



TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230034
Nature of Sample	NOISE LEVEL MONITORING
Date of Monitoring	21/08/2019 to 23/08/2019

RESULTS

Page 1/2

S. No.	AREA/EQUIPMENT	LOCATION	PERMISSIBLE LIMIT *, dB (A) Leq	Observation, dB (A) Leq
1.	GTG	Between GTG A & B	105	80.2
2.	HVJ GTC	Between HVJ M/L & HVJ B/L	105	84.6
3.	HVJ DEG	Near HVJ DEG	105	80.6
4.	DVPL GTC	Between the GTC	105	52.4
5.	VDPL GTC	Near VDPL GTC	105	56.6
6.	VDPL DEG	Near VDPL DEG	105	76.4
7.	RWTP	Near Flash Mixer	105	56.6
8.	GPU Phase 1	Near Dryer	105	86.4
9.		Ex-Comp	105	86.8
10.		Main GT	105	90.6
11.	GPU Phase 2	Near Dryer	105	86.8
12.		Ex-Comp	105	82.4
13.		Main GT	105	82.8
14.	Boiler Area (GPU)	Between Boiler & IA Plant of GPU	105	76.4
15.	Cooling Tower-1	Between pump-house & cooling tower	105	74.6
16.	Cooling Tower-2	Between pump-house & cooling tower	105	70.8
17.	Utility Boiler (C2C3)	C2C3 Unit Area	105	98.6
18.	IA Plant (C2C3)	C2C3 Unit Area	105	88.8
19.	DM Plant	C2C3 Unit Area	105	66.6
20.	Unit-Main GT Area	C2C3 Unit Area	105	82.4
21.	Unit-HRSG Area	C2C3 Unit Area	105	80.8
22.	DEG (750 KVA)	C2C3 Unit Area	105	94.6



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TEST REPORT

A.R.: C201908230034

Page 2/2

S. No.	AREA/EQUIPMENT	LOCATION	PERMISSIBLE LIMIT *, dB (A) Leq	Observation, dB (A) Leq
23.	Industrial Zone-Plant Boundary Area	Near CISF Plant/Product Gate	75	54.6
24.	Industrial Zone	Near C2C3 CISF Gate – Day Time	75	58.6
25.	Industrial Zone	Near Flare/ETP Area – Day Time	75	56.4
26.	Industrial Zone	Behind DVPL Compressor Shed – Day time	75	60.8
27.	Industrial Zone	Near CISF Plant/Product Gate – Night Time	70	52.6
28.	Industrial Zone	Near C2C3 CISF Gate – Night Time	70	46.4
29.	Industrial Zone	Near Flare/ETP Area – Night Time	70	52.2
30.	Industrial Zone	Behind DVPL Compressor Shed – Night time	70	54.6
31.	Commercial Area-1	Phase 1 Shopping Complex – Day Time	65	54.4
32.	Commercial Area-2	Phase 2 Shopping Complex – Day Time	65	58.0
33.	Commercial Area-3	Phase 1 Shopping Complex – Night Time	55	50.2
34.	Commercial Area-4	Phase 2 Shopping Complex – Night Time	55	48.6
35.	Silence Zone-1	Near Hospital – Day Time	50	48.2
36.	Silence Zone-2	Near Hospital – Night Time	40	38.4

* Permissible limit for equipments as per factory act is 105 dB (A) for one hour continuous exposure.

* Permissible limits for plant area boundary & beyond shall be as per Noise Pollution (Control & Regulation) Rules, 2010 (Amended).

Remarks: The numbers of location monitored are 36 only. The test report is issued subject to the Terms and Conditions mentioned overleaf.

Date of Reporting: 31st August' 2019

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TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230003
Nature of Sample	Ambient Air Monitoring
Date of Sampling	21/08/2019
Location of Sampling	Technical Building
Sample Start Time and Date	10.30 AM (21/08/2019)
Sample End Time and Date	10:30 AM (22/08/2019)
Ambient Temperature	29.8 °C
Weather Condition	Clear Sky

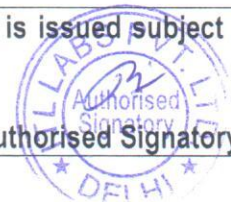
RESULTS

S. No.	PARAMETER	UNIT	OBSERVATION	PERMISSIBLE LIMIT	PROTOCOL/METHOD
1.	Particulate matter (PM ₁₀)	µg/m ³	66.4	100	IS 5182: 2006 (P23)
2.	Particulate Matter (PM _{2.5})	µg/m ³	42.8	60	EPA Method, Gravimetric
3.	Sulphur Dioxide (SO ₂)	µg/m ³	6.8	80	IS 5182: 2001 (P2)
4.	Nitrogen Dioxide (NO ₂)	µg/m ³	18.4	80	IS 5182: 2006 (P6)
5.	Carbon monoxide (CO)	mg/m ³	1.0	2	IS 5182: 2006 (P10)
6.	Ozone (O ₃)	µg/m ³	22.0	100	IS: 5182(P-9) : 1974
7.	Lead (Pb)	µg/m ³	BDL	1.0	AAS/ICP Method
8.	Ammonia (NH ₃)	µg/m ³	9.8	400	Indo-phenol Blue Method
9.	Benzene (C ₆ H ₆)	µg/m ³	BDL	05	IS 5182:2006 (P11)
10.	Benzo (a) pyrene – Particulate phase	ng/m ³	BDL	01	IS 5182:2004 (P12)
11.	Arsenic (As)	ng/m ³	BDL	06	AAS/ICP Method
12.	Nickel (Ni)	ng/m ³	BDL	20	AAS/ICP Method

Remarks: The numbers of parameter monitored are 12 only. The test report is issued subject to the Terms and Conditions mentioned overleaf.

Date of Reporting: 31st August' 2019

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TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230004
Nature of Sample	Ambient Air Monitoring
Date of Sampling	21/08/2019
Location of Sampling	ETP Plant Area
Sample Start Time and Date	1:30 PM (21/08/2019)
Sample End Time and Date	1:30 PM (22/08/2019)
Ambient Temperature	29.9 °C
Weather Condition	Clear Sky

RESULTS

S. No.	PARAMETER	UNIT	OBSERVATION	PERMISSIBLE LIMIT	PROTOCOL/METHOD
1.	Particulate matter (PM ₁₀)	µg/m ³	76.4	100	IS 5182: 2006 (P23)
2.	Particulate Matter (PM _{2.5})	µg/m ³	46.4	60	EPA Method, Gravimetric
3.	Sulphur Dioxide (SO ₂)	µg/m ³	12.4	80	IS 5182: 2001 (P2)
4.	Nitrogen Dioxide (NO ₂)	µg/m ³	20.2	80	IS 5182: 2006 (P6)
5.	Carbon monoxide (CO)	mg/m ³	1.0	2	IS 5182: 2006 (P10)
6.	Ozone (O ₃)	µg/m ³	21.0	100	IS: 5182(P-9) : 1974
7.	Lead (Pb)	µg/m ³	BDL	1.0	AAS/ICP Method
8.	Ammonia (NH ₃)	µg/m ³	17.4	400	Indo-phenol Blue Method
9.	Benzene (C ₆ H ₆)	µg/m ³	BDL	05	IS 5182:2006 (P11)
10.	Benzo (a) pyrene – Particulate phase	ng/m ³	BDL	01	IS 5182:2004 (P12)
11.	Arsenic (As)	ng/m ³	BDL	06	AAS/ICP Method
12.	Nickel (Ni)	ng/m ³	BDL	20	AAS/ICP Method

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TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230005
Nature of Sample	Ambient Air Monitoring
Date of Sampling	20/08/2019
Location of Sampling	Main gate Near CISF P – Gate
Sample Start Time and Date	11.20 AM (20/08/2019)
Sample End Time and Date	11:20 AM (21/08/2019)
Ambient Temperature	27.8 °C
Weather Condition	Clear Sky

RESULTS

S. No.	PARAMETER	UNIT	OBSERVATION	PERMISSIBLE LIMIT	PROTOCOL/METHOD
1.	Particulate matter (PM ₁₀)	µg/m ³	80.0	100	IS 5182: 2006 (P23)
2.	Particulate Matter (PM _{2.5})	µg/m ³	42.4	60	EPA Method, Gravimetric
3.	Sulphur Dioxide (SO ₂)	µg/m ³	10.4	80	IS 5182: 2001 (P2)
4.	Nitrogen Dioxide (NO ₂)	µg/m ³	24.2	80	IS 5182: 2006 (P6)
5.	Carbon monoxide (CO)	mg/m ³	1.0	2	IS 5182: 2006 (P10)
6.	Ozone (O ₃)	µg/m ³	24.2	100	IS: 5182(P-9) : 1974
7.	Lead (Pb)	µg/m ³	BDL	1.0	AAS/ICP Method
8.	Ammonia (NH ₃)	µg/m ³	9.4	400	Indo-phenol Blue Method
9.	Benzene (C ₆ H ₆)	µg/m ³	BDL	05	IS 5182:2006 (P11)
10.	Benzo (a) pyrene – Particulate phase	ng/m ³	BDL	01	IS 5182:2004 (P12)
11.	Arsenic (As)	ng/m ³	BDL	06	AAS/ICP Method
12.	Nickel (Ni)	ng/m ³	BDL	20	AAS/ICP Method

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Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230006
Nature of Sample	Ambient Air Monitoring
Date of Sampling	20/08/2019
Location of Sampling	C2C3 Cooling Tower/ Utility Boiler
Sample Start Time and Date	1.20 PM (20/08/2019)
Sample End Time and Date	1.20 PM (20/08/2019)
Ambient Temperature	28.8 °C
Weather Condition	Clear Sky

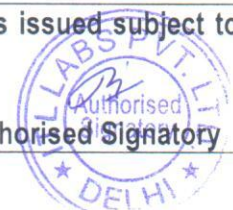
RESULTS

S. No.	PARAMETER	UNIT	OBSERVATION	PERMISSIBLE LIMIT	PROTOCOL/METHOD
1.	Particulate matter (PM ₁₀)	µg/m ³	74.4	100	IS 5182: 2006 (P23)
2.	Particulate Matter (PM _{2.5})	µg/m ³	42.8	60	EPA Method, Gravimetric
3.	Sulphur Dioxide (SO ₂)	µg/m ³	10.6	80	IS 5182: 2001 (P2)
4.	Nitrogen Dioxide (NO ₂)	µg/m ³	15.2	80	IS 5182: 2006 (P6)
5.	Carbon monoxide (CO)	mg/m ³	1.0	2	IS 5182: 2006 (P10)
6.	Ozone (O ₃)	µg/m ³	16.2	100	IS: 5182(P-9) : 1974
7.	Lead (Pb)	µg/m ³	BDL	1.0	AAS/ICP Method
8.	Ammonia (NH ₃)	µg/m ³	9.6	400	Indo-phenol Blue Method
9.	Benzene (C ₆ H ₆)	µg/m ³	BDL	05	IS 5182:2006 (P11)
10.	Benzo (a) pyrene – Particulate phase	ng/m ³	BDL	01	IS 5182:2004 (P12)
11.	Arsenic (As)	ng/m ³	BDL	06	AAS/ICP Method
12.	Nickel (Ni)	ng/m ³	BDL	20	AAS/ICP Method

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TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230007
Nature of Sample	Ambient Air Monitoring
Date of Sampling	19/08/2019
Location of Sampling	Main control room (MCR)
Sample Start Time and Date	12.30 PM (19/08/2019)
Sample End Time and Date	12.30 PM (20/08/2019)
Ambient Temperature	28.2 °C
Weather Condition	Clear Sky

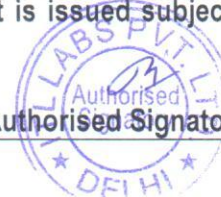
RESULTS

S. No.	PARAMETER	UNIT	OBSERVATION	PERMISSIBLE LIMIT	PROTOCOL/METHOD
1.	Particulate matter (PM ₁₀)	µg/m ³	80.4	100	IS 5182: 2006 (P23)
2.	Particulate Matter (PM _{2.5})	µg/m ³	46.8	60	EPA Method, Gravimetric
3.	Sulphur Dioxide (SO ₂)	µg/m ³	10.4	80	IS 5182: 2001 (P2)
4.	Nitrogen Dioxide (NO ₂)	µg/m ³	20.8	80	IS 5182: 2006 (P6)
5.	Carbon monoxide (CO)	mg/m ³	1.0	2	IS 5182: 2006 (P10)
6.	Ozone (O ₃)	µg/m ³	24.6	100	IS: 5182(P-9) : 1974
7.	Lead (Pb)	µg/m ³	BDL	1.0	AAS/ICP Method
8.	Ammonia (NH ₃)	µg/m ³	14.4	400	Indo-phenol Blue Method
9.	Benzene (C ₆ H ₆)	µg/m ³	BDL	05	IS 5182:2006 (P11)
10.	Benzo (a) pyrene – Particulate phase	ng/m ³	BDL	01	IS 5182:2004 (P12)
11.	Arsenic (As)	ng/m ³	BDL	06	AAS/ICP Method
12.	Nickel (Ni)	ng/m ³	BDL	20	AAS/ICP Method

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TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230008
Nature of Sample	Ambient Air Monitoring
Date of Sampling	19/08/2019
Location of Sampling	Near DVPL Area
Sample Start Time and Date	3.00 PM (19/08/2019)
Sample End Time and Date	3.00 PM (20/08/2019)
Ambient Temperature	28.6 °C
Weather Condition	Clear Sky

RESULTS

S. No.	PARAMETER	UNIT	OBSERVATION	PERMISSIBLE LIMIT	PROTOCOL/METHOD
1.	Particulate matter (PM ₁₀)	µg/m ³	72.4	100	IS 5182: 2006 (P23)
2.	Particulate Matter (PM _{2.5})	µg/m ³	36.8	60	EPA Method, Gravimetric
3.	Sulphur Dioxide (SO ₂)	µg/m ³	9.4	80	IS 5182: 2001 (P2)
4.	Nitrogen Dioxide (NO ₂)	µg/m ³	12.6	80	IS 5182: 2006 (P6)
5.	Carbon monoxide (CO)	mg/m ³	0.94	2	IS 5182: 2006 (P10)
6.	Ozone (O ₃)	µg/m ³	18.0	100	IS: 5182(P-9) : 1974
7.	Lead (Pb)	µg/m ³	BDL	1.0	AAS/ICP Method
8.	Ammonia (NH ₃)	µg/m ³	12.4	400	Indo-phenol Blue Method
9.	Benzene (C ₆ H ₆)	µg/m ³	BDL	05	IS 5182:2006 (P11)
10.	Benzo (a) pyrene – Particulate phase	ng/m ³	BDL	01	IS 5182:2004 (P12)
11.	Arsenic (As)	ng/m ³	BDL	06	AAS/ICP Method
12.	Nickel (Ni)	ng/m ³	BDL	20	AAS/ICP Method

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TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230009
Nature of Sample	Stack Flue Gas Emissions (Process)
Date of Sampling	22/08/2019
Stack Identification	Stack attached to LGC-GT-Phase-1
Operating Schedule	As per requirement
Diameter of Stack	2450 mm
Total Height of Stack	35000 mm
Temperature of Stack Flue Gas, °C	148.8 °C
Average Flow Rate of Flue Gas, LPM	23.4
Volume of Flue gas drawn, Liters	1650
Velocity of Flue Gas, m/sec	9.9
Quantity of Emission, Nm ³ /hr	92872

RESULTS

S. No.	PARAMETER	MPPCB LIMITS	OBSERVATION	PROTOCOL/METHOD
1.	Particulate Matter (PM), mg/Nm ³	150 max.	15.4	IS 11255 (Part-1)
2.	Sulphur dioxide (SO ₂), mg/Nm ³	100 max.	< 2.0	IS 11255 (Part-2)
3.	Nitrogen Oxides (NO _x), mg/Nm ³	100 max.	72	IS 11255 (Part-7)
4.	Volatile Organic Compounds (VOC), mg/Nm ³	-	BDL	GC Method
5.	Hydrocarbon (HC), PPM	-	BDL	GC Method
6.	Carbon Monoxide (CO), PPM	-	9.2	Electro-chemical Method
7.	Carbon Dioxide (CO ₂), %	-	3.2	Electro-chemical Method
8.	Oxygen (O ₂), %	-	16.4	Electro-chemical Method

Remarks: The numbers of parameter tested are 8 only. The test report is issued subject to the Terms and Conditions mentioned overleaf.

Date of Reporting: 31st August' 2019

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TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230010
Nature of Sample	Stack Flue Gas Emissions (Process)
Date of Sampling	23/08/2019
Stack Identification	Stack attached to P.B.C.R.Utility Boiler
Type of Stack	Metal, Circular
Operating Schedule	As per requirement
Diameter of Stack	3000 mm
Total Height of Stack	30000 mm
Temperature of Stack Flue Gas	152.6 °C
Average Flow Rate of Flue Gas, LPM	23.8
Volume of Flue gas drawn, Litres	1585
Velocity of Flue Gas, m/sec	8.8
Quantity of Emission, Nm ³ /hr	43669.26

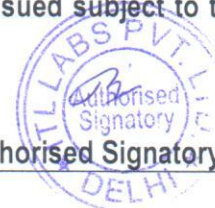
RESULTS

S. No.	PARAMETER	MPPCB LIMITS	OBSERVATION	PROTOCOL/ METHOD
1.	Particulate Matter (PM), mg/Nm ³	150 max.	16.2	IS 11255 (Part-1)
2.	Sulphur diox. ide (SO ₂), mg/Nm ³	100 max.	10.0	IS 11255 (Part-2)
3.	Nitrogen Oxides (NO _x), mg/Nm ³	100 max.	52.4	IS 11255 (Part-7)
4.	Volatile Organic Compounds (VOC), mg/Nm ³	-	4.6	GC Method
5.	Hydrocarbon (HC), PPM	-	BDL	GC Method
6.	Carbon Monoxide (CO), PPM	-	11.4	Electro-chemical Method
7.	Carbon Dioxide (CO ₂), %	-	4.2	Electro-chemical Method
8.	Oxygen (O ₂), %	-	15.6	Electro-chemical Method

Remarks: The numbers of parameter tested are 8 only. The test report is issued subject to the Terms and Conditions mentioned overleaf.

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TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230012
Nature of Sample	Stack Flue Gas Emissions (Process)
Date of Sampling	22/08/2019
Stack Identification	Stack attached to LEF GT PHASE -1
Operating Schedule	As per requirement
Diameter of Stack	1575 mm
Total Height of Stack	30000 mm
Temperature of Stack Flue Gas	165.6 °C
Average Flow Rate of Flue Gas, LPM	27.4
Volume of Flue gas drawn, Liters	1580
Velocity of Flue Gas, m/sec	9.8
Quantity of Emission, Nm ³ /hr	47190.24

RESULTS

S. No.	PARAMETER	MPPCB LIMITS	OBSERVATION	PROTOCOL/ METHOD
1.	Particulate Matter (PM), mg/Nm ³	150 max.	16.4	IS 11255 (Part-1)
2.	Sulphur dioxide (SO ₂), mg/Nm ³	100 max.	< 2.0	IS 11255 (Part-2)
3.	Nitrogen Oxides (NO _x)*, mg/Nm ³	100 max.	70.0	IS 11255 (Part-7)
4.	Volatile Organic Compounds (VOC), mg/Nm ³	-	5.4	GC Method
5.	Hydrocarbon (HC), PPM	-	BDL	GC Method
6.	Carbon Monoxide (CO)*, PPM	-	8.2	Electro-chemical Method
7.	Carbon Dioxide (CO ₂)*, %	-	2.4	Electro-chemical Method
8.	Oxygen (O ₂)*, %	-	12.6	Electro-chemical Method

End Of Report

Remarks: The numbers of parameter tested are 8 only. The test report is issued subject to the Terms and Conditions mentioned overleaf.

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TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230014
Nature of Sample	Stack Flue Gas Emissions (process)
Date of Sampling	23/08/2019
Year of Installation	2011
Stack Identification	Stack attached to HRSG – 1 (C2C3 Area)
Operating Schedule	As per requirement
Diameter of Stack	3000 mm
Total Height of Stack	30000 mm
Temperature of Stack Flue Gas, °C	152.4 °C
Average Flow Rate of Flue Gas, LPM	26.4
Volume of Flue gas drawn, Liters	1600
Velocity of Flue Gas, m/sec	9.8

RESULTS

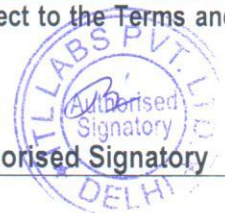
S. No.	PARAMETER	MPPCB LIMITS	OBSERVATION	PROTOCOL/ METHOD
1.	Particulate Matter (PM) * mg/Nm ³	150 max.	25.6	IS 11255 (Part-1)
2.	Sulphur dioxide (SO ₂)* mg/Nm ³	100 max.	8.4	IS 11255 (Part-2)
3.	Nitrogen Oxides (NO ₂)* ppm	100 max.	20.0	IS 11255 (Part-7)
4.	Volatile Organic Compounds (VOC), mg/Nm ³	-	14.8	GC Method
5.	Hydrocarbon (HC)* PPM	-	21.0	GC Method
6.	Carbon Monoxide (CO)* PPM	-	420	Electro-chemical Method
7.	Carbon Dioxide (CO ₂)* %	-	4.2	Electro-chemical Method
8.	Oxygen (O ₂)* %	-	15.0	Electro-chemical Method

****End Of Report****

Remarks: The numbers of parameter tested are 8 only. The test report is issued subject to the Terms and Conditions mentioned overleaf.

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TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230015
Nature of Sample	Stack Flue Gas Emissions (process)
Date of Sampling	23/08/2019
Year of Installation	2011
Stack Identification	Stack attached to HRSG – 2 (C2C3 Area)
Type of Stack	Metal, Circular
Operating Schedule	As per requirement
Diameter of Stack	3000 mm
Total Height of Stack	30000 mm
Temperature of Stack Flue Gas, °C	162.8°C
Average Flow Rate of Flue Gas, LPM	24.8
Volume of Flue gas drawn, Liters	1660
Velocity of Flue Gas, m/sec	9.5

RESULTS

S. No.	PARAMETER	MPPCB LIMITS	OBSERVATION	PROTOCOL/ METHOD
1.	Particulate Matter (PM) * mg/Nm ³	150 max.	17.6	IS 11255 (Part-1)
2.	Sulphur dioxide (SO ₂)* mg/Nm ³	100 max.	9.4	IS 11255 (Part-2)
3.	Nitrogen Oxides (NO ₂)* ppm	100 max.	26.4	IS 11255 (Part-7)
4.	Volatile Organic Compounds (VOC), mg/Nm ³	-	12.2	GC Method
5.	Hydrocarbon (HC)* PPM	-	25.0	GC Method
6.	Carbon Monoxide (CO)* PPM	-	402	Electro-chemical Method
7.	Carbon Dioxide (CO ₂)* %	-	2.0	Electro-chemical Method
8.	Oxygen (O ₂)* %	-	9.2	Electro-chemical Method

****End Of Report****

Remarks: The numbers of parameter tested are 8 only. The test report is issued subject to the Terms and Conditions mentioned overleaf.

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TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230016
Nature of Sample	Stack Flue Gas Emissions (process)
Date of Sampling	22/08/2019
Year of Installation	2011
Stack Identification	Stack attached to G.T.G-B
Type of Stack	Metal, Circular
Operating Schedule	As per requirement
Diameter of Stack	1500 mm
Total Height of Stack	13000 mm
Temperature of Stack Flue Gas, °C	180.6°C
Average Flow Rate of Flue Gas, LPM	27.4
Volume of Flue gas drawn, Liters	1580
Velocity of Flue Gas, m/sec	8.6

RESULTS

S. No.	PARAMETER	MPPCB LIMITS	OBSERVATION	PROTOCOL/ METHOD
1.	Particulate Matter (PM) * mg/Nm ³	150 max.	17.6	IS 11255 (Part-1)
2.	Sulphur dioxide (SO ₂)* mg/Nm ³	100 max.	10.4	IS 11255 (Part-2)
3.	Nitrogen Oxides (NO ₂)* ppm	100 max.	22.6	IS 11255 (Part-7)
4.	Volatile Organic Compounds (VOC), mg/Nm ³	-	16.4	GC Method
5.	Hydrocarbon (HC)* PPM	-	22.4	GC Method
6.	Carbon Monoxide (CO)* PPM	-	408	Electro-chemical Method
7.	Carbon Dioxide (CO ₂)* %	-	2.2	Electro-chemical Method
8.	Oxygen (O ₂)* %	-	15.4	Electro-chemical Method

****End Of Report****

Remarks: The numbers of parameter tested are 8 only. The test report is issued subject to the Terms and Conditions mentioned overleaf.

Date of Reporting: 31st August' 2019

Authorised Signatory





TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230017
Nature of Sample	Stack Flue Gas Emissions (Process)
Date of Sampling	22/08/2019
Stack Identification	Stack attached to DVPL Compressor A (10 MMSCMD)
Operating Schedule	As per requirement
Diameter of Stack	2150 mm
Total Height of Stack	30000 mm
Temperature of Stack Flue Gas, °C	192.6°C
Average Flow Rate of Flue Gas, LPM	24
Volume of Flue gas drawn, Liters	1600
Velocity of Flue Gas, m/sec	8.8
Quantity of Emission, Nm ³ /hr	28038.27

RESULTS

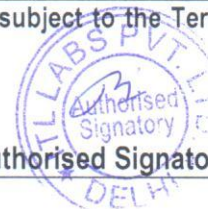
S. No.	PARAMETER	OBSERVATION	PROTOCOL/ METHOD
1.	Particulate Matter (PM), mg/Nm ³	16.4	IS 11255 (Part-1)
2.	Sulphur dioxide (SO ₂), mg/Nm ³	< 2.0	IS 11255 (Part-2)
3.	Nitrogen Oxides (NO _x), mg/Nm ³	50.2	IS 11255 (Part-7)
4.	Volatile Organic Compounds (VOC), mg/Nm ³	BDL	GC Method
5.	Hydrocarbon (HC), PPM	BDL	GC Method
6.	Carbon Monoxide (CO), PPM	10.6	Electro-chemical Method
7.	Carbon Dioxide (CO ₂), %	2.4	Electro-chemical Method
8.	Oxygen (O ₂), %	15.2	Electro-chemical Method

****End Of Report****

Remarks: The numbers of parameter tested are 8 only. The test report is issued subject to the Terms and Conditions mentioned overleaf.

Date of Reporting: 31st August' 2019

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TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230018
Nature of Sample	Stack Flue Gas Emissions (Process)
Date of Sampling	22/08/2019
Stack Identification	Stack attached to Branchline-13K02-B (HVJ Compressor)
Operating Schedule	As per requirement
Diameter of Stack	1320 mm
Total Height of Stack	12000 mm
Temperature of Stack Flue Gas, °C	184.8
Average Flow Rate of Flue Gas, LPM	28
Volume of Flue gas drawn, Litres	1600
Velocity of Flue Gas, m/sec	10.4
Quantity of Emission, Nm ³ /hr	40553.50

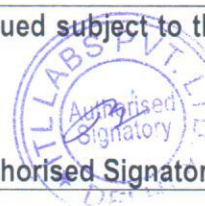
RESULTS

S. No.	PARAMETER	OBSERVATION	PROTOCOL/ METHOD
1.	Particulate Matter (PM), mg/Nm ³	14.4	IS 11255 (Part-1)
2.	Sulphur dioxide (SO ₂), mg/Nm ³	12.2	IS 11255 (Part-2)
3.	Nitrogen Oxides (NO _x), mg/Nm ³	52.4	IS 11255 (Part-7)
4.	Volatile Organic Compounds (VOC), mg/Nm ³	BDL	GC Method
5.	Hydrocarbon (HC), PPM	BDL	GC Method
6.	Carbon Monoxide (CO), PPM	8.8	Electro-chemical Method
7.	Carbon Dioxide (CO ₂), %	4.0	Electro-chemical Method
8.	Oxygen (O ₂), %	10.4	Electro-chemical Method

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Date of Reporting: 31st August' 2019

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TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230019
Nature of Sample	Stack Flue Gas Emissions (Process)
Date of Sampling	22/08/2019
Stack Identification	Stack attached to DVPL Compressor B (10 MMSCMD)
Operating Schedule	As per requirement
Diameter of Stack	2150 mm
Total Height of Stack	30000 mm
Temperature of Stack Flue Gas, °C	188 °C
Average Flow Rate of Flue Gas, LPM	28
Volume of Flue gas drawn, Liters	1620
Velocity of Flue Gas, m/sec	9.4
Quantity of Emission, Nm ³ /hr	81848.25

RESULTS

S. No.	PARAMETER	OBSERVATION	PROTOCOL/ METHOD
1.	Particulate Matter (PM), mg/Nm ³	14.4	IS 11255 (Part-1)
2.	Sulphur dioxide (SO ₂), mg/Nm ³	< 2.0	IS 11255 (Part-2)
3.	Nitrogen Oxides (NO _x), mg/Nm ³	50.4	IS 11255 (Part-7)
4.	Volatile Organic Compounds (VOC), mg/Nm ³	BDL	GC Method
5.	Hydrocarbon (HC), PPM	BDL	GC Method
6.	Carbon Monoxide (CO), PPM	8.6	Electro-chemical Method
7.	Carbon Dioxide (CO ₂), %	2.6	Electro-chemical Method
8.	Oxygen (O ₂), %	18.6	Electro-chemical Method

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Date of Reporting: 31st August' 2019

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TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230020
Nature of Sample	Stack Flue Gas Emissions (Process)
Date of Sampling	22/08/2019
Stack Identification	Stack attached to Mainline 13K01-E (HVJ Compressor)
Operating Schedule	As per requirement
Diameter of Stack	1320 mm
Total Height of Stack	12000 mm
Temperature of Stack Flue Gas, °C	180.8 °C
Average Flow Rate of Flue Gas, LPM	26
Volume of Flue gas drawn, Liters	1600
Velocity of Flue Gas, m/sec	9.4
Quantity of Emission, Nm ³ /hr	30728

RESULTS

S. No.	PARAMETER	OBSERVATION	PROTOCOL/ METHOD
1.	Particulate Matter (PM), mg/Nm ³	13.2	IS 11255 (Part-1)
2.	Sulphur dioxide (SO ₂), mg/Nm ³	< 2.0	IS 11255 (Part-2)
3.	Nitrogen Oxides (NO _x), mg/Nm ³	48.6	IS 11255 (Part-7)
4.	Volatile Organic Compounds (VOC), mg/Nm ³	BDL	GC Method
5.	Hydrocarbon (HC), PPM	BDL	GC Method
6.	Carbon Monoxide (CO), PPM	9.6	Electro-chemical Method
7.	Carbon Dioxide (CO ₂), %	2.4	Electro-chemical Method
8.	Oxygen (O ₂), %	16.4	Electro-chemical Method

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Date of Reporting: 31st August' 2019

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TEST REPORT

Issued to	M/S GAIL (India) Ltd. P.O. GAIL COMPLEX, VIJAIPUR DISTT. GUNA (M.P) 473112
Analysis No.	C201908230023
Nature of Sample	Stack Flue Gas Emissions (Process)
Date of Sampling	22/08/2019
Stack Identification	Stack attached to STACK LGC-GT -Phase-2
Operating Schedule	As per requirement
Diameter of Stack	2450 mm
Total Height of Stack	35000 mm
Temperature of Stack Flue Gas, °C	178.8 °C
Average Flow Rate of Flue Gas, LPM	27
Volume of Flue gas drawn, Liters	1615
Velocity of Flue Gas, m/sec	9.4
Quantity of Emission, Nm ³ /hr	31480.02

RESULTS

S. No.	PARAMETER	OBSERVATION	PROTOCOL/ METHOD
1.	Particulate Matter (PM), mg/Nm ³	18.0	IS 11255 (Part-1)
2.	Sulphur dioxide (SO ₂), mg/Nm ³	< 2.0	IS 11255 (Part-2)
3.	Nitrogen Oxides (NO _x), mg/Nm ³	50.6	IS 11255 (Part-7)
4.	Volatile Organic Compounds (VOC), mg/Nm ³	BDL	GC Method
5.	Hydrocarbon (HC), PPM	BDL	GC Method
6.	Carbon Monoxide (CO), PPM	14.6	Electro-chemical Method
7.	Carbon Dioxide (CO ₂), %	3.6	Electro-chemical Method
8.	Oxygen (O ₂), %	16.4	Electro-chemical Method

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