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CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	**CTL/CH/N-7029/2018 -19 & 18.08.2018**		
Sample Number	**N-7029/18-19**		
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.		
SAMPLE DETAILS			
Sample Description	Ambient Air Quality		
Sampling Location	**NEAR FIRE STATION**		
Sampling Method	IS 5182 (Part V) and (Part XIV)	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Sampling Date & Time	11.08.2018 & 09.10 to 17.10		
Date of Receipt	12.08.2018	**Sample Condition**	Good
Analysis Starting Date	13.07.2018	**Analysis Completion Date**	18.08.2018

ENVIRONMENTAL CONDITION:

RELATIVE HUMIDITY	58%
AMBIENT TEMPERATURE	34.0°C
WIND SPEED	7.1 Km/hr
WIND DIRECTION	SW
WEATHER CONDITION	Clear Sky

SL.NO	PARAMETERS	METHODS	UNITS	RESULTS	NAAQS*
1	PARTICULATE MATTER ($PM_{2.5}$)	CTL/SOP/AIR/03 - 2016	$\mu g/m^3$	18.6	60
2	PARTICULATE MATTER (PM_{10})	IS 5182 Part 23 - 2006	$\mu g/m^3$	44.2	100
3	SULPHUR DIOXIDE (SO_2)	IS 5182 Part 2 - 2001	$\mu g/m^3$	4.5	80
4	OXIDES OF NITROGEN (NOx)	IS 5182 Part 6 - 2006	$\mu g/m^3$	12.0	80
5	LEAD (Pb)	IS 5182 PART 22 - 2004	$\mu g/m^3$	BDL (DL-0.1)	1
6	CARBON MONOXIDE (CO)	CTL/SOP/AIR/23 – 2016	mg/m^3	BDL (DL-1.15)	4

*National Ambient Air Quality Standards - CPCB
BDL - Below Detection Limit(D.L - Detection Limit)

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory
G. Manikandan
Manager - Environment
(Chemical)

The Report shall not be used to malign, defame and for any malicious purpose.
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TEST REPORT

Report Number and date	**CTL/CH/N-7030/2018 -19 & 18.08.2018**		
Sample Number	**N-7030/18-19**		
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.		
SAMPLE DETAILS			
Sample Description	Ambient Air Quality		
Sampling Location	**NEAR SLUG CATCHER AREA**		
Sampling Method	IS 5182 (Part V) and (Part XIV)	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Sampling Date & Time	11.08.2018 & 09.25 to 17.25		
Date of Receipt	12.08.2018	**Sample Condition**	Good
Analysis Starting Date	13.07.2018	**Analysis Completion Date**	18.08.2018

ENVIRONMENTAL CONDITION:

RELATIVE HUMIDITY	58%
AMBIENT TEMPERATURE	34.0°C
WIND SPEED	7.1 Km/hr
WIND DIRECTION	SW
WEATHER CONDITION	Clear Sky

SL.NO	PARAMETERS	METHODS	UNITS	RESULTS	NAAQS*
1	PARTICULATE MATTER ($PM_{2.5}$)	CTL/SOP/AIR/03 - 2016	$\mu g/m^3$	24.6	60
2	PARTICULATE MATTER (PM_{10})	IS 5182 Part 23 - 2006	$\mu g/m^3$	51.3	100
3	SULPHUR DIOXIDE (SO_2)	IS 5182 Part 2 - 2001	$\mu g/m^3$	7.0	80
4	OXIDES OF NITROGEN (NOx)	IS 5182 Part 6 - 2006	$\mu g/m^3$	14.0	80
5	LEAD (Pb)	IS 5182 PART 22 - 2004	$\mu g/m^3$	BDL (DL-0.1)	1
6	CARBON MONOXIDE (CO)	CTL/SOP/AIR/23 – 2016	mg/m^3	BDL (DL-1.15)	4

*National Ambient Air Quality Standards - CPCB
BDL - Below Detection Limit(D.L - Detection Limit)

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

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TEST REPORT

Report Number and date	**CTL/CH/N-7031/2018 -19 & 18.08.2018**		
Sample Number	**N-7031/18-19**		
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.		
SAMPLE DETAILS			
Sample Description	Ambient Air Quality		
Sampling Location	**NEAR PRODUCED WATER TANK AREA**		
Sampling Method	IS 5182 (Part V) and (Part XIV)	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Sampling Date & Time	11.08.2018 & 09.35 to 17.35		
Date of Receipt	12.08.2018	**Sample Condition**	Good
Analysis Starting Date	13.07.2018	**Analysis Completion Date**	18.08.2018

ENVIRONMENTAL CONDITION:

RELATIVE HUMIDITY	58%
AMBIENT TEMPERATURE	34.0°C
WIND SPEED	7.1 Km/hr
WIND DIRECTION	SW
WEATHER CONDITION	Clear Sky

SL.NO	PARAMETERS	METHODS	UNITS	RESULTS	NAAQS*
1	PARTICULATE MATTER ($PM_{2.5}$)	CTL/SOP/AIR/03 - 2016	$\mu g/m^3$	16.2	60
2	PARTICULATE MATTER (PM_{10})	IS 5182 Part 23 - 2006	$\mu g/m^3$	38.0	100
3	SULPHUR DIOXIDE (SO_2)	IS 5182 Part 2 - 2001	$\mu g/m^3$	3.2	80
4	OXIDES OF NITROGEN (NOx)	IS 5182 Part 6 - 2006	$\mu g/m^3$	8.5	80
5	LEAD (Pb)	IS 5182 PART 22 - 2004	$\mu g/m^3$	BDL (DL-0.1)	1
6	CARBON MONOXIDE (CO)	CTL/SOP/AIR/23 – 2016	mg/m^3	BDL (DL-1.15)	4

*National Ambient Air Quality Standards - CPCB
BDL - Below Detection Limit(D.L - Detection Limit)

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory
G.Manikandan
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TEST REPORT

Report Number and date	**CTL/CH/N-7032/2018-19 & 18.08.2018**		
Sample Number	**N-7032/18-19**		
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.		
SAMPLE DETAILS			
Sample Description	Stack		
Sampling Location	**Stack attached with GG -1450 KVA**		
Sampling Method	IS 11255		
Sampling Date	11.08.2018	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Date of Receipt	12.08.2018	**Sample Condition**	Good
Analysis Starting Date	13.08.2018	**Analysis Completion Date**	17.08.2018

PHYSICAL PARAMETERS:

STACK HEIGHT (m)	35
STACK TEMPERATURE (K)	623.0
STACK VELOCITY (m/s)	14.4
STACK GAS FLOW RATE (Nm^3/hr)	10371.1
DIAMETER OF STACK AT PORTHOLE (m)	0.73
*APCM STATUS AT THE TIME OF SAMPLING	Nil

NO	PARAMETERS	METHOD	UNITS	RESULTS	TNPCB LIMITS
1	OXIDES OF NITROGEN NOx (as NO_2)	IS 11255 PART 7 2005	mg/Nm^3	346	**
2	SULPHUR DIOXIDE (SO_2)	IS 11255 PART 2 1985	mg/Nm^3	6	**
3	PARTICULATE MATTER(PM)	IS 11255 PART 1 1985	mg/Nm^3	32.5	150
4	CARBON DIOXIDE (CO_2)	CTL/SOP/STACK/010-2016 (Flue Gas Analyser)	%	8.7	**
5	CARBON MONOXIDE (CO)		%	BDL (D.L - 0.2)	**
6	OXYGEN (O_2)		%	5.5	**

*Air Pollution Control Measures

**Depending on the local situation, state pollution control board will prescribe the standards.

BDL - Below Detection Limit(D.L - Detection Limit)

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory

G. Manikandan
Manager - Environment
(Chemical)

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TEST REPORT

Report Number and date	**CTL/CH/N-7033/2018-19 & 18.08.2018**		
Sample Number	**N-7033/18-19**		
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.		
SAMPLE DETAILS			
Sample Description	Stack		
Sampling Location	**Stack attached with HOT OIL HEATER**		
Sampling Method	IS 11255		
Sampling Date	11.08.2018	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Date of Receipt	12.08.2018	**Sample Condition**	Good
Analysis Starting Date	13.08.2018	**Analysis Completion Date**	17.08.2018

PHYSICAL PARAMETERS:

STACK HEIGHT (m)	20
STACK TEMPERATURE (K)	352.0
STACK VELOCITY (m/s)	7.4
STACK GAS FLOW RATE (Nm^3/hr)	2844.5
DIAMETER OF STACK AT PORTHOLE (m)	0.4
*APCM STATUS AT THE TIME OF SAMPLING	Nil

.NO	PARAMETERS	METHOD	UNITS	RESULTS	TNPCB LIMITS
1	OXIDES OF NITROGEN NOx (as NO_2)	IS 11255 PART 7 2005	mg/Nm^3	6	**
2	SULPHUR DIOXIDE (SO_2)	IS 11255 PART 2 1985	mg/Nm^3	97	**
3	PARTICULATE MATTER(PM)	IS 11255 PART 1 1985	mg/Nm^3	6.3	150
4	CARBON DIOXIDE (CO_2)	CTL/SOP/STACK/010-2016 (Flue Gas Analyser)	%	1.0	**
5	CARBON MONOXIDE (CO)		%	BDL (D.L - 0.2)	**
6	OXYGEN (O_2)		%	19.5	**

*Air Pollution Control Measures
**Depending on the local situation, state pollution control board will prescribe the standards.
BDL - Below Detection Limit(D.L - Detection Limit)

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory
G. Chandrasekaran
Manager - Environment
(Chemical)

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TEST REPORT

Report Number and date	**CTL/CH/N-7034/2018-19 & 18.08.2018**
Sample Number	**N-7034/18-19**
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.
SAMPLE DETAILS	
Sample Description	AMBIENT NOISE
Sampled By	Chennai Testing Laboratory Pvt. Ltd.,
Sampling Date	11.08.2018
Sampling Method	CTL/INS/SOP/021

SL.NO	LOCATION	NOISE LEVEL dB (A)			LIMITS*
		Min	Max	Leq	Leq
1	NEAR ADMIN BUILDING	42.3	46.7	44.6	55 dB (A)
2	NEAR FIRE STATION	47.5	52.1	49.5	
3	NEAR STP	50.6	53.2	51.8	
4	NEAR SLUG CATCHER AREA	48.5	52.1	50.6	

* CPCB Limits (Day Time)

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory
G. Manikandan
Manager - Environment
(Chemical)

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TEST REPORT

Report Number and date	CTL/CH/N-7035/2018-19 & 18.08.2018		
Sample Number	N-7035/18-19		
Customer Name & Address	M/s.Hindustan Oil Exploration Company Limited, HOEC PY - 1 Plant (Gas Plant), Pillaiperumalnallur, Near PPN Power Plant, Thirukadaiyur, Nagapattinam Dist. - 609 311.		
SAMPLE DETAILS			
Sample Description By Customer	Raw Sewage Water		
Sampling Location	STP Plant		
mpling Date	11.08.2018	Sampled By	Chennai Testing Laboratory Pvt. Ltd.,
Quantity Received	2 Litres	Sampling Method	CTL/MSP/5.7/001
Date of Receipt	12.08.2018	Sample Condition	Good & Received in Plastic Container
Analysis Starting Date	13.08.2018	Analysis Completion Date	18.08.2018

Test Results:

The above sample tested as received, and results are as follows:

S. NO	PARAMETERS	METHOD	UNITS	RESULTS
1	pH @ 25°C	4500-H+-B APHA 22 nd Edn. 2012	-	7.7
2	Total Suspended Solids (TSS)	2540-D- APHA 22 nd Edn. 2012	mg/l	148
3	Biochemical Oxygen Demand (BOD) 3 days @ 27°C	5210-B APHA 22 nd Edn. 2012	mg/l	82

END OF REPORT

For Chennai Testing Laboratory Pvt ltd

Authorised Signatory

A. Rajkumar
Technical Manager
(Chemical)

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TEST REPORT

Report Number and date	**CTL/CH/N-7036/2018-19 & 18.08.2018**		
Sample Number	**N-7036/18-19**		
Customer Name & Address	**M/s.Hindustan Oil Exploration Company Limited,**		
	HOEC PY - 1 Plant (Gas Plant), Pillaiperumalnallur, Near PPN Power Plant, Thirukadaiyur, Nagapattinam Dist. - 609 311.		
SAMPLE DETAILS			
Sample Description By Customer	**Treated Sewage Water**		
Sampling Location	STP Plant		
Sampling Date	11.08.2018	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Quantity Received	2 Litres	**Sampling Method**	CTL/MSP/5.7/001
Date of Receipt	12.08.2018	**Sample Condition**	Good & Received in Plastic Container
Analysis Starting Date	13.08.2018	**Analysis Completion Date**	18.08.2018

Test Results:

The above sample tested as received, and results are as follows:

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
1	pH @ 25°C	4500-H+-B APHA 22 nd Edn. 2012	-	7.8	5.5 to 9.0
2	Total Suspended Solids (TSS)	2540-D- APHA 22 nd Edn. 2012	mg/l	4	Max.30
3	Biochemical Oxygen Demand (BOD) 3 days @ 27°C	5210-B APHA 22 nd Edn. 2012	mg/l	10	Max.20

Max. - Maximum

*Limits as per TNPCB for Treated Sewage

END OF REPORT

For Chennai Testing Laboratory Pvt ltd

Authorised Signatory

A. Rajkumar
Technical Manager
(Chemical)

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TEST REPORT

Report Number and date	**CTL/CH/N-9413/2018 -19 & 29.09.2018**		
Sample Number	**N-9413/18-19**		
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.		
SAMPLE DETAILS			
Sample Description	Ambient Air Quality		
Sampling Location	**NEAR FIRE STATION**		
Sampling Method	IS 5182 (Part V) and (Part XIV)	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Sampling Date & Time	24.09.2018 & 09.15 to 17.15		
Date of Receipt	25.09.2018	**Sample Condition**	Good
Analysis Starting Date	25.09.2018	**Analysis Completion Date**	29.09.2018

ENVIRONMENTAL CONDITION:

RELATIVE HUMIDITY	62%
AMBIENT TEMPERATURE	33.5°C
WIND SPEED	6.2 Km/hr
WIND DIRECTION	SW
WEATHER CONDITION	Clear Sky

SL.NO	PARAMETERS	METHODS	UNITS	RESULTS	NAAQS*
1	PARTICULATE MATTER ($PM_{2.5}$)	CTL/SOP/AIR/03 - 2016	$\mu g/m^3$	21.6	60
2	PARTICULATE MATTER (PM_{10})	IS 5182 Part 23 - 2006	$\mu g/m^3$	47.5	100
3	SULPHUR DIOXIDE (SO_2)	IS 5182 Part 2 - 2001	$\mu g/m^3$	6.7	80
4	OXIDES OF NITROGEN (NOx)	IS 5182 Part 6 - 2006	$\mu g/m^3$	15.2	80
5	LEAD (Pb)	IS 5182 PART 22 - 2004	$\mu g/m^3$	BDL (DL-0.1)	1
6	CARBON MONOXIDE (CO)	CTL/SOP/AIR/23 – 2016	mg/m^3	BDL (DL-1.15)	4

*National Ambient Air Quality Standards - CPCB
BDL - Below Detection Limit(D.L - Detection Limit)

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory

G. Manikandan
Manager - Environment
(Chemical)

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TEST REPORT

Report Number and date	**CTL/CH/N-9414/2018 -19 & 29.09.2018**		
Sample Number	**N-9414/18-19**		
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.		
SAMPLE DETAILS			
Sample Description	Ambient Air Quality		
Sampling Location	**NEAR SLUG CATCHER AREA**		
Sampling Method	IS 5182 (Part V) and (Part XIV)	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Sampling Date & Time	24.09.2018 & 09.45 to 17.45		
Date of Receipt	25.09.2018	**Sample Condition**	Good
Analysis Starting Date	25.09.2018	**Analysis Completion Date**	29.09.2018

ENVIRONMENTAL CONDITION:

RELATIVE HUMIDITY	62%
AMBIENT TEMPERATURE	33.5°C
WIND SPEED	6.2 Km/hr
WIND DIRECTION	SW
WEATHER CONDITION	Clear Sky

SL.NO	PARAMETERS	METHODS	UNITS	RESULTS	NAAQS*
1	PARTICULATE MATTER ($PM_{2.5}$)	CTL/SOP/AIR/03 - 2016	$\mu g/m^3$	17.0	60
2	PARTICULATE MATTER (PM_{10})	IS 5182 Part 23 - 2006	$\mu g/m^3$	38.7	100
3	SULPHUR DIOXIDE (SO_2)	IS 5182 Part 2 - 2001	$\mu g/m^3$	4.5	80
4	OXIDES OF NITROGEN (NOx)	IS 5182 Part 6 - 2006	$\mu g/m^3$	9.7	80
5	LEAD (Pb)	IS 5182 PART 22 - 2004	$\mu g/m^3$	BDL (DL-0.1)	1
6	CARBON MONOXIDE (CO)	CTL/SOP/AIR/23 – 2016	mg/m^3	BDL (DL-1.15)	4

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END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

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Manager - Environment
(Chemical)

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TEST REPORT

Report Number and date	**CTL/CH/N-9415/2018 -19 & 29.09.2018**		
Sample Number	**N-9415/18-19**		
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.		
SAMPLE DETAILS			
Sample Description	Ambient Air Quality		
Sampling Location	**NEAR PRODUCED WATER TANK AREA**		
Sampling Method	IS 5182 (Part V) and (Part XIV)	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Sampling Date & Time	24.09.2018 & 10.15 to 17.15		
Date of Receipt	25.09.2018	**Sample Condition**	Good
Analysis Starting Date	25.09.2018	**Analysis Completion Date**	29.09.2018

ENVIRONMENTAL CONDITION:

RELATIVE HUMIDITY	62%
AMBIENT TEMPERATURE	33.5°C
WIND SPEED	6.2 Km/hr
WIND DIRECTION	SW
WEATHER CONDITION	Clear Sky

SL.NO	PARAMETERS	METHODS	UNITS	RESULTS	NAAQS*
1	PARTICULATE MATTER ($PM_{2.5}$)	CTL/SOP/AIR/03 - 2016	$\mu g/m^3$	15.0	60
2	PARTICULATE MATTER (PM_{10})	IS 5182 Part 23 - 2006	$\mu g/m^3$	36.6	100
3	SULPHUR DIOXIDE (SO_2)	IS 5182 Part 2 - 2001	$\mu g/m^3$	BDL (DL-3.0)	80
4	OXIDES OF NITROGEN (NOx)	IS 5182 Part 6 - 2006	$\mu g/m^3$	7.8	80
5	LEAD (Pb)	IS 5182 PART 22 - 2004	$\mu g/m^3$	BDL (DL-0.1)	1
6	CARBON MONOXIDE (CO)	CTL/SOP/AIR/23 – 2016	mg/m^3	BDL (DL-1.15)	4

*National Ambient Air Quality Standards - CPCB
BDL - Below Detection Limit(D.L - Detection Limit)

*****END OF REPORT*****

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory

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Manager - Environment
Chennai

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CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	**CTL/CH/N-9416/2018-19 & 29.09.2018**		
Sample Number	**N-9416/18-19**		
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.		
SAMPLE DETAILS			
Sample Description	Stack		
Sampling Location	**Stack attached with HOT OIL HEATER**		
Sampling Method	IS 11255		
Sampling Date	24.09.2018	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Date of Receipt	25.09.2018	**Sample Condition**	Good
Analysis Starting Date	25.09.2018	**Analysis Completion Date**	29.09.2018

PHYSICAL PARAMETERS:

STACK HEIGHT (m)	20
STACK TEMPERATURE (K)	342.0
STACK VELOCITY (m/s)	8.3
STACK GAS FLOW RATE (Nm^3/hr)	3250.0
DIAMETER OF STACK AT PORTHOLE (m)	0.4
*APCM STATUS AT THE TIME OF SAMPLING	Nil

SL.NO	PARAMETERS	METHOD	UNITS	RESULTS	TNPCB LIMITS
1	OXIDES OF NITROGEN NOx (as NO_2)	IS 11255 PART 7 2005	mg/Nm^3	11	**
2	SULPHUR DIOXIDE (SO_2)	IS 11255 PART 2 1985	mg/Nm^3	81	**
3	PARTICULATE MATTER(PM)	IS 11255 PART 1 1985	mg/Nm^3	5.0	150
4	CARBON DIOXIDE (CO_2)	CTL/SOP/STACK/010-2016 (Flue Gas Analyser)	%	1.2	**
5	CARBON MONOXIDE (CO)		%	BDL (D.L - 0.2)	**
6	OXYGEN (O_2)		%	19.2	**

*Air Pollution Control Measures
**Depending on the local situation, state pollution control board will prescribe the standards.
BDL - Below Detection Limit(D.L - Detection Limit)

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory
S. Manikandan
Manager - Environment
(Chemical)

The Report shall not be used to malign, defame and for any malicious purpose.
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TEST REPORT

Report Number and date	**CTL/CH/N-9417/2018-19 & 29.09.2018**		
Sample Number	**N-9417/18-19**		
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.		
SAMPLE DETAILS			
Sample Description	Stack		
Sampling Location	**Stack attached with GG -1450 KVA**		
Sampling Method	IS 11255		
Sampling Date	24.09.2018	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Date of Receipt	25.09.2018	**Sample Condition**	Good
Analysis Starting Date	25.09.2018	**Analysis Completion Date**	29.09.2018

PHYSICAL PARAMETERS:

STACK HEIGHT (m)	35
STACK TEMPERATURE (K)	602.0
STACK VELOCITY (m/s)	15.0
STACK GAS FLOW RATE (Nm^3/hr)	11197.5
DIAMETER OF STACK AT PORTHOLE (m)	0.73
*APCM STATUS AT THE TIME OF SAMPLING	Nil

SL.NO	PARAMETERS	METHOD	UNITS	RESULTS	TNPCB LIMITS
1	OXIDES OF NITROGEN NOx (as NO_2)	IS 11255 PART 7 2005	mg/Nm^3	367	**
2	SULPHUR DIOXIDE (SO_2)	IS 11255 PART 2 1985	mg/Nm^3	10	**
3	PARTICULATE MATTER(PM)	IS 11255 PART 1 1985	mg/Nm^3	34.0	150
4	CARBON DIOXIDE (CO_2)	CTL/SOP/STACK/010-2016 (Flue Gas Analyser)	%	14.2	**
5	CARBON MONOXIDE (CO)		%	BDL (D.L - 0.2)	**
6	OXYGEN (O_2)		%	6.1	**

*Air Pollution Control Measures
**Depending on the local situation, state pollution control board will prescribe the standards.
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END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory

G. Manikandan
Manager - Environment
(Chemical)

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TEST REPORT

Report Number and date	**CTL/CH/N-9418/2018-19 & 29.09.2018**
Sample Number	**N-9418/18-19**
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.
SAMPLE DETAILS	
Sample Description	AMBIENT NOISE
Sampled By	Chennai Testing Laboratory Pvt. Ltd.,
Sampling Date	24.09.2018
Sampling Method	CTL/INS/SOP/021

SL.NO	LOCATION	NOISE LEVEL dB (A)			LIMITS*
		Min	Max	Leq	Leq
1	NEAR ADMIN BUILDING	49.8	53.8	51.8	55 dB (A)
2	NEAR FIRE STATION	49.8	54.0	52.0	
3	NEAR STP	53.0	54.6	53.8	
4	NEAR SLUG CATCHER AREA	47.9	51.6	49.8	

* CPCB Limits (Day Time)

*****END OF REPORT*****

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory
G. Manikandan
Manager - Environment
(Chemical)

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TEST REPORT

Report Number and date	**CTL/CH/N-9419/2018-19 & 29.09.2018**		
Sample Number	**N-9419/18-19**		
Customer Name & Address	**M/s.Hindustan Oil Exploration Company Limited,**		
	HOEC PY - 1 Plant (Gas Plant), Pillaiperumalnallur, Near PPN Power Plant, Thirukadaiyur, Nagapattinam Dist. - 609 311.		
SAMPLE DETAILS			
Sample Description By Customer	**Raw Sewage Water**		
Sampling Location	STP Plant		
Sampling Date	24.09.2018	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Quantity Received	2 Litres	**Sampling Method**	CTL/MSP/5.7/001
Date of Receipt	24.09.2018	**Sample Condition**	Good & Received in Plastic Container
Analysis Starting Date	25.09.2018	**Analysis Completion Date**	29.09.2018

Test Results:

The above sample tested as received, and results are as follows:

S. NO	PARAMETERS	METHOD	UNITS	RESULTS
1	pH @ 25°C	4500-H+-B APHA 23rd Edn. 2017	-	7.1
2	Total Suspended Solids (TSS)	2540-D- APHA 23rd Edn. 2017	mg/l	288
3	Biochemical Oxygen Demand (BOD) 3 days @ 27°C	5210-B APHA 23rd Edn. 2017	mg/l	142

END OF REPORT

For Chennai Testing Laboratory Pvt ltd

Authorised Signatory

A. Rajkumar
Technical Manager
Chemical)

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TEST REPORT

Report Number and date	**CTL/CH/N-9420/2018-19 & 29.09.2018**		
Sample Number	**N-9420/18-19**		
Customer Name & Address	**M/s.Hindustan Oil Exploration Company Limited,**		
	HOEC PY - 1 Plant (Gas Plant), Pillaiperumalnallur, Near PPN Power Plant, Thirukadaiyur, Nagapattinam Dist. - 609 311.		
SAMPLE DETAILS			
Sample Description By Customer	**Treated Sewage Water**		
Sampling Location	STP Plant		
Sampling Date	24.09.2018	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Quantity Received	2 Litres	**Sampling Method**	CTL/MSP/5.7/001
Date of Receipt	24.09.2018	**Sample Condition**	Good & Received in Plastic Container
Analysis Starting Date	25.09.2018	**Analysis Completion Date**	29.09.2018

Test Results:

The above sample tested as received, and results are as follows:

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
1	pH @ 25°C	4500-H+-B APHA 23rd Edn. 2017	-	7.3	5.5 to 9.0
2	Total Suspended Solids (TSS)	2540-D- APHA 23rd Edn. 2017	mg/l	< 2	Max.30
3	Biochemical Oxygen Demand (BOD) 3 days @ 27°C	5210-B APHA 23rd Edn. 2017	mg/l	6	Max.20

Max. - Maximum

*Limits as per TNPCB for Treated Sewage

END OF REPORT

For Chennai Testing Laboratory Pvt ltd

Authorised Signatory

A. Rajkumar
Technical Manager
Chemical)

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TEST REPORT

Report Number and date	**CTL/CH/N-11279/2018 -19 & 03.11.2018**		
Sample Number	**N-11279/18-19**		
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.		
SAMPLE DETAILS			
Sample Description	Ambient Air Quality		
Sampling Location	**NEAR FIRE STATION**		
Sampling Method	IS 5182 (Part V) and (Part XIV)	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Sampling Date & Time	29.10.2018 & 09.30 to 17.30		
Date of Receipt	30.10.2018	**Sample Condition**	Good
Analysis Starting Date	30.10.2018	**Analysis Completion Date**	03.11.2018

ENVIRONMENTAL CONDITION:

RELATIVE HUMIDITY	58%
AMBIENT TEMPERATURE	32.0°C
WIND SPEED	7.4 Km/hr
WIND DIRECTION	NE
WEATHER CONDITION	Clear Sky

SL.NO	PARAMETERS	METHODS	UNITS	RESULTS	NAAQS*
1	PARTICULATE MATTER ($PM_{2.5}$)	CTL/SOP/AIR/03 - 2016	$\mu g/m^3$	23.9	60
2	PARTICULATE MATTER (PM_{10})	IS 5182 Part 23 - 2006	$\mu g/m^3$	58.2	100
3	SULPHUR DIOXIDE (SO_2)	IS 5182 Part 2 - 2001	$\mu g/m^3$	5.7	80
4	OXIDES OF NITROGEN (NOx)	IS 5182 Part 6 - 2006	$\mu g/m^3$	14.1	80
5	LEAD (Pb)	IS 5182 PART 22 - 2004	$\mu g/m^3$	BDL (DL-0.1)	1
6	CARBON MONOXIDE (CO)	CTL/SOP/AIR/23 – 2016	mg/m^3	BDL (DL-1.15)	4

*National Ambient Air Quality Standards - CPCB
BDL - Below Detection Limit(D.L - Detection Limit)

*****END OF REPORT*****

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory
G. Manikandan
Manager - Environment
(Chemical)

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TEST REPORT

Report Number and date	**CTL/CH/N-11280/2018 -19 & 03.11.2018**		
Sample Number	**N-11280/18-19**		
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.		
SAMPLE DETAILS			
Sample Description	Ambient Air Quality		
Sampling Location	**NEAR SLUG CATCHER AREA**		
Sampling Method	IS 5182 (Part V) and (Part XIV)	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Sampling Date & Time	29.10.2018 & 09.40 to 17.40		
Date of Receipt	30.10.2018	**Sample Condition**	Good
Analysis Starting Date	30.10.2018	**Analysis Completion Date**	03.11.2018

ENVIRONMENTAL CONDITION:

RELATIVE HUMIDITY	58%
AMBIENT TEMPERATURE	32.0°C
WIND SPEED	7.4 Km/hr
WIND DIRECTION	NE
WEATHER CONDITION	Clear Sky

SL.NO	PARAMETERS	METHODS	UNITS	RESULTS	NAAQS*
1	PARTICULATE MATTER ($PM_{2.5}$)	CTL/SOP/AIR/03 - 2016	$\mu g/m^3$	19.3	60
2	PARTICULATE MATTER (PM_{10})	IS 5182 Part 23 - 2006	$\mu g/m^3$	42.5	100
3	SULPHUR DIOXIDE (SO_2)	IS 5182 Part 2 - 2001	$\mu g/m^3$	3.9	80
4	OXIDES OF NITROGEN (NOx)	IS 5182 Part 6 - 2006	$\mu g/m^3$	8.1	80
5	LEAD (Pb)	IS 5182 PART 22 - 2004	$\mu g/m^3$	BDL (DL-0.1)	1
6	CARBON MONOXIDE (CO)	CTL/SOP/AIR/23 – 2016	mg/m^3	BDL (DL-1.15)	4

*National Ambient Air Quality Standards - CPCB
BDL - Below Detection Limit(D.L - Detection Limit)

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory
G. Manikandan
Manager - Environment
(Chemical)

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TEST REPORT

Report Number and date	**CTL/CH/N-11281/2018 -19 & 03.11.2018**		
Sample Number	**N-11281/18-19**		
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.		
SAMPLE DETAILS			
Sample Description	Ambient Air Quality		
Sampling Location	**NEAR PRODUCED WATER TANK AREA**		
Sampling Method	IS 5182 (Part V) and (Part XIV)	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Sampling Date & Time	29.10.2018 & 09.45 to 17.45		
Date of Receipt	30.10.2018	**Sample Condition**	Good
Analysis Starting Date	30.10.2018	**Analysis Completion Date**	03.11.2018

ENVIRONMENTAL CONDITION:

RELATIVE HUMIDITY	58%
AMBIENT TEMPERATURE	32.0°C
WIND SPEED	7.4 Km/hr
WIND DIRECTION	NE
WEATHER CONDITION	Clear Sky

SL.NO	PARAMETERS	METHODS	UNITS	RESULTS	NAAQS*
1	PARTICULATE MATTER ($PM_{2.5}$)	CTL/SOP/AIR/03 - 2016	$\mu g/m^3$	22.3	60
2	PARTICULATE MATTER (PM_{10})	IS 5182 Part 23 - 2006	$\mu g/m^3$	45.8	100
3	SULPHUR DIOXIDE (SO_2)	IS 5182 Part 2 - 2001	$\mu g/m^3$	BDL (DL-3.0)	80
4	OXIDES OF NITROGEN (NOx)	IS 5182 Part 6 - 2006	$\mu g/m^3$	5.5	80
5	LEAD (Pb)	IS 5182 PART 22 - 2004	$\mu g/m^3$	BDL (DL-0.1)	1
6	CARBON MONOXIDE (CO)	CTL/SOP/AIR/23 – 2016	mg/m^3	BDL (DL-1.15)	4

*National Ambient Air Quality Standards - CPCB
BDL - Below Detection Limit(D.L - Detection Limit)

*****END OF REPORT*****

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory
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Manager - Environment
(Chemical)

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TEST REPORT

Report Number and date	**CTL/CH/N-11282/2018-19 & 03.11.2018**		
Sample Number	**N-11282/18-19**		
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.		
SAMPLE DETAILS			
Sample Description	Stack		
Sampling Location	**Stack attached with GG -1450 KVA**		
Sampling Method	IS 11255		
Sampling Date	29.10.2018	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Date of Receipt	30.10.2018	**Sample Condition**	Good
Analysis Starting Date	30.10.2018	**Analysis Completion Date**	03.11.2018

PHYSICAL PARAMETERS:

STACK HEIGHT (m)	35
STACK TEMPERATURE (K)	571.0
STACK VELOCITY (m/s)	15.1
STACK GAS FLOW RATE (Nm^3/hr)	11846.2
DIAMETER OF STACK AT PORTHOLE (m)	0.73
*APCM STATUS AT THE TIME OF SAMPLING	Nil

SL.NO	PARAMETERS	METHOD	UNITS	RESULTS	TNPCB LIMITS
1	OXIDES OF NITROGEN NOx (as NO_2)	IS 11255 PART 7 2005	mg/Nm^3	318	**
2	SULPHUR DIOXIDE (SO_2)	IS 11255 PART 2 1985	mg/Nm^3	14	**
3	PARTICULATE MATTER(PM)	IS 11255 PART 1 1985	mg/Nm^3	37.9	150
4	CARBON DIOXIDE (CO_2)	CTL/SOP/STACK/010-2016 (Flue Gas Analyser)	%	7.3	**
5	CARBON MONOXIDE (CO)		%	BDL (D.L - 0.2)	**
6	OXYGEN (O_2)		%	12.9	**

*Air Pollution Control Measures

**Depending on the local situation, state pollution control board will prescribe the standards.

BDL - Below Detection Limit(D.L - Detection Limit)

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory

G. Manikandan
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(Chemical)

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TEST REPORT

Report Number and date	**CTL/CH/N-11283/2018-19 & 03.11.2018**		
Sample Number	**N-11283/18-19**		
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.		
SAMPLE DETAILS			
Sample Description	Stack		
Sampling Location	**Stack attached with HOT OIL HEATER**		
Sampling Method	IS 11255		
Sampling Date	29.10.2018	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Date of Receipt	30.10.2018	**Sample Condition**	Good
Analysis Starting Date	30.10.2018	**Analysis Completion Date**	03.11.2018

PHYSICAL PARAMETERS:

STACK HEIGHT (m)	20
STACK TEMPERATURE (K)	338.0
STACK VELOCITY (m/s)	8.0
STACK GAS FLOW RATE (Nm^3/hr)	3173.8
DIAMETER OF STACK AT PORTHOLE (m)	0.4
*APCM STATUS AT THE TIME OF SAMPLING	Nil

SL.NO	PARAMETERS	METHOD	UNITS	RESULTS	TNPCB LIMITS
1	OXIDES OF NITROGEN NOx (as NO_2)	IS 11255 PART 7 2005	mg/Nm^3	14	**
2	SULPHUR DIOXIDE (SO_2)	IS 11255 PART 2 1985	mg/Nm^3	123	**
3	PARTICULATE MATTER(PM)	IS 11255 PART 1 1985	mg/Nm^3	11.1	150
4	CARBON DIOXIDE (CO_2)	CTL/SOP/STACK/010-2016 (Flue Gas Analyser)	%	1.4	**
5	CARBON MONOXIDE (CO)		%	BDL (D.L - 0.2)	**
6	OXYGEN (O_2)		%	18.9	**

*Air Pollution Control Measures

**Depending on the local situation, state pollution control board will prescribe the standards.

BDL - Below Detection Limit(D.L - Detection Limit)

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory

G. Manikandan
Manager - Environment
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TEST REPORT

Report Number and date	**CTL/CH/N-11284/2018-19 & 03.11.2018**
Sample Number	**N-11284/18-19**
Customer Name & Address	**M/s. HINDUSTAN OIL EXPLORATION COMPANY LIMITED(GAS PLANT),** Pillaiperumalnallur,Near PPN Power Plant, Thirukadaiyur,Nagapattinam Dist - 609 311.
SAMPLE DETAILS	
Sample Description	AMBIENT NOISE
Sampled By	Chennai Testing Laboratory Pvt. Ltd.,
Sampling Date	29.10.2018
Sampling Method	CTL/INS/SOP/021

SL.NO	LOCATION	NOISE LEVEL dB (A)			LIMITS*
		Min	Max	Leq	Leq
1	NEAR ADMIN BUILDING	50.4	55.6	53.5	55 dB (A)
2	NEAR FIRE STATION	51.8	53.7	52.8	
3	NEAR STP	53.7	54.9	54.4	
4	NEAR SLUG CATCHER AREA	51.5	54.8	53.2	

* CPCB Limits (Day Time)

END OF REPORT

For Chennai Testing Laboratory Pvt Ltd

Authorised Signatory

G. Manikandan
Manager - Environment
(Chemical)

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TEST REPORT

Report Number and date	**CTL/CH/N-11285/2018-19 & 03.11.2018**		
Sample Number	**N-11285/18-19**		
Customer Name & Address	**M/s.Hindustan Oil Exploration Company Limited,**		
	HOEC PY - 1 Plant (Gas Plant), Pillaiperumalnallur, Near PPN Power Plant, Thirukadaiyur, Nagapattinam Dist. - 609 311.		
SAMPLE DETAILS			
Sample Description By Customer	**Raw Sewage Water**		
Sampling Location	STP Plant		
Sampling Date	29.10.2018	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Quantity Received	2 Litres	**Sampling Method**	CTL/MSP/5.7/001
Date of Receipt	30.10.2018	**Sample Condition**	Good & Received in Plastic Container
Analysis Starting Date	30.10.2018	**Analysis Completion Date**	03.11.2018

Test Results:

The above sample tested as received, and results are as follows:

S. NO	PARAMETERS	METHOD	UNITS	RESULTS
1	pH @ 25°C	4500-H+-B APHA 23rd Edn. 2017	-	6.7
2	Total Suspended Solids (TSS)	2540-D- APHA 23rd Edn. 2017	mg/l	264
3	Biochemical Oxygen Demand (BOD) 3 days @ 27°C	5210-B APHA 23rd Edn. 2017	mg/l	184

END OF REPORT

For Chennai Testing Laboratory Pvt ltd

Authorised Signatory

A. Rajkumar
Technical Manager
(Chemical)

The Report shall not be used to malign, defame and for any malicious purpose.
The Report is meant only for sole use of the addressee to promote his/her own business.

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CIN : U74999TN2008PTC067568

TEST REPORT

Report Number and date	**CTL/CH/N-11286/2018-19 & 03.11.2018**		
Sample Number	**N-11286/18-19**		
Customer Name & Address	**M/s.Hindustan Oil Exploration Company Limited,** HOEC PY - 1 Plant (Gas Plant), Pillaiperumalnallur, Near PPN Power Plant, Thirukadaiyur, Nagapattinam Dist. - 609 311.		
SAMPLE DETAILS			
Sample Description By Customer	**Treated Sewage Water**		
Sampling Location	STP Plant		
Sampling Date	29.10.2018	**Sampled By**	Chennai Testing Laboratory Pvt. Ltd.,
Quantity Received	2 Litres	**Sampling Method**	CTL/MSP/5.7/001
Date of Receipt	30.10.2018	**Sample Condition**	Good & Received in Plastic Container
Analysis Starting Date	30.10.2018	**Analysis Completion Date**	03.11.2018

Test Results:

The above sample tested as received, and results are as follows:

S. NO	PARAMETERS	METHOD	UNITS	RESULTS	LIMITS*
1	pH @ 25°C	4500-H+-B APHA 23rd Edn. 2017	-	7.2	5.5 to 9.0
2	Total Suspended Solids (TSS)	2540-D- APHA 23rd Edn. 2017	mg/l	4	Max.30
3	Biochemical Oxygen Demand (BOD) 3 days @ 27°C	5210-B APHA 23rd Edn. 2017	mg/l	12	Max.20

Max. - Maximum

*Limits as per TNPCB for Treated Sewage

END OF REPORT

For Chennai Testing Laboratory Pvt ltd

A. Rajkumar
Authorised Signatory

A. Rajkumar
Technical Manager
(Chemical)

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