



# ENVIROCHECK

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Certified by ISO 9001:2008, ISO 14001 : 2015 & OHSAS 18001:2007



## AMBIENT AIR ANALYSIS REPORT

1.	Name of the Industry	: Hindusthan Petroleum Corporation Ltd.
2.	Address	: Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. - Kota, Dist. - West Burdwan, Pin - 713148
3.	Date of sampling	: 21.12.2018 - 22.12.2018
4.	Report No.	: 57/EC/Dec./TR(A)/IX/18-19
5.	Analysis completed on	: 24.12.2018
6.	Reporting Date	: 28.12.2018
7.	Particular of Plant	: L.P.G Bottling Plant

### A) GENERAL INFORMATION

1.	Location of Sampling	: Near Main Gate
2.	Duration of Sampling	: 24 hrs. (09:00 a.m. - 09:00 a.m.)

### B) METEOROLOGICAL INFORMATION

1.	Average Temperature (°C)	: 20.0
2.	Average Relative Humidity (%)	: 56.2
3.	Barometric Pressure (mm of Hg)	: 760.0
4.	Smell or Odour	: No Remarkable Smell
5.	Weather Condition	: Clear sky

### C) RESULTS

SL. NO.	PARAMETERS	METHOD NO.	RESULTS	LIMIT*
1.	Concentration of PM <sub>10</sub> (µg/m <sup>3</sup> )	IS 5182 (PART 23) : 2006	: 76.40	100.0
2.	Concentration of PM <sub>2.5</sub> (µg/m <sup>3</sup> )	USEPA 1997a, 40 CFR Part 50, Appendix L	: 44.62	60.0
3.	Concentration of SO <sub>2</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	: 6.12	80.0
4.	Concentration of NO <sub>x</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	: 26.45	80.0
5.	Hydrocarbon (ppm)	IS 5182 (Part XVII) 1979, RA 2003	: 3.5	N.A.
6.	Volatile Organic Carbon (µg/m <sup>3</sup> )	USEPA Method 18, 1996	: 1.8	N.A.

\*Result shows that PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> value are within limit as per National Ambient Air Quality Standards Central Pollution Control Board Notification, New Delhi, the 18<sup>th</sup> November, 2009.

\*\*N.A. means No Limit Available as per National Ambient Air Quality Standards Central Pollution Control Board Notification, New Delhi, the 18<sup>th</sup> November, 2009.

Date : 28.12.2018

Authorised Signatory :

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## AMBIENT AIR ANALYSIS REPORT

1. Name of the Industry	:	Hindusthan Petroleum Corporation Ltd.
2. Address	:	Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. - Kota, Dist. - Burdwan, Pin - 713148
3. Date of sampling	:	21.12.2018 - 22.12.2018
4. Report No.	:	57/EC/Dec./TR(A)/X/18-19
5. Analysis completed on	:	24.12.2018
6. Reporting Date	:	28.12.2018
7. Particular of Plant	:	L.P.G Bottling Plant

### A] GENERAL INFORMATION

1. Location of Sampling	:	Near Water Storage Tank
2. Duration of Sampling	:	24 hrs. (09:30 a.m. - 09:30 a.m.)

### B] METEOROLOGICAL INFORMATION

1. Average Temperature (°C)	:	20.0
2. Average Relative Humidity (%)	:	56.2
3. Barometric Pressure (mm of Hg)	:	760.0
4. Smell or Odour	:	No Remarkable Smell
5. Weather Condition	:	Clear sky

### C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.	RESULTS	LIMIT*
1.	Concentration of PM <sub>10</sub> (µg/m <sup>3</sup> )	IS 5182 (PART 23) : 2006	: 76.58	100.0
2.	Concentration of PM <sub>2.5</sub> (µg/m <sup>3</sup> )	USEPA 1997a, 40 CFR Part 50, Appendix L	: 37.96	60.0
3.	Concentration of SO <sub>2</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	: <4.0	80.0
4.	Concentration of NO <sub>x</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	: 20.59	80.0
5.	Hydrocarbon (ppm)	IS 5182 (Part XVII) 1979, RA 2003	: 3.2	N.A.
6.	Volatile Organic Carbon (µg/m <sup>3</sup> )	USEPA Method 18, 1996	: 1.5	N.A.

\*Result shows that PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> value are within limit as per National Ambient Air Quality Standards Central Pollution Control Board Notification, New Delhi, the 18<sup>th</sup> November, 2009.

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## AMBIENT AIR ANALYSIS REPORT

1.	Name of the Industry	: Hindusthan Petroleum Corporation Ltd.
2.	Address	: Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. - Kota, Dist. - Burdwan, Pin - 713148
3.	Date of sampling	: 21.12.2018 - 22.12.2018
4.	Report No.	: 57/EC/Dec./TR(A)/XI/18-19
5.	Analysis completed on	: 24.12.2018
6.	Reporting Date	: 28.12.2018
7.	Particular of Plant	: L.P.G Bottling Plant

### A) GENERAL INFORMATION

1.	Location of Sampling	: Near Administrative Building
2.	Duration of Sampling	: 24 hrs. (10:00 a.m. - 10:00 a.m.)

### B) METEOROLOGICAL INFORMATION

1.	Average Temperature (°C)	: 20.0
2.	Average Relative Humidity (%)	: 56.2
3.	Barometric Pressure (mm of Hg)	: 760.0
4.	Smell or Odour	: No Remarkable Smell
5.	Weather Condition	: Clear sky

### C) RESULTS

SL. NO.	PARAMETERS	METHOD NO.	RESULTS	LIMIT*
1.	Concentration of PM <sub>10</sub> (µg/m <sup>3</sup> )	IS 5182 (PART 23) : 2006	: 82.54	100.0
2.	Concentration of PM <sub>2.5</sub> (µg/m <sup>3</sup> )	USEPA 1997a, 40 CFR Part 50, Appendix L	: 51.25	60.0
3.	Concentration of SO <sub>2</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	: 6.12	80.0
4.	Concentration of NO <sub>x</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	: 26.91	80.0
5.	Hydrocarbon (ppm)	IS 5182 (Part XVII) 1979, RA 2003	: 2.8	N.A.
6.	Volatile Organic Carbon (µg/m <sup>3</sup> )	USEPA Method 18, 1996	: 1.2	N.A.

\*Result shows that PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> value are within limit as per National Ambient Air Quality Standards Central Pollution Control Board Notification, New Delhi, the 18<sup>th</sup> November, 2009.

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Certificate No. TC-6014



9001:2015



14001:2015



18001 : 2007

## DRINKING WATER ANALYSIS REPORT

1. Name of the Industry	: Hindusthan Petroleum Corporation Ltd.
2. Address	: Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. - Kota, Dist - Burdwan, Pin - 713148
3. Report No.	: Env/1090/W/M/18-19
4. Date of Sampling	: 21.12.2018
5. Reporting date	: 28.12.2018
6. Type of sample	: Drinking Water
7. Source of sample	: Bore Well (Near Fire Water Pump House)
8. Method for Collection of sample	: APHA 23 <sup>rd</sup> Ed., 9060A : 2017
9. Method for Preservation of sample	: APHA 23 <sup>rd</sup> Ed., 9060B : 2017 & IS 1622:1981 (RA : 2009)
10. Sample collected in presence of	: Company Representative

PARAMETERS		METHOD	RESULTS	LIMIT (IS: 10500-2012)	
				Acceptable	Permissible
1.	Colour	IS 3025 (Part 4): 1983, RA 2012/ APHA 23 <sup>rd</sup> Ed., 2120 B : 2017	1.0	5.0	15.0
2.	*Odour	APHA 23 <sup>rd</sup> Ed., 2150B : 2017	Odourless	Agreeable	Agreeable
3.	*Taste	APHA 23 <sup>rd</sup> Edition, 2160 B : 2017	Acceptable	Agreeable	Agreeable
4.	pH	IS 3025 (Part 11): 1984, RA 2012 / APHA 23 <sup>rd</sup> Ed., 4500-H+ B : 2017	6.20	6.5-8.5	No Relaxation
5.	Total Hardness (mg./l)	APHA 23 <sup>rd</sup> Ed., 2340 C : 2017 / IS 3025 (Part 21): 2009, RA 2014	122.0	200.0	600.0
6.	Calcium (mg./l)	IS 3025 (Part 40): 1991, RA 2014 ; APHA 23 <sup>rd</sup> Ed., 3500 Ca-B : 2017	36.0	75.0	200.0
7.	Magnesium (mg./l)	IS 3025 (Part 46): 1994, RA 2014/ APHA 23 <sup>rd</sup> Ed., 3500 Mg B : 2017	7.68	30.0	100.0
8.	Chloride (mg./l)	IS 3025 (Part 32): 1988, RA 2014 ; APHA 23 <sup>rd</sup> Ed., 4500 Cl -B/D : 2017	48.35	250.0	1000.0
9.	Iron (mg/l)	IS 3025(Part 53): 2003, RA 2014 / APHA 23 <sup>rd</sup> Ed., 3111B : 2017	0.62	0.3	No Relaxation
10.	Arsenic (mg./l)	IS 3025 (Part 37): 1988, RA 2014 / APHA 23 <sup>rd</sup> Ed., 3114 B: 2017	<0.01	0.01	0.05
11.	Cadmium (mg./l)	IS 3025 (Part 41): 1992, RA 2014 / APHA 23 <sup>rd</sup> Ed., 3111 B : 2017	<0.002	0.003	No Relaxation
12.	Total Chromium (mg./l)	IS 3025 (Part 52): 2003, RA 2014 / APHA 23 <sup>rd</sup> Ed., 3111- Cr- B : 2017	<0.02	0.05	No Relaxation
13.	Copper (mg./l)	IS 3025 (Part 42): 1992, RA 2014 / APHA 23 <sup>rd</sup> Ed., 3111B: 2017	<0.04	0.05	1.5
14.	Cyanide (mg./l)	APHA 23 <sup>rd</sup> Ed., D/E/F : 2017 ; IS 3025 (Part 27): 1986, RA 2014	<0.01	0.05	No Relaxation
15.	Lead (mg./l)	IS 3025 (Part 47): 1994, RA 2014 / APHA 23 <sup>rd</sup> Ed., 3111B : 2017	<0.005	0.01	No Relaxation
16.	Mercury(mg./l)	IS 3025 (Part 48): 1994, RA 2009 / APHA 23 <sup>rd</sup> Ed., 3112 B : 2017	<0.001	0.001	No Relaxation
17.	Nitrate (mg./l)	IS 3025 (Part 34): 1988, RA 2014 / APHA 23 <sup>rd</sup> Ed., 4500 NO <sub>3</sub> - E : 2017	4.50	45.0	No Relaxation
18.	Total Dissolved Solids (mg/l)	IS 3025(Part 16): 1984, RA 2014	228.0	500.0	2000.0
19.	Phenolic Compounds as Phenol (mg./l)	IS 3025 (Part 43): 1992, RA 2014 / APHA 23 <sup>rd</sup> Ed., 5530 C : 2017	<0.001	0.001	0.002

Continue from next page.....

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20.	Zinc as Zn (mg./l)	IS 3025 (Part 49): 1994, RA 2014 / APHA 23rd Ed., 3111B : 2017	0.90	5.0	15.0
21.	Sulphate (mg./l)	IS 3025 (Part 24): 1986, RA 2014 / APHA 23rd Ed., 4500-SO <sub>4</sub> <sup>2-</sup> E: 2017	65.0	200.0	400.0
22.	Turbidity (NTU)	IS 3025 (Part 10): 1984, RA 2012 / APHA 23rd Ed., 2130 B : 2017	<1.0	1.0	5.0
23.	Residual Free Chlorine (mg./l)	IS 3025 (Part 26): 1986, RA 2014 / APHA 23rd Ed., 4500 - Cl - B : 2017	<0.1	0.2	1.0
24.	Fluoride (mg./l)	IS 3025 (Part 60): 2008, RA 2013 / APHA 23rd Ed., 4500 F - D : 2017	<0.1	1.0	1.5
25.	Manganese (mg./l)	IS 3025 (Part 59): 2006, RA 2012 / APHA 23rd Ed., 3111B : 2017	<0.05	0.1	0.3
26.	Sulfide (mg./l)	IS 3025 (Part 29): 1986, RA 2014 / APHA 23rd Ed., 2017, 4500-S <sub>2</sub> - D	<0.01	0.05	No Relaxation
27.	Nickel (mg./l)	IS 3025 (Part 54): 2003, RA 2014	<0.01	0.5	1.0
28.	Conductivity (µs/cm)	APHA 23rd Ed., 2510-B : 2017	350.0	--	--
29.	Total Alkalinity (mg./l)	IS 3025 (Part 23): 1986, RA 2014 / APHA 23rd Ed., 2320 B: 2017	74.0	200.0	600.0
30.	Aluminium (mg./l)	IS 15302: 2003, RA 2014 / APHA 23rd Ed., 3500-Al B : 2017	<0.02	0.03	0.2
31.	Boron (mg./l)	IS 13428: 2005, RA 2014, Annex H / APHA 23rd Ed., 4500 -B-C : 2017	<0.1	0.5	1.0
32.	Hexavalent Chromium (mg./l)	APHA 23rd Ed., 3500- Cr- B : 2017	<0.1	--	--
33.	Total Coliform (C.F.U/100ml.)	9222B, APHA 23rd Ed., 2017	Absent	Shall not be detectable in any 100 ml sample	--
34.	E. Coli (C.F.U/100 ml.)	9222I, APHA 23rd Ed., 2017	Absent	Shall not be detectable in any 100 ml sample	--

\*CFU Indicates Colony Forming Unit.

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## EFFLUENT WATER ANALYSIS REPORT

1.	Name of the Industry	: Hindusthan Petroleum Corporation Ltd.
2.	Address	: Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. - Kota, Dist. - East Burdwan, Pin - 713148
3.	Report No.	: Env/34/E/Dec.(i)/18-19
4.	Date of sampling	: 21.12.2018
5.	Date of Analysis	: 22.12.2018 - 27.12.2018
6.	Reporting date	: 28.12.2018
7.	Type of sample	: Industrial Effluent Water (Grab)
8.	Location of sample	: E.T.P No.1 - Inlet
9.	Collection & Preservation of sample	: APHA 23 <sup>rd</sup> Ed., 1060 : 2017
10.	Sample collected in presence of	: Company Representative

PARAMETERS	TEST METHODS	RESULTS	LIMIT*
1. pH	APHA 23 <sup>rd</sup> Ed., 4500-H+B : 2017	: 6.89	5.5-9.0
2. Total Suspended Solids (mg./l)	APHA 23 <sup>rd</sup> Ed., 2540 D : 2017	: 85.0	100.0
3. Oil and Grease (mg./l)	APHA 23 <sup>rd</sup> Ed., 5520 B/D : 2017	: 12.5	10.0
4. COD (mg./l)	APHA 23 <sup>rd</sup> Ed., 5220 B/C/D : 2017	: 300.08	250.0
5. BOD [3 days, 27°C] (mg./l)	APHA 23 <sup>rd</sup> Ed., 5210-B : 2017	: 82.0	30.0

\*Result shows that except pH and TSS value all other parameters are beyond limit as per Schedule VI (sub-section 1, rule 2(d) of the Environment (Protection) Second Amendment Rules, 1993 notified vide G.S.R. 422(E) dated 19.05.1993, published in the Gazette No. 174 dated 19.05.1993

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2. Address : Panagarh LPG Bottling Plant, Plot No. B-4,  
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East Burdwan, Pin - 713148
3. Report No. : Env/34/E/Dec.(ii)/18-19
4. Date of sampling : 21.12.2018
5. Date of Analysis : 22.12.2018 - 27.12.2018
6. Reporting date : 28.12.2018
7. Type of sample : Industrial Effluent Water (Grab)
8. Location of sample : E.T.P No.1 - Outlet
9. Collection & Preservation of sample : APHA 23<sup>rd</sup> Ed., 1060 : 2017
10. Sample collected in presence of : Company Representative

PARAMETERS	TEST METHODS	RESULTS	LIMIT*
1. pH	APHA 23 <sup>rd</sup> Ed., 4500-H*B : 2017	: 7.16	5.5-9.0
2. Total Suspended Solids (mg./l)	APHA 23 <sup>rd</sup> Ed., 2540 D : 2017	: 25.0	100.0
3. Oil and Grease (mg./l)	APHA 23 <sup>rd</sup> Ed., 5520 B/D : 2017	: 5.0	10.0
4. COD (mg./l)	APHA 23 <sup>rd</sup> Ed., 5220 B/C/D : 2017	: 67.76	250.0
5. BOD [3 days, 27°C] (mg./l)	APHA 23 <sup>rd</sup> Ed., 5210-B : 2017	: 25.0	30.0

\*Result shows that all parameters are within limit as per Schedule VI inserted by Rule 2(d) of the Environment (Protection) Second Amendment Rules, 1993 notified vide G.S.R. 422(E) dated 19.05.1993, published in the Gazette No. 174 dated 19.05.1993

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3. Report No.	: Env/34/E/Dec.(iii)/18-19
4. Date of sampling	: 21.12.2018
5. Date of Analysis	: 22.12.2018 - 27.12.2018
6. Reporting date	: 28.12.2018
7. Type of sample	: Industrial Effluent Water (Grab)
8. Location of sample	: E.T.P No.2 - Inlet
9. Collection & Preservation of sample	: APHA 23 <sup>rd</sup> Ed., 1060 : 2017
10. Sample collected in presence of	: Company Representative

PARAMETERS	TEST METHODS	RESULTS	LIMIT*
1. pH	APHA 23 <sup>rd</sup> Ed., 4500-H+B : 2017	: 6.29	5.5-9.0
2. Total Suspended Solids (mg./l)	APHA 23 <sup>rd</sup> Ed., 2540 D : 2017	: 65.0	100.0
3. Oil and Grease (mg./l)	APHA 23 <sup>rd</sup> Ed., 5520 B/D : 2017	: 8.5	10.0
4. COD (mg./l)	APHA 23 <sup>rd</sup> Ed., 5220 B/C/D : 2017	: 212.96	250.0
5. BOD [3 days, 27°C] (mg./l)	APHA 23 <sup>rd</sup> Ed., 5210-B : 2017	: 60.0	30.0

\*Result shows that except pH and TSS value all other parameters are beyond limit as per Schedule VI inserted by Rule 2(d) of the Environment (Protection) Second Amendment Rules, 1993 notified vide G.S.R. 422(E) dated 19.05.1993, published in the Gazette No. 174 dated 19.05.1993

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## EFFLUENT WATER ANALYSIS REPORT

1. Name of the Industry	: Hindusthan Petroleum Corporation Ltd.
2. Address	: Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. - Kota, Dist. - East Burdwan, Pin - 713148
3. Report No.	: Env/34/E/Dec.(iv)/18-19
4. Date of sampling	: 21.12.2018
5. Date of Analysis	: 22.12.2018 - 27.12.2018
6. Reporting date	: 28.12.2018
7. Type of sample	: Industrial Effluent Water (Grab)
8. Location of sample	: E.T.P No.2 - Outlet
9. Collection & Preservation of sample	: APHA 23 <sup>rd</sup> Ed., 1060 : 2017
10. Sample collected in presence of	: Company Representative

PARAMETERS	TEST METHODS	RESULTS	LIMIT*
1. pH	APHA 23 <sup>rd</sup> Ed., 4500-H*B : 2017	: 7.12	5.5-9.0
2. Total Suspended Solids (mg./l)	APHA 23 <sup>rd</sup> Ed., 2540 D : 2017	: 20.0	100.0
3. Oil and Grease (mg./l)	APHA 23 <sup>rd</sup> Ed., 5520 B/D : 2017	: 2.5	10.0
4. COD (mg./l)	APHA 23 <sup>rd</sup> Ed., 5220 B/C/D : 2017	: 38.72	250.0
5. BOD [3 days, 27°C] (mg./l)	APHA 23 <sup>rd</sup> Ed., 5210-B : 2017	: 12.0	30.0

\*Result shows that all parameters are within limit as per Schedule VI Inserted by Rule 2(d) of the Environment (Protection) Second Amendment Rules, 1993 notified vide G.S.R. 422(E) dated 19.05.1993, published in the Gazette No. 174 dated 19.05.1993

Authorised Signatory :

Dr. SUMIT CHOWDHURY  
Technical Manager

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## NOISE LEVEL STUDY

I. Name of the Industry/Factory/Company	: Hindustan Petroleum Corporation Limited
II. Address	: (Panagarh LPG Bottling Plant) Plot No. B-4, Panagarh, Industrial Park, Vill. - Kota, District - East Burdwan, Pin - 713148
III. Date of Sampling	: 21/12/2018
IV. Reporting Date	: 28/12/2018
V. Report No	: 12/EC/Dec/TR(N)/18-19
VI. Method No	: IS: 9989 - 1981
VII. Time of Duration of Noise	: 20 Minutes
VIII. Height from Ground Level	: 4 feet
IX. Type of Industry	: Panagarh LPG Bottling Plant

### RESULT OF NOISE LEVEL STUDY

DAY TIME			
1. Location of Study : Filling Shed			
Time (A.M)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
10:00 - 10:20	73.9	75.7	74.84
DAY TIME			
2. Location of Study : Storage Shed			
Time (A.M)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
10:30 - 10:50	72.5	74.8	73.10
DAY TIME			
3. Location of Study : Valve Changing Shed			
Time (A.M)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
11:00 - 11:20	73.2	75.6	74.56
DAY TIME			
4. Location of Study : Near Admin Building			
Time (A.M)	Minimum dB(A)	Maximum dB(A)	Leq dB(A)
11:30 - 11:50	52.7	57.7	55.40

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<b>** Mean of <math>L_{eq}</math> - Equivalent to Sound Energy</b>		
<b>Limit in <math>L_{eq}</math> dB(A)</b>		
<b>Category Area</b>	<b>Day Time dB(A)</b>	<b>Night Time dB(A)</b>
A. Industrial Area	75	70
B. Commercial Area	65	55
C. Residential Area	55	45
D. Silence Zone	50	40
<b>**Day Time is reckoned in between 6:00 A.M &amp; 10:00 P.M</b>		<b>**Night Time is reckoned in between 10:00 P.M &amp; 6:00 A.M</b>
<b>(Central Pollution Control Board, Ministry of Environment &amp; Forests Government of India) &amp; (Department of Environment, Government of West Bengal)</b>		
<b>PERMISSIBLE NOISE EXPOSURE FOR INDUSTRIAL WORKERS</b>		
<b>Hours</b>	<b>Limit in dB(A)</b>	
8	90	
4	93	
2	96	
1	99	
1/2	102	
1/4	105	
1/8	108	
1/16	111	
1/32	114	
(2 minutes or less)	-	

Date: 28/12/2018

Authorized Signatory with Stamp



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## STACK GAS ANALYSIS REPORT

1. Name of the Industry	: Hindusthan Petroleum Corporation Ltd.
2. Address	: Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. - Kota, Dist. - Burdwan, Pin - 713148
3. Date of sampling	: 21.12.2018
4. Report No.	: 57/EC/Dec./TR(A)/II/18-19
5. Analysis completed on	: 24.12.2018
6. Reporting Date	: 28.12.2018

### A. GENERAL INFORMATION ABOUT STACK

1. Stack attached to	: D. G. - 250 KVA		
2. Shape of Stack	: Circular		
3. Material of Construction	: M.S.		
4. Height of Stack from G. L. (mtr.)	: 12.19		
5. Stack I.D. at sampling point (mtr.)	: 0.1524		
6. Height of sampling port from G. L. (mtr.)	: 7.92		
7. Emission due to	: Combustion of H.S.D		
(a) Type of Fuel Used	: H.S.D	(b) Fuel Consumption	: 24 liter./hr.
Cal-Value (K-Cal/kg.) - 10800	Ash Content (% by Wt.) - 0.01	Sulphur Content (% by Wt.) - 0.2	
8.(a) Permanent ladder & platform	No	(b) Pollution Control Device	: Nil

### B. RESULTS OF SAMPLING

SL. NO.	PARAMETERS	METHOD NO.	RESULTS	LIMIT*
1.	Flue Gas Temperature (°C)	IS : 11255 (Part 1)	: 197.0	N.A.
2.	Barometric Pressure (mm of Hg.)	--	: 760.0	N.A.
3.	Velocity of Gas flow (m/s)	IS : 11255 (Part 3)	: 14.15	N.A.
4.	Quantity of Gas flow (Nm <sup>3</sup> /hr.)	IS : 11255 (Part III)	: 587.45	N.A.
5.	Concentration of SO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 2) 1985 RA 2003	: 27.05	N.A.
6.	Concentration of CO <sub>2</sub> % (v/v)	IS 13270 1992 RA 2003	: 7.4	N.A.
7.	Concentration of CO % (v/v)	IS 13270 1992 RA 2003	: <1.0	1.0
8.	Concentration of Particulate Matter (mg/Nm <sup>3</sup> )	IS 11255 (Part - 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11(Vol3 11.07) : 2011	: 29.34	150.0

Remarks : All the information under column A are supplied by the respective industry.  
 : During monitoring temporary ladder and platform were provided.

\*Result shows that concentration of Particulate Matter and CO value are within limit as per CPCB [Emission Regulation Part IV: COINDS/26/1986-87]

\*\*N.A. means Not Available in CPCB [Emission regulation Part IV: COINDS/26/1986-87]

Date : 28.12.2018

Authorised Signatory :

*Dr. Sumit Chowdhury*  
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 Technical Manager

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## STACK GAS ANALYSIS REPORT

1. Name of the Industry	: Hindusthan Petroleum Corporation Ltd.
2. Address	: Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. - Kota, Dist. - Burdwan, Pin - 713148
3. Date of sampling	: 21.12.2018
4. Report No.	: 57/EC/Dec./TR(A)/I/18-19
5. Analysis completed on	: 24.12.2018
6. Reporting Date	: 28.12.2018

### A. GENERAL INFORMATION ABOUT STACK

1. Stack attached to	: D. G. - 750 KVA
2. Shape of Stack	: Circular
3. Material of Construction	: M.S.
4. Height of Stack from G. L. (mtr.)	: 12.19
5. Stack I.D. at sampling point (mtr.)	: 0.1524
6. Height of sampling port from G. L. (mtr.)	: 7.92
7. Emission due to	: Combustion of H.S.D
(a) Type of Fuel Used	: H.S.D
(b) Fuel Consumption	: 50 liter./hr.
Cal-Value (K-Cal/kg.) - 10800	Ash Content (% by Wt.) - 0.01
	Sulphur Content (% by Wt.) - 0.2
8(a) Permanent ladder & platform	: No
(b) Pollution Control Device	: Nil

### B. RESULTS OF SAMPLING

SL. NO.	PARAMETERS	METHOD NO.	RESULTS	LIMIT*
1.	Flue Gas Temperature (°C)	IS : 11255 (Part 1)	: 318.0	N.A.
2.	Barometric Pressure (mm of Hg.)	--	: 760.0	N.A.
3.	Velocity of Gas flow (m/s)	IS : 11255 (Part 3)	: 15.90	N.A.
4.	Quantity of Gas flow (Nm <sup>3</sup> /hr.)	IS : 11255 (Part III)	: 524.86	N.A.
5.	Concentration of SO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 2) 1985 RA 2003	: 56.25	N.A.
6.	Concentration of CO <sub>2</sub> % (v/v)	IS 13270 1992 RA 2003	: 6.6	N.A.
7.	Concentration of CO % (v/v)	IS 13270 1992 RA 2003	: <1.0	1.0
8.	Concentration of Particulate Matter (mg/Nm <sup>3</sup> )	IS 11255 (Part - 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11(Vol3 11.07) : 2011	: 62.47	150.0

Remarks : All the information under column A are supplied by the respective industry.  
 : During monitoring temporary ladder and platform were provided.

\*Result shows that concentration of Particulate Matter and CO value are within limit as per CPCB [Emission Regulation Part IV : COINDS/26/1986-87]

\*\*N.A. means Not Available in CPCB [Emission regulation Part IV: COINDS/26/1986-87]

Date : 28.12.2018

Authorised Signatory :

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## STACK GAS ANALYSIS REPORT

1. Name of the Industry	: Hindusthan Petroleum Corporation Ltd.
2. Address	: Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. - Kota, Dist. - Burdwan, Pin - 713148
3. Date of sampling	: 21.12.2018
4. Report No.	: 57/EC/Dec./TR(A)/III/18-19
5. Analysis completed on	: 24.12.2018
6. Reporting Date	: 28.12.2018

### A. GENERAL INFORMATION ABOUT STACK

1. Stack attached to	: Fire Fighting Engine (No.1) (Kirloskar Make)		
2. Shape of Stack	: Circular		
3. Material of Construction	: M.S.		
4. Height of Stack from G. L. (mtr.)	: 10.36		
5. Stack I.D. at sampling point (mtr.)	: 0.1015		
6. Height of sampling port from G. L. (mtr.)	: 3.65		
7. Capacity	: 410 KL/hr.		
8. Emission due to	: Combustion of H.S.D		
(a) Type of Fuel Used	: H.S.D		
(b) Fuel Consumption	: 35 liter./hr.		
Cal-Value (K-Cal/kg.) - 10800	Ash Content (% by Wt.) - 0.01	Sulphur Content (% by Wt.) - 0.2	
9.(a) Permanent ladder & platform	: No	(b) Pollution Control Device	: Nil

### B. RESULTS OF SAMPLING

SL. NO.	PARAMETERS	METHOD NO.	RESULTS	LIMIT*
1.	Flue Gas Temperature (°C)	IS : 11255 (Part 1)	: 157.0	N.A.
2.	Barometric Pressure (mm of Hg.)	--	: 760.0	N.A.
3.	Velocity of Gas flow (m/s)	IS : 11255 (Part 3)	: 12.13	N.A.
4.	Quantity of Gas flow (Nm <sup>3</sup> /hr.)	IS : 11255 (Part III)	: 241.94	N.A.
5.	Concentration of SO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 2) 1985 RA 2003	: 41.48	N.A.
6.	Concentration of CO <sub>2</sub> % (v/v)	IS 13270 1992 RA 2003	: 6.8	N.A.
7.	Concentration of CO % (v/v)	IS 13270 1992 RA 2003	: <1.0	1.0
8.	Concentration of Particulate Matter (mg/Nm <sup>3</sup> )	IS 11255 (Part - 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11(Vol3 11.07) : 2011	: 49.48	150.0

Remarks : All the information under column A are supplied by the respective industry.  
 : During monitoring temporary ladder and platform were provided.

\*Result shows that concentration of Particulate Matter and CO value are within limit as per CPCB [Emission Regulation Part IV : COINDS/26/1986-87]  
 \*\*N.A. means Not Available In CPCB [Emission regulation Part IV: COINDS/26/1986-87]

Date : 28.12.2018

Authorised Signatory :

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## STACK GAS ANALYSIS REPORT

1. Name of the Industry	: Hindusthan Petroleum Corporation Ltd.
2. Address	: Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. - Kota, Dist. - Burdwan, Pin - 713148
3. Date of sampling	: 21.12.2018
4. Report No.	: 57/EC/Dec./TR(A)/IV/18-19
5. Analysis completed on	: 24.12.2018
6. Reporting Date	: 28.12.2018

### A. GENERAL INFORMATION ABOUT STACK

1. Stack attached to	: Fire Fighting Engine (No.2) (Kirloskar Make)
2. Shape of Stack	: Circular
3. Material of Construction	: M.S.
4. Height of Stack from G. L. (mtr.)	: 10.36
5. Stack I.D. at sampling point (mtr.)	: 0.1015
6. Height of sampling port from G. L. (mtr.)	: 3.65
7. Capacity	: 410 KL/hr.
8. Emission due to	: Combustion of H.S.D
(a) Type of Fuel Used	: H.S.D
(b) Fuel Consumption	: 35 liter./hr.
Cal-Value (K-Cal/kg.) - 10800	Ash Content (% by Wt.) - 0.01
	Sulphur Content (% by Wt.) - 0.2
9.(a) Permanent ladder & platform	: No
(b) Pollution Control Device	: Nil

### B. RESULTS OF SAMPLING

SL. NO.	PARAMETERS	METHOD NO.	RESULTS	LIMIT*
1.	Flue Gas Temperature (°C)	IS : 11255 (Part 1)	: 148.0	N.A.
2.	Barometric Pressure (mm of Hg.)	--	: 760.0	N.A.
3.	Velocity of Gas flow (m/s)	IS : 11255 (Part 3)	: 11.99	N.A.
4.	Quantity of Gas flow (Nm <sup>3</sup> /hr.)	IS : 11255 (Part III)	: 244.27	N.A.
5.	Concentration of SO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 2) 1985 RA 2003	: 40.93	N.A.
6.	Concentration of CO <sub>2</sub> % (v/v)	IS 13270 1992 RA 2003	: 7.0	N.A.
7.	Concentration of CO % (v/v)	IS 13270 1992 RA 2003	: <1.0	1.0
8.	Concentration of Particulate Matter (mg/Nm <sup>3</sup> )	IS 11255 (Part - 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11(Vol3 11.07) : 2011	: 53.79	150.0

Remarks : All the information under column A are supplied by the respective industry.  
 : During monitoring temporary ladder and platform were provided.

\*Result shows that concentration of Particulate Matter and CO value are within limit as per CPCB [Emission Regulation Part IV: COINDS/26/1986-87]  
 \*\*N.A. means Not Available in CPCB [Emission regulation Part IV: COINDS/26/1986-87]

Date : 28.12.2018

Authorised Signatory :

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## STACK GAS ANALYSIS REPORT

1. Name of the Industry : Hindusthan Petroleum Corporation Ltd.
2. Address : Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. - Kota, Dist. - East Burdwan, Pin - 713148
3. Date of sampling : 21.12.2018
4. Report No. : 57/EC/Dec./TR(A)/V/18-19
5. Analysis completed on : 24.12.2018
6. Reporting Date : 28.12.2018

### A. GENERAL INFORMATION ABOUT STACK

1. Stack attached to : Fire Fighting Engine (No.3) (Kirloskar Make)
2. Shape of Stack : Circular
3. Material of Construction : M.S.
4. Height of Stack from G. L. (mtr.) : 10.36
5. Stack I.D. at sampling point (mtr.) : 0.1015
6. Height of sampling port from G. L. (mtr.) : 3.65
7. Capacity : 410 KL/hr.
8. Emission due to : Combustion of H.S.D

(a) Type of Fuel Used : H.S.D (b) Fuel Consumption : 35 liter./hr.

Cal-Value (K-Cal/kg.) - 10800 Ash Content (% by Wt.) - 0.01 Sulphur Content (% by Wt.) - 0.2

9.(a) Permanent ladder & platform : No (b) Pollution Control Device : Nil

### B. RESULTS OF SAMPLING

SL. NO.	PARAMETERS	METHOD NO.	RESULTS	LIMIT*
1.	Flue Gas Temperature (°C)	IS : 11255 (Part 1)	: 143.0	N.A.
2.	Barometric Pressure (mm of Hg.)	--	: 760.0	N.A.
3.	Velocity of Gas flow (m/s)	IS : 11255 (Part 3)	: 11.92	N.A.
4.	Quantity of Gas flow (Nm <sup>3</sup> /hr.)	IS : 11255 (Part III)	: 245.81	N.A.
5.	Concentration of SO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 2) 1985 RA 2003	: 42.17	N.A.
6.	Concentration of CO <sub>2</sub> % (v/v)	IS 13270 1992 RA 2003	: 6.8	N.A.
7.	Concentration of CO % (v/v)	IS 13270 1992 RA 2003	: <1.0	1.0
8.	Concentration of Particulate Matter (mg/Nm <sup>3</sup> )	IS 11255 (Part - 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11(Vol3 11.07) : 2011	: 46.57	150.0

Remarks : All the information under column A are supplied by the respective industry.  
 : During monitoring temporary ladder and platform were provided.

\*Result shows that concentration of Particulate Matter and CO value are within limit as per CPCB [Emission Regulation Part IV : COINDS/26/1986-87]

\*\*N.A. means Not Available in CPCB [Emission regulation Part IV: COINDS/26/1986-87]

Date : 28.12.2018

Authorised Signatory :

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## STACK GAS ANALYSIS REPORT

1. Name of the Industry	: Hindusthan Petroleum Corporation Ltd.
2. Address	: Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. - Kota, Dist. - East Burdwan, Pin - 713148
3. Date of sampling	: 21.12.2018
4. Report No.	: 57/EC/Dec./TR(A)/VI/18-19
5. Analysis completed on	: 24.12.2018
6. Reporting Date	: 28.12.2018

### A. GENERAL INFORMATION ABOUT STACK

1. Stack attached to	: Fire Fighting Engine (No.4) (Kirloskar Make)
2. Shape of Stack	: Circular
3. Material of Construction	: M.S.
4. Height of Stack from G. L. (mtr.)	: 10.36
5. Stack I.D. at sampling point (mtr.)	: 0.1015
6. Height of sampling port from G. L. (mtr.)	: 3.65
7. Capacity	: 410 KL/hr.
8. Emission due to	: Combustion of H.S.D

(a) Type of Fuel Used	: H.S.D	(b) Fuel Consumption	: 35 liter./hr.
Cal-Value (K-Cal/kg.) - 10800	Ash Content (% by Wt.) - 0.01	Sulphur Content (% by Wt.) - 0.2	
9.(a) Permanent ladder & platform	No	(b) Pollution Control Device	Nil

### B. RESULTS OF SAMPLING

SL. NO.	PARAMETERS	METHOD NO.	RESULTS	LIMIT*
1.	Flue Gas Temperature (°C)	IS : 11255 (Part 1)	: 147.0	N.A.
2.	Barometric Pressure (mm of Hg.)	--	: 760.0	N.A.
3.	Velocity of Gas flow (m/s)	IS : 11255 (Part 3)	: 13.39	N.A.
4.	Quantity of Gas flow (Nm <sup>3</sup> /hr.)	IS : 11255 (Part III)	: 273.44	N.A.
5.	Concentration of SO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 2) 1985 RA 2003	: 37.68	N.A.
6.	Concentration of CO <sub>2</sub> % (v/v)	IS 13270 1992 RA 2003	: 7.0	N.A.
7.	Concentration of CO % (v/v)	IS 13270 1992 RA 2003	: <1.0	1.0
8.	Concentration of Particulate Matter (mg/Nm <sup>3</sup> )	IS 11255 (Part - 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11(Vol3 11.07) : 2011	: 27.20	150.0

Remarks : All the information under column A are supplied by the respective industry.  
 : During monitoring temporary ladder and platform were provided.

\*Result shows that concentration of Particulate Matter and CO value are within limit as per CPCB [Emission Regulation Part IV : COINDS/26/1986-87]

\*\*N.A. means Not Available in CPCB [Emission regulation Part IV: COINDS/26/1986-87]

Date : 28.12.2018

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# ENVIROCHECK

Recognised by MoEF&CC, WBPCB, JSPCB & OSPCB  
 Accredited by NABL (ISO/IEC 17025:2005)  
 Certified by ISO 9001:2008, ISO 14001 : 2015 & OHSAS 18001:2007



## STACK GAS ANALYSIS REPORT

1. Name of the Industry	: Hindusthan Petroleum Corporation Ltd.
2. Address	: Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. - Kota, Dist. - East Burdwan, Pin - 713148
3. Date of sampling	: 21.12.2018
4. Report No.	: 57/EC/Dec./TR(A)/VII/18-19
5. Analysis completed on	: 24.12.2018
6. Reporting Date	: 28.12.2018

### A. GENERAL INFORMATION ABOUT STACK

1. Stack attached to	: Fire Fighting Engine (No.5) (Kirloskar Make)
2. Shape of Stack	: Circular
3. Material of Construction	: M.S.
4. Height of Stack from G. L. (mtr.)	: 10.36
5. Stack I.D. at sampling point (mtr.)	: 0.1015
6. Height of sampling port from G. L. (mtr.)	: 3.65
7. Capacity	: 410 KL/hr.
8. Emission due to	: Combustion of H.S.D

(a) Type of Fuel Used : H.S.D (b) Fuel Consumption : 35 liter./hr.

Cal-Value (K-Cal/kg.) - 10800 Ash Content (% by Wt.) - 0.01 Sulphur Content (% by Wt.) - 0.2

9.(a) Permanent ladder & platform : No (b) Pollution Control Device : Nil

### B. RESULTS OF SAMPLING

SL. NO.	PARAMETERS	METHOD NO.	RESULTS	LIMIT*
1.	Flue Gas Temperature (°C)	IS : 11255 (Part 1)	: 151.0	N.A.
2.	Barometric Pressure (mm of Hg.)	--	: 760.0	N.A.
3.	Velocity of Gas flow (m/s)	IS : 11255 (Part 3)	: 12.04	N.A.
4.	Quantity of Gas flow (Nm <sup>3</sup> /hr.)	IS : 11255 (Part III)	: 243.54	N.A.
5.	Concentration of SO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 2) 1985 RA 2003	: 37.21	N.A.
6.	Concentration of CO <sub>2</sub> % (v/v)	IS 13270 1992 RA 2003	: 6.8	N.A.
7.	Concentration of CO % (v/v)	IS 13270 1992 RA 2003	: <1.0	1.0
8.	Concentration of Particulate Matter (mg/Nm <sup>3</sup> )	IS 11255 (Part - 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11(Vol3 11.07) : 2011	: 43.69	150.0

Remarks : All the information under column A are supplied by the respective industry.  
 : During monitoring temporary ladder and platform were provided.

\*Result shows that concentration of Particulate Matter and CO value are within limit as per CPCB [Emission Regulation Part IV: COINDS/26/1986-87]

\*\*N.A. means Not Available in CPCB [Emission regulation Part IV: COINDS/26/1986-87]

Date : 28.12.2018

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## STACK GAS ANALYSIS REPORT

1. Name of the Industry	: Hindusthan Petroleum Corporation Ltd.
2. Address	: Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. - Kota, Dist. - Ghat Burdwan, Pin - 713148
3. Date of sampling	: 21.12.2018
4. Report No.	: 57/EC/Dec./TR(A)/VIII/18-19
5. Analysis completed on	: 24.12.2018
6. Reporting Date	: 28.12.2018

### A. GENERAL INFORMATION ABOUT STACK

1. Stack attached to	: Fire Fighting Engine (No.6) (Kirloskar Make)		
2. Shape of Stack	: Circular		
3. Material of Construction	: M.S.		
4. Height of Stack from G. L. (mtr.)	: 10.36		
5. Stack I.D. at sampling point (mtr.)	: 0.1015		
6. Height of sampling port from G. L. (mtr.)	: 3.65		
7. Capacity	: 410 KL/hr.		
8. Emission due to	: Combustion of H.S.D		
(a) Type of Fuel Used	: H.S.D		
(b) Fuel Consumption	: 35 liter./hr.		
Cal-Value (K-Cal/kg.) - 10800	Ash Content (% by Wt.) - 0.01	Sulphur Content (% by Wt.) - 0.2	
9.(a) Permanent ladder & platform	No	(b) Pollution Control Device	: Nil

### B. RESULTS OF SAMPLING

SL. NO.	PARAMETERS	METHOD NO.	RESULTS	LIMIT*
1.	Flue Gas Temperature (°C)	IS : 11255 (Part 1)	: 137.0	N.A.
2.	Barometric Pressure (mm of Hg.)	--	: 760.0	N.A.
3.	Velocity of Gas flow (m/s)	IS : 11255 (Part 3)	: 11.85	N.A.
4.	Quantity of Gas flow (Nm <sup>3</sup> /hr.)	IS : 11255 (Part III)	: 247.89	N.A.
5.	Concentration of SO <sub>2</sub> (mg/Nm <sup>3</sup> )	IS 11255 (Part 2) 1985 RA 2003	: 43.41	N.A.
6.	Concentration of CO <sub>2</sub> % (v/v)	IS 13270 1992 RA 2003	: 6.6	N.A.
7.	Concentration of CO % (v/v)	IS 13270 1992 RA 2003	: <1.0	1.0
8.	Concentration of Particulate Matter (mg/Nm <sup>3</sup> )	IS 11255 (Part - 1) 1985 RA 2003 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec 11(Vol3 11.07) : 2011	: 41.42	150.0

Remarks : All the information under column A are supplied by the respective industry.  
 : During monitoring temporary ladder and platform were provided.

\*Result shows that concentration of Particulate Matter and CO value are within limit as per CPCB [Emission Regulation Part IV: COINDS/26/1986-87]  
 \*\*N.A. means Not Available In CPCB [Emission regulation Part IV: COINDS/26/1986-87]

Date : 28.12.2018

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## WORK ZONE (FUGITIVE) AIR ANALYSIS REPORT

- |                          |   |   |
|--------------------------|---|---|
| 1. Name of the Industry  | : | Hindusthan Petroleum Corporation Ltd.   |
| 2. Address               | : | Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. – Kota, Dist. – East Burdwan, Pin - 713148 |
| 3. Date of sampling      | : | 21.12.2018 – 22.12.2018   |
| 4. Report No.            | : | 57/EC/Dec./TR(A)/XII/18-19  |
| 5. Analysis completed on | : | 24.12.2018  |
| 6. Reporting Date        | : | 28.12.2018  |
| 7. Particular of Plant   | : | L.P.G Bottling Plant  |

### A] GENERAL INFORMATION

- |                         |   |                                   |
|-------------------------|---|-----------------------------------|
| 1. Location of Sampling | : | Valve Changing Shed               |
| 2. Duration of Sampling | : | 24 hrs. (10:20 a.m. – 10:20 a.m.) |

### B] METEOROLOGICAL INFORMATION

- |                                   |   |                     |
|-----------------------------------|---|---------------------|
| 1. Average Temperature (°C)       | : | 20.0                |
| 2. Average Relative Humidity (%)  | : | 56.2                |
| 3. Barometric Pressure (mm of Hg) | : | 760.0               |
| 4. Smell or Odour                 | : | No Remarkable Smell |
| 5. Weather Condition              | : | Clear sky           |

### C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.	RESULTS	LIMIT*
1.	Concentration of SPM ( $\mu\text{g}/\text{m}^3$ )	NIOSH 0500 : 1994	: 241.63	5000.0
2.	Concentration of *RPM ( $\mu\text{g}/\text{m}^3$ )	IS 5182 (PART 23) : 2006	: 110.45	N.A.
3.	Concentration of *SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	: 7.22	N.A.
4.	Concentration of *NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	: 26.83	N.A.
5.	*Hydrocarbon (ppm)	IS 5182 (Part XVII) 1979, RA 2003	: 3.0	N.A.
6.	*Volatile Organic Carbon ( $\mu\text{g}/\text{m}^3$ )	USEPA Method 18, 1996	: 1.80	N.A.

\*Result shows that SPM value is within limit as per The Factory Act - 1949

\*\*N.A. means Not Available in The Factory Act - 1949

Note : The ( \* ) marked parameters are not in NABL scope.

Date : 28.12.2018

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## WORK ZONE (FUGITIVE) AIR ANALYSIS REPORT

1. Name of the Industry : Hindusthan Petroleum Corporation Ltd.
2. Address : Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. - Kota, Dist. - West Burdwan, Pin - 713148
3. Date of sampling : 21.12.2018
4. Report No. : 57/EC/Dec./TR(A)/XIII/18-19
5. Analysis completed on : 24.12.2018
6. Reporting Date : 28.12.2018
7. Particular of Plant : L.P.G Bottling Plant

### A] GENERAL INFORMATION

1. Location of Sampling : Cylinder Storage Shed
2. Duration of Sampling : 08 hrs. (10:40 a.m. - 06:40 a.m.)

### B] METEOROLOGICAL INFORMATION

1. Average Temperature (°C) : 22.0
2. Average Relative Humidity (%) : 57.0
3. Barometric Pressure (mm of Hg) : 760.0
4. Smell or Odour : No Remarkable Smell

### C] RESULTS

SL. NO.	PARAMETERS	METHOD NO.	RESULTS	LIMIT*
1.	Concentration of SPM ( $\mu\text{g}/\text{m}^3$ )	NIOSH 0500 : 1994	: 241.28	5000.0
2.	Concentration of *RPM ( $\mu\text{g}/\text{m}^3$ )	IS 5182 (PART 23) : 2006	: 104.75	N.A.
3.	Concentration of *SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	: 6.56	N.A.
4.	Concentration of *NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	: 25.03	N.A.
5.	*Hydrocarbon (ppm)	IS 5182 (Part XVII) 1979, RA 2003	: 4.80	N.A.
6.	*Volatile Organic Carbon ( $\mu\text{g}/\text{m}^3$ )	USEPA Method 18, 1996	: 2.60	N.A.

\*Result shows that SPM value is within limit as per The Factory Act - 1949

\*\*N.A. means Not Available in The Factory Act - 1949

Note : The (\*) marked parameters are not in NABL scope.

Date : 28.12.2018

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## WORK ZONE (FUGITIVE) AIR ANALYSIS REPORT

1.	Name of the Industry	: Hindusthan Petroleum Corporation Ltd.
2.	Address	: Panagarh LPG Bottling Plant, Plot No. B-4, Panagarh Industrial Park, Vill. - Kota, Dist. - East Burdwan, Pin - 713148
3.	Date of sampling	: 21.12.2018
4.	Report No.	: 57/EC/Dec./TR(A)/XIV/18-19
5.	Analysis completed on	: 24.12.2018
6.	Reporting Date	: 28.12.2018
7.	Particular of Plant	: L.P.G Bottling Plant

### A) GENERAL INFORMATION

1.	Location of Sampling	: Filling Shed
2.	Duration of Sampling	: 08 hrs. (11:00 a.m. - 07:00 a.m.)

### B) METEOROLOGICAL INFORMATION

1.	Average Temperature (°C)	: 25.5
2.	Average Relative Humidity (%)	: 61.4
3.	Barometric Pressure (mm of Hg)	: 760.0
4.	Smell or Odour	: No Remarkable Smell

### C) RESULTS

SL. NO.	PARAMETERS	METHOD NO.	RESULTS	LIMIT*
1.	Concentration of SPM ( $\mu\text{g}/\text{m}^3$ )	NIOSH 0500 : 1994	: 210.54	5000.0
2.	Concentration of *RPM ( $\mu\text{g}/\text{m}^3$ )	IS 5182 (PART 23) : 2006	: 96.75	N.A.
3.	Concentration of *SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007 : Sec 11 (Vol. 11.07) : 2011	: 5.90	N.A.
4.	Concentration of *NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec 11 (Vol. 11.07) : 2011	: 23.90	N.A.
5.	*Hydrocarbon (ppm)	IS 5182 (Part XVII) 1979, RA 2003	: 4.5	N.A.
6.	*Volatile Organic Carbon ( $\mu\text{g}/\text{m}^3$ )	USEPA Method 18, 1996	: 3.2	N.A.

\*Result shows that SPM value is within limit as per The Factory Act - 1949

\*\*N.A. means Not Available in The Factory Act - 1949

Note : The ( \* ) marked parameters are not in NABL scope.

Date : 28.12.2018

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