

**ENVIRONMENTAL MONITORING REPORT
OCTOBER, 2022**

Submitted to

**M/s, GAIL (India) Limited
PO GAIL Complex, Vijaipur Guna -473112 Madhya Pradesh**



Prepared by

Advanced Environmental Testing And Research Lab P. Ltd.

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Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Waste Water		
Sample Description	ETP Inlet	D/o Sample Collection	10/10/2022
Sample Location	CRW	D/o Analysis Completion	22/10/2022


Results

S.No.	Test Parameters	Units	Result	Specification	Test Method
1	pH	-	7.30	5.5-9.0	APHA, 4500-H
2	Total Solids	mg/l	572	-	APHA, 2540 B
3	Total Dissolved Solid	mg/l	510	2100	APHA, 2540 C
4	Total Suspended Solids	mg/l	62	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	17.9	30	APHA, 5210 B
6	COD	mg/l	166	250	APHA, 5220 B
7	Oil & Grease	mg/l	1.99	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.021	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.064	-	APHA, 4500 B
10	Chlorides	mg/l	113.96	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	1.0	APHA, 4500 Cl
12	Ammonical Nitrogen	mg/l	3.69	50	APHA, 4500 C
13	Total Nitrogen	mg/l	5.12	10	APHA, 4500 B
14	Fluoride	mg/l	0.596	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.087	2.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	0.208	5.0	APHA, 3111 B
18	Lead as Pb	mg/l	BDL (LOD 0.01)	0.1	APHA, 3111 B
19	Nickel as Ni	mg/l	BDL (LOD 0.015)	3.0	APHA, 3111 B
20	Cadmium as Cd	mg/l	BDL (LOD 0.001)	2.0	APHA, 3111 B
21	Phenolic Compounds	mg/l	BDL (LOD 0.001)	1.0	APHA, 5530 C
22	Sulphide as S	mg/l	BDL (LOD 0.01)	2.0	APHA, 4500-S-D
23	Electric Conductivity	µMhos/cm	860	-	APHA, 2510 B
24	Cyanide as CN	mg/l	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
25	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
26	Hexavelent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
27	Arsenic as As	mg/l	BDL (LOD 0.0008)	0.2	APHA, 3111 B
28	Mercury as Hg	mg/l	BDL (LOD 0.0004)	0.01	APHA, 3111 B
29	Manganese as Mn	mg/l	BDL (LOD 0.015)	2.0	APHA, 3111 B
30	Fecal Coliform	MPN/100 ml	118	<1000	APHA, 222,E


Reviewed by

Dr. Dinesh K. Uchhariya
(Technical Manager)




Authorized Signatory
Rajesh Jain
(TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

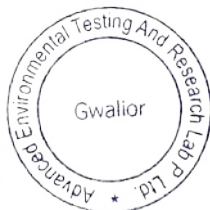
Nature of Sample	Waste Water		
Sample Description	ETP Inlet	D/o Sample Collection	10/10/2022
Sample Location	TPI II	D/o Analysis Completion	22/10/2022


Results

S.No.	Test Parameters	Units	Test Results	Specification	Test Method
1	pH	-	7.42	5.5-9.0	APHA, 4500-H
2	Total Solids	mg/l	610	-	APHA, 2540 B
3	Total Dissolved Solid	mg/l	522	2100	APHA, 2540 C
4	Total Suspended Solids	mg/l	88	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	13.6	30	APHA, 5210 B
6	COD	mg/l	158	250	APHA, 5220 B
7	Oil & Grease	mg/l	2.28	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	2.39	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	1.04	-	APHA, 4500 B
10	Chlorides	mg/l	0.856	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	88.6	1.0	APHA, 4500 CI
12	Ammonical Nitrogen	mg/l	BDL (LOD 0.1)	50	APHA, 4500 C
13	Total Nitrogen	mg/l	16.0	10	APHA, 4500 B
14	Fluoride	mg/l	BDL (LOD 0.01)	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.07	2.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	0.267	5.0	APHA, 3111 B
18	Lead as Pb	mg/l	BDL (LOD 0.01)	0.1	APHA, 3111 B
19	Nickel as Ni	mg/l	BDL (LOD 0.015)	3.0	APHA, 3111 B
20	Cadmium as Cd	mg/l	BDL (LOD 0.001)	2.0	APHA, 3111 B
21	Phenolic Compounds	mg/l	BDL (LOD 0.001)	1.0	APHA, 5530 C
22	Sulphide as S	mg/l	BDL (LOD 0.01)	2.0	APHA, 4500-S-D
23	Electric Conductivity	µMhos/cm	910	-	APHA, 2510 B
24	Cyanide as CN	mg/l	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
25	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
26	Hexavelent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
27	Arsenic as As	mg/l	BDL (LOD 0.0008)	0.2	APHA, 3111 B
28	Mercury as Hg	mg/l	BDL (LOD 0.0004)	0.01	APHA, 3111 B
29	Manganese as Mn	mg/l	BDL (LOD 0.015)	2.0	APHA, 3111 B
30	Fecal Coliform	MPN/100 ml	110	<1000	APHA, 222,E


 Reviewed by

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 (Technical Manager)




 Authorized Signatory

Rajesh Jain
 (TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Waste Water		
Sample Description	ETP Inlet	D/o Sample Collection	10/10/2022
Sample Location	Process Waste Sump	D/o Analysis Completion	22/10/2022


Results

S.No.	Test Parameters	Units	Test Results	Specification	Test Method
1	pH	-	7.43	5.5-9.0	APHA, 4500-H
2	Total Solids	mg/l	490	-	APHA, 2540 B
3	Total Dissolved Solid	mg/l	424	2100	APHA, 2540 C
4	Total Suspended Solids	mg/l	66	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	9.16	30	APHA, 5210 B
6	COD	mg/l	114	250	APHA, 5220 B
7	Oil & Grease	mg/l	1.08	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.12	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.28	-	APHA, 4500 B
10	Chlorides	mg/l	89.97	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	1.0	APHA, 4500 CI
12	Ammonical Nitrogen	mg/l	3.31	50	APHA, 4500 C
13	Total Nitrogen	mg/l	6.47	10	APHA, 4500 B
14	Fluoride	mg/l	BDL (LOD 0.01)	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.018	2.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	0.23	5.0	APHA, 3111 B
18	Lead as Pb	mg/l	BDL (LOD 0.007)	0.1	APHA, 3111 B
19	Nickel as Ni	mg/l	BDL (LOD 0.015)	3.0	APHA, 3111 B
20	Cadmium as Cd	mg/l	BDL (LOD 0.001)	2.0	APHA, 3111 B
21	Phenolic Compounds	mg/l	BDL (LOD 0.001)	1.0	APHA, 5530 C
22	Sulphide as S	mg/l	0.11	2.0	APHA, 4500-S-D
23	Electric Conductivity	µMhos/cm	715	-	APHA, 2510 B
24	Cyanide as CN	mg/l	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
25	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
26	Hexavelent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
27	Arsenic as As	mg/l	BDL (LOD 0.0008)	0.2	APHA, 3111 B
28	Mercury as Hg	mg/l	BDL (LOD 0.0004)	0.01	APHA, 3111 B
29	Manganese as Mn	mg/l	BDL (LOD 0.015)	2.0	APHA, 3111 B
30	Fecal Coliform	MPN/100 ml	72	<1000	APHA, 222,E


Reviewed by

Dr. Dinesh K. Uchhariya
(Technical Manager)




Authorized Signatory

Rajesh Jain
(TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Waste Water		
Sample Description	ETP Inlet	D/o Sample Collection	10/10/2022
Sample Location	Sanitary Sump	D/o Analysis Completion	22/10/2022

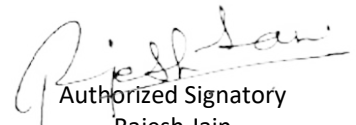
Results

S.No.	Test Parameters	Units	Test Results	Specification	Test Method
1	pH	-	7.28	5.5-9.0	APHA, 4500-H
2	Total Solids	mg/l	532	-	APHA, 2540 B
3	Total Dissolved Solid	mg/l	460	2100	APHA, 2540 C
4	Total Suspended Solids	mg/l	72	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	10.9	30	APHA, 5210 B
6	COD	mg/l	118	250	APHA, 5220 B
7	Oil & Grease	mg/l	1.2	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.031	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.095	-	APHA, 4500 B
10	Chlorides	mg/l	76.98	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	1.0	APHA, 4500 Cl
12	Ammonical Nitrogen	mg/l	3.39	50	APHA, 4500 C
13	Total Nitrogen	mg/l	7.36	10	APHA, 4500 B
14	Fluoride	mg/l	0.369	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.021	2.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	0.178	5.0	APHA, 3111 B
18	Lead as Pb	mg/l	BDL (LOD 0.007)	0.1	APHA, 3111 B
19	Nickel as Ni	mg/l	BDL (LOD 0.015)	3.0	APHA, 3111 B
20	Cadmium as Cd	mg/l	BDL (LOD 0.001)	2.0	APHA, 3111 B
21	Phenolic Compounds	mg/l	BDL (LOD 0.001)	1.0	APHA, 5530 C
22	Sulphide as S	mg/l	0.31	2.0	APHA, 4500-S-D
23	Electric Conductivity	µMhos/cm	782	-	APHA, 2510 B
24	Cyanide as CN	mg/l	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
25	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
26	Hexavelent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
27	Arsenic as As	mg/l	BDL (LOD 0.0008)	0.2	APHA, 3111 B
28	Mercury as Hg	mg/l	BDL (LOD 0.0004)	0.01	APHA, 3111 B
29	Manganese as Mn	mg/l	BDL (LOD 0.015)	2.0	APHA, 3111 B
30	Fecal Coliform	MPN/100 ml	98	<1000	APHA, 222,E


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 (TD & QC Head)

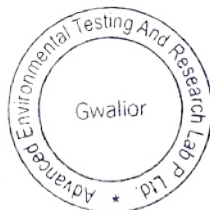
Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Waste Water		
Sample Description	ETP Inlet	D/o Sample Collection	10/10/2022
Sample Location	Surge pond	D/o Analysis Completion	22/10/2022

Results

S.No.	Test Parameters	Units	Test Results	Specification	Test Method
1	pH	-	7.31	5.5-9.0	APHA, 4500-H
2	Total Solids	mg/l	566	-	APHA, 2540 B
3	Total Dissolved Solid	mg/l	490	2100	APHA, 2540 C
4	Total Suspended Solids	mg/l	76	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	12.2	30	APHA, 5210 B
6	COD	mg/l	138	250	APHA, 5220 B
7	Oil & Grease	mg/l	2.08	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	9.96	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.814	-	APHA, 4500 B
10	Chlorides	mg/l	0.369	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	128	1.0	APHA, 4500 Cl
12	Ammonical Nitrogen	mg/l	BDL (LOD 0.1)	50	APHA, 4500 C
13	Total Nitrogen	mg/l	4.3	10	APHA, 4500 B
14	Fluoride	mg/l	BDL (LOD 0.01)	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.117	2.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	0.418	5.0	APHA, 3111 B
18	Lead as Pb	mg/l	BDL (LOD 0.007)	0.1	APHA, 3111 B
19	Nickel as Ni	mg/l	BDL (LOD 0.015)	3.0	APHA, 3111 B
20	Cadmium as Cd	mg/l	BDL (LOD 0.001)	2.0	APHA, 3111 B
21	Phenolic Compounds	mg/l	BDL (LOD 0.001)	1.0	APHA, 5530 C
22	Sulphide as S	mg/l	BDL (LOD 0.01)	2.0	APHA, 4500-S-D
23	Electric Conductivity	µMhos/cm	805	-	APHA, 2510 B
24	Cyanide as CN	mg/l	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
25	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
26	Hexavelent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
27	Arsenic as As	mg/l	BDL (LOD 0.0008)	0.2	APHA, 3111 B
28	Mercury as Hg	mg/l	BDL (LOD 0.0004)	0.01	APHA, 3111 B
29	Manganese as Mn	mg/l	BDL (LOD 0.015)	2.0	APHA, 3111 B
30	Fecal Coliform	MPN/100 ml	98	<1000	APHA, 222,E


 Reviewed by
Dr. Dinesh K. Uchhariya
 (Technical Manager)




 Authorized Signatory
Rajesh Jain
 (TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Waste Water		
Sample Description	ETP Outlet	D/o Sample Collection	10/10/2022
Sample Location	Guard Pond	D/o Analysis Completion	22/10/2022

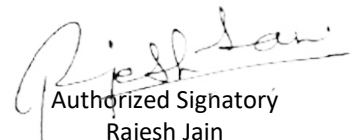
Results

S.No.	Test Parameters	Units	Test Results	Specification	Test Method
1	pH	-	7.42	5.5-9.0	APHA, 4500-H
2	Total Solids	mg/l	648	-	APHA, 2540 B
3	Total Dissolved Solid	mg/l	624	2100	APHA, 2540 C
4	Total Suspended Solids	mg/l	54	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	8.4	30	APHA, 5210 B
6	COD	mg/l	70	250	APHA, 5220 B
7	Oil & Grease	mg/l	1.86	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.48	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.30	-	APHA, 4500 B
10	Chlorides	mg/l	142.9	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	1.0	APHA, 4500 Cl
12	Ammonical Nitrogen	mg/l	1.96	50	APHA, 4500 C
13	Total Nitrogen	mg/l	2.48	10	APHA, 4500 B
14	Fluoride	mg/l	BDL (LOD 0.01)	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.027	2.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	0.114	5.0	APHA, 3111 B
18	Lead as Pb	mg/l	BDL (LOD 0.007)	0.1	APHA, 3111 B
19	Nickel as Ni	mg/l	BDL (LOD 0.015)	3.0	APHA, 3111 B
20	Cadmium as Cd	mg/l	BDL (LOD 0.001)	2.0	APHA, 3111 B
21	Phenolic Compounds	mg/l	BDL (LOD 0.001)	1.0	APHA, 5530 C
22	Sulphide as S	mg/l	BDL (LOD 0.01)	2.0	APHA, 4500-S-D
23	Electric Conductivity	µMhos/cm	1198	-	APHA, 2510 B
24	Cyanide as CN	mg/l	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
25	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
26	Hexavelent Chromium as Cr ⁺⁶	mg/l	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
27	Arsenic as As	mg/l	BDL (LOD 0.0008)	0.2	APHA, 3111 B
28	Mercury as Hg	mg/l	BDL (LOD 0.0004)	0.01	APHA, 3111 B
29	Manganese as Mn	mg/l	BDL (LOD 0.015)	2.0	APHA, 3111 B
30	Fecal Coliform	MPN/100 ml	30	<1000	APHA, 222,E



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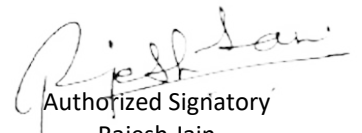
Nature of Sample	Waste Water		
Sample Description	ETP Outlet	D/o Sample Collection	28/10/2022
Sample Location	Guard Pond	D/o Analysis Completion	04/11/2022

Results

S.No.	Test Parameters	Units	Test Results	Specification	Test Method
1	pH	-	7.37	5.5-9.0	APHA, 4500-H
2	Total Solids	mg/l	672	-	APHA, 2540 B
3	Total Dissolved Solid	mg/l	618	2100	APHA, 2540 C
4	Total Suspended Solids	mg/l	48	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	8.9	30	APHA, 5210 B
6	COD	mg/l	92.3	250	APHA, 5220 B
7	Oil & Grease	mg/l	2.1	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.31	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.24	-	APHA, 4500 B
10	Chlorides	mg/l	137.5	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	1.0	APHA, 4500 Cl
12	Ammonical Nitrogen	mg/l	1.51	50	APHA, 4500 C
13	Total Nitrogen	mg/l	3.31	10	APHA, 4500 B
14	Fluoride	mg/l	BDL (LOD 0.01)	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.033	2.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	0.093	5.0	APHA, 3111 B
18	Lead as Pb	mg/l	BDL (LOD 0.007)	0.1	APHA, 3111 B
19	Nickel as Ni	mg/l	BDL (LOD 0.015)	3.0	APHA, 3111 B
20	Cadmium as Cd	mg/l	BDL (LOD 0.001)	2.0	APHA, 3111 B
21	Phenolic Compounds	mg/l	BDL (LOD 0.001)	1.0	APHA, 5530 C
22	Sulphide as S	mg/l	0.14	2.0	APHA, 4500-S-D
23	Electric Conductivity	µMhos/cm	1084	-	APHA, 2510 B
24	Cyanide as CN	mg/l	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
25	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
26	Hexavelent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
27	Arsenic as As	mg/l	BDL (LOD 0.0008)	0.2	APHA, 3111 B
28	Mercury as Hg	mg/l	BDL (LOD 0.0004)	0.01	APHA, 3111 B
29	Manganese as Mn	mg/l	BDL (LOD 0.015)	2.0	APHA, 3111 B
30	Fecal Coliform	MPN/100 ml	52	<1000	APHA, 222,E


 Reviewed by
Dr. Dinesh K. Uchhariya
 (Technical Manager)




 Authorized Signatory
Rajesh Jain
 (TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Waste Water		
Sample Description	STP Inlet and Outlet	D/o Sample Collection	10/10/2022
Sample Location	STP-I	D/o Analysis Completion	22/10/2022

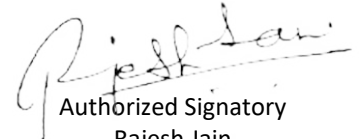
Results

S.No.	Test Parameters	Units	Test Results		Specification	Test Method
			STP-I Inlet	STP-I Outlet		
1	pH	-	7.26	7.18	5.5-9.0	APHA, 4500-H
2	Total Solids	mg/l	570	350	-	APHA, 2540 B
3	Total Dissolved Solid	mg/l	490	310	2100	APHA, 2540 C
4	Total Suspended Solids	mg/l	80	40	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	22.3	5.32	30	APHA, 5210 B
6	COD	mg/l	210	48.3	250	APHA, 5220 B
7	Oil & Grease	mg/l	3.96	0.88	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.99	0.12	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.29	0.06	-	APHA, 4500 B
10	Chlorides	mg/l	25.97	126.96	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	BDL (LOD 0.1)	1.0	APHA, 4500 Cl
12	Ammonical Nitrogen	mg/l	7.36	0.36	50	APHA, 4500 C
13	Total Nitrogen	mg/l	10.56	1.82	10	APHA, 4500 B
14	Fluoride	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	BDL (LOD 0.02)	BDL (LOD 0.02)	2.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	5.0	APHA, 3111 B
18	Lead as Pb	mg/l	BDL (LOD 0.01)	BDL (LOD 0.007)	0.1	APHA, 3111 B
19	Nickel as Ni	mg/l	BDL (LOD 0.015)	BDL (LOD 0.015)	3.0	APHA, 3111 B
20	Cadmium as Cd	mg/l	BDL (LOD 0.001)	BDL (LOD 0.001)	2.0	APHA, 3111 B
21	Phenolic Compounds	mg/l	0.07	BDL (LOD 0.001)	1.0	APHA, 5530 C
22	Sulphide as S	mg/l	0.76	BDL (LOD 0.01)	2.0	APHA, 4500-S-D
23	Electric Conductivity	µMhos/cm	855	610	-	APHA, 2510 B
24	Cyanide as CN	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
25	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
26	Hexavalent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
27	Arsenic as As	mg/l	BDL (LOD 0.0008)	BDL (LOD 0.0008)	0.2	APHA, 3111 B
28	Mercury as Hg	mg/l	BDL (LOD 0.0004)	BDL (LOD 0.0004)	0.01	APHA, 3111 B
29	Manganese as Mn	mg/l	BDL (LOD 0.015)	BDL (LOD 0.015)	2.0	APHA, 3111 B
30	Fecal Coliform	MPN/100 ml	1010	36	<1000	APHA, 222,E



Reviewed by
Dr. Dinesh K. Uchhariya
(Technical Manager)





Authorized Signatory
Rajesh Jain
(TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Waste Water		
Sample Description	STP Inlet and Outlet	D/o Sample Collection	10/10/2022
Sample Location	STP-II	D/o Analysis Completion	22/10/2022

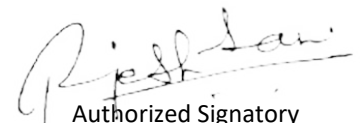
Results

S.No.	Test Parameters	Units	Test Results		Specification	Test Method
			STP-II Inlet	STP-II Outlet		
1	pH	-	7.38	7.28	5.5-9.0	APHA, 4500-H
2	Total Solids	mg/l	584	438	-	APHA, 2540 B
3	Total Dissolved Solid	mg/l	488	394	2100	APHA, 2540 C
4	Total Suspended Solids	mg/l	96	32	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	12.1	3.6	30	APHA, 5210 B
6	COD	mg/l	132	30	250	APHA, 5220 B
7	Oil & Grease	mg/l	1.4	0.62	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.423	0.19	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.36	0.037	-	APHA, 4500 B
10	Chlorides	mg/l	118.9	80.96	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	BDL (LOD 0.1)	1.0	APHA, 4500 Cl
12	Ammonical Nitrogen	mg/l	2.1	1.96	50	APHA, 4500 C
13	Total Nitrogen	mg/l	8.02	2.22	10	APHA, 4500 B
14	Fluoride	mg/l	0.17	BDL (LOD 0.01)	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.11	BDL (LOD 0.02)	2.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	0.19	BDL (LOD 0.01)	5.0	APHA, 3111 B
18	Lead as Pb	mg/l	BDL (LOD 0.007)	BDL (LOD 0.007)	0.1	APHA, 3111 B
19	Nickel as Ni	mg/l	BDL (LOD 0.015)	BDL (LOD 0.015)	3.0	APHA, 3111 B
20	Cadmium as Cd	mg/l	BDL (LOD 0.001)	BDL (LOD 0.001)	2.0	APHA, 3111 B
21	Phenolic Compounds	mg/l	BDL (LOD 0.001)	BDL (LOD 0.001)	1.0	APHA, 5530 C
22	Sulphide as S	mg/l	0.17	BDL (LOD 0.01)	2.0	APHA, 4500-S-D
23	Electric Conductivity	µMhos/cm	824	645	-	APHA, 2510 B
24	Cyanide as CN	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
25	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
26	Hexavelent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
27	Arsenic as As	mg/l	BDL (LOD 0.0008)	BDL (LOD 0.0008)	0.2	APHA, 3111 B
28	Mercury as Hg	mg/l	BDL (LOD 0.0004)	BDL (LOD 0.0004)	0.01	APHA, 3111 B
29	Manganese as Mn	mg/l	BDL (LOD 0.015)	BDL (LOD 0.015)	2.0	APHA, 3111 B
30	Fecal Coliform	MPN/100 ml	1520	66	<1000	APHA, 222,E


Reviewed by

Dr. Dinesh K. Uchhariya
(Technical Manager)




Authorized Signatory
Rajesh Jain
(TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Stack		
Sample Description	Process Stack	D/o Sample Collection	29/10/2022
Sample Location	Stack LGC-B	D/o Analysis Completion	07/11/2022

Test Report

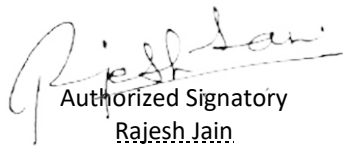
S.No.	Description	Unit	Result
1.	Stack attached to	-	LGC-B
2.	Fuel used	-	Natural gas
3.	Capacity	MT/Hrs	85
4.	Stack Height	m	30
5.	Pitot Coefficient	-	0.9021
6.	Specific gravity of Fluid	-	NA
7.	Ambient Temperature	⁰ C	26.2
8.	Stack temperature	⁰ C	135
9.	Diameter of Stack	m	3.0
10.	Cross Sectional area of Stack	m ²	7.07
11.	Flue Gas Velocity	m/sec	11.06
12.	Flow rate	m ³ /hr	205528

Emission results

S.No.	Parameter	Unit	Result	Standard	Method
1.	Particulate Matter (PM)	mg/Nm ³	7.2	50	IS:11255 (Part-1)
2.	Sulphur dioxide (SO ₂)	mg/Nm ³	15	600	IS:11255 (Part-2)
3.	Oxides of Nitrogen (NO _x)	mg/Nm ³	40	300	IS:11255 (Part-7)
4.	Volatile Organic Compounds (VOC)	mg/Nm ³	21.05	-	CPCB
5.	Hydrocarbons (HC)	mg/Nm ³	11737	-	Analyzer Method
6.	Carbon monoxide (CO)	mg/Nm ³	45.96	-	Analyzer Method
7.	Carbon dioxide (CO ₂)	%	3.52	-	Analyzer Method
8.	Oxygen (O ₂)	%	13.6	-	Analyzer Method


Reviewed by
Dr. Dinesh K. Uchhariya
(Technical Manager)




Authorized Signatory
Rajesh Jain
(TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Stack		
Sample Description	Process Stack	D/o Sample Collection	29/10/2022
Sample Location	Stack LGC-A	D/o Analysis Completion	07/11/2022

Test Report

S.No.	Description	Unit	Result
1.	Stack attached to	-	LGC-A
2.	Fuel used	-	Natural gas
3.	Capacity	MT/Hrs	85
4.	Stack Height	m	30
5.	Pitot Coefficient	-	0.9021
6.	Specific gravity of Fluid	-	NA
7.	Ambient Temperature	⁰ C	28.2
8.	Stack temperature	⁰ C	127
9.	Diameter of Stack	m	3.0
10.	Cross Sectional area of Stack	m ²	7.07
11.	Flue Gas Velocity	m/sec	13.36
12.	Flow rate	m ³ /hr	199112

Emission results

S.No.	Parameter	Unit	Result	Standard	Method
1.	Particulate Matter (PM)	mg/Nm ³	9.02	50	IS:11255 (Part-1)
2.	Sulphur dioxide (SO ₂)	mg/Nm ³	10	600	IS:11255 (Part-2)
3.	Oxides of Nitrogen (NO _x)	mg/Nm ³	37.2	300	IS:11255 (Part-7)
4.	Volatile Organic Compounds (VOC)	mg/Nm ³	33.14	-	CPCB
5.	Hydrocarbons (HC)	mg/Nm ³	13169	-	Analyzer Method
6.	Carbon monoxide (CO)	mg/Nm ³	32.06	-	Analyzer Method
7.	Carbon dioxide (CO ₂)	%	3.42	-	Analyzer Method
8.	Oxygen (O ₂)	%	13.1	-	Analyzer Method


Reviewed by
Dr. Dinesh K. Uchhariya
(Technical Manager)




Authorized Signatory
Rajesh Jain
(TD & QC Head)

ENVIRONMENTAL MONITORING REPORT NOVEMBER, 2022

Submitted to

M/s, GAIL (India) Limited
PO GAIL Complex, Vijaipur Guna -473112 Madhya Pradesh



Prepared by

Advanced Environmental Testing And Research Lab P. Ltd.

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Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Waste Water		
Sample Description	ETP Inlet	D/o Sample Collection	25/11/2022
Sample Location	CRW	D/o Analysis Completion	05/12/2022

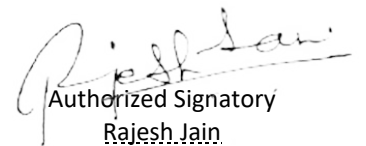
Results

S.No.	Test Parameters	Units	Test Results	Specification	Test Method
1	pH	-	7.22	5.5-9.0	APHA, 4500-H
2	Total Solids	mg/l	560	-	APHA, 2540 B
3	Total Dissolved Solid	mg/l	512	2100	APHA, 2540 C
4	Total Suspended Solids	mg/l	48	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	13.6	30	APHA, 5210 B
6	COD	mg/l	142	250	APHA, 5220 B
7	Oil & Grease	mg/l	1.48	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.026	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.079	-	APHA, 4500 B
10	Chlorides	mg/l	123.9	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	1.0	APHA, 4500 Cl
12	Ammonical Nitrogen	mg/l	2.17	50	APHA, 4500 C
13	Total Nitrogen	mg/l	3.66	10	APHA, 4500 B
14	Fluoride	mg/l	0.472	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.025	2.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	0.221	5.0	APHA, 3111 B
18	Lead as Pb	mg/l	BDL (LOD 0.007)	0.1	APHA, 3111 B
19	Nickel as Ni	mg/l	BDL (LOD 0.015)	3.0	APHA, 3111 B
20	Cadmium as Cd	mg/l	BDL (LOD 0.001)	2.0	APHA, 3111 B
21	Phenolic Compounds	mg/l	BDL (LOD 0.001)	1.0	APHA, 5530 C
22	Sulphide as S	mg/l	0.015	2.0	APHA, 4500-S-D
23	Electric Conductivity	µMhos/cm	830	-	APHA, 2510 B
24	Cyanide as CN	mg/l	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
25	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
26	Hexavelent Chromium as Cr ⁺⁶	mg/l	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
27	Arsenic as As	mg/l	BDL (LOD 0.0004)	0.2	APHA, 3111 B
28	Mercury as Hg	mg/l	BDL (LOD 0.0008)	0.01	APHA, 3111 B
29	Manganese as Mn	mg/l	BDL (LOD 0.015)	2.0	APHA, 3111 B
30	Fecal Coliform	MPN/100 ml	176	<1000	APHA, 222,E



Reviewed by
Dr. Dinesh K. Uchhariya
(Technical Manager)





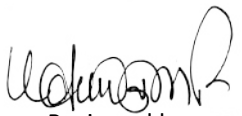
Authorized Signatory
Rajesh Jain
(TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Waste Water		
Sample Description	ETP Inlet	D/o Sample Collection	25/11/2022
Sample Location	TPI II	D/o Analysis Completion	05/12/2022

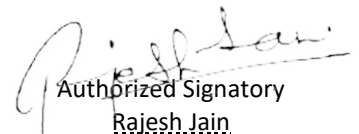
Results

S.No.	Test Parameters	Units	Test Results	Specification	Test Method
1	pH	-	7.35	5.5-9.0	APHA, 4500-H
2	Total Solids	mg/l	582	-	APHA, 2540 B
3	Total Dissolved Solid	mg/l	538	2100	APHA, 2540 C
4	Total Suspended Solids	mg/l	44	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	13.3	30	APHA, 5210 B
6	COD	mg/l	142.8	250	APHA, 5220 B
7	Oil & Grease	mg/l	1.64	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.178	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.863	-	APHA, 4500 B
10	Chlorides	mg/l	89.96	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	1.0	APHA, 4500 Cl
12	Ammonical Nitrogen	mg/l	2.28	50	APHA, 4500 C
13	Total Nitrogen	mg/l	6.47	10	APHA, 4500 B
14	Fluoride	mg/l	0.186	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.022	2.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	0.033	5.0	APHA, 3111 B
18	Lead as Pb	mg/l	BDL (LOD 0.007)	0.1	APHA, 3111 B
19	Nickel as Ni	mg/l	BDL (LOD 0.015)	3.0	APHA, 3111 B
20	Cadmium as Cd	mg/l	BDL (LOD 0.001)	2.0	APHA, 3111 B
21	Phenolic Compounds	mg/l	0.108	1.0	APHA, 5530 C
22	Sulphide as S	mg/l	0.289	2.0	APHA, 4500-S-D
23	Electric Conductivity	µMhos/cm	918	-	APHA, 2510 B
24	Cyanide as CN	mg/l	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
25	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
26	Hexavelent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
27	Arsenic as As	mg/l	BDL (LOD 0.0008)	0.2	APHA, 3111 B
28	Mercury as Hg	mg/l	BDL (LOD 0.0004)	0.01	APHA, 3111 B
29	Manganese as Mn	mg/l	BDL (LOD 0.015)	2.0	APHA, 3111 B
30	Fecal Coliform	MPN/100 ml	138	<1000	APHA, 222,E



Reviewed by
Dr. Dinesh K. Uchhariya
(Technical Manager)




Authorized Signatory
Rajesh Jain
(TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

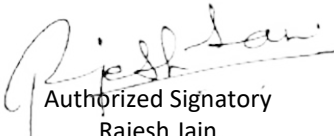
Nature of Sample	Waste Water		
Sample Description	ETP Inlet	D/o Sample Collection	25/11/2022
Sample Location	Sanitary Waste Sump	D/o Analysis Completion	05/12/2022

Results

S.No.	Test Parameters	Units	Test Results	Specification	Test Method
1	pH	-	7.16	5.5-9.0	APHA, 4500-H
2	Total Solids	mg/l	516	-	APHA, 2540 B
3	Total Dissolved Solid	mg/l	476	2100	APHA, 2540 C
4	Total Suspended Solids	mg/l	40	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	11.6	30	APHA, 5210 B
6	COD	mg/l	108	250	APHA, 5220 B
7	Oil & Grease	mg/l	1.26	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.024	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.108	-	APHA, 4500 B
10	Chlorides	mg/l	93.6	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	1.0	APHA, 4500 Cl
12	Ammonical Nitrogen	mg/l	2.126	50	APHA, 4500 C
13	Total Nitrogen	mg/l	6.3	10	APHA, 4500 B
14	Fluoride	mg/l	0.412	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.032	2.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	0.111	5.0	APHA, 3111 B
18	Lead as Pb	mg/l	BDL (LOD 0.007)	0.1	APHA, 3111 B
19	Nickel as Ni	mg/l	BDL (LOD 0.015)	3.0	APHA, 3111 B
20	Cadmium as Cd	mg/l	BDL (LOD 0.001)	2.0	APHA, 3111 B
21	Phenolic Compounds	mg/l	BDL (LOD 0.001)	1.0	APHA, 5530 C
22	Sulphide as S	mg/l	0.189	2.0	APHA, 4500-S-D
23	Electric Conductivity	µMhos/cm	870	-	APHA, 2510 B
24	Cyanide as CN	mg/l	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
25	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
26	Hexavalent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
27	Arsenic as As	mg/l	BDL (LOD 0.0008)	0.2	APHA, 3111 B
28	Mercury as Hg	mg/l	BDL (LOD 0.0004)	0.01	APHA, 3111 B
29	Manganese as Mn	mg/l	BDL (LOD 0.015)	2.0	APHA, 3111 B
30	Fecal Coliform	MPN/100 ml	148	<1000	APHA, 222,E


 Reviewed by
Dr. Dinesh K. Uchhariya
 (Technical Manager)




 Authorized Signatory
Rajesh Jain
 (TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Waste Water		
Sample Description	ETP Inlet	D/o Sample Collection	25/11/2022
Sample Location	Process waste	D/o Analysis Completion	05/12/2022


Results

S.No.	Test Parameters	Units	Test Results	Specification	Test Method
1	pH	-	7.28	5.5-9.0	APHA, 4500-H
2	Total Solids	mg/l	496	-	APHA, 2540 B
3	Total Dissolved Solid	mg/l	458	2100	APHA, 2540 C
4	Total Suspended Solids	mg/l	38	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	10.2	30	APHA, 5210 B
6	COD	mg/l	98.6	250	APHA, 5220 B
7	Oil & Grease	mg/l	1.78	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.452	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.87	-	APHA, 4500 B
10	Chlorides	mg/l	59.95	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	1.0	APHA, 4500 CI
12	Ammonical Nitrogen	mg/l	3.90	50	APHA, 4500 C
13	Total Nitrogen	mg/l	7.05	10	APHA, 4500 B
14	Fluoride	mg/l	0.360	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.022	2.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	0.071	5.0	APHA, 3111 B
18	Lead as Pb	mg/l	BDL (LOD 0.007)	0.1	APHA, 3111 B
19	Nickel as Ni	mg/l	BDL (LOD 0.015)	3.0	APHA, 3111 B
20	Cadmium as Cd	mg/l	BDL (LOD 0.001)	2.0	APHA, 3111 B
21	Phenolic Compounds	mg/l	0.017	1.0	APHA, 5530 C
22	Sulphide as S	mg/l	0.229	2.0	APHA, 4500-S-D
23	Electric Conductivity	µMhos/cm	772	-	APHA, 2510 B
24	Cyanide as CN	mg/l	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
25	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
26	Hexavelent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
27	Arsenic as As	mg/l	BDL (LOD 0.0008)	0.2	APHA, 3111 B
28	Mercury as Hg	mg/l	BDL (LOD 0.0004)	0.01	APHA, 3111 B
29	Manganese as Mn	mg/l	BDL (LOD 0.015)	2.0	APHA, 3111 B
30	Fecal Coliform	MPN/100 ml	196	<1000	APHA, 222,E


Reviewed by

Dr. Dinesh K. Uchhariya
(Technical Manager)




Authorized Signatory
Rajesh Jain
(TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited


Nature of Sample	Waste Water		
Sample Description	ETP Inlet	D/o Sample Collection	25/11/2022
Sample Location	Surge Pond	D/o Analysis Completion	05/12/2022

Results

S.No	Test Parameters	Units	Test Results	Specification	Test Method
1	pH	-	7.27	5.5-9.0	APHA, 4500-H+
2	Total Solids	mg/l	512	-	APHA, 2540 B
3	Total Dissolved Solid (TDS)	mg/l	450	2100	APHA, 2540 C
4	Total Suspended Solids (TSS)	mg/l	62	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	12.6	30	APHA, 5210 B
6	COD	mg/l	117.8	250	APHA, 5220 B
7	Oil & Grease	mg/l	2.08	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.345	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.880	-	APHA, 4500 B
10	Chlorides	mg/l	117.9	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	1.0	APHA, 4500 A-CI
12	Ammonical Nitrogen	mg/l	3.92	50	APHA, 4500 C
13	Total Nitrogen	mg/l	6.07	10	APHA, 4500 B
14	Fluoride	mg/l	0.362	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.033	3.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	0.024	5.0	APHA, 3111 B
18	Manganese as Mn	mg/l	BDL (LOD 0.015)	2.0	APHA, 3111 B
19	Lead as Pb	mg/l	BDL (LOD 0.007)	0.1	APHA, 3111 B
20	Nickel as Ni	mg/l	BDL (LOD 0.015)	3.0	APHA, 3111 B
21	Cadmium as Cd	mg/l	BDL (LOD 0.001)	2.0	APHA, 3111 B
22	Arsenic as As	mg/l	BDL (LOD 0.0008)	0.2	APHA, 3113 B
23	Mercury as Hg	mg/l	BDL (LOD 0.0004)	0.01	APHA, 3500 Hg
24	Phenolic Compounds	mg/l	0.127	1.0	APHA, 5530 C
25	Sulphide as S	mg/l	0.326	2.0	APHA, 4500-S-D
26	Electric Conductivity	µMhos/cm	786	-	APHA, 2510 B
27	Cyanide as CN	mg/l	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
28	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
29	Hexavelent Chromium as Cr ⁺⁶	mg/l	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
30	Fecal Coliform	MPN/100 ml	158	<1000	APHA, 9222,E


 Reviewed by
Dr. Dinesh K. Uchhariya
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 Authorized Signatory
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Environmental Monitoring Report at GAIL (India) Limited


Nature of Sample	Waste Water		
Sample Description	ETP Outlet	D/o Sample Collection	14/11/2022
Sample Location	Guard Pond	D/o Analysis Completion	22/11/2022

Results

S.No	Test Parameters	Units	Test Results	Specification	Test Method
1	pH	-	7.23	5.5-9.0	APHA, 4500-H+ B
2	Total Solids	mg/l	606	-	APHA, 2540 B
3	Total Dissolved Solid (TDS)	mg/l	558	2100	APHA, 2540 C
4	Total Suspended Solids (TSS)	mg/l	48	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	7.36	30	APHA, 5210 B
6	COD	mg/l	88.1	250	APHA, 5220 B
7	Oil & Grease	mg/l	0.78	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.223	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.178	-	APHA, 4500 B
10	Chlorides	mg/l	91.2	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL	1.0	APHA, 4500 A-CI
12	Ammonical Nitrogen	mg/l	2.22	50	APHA, 4500 C
13	Total Nitrogen	mg/l	4.23	10	APHA, 4500 B
14	Fluoride	mg/l	0.11	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	BDL (LOD 0.01)	5.0	APHA, 3111 B
18	Manganese as Mn	mg/l	BDL (LOD 0.015)	2.0	APHA, 3111 B
19	Lead as Pb	mg/l	BDL (LOD 0.007)	0.1	APHA, 3111 B
20	Nickel as Ni	mg/l	BDL (LOD 0.015)	3.0	APHA, 3111 B
21	Cadmium as Cd	mg/l	BDL (LOD 0.001)	2.0	APHA, 3111 B
22	Arsenic as As	mg/l	BDL (LOD 0.0008)	0.2	APHA, 3113 B
23	Mercury as Hg	mg/l	BDL (LOD 0.0004)	0.01	APHA, 3500 Hg
24	Phenolic Compounds	mg/l	0.022	1.0	APHA, 5530 C
25	Sulphide as S	mg/l	0.044	2.0	APHA, 4500-S-D
26	Electric Conductivity	µMhos/cm	978	-	APHA, 2510 B
27	Cyanide as CN	mg/l	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
28	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
29	Hexavelent Chromium as Cr ⁺⁶	mg/l	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
30	Fecal Coliform	MPN/100 ml	62	<1000	APHA, 9222, 23rd Edition


 Reviewed by
Dr. Dinesh K. Uchhariya
 (Technical Manager)




 Authorized Signatory
Rajesh Jain
 (TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited


Nature of Sample	Waste Water		
Sample Description	ETP Outlet	D/o Sample Collection	25/11/2022
Sample Location	Guard Pond	D/o Analysis Completion	05/12/2022

Results

S.No	Test Parameters	Units	Test Results	Specification	Test Method
1	pH	-	7.31	5.5-9.0	APHA, 4500-H+ B
2	Total Solids	mg/l	506	-	APHA, 2540 B
3	Total Dissolved Solid (TDS)	mg/l	474	2100	APHA, 2540 C
4	Total Suspended Solids (TSS)	mg/l	32	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	6.89	30	APHA, 5210 B
6	COD	mg/l	56.8	250	APHA, 5220 B
7	Oil & Grease	mg/l	0.88	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.14	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.42	-	APHA, 4500 B
10	Chlorides	mg/l	109.9	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	1.0	APHA, 4500 A-CI
12	Ammonical Nitrogen	mg/l	1.08	50	APHA, 4500 C
13	Total Nitrogen	mg/l	1.78	10	APHA, 4500 B
14	Fluoride	mg/l	0.114	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	0.021	5.0	APHA, 3111 B
18	Manganese as Mn	mg/l	BDL (LOD 0.015)	2.0	APHA, 3111 B
19	Lead as Pb	mg/l	BDL (LOD 0.007)	0.1	APHA, 3111 B
20	Nickel as Ni	mg/l	BDL (LOD 0.015)	3.0	APHA, 3111 B
21	Cadmium as Cd	mg/l	BDL (LOD 0.001)	2.0	APHA, 3111 B
22	Arsenic as As	mg/l	BDL (LOD 0.0008)	0.2	APHA, 3113 B
23	Mercury as Hg	mg/l	BDL (LOD 0.0004)	0.01	APHA, 3500 Hg
24	Phenolic Compounds	mg/l	BDL (LOD 0.001)	1.0	APHA, 5530 C
25	Sulphide as S	mg/l	BDL (LOD 0.01)	2.0	APHA, 4500-S-D
26	Electric Conductivity	µMhos/cm	790	-	APHA, 2510 B
27	Cyanide as CN	mg/l	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
28	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
29	Hexavalent Chromium as Cr ⁺⁶	mg/l	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
30	Fecal Coliform	MPN/100 ml	42	<1000	APHA, 9222,E


 Reviewed by
Dr. Dinesh K. Uchhariya
 (Technical Manager)




 Authorized Signatory
Rajesh Jain
 (TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited


Nature of Sample	Waste Water		
Sample Description	STP Inlet and Outlet	D/o Sample Collection	25/11/2022
Sample Location	STP- I	D/o Analysis Completion	05/12/2022

Results

S.No.	Test Parameters	Units	Test Results		Specification	Test Method
			STP-I Inlet	STP-I Outlet		
1	pH	-	7.87	7.22	5.5-9.0	APHA, 4500-H
2	Total Solids	mg/l	528	338	-	APHA, 2540 B
3	Total Dissolved Solid	mg/l	456	330	2100	APHA, 2540 C
4	Total Suspended Solids	mg/l	72	28	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	42.2	3.1	30	APHA, 5210 B
6	COD	mg/l	200	36	250	APHA, 5220 B
7	Oil & Grease	mg/l	4.27	0.52	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.618	0.156	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.373	0.478	-	APHA, 4500 B
10	Chlorides	mg/l	110.9	113.9	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	BDL (LOD 0.1)	1.0	APHA, 4500 Cl
12	Ammonical Nitrogen	mg/l	9.57	0.426	50	APHA, 4500 C
13	Total Nitrogen	mg/l	13.6	1.07	10	APHA, 4500 B
14	Fluoride	mg/l	0.138	BDL (LOD 0.01)	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	BDL (LOD 0.02)	BDL (LOD 0.02)	2.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	BDL (LOD 0.015)	BDL (LOD 0.01)	5.0	APHA, 3111 B
18	Lead as Pb	mg/l	BDL (LOD 0.015)	BDL (LOD 0.015)	0.1	APHA, 3111 B
19	Nickel as Ni	mg/l	BDL (LOD 0.007)	BDL (LOD 0.007)	3.0	APHA, 3111 B
20	Cadmium as Cd	mg/l	BDL (LOD 0.015)	BDL (LOD 0.015)	2.0	APHA, 3111 B
21	Phenolic Compounds	mg/l	BDL (LOD 0.001)	BDL (LOD 0.001)	1.0	APHA, 5530 C
22	Sulphide as S	mg/l	BDL (LOD 0.0008)	BDL (LOD 0.0008)	2.0	APHA, 4500-S-D
23	Electric Conductivity	µMhos/cm	BDL (LOD 0.0004)	BDL (LOD 0.0004)	-	APHA, 2510 B
24	Cyanide as CN	mg/l	0.084	BDL (LOD 0.001)	0.2	APHA, 4500-CN-D
25	Total Chromium as Cr	mg/l	0.962	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
26	Hexavelent Chromium as Cr+6	mg/l	793	578	0.1	APHA, 3500-Cr-B
27	Arsenic as As	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	0.2	APHA, 3111 B
28	Mercury as Hg	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	0.01	APHA, 3111 B
29	Manganese as Mn	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	2.0	APHA, 3111 B
30	Fecal Coliform	MPN/100 ml	1580	70	<1000	APHA, 222,E


 Reviewed by
 Dr. Dinesh K. Uchhariya
 (Technical Manager)



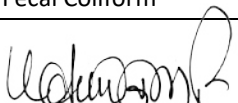

 Authorized Signatory
 Rajesh Jain
 (TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

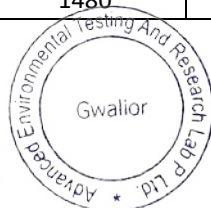
Nature of Sample	Waste Water		
Sample Description	STP Inlet and Outlet	D/o Sample Collection	25/11/2022
Sample Location	STP- II	D/o Analysis Completion	05/12/2022


Results

S.No.	Test Parameters	Units	Test Results		Specification	Test Method
			STP-II Inlet	STP-II Outlet		
1	pH	-	7.41	7.17	5.5-9.0	APHA, 4500-H
2	Total Solids	mg/l	553	396	-	APHA, 2540 B
3	Total Dissolved Solid	mg/l	475	378	2100	APHA, 2540 C
4	Total Suspended Solids	mg/l	78	18	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	19.6	3.6	30	APHA, 5210 B
6	COD	mg/l	178	32.8	250	APHA, 5220 B
7	Oil & Grease	mg/l	2.16	0.66	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.201	0.072	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.687	0.196	-	APHA, 4500 B
10	Chlorides	mg/l	134.1	85.97	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	BDL (LOD 0.1)	1.0	APHA, 4500 Cl
12	Ammonical Nitrogen	mg/l	8.63	1.63	50	APHA, 4500 C
13	Total Nitrogen	mg/l	15.4	3.06	10	APHA, 4500 B
14	Fluoride	mg/l	0.045	BDL (LOD 0.01)	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	BDL (LOD 0.02)	BDL (LOD 0.02)	2.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	5.0	APHA, 3111 B
18	Lead as Pb	mg/l	BDL (LOD 0.015)	BDL (LOD 0.015)	0.1	APHA, 3111 B
19	Nickel as Ni	mg/l	BDL (LOD 0.007)	BDL (LOD 0.007)	3.0	APHA, 3111 B
20	Cadmium as Cd	mg/l	BDL (LOD 0.015)	BDL (LOD 0.015)	2.0	APHA, 3111 B
21	Phenolic Compounds	mg/l	BDL (LOD 0.001)	BDL (LOD 0.001)	1.0	APHA, 5530 C
22	Sulphide as S	mg/l	BDL (LOD 0.0008)	BDL (LOD 0.0008)	2.0	APHA, 4500-S-D
23	Electric Conductivity	µMhos/cm	BDL (LOD 0.0004)	BDL (LOD 0.0004)	-	APHA, 2510 B
24	Cyanide as CN	mg/l	0.075	BDL (LOD 0.001)	0.2	APHA, 4500-CN-D
25	Total Chromium as Cr	mg/l	0.362	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
26	Hexavalent Chromium as Cr+6	mg/l	802	640	0.1	APHA, 3500-Cr-B
27	Arsenic as As	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	0.2	APHA, 3111 B
28	Mercury as Hg	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	0.01	APHA, 3111 B
29	Manganese as Mn	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	2.0	APHA, 3111 B
30	Fecal Coliform	MPN/100 ml	1480	62	<1000	APHA, 222,E


Reviewed By

Dr. Dinesh K. Uchhariya
(Technical Manager)




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Environmental Monitoring Report at GAIL (India) Limited

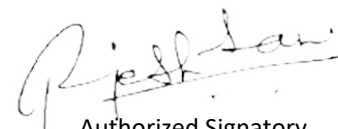
Ambient Air Monitoring

Results

S.No.	Test parameter	Units	Results						Standards	Test Method
			CISF Gate (23/11/2022)	LPG Area (23/11/2022)	SS 11 Area (23/11/2022)	Technical Building (22/11/2022)	HVJ Area (22/11/2022)	ETP Area (22/11/2022)		
1	Sulphur Dioxide	µg/m ³	22.71	16.30	10.57	23.67	30.62	15.60	80 (24 hours)	IS:5182 (Part-2)
2	Nitrogen dioxide	µg/m ³	33.18	30.67	19.64	14.08	19.68	22.37	80 (24 hours)	IS:5182 (Part-6)
3	PM 10	µg/m ³	55.43	52.36	49.38	52.25	53.68	57.16	100 (24 hours)	IS:5182 (Part-23)
4	PM 2.5	µg/m ³	27.63	30.11	24.50	30.36	22.60	31.02	60 (24 hours)	IS:5182 (Part-24)
5	Carbon Monoxide	mg/m ³	1.089	0.885	0.912	0.968	0.785	1.05	4 (1 hours)	IS:5182 (Part-10)
6	Lead	µg/m ³	BDL (LOD:0.02)	BDL (LOD 0.02)	BDL (LOD 0.02)	BDL (LOD 0.02)	BDL (LOD 0.02)	BDL (LOD 0.02)	1 (24 hours)	EPA Compendium Method IO 3.2
7	Ammonia	µg/m ³	11.30	16.32	11.27	10.6	16.30	10.67	400 (24 hours)	IS:5182 (Part-25)
8	Benzene	µg/m ³	BDL (LOD:0.005)	0.009	BDL (LOD 0.005)	BDL (LOD 0.005)	0.007	BDL (LOD 0.005)	5 (Annual)	IS:5182 (Part-11), 2006
9	Benzo(a)pyrene	ng/m ³	BDL (LOD:0.004)	BDL (LOD 0.004)	BDL (LOD 0.004)	0.047	BDL (LOD 0.004)	BDL (LOD 0.004)	1 (Annual)	IS:5182 (Part-12), 2004
10	Arsenic	ng/m ³	BDL (LOD:0.80)	BDL (LOD 0.8)	BDL (LOD 0.80)	BDL (LOD 0.80)	BDL (LOD 0.80)	BDL (LOD 0.8)	6 (Annual)	EPA Compendium Method IO 3.2
11	Nickel	ng/m ³	BDL (LOD:0.15)	BDL (LOD 0.15)	BDL (LOD 0.15)	BDL (LOD 0.15)	BDL (LOD 0.15)	BDL (LOD 0.15)	20 (Annual)	EPA Compendium Method IO 3.2
12	Ozone	µg/m ³	16.3	13.05	7.78	8.96	6.30	7.96	100 (8 hours)	IS:5182 (Part-9), 1974


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Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Stack		
Sample Description	Process Stack	D/o Sample Collection	22/11/2022
Sample Location	Stack VDPL-B	D/o Analysis Completion	07/12/2022

Test Report

S.No.	Description	Unit	Result
1.	Stack attached to	-	VDPL-B
2.	Fuel used	-	Natural gas
3.	Capacity	MW	32.8
4.	Stack Height	m	30
5.	Pitot Coefficient	-	0.9021
6.	Specific gravity of Fluid	-	NA
7.	Ambient Temperature	⁰ C	27.8
8.	Stack temperature	⁰ C	402
9.	Diameter of Stack	m	4.5
10.	Cross Sectional area of Stack	m ²	15.90
11.	Flue Gas Velocity	m/sec	11.30
12.	Flow rate	m ³ /hr	284028.8

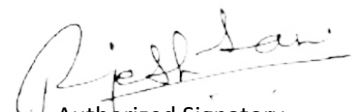
Emission results

S.No.	Parameter	Unit	Result	Standard	Method
1.	Particulate Matter (PM)	mg/Nm ³	8.2	50	IS:11255 (Part-1)
2.	Sulphur dioxide (SO ₂)	mg/Nm ³	19.17	600	IS:11255 (Part-2)
3.	Oxides of Nitrogen (NO _x)	mg/Nm ³	23.60	300	IS:11255 (Part-7)
4.	Volatile Organic Compounds (VOC)	mg/Nm ³	11.22	-	CPCB
5.	Hydrocarbons (HC)	mg/Nm ³	6167.5	-	Analyzer Method
6.	Carbon monoxide (CO)	mg/Nm ³	482.0	-	Analyzer Method
7.	Carbon dioxide (CO ₂)	%	1.96	-	Analyzer Method
8.	Oxygen (O ₂)	%	16.2	-	Analyzer Method


Reviewed by

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(Technical Manager)




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(TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Stack		
Sample Description	Process Stack	D/o Sample Collection	22/11/2022
Sample Location	Stack DVPL-C	D/o Analysis Completion	07/12/2022

Test Report

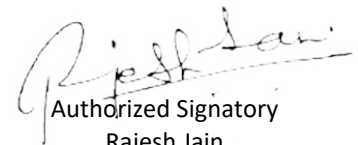
S.No.	Description	Unit	Result
1.	Stack attached to	-	DVPL-C
2.	Fuel used	-	Natural gas
3.	Capacity	MW	13.4
4.	Stack Height	m	30
5.	Pitot Coefficient	-	0.9021
6.	Specific gravity of Fluid	-	NA
7.	Ambient Temperature	⁰ C	28.0
8.	Stack temperature	⁰ C	343
9.	Diameter of Stack	m	2.15
10.	Cross Sectional area of Stack	m ²	3.63
11.	Flue Gas Velocity	m/sec	14.9
12.	Flow rate	m ³ /hr	93754.5

Emission results

S.No.	Parameter	Unit	Result	Standard	Method
1.	Particulate Matter (PM)	mg/Nm ³	6.9	50	IS:11255 (Part-1)
2.	Sulphur dioxide (SO ₂)	mg/Nm ³	17.28	600	IS:11255 (Part-2)
3.	Oxides of Nitrogen (NO _x)	mg/Nm ³	20.40	300	IS:11255 (Part-7)
4.	Volatile Organic Compounds (VOC)	mg/Nm ³	17.23	-	CPCB
5.	Hydrocarbons (HC)	mg/Nm ³	6067.5	-	Analyzer Method
6.	Carbon monoxide (CO)	mg/Nm ³	22.9	-	Analyzer Method
7.	Carbon dioxide (CO ₂)	%	2.11	-	Analyzer Method
8.	Oxygen (O ₂)	%	16.3	-	Analyzer Method


Reviewed by
Dr. Dinesh K. Uchhariya
(Technical Manager)




Authorized Signatory
Rajesh Jain
(TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Stack		
Sample Description	Process Stack	D/o Sample Collection	24/11/2022
Sample Location	Stack GTG-A (HVJ)	D/o Analysis Completion	07/12/2022

Test Report

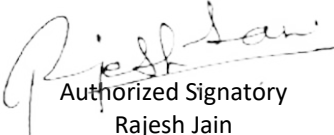
S.No.	Description	Unit	Result
1.	Stack attached to	-	GTG-A (HVJ)
2.	Fuel used	-	Natural gas
3.	Capacity	MW	10.8
4.	Stack Height	m	35
5.	Pitot Coefficient	-	0.9021
6.	Specific gravity of Fluid	-	NA
7.	Ambient Temperature	^o C	29.1
8.	Stack temperature	^o C	347
9.	Diameter of Stack	m	2.45
10.	Cross Sectional area of Stack	m ²	4.71
11.	Flue Gas Velocity	m/sec	15.73
12.	Flow rate	m ³ /hr	122718.2

Emission results

S.No.	Parameter	Unit	Result	Standard	Method
1.	Particulate Matter (PM)	mg/Nm ³	7.2	50	IS:11255 (Part-1)
2.	Sulphur dioxide (SO ₂)	mg/Nm ³	20.91	600	IS:11255 (Part-2)
3.	Oxides of Nitrogen (NO _x)	mg/Nm ³	18.90	300	IS:11255 (Part-7)
4.	Volatile Organic Compounds (VOC)	mg/Nm ³	13.39	-	CPCB
5.	Hydrocarbons (HC)	mg/Nm ³	6274.3	-	Analyzer Method
6.	Carbon monoxide (CO)	mg/Nm ³	11.45	-	Analyzer Method
7.	Carbon dioxide (CO ₂)	%	2.19	-	Analyzer Method
8.	Oxygen (O ₂)	%	16.0	-	Analyzer Method


Reviewed by
Dr. Dinesh K. Uchhariya
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(TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Stack		
Sample Description	Process Stack	D/o Sample Collection	24/11/2022
Sample Location	Stack GPU LGC-II	D/o Analysis Completion	07/12/2022

Test Report

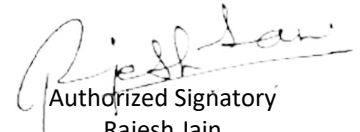
S.No.	Description	Unit	Result
1.	Stack attached to	-	GPU LGC-II
2.	Fuel used	-	Natural gas
3.	Capacity	MW	10.8
4.	Stack Height	m	35
5.	Pitot Coefficient	-	0.9021
6.	Specific gravity of Fluid	-	NA
7.	Ambient Temperature	°C	29.0
8.	Stack temperature	°C	255
9.	Diameter of Stack	m	2.45
10.	Cross Sectional area of Stack	m ²	4.71
11.	Flue Gas Velocity	m/sec	16.63
12.	Flow rate	m ³ /hr	132870.1

Emission results

S.No.	Parameter	Unit	Result	Standard	Method
1.	Particulate Matter (PM)	mg/Nm ³	8.8	50	IS:11255 (Part-1)
2.	Sulphur dioxide (SO ₂)	mg/Nm ³	21.37	600	IS:11255 (Part-2)
3.	Oxides of Nitrogen (NO _x)	mg/Nm ³	16.97	300	IS:11255 (Part-7)
4.	Volatile Organic Compounds (VOC)	mg/Nm ³	10.36	-	CPCB
5.	Hydrocarbons (HC)	mg/Nm ³	5955.1	-	Analyzer Method
6.	Carbon monoxide (CO)	mg/Nm ³	2.38	-	Analyzer Method
7.	Carbon dioxide (CO ₂)	%	2.51	-	Analyzer Method
8.	Oxygen (O ₂)	%	15.6	-	Analyzer Method


Reviewed by
Dr. Dinesh K. Uchhariya
(Technical Manager)




Authorized Signatory
Rajesh Jain
(TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Stack		
Sample Description	Process Stack	D/o Sample Collection	23/11/2022
Sample Location	Stack GPU Ph-II (GT-LEF)	D/o Analysis Completion	07/12/2022

Test Report

S.No.	Description	Unit	Result
1.	Stack attached to	-	GPU Ph-II (GT-LEF)
2.	Fuel used	-	Natural gas
3.	Capacity	MW	5.0
4.	Stack Height	m	30
5.	Pitot Coefficient	-	0.9021
6.	Specific gravity of Fluid	-	NA
7.	Ambient Temperature	°C	28.6
8.	Stack temperature	°C	525
9.	Diameter of Stack	m	1.58
10.	Cross Sectional area of Stack	m ²	1.96
11.	Flue Gas Velocity	m/sec	16.30
12.	Flow rate	m ³ /hr	42433.3

Emission results

S.No.	Parameter	Unit	Result	Standard	Method
1.	Particulate Matter (PM)	mg/Nm ³	9.1	50	IS:11255 (Part-1)
2.	Sulphur dioxide (SO ₂)	mg/Nm ³	22.87	600	IS:11255 (Part-2)
3.	Oxides of Nitrogen (NO _x)	mg/Nm ³	21.80	300	IS:11255 (Part-7)
4.	Volatile Organic Compounds (VOC)	mg/Nm ³	20.42	-	CPCB
5.	Hydrocarbons (HC)	mg/Nm ³	6180.8	-	Analyzer Method
6.	Carbon monoxide (CO)	mg/Nm ³	1.48	-	Analyzer Method
7.	Carbon dioxide (CO ₂)	%	2.76	-	Analyzer Method
8.	Oxygen (O ₂)	%	15.0	-	Analyzer Method


Reviewed by
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Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Stack		
Sample Description	Process Stack	D/o Sample Collection	23/11/2022
Sample Location	Stack GPU Ph-I (GT-LEF)	D/o Analysis Completion	07/12/2022

Test Report

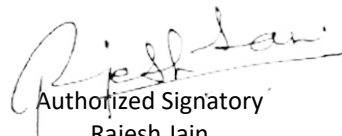
S.No.	Description	Unit	Result
1.	Stack attached to	-	GPU Ph-I (GT-LEF)
2.	Fuel used	-	Natural gas
3.	Capacity	MW	5.0
4.	Stack Height	m	30
5.	Pitot Coefficient	-	0.9021
6.	Specific gravity of Fluid	-	NA
7.	Ambient Temperature	⁰ C	28.0
8.	Stack temperature	⁰ C	376
9.	Diameter of Stack	m	1.58
10.	Cross Sectional area of Stack	m ²	1.96
11.	Flue Gas Velocity	m/sec	16.99
12.	Flow rate	m ³ /hr	54383.9

Emission results

S.No.	Parameter	Unit	Result	Standard	Method
1.	Particulate Matter (PM)	mg/Nm ³	9.5	50	IS:11255 (Part-1)
2.	Sulphur dioxide (SO ₂)	mg/Nm ³	24.03	600	IS:11255 (Part-2)
3.	Oxides of Nitrogen (NO _x)	mg/Nm ³	17.30	300	IS:11255 (Part-7)
4.	Volatile Organic Compounds (VOC)	mg/Nm ³	15.30	-	CPCB
5.	Hydrocarbons (HC)	mg/Nm ³	6486.2	-	Analyzer Method
6.	Carbon monoxide (CO)	mg/Nm ³	2.06	-	Analyzer Method
7.	Carbon dioxide (CO ₂)	%	1.80	-	Analyzer Method
8.	Oxygen (O ₂)	%	16.5	-	Analyzer Method


Reviewed by
Dr. Dinesh K. Uchhariya
(Technical Manager)




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Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Stack		
Sample Description	Process Stack	D/o Sample Collection	24/11/2022
Sample Location	Stack GPU GT PRU-I	D/o Analysis Completion	07/12/2022

Test Report

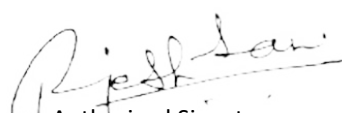
S.No.	Description	Unit	Result
1.	Stack attached to	-	GPU GT PRU-I
2.	Fuel used	-	Natural gas
3.	Capacity	MW	5.0
4.	Stack Height	m	30.5
5.	Pitot Coefficient	-	0.9021
6.	Specific gravity of Fluid	-	NA
7.	Ambient Temperature	$^{\circ}\text{C}$	28.1
8.	Stack temperature	$^{\circ}\text{C}$	375
9.	Diameter of Stack	m	1.58
10.	Cross Sectional area of Stack	m^2	1.96
11.	Flue Gas Velocity	m/sec	18.01
12.	Flow rate	m^3/hr	57642.1

Emission results

S.No.	Parameter	Unit	Result	Standard	Method
1.	Particulate Matter (PM)	mg/Nm^3	6.8	50	IS:11255 (Part-1)
2.	Sulphur dioxide (SO_2)	mg/Nm^3	23.49	600	IS:11255 (Part-2)
3.	Oxides of Nitrogen (NO_x)	mg/Nm^3	22.32	300	IS:11255 (Part-7)
4.	Volatile Organic Compounds (VOC)	mg/Nm^3	12.66	-	CPCB
5.	Hydrocarbons (HC)	mg/Nm^3	6274.1	-	Analyzer Method
6.	Carbon monoxide (CO)	mg/Nm^3	11.68	-	Analyzer Method
7.	Carbon dioxide (CO_2)	%	1.87	-	Analyzer Method
8.	Oxygen (O_2)	%	16.8	-	Analyzer Method


Reviewed by
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Environmental Monitoring Report at GAIL (India) Limited


Nature of Sample	Noise Monitoring		
Sample Description	Source Noise	D/o Sample Collection	22/11/22 to 25/11/22
Sample Location	GAIL India	D/o Analysis Completion	07/12/2022

Results

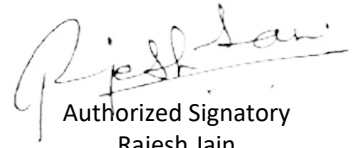
S.No.	Area/Equipment	Location	Noise levels measured in dB(A)	
			Permissible Limit dB(A) Leq	Result dB(A) Leq
1.	GTG	Between GTG A& B	105	91.90
2.	HVJ-GTC	Between HVJM/L& HVJB/L	105	103.8
3.	HVJ-DEG	Near HVJ DEG	105	75.01
4.	DVPLGTC (Shut Down)	Between the GTC	105	91.22
5.	VDPLGTC (Shut Down)	Near VDPL GTC	105	92.27
6.	Fire Station	Near Fire Station Area	105	54.40
7.	C2C3 FWPH	Near FWPH Area	105	54.17
8.	GPU Phase 1	Near Dryer	105	90.28
9.		Ex-Comp	105	86.55
10.		Main GT	105	100.91
11.	GPU Phase 2	Near Dryer	105	90.49
12.		Ex-Comp	105	102.53
13.		Main GT	105	101.31
14.	Boiler Area (GPU)	Between Boiler & IA Plant of GPU	105	68.48
15.	Cooling tower-1	Between Pump House & Cooling tower	105	90.88
16.	Cooling tower-2	Between Pump House & Cooling tower	105	90.45
17.	C2C3 Unit Area	Utility Boiler (C2C3)	105	65.53
18.		IA Plant (C2C3)	105	96.17
19.		DM Plant	105	52.19
20.		Unit–Main GT Area	105	83.23
21.		Unit–HRSG Area	105	60.13
22.		DEG (750 KVA)	105	54.28
23.	Industrial Zone-Plant Boundary Area	Near CISF Plant/Product Gate	75	50.65
24.	Industrial Zone-Plant Boundary Area	Near C2C3 CISF Gate	75	56.34
25.	Industrial Zone-Plant Boundary Area	Near Flare/ETP Area	75	72.57
26.	Industrial Zone-Plant Boundary Area	Behind DVPL Compressor shed	75	74.29
27.	Industrial Zone-Plant Boundary Area	Near CISF Plant/Product Gate- Night Time	70	54.20
28.	Industrial Zone-Plant Boundary Area	Near C2C3 CISF Gate – Night Time	70	49.72
29.	Industrial Zone-Plant Boundary Area	Near Flare/ETP Area – Night Time	70	52.07
30.	Industrial Zone-Plant Boundary Area	Behind DVPL Compressor shed – Night Time	70	55.47
31.	Commercial Area-1	Phase 1 Shopping Complex-Day Time	65	43.40

Environmental Monitoring Report at GAIL (India) Limited

32.	Commercial Area-2	Phase 1 Shopping Complex-Night Time	55	35.25
33.	Commercial Area-3	Phase 2 Shopping Complex-Day Time	65	50.85
34.	Commercial Area-4	Phase 2 Shopping Complex- Night Time	55	45.82
35.	Silence Zone -1	Near Hospital-Day time	50	45.35
36.	Silence Zone -1	Near Hospital- Night Time	40	35.95



Reviewed by
Dr. Dinesh K. Uchhariya
(Technical Manager)



Authorized Signatory
Rajesh Jain
(TD & QC Head)

ENVIRONMENTAL MONITORING REPORT DECEMBER 2022

Submitted to

M/s, GAIL (India) Limited
PO GAIL Complex, Vijaipur Guna -473112 Madhya Pradesh



Prepared by

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Environmental Monitoring Report at GAIL (India) Limited

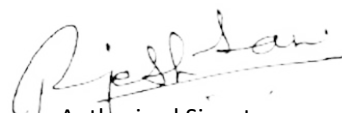
Nature of Sample	Waste water		
Sample Description	ETP Inlet	D/o Sample Collection	14/12/2022
Sample Location	CRW	D/o Analysis Completion	28/12/2022

Results

S.No	Test Parameters	Units	Test Results	Test Method
1	pH	-	7.36	APHA, 4500-H+ B
2	Total Solids	mg/l	584	APHA, 2540 B
3	Total Dissolved Solid (TDS)	mg/l	482	APHA, 2540 C
4	Total Suspended Solids (TSS)	mg/l	102	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	26.3	APHA, 5210 B
6	COD	mg/l	210	APHA, 5220 B
7	Oil & Grease	mg/l	6.37	APHA, 5520 B
8	Phosphates as P2O5	mg/l	1.02	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.89	APHA, 4500 B
10	Chlorides	mg/l	72.7	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	APHA, 4500 A-CI
12	Total Nitrogen	mg/l	13.1	APHA, 4500 B
13	Ammonical Nitrogen	mg/l	5.58	APHA, 4500 C
14	Fluoride	mg/l	0.227	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.045	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	APHA, 3111 B
17	Zinc as Zn	mg/l	0.112	APHA, 3111 B
18	Manganese as Mn	mg/l	BDL (LOD 0.015)	APHA, 3111 B
19	Lead as Pb	mg/l	BDL (LOD 0.007)	APHA, 3111 B
20	Nickel as Ni	mg/l	BDL (LOD 0.015)	APHA, 3111 B
21	Cadmium as Cd	mg/l	BDL (LOD 0.001)	APHA, 3111 B
22	Arsenic as As	mg/l	BDL (LOD 0.0008)	APHA, 3113 B
23	Mercury as Hg	mg/l	BDL (LOD 0.0004)	APHA, 3500 Hg
24	Phenolic Compounds	mg/l	0.236	APHA, 5530 C
25	Sulphide as S	mg/l	0.328	APHA, 4500-S-D
26	Electric Conductivity	µMhos/cm	832	APHA, 2510 B
27	Cyanide as CN	mg/l	BDL (LOD 0.01)	APHA, 4500-CN-D
28	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	APHA, 3500-Cr-B
29	Hexavelent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	APHA, 3500-Cr-B
30	Fecal Coliform	MPN/100ml	178	APHA, 9222, E


 Reviewed by
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Environmental Monitoring Report at GAIL (India) Limited


Nature of Sample	Waste water		
Sample Description	ETP Inlet	D/o Sample Collection	14/12/2022
Sample Location	TPI II	D/o Analysis Completion	28/12/2022

Results

S.No.	Test Parameters	Units	Test Results	Test Method
1	pH	-	7.37	APHA, 4500-H+ B
2	Total Solids	mg/l	578	APHA, 2540 B
3	Total Dissolved Solid (TDS)	mg/l	488	APHA, 2540 C
4	Total Suspended Solids (TSS)	mg/l	90	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	17.2	APHA, 5210 B
6	COD	mg/l	160	APHA, 5220 B
7	Oil & Grease	mg/l	8.4	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.726	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.380	APHA, 4500 B
10	Chlorides	mg/l	87.97	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	APHA, 4500 A-CI
12	Total Nitrogen	mg/l	14.82	APHA, 4500 B
13	Ammonical Nitrogen	mg/l	8.90	APHA, 4500 C
14	Fluoride	mg/l	0.250	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.107	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	APHA, 3111 B
17	Zinc as Zn	mg/l	0.310	APHA, 3111 B
18	Manganese as Mn	mg/l	BDL (LOD 0.015)	APHA, 3111 B
19	Lead as Pb	mg/l	BDL (LOD 0.007)	APHA, 3111 B
20	Nickel as Ni	mg/l	BDL (LOD 0.015)	APHA, 3111 B
21	Cadmium as Cd	mg/l	BDL (LOD 0.001)	APHA, 3111 B
22	Arsenic as As	mg/l	BDL (LOD 0.0008)	APHA, 3113 B
23	Mercury as Hg	mg/l	BDL (LOD 0.0004)	APHA, 3500 Hg
24	Phenolic Compounds	mg/l	0.142	APHA, 5530 C
25	Sulphide as S	mg/l	0.319	APHA, 4500-S-D
26	Electric Conductivity	µMhos/cm	841	APHA, 2510 B
27	Cyanide as CN	mg/l	BDL (LOD 0.01)	APHA, 4500-CN-D
28	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	APHA, 3500-Cr-B
29	Hexavelent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	APHA, 3500-Cr-B
30	Fecal Coliform	MPN/100ml	186	APHA, 9222-E


 Reviewed by
Dr. Dinesh K. Uchhariya
 (Technical Manager)



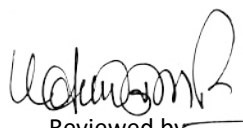

 Authorized Signatory
Rajesh Jain
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Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Waste water		
Sample Description	ETP Inlet	D/o Sample Collection	14/12/2022
Sample Location	Sanitary Waste Sump	D/o Analysis Completion	28/12/2022

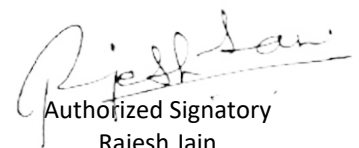
Results

S.No.	Test Parameters	Units	Test Results	Test Method
1	pH	-	7.41	APHA, 4500-H+ B
2	Total Solids	mg/l	500	APHA, 2540 B
3	Total Dissolved Solid (TDS)	mg/l	422	APHA, 2540 C
4	Total Suspended Solids (TSS)	mg/l	78	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	18.6	APHA, 5210 B
6	COD	mg/l	170	APHA, 5220 B
7	Oil & Grease	mg/l	8.68	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.815	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.445	APHA, 4500 B
10	Chlorides	mg/l	80.6	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	APHA, 4500 A-CI
12	Total Nitrogen	mg/l	16.47	APHA, 4500 B
13	Ammonical Nitrogen	mg/l	9.63	APHA, 4500 C
14	Fluoride	mg/l	0.217	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.05	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	APHA, 3111 B
17	Zinc as Zn	mg/l	0.217	APHA, 3111 B
18	Manganese as Mn	mg/l	BDL (LOD 0.015)	APHA, 3111 B
19	Lead as Pb	mg/l	BDL (LOD 0.007)	APHA, 3111 B
20	Nickel as Ni	mg/l	BDL (LOD 0.015)	APHA, 3111 B
21	Cadmium as Cd	mg/l	BDL (LOD 0.001)	APHA, 3111 B
22	Arsenic as As	mg/l	BDL (LOD 0.0008)	APHA, 3113 B
23	Mercury as Hg	mg/l	BDL (LOD 0.0004)	APHA, 3500 Hg
24	Phenolic Compounds	mg/l	0.482	APHA, 5530 C
25	Sulphide as S	mg/l	0.516	APHA, 4500-S-D
26	Electric Conductivity	µMhos/cm	715	APHA, 2510 B
27	Cyanide as CN	mg/l	BDL (LOD 0.01)	APHA, 4500-CN-D
28	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	APHA, 3500-Cr-B
29	Hexavelent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	APHA, 3500-Cr-B
30	Fecal Coliform	MPN/100ml	210	APHA, 9222-E



Reviewed by
Dr. Dinesh K. Uchhariya
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Authorized Signatory
Rajesh Jain
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Environmental Monitoring Report at GAIL (India) Limited

Nature of Sample	Waste water		
Sample Description	ETP Inlet	D/o Sample Collection	14/12/2022
Sample Location	Process Waste Sump	D/o Analysis Completion	28/12/2022

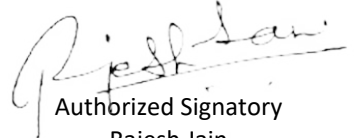
Results

S.No	Test Parameters	Units	Test Results	Test Method
1	pH	-	6.89	APHA, 4500-H+ B
2	Total Solids	mg/l	678	APHA, 2540 B
3	Total Dissolved Solid (TDS)	mg/l	570	APHA, 2540 C
4	Total Suspended Solids (TSS)	mg/l	108	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	32.4	APHA, 5210 B
6	COD	mg/l	201	APHA, 5220 B
7	Oil & Grease	mg/l	11.6	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.728	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.585	APHA, 4500 B
10	Chlorides	mg/l	71.97	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	APHA, 4500 A-CI
12	Total Nitrogen	mg/l	15.76	APHA, 4500 B
13	Ammonical Nitrogen	mg/l	8.69	APHA, 4500 C
14	Fluoride	mg/l	0.119	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.036	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	APHA, 3111 B
17	Zinc as Zn	mg/l	0.186	APHA, 3111 B
18	Manganese as Mn	mg/l	BDL (LOD 0.015)	APHA, 3111 B
19	Lead as Pb	mg/l	BDL (LOD 0.007)	APHA, 3111 B
20	Nickel as Ni	mg/l	BDL (LOD 0.015)	APHA, 3111 B
21	Cadmium as Cd	mg/l	BDL (LOD 0.001)	APHA, 3111 B
22	Arsenic as As	mg/l	BDL (LOD 0.0008)	APHA, 3113 B
23	Mercury as Hg	mg/l	BDL (LOD 0.0004)	APHA, 3500 Hg
24	Phenolic Compounds	mg/l	0.892	APHA, 5530 C
25	Sulphide as S	mg/l	0.913	APHA, 4500-S-D
26	Electric Conductivity	µMhos/cm	928	APHA, 2510 B
27	Cyanide as CN	mg/l	BDL (LOD 0.01)	APHA, 4500-CN-D
28	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	APHA, 3500-Cr-B
29	Hexavelent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	APHA, 3500-Cr-B
30	Fecal Coliform	MPN/100ml	180	APHA, 9222-E


Reviewed by

Dr. Dinesh K. Uchhariya
(Technical Manager)




Authorized Signatory
Rajesh Jain
(TD & QC Head)

Environmental Monitoring Report at GAIL (India) Limited

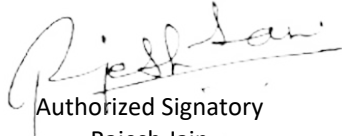
Nature of Sample	Waste water		
Sample Description	ETP Inlet	D/o Sample Collection	14/12/2022
Sample Location	Surge Pond	D/o Analysis Completion	28/12/2022

Results

S.No.	Test Parameters	Units	Test Results	Test Method
1	pH	-	7.39	APHA, 4500-H+ B
2	Total Solids	mg/l	540	APHA, 2540 B
3	Total Dissolved Solid (TDS)	mg/l	452	APHA, 2540 C
4	Total Suspended Solids (TSS)	mg/l	88	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	23.8	APHA, 5210 B
6	COD	mg/l	202	APHA, 5220 B
7	Oil & Grease	mg/l	7.45	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.626	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.480	APHA, 4500 B
10	Chlorides	mg/l	82.97	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	APHA, 4500 A-CI
12	Total Nitrogen	mg/l	15.47	APHA, 4500 B
13	Ammonical Nitrogen	mg/l	6.33	APHA, 4500 C
14	Fluoride	mg/l	0.098	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.042	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	APHA, 3111 B
17	Zinc as Zn	mg/l	0.125	APHA, 3111 B
18	Manganese as Mn	mg/l	BDL (LOD 0.015)	APHA, 3111 B
19	Lead as Pb	mg/l	BDL (LOD 0.007)	APHA, 3111 B
20	Nickel as Ni	mg/l	BDL (LOD 0.015)	APHA, 3111 B
21	Cadmium as Cd	mg/l	BDL (LOD 0.001)	APHA, 3111 B
22	Arsenic as As	mg/l	BDL (LOD 0.0008)	APHA, 3113 B
23	Mercury as Hg	mg/l	BDL (LOD 0.0004)	APHA, 3500 Hg
24	Phenolic Compounds	mg/l	0.593	APHA, 5530 C
25	Sulphide as S	mg/l	0.428	APHA, 4500-S-D
26	Electric Conductivity	µMhos/cm	756	APHA, 2510 B
27	Cyanide as CN	mg/l	BDL (LOD 0.01)	APHA, 4500-CN-D
28	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	APHA, 3500-Cr-B
29	Hexavalent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	APHA, 3500-Cr-B
30	Fecal Coliform	MPN/100ml	228	APHA, 9222-E


 Reviewed by
 Dr. Dinesh K. Uchhariya
 (Technical Manager)



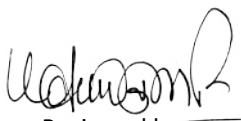

 Authorized Signatory
 Rajesh Jain
 (TD & QC Head)

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Nature of Sample	Waste water		
Sample Description	ETP Outlet	D/o Sample Collection	14/12/2022
Sample Location	Guard Pond	D/o Analysis Completion	28/12/2022

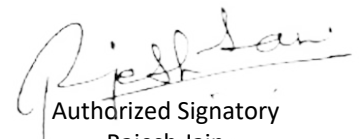
Results

S.No.	Test Parameters	Units	Test Results	Specification	Test Method
1	pH	-	7.25	5.5-9.0	APHA, 4500-H+ B
2	Total Solids	mg/l	524	-	APHA, 2540 B
3	Total Dissolved Solid (TDS)	mg/l	482	2100	APHA, 2540 C
4	Total Suspended Solids (TSS)	mg/l	42	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	7.60	30	APHA, 5210 B
6	COD	mg/l	61.6	250	APHA, 5220 B
7	Oil & Grease	mg/l	1.2	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.552	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.345	-	APHA, 4500 B
10	Chlorides	mg/l	96.97	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	1.0	APHA, 4500 A-CI
12	Total Nitrogen	mg/l	7.40	10	APHA, 4500 B
13	Ammonical Nitrogen	mg/l	3.36	50	APHA, 4500 C
14	Fluoride	mg/l	0.28	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	0.115	5.0	APHA, 3111 B
18	Manganese as Mn	mg/l	BDL (LOD 0.015)	2.0	APHA, 3111 B
19	Lead as Pb	mg/l	BDL (LOD 0.007)	0.1	APHA, 3111 B
20	Nickel as Ni	mg/l	BDL (LOD 0.015)	3.0	APHA, 3111 B
21	Cadmium as Cd	mg/l	BDL (LOD 0.001)	2.0	APHA, 3111 B
22	Arsenic as As	mg/l	BDL (LOD 0.0008)	0.2	APHA, 3113 B
23	Mercury as Hg	mg/l	BDL (LOD 0.0004)	0.01	APHA, 3500 Hg
24	Phenolic Compounds	mg/l	0.362	1.0	APHA, 5530 C
25	Sulphide as S	mg/l	0.218	2.0	APHA, 4500-S-D
26	Electric Conductivity	µMhos/cm	870	-	APHA, 2510 B
27	Cyanide as CN	mg/l	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
28	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
29	Hexavelent Chromium as Cr ⁺⁶	mg/l	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
30	Fecal Coliform	MPN/100 ml	56	<1000	APHA, 9222-E



Reviewed by
Dr. Dinesh K. Uchhariya
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Environmental Monitoring Report at GAIL (India) Limited

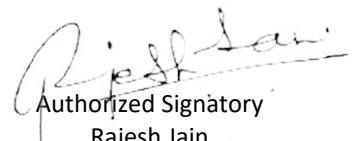
Nature of Sample	Waste water		
Sample Description	ETP Outlet	D/o Sample Collection	26/12/2022
Sample Location	Guard Pond	D/o Analysis Completion	02/01/2023

Results

S.No.	Test Parameters	Units	Test Results	Specification	Test Method
1	pH	-	7.20	5.5-9.0	APHA, 4500-H+ B
2	Total Solids	mg/l	530	-	APHA, 2540 B
3	Total Dissolved Solid (TDS)	mg/l	498	2100	APHA, 2540 C
4	Total Suspended Solids (TSS)	mg/l	32	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	10.2	30	APHA, 5210 B
6	COD	mg/l	92.6	250	APHA, 5220 B
7	Oil & Grease	mg/l	1.2	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.132	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.324	-	APHA, 4500 B
10	Chlorides	mg/l	86.97	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	1.0	APHA, 4500 A-CI
12	Total Nitrogen	mg/l	6.26	10	APHA, 4500 B
13	Ammonical Nitrogen	mg/l	1.86	50	APHA, 4500 C
14	Fluoride	mg/l	0.29	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	0.082	5.0	APHA, 3111 B
18	Manganese as Mn	mg/l	BDL (LOD 0.015)	2.0	APHA, 3111 B
19	Lead as Pb	mg/l	BDL (LOD 0.007)	0.1	APHA, 3111 B
20	Nickel as Ni	mg/l	BDL (LOD 0.015)	3.0	APHA, 3111 B
21	Cadmium as Cd	mg/l	BDL (LOD 0.001)	2.0	APHA, 3111 B
22	Arsenic as As	mg/l	BDL (LOD 0.0008)	0.2	APHA, 3113 B
23	Mercury as Hg	mg/l	BDL (LOD 0.0004)	0.01	APHA, 3500 Hg
24	Phenolic Compounds	mg/l	0.062	1.0	APHA, 5530 C
25	Sulphide as S	mg/l	0.216	2.0	APHA, 4500-S-D
26	Electric Conductivity	µMhos/cm	893	-	APHA, 2510 B
27	Cyanide as CN	mg/l	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
28	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
29	Hexavelent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
30	Fecal Coliform	MPN/100 ml	62	<1000	APHA, 9222-E


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Environmental Monitoring Report at GAIL (India) Limited

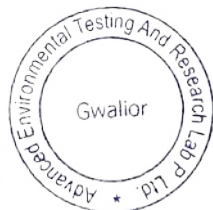
Nature of Sample	Waste water		
Sample Description	STP Inlet and Outlet	D/o Sample Collection	14/12/2022
Sample Location	STP I	D/o Analysis Completion	28/12/2022

Results

S.No.	Test Parameters	Units	Test Results		Specification	Test Method
			STP-I Inlet	STP-I Outlet		
1	pH	-	6.81	7.10	5.5-9.0	APHA, 4500-H+ B
2	Total Solids	mg/l	492	416	-	APHA, 2540 B
3	Total Dissolved Solid (TDS)	mg/l	438	394	2100	APHA, 2540 C
4	Total Suspended Solids (TSS)	mg/l	62	22	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	212	4.8	30	APHA, 5210 B
6	COD	mg/l	560	40	250	APHA, 5220 B
7	Oil & Grease	mg/l	4.28	0.36	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	0.825	0.158	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.476	0.205	-	APHA, 4500 B
10	Chlorides	mg/l	129.9	93.8	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	BDL (LOD 0.1)	1.0	APHA, 4500 A-CI
12	Total Nitrogen	mg/l	15.76	2.36	10	APHA, 4500 B
13	Ammonical Nitrogen	mg/l	10.3	1.08	50	APHA, 4500 C
14	Fluoride	mg/l	0.112	BDL (LOD 0.01)	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	BDL (LOD 0.02)	BDL (LOD 0.02)	3.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	5.0	APHA, 3111 B
18	Manganese as Mn	mg/l	BDL (LOD 0.015)	BDL (LOD 0.015)	2.0	APHA, 3111 B
19	Lead as Pb	mg/l	BDL (LOD 0.007)	BDL (LOD 0.007)	0.1	APHA, 3111 B
20	Nickel as Ni	mg/l	BDL (LOD 0.015)	BDL (LOD 0.015)	3.0	APHA, 3111 B
21	Cadmium as Cd	mg/l	BDL (LOD 0.001)	BDL (LOD 0.001)	2.0	APHA, 3111 B
22	Arsenic as As	mg/l	BDL (LOD 0.0008)	BDL (LOD 0.0008)	0.2	APHA, 3113 B
23	Mercury as Hg	mg/l	BDL (LOD 0.0004)	BDL (LOD 0.0004)	0.01	APHA, 3500 Hg
24	Phenolic Compounds	mg/l	0.083	BDL (LOD 0.001)	1.0	APHA, 5530 C
25	Sulphide as S	mg/l	1.036	0.021	2.0	APHA, 4500-S-D
26	Electric Conductivity	µMhos/cm	734	723	-	APHA, 2510 B
27	Cyanide as CN	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
28	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
29	Hexavalent Chromium as Cr+6	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
30	Fecal Coliform	MPN/100ml	2030	118	<1000	APHA, 9222-E


Reviewed by

Dr. Dinesh K. Uchhariya
(Technical Manager)




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Environmental Monitoring Report at GAIL (India) Limited

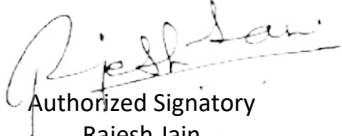
Nature of Sample	Waste water		
Sample Description	STP Inlet and Outlet	D/o Sample Collection	14/12/2022
Sample Location	STP II	D/o Analysis Completion	28/12/2022

Results

S.No.	Test Parameters	Units	Test Results		Specification	Test Method
			STP-II Inlet	STP-II Outlet		
1	pH	-	6.68	7.30	5.5-9.0	APHA, 4500-H+ B
2	Total Solids	mg/l	625	460	-	APHA, 2540 B
3	Total Dissolved Solid (TDS)	mg/l	490	424	2100	APHA, 2540 C
4	Total Suspended Solids (TSS)	mg/l	135	36	100	APHA, 2540 D
5	BOD (5 Days 20°C)	mg/l	225	8.7	30	APHA, 5210 B
6	COD	mg/l	680	90.6	250	APHA, 5220 B
7	Oil & Grease	mg/l	5.48	0.33	10	APHA, 5520 B
8	Phosphates as P2O5	mg/l	1.128	0.414	5.0	APHA, 4500 B
9	Phosphours as PO4	mg/l	0.852	0.142	-	APHA, 4500 B
10	Chlorides	mg/l	125.9	120.6	1000	APHA, 4500 B
11	Free Residual Chlorine	mg/l	BDL (LOD 0.1)	BDL (LOD 0.1)	1.0	APHA, 4500 A-Cl
12	Total Nitrogen	mg/l	18.8	8.52	10	APHA, 4500 B
13	Ammonical Nitrogen	mg/l	7.05	2.36	50	APHA, 4500 C
14	Fluoride	mg/l	0.302	BDL (LOD 0.01)	2.0	APHA, 4500 F-D
15	Iron as Fe	mg/l	0.112	BDL (LOD 0.02)	3.0	APHA, 3111 B
16	Copper as Cu	mg/l	BDL (LOD 0.02)	BDL (LOD 0.02)	3.0	APHA, 3111 B
17	Zinc as Zn	mg/l	BDL (LOD 0.02)	BDL (LOD 0.01)	5.0	APHA, 3111 B
18	Manganese as Mn	mg/l	BDL (LOD 0.015)	BDL (LOD 0.015)	2.0	APHA, 3111 B
19	Lead as Pb	mg/l	BDL (LOD 0.007)	BDL (LOD 0.007)	0.1	APHA, 3111 B
20	Nickel as Ni	mg/l	BDL (LOD 0.015)	BDL (LOD 0.015)	3.0	APHA, 3111 B
21	Cadmium as Cd	mg/l	BDL (LOD 0.001)	BDL (LOD 0.001)	2.0	APHA, 3111 B
22	Arsenic as As	mg/l	BDL (LOD 0.0008)	BDL (LOD 0.0008)	0.2	APHA, 3113 B
23	Mercury as Hg	mg/l	BDL (LOD 0.0004)	BDL (LOD 0.0004)	0.01	APHA, 3500 Hg
24	Phenolic Compounds	mg/l	0.782	0.225	1.0	APHA, 5530 C
25	Sulphide as S	mg/l	0.687	0.721	2.0	APHA, 4500-S-D
26	Electric Conductivity	µMhos/cm	884	868	-	APHA, 2510 B
27	Cyanide as CN	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	0.2	APHA, 4500-CN-D
28	Total Chromium as Cr	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	2.0	APHA, 3500-Cr-B
29	Hexavalent Chromium as Cr ⁺⁶	mg/l	BDL (LOD 0.01)	BDL (LOD 0.01)	0.1	APHA, 3500-Cr-B
30	Fecal Coliform	MPN/100ml	1750	122	<1000	APHA, 9222-E


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