3025 /44:1993, R:2003	
3	B.O.D (3 days 27°C), mg/l, Max	<2.00			2.00	30.0	3 day incubation at 27°C	
4	Cadmium(as Cd), mg/l, Max	< 0.0004			0.0004	2.0	APHA, 23rd Edition 3120 B ICP Method, 2017	
5	COD, mg/l, Max	20			4.00	250.0	APHA, 23rd Edition, Closed Reflux, Titrimetric Method: 2017	
6	Copper (as Cu), mg/l, Max	<0.02			0.02	3.0	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)	
7	Dissolved Phosphate, mg/l, Max	0.47			0.30	5.0	APHA, 23rd Edition Molybdovanadate Method, 2017	
8	Fluoride (as F) mg/l, Max	1.42			0.02	2.0	APHA, 23rd Edition, SPADNS Method, 2017	
9	Free Ammonia, mg/l, Max	<0.02			0.02	5.0	IS:3025/34:1988, Nesseler's	
10	Hexavalent Chromium, mg/l, Max	<0.01			0.01	0.1	APHA, 23rd Edition, Diphenylcarbohydrazide	
11	Iron (as Fe), mg/l, Max	<0.04			0.04	3.0	IS 3025 /53: 2003, R : 2009 , AAS-(Air-Ac-Flame)	
12	Lead (as Pb), mg/l, Max	< 0.001			0.001	0.1	APHA, 23rd Edition 3120 B ICP Method, 2017	
13	Manganese(as Mn), mg/l, Max	< 0.01			0.01	2.0	IS-3025/59:2006, AAS (Air-Ac-Flame)	
14	Nickel (as Ni), mg/l, Max	< 0.003			0.003	3.0	APHA, 23rd Edition 3120 B ICP Method, 2017	
15	Nitrate Nitrogen, mg/l, Max	0.93			0.50	10.0	APHA, 23rd Edition, UV- Spectrphotometric Method, 2017	
16	Oil & Grease, mg/l, Max	<2.00			2.00	10.0	IS 3025/39:1991, R : 2003, Partition Gravimetric Method	
17	pH value	8.21			1.0	5.5 to 9.0	IS-3025/11:1983, R-1996, Electrometric Method	
18	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH),mg/l, Max	< 0.001			0.001	1.0	APHA, 23rd Edition, 4- Amino Antipyrine Method, 2017	
19	Selenium (as Se), mg/l, Max	< 0.0005			0.0005	0.05	APHA, 23rd Edition 3120 B ICP Method, 2017	
20	Sulphide (as SO <sub>3</sub> ), mg/l, Max	< 0.005			0.005	2.0	APHA, 23rd Edition Methylene Blue Method, 2017	
21	Temperature (°C)	24.2				not exceed he receiving temp.	IS-3025/09:1984, R;2002, Thermometeric	
22	Total Chromium (as Cr), mg/l, Max	< 0.002			< 0.002	2.0	APHA, 23rd Edition 3120 B ICP Method, 2017	
23	Total Kjeldahl Nitrogen, mg/l, Max	2.8			1.00	100.0	APHA, 23rd Edition, Kjeldahl Method: 2017	
24	Total Residual Chlorine, mg/l, Max	< 0.02			0.02	1.0	APHA, 23rd Edition, DPD Method, 2017	
25	Total Suspended Solids, mg/l, Max	23.8			10.00	100.0	IS 3025/17:1984, R :1996, Gravimetric Method	
26	Zinc (as Zn), mg/l, Max	< 0.005			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. 1615	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 Jerri cane, Colour as observed is transparent				

**TEST RESULT** 

The sample has been tested with the following results: -

Area : Stations:	Dhori	Project:	Selected Dhori Date of Sampling:	
	1. Tisri Nala (2) before	confluence with Damodar		06-10-2020
	2. Damodar after conf.	with Tisri Nala		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			0.002	IS 3025/37:1988 R : 2003, AAS-VGA, Method
2	BOD (3 days 27°C), mg/l, Max	2	2.4			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			0.0004	APHA, 23rd Edition AAS-GTA Method, 2017
4	Chlorides (as Cl), mg/l, Max	8	8			2.00	IS-3025/32:1988, R-2007, Argentometric Method
5	Copper (as Cu), mg/l, Max	<0.02	<0.02			0.02	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)
6	Dissolved Oxygen, min.	6	5.6			0.10	IS 3025/38: 1989, R:2003, Winkler Azide Method
7	Fluoride (as F) mg/l, Max	1.27	0.59			0.02	APHA, 23rd Edition, SPADNS Method, 2017
8	Hexavalent Chromium, mg/l, Max	<0.01	<0.01			0.01	APHA, 23rd Edition, 2017 Diphenylcarbohydrazide,
9	Iron (as Fe), mg/l, Max	<0.04	<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			0.001	APHA, 23rd Edition AAS-GTA Method, 2017
11	Nitrate (as NO <sub>3</sub> ), mg/l, Max	3.10	4.60			0.50	APHA, 23rd Edition, UV - Spectrophotometric, 2017
12	pH value	8.24	7.96			1.0	IS-3025/11:1983, R-1996, Electrometric Method
13	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH), mg/l, Max	<0.001	<0.001			0.001	APHA, 23rd Edition, 2017, 4-Amino Antipyrine Method,
14	Selenium (as Se), mg/l, Max	<0.0005	<0.0005			0.0005	IS 3025/56:2003 AAS-VGA Method
15	Sulphate (as SO <sub>4</sub> ) mg/l, Max	16	17			2.00	APHA, 23rd Edition Turbidity Method, 2017
16	Total Dissolved Solids, mg/l, Max	198	182			25.00	IS 3025 /16:1984 R : 2006, Gravimetric Method
17	Total Suspended Solids, mg/l, Max	24.8	28.4			10.00	IS 3025 /17:1984, R :1996, Gravimetric Method
18	Zinc (as Zn), mg/l, Max	<0.005	0.01			0.005	IS 3025 /49: 1994, R : 2009, AAS (Air-Ac-Flame)

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### **TEST REPORT**

12/20 Test Report no. 1616	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 Stan	dards, LQR 33				
Remarks & Observation: Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent						
	TEST RESULT	Г				

<u>EST RESULT</u>

The sample has been tested with the following results: -

Area :	Dhori	Project:	Selected Dhori
Stations:			Date of Sampling:

1 Project Office, Borewell Water

06-10-2020

SI.N	Parameter	Sampli	ng Statio	ns	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	8			1.60	75	IS-3025/40:1991, EDTA	
4	Chloride (as Cl), mg/l, Max	8			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	0.6			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 <sub>3</sub> ), mg/l, Max	4.70			0.5	45	APHA, 23rd Edition, UV- Spectrophotometric, 2017	
13	Odour	Agreeable			Qualitative	Agreeable	IS 3025 /05:1983, R-2012, Qualitative	
14	pH value	7.93			1.0	6.5 to 8.5	IS-3025/11:1983, R-1996, Electrometric Method	
15	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> 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 <sub>4</sub> ) mg/l, Max	22			2.00	200	APHA, 23rd Edition. Turbidity Method, 2017	
18	Total Alkalinity (caco3),mg/l, Max	56			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	164			25.00	500	IS 3025 /16:1984 R : 2006, Gravimetric Method	
22	Total Hardness (c <sub>a</sub> co <sub>3</sub> ), mg/l, Max	104			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	0.0247			0.005	5.0	IS 3025 /49: 1994, R : 2009, AAS (Air-Ac-Flame)	

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# **TEST REPORT**

Antitury Bally	Lab No. T-2187						
	12/20 Test Report No. Metal/02		Job No. 094320075	2020-21			
TC - 7470							
Type of Sampl	e	Ambient Air	Quarter Ending	Dec.'20			
Customer		CCL	Date of Receipt of Sample:	16/12/2020			
Mode of Receipt of Sample: Joint sampling with customer		Joint sampling with customer	Date of Analysis: 17/02-17/02/				
Sampling Protocol: USEPA IO-3.2: 1999, LQ							
Remarks & Ob	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:	Selected Dhori
Stations:	1. Colony		<b>Date of Sampling:</b> 02-03/12/2020
	2. Tunio Village		02-03/12/2020
	3. Gunjadih Magazine		03-04/12/2020
	4.		

S.N o	Test Parameters	Units	det			Method Limit detection (NAAQS-		Test Method	
	Stations:		1	2	3	4	Limit	2011)	
1	Conc. of As in Air	ng/m <sup>3</sup>	5.96	5.91	3.50		0.1	6.00	USEPA IO- 3.2:1999
2	Conc. of Pb in Air	µg/m <sup>3</sup>	0.04	0.04	0.02		0.02	0.5	USEPA IO- 3.2:1999
3	Conc. of Ni in Air	ng/m <sup>3</sup>	4.15	4.47	0.92		0.1	20.00	USEPA IO- 3.2: 1999

TEST REPORT						
03/21 Test Report no. 1608	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:	ampling Protocol: IS 5182 (part 14): 2000 ,R -2010, 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	: Selecte	ed Dhori	Station	s: Colon	У		
		Date of			Paramete	ers ( in µg/m	3)		Wind
Month	Date of Sampling	receipt of sample		Total Particulate Matter (PM <sub>10</sub> + >PM <sub>10</sub> )TPM		Particulate Matter (PM <sub>2.5</sub> )	Sulphur Dioxide (SO <sub>2</sub> )	Nitrogen Oxides (as NO <sub>x</sub> )	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

Note:

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.

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TEST REPORT						
03/21 Test Report no. 1609	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	ſ				
Testing/Sampling Protocol:	IS 5182 (part 14): 2000 ,R -2	010, Methods for Measurement of A	Air Pollution, LQR 32			
Remarks & Observation:	All samplers placed 1.5 m ab	ove ground level				

#### TEST RESULT

The sample has been tested with the following results: -

Area :	Dhori	Project	: Select	ed Dhori	Station	s: Tunio	village	•	
		Date of			Paramete	ers ( in µg/m	3)		Wind
Month	Date of Sampling	receipt of sample		Total Particulate Matter (PM <sub>10</sub> + >PM <sub>10</sub> )TPM		Particulate Matter (PM <sub>2.5</sub> )	Sulphur Dioxide (SO <sub>2</sub> )	Nitrogen Oxides (as NO <sub>x</sub> )	Direction (from) & Weather
Jan-21 1st FN	06/01/21- 07/01/21	18-01-2021	18/01/21- 20/01/21	154	74	43	< 25	< 6	East Rain
Jan-21 2nd FN	20/01/21- 21/01/21	01-02-2021	01/02/21- 04/01/21	130	66	21	< 25	< 6	West Cloud
Feb-21 3rd FN	03/02/21- 04/02/21	16-02-2021	16/02/21- 19/02/21	129	60	28	< 25	< 6	West Sunny
Feb-21 4th FN	18/02/21- 19/02/21	01-03-2021	01/03/21- 04/03/21	130	74	48	< 25	< 6	West Sunny
Mar-21 5th FN	03/03/21- 04/03/21	16-03-2021	16/03/21- 19/03/21	204	80	41	< 25	< 6	West Sunny
Mar-21 6th FN	19/03/21- 20/03/21	01-04-2021	01/04/21- 05/04/21	234	92	53	< 25	< 6	West Sunny

Note:

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.

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TEST REPORT						
03/21 Test Report no. 1610	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 -20	010, 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	: Select	ed Dhori	Station	s: Gunja	dih Ma	gazine	
		Date of				Wind			
Month	Date of Sampling	receipt of sample		Total Particulate Matter (PM <sub>10</sub> + >PM <sub>10</sub> )TPM		Particulate	Sulphur Dioxide (SO <sub>2</sub> )	Nitrogen Oxides (as NO <sub>x</sub> )	Direction (from) & Weather
Jan-21 1st FN	07/01/21- 08/01/21	18-01-2021	18/01/21- 20/01/21	176	84	51	< 25	< 6	East Rain
Jan-21 2nd FN	21/01/21- 22/01/21	01-02-2021	01/02/21- 04/01/21	171	85	48	< 25	< 6	West Cloud
Feb-21 3rd FN	04/02/21- 05/02/21	16-02-2021	16/02/21- 19/02/21	144	75	40	< 25	< 6	West Sunny
Feb-21 4th FN	18/02/21- 19/02/21	01-03-2021	01/03/21- 04/03/21	197	84	31	< 25	< 6	West Sunny
Mar-21 5th FN	03/03/21- 04/03/21	16-03-2021	16/03/21- 19/03/21	187	88	55	< 25	< 6	West Sunny
Mar-21 6th FN	19/03/21- 20/03/21	01-04-2021	01/04/21- 05/04/21	221	82	43	< 25	< 6	West Sunny

Note:

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.

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TEST REPORT						
03/21 Test Report no. 1611	Job No. 094320075	Year	FY2020-21			
Type of Sample:	Noise	Quarter Ending	Mar-21			
Customer	CCL					
Testing/Sampling Protocol:	'The noise pollution (Regulat	tion and Control), Rules,2000, LQR	34			
Remarks:						

#### TEST RESULT

The sample has been tested with the following results: -

Area :	D	hori		Project:	Se	elected Dhori				
			Noise Leve	Noise Level dB(A) Leq						
Station Name	Jan-21 1st FN Jan-21 2nd FN Feb-2		Feb-21 3rd FN Day			Mar-21 6th FN Day/Night				
Date of recording	06-01-2021	20-01-2021	03-02-2021	18-02-2021	03-03-2021	18-03-2021				
1. Colony	51.4	50.4	51.2	51.2	51.4/45.4	50.6/44.2				
Date of recording	06-01-2021	20-01-2021	03-02-2021	18-02-2021	03-03-2021	19-03-2021				
2. Tunio Village	48.8	49.5	49.7	49.4	48.6/42.3	49.7/43.4				

Ambient Air Quality Standards in respect of Noise as per 'The noise pollution								
(	Regulation and Control), Rule	es,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						

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TEST REPORT							
03/21 Test Report no. 1612	Job No. 094320075	Year	FY2020-21				
Type of Sample:	Effluent Water	Quarter Ending	Mar-21				
Customer	CCL						
Mode of Receipt of Sample:	Joint sampling with customer						
Testing/Sampling Protocol:	ol: MOEF -SCH-VI STANDARDS, Class 'A'. LQR 33						
Remarks & Observation:	Samples received in 5 ltrs plasti	c Jerri cane, Colour as observed is t	ransparent				

#### TEST RESULT

The sample has been tested with the following results: -

Area: Dhor	i	Project:	Selected Dhori	Stati	ons: Lagoo	on Discharge			
Analysis Results of FN Effluent Water									
	Paran	neters $\rightarrow$		COD	0 & G	pH value	TSS		
	Detect	tion Limit		4	2	1.0	10		
МО	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	20	<2.00	8.17	24.8		
Jan-21 2nd FN	22/01/21	01/02/21	01/02/21-16/02/21	24	<2.00	8.12	29.6		
Feb-21 3rd FN	05/02/21	16/02/21	16/02/21-25/02/21	16	<2.00	7.93	21.6		
Feb-21 4th FN	20/02/21	01/03/21	01/03/21-16/03/21	16	<2.00	8.14	22.4		
Mar-21 5th FN	04/03/21	16/03/21	16/03/21-31/03/21	24	<2.00	7.66	30.6		
Mar-21 6th FN	20/03/21	01/04/21	01/04/21-10/04/21	24	<2.00	7.97	30.6		
BIS Standard & N	Aethod			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		

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#### TEST REPORT

03/21 Test Report no. 1613	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:	Samples received in 5 ltrs plastic Jerri cane, Colour as observed is transparent				
	TEST RESUL	<u>T</u>			

**Project:** 

The sample has been tested with the following results: -

Area : Dhori Stations:

1. Tisri Nala (2) before confluence with Damodar

2. Damodar after conf. with Tisri Nala

Selected Dhori Date of Sampling:

09-01-2021

Sl.No	Parameter	Sampling Stations			Detection	09-01-2021 BIS Standard & Method	
		1	2	3	4	Limit	
1	Arsenic (as As), mg/l, Max	<0.002	<0.002	-		0.002	IS 3025/37:1988 R : 2003, AAS-VGA, Method
2	BOD (3 days 27°C), mg/l, Max	<2.00	2			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			0.0004	APHA, 23rd Edition AAS-GTA Method, 2017
4	Chlorides (as Cl), mg/l, Max	36	16			2.00	IS-3025/32:1988, R-2007, Argentometric Method
5	Copper (as Cu), mg/l, Max	<0.02	<0.02			0.02	IS 3025/42: 1992, R : 2009, AAS (Air-Ac-Flame)
6	Dissolved Oxygen, min.	6.2	5.8			0.10	IS 3025/38: 1989, R:2003, Winkler Azide Method
7	Fluoride (as F) mg/l, Max	0.42	0.68			0.02	APHA, 23rd Edition, SPADNS Method, 2017
8	Hexavalent Chromium, mg/l, Max	<0.01	<0.01			0.01	APHA, 23rd Edition, 2017 Diphenylcarbohydrazide,
9	Iron (as Fe), mg/l, Max	<0.04	<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			0.001	APHA, 23rd Edition AAS-GTA Method, 2017
11	Nitrate (as NO <sub>3</sub> ), mg/l, Max	6.20	6.10			0.50	APHA, 23rd Edition, UV - Spectrophotometric, 2017
12	pH value	7.92	7.77			1.0	IS-3025/11:1983, R-1996, Electrometric Method
13	Phenolic compounds (as $C_6H_5OH$ ), mg/l, Max	<0.001	<0.001			0.001	APHA, 23rd Edition, 2017, 4-Amino Antipyrine Method,
14	Selenium (as Se), mg/l, Max	<0.0005	<0.0005			0.0005	IS 3025/56:2003 AAS-VGA Method
15	Sulphate (as SO <sub>4</sub> ) mg/l, Max	84	50			2.00	APHA, 23rd Edition Turbidity Method, 2017
16	Total Dissolved Solids, mg/l, Max	449	172			25.00	IS 3025 /16:1984 R : 2006, Gravimetric Method
17	Total Suspended Solids, mg/l, Max	20.2	24.4			10.00	IS 3025 /17:1984, R :1996, Gravimetric Method
18	Zinc (as Zn), mg/l, Max	<0.005	<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. 1614	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	Date of Analysis:	18.01.21-31.03.21	
Testing/Sampling Protocol:	IS:10500 Drinking Water Stan	dards I OP 33		
	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:	Selected Dhori
Stations:		-	Date of Sampling:
	1 Desired Office 1	Demosrall Weter	00.01.20

1 Project Office, Borewell Water

# 09-01-2021

SI.N Detection IS:10500 Standard / Test Method Parameter **Sampling Stations** Limit Standards 0 2 3 1 Boron (as B), mg/l, Max 0.20 0.5 APHA, 23rd Edition Carmine 1 <0.20 Method: 2017 0.0004 0.003 2 Cadmium (as Cd), mg/l, Max APHA, 23rd Edition < 0.0004 AAS-GTA Method, 2017 75 Calcium (as Ca), mg/l, Max IS-3025/40:1991, 3 1.60 30.4 EDTA IS-3025/32:1988, R-2007, 2.00 250 4 Chloride (as Cl), mg/l, Max 14 Argentometric Method IS 3025/42: 1992, R : 2009, 0.02 0.05 Copper (as Cu), mg/l, Max 5 <0.02 AAS (Air-Ac-Flame) APHA, 23rd Edition, 0.02 1.0 Fluoride (as F) mg/l, Max 6 0.7 SPADNS Method, 2017 Free Residual Chlorine, mg/l, Min 0.02 0.2 APHA, 23rd Edition, DPD 7 <0.02 Method, 2017 0.04 1.0 IS 3025 /53: 2003, R : 2009, 8 Iron (as Fe), mg/l, Max <0.04 AAS (Air-Ac-Flame) 0.001 0.01 APHA, 23rd Edition 9 Lead (as Pb), mg/l, Max <0.001 AAS-GTA Method, 2017 10 0.01 0.1 IS-3025/59:2006, AAS (Air-Manganese (as Mn), mg/l, Max <0.01 Ac-Flame) Method 11 Nickel (as Ni), mg/l, Max 0.003 0.02 APHA, 23rd Edition, < 0.003 3120 B, ICP Method: 2017 12 Nitrate (as NO<sub>3</sub>), mg/l, Max 0.5 45 APHA, 23rd Edition, UV-6.10 Spectrophotometric, 2017 13 Odour Qualitative Agreeable IS 3025 /05:1983, R-2012, Agreeable Qualitative 14 pH value 1.0 6.5 to 8.5 IS-3025/11:1983, R-1996. 7.86 Electrometric Method 0.001 0.001 APHA, 23rd Edition,4-Amino 15 Phenolic compounds Autipyrine, 2017 < 0.001 (as C<sub>6</sub>H<sub>5</sub>OH), mg/l, Max 16 0.0005 0.01 IS 3025/56:2003 Selenium (as Se), mg/l, Max < 0.0005 AAS-VGA Method Sulphate (as SO<sub>4</sub>) mg/l, Max 200 APHA, 23rd Edition. 17 2.00 48 Turbidity Method, 2017 4.00 200 IS-3025/23:1986.R: 2009. 18 Total Alkalinity (caco3),mg/l, Max 96 Titration Method 0.002 IS 3025/ 37:1988 19 Total Arsenic (as As), mg/l, Max 0.01 < 0.002 R : 2003, AAS-VGA: 1998 APHA, 23rd Edition, 0.002 0.05 20 Total Chromium (as Cr), mg/l, Max < 0.002 3120 B, ICP Method: 2017 25.00 500 IS 3025 /16:1984 21 Total Dissolved Solids, mg/l, Max 192 R: 2006, Gravimetric Method 4.00 200 IS-3025/21:1983, 22 Total Hardness (caco3), mg/l, Max 132 R-2009, EDTA Method IS-3025/10:1984 R-1996, 23 Turbidity, NTU, Max 1.0 1 1 Nephelometric Method 24 Zinc (as Zn), mg/l, Max 0.005 5.0 IS 3025 /49: 1994, R : 2009, < 0.005 AAS (Air-Ac-Flame)

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