

BEFORE THE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE,CHENNAI

Original Application No. 256 of 2020 (SZ)

IN THE MATTER OF

Tribunal on its own motion-SUOMOTU based on The News item in News Desk Magazine dated 11.11.2020, Air Pollution and Industries, "These Six Industries in North Chennai are polluting the air for more than half the year, the North Chennai Thermal Power station alone Ennore Port"

Union of India
Ministry of Environment, Forest and
Climate Change & 15 Others

....Respondents

PAPER BOOK II

**REPLY STATEMENT FILED ON BEHALF OF
MANALI PETROCHEMICALS LIMITED
15TH RESPONDENT**

**M/s AL. GANTHIMATHI
ADVOCATE FOR 15TH RESPONDENT**

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Dated at Chennai on this the 10th day of September 2022.

M. Aul.

Counsel for the 15th Respondent.

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ANNEXURE - 1A



CALIBRATION REPORT FOR GAS ANALYZERS S700

MANALI PETROCHEMICALS LIMITED, PLANT - MANALI, CHENNAI-600 068		Model: S710 -Multor			SICK INDIA PVT LTD		
Date: 06.04.2022		Equipment Number : 1. S710 (S.N.716598)			Done by : GURUVENKATESH R		
1. Model No: S 710 2. Plant/Service: MANALI PETROCHEMICAL LIMITED / PLANT-1 3. Instrument Tag No: AI 1101 (SO2) , AI 1103 (CO) & AI 1102 (NO)							
S.N.	Cylinder NO	Date of Expiry	Component	Cylinder Value (mg/m3)	Before Calibration Value	After Calibration Value	Remarks
1	22106	29/10/2022	SO2	11265.31mg/m3	11098 mg/m3	11279 mg/m3	calibrated
2	22106	29/10/2022	NO	1861.10 mg/m3	1901 mg/m3	1853 mg/m3	calibrated
3	22106	29/10/2022	CO	1029.90 mg/m3	1025 mg/m3	1031 mg/m3	calibrated

R. Gurusankar
(06/04/2022)
CR. (GURUVENKATESH)

DOC ID: SIPL_SER_SR_26
Rev. 0 Date 10.01.2020



“Calibration certificate for PM Analyzer”

Customer: Manali Petro Chemicals Limited, Plant - I

Model: DHSB- 30, T/R Serial No: 15478446.

Make: SICK.

Average Set Range: PM: 0 ~ 50 mg/m³

Location: Boiler Stack

Calibration Start Date /Time: 06.04.2022 ,11.15 AM

Calibration End Date /Time: 06.04.2022, 14.15 PM.

S.No	Parameter	Gravimetric Sampling Result	Analyzer Read	Time
1	Dust	6.2 mg/m ³	5.8 mg/m ³	11.15
2	Dust	4.2 mg/m ³	3.6 mg/m ³	12.15
3	Dust	8.1 mg/m ³	7.00 mg/m ³	13.15
	Average	6.1 mg/m³	5.4 mg/m³	

OLD CALIBRATION FACTOR:1 NEW CALIBRATION FACTOR:1

Note: Total 03 number gravimetric sample have been taken by MPL # PLANT -1 team and based on average reading 6.1 mg/m³ analyzer has been calibrated. Calibration valid for 6 months

NEXT CALIBRATION DUE:05.10.2022

Tested By , GURUVENKATESH R (SIPL_ South Zonal)

Mail id : guruvenkatesh.r@sick-india.in


 06/04/2022
 (R. GURUVENKATESH)

SICK INDIA PRIVATE LIMITED

Phone +91 22 6119 8900 • info@sick-india.com • www.sick-india.com • CIN : U32109MH2005PTC192559

Registered & Corporate Office : 215, Western Edge II, Western Express Highway, Borivali (East), Mumbai - 400 066 • India
 Ahmedabad • Bangalore • Chennai • Delhi • Kolkata • Mumbai • Pune

ANNEXURE - 1B



CALIBRATION REPORT FOR GAS ANALYZERS S700

SICK INDIA PRIVATE LIMITED
 Phone +91 22 6119 8000 • Fax +91 22 6119 8001
 Registered & Corporate Office: 75, Western Express Highway, Borivali (East), Mumbai - 400 066 - India
 CIN: U32109MH2005PTC192559
 www.sick-india.com • info@sick-india.com

MANALI PETROCHEMICALS LIMITED.		Model: S710 -Multor			SICK INDIA PVT LTD		
Date: 14.07.2022		Equipment Number : 1. S710 (S.N.716599)			Done by : Naveen.C		
Model No: S 710 Plant/Service: Manali Petro Chemicals Ltd. Plant -II Instrument Tag No: NA							
S.N.	Cylinder NO	Date of Expiry	Component	Cylinder Value (PPM)	Before Calibration Value	After Calibration Value	Remarks
1	22106	March 2024	SO2	4299	4800	4299	calibrated
2	22106	March 2024	NO	989	958	989	calibrated
3	22106	March 2024	CO	899	854	899	calibrated



SICK
 Sensor Intelligence.

Calibration Certificate for Dust Analyzer

Customer: M/s Manali Petrochemicals Limited.

Purchase Order No. & Date: 6300029698 / 27.04.2022

Model: DH SB 30 SN 15478439

Make : SICK

Analyzer set Range: 0 -500 mg/ Nm3

Location : MPL-II

CALIBRATION START DATE/ TIME: 14.07.2022, 10.30 AM

CALIBRATION END DATE/ TIME: 14.07.2022, 03.30 PM

Sr.No.	Parameter	Gravimetric sampling Data mg/Nm3	Analyzer Readings mg/Nm3	Time
1	SPM	20.97	21.95	10.30 AM
2	SPM	15.50	16.00	11.15 AM
3	SPM	18.87	19.50	02.00 PM
	Average	18.45	19.15	

Note: Total 03 Nos. Gravimetric sampling have been taken based on average readings of 18.45 mg/Nm3 analyzer has been calibrated.
Calibration is valid for 12 months.

Performed by : Naveen.C



Certificate issued by

SICK INDIA PRIVATE LIMITED

Phone +91 22 6119 8900 • Fax +91-22-6119 8933 • info@sick-india.com • www.sick-india.com • CIN : U32109MH2005PTC192559
Registered & Corporate Office : 215, Western Edge II, Western Express Highway, Borivali (East), Mumbai - 400 066 • India



ANNEXURE - 2A

AADHAV INTECH

No: 5/1, First Floor, Saibaba Street,
West Mambalam, Chennai - 600033.
Contact Number: +91 8190852852
E Mail: admin@aadhavintech.com

5

CALIBRATION CERTIFICATE

Certificate No: AIT/AAQMS/2022-23/019

Calibration Date: 02.06.2022

Customer Name: M/s. Manali Petrochemical Limited,
Plant 1, Ponneri High Road, Manali,
Chennai - 600 068.

Analyzer Details:

Product Name: PM2.5	Make: METONE
Model: BAM 1020	Serial No: M2646
Range: 0-1000 $\mu\text{g}/\text{m}^3$	Accuracy: $\pm 2\%$
Least Count: 1 $\mu\text{g}/\text{m}^3$	Sensor Type: BETA (BAM)

Environmental Conditions: Temperature: 30°C to $\pm 5^\circ\text{C}$
Humidity: 35% - 65% RH

Details of Calibration:

Standard Calibration Value & Range	Reading Before Calibration / Adjustment	Reading After Calibration / Adjustment	Error After Adjustment	Remark
ABS = 0.792	0.800	0.798	0.75 %	OK
Flow: 15.0 LPM	14.9 LPM	15.0 LPM	-	OK
Flow: 18.4 LPM	18.4 LPM	18.4 LPM	-	OK
Flow: 16.7 LPM	16.7 LPM	16.7 LPM	-	OK

Calibration Due Date: 01.06.2023

Calibrated by



Authorized Signatory



AADHAV INTECH

No: 5/1, First Floor, Saibaba Street,
West Mambalam, Chennai – 600033.
Contact Number: +91 8190852852
E Mail: admin@aadhavintech.com

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CALIBRATION CERTIFICATE

Certificate No: AIT/AAQMS/2022-23/018

Calibration Date: 02.06.2022

Customer Name: M/s. Manali Petrochemical Limited,
Plant 1, Ponneri High Road, Manali,
Chennai – 600 068.

Analyzer Details:

Product Name: PM10	Make: METONE
Model: BAM 1020	Serial No: M2808
Range: 0-1000 $\mu\text{g}/\text{m}^3$	Accuracy: $\pm 2\%$
Least Count: 1 $\mu\text{g}/\text{m}^3$	Sensor Type: BETA (BAM)

Environmental Conditions: Temperature: 30°C to $\pm 5^\circ\text{C}$
Humidity: 35% – 65% RH

Details of Calibration:

Standard Calibration Value & Range	Reading Before Calibration / Adjustment	Reading After Calibration / Adjustment	Error After Adjustment	Remark
ABS=0.870	0.864	0.867	0.34 %	OK
Flow: 15.0 LPM	15.1 LPM	15.0 LPM	-	OK
Flow: 18.4 LPM	18.4 LPM	18.4 LPM	-	OK
Flow: 16.7 LPM	16.7 LPM	16.7 LPM	-	OK

Calibration Due Date: 01.06.2023

Calibrated by



Authorized Signatory



AADHAV INTECH

No: 5/1, First Floor, Saibaba Street,
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Contact Number: +91 8190852852
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CALIBRATION CERTIFICATE

Certificate No: AIT/TVOC/2022-23/007

Calibration Date: 16.05.2022

Customer Name: M/s. Manali Petrochemical Limited,
Plant 1, Ponneri High Road, Manali,
Chennai – 600 068.

Analyzer Details:

Product Name: TVOC Monitor	Model: ION SCIENCE
Serial No: 16-01043	Resolution: 1 PPM
Range: 0-100 PPM	Power Supply: 24V DC
Calibrating Fluid: Isobutylene	Output: 4 – 20mA
Sensor Configuration: PID	Lamp Type: 10.6 eV

Environmental Conditions: Temperature: 30°C to $\pm 5^\circ\text{C}$
Humidity: 35% – 65% RH

Master Reference and Traceability:

Calibration Procedure	ZERO/SPAN - GAS
Cylinder No	CSL-66817 / CSL-67652
Ref. No.	CSL-291221-13478-1-1 / CSL-281221-13349-1-1
Isobutylene	105 ppm

Details of Calibration:

Standard Calibration Value	Reading Before Calibration / Adjustment	Reading After Calibration / Adjustment	Error After Adjustment	Remark
0 PPM	0 PPM	0 PPM	0 PPM	OK
105 PPM	110 PPM	105 PPM	0 PPM	OK

Calibration Due: 15.05.2023


Calibrated by




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AADHAV INTECH

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West Mambalam, Chennai – 600033.
Contact Number: +91 8190852852
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CALIBRATION CERTIFICATE

Certificate No: AIT/TVOC/2022-23/008

Calibration Date: 16.05.2022

Customer Name: M/s. Manali Petrochemical Limited,
Plant 1, Ponneri High Road, Manali,
Chennai – 600 068.

Analyzer Details:

Product Name: TVOC Monitor	Model: ION SCIENCE
Serial No: 16-01044	Resolution: 1 PPM
Range: 0 - 100 PPM	Power Supply: 24V DC
Calibrating Fluid: Isobutylene	Output: 4 – 20mA
Sensor Configuration: PID	Lamp Type: 10.6 eV

Environmental Conditions: Temperature: 30°C to $\pm 5^\circ\text{C}$
Humidity: 35% – 65% RH

Master Reference and Traceability:

Calibration Procedure	ZERO/SPAN - GAS
Cylinder No	CSL-66817 / CSL-67652
Ref. No.	CSL-291221-13478-1-1 / CSL-281221-13349-1-1
Isobutylene	105 ppm

Details of Calibration:

Standard Calibration Value	Reading Before Calibration / Adjustment	Reading After Calibration / Adjustment	Error After Adjustment	Remark
0 PPM	1 PPM	0 PPM	0 PPM	OK
105 PPM	113 PPM	105 PPM	0 PPM	OK

Calibration Due: 15.05.2023


Calibrated by




Authorized Signatory



ANNEXURE - 2B

AADHAV INTECH

No: 5/1, First Floor, Saibaba Street,
West Mambalam, Chennai – 600033.
Contact Number: +91 8190852852
E Mail: admin@aadhavintech.com

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CALIBRATION CERTIFICATE

Certificate No: AIT/AAQMS/2022-23/010

Calibration Date: 31.05.2022

Customer Name: **M/s. Manali Petrochemical Limited,**
Plant 2, Sathangadu Village, Manali
Chennai – 600 068.

Analyzer Details:

Product Name: PM2.5	Make: METONE
Model: BAM 1020	Serial No: M2640
Range: 0-1000 $\mu\text{g}/\text{m}^3$	Accuracy: $\pm 2\%$
Least Count: 1 $\mu\text{g}/\text{m}^3$	Sensor Type: BETA (BAM)

Environmental Conditions: Temperature: 30°C to $\pm 5^\circ\text{C}$
Humidity: 35% – 65% RH

Details of Calibration:

Standard Calibration Value & Range	Reading Before Calibration / Adjustment	Reading After Calibration / Adjustment	Error After Adjustment	Remark
ABS = 0.865	0.846	0.859	0.69 %	OK
Flow: 15.0 LPM	15.0 LPM	15.0 LPM	-	OK
Flow: 18.4 LPM	18.4 LPM	18.4 LPM	-	OK
Flow: 16.7 LPM	16.7 LPM	16.7 LPM	-	OK

Calibration Due Date: 30.05.2023

Calibrated by



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10

No: 5/1, First Floor, Saibaba Street,
West Mambalam, Chennai – 600033.
Contact Number: +91 8190852852
E Mail: admin@aadhavintech.com

CALIBRATION CERTIFICATE

Certificate No: AIT/AAQMS/2022-23/009

Calibration Date: 31.05.2022

Customer Name: **M/s. Manali Petrochemical Limited,**
Plant 2, Sathangadu Village, Manali
Chennai – 600 068.

Analyzer Details:

Product Name: PM10	Make: METONE
Model: BAM 1020	Serial No: M2810
Range: 0-1000 $\mu\text{g}/\text{m}^3$	Accuracy: $\pm 2\%$
Least Count: 1 $\mu\text{g}/\text{m}^3$	Sensor Type: BETA (BAM)

Environmental Conditions: Temperature: 30°C to $\pm 5^\circ\text{C}$
Humidity: 35% – 65% RH

Details of Calibration:

Standard Calibration Value & Range	Reading Before Calibration / Adjustment	Reading After Calibration / Adjustment	Error After Adjustment	Remark
ABS=0.764	0.747	0.754	1.30 %	OK
Flow: 15.0 LPM	15.1 LPM	15.0 LPM	-	OK
Flow: 18.4 LPM	18.4 LPM	18.4 LPM	-	OK
Flow: 16.7 LPM	16.7 LPM	16.7 LPM	-	OK

Calibration Due Date: 30.05.2023

Calibrated by



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No: 5/1, First Floor, Saibaba Street,
West Mambalam, Chennai – 600033.
Contact Number: +91 8190852852
E Mail: admin@aadhavintech.com

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CALIBRATION CERTIFICATE

Certificate No: AIT/TVOC/2022-23/005

Calibration Date: 13.05.2022

Customer Name: **M/s. Manali Petrochemical Limited,**
Plant 2, Sathangadu Village, Manali,
Chennai – 600 068.

Analyzer Details:

Product Name: TVOC Monitor	Model: ION SCIENCE
Serial No: 16-01041	Resolution: 1 PPM
Range: 0-1000 PPM	Power Supply: 24V DC
Calibrating Fluid: Isobutylene	Output: 4 – 20mA
Sensor Configuration: PID	Lamp Type: 10.6 eV

Environmental Conditions: Temperature: 30°C to ± 5 °C
Humidity: 35% – 65% RH

Master Reference and Traceability:

Calibration Procedure	ZERO/SPAN - GAS
Cylinder No	CSL-66817 / CSL-67652
Ref. No.	CSL-291221-13478-1-1 / CSL-281221-13349-1-1
Isobutylene	105 ppm

Details of Calibration:

Standard Calibration Value	Reading Before Calibration / Adjustment	Reading After Calibration / Adjustment	Error After Adjustment	Remark
0 PPM	0 PPM	0 PPM	0 PPM	OK
105 PPM	111 PPM	105 PPM	0 PPM	OK

Calibration Due: 12.05.2023

Calibrated by


Authorized Signatory



AADHAV INTECH

No: 5/1, First Floor, Saibaba Street,
West Mambalam, Chennai – 600033.
Contact Number: +91 8190852852
E Mail: admin@aadhavintech.com

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CALIBRATION CERTIFICATE

Certificate No: AIT/TVOC/2022-23/006

Calibration Date: 13.05.2022

Customer Name: **M/s. Manali Petrochemical Limited,**
Plant 2, Sathangadu Village, Manali,
Chennai – 600 068.

Analyzer Details:

Product Name: TVOC Monitor	Model: ION SCIENCE
Serial No: 16-01042	Resolution: 1 PPM
Range: 0-1000 PPM	Power Supply: 24V DC
Calibrating Fluid: Isobutylene	Output: 4 – 20mA
Sensor Configuration: PID	Lamp Type: 10.6 eV

Environmental Conditions: Temperature: 30°C to $\pm 5^\circ\text{C}$
Humidity: 35% – 65% RH

Master Reference and Traceability:

Calibration Procedure	ZERO/SPAN - GAS
Cylinder No	CSL-66817 / CSL-67652
Ref. No.	CSL-291221-13478-1-1 / CSL-281221-13349-1-1
Isobutylene	105 ppm

Details of Calibration:

Standard Calibration Value	Reading Before Calibration / Adjustment	Reading After Calibration / Adjustment	Error After Adjustment	Remark
0 PPM	1 PPM	0 PPM	0 PPM	OK
105 PPM	118 PPM	105 PPM	0 PPM	OK

Calibration Due: 12.05.2023


Calibrated by




Authorized Signatory

ANNEXURE - 3A



TAMILNADU POLLUTION CONTROL BOARD

District Environmental Laboratory, Manali

STACK MONITORING SURVEY – Report of Analysis

Report No. 35/ SM/2020-2021

Date: 27.10.2021

1. Name of the Industry : M/s. MPL - I,
 2. Address of the Industry : Manali, Chennai – 600 068.
 3. Date of Survey : 13.09.2021
 4. Type of Industry : Coal/Chemical/Sugar/Paper & Pulp/
 Power plant / Textile Processing/ Petroproducts

Stack Monitoring Survey Results

Sl. No.	Stack attached to	Fuel used	Stack Temp °K	Velocity in (m/ sec)	Discharge rate In Nm ³ /hr	Pollutants (mg / Nm ³)		
						PM	SO ₂	NO _x
1	Boiler 18T – combined stack	LNG	413	21.25	110927	8	29	42
2	DG-1500 KVA	Diesel	443	26.70	8121	18	12	218

Test Performed	Test Method
PM10	IS 5182 : (Part 23) – 2006
SO ₂	Modified West – Gaeke / IS 5182 : (Part 2) – 2001 RA: 2012
NO _x	Jacobs – Hochheiser / IS 5182 : (Part 6) – 2006 RA:2012

Handwritten signature
 27/10/21
 DCSO/ES

Handwritten signature
 27/10/21
 Chief Scientific Officer,
 District Environmental Laboratory
 Tamil Nadu Pollution Control Board
 Manali



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali

INFERENCE REPORT ON A.A.Q.S./ S.M.

1. Name of Industry : M/s. MPL - I
 2. Pollution Category : Red Large
 3. Date of A.A.Q. Survey : 13.09.2021
 4. Predominant Wind Direction : SSW - NNE
 5. Weather condition : Partially Cloudy

STATUS OF POLLUTANTS LEVEL

I. AMBIENT AIR QUALITY:-

1. Total No. of A.A.Q. stations monitored : 6
 2. No. of A.A.Q. stations in which Pollutants Level exceeded the Boards standards : Nil

Maximum and Minimum values of Pollutants Level observed:

Sl. No.	POLLUTANT	Values in microgram/m ³		BOARD'S STANDARD (As per consent order)
		Maximum	Minimum	
1.	PM ₁₀	91	74	100
	PM _{2.5}	38	31	60
2.	<u>GASEOUS POLLUTANTS:-</u>			
	(i) SO ₂	15	7	80
	(ii) NO ₂	24	10	80

II. STACK MONITORING:-

1. Total No. of Stacks Monitored : 2
 2. No. of Stacks in which Pollutants level Exceeded the Boards standards : Nil

27/10/21
 DCSO/ES

Chief Scientific Officer,
 District Environmental Laboratory
 Tamil Nadu Pollution Control Board
 Manali

ANNEXURE - 3B

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TAMILNADU POLLUTION CONTROL BOARD District Environmental Laboratory, Manali

STACK MONITORING SURVEY – Report of Analysis

Report No. 36/ SM/2021-22

Date: 27.10.2021

1. Name of the Industry : M/s. MPL - II,
2. Address of the Industry : Manali, Chennai – 600 068.
3. Date of Survey : 14.09.2021
4. Type of Industry : Coal/Chemical/Sugar/Paper & Pulp/
Power plant / Textile Processing/ Petroproducts

Stack Monitoring Survey Results

Sl. No.	Stack attached to	Fuel used	Stack Temp °K	Velocity in (m/sec)	Discharge rate In Nm ³ /hr	Pollutants (mg / Nm ³)		
						PM	SO ₂	NO _x
1	Boiler – New (21T)	FO	454	18.93	79007	49	313	31
2	DG-1500 KVA	HSD	493	27.09	7404	20	16	294

Test Performed	Test Method
PM10	IS 5182 : (Part 23) – 2006
SO ₂	Modified West – Gaeke / IS 5182 : (Part 2) – 2001 RA: 2012
NO _x	Jacobs – Hochheiser / IS 5182 : (Part 6) – 2006 RA:2012


DCSO/ES 27/10/21


Chief Scientific Officer,
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali

INFERENCE REPORT ON A.A.Q.S./ S.M.

1. Name of Industry : M/s. MPL - II
 2. Pollution Category : Red Large
 3. Date of A.A.Q. Survey : 14.09.2021
 4. Predominant Wind Direction : SSW - NNE
 5. Weather condition : Partially Cloudy

STATUS OF POLLUTANTS LEVEL

I. AMBIENT AIR QUALITY :-

1. Total No. of A.A.Q. stations monitored : 5
 2. No. of A.A.Q. stations in which Pollutants Level exceeded the Boards standards : Nil

Maximum and Minimum values of Pollutants Level observed:

Sl. No.	POLLUTANT	Values in microgram/m ³		BOARD'S STANDARD (As per consent order)
		Maximum	Minimum	
1.	PM ₁₀	96	84	100
	PM _{2.5}	36	32	60
2.	<u>GASEOUS POLLUTANTS:-</u>			
	(i) SO ₂	11	7	80
	(ii) NO ₂	21	14	80

II. STACK MONITORING:-

1. Total No. of Stacks Monitored : 2
 2. No. of Stacks in which Pollutants level Exceeded the Boards standards : Nil

DCSO/ES/10/21

Chief Scientific Officer,
 District Environmental Laboratory
 Tamil Nadu Pollution Control Board
 Manali



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali

AMBIENT AIR QUALITY SURVEY – Report of Analysis

Report No. 35/AAQS/2021-22

Date: 27.10.2021

1. Name of the Industry : M/s. MPL – I,
2. Address of the Industry : Manali, Chennai - 68
3. Date of Survey : 13.09.2021
4. Duration of Survey : 8 Hours / 24 hours
5. Category : Red / Orange / Green – Large / Medium / Small
6. Land use classification : Industrial / Commercial / Residential / Sensitive

Meteorological Conditions

Ambient Temperature (°C)	Min	Max	Relative Humidity (%)	Min	Max
	30	35		49	84
Weather Condition	Partially Cloudy		Rain Fall (mm)	Nil	
Predominant Wind Direction	SSW – NNE		Mean Wind Speed (km/hr)	16	

Ambient Air Quality Survey Results

Sl. No.	Location	Direction *	Distance (m) *	Height Form Gl. (m)	Pollutants Concentration (microgram / m ³)				
					PM 2.5	PM 10	SO ₂	NO ₂	Cl ₂
1	On top of Platform near Workers Rest Room	N	75	3.0	--	80	12	17	<0.1
2	On top of platform near Gate no 5 (TPL)	NE	100	3.0	38	91	15	24	0.10
3	On top of platform adjacent to Flare stack	SE	100	3.0	--	77	7	10	<0.1
4	On top of scaffolding near Pilot plant	S	75	3.0	--	74	9	12	<0.1
5	On top of platform near Car park	SW	100	3.0	31	75	10	15	<0.1
6	On top of scaffolding near Weigh bridge	NW	100	3.0	--	88	13	20	0.10

Note: * With respect to major emission sources. The analytical results are restricted to the sampling period of 8 hrs/24hrs.

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DCSO/ES

T. S. S.
27/10/21
Chief Scientific Officer,
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali

Test Performed	Test Method
PM10	IS 5182 : (Part 23) – 2006
SO ₂	Modified West – Gaeke / IS 5182 : (Part 2) – 2001 RA: 2012
NO ₂	Jacobs – Hochheiser / IS 5182 : (Part 6) – 2006 RA:2012



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali

TVOC Survey – Report of Analysis

Report No.35 /TVOC/2021-22

dated 27.10.2021

1. Name of the Industry : M/s. MPL - I
2. Address of the Industry : Manali, Chennai – 68.
3. Date of Survey : 13.09.2021
4. Pollution Category : Red Large

TVOC – Analysis Report

Sl.No.	Location	Direction	Distance (mts)	TVOC ($\mu\text{g}/\text{m}^3$)
1	Near Acid Storage Tank	N	75	690
2	Near TPL Gate V	NE	100	748
3	Near Flare Area	SE	150	857
4	Near Pilot Plant	S	75	914
5	Near Admin	SW	100	958
6	Near Weigh Bridge	NW	100	674

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27/10/21
Chief Scientific Officer,
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali

INFERENCE REPORT ON A.A.Q.S./ S.M.

1. Name of Industry : M/s. MPL - I
2. Pollution Category : Red Large
3. Date of A.A.Q. Survey : 13.09.2021
4. Predominant Wind Direction : SSW - NNE
5. Weather condition : Partially Cloudy

STATUS OF POLLUTANTS LEVEL

I. AMBIENT AIR QUALITY :-

1. Total No. of A.A.Q. stations monitored : 6
2. No. of A.A.Q. stations in which Pollutants Level exceeded the Boards standards : Nil

Maximum and Minimum values of Pollutants Level observed:

Sl. No.	POLLUTANT	Values in microgram/m ³		BOARD'S STANDARD (As per consent order)
		Maximum	Minimum	
1.	PM ₁₀	91	74	100
	PM _{2.5}	38	31	60
2.	<u>GASEOUS POLLUTANTS:-</u>			
	(i) SO ₂	15	7	80
	(ii) NO ₂	24	10	80

II. STACK MONITORING:-

1. Total No. of Stacks Monitored : 2
2. No. of Stacks in which Pollutants level Exceeded the Boards standards : Nil

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27/10/21
Chief Scientific Officer,
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali

ANNEXURE - 4B



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali
AMBIENT AIR QUALITY SURVEY – Report of Analysis

Report No. 36/AAQS/2021-22

Date: 27.10.2021

1. Name of the Industry : M/s. MPL – II,
2. Address of the Industry : Manali, Chennai - 68
3. Date of Survey : 14.09.2021
4. Duration of Survey : 8 Hours / 24 hours
5. Category : Red / Orange / Green – Large / Medium / Small
6. Land use classification : Industrial / Commercial / Residential / Sensitive

Meteorological Conditions

Ambient Temperature ($^{\circ}$ C)	Min	Max	Relative Humidity (%)	Min	Max
	30	37		47	79
Weather Condition	Partially Cloudy		Rain Fall (mm)	Nil	
Predominant Wind Direction	SSW – NNE		Mean Wind Speed (km/hr)	15.21	

Ambient Air Quality Survey Results

Sl. No.	Location	Direction *	Distance (m) *	Height Form GL (m)	Pollutants Concentration (microgram / m ³)				
					PM 2.5	PM 10	SO ₂	NO ₂	Cl ₂
1	On top of platform near Main gate	NE	100	3.0	36	96	11	21	<0.1
2	On top of platform near RMG	SE	100	3.0	--	92	10	17	0.11
3	On top of platform near Fire water reservoir	SW	75	3.0	32	84	7	14	0.13
4	On top of platform near Fire hose station	W	75	3.0	--	89	9	16	0.12
5	On top of platform near Mech. Maintenance room	NW	100	3.0	--	87	8	15	<0.1

Note: * With respect to major emission sources. The analytical results are restricted to the sampling period of 8 hrs/24hrs.

D. S. S. S. S.
27/10/21
DES/ES

T. S. S. S. S.
27/10/21
Chief Scientific Officer,
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali

Test Performed	Test Method
PM10	IS 5182 : (Part 23) – 2006
SO ₂	Modified West – Gaeke / IS 5182 : (Part 2) – 2001 RA: 2012
NO ₂	Jacobs – Hochheiser / IS 5182 : (Part 6) – 2006 RA:2012



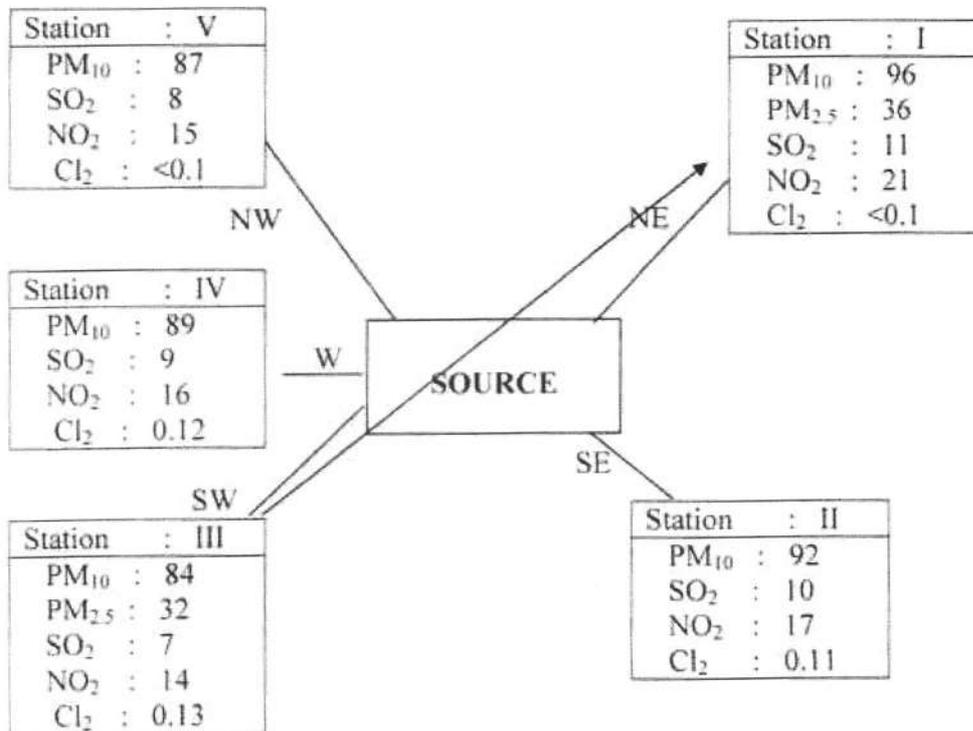
TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali

AMBIENT AIR QUALITY SURVEY
Schematic Diagram Showing Location of Sampling

Report No. 36 /AAQ/SM/2021-22

Name and Address of the Industry : **M/s. MPL - II,**
Manali, Chennai - 600 068.

Date of Survey : **14.09.2021**



Note: All the values are expressed in $\mu\text{g}/\text{m}^3$ and restricted to sampling period of 8 hrs/24hrs

Meteorological Conditions:	
Predominant Wind Direction	SSW - NNE
Wind Speed (Km/hr)	15.21
Weather Condition	Partially Cloudy
Rainfall	Nil

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DES/ES

R. S. Srinivasan
23/09/21
Chief Scientific Officer,
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali

TVOC Survey – Report of Analysis

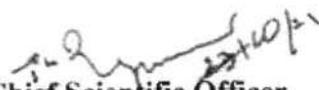
Report No.36 /TVOC/2021-22 dated 27.10.2021

1. Name of the Industry : M/s. MPL - II
2. Address of the Industry : Manali, Chennai – 68.
3. Date of Survey : 14.09.2021
4. Pollution Category : Red Large

TVOC – Analysis Report

Sl.No.	Location	Direction	Distance (mts)	TVOC ($\mu\text{g}/\text{m}^3$)
1	Near Control Room	N	75	722
2	Near Main Gate	NE	100	787
3	Near RMG	SE	100	641
4	Near Raw Water Pump Room	S	100	648
5	Near Fire Hose Station	SW	75	682
6	Near Mech. Maintenance	NW	100	749


 BCSO/ES/27/10/21


 Chief Scientific Officer,
 District Environmental Laboratory
 Tamil Nadu Pollution Control Board
 Manali



TAMILNADU POLLUTION CONTROL BOARD
District Environmental Laboratory, Manali

INFERENCE REPORT ON A.A.Q.S./ S.M.

1. Name of Industry : M/s. MPL - II
 2. Pollution Category : Red Large
 3. Date of A.A.Q. Survey : 14.09.2021
 4. Predominant Wind Direction : SSW - NNE
 5. Weather condition : Partially Cloudy

STATUS OF POLLUTANTS LEVEL

I. AMBIENT AIR QUALITY:-

1. Total No. of A.A.Q. stations monitored : 5
 2. No. of A.A.Q. stations in which Pollutants Level exceeded the Boards standards : Nil

Maximum and Minimum values of Pollutants Level observed:

Sl. No.	POLLUTANT	Values in microgram/m ³		BOARD'S STANDARD (As per consent order)
		Maximum	Minimum	
1.	PM ₁₀	96	84	100
	PM _{2.5}	36	32	60
2.	<u>GASEOUS POLLUTANTS:-</u>			
	(i) SO ₂	11	7	80
	(ii) NO ₂	21	14	80

II. STACK MONITORING:-

1. Total No. of Stacks Monitored : 2
 2. No. of Stacks in which Pollutants level Exceeded the Boards standards : Nil

DCSO/ES
 20/27/10/21

Chief Scientific Officer,
 District Environmental Laboratory
 Tamil Nadu Pollution Control Board
 Manali

ANNEXURE - 5A

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-1				
Time	STACK-CO(mg/m3)	STACK-NOx(mg/m3)	STACK-SO2(mg/m3)	STACK-SPM(mg/m3)
2022-01-01 00:00:00	21.49	24.59	11.56	2.75
2022-01-02 00:00:00	21.4	25.23	12.51	2.82
2022-01-03 00:00:00	22.09	26.37	14.85	2.99
2022-01-04 00:00:00	22.07	29.03	20.37	3.11
2022-01-05 00:00:00	22.39	28.27	18.7	3.16
2022-01-06 00:00:00	22.85	31.63	25.34	3.29
2022-01-07 00:00:00	22.28	30.77	23.88	3.14
2022-01-08 00:00:00	22.54	31.64	25.2	3.11
2022-01-09 00:00:00	22.15	30.25	22.37	3.12
2022-01-10 00:00:00	22.02	27.08	16.18	3.15
2022-01-11 00:00:00	22.35	27.75	17.26	2.94
2022-01-12 00:00:00	22.49	27.43	17.13	2.64
2022-01-13 00:00:00	22.19	27.38	16.71	2.61
2022-01-14 00:00:00	22.55	27.93	18.17	2.58
2022-01-15 00:00:00	23.34	28.64	19.66	2.63
2022-01-16 00:00:00	24.71	30.67	23.27	2.69
2022-01-17 00:00:00	25.26	31.47	24.9	2.59
2022-01-18 00:00:00	26.12	29.03	20.24	2.24
2022-01-19 00:00:00	27.34	30.22	22.21	2.16
2022-01-20 00:00:00	25.97	29.35	20.86	2.33
2022-01-21 00:00:00	28.82	31.55	25.53	2.46
2022-01-22 00:00:00	29.89	29.59	21.36	2.59
2022-01-23 00:00:00	30.86	30.44	23.04	2.7
2022-01-24 00:00:00	31.11	30.55	23.33	2.81
2022-01-25 00:00:00	29.38	28.85	20.13	2.83
2022-01-26 00:00:00	29.65	28.69	19.45	2.81
2022-01-27 00:00:00	31.59	30.85	23.98	2.76
2022-01-28 00:00:00	29.73	28.59	19.58	2.63
2022-01-29 00:00:00	30.35	29.08	20.34	2.9
2022-01-30 00:00:00	30.4	29.11	20.18	2.8
2022-01-31 00:00:00	32.94	32.08	26.15	2.84
2022-02-01 00:00:00	31.83	30.79	23.98	2.8
2022-02-02 00:00:00	32.69	32	26.1	2.75
2022-02-03 00:00:00	30.82	29.4	20.92	2.72
2022-02-04 00:00:00	31.4	29.84	21.88	2.68
2022-02-05 00:00:00	28.26	26.41	15.01	2.61
2022-02-06 00:00:00	30.13	28.49	18.94	2.57
2022-02-07 00:00:00	30.06	28.47	18.83	2.62
2022-02-08 00:00:00	31.12	29.64	21.44	2.55
2022-02-09 00:00:00	32.53	31.29	24.5	2.48
2022-02-10 00:00:00	32.92	31.55	25.37	2.51
2022-02-11 00:00:00	30.91	29.19	20.33	2.49
2022-02-12 00:00:00	30.76	29.39	20.17	2.43
2022-02-13 00:00:00	30.53	29.01	19.54	2.42
2022-02-14 00:00:00	28.23	26.59	15.29	2.41
2022-02-15 00:00:00	27.9	25.99	13.63	2.47

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-1				
Time	STACK-CO(mg/m3)	STACK-NOx(mg/m3)	STACK-SO2(mg/m3)	STACK-SPM(mg/m3)
2022-02-16 00:00:00	28.15	26.75	15.55	2.52
2022-02-17 00:00:00	29.39	28.25	18.3	2.5
2022-02-18 00:00:00	31.1	29.6	20.74	2.46
2022-02-19 00:00:00	30.55	28.87	19.47	2.43
2022-02-20 00:00:00	32.98	31.48	24.9	2.47
2022-02-21 00:00:00	30.17	28.59	19.13	2.54
2022-02-22 00:00:00	28.04	26.43	14.56	2.56
2022-02-23 00:00:00	31.25	29.6	20.92	2.59
2022-02-24 00:00:00	32.94	31.73	25.31	2.48
2022-02-25 00:00:00	30.02	28.34	18.48	2.49
2022-02-26 00:00:00	30.18	28.29	18.3	2.44
2022-02-27 00:00:00	31.27	29.44	21.56	2.4
2022-02-28 00:00:00	31.87	30.05	22.79	2.4
2022-03-01 00:00:00	27.56	29.54	36.45	2.5
2022-03-03 00:00:00	30.19	28.03	4.81	1.92
2022-03-04 00:00:00	27.72	25.22	4.64	1.88
2022-03-05 00:00:00	29.57	24.83	4.67	1.86
2022-03-06 00:00:00	31.6	27.57	5.81	1.99
2022-03-07 00:00:00	31.86	29.39	6.21	1.98
2022-03-08 00:00:00	30.84	32.66	6.71	1.94
2022-03-09 00:00:00	31.46	29.08	6.21	2.12
2022-03-10 00:00:00	31.84	29.4	6.74	2.04
2022-03-11 00:00:00	31.93	29.5	7.74	2.01
2022-03-12 00:00:00	31.71	29.3	8.91	1.98
2022-03-13 00:00:00	32.58	30.19	9.76	2.04
2022-03-14 00:00:00	33.57	31.23	11.23	2.11
2022-03-15 00:00:00	30.26	28.25	6.6	2.2
2022-03-16 00:00:00	30.8	80.67	5.67	2.27
2022-03-17 00:00:00	33.67	104.86	8.57	2.55
2022-03-18 00:00:00	35.05	94.13	10.69	2.61
2022-03-19 00:00:00	32.52	86.72	7.26	2.56
2022-03-20 00:00:00	30.79	82.03	7.63	2.47
2022-03-21 00:00:00	29.96	79.53	5.49	2.41
2022-03-22 00:00:00	31.93	85.18	6.43	2.63
2022-03-23 00:00:00	32.03	85.49	6.85	3.14
2022-03-24 00:00:00	33.78	90.49	7.1	3.2
2022-03-25 00:00:00	36.04	96.76	11.84	2.91
2022-03-26 00:00:00	35.24	94.49	10.9	2.72
2022-03-27 00:00:00	35.79	96.29	10.86	2.55
2022-03-28 00:00:00	30.7	81.94	7.69	2.3
2022-03-29 00:00:00	23.89	62.7	2.28	2.07
2022-03-30 00:00:00	29.71	79.02	4.89	2.14
2022-03-31 00:00:00	32.8	87.83	8.46	2.36
2022-04-01 00:00:00	35.41	95.12	10.89	2.41
2022-04-02 00:00:00	30.92	82.51	7	1.92
2022-04-03 00:00:00	34.71	93.22	10.26	2.19

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-1				
Time	STACK-CO(mg/m3)	STACK-NOx(mg/m3)	STACK-SO2(mg/m3)	STACK-SPM(mg/m3)
2022-04-04 00:00:00	NA	NA	NA	NA
2022-04-05 00:00:00	NA	NA	NA	NA
2022-04-06 00:00:00	NA	NA	NA	NA
2022-04-07 00:00:00	31.92	85.25	8.45	2.85
2022-04-08 00:00:00	31.78	85.1	8.77	2.46
2022-04-09 00:00:00	30.49	80.83	12.21	2.44
2022-04-10 00:00:00	30.96	82.44	8.89	2.48
2022-04-11 00:00:00	33.8	90.54	9.75	2.69
2022-04-12 00:00:00	28.22	74.84	4.53	2.49
2022-04-13 00:00:00	28.53	75.81	5.33	2.21
2022-04-14 00:00:00	29.72	78.73	5.52	2.37
2022-04-15 00:00:00	30.87	81.98	7.12	2.44
2022-04-16 00:00:00	31.14	82.56	7.68	2.2
2022-04-17 00:00:00	28.98	76.36	5.4	2
2022-04-18 00:00:00	32.84	87.15	9.56	2.44
2022-04-19 00:00:00	30.4	80.19	7.09	1.89
2022-04-20 00:00:00	29.51	77.68	6.46	1.83
2022-04-21 00:00:00	28.48	75.02	5.96	1.89
2022-04-22 00:00:00	26.27	68.79	4.68	2.31
2022-04-23 00:00:00	27.28	71.86	5.38	2.19
2022-04-24 00:00:00	31.52	83.65	8.54	2.4
2022-04-25 00:00:00	28.17	74.37	5.91	2.08
2022-04-26 00:00:00	28.51	75.51	5.98	1.85
2022-04-27 00:00:00	26.87	71.05	5.33	1.67
2022-04-28 00:00:00	27.7	73.3	5.78	1.72
2022-04-29 00:00:00	29.6	78.82	6.62	1.84
2022-04-30 00:00:00	30.51	81.36	7.27	1.9
2022-05-01 00:00:00	28.12	74.86	5.01	1.75
2022-05-02 00:00:00	27.44	73.01	4.31	1.71
2022-05-03 00:00:00	27.84	74.03	4.95	1.73
2022-05-04 00:00:00	26.89	71.34	3.87	1.67
2022-05-05 00:00:00	28.87	76.65	5.07	1.89
2022-05-06 00:00:00	27.79	73.73	4.89	1.73
2022-05-07 00:00:00	29.86	79.62	5.76	1.93
2022-05-08 00:00:00	29.2	77.74	5.25	1.82
2022-05-09 00:00:00	26.02	68.84	3.28	1.62
2022-05-10 00:00:00	27.61	73.26	4.41	1.74
2022-05-11 00:00:00	28.86	76.93	5.33	2.99
2022-05-12 00:00:00	33.11	88.92	7.95	2.46
2022-05-13 00:00:00	26.99	71.39	3.4	2.03
2022-05-14 00:00:00	27.79	73.85	4.58	2.42
2022-05-15 00:00:00	25.46	67.23	2.66	2.1
2022-05-16 00:00:00	29.16	77.5	5.15	2.22
2022-05-17 00:00:00	28.22	74.9	4.4	1.85
2022-05-18 00:00:00	31.62	84.41	7.69	2.1
2022-05-19 00:00:00	31.44	83.87	8.33	2.44

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-1				
Time	STACK-CO(mg/m3)	STACK-NOx(mg/m3)	STACK-SO2(mg/m3)	STACK-SPM(mg/m3)
2022-05-20 00:00:00	28.75	76.24	5.97	2.66
2022-05-21 00:00:00	29.59	78.75	6.18	2.5
2022-05-22 00:00:00	28.13	74.55	4.78	2.55
2022-05-23 00:00:00	27.35	72.53	4	2.73
2022-05-24 00:00:00	28.1	74.64	4.44	2.56
2022-05-25 00:00:00	27.63	73.36	4.28	2.72
2022-05-26 00:00:00	27.88	73.93	4.99	2.82
2022-05-27 00:00:00	27.86	73.91	4.3	3.15
2022-05-28 00:00:00	32.62	87.15	8.78	2.89
2022-05-29 00:00:00	30.2	80.45	5.88	2.54
2022-05-30 00:00:00	30.66	81.87	5.28	2.47
2022-05-31 00:00:00	30.63	81.67	5.78	2.58
2022-06-01 00:00:00	30.39	81.02	5.53	2.5
2022-06-02 00:00:00	30.04	80.01	5.33	3.24
2022-06-03 00:00:00	29.32	77.99	5.74	3.12
2022-06-04 00:00:00	31.14	82.99	6.75	2.45
2022-06-05 00:00:00	29.61	78.89	5.75	2.1
2022-06-06 00:00:00	29.23	77.75	5.13	2.06
2022-06-07 00:00:00	28.94	76.95	5.4	2.35
2022-06-08 00:00:00	28.72	76.39	5.1	2.14
2022-06-09 00:00:00	27.5	72.95	3.82	2.21
2022-06-10 00:00:00	30.32	80.76	5.89	2.55
2022-06-11 00:00:00	29.57	78.69	4.51	2.43
2022-06-12 00:00:00	27.38	72.72	3.23	2.21
2022-06-13 00:00:00	28.5	75.77	3.99	2.09
2022-06-14 00:00:00	28.05	74.61	3.78	1.81
2022-06-15 00:00:00	25.26	66.84	2.46	1.57
2022-06-16 00:00:00	26.42	69.98	3.9	1.73
2022-06-17 00:00:00	26.85	71.19	4.03	1.72
2022-06-18 00:00:00	25.11	66.21	2.78	1.56
2022-06-19 00:00:00	26.9	71.15	3.83	1.67
2022-06-20 00:00:00	26.61	70.43	3.66	1.65
2022-06-21 00:00:00	27.07	71.77	4.99	1.68
2022-06-22 00:00:00	25.51	67.13	9.13	1.58
2022-06-23 00:00:00	27.22	71.75	11.38	1.69
2022-06-24 00:00:00	29.22	77.78	12.11	1.91
2022-06-25 00:00:00	32.46	87.07	14.93	2.02
2022-06-26 00:00:00	37.75	101.66	17.3	2.35
2022-06-27 00:00:00	33.09	88.36	13.1	2.09
2022-06-28 00:00:00	26.26	69.59	7.4	1.66
2022-06-29 00:00:00	26.27	69.58	6.83	1.64
2022-06-30 00:00:00	30.31	80.78	10.11	1.89
2022-07-01 00:00:00	25.51	67.07	6.43	1.59
2022-07-02 00:00:00	26.02	68.75	7.43	1.62
2022-07-03 00:00:00	25.38	67	6.87	1.58
2022-07-04 00:00:00	26.5	70.03	6.28	1.64

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-1				
Time	STACK-CO(mg/m3)	STACK-NOx(mg/m3)	STACK-SO2(mg/m3)	STACK-SPM(mg/m3)
2022-07-05 00:00:00	26.49	70.15	5.83	1.65
2022-07-06 00:00:00	26.82	70.99	6.94	1.67
2022-07-07 00:00:00	31.04	83.01	10.16	1.93
2022-07-08 00:00:00	28.47	75.66	7.74	1.77
2022-07-09 00:00:00	27.47	72.78	8.04	1.71
2022-07-10 00:00:00	26.11	69.09	5.59	1.62
2022-07-11 00:00:00	28.09	74.61	7.66	1.75
2022-07-12 00:00:00	29.87	79.48	8.2	1.86
2022-07-13 00:00:00	28.47	75.52	7.29	1.77
2022-07-14 00:00:00	29.33	77.86	7.8	1.82
2022-07-15 00:00:00	28.89	76.83	7.85	1.79
2022-07-16 00:00:00	27.67	73.48	8.14	1.72
2022-07-17 00:00:00	29.16	77.34	9.51	1.81
2022-07-18 00:00:00	28.66	76.16	7.43	1.78
2022-07-19 00:00:00	26.89	71.27	5.37	1.68
2022-07-20 00:00:00	29.82	79.42	7.7	1.86
2022-07-21 00:00:00	26.33	69.67	5.2	1.64
2022-07-22 00:00:00	25.34	66.75	4.17	1.58
2022-07-23 00:00:00	30.39	80.96	8.8	1.89
2022-07-24 00:00:00	26.05	68.7	5.59	1.62
2022-07-25 00:00:00	29.34	77.98	8.16	1.83
2022-07-26 00:00:00	29.21	77.58	7.09	1.81
2022-07-27 00:00:00	25.59	67.51	4.74	1.59
2022-07-28 00:00:00	26.82	71.05	5.64	1.68
2022-07-29 00:00:00	27.29	72.25	5.94	2.18
2022-07-30 00:00:00	26.41	69.92	6.23	2.62
2022-07-31 00:00:00	26.94	71.13	6.15	2.49
2022-08-01 00:00:00	26.32	69.44	5.29	2.73
2022-08-02 00:00:00	26.58	70.36	5.5	2.23
2022-08-03 00:00:00	27.33	72.42	5.55	1.92
2022-08-04 00:00:00	26.65	70.58	5.67	2.19
2022-08-05 00:00:00	27.94	74.04	6.45	2.59
2022-08-06 00:00:00	26.86	71.12	5.2	2.85
2022-08-07 00:00:00	25.28	66.78	4.08	2.55
2022-08-08 00:00:00	24.5	64.66	4.44	1.54
2022-08-09 00:00:00	29.12	77.54	7.34	1.99
2022-08-10 00:00:00	33.84	90.8	11.89	2.12
2022-08-11 00:00:00	28.21	74.76	5.84	1.75
2022-08-12 00:00:00	26.88	71.06	5.66	1.67
2022-08-13 00:00:00	25.37	66.69	4.57	1.57
2022-08-14 00:00:00	25.87	68.28	4.82	1.61
2022-08-15 00:00:00	25.41	66.87	4.7	1.57
2022-08-16 00:00:00	26.39	69.76	5.24	1.64
2022-08-17 00:00:00	27.69	73.22	6.13	1.72
2022-08-18 00:00:00	25.12	66.12	4.4	1.65
2022-08-19 00:00:00	25.04	66.08	4.58	1.56

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-1				
Time	STACK-CO(mg/m3)	STACK-NOx(mg/m3)	STACK-SO2(mg/m3)	STACK-SPM(mg/m3)
2022-08-20 00:00:00	25.11	66.05	4.53	1.56
2022-08-21 00:00:00	24.48	64.28	4.24	1.52
2022-08-22 00:00:00	25.37	66.76	4.23	1.58
2022-08-23 00:00:00	25.36	66.91	4.82	1.58
2022-08-24 00:00:00	26.41	69.54	5.11	1.64
2022-08-25 00:00:00	25.15	66.08	4.51	1.59
2022-08-26 00:00:00	26.26	69.09	5.25	2
2022-08-27 00:00:00	24.43	58.14	4.74	2.03
2022-08-28 00:00:00	23.41	61.65	3.85	2.16
2022-08-29 00:00:00	26.23	71	5.25	2.47
2022-08-30 00:00:00	24.72	67.8	4.68	2.54
2022-08-31 00:00:00	23.95	66.17	5.71	2.36
Prescribed Standards	0 - 200	0 - 450	0 - 1700	0 - 100
Maximum Value	37.75	104.86	36.45	3.29
Maximum Value At Time	2022-06-26 00:00:00	2022-03-17 00:00:00	2022-03-01 00:00:00	2022-01-06 00:00:00
Minimum Value	21.4	24.59	2.28	1.52
Minimum Value At Time	2022-01-02 00:00:00	2022-01-01 00:00:00	2022-03-29 00:00:00	2022-08-21 00:00:00
Geometric Mean	28.63	61.6	10.42	2.23
Median	28.69	71.03	6.9	2.22
Standard Deviation	3.06	22.72	9.68	0.45
Valid Data Points	240	240	240	240
Total Data Points	243	243	243	243
Data Availability %	98.77	98.77	98.77	98.77

ANNEXURE - 5B

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-2				
Time	STACK-CO(mg/m3)	STACK-NOx(mg/m3)	STACK-SO2(mg/m3)	STACK-SPM(mg/m3)
2022-01-01 00:00:00	25.36	104.52	369.83	16
2022-01-02 00:00:00	25.57	107.77	357.22	16
2022-01-03 00:00:00	25.07	112.49	347.12	15.99
2022-01-04 00:00:00	25.67	107.88	339.96	16
2022-01-05 00:00:00	25.85	98.66	328.57	16.01
2022-01-06 00:00:00	24.53	98.76	327.54	16.01
2022-01-07 00:00:00	24.63	99.1	321.54	16
2022-01-08 00:00:00	24.05	98.62	313.19	15.99
2022-01-09 00:00:00	24.25	110.49	320.41	16
2022-01-10 00:00:00	24.02	123.45	336.18	16
2022-01-11 00:00:00	21.93	130.84	333.43	16
2022-01-12 00:00:00	23.36	133.56	331.96	15.99
2022-01-13 00:00:00	23.82	132.54	331.94	16.01
2022-01-14 00:00:00	24.37	126.11	332.7	16
2022-01-15 00:00:00	24.57	106.22	324.98	16
2022-01-16 00:00:00	25.04	108.42	324.26	16
2022-01-17 00:00:00	26.17	106.74	375.63	16.01
2022-01-18 00:00:00	25.15	112.69	372.64	16.01
2022-01-19 00:00:00	25.11	114.28	355.58	16.01
2022-01-20 00:00:00	25.89	115.96	349.17	16.03
2022-01-21 00:00:00	24.79	116.35	336.61	16.02
2022-01-22 00:00:00	25.46	105.76	320.93	16.01
2022-01-23 00:00:00	25.43	104.61	310.65	16.02
2022-01-24 00:00:00	25.86	115.65	333.1	16
2022-01-25 00:00:00	25.47	113.68	349.38	16.02
2022-01-26 00:00:00	24.8	116.82	375.79	16.02
2022-01-27 00:00:00	24.9	114.43	376.71	16.01
2022-01-28 00:00:00	25.82	111.65	388.93	16.01
2022-01-29 00:00:00	25.76	115.38	384.82	16.01
2022-01-30 00:00:00	24.66	110.57	371.55	16.01
2022-01-31 00:00:00	25	109.17	378.71	16
2022-02-01 00:00:00	24.61	107.38	371.59	16.01
2022-02-02 00:00:00	24.96	105.73	377.84	16.02
2022-02-03 00:00:00	24.24	92.63	362.25	16.01
2022-02-04 00:00:00	25.16	79.85	347.79	15.99
2022-02-05 00:00:00	25.26	80.08	361.8	15.99
2022-02-06 00:00:00	25.69	81	375.56	16
2022-02-07 00:00:00	24.71	79.41	343.12	16.01
2022-02-08 00:00:00	26.22	81.64	331.59	16.01
2022-02-09 00:00:00	26.8	81.06	361.09	16
2022-02-10 00:00:00	25.53	83.25	371.77	16
2022-02-11 00:00:00	26.26	83.92	383.8	16
2022-02-12 00:00:00	25.1	81.31	373.25	16
2022-02-13 00:00:00	24.54	81.42	348.09	16.01
2022-02-14 00:00:00	24.65	81.15	345.43	16
2022-02-15 00:00:00	25.22	80.91	348.15	16
2022-02-16 00:00:00	25.94	82.46	329.27	16
2022-02-17 00:00:00	24.71	80.87	348.19	16.01
2022-02-18 00:00:00	25.56	80.44	359.55	16.01
2022-02-19 00:00:00	24.8	80.14	362.12	15.98
2022-02-20 00:00:00	25.72	81.38	376.53	16

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-2				
Time	STACK-CO(mg/m3)	STACK-NOx(mg/m3)	STACK-SO2(mg/m3)	STACK-SPM(mg/m3)
2022-02-21 00:00:00	25.64	81.2	379.94	16
2022-02-22 00:00:00	26.43	82.02	349.87	16
2022-02-23 00:00:00	25.35	81.48	331.47	16
2022-02-24 00:00:00	24.95	82.38	368.13	15.99
2022-02-25 00:00:00	26.03	81.06	358.32	16
2022-02-26 00:00:00	26.1	83.45	375.44	16.01
2022-02-27 00:00:00	26.36	81.45	382.83	16.01
2022-02-28 00:00:00	26.54	83.43	357.62	16
2022-03-01 00:00:00	25.95	82.69	367.18	16
2022-03-02 00:00:00	25.14	85.14	376.98	16
2022-03-03 00:00:00	20.18	83.97	318.33	16
2022-03-04 00:00:00	17.35	89.88	291.41	16
2022-03-05 00:00:00	19.18	99.76	296.23	16.01
2022-03-06 00:00:00	22.7	98.95	345.92	16.01
2022-03-07 00:00:00	14.8	97	237.19	16
2022-03-08 00:00:00	14.91	94.63	239.27	15.99
2022-03-09 00:00:00	14.13	92.94	227.78	16
2022-03-10 00:00:00	13.7	93.06	221.3	16.01
2022-03-11 00:00:00	14.15	93.07	227.29	16.01
2022-03-12 00:00:00	14.18	93.1	227	16.02
2022-03-13 00:00:00	14.18	92.91	226.56	16.01
2022-03-14 00:00:00	14.74	92.83	235.99	16
2022-03-15 00:00:00	13.6	93.82	220.57	16
2022-03-16 00:00:00	13.97	101.21	257.58	12
2022-03-17 00:00:00	13.7	108.6	235.55	7.7
2022-03-18 00:00:00	13.87	109.15	223.97	7.8
2022-03-19 00:00:00	13.9	115.49	213.39	7.89
2022-03-20 00:00:00	13.86	105.95	223.96	7.87
2022-03-21 00:00:00	13.94	112.69	211.63	7.84
2022-03-22 00:00:00	14.21	107.99	215.73	7.82
2022-03-23 00:00:00	13.87	107.43	220.48	7.86
2022-03-24 00:00:00	13.72	108.01	213.68	7.83
2022-03-25 00:00:00	9.41	70.67	161.67	5.21
2022-03-26 00:00:00	14.46	109.23	223.82	7.83
2022-03-27 00:00:00	14.48	107.54	215.1	7.84
2022-03-28 00:00:00	14.13	116.23	205.42	7.8
2022-03-29 00:00:00	13.89	107.08	229.67	7.83
2022-03-30 00:00:00	14.68	108.26	217.75	7.8
2022-03-31 00:00:00	13.55	114.44	208.89	7.79
2022-04-01 00:00:00	15.62	109.49	215.45	7.82
2022-04-02 00:00:00	23.23	107.46	220.04	7.8
2022-04-03 00:00:00	23.15	105.74	222.59	7.82
2022-04-04 00:00:00	24.36	106.52	223.28	7.78
2022-04-05 00:00:00	24.54	106.84	223.27	7.81
2022-04-06 00:00:00	24.09	107.8	224.41	7.78
2022-04-07 00:00:00	23.99	108.17	222.15	7.79
2022-04-08 00:00:00	24.25	115.23	217.99	7.77
2022-04-09 00:00:00	23.83	112.44	219.32	7.83
2022-04-10 00:00:00	24.38	117.06	216.83	7.77
2022-04-11 00:00:00	24.62	118.34	217.74	7.79
2022-04-12 00:00:00	25.24	120.76	218.51	7.78

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-2				
Time	STACK-CO(mg/m3)	STACK-NOx(mg/m3)	STACK-SO2(mg/m3)	STACK-SPM(mg/m3)
2022-04-13 00:00:00	20.26	118.24	217.24	7.8
2022-04-14 00:00:00	24.64	118.85	216.2	7.76
2022-04-15 00:00:00	24.51	116.33	215.79	7.75
2022-04-16 00:00:00	22.1	117.14	216.08	7.83
2022-04-17 00:00:00	23.19	119.61	215.57	7.78
2022-04-18 00:00:00	25.09	118.56	219.02	7.8
2022-04-19 00:00:00	24.58	119.08	220.66	7.83
2022-04-20 00:00:00	24.97	118.72	219.57	7.81
2022-04-21 00:00:00	24.84	119.94	220.53	7.78
2022-04-22 00:00:00	24.35	120.28	220.63	7.76
2022-04-23 00:00:00	25.18	119.66	218.18	7.76
2022-04-24 00:00:00	25.06	116.12	218.24	7.75
2022-04-25 00:00:00	26.17	112.69	219.4	7.75
2022-04-26 00:00:00	25.58	114.2	218.51	7.76
2022-04-27 00:00:00	25.8	115.18	213.9	8.11
2022-04-28 00:00:00	26.01	120.15	202.95	8.73
2022-04-29 00:00:00	25.26	120.14	203.67	8.72
2022-04-30 00:00:00	25.4	120.34	203.94	8.73
2022-05-01 00:00:00	26.01	120.3	203.72	8.73
2022-05-02 00:00:00	24.75	120.13	203.73	8.72
2022-05-03 00:00:00	24.28	120.08	203.23	8.72
2022-05-04 00:00:00	23.83	120.29	203.8	8.74
2022-05-05 00:00:00	23.6	120.25	204.42	8.73
2022-05-06 00:00:00	23.6	120.29	203.75	8.73
2022-05-07 00:00:00	24.59	120.5	205.78	8.75
2022-05-08 00:00:00	25.05	120.31	205.26	8.74
2022-05-09 00:00:00	25.16	118.22	206.17	8.25
2022-05-10 00:00:00	25.37	108.26	226.15	7.83
2022-05-11 00:00:00	24.98	105.49	230.46	7.81
2022-05-12 00:00:00	25.47	108.24	228.7	7.83
2022-05-13 00:00:00	25.74	108.82	230.26	7.87
2022-05-14 00:00:00	25.02	122.04	207.09	7.89
2022-05-15 00:00:00	25.04	122.71	212.72	7.91
2022-05-16 00:00:00	17.56	119.7	215.52	7.87
2022-05-17 00:00:00	15.17	120.22	213.62	7.9
2022-05-18 00:00:00	22.78	119.25	219.72	7.97
2022-05-19 00:00:00	25.93	119.53	239.94	7.95
2022-05-20 00:00:00	25.39	118.41	235.68	7.84
2022-05-21 00:00:00	25.33	124.03	233.02	7.88
2022-05-22 00:00:00	25.29	125.26	229.6	7.86
2022-05-23 00:00:00	24.98	126.14	228.72	7.9
2022-05-24 00:00:00	24.52	123.39	232.76	7.93
2022-05-25 00:00:00	25	121.35	223.26	7.91
2022-05-26 00:00:00	25.68	119.39	227.45	7.87
2022-05-27 00:00:00	24.06	123.23	228.09	7.85
2022-05-28 00:00:00	24.28	122.11	229.43	7.88
2022-05-29 00:00:00	24.32	126.64	222.33	7.9
2022-05-30 00:00:00	23.49	132.57	242.45	7.88
2022-05-31 00:00:00	23.79	132.82	222.06	7.89
2022-06-01 00:00:00	24.16	127.22	278.99	7.84
2022-06-02 00:00:00	23.56	140.93	357.11	7.84

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-2				
Time	STACK-CO(mg/m3)	STACK-NOx(mg/m3)	STACK-SO2(mg/m3)	STACK-SPM(mg/m3)
2022-06-03 00:00:00	24.7	140.01	371.91	7.88
2022-06-04 00:00:00	24.06	138.31	364.47	7.91
2022-06-05 00:00:00	23.62	138.47	358.11	7.94
2022-06-06 00:00:00	23.85	131.43	361.38	7.83
2022-06-07 00:00:00	24.63	138.56	371.86	7.83
2022-06-08 00:00:00	24.48	136.95	369.56	7.88
2022-06-09 00:00:00	24.22	138.16	366.66	7.82
2022-06-10 00:00:00	24.16	137.7	366.26	7.88
2022-06-11 00:00:00	25.02	137.81	377.46	7.84
2022-06-12 00:00:00	24.54	138.32	368.7	7.91
2022-06-13 00:00:00	24.77	133.72	344.57	7.83
2022-06-14 00:00:00	23.98	119.7	289.23	7.9
2022-06-15 00:00:00	24.76	121.02	305.8	7.86
2022-06-16 00:00:00	25.5	119.27	292.97	7.88
2022-06-17 00:00:00	24.68	120.42	311.75	7.89
2022-06-18 00:00:00	25.35	125.5	339.29	7.89
2022-06-19 00:00:00	24.98	125.05	358.12	7.89
2022-06-20 00:00:00	25.04	116.07	358.81	7.89
2022-06-21 00:00:00	24.53	119.78	362.64	7.88
2022-06-22 00:00:00	24.2	123.14	336.69	7.93
2022-06-23 00:00:00	23.55	121.88	329.4	7.85
2022-06-24 00:00:00	17.56	125.59	301.02	7.85
2022-06-25 00:00:00	16.81	127.17	328.04	7.87
2022-06-26 00:00:00	18.22	128.76	322.34	7.82
2022-06-27 00:00:00	18.98	131.56	314.09	7.8
2022-06-28 00:00:00	19.55	130.05	296.33	7.82
2022-06-29 00:00:00	20.38	130.62	315.9	7.84
2022-06-30 00:00:00	22.38	131.7	321.91	7.83
2022-07-01 00:00:00	24.96	130.36	326.68	7.92
2022-07-02 00:00:00	25.05	130.1	331.65	7.97
2022-07-03 00:00:00	24.27	134.48	347.16	7.9
2022-07-04 00:00:00	23.7	132.78	347.33	7.86
2022-07-05 00:00:00	23.76	132.67	336.94	7.83
2022-07-06 00:00:00	22.7	128.3	332.28	7.9
2022-07-07 00:00:00	19.8	130.68	334.38	7.84
2022-07-08 00:00:00	22.05	131.29	334.48	7.86
2022-07-09 00:00:00	21.6	137.49	337.87	7.87
2022-07-10 00:00:00	21.16	135.38	339.7	7.88
2022-07-11 00:00:00	23.36	135.91	347.19	7.81
2022-07-12 00:00:00	23.18	137.89	372.21	7.82
2022-07-13 00:00:00	22.52	132.87	400.35	7.79
2022-07-14 00:00:00	17.68	84.84	316.49	6.11
2022-07-15 00:00:00	22.19	75.84	392.62	7.73
2022-07-16 00:00:00	23.8	78.24	420.1	7.62
2022-07-17 00:00:00	24.34	79.13	428.76	7.85
2022-07-18 00:00:00	24.9	80.2	438.41	7.89
2022-07-19 00:00:00	23.84	83.37	420.64	7.92
2022-07-20 00:00:00	24.06	86.77	426.03	7.91
2022-07-21 00:00:00	24.34	86.99	427.16	7.84
2022-07-22 00:00:00	24.73	87.69	433.68	7.91
2022-07-23 00:00:00	24.2	86.97	425.93	7.92

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-2				
Time	STACK-CO(mg/m3)	STACK-NOx(mg/m3)	STACK-SO2(mg/m3)	STACK-SPM(mg/m3)
2022-07-24 00:00:00	23.78	86.28	419.11	7.91
2022-07-25 00:00:00	24.03	86.54	423.39	7.91
2022-07-26 00:00:00	23.58	86.15	416.94	7.89
2022-07-27 00:00:00	22.89	85.05	405.3	7.97
2022-07-28 00:00:00	20.76	81.86	371.44	7.94
2022-07-29 00:00:00	17.64	77.1	319.95	7.86
2022-07-30 00:00:00	17.87	77.65	324.7	7.73
2022-07-31 00:00:00	17.46	76.91	317.23	7.56
2022-08-01 00:00:00	18.45	78.36	332.91	7.61
2022-08-02 00:00:00	33.19	108.39	371.47	7.85
2022-08-03 00:00:00	22.92	133.81	374.58	7.51
2022-08-04 00:00:00	21.89	130.12	350.81	7.51
2022-08-05 00:00:00	22.19	132.21	418.38	7.51
2022-08-06 00:00:00	21.92	137.6	397.51	7.52
2022-08-07 00:00:00	21.45	135.17	352.1	7.58
2022-08-08 00:00:00	21.33	139.58	393.34	7.59
2022-08-09 00:00:00	20.93	137.19	359.4	7.62
2022-08-10 00:00:00	20.28	140.84	329.41	7.53
2022-08-11 00:00:00	19.93	141.54	365.16	7.57
2022-08-12 00:00:00	19.55	140.62	339.54	7.59
2022-08-13 00:00:00	18.4	141.79	350.57	7.54
2022-08-14 00:00:00	18.8	137.88	341.77	7.55
2022-08-15 00:00:00	19.34	140.33	359.51	7.57
2022-08-16 00:00:00	18.32	142.9	351.31	7.61
2022-08-17 00:00:00	16.18	139.77	317.13	7.62
2022-08-18 00:00:00	14.39	137.08	261.45	7.65
2022-08-19 00:00:00	14.22	136.61	261.21	7.59
2022-08-20 00:00:00	14.59	134.46	277.49	7.6
2022-08-21 00:00:00	14.38	120.57	308.76	7.55
2022-08-22 00:00:00	14.85	138.25	272.8	7.54
2022-08-23 00:00:00	14.27	140.22	270.81	7.54
2022-08-24 00:00:00	14.8	134.77	318.83	7.56
2022-08-25 00:00:00	15.6	140.18	338.13	7.59
2022-08-26 00:00:00	15.85	139.55	331.81	7.63
2022-08-27 00:00:00	16.16	139.85	337.3	7.63
2022-08-28 00:00:00	15.09	125.47	294.91	7.57
2022-08-29 00:00:00	14.31	118.34	275.84	7.65
2022-08-30 00:00:00	13.88	109.32	299.15	7.62
2022-08-31 00:00:00	14.29	99.88	355.73	7.64
Prescribed Standards	0 - 200	0 - 450	0 - 1700	0 - 100
Maximum Value	33.19	142.9	438.41	16.03
Maximum Value At Time	2022-08-02 00:00:00	2022-08-16 00:00:00	2022-07-18 00:00:00	2022-01-20 00:00:00
Minimum Value	9.41	70.67	161.67	5.21
Minimum Value At Time	2022-03-25 00:00:00	2022-03-25 00:00:00	2022-03-25 00:00:00	2022-03-25 00:00:00
Geometric Mean	22.21	112.33	303.49	10.34
Median	24.2	116.12	324.98	7.89
Standard Deviation	4.2	19.27	68.99	3.78
Valid Data Points	243	243	243	243
Total Data Points	243	243	243	243
Data Availability %	100	100	100	100

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-1				
Time	WATER_TREATMENT_PLANT- PM2.5(ug/m3)	WATER_TREATMENT_PLANT- PM10(ug/m3)	WATER_TREATMENT_PLANT- VOC(ug/m3)	TANK_FORM- VOC(ug/m3)
2022-03-05 00:00:00	25.09	47.67	0.05	0.07
2022-03-06 00:00:00	21.52	61.15	0.04	0.07
2022-03-07 00:00:00	23.92	60.96	0.05	0.07
2022-03-08 00:00:00	26.61	58.3	0.05	0.07
2022-03-09 00:00:00	28.49	58.41	0.05	0.07
2022-03-10 00:00:00	24.37	59.15	0.05	0.07
2022-03-11 00:00:00	24.34	58.45	0.05	0.07
2022-03-12 00:00:00	26.29	58.43	0.05	0.07
2022-03-13 00:00:00	24.85	58.51	0.05	0.07
2022-03-14 00:00:00	26.28	58.61	0.05	0.07
2022-03-15 00:00:00	26.69	57.58	0.05	0.07
2022-03-16 00:00:00	27.12	59.07	0.04	0.07
2022-03-17 00:00:00	26.22	54.57	0.05	0.07
2022-03-18 00:00:00	23.96	51.95	0.05	0.07
2022-03-19 00:00:00	23.72	55.64	0.05	0.07
2022-03-20 00:00:00	27.86	61.33	0.05	0.07
2022-03-21 00:00:00	27.54	55.4	0.05	0.07
2022-03-22 00:00:00	29.22	50.87	0.05	0.07
2022-03-23 00:00:00	34.9	72.94	0.05	0.07
2022-03-24 00:00:00	28.04	72.91	0.04	0.07
2022-03-25 00:00:00	24.76	70.89	0.05	0.07
2022-03-26 00:00:00	21.54	67.21	0.05	0.07
2022-03-27 00:00:00	21.15	63.03	0.04	0.07
2022-03-28 00:00:00	20.64	55.03	0.04	0.06
2022-03-29 00:00:00	19.46	49.92	0.05	0.07
2022-03-30 00:00:00	19.4	52.97	0.05	0.07
2022-03-31 00:00:00	19.77	51.01	0.05	0.07
2022-04-01 00:00:00	19.51	49.73	0.05	0.07
2022-04-02 00:00:00	20.04	47.24	0.05	0.07
2022-04-03 00:00:00	19.38	42.51	0.04	0.07
2022-04-04 00:00:00	NA	NA	NA	NA
2022-04-05 00:00:00	NA	NA	NA	NA
2022-04-06 00:00:00	NA	NA	NA	NA
2022-04-07 00:00:00	20.77	56.24	0.05	0.07
2022-04-08 00:00:00	19.92	53.14	0.05	0.07
2022-04-09 00:00:00	21.17	51.47	0.07	0.09
2022-04-10 00:00:00	22.77	68.36	0.06	0.08
2022-04-11 00:00:00	21.55	65.34	0.05	0.07
2022-04-12 00:00:00	21.02	63.56	0.05	0.07
2022-04-13 00:00:00	21.9	59.27	0.05	0.07
2022-04-14 00:00:00	20.89	57.67	0.05	0.07
2022-04-15 00:00:00	20.35	42.13	0.05	0.07
2022-04-16 00:00:00	20.17	42.58	0.05	0.07
2022-04-17 00:00:00	20.71	47.81	0.06	0.08
2022-04-18 00:00:00	23.24	53.52	0.06	0.08
2022-04-19 00:00:00	23.07	54.32	0.06	0.08
2022-04-20 00:00:00	22.88	55.61	0.06	0.08
2022-04-21 00:00:00	20.61	57.35	0.06	0.08
2022-04-22 00:00:00	20.05	59.15	0.06	0.08
2022-04-23 00:00:00	20.16	77.98	0.05	0.07
2022-04-24 00:00:00	20.59	78.43	0.05	0.07
2022-04-25 00:00:00	20.24	78.08	0.05	0.07
2022-04-26 00:00:00	20.23	72.39	0.05	0.07
2022-04-27 00:00:00	20.06	59.38	0.05	0.07
2022-04-28 00:00:00	20.16	42.88	0.05	0.07
2022-04-29 00:00:00	20.41	49.25	0.05	0.07
2022-04-30 00:00:00	20.27	50.84	0.04	0.06
2022-05-01 00:00:00	21.69	59.17	0.04	0.06
2022-05-02 00:00:00	26.18	73.41	0.04	0.06
2022-05-03 00:00:00	20.89	63.7	0.04	0.06
2022-05-04 00:00:00	22.06	66.26	0.04	0.06

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-1				
Time	WATER_TREATMENT_PLANT- PM2.5(ug/m3)	WATER_TREATMENT_PLANT- PM10(ug/m3)	WATER_TREATMENT_PLANT- VOC(ug/m3)	TANK_FORM- VOC(ug/m3)
2022-05-05 00:00:00	24.23	70.08	0.04	0.06
2022-05-06 00:00:00	24.06	60.93	0.04	0.06
2022-05-07 00:00:00	25.07	75.77	0.04	0.06
2022-05-08 00:00:00	26.04	71.71	0.04	0.06
2022-05-09 00:00:00	26.49	76.7	0.04	0.06
2022-05-10 00:00:00	23.8	70.95	0.04	0.06
2022-05-11 00:00:00	23.42	73	0.04	0.06
2022-05-12 00:00:00	19.28	60.38	0.04	0.06
2022-05-13 00:00:00	22.21	58.33	NA	NA
2022-05-14 00:00:00	23.11	73.07	NA	NA
2022-05-15 00:00:00	18.73	58.99	NA	NA
2022-05-16 00:00:00	21.23	60.13	NA	NA
2022-05-17 00:00:00	20.28	62.19	0.04	0.06
2022-05-18 00:00:00	19.03	59	0.05	0.07
2022-05-19 00:00:00	19.88	69.09	0.05	0.07
2022-05-20 00:00:00	26.04	73.08	0.05	0.07
2022-05-21 00:00:00	23.7	77.64	0.05	0.07
2022-05-22 00:00:00	24.92	77.53	0.05	0.06
2022-05-23 00:00:00	21.29	65.98	0.04	0.06
2022-05-24 00:00:00	22.82	70.51	0.04	0.07
2022-05-25 00:00:00	24.33	73.11	0.04	0.07
2022-05-26 00:00:00	22.74	73.72	0.05	0.07
2022-05-27 00:00:00	20.75	74.7	0.05	0.07
2022-05-28 00:00:00	25.33	72.74	0.05	0.07
2022-05-29 00:00:00	22.32	73.8	0.05	0.07
2022-05-30 00:00:00	21.39	66.49	0.04	0.06
2022-05-31 00:00:00	20.94	72.68	0.04	0.06
2022-06-01 00:00:00	22.33	76.34	0.05	0.07
2022-06-02 00:00:00	23.37	77.69	0.05	0.07
2022-06-03 00:00:00	24.38	72.67	0.05	0.07
2022-06-04 00:00:00	25.46	71.75	0.05	0.07
2022-06-05 00:00:00	21.58	70.92	0.05	0.07
2022-06-06 00:00:00	20.65	62.43	0.05	0.07
2022-06-07 00:00:00	20.86	64.66	0.05	0.07
2022-06-08 00:00:00	21.46	70.3	0.05	0.07
2022-06-09 00:00:00	21.22	67.09	0.04	0.06
2022-06-10 00:00:00	19.86	67.04	0.04	0.06
2022-06-11 00:00:00	19.9	69.82	0.04	0.06
2022-06-12 00:00:00	19.2	58.31	0.04	0.06
2022-06-13 00:00:00	19.97	45.76	0.04	0.06
2022-06-14 00:00:00	19.17	61.42	0.04	0.06
2022-06-15 00:00:00	21.07	54.99	0.04	0.06
2022-06-16 00:00:00	19.05	45.1	0.04	0.06
2022-06-17 00:00:00	21.21	55.99	0.04	0.07
2022-06-18 00:00:00	19.26	45.4	0.04	0.07
2022-06-19 00:00:00	19.35	53.98	0.04	0.06
2022-06-20 00:00:00	19.56	45.11	0.04	0.06
2022-06-21 00:00:00	19.01	48.59	0.05	0.07
2022-06-22 00:00:00	20.27	55.04	0.06	0.07
2022-06-23 00:00:00	24.03	73.32	0.06	0.08
2022-06-24 00:00:00	20.8	70.13	0.07	0.08
2022-06-25 00:00:00	19.94	62.51	0.06	0.08
2022-06-26 00:00:00	20.32	74.63	0.06	0.08
2022-06-27 00:00:00	20.06	74.97	0.05	0.07
2022-06-28 00:00:00	20.59	70.84	0.05	0.07
2022-06-29 00:00:00	19.18	63.36	0.05	0.07
2022-06-30 00:00:00	19.06	47.31	0.05	0.07
2022-07-01 00:00:00	19.13	48.64	0.05	0.07
2022-07-02 00:00:00	20.31	59.35	0.06	0.07
2022-07-03 00:00:00	21.88	70.75	0.06	0.07
2022-07-04 00:00:00	20.47	62.27	0.05	0.07

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-1				
Time	WATER_TREATMENT_PLANT- PM2.5(ug/m3)	WATER_TREATMENT_PLANT- PM10(ug/m3)	WATER_TREATMENT_PLANT- VOC(ug/m3)	TANK_FORM- VOC(ug/m3)
2022-07-05 00:00:00	19.32	49.86	0.05	0.07
2022-07-06 00:00:00	20.48	58.7	0.05	0.07
2022-07-07 00:00:00	20.57	72.11	0.05	0.07
2022-07-08 00:00:00	19.09	69.56	0.05	0.07
2022-07-09 00:00:00	20.59	69	0.05	0.07
2022-07-10 00:00:00	19.41	48.06	0.05	0.07
2022-07-11 00:00:00	18.92	57.31	0.05	0.07
2022-07-12 00:00:00	19.92	65.62	0.05	0.07
2022-07-13 00:00:00	19.02	59.62	0.05	0.07
2022-07-14 00:00:00	19.82	74.59	0.05	0.07
2022-07-15 00:00:00	20.5	78.18	0.05	0.07
2022-07-16 00:00:00	20.17	78.02	0.05	0.07
2022-07-17 00:00:00	20.15	77.27	0.06	0.07
2022-07-18 00:00:00	20.19	60.96	0.05	0.07
2022-07-19 00:00:00	21.1	68.84	0.05	0.07
2022-07-20 00:00:00	20.86	64.7	0.05	0.07
2022-07-21 00:00:00	19.07	57.19	0.05	0.07
2022-07-22 00:00:00	19.89	58.71	0.05	0.07
2022-07-23 00:00:00	20.42	62.59	0.05	0.07
2022-07-24 00:00:00	19.97	64.81	0.05	0.07
2022-07-25 00:00:00	21.26	77.32	0.05	0.07
2022-07-26 00:00:00	19.93	68.42	0.05	0.07
2022-07-27 00:00:00	21.51	69.6	0.05	0.07
2022-07-28 00:00:00	21.73	59.3	0.05	0.07
2022-07-29 00:00:00	20.74	57.4	0.05	0.07
2022-07-30 00:00:00	21.51	57.43	0.05	0.07
2022-07-31 00:00:00	21.48	52.8	0.05	0.07
2022-08-01 00:00:00	20.35	57.32	0.05	0.07
2022-08-02 00:00:00	22.2	68.05	0.05	0.07
2022-08-03 00:00:00	24.17	77.98	0.05	0.07
2022-08-04 00:00:00	23.64	75.89	0.05	0.07
2022-08-05 00:00:00	19.26	57.45	0.05	0.07
2022-08-06 00:00:00	19.34	55.39	0.05	0.07
2022-08-07 00:00:00	19.85	44.58	0.05	0.07
2022-08-08 00:00:00	19.06	59.97	0.05	0.07
2022-08-09 00:00:00	19.47	64.89	0.05	0.07
2022-08-10 00:00:00	20.03	68.83	0.05	0.07
2022-08-11 00:00:00	20.87	72.39	0.05	0.07
2022-08-12 00:00:00	20.5	68.72	0.05	0.07
2022-08-13 00:00:00	18.46	63.96	0.05	0.07
2022-08-14 00:00:00	19.76	60.28	0.05	0.07
2022-08-15 00:00:00	19.17	67.68	0.05	0.07
2022-08-16 00:00:00	19.91	59.37	0.05	0.07
2022-08-17 00:00:00	19.12	59.55	0.05	0.07
2022-08-18 00:00:00	19.74	65.52	0.05	0.07
2022-08-19 00:00:00	19.05	67.75	0.05	0.07
2022-08-20 00:00:00	19.73	76.23	0.05	0.07
2022-08-21 00:00:00	19.84	68.11	0.05	0.07
2022-08-22 00:00:00	19.87	51.57	0.05	0.07
2022-08-23 00:00:00	19.99	54.64	0.05	0.07
2022-08-24 00:00:00	20.61	55.46	0.05	0.07
2022-08-25 00:00:00	21.53	66.93	0.05	0.07
2022-08-26 00:00:00	18.95	61.4	0.05	0.07
2022-08-27 00:00:00	19.31	50.75	0.05	0.07
2022-08-28 00:00:00	19.91	51.66	0.05	0.07
2022-08-29 00:00:00	20.74	54.09	0.05	0.07
2022-08-30 00:00:00	21.27	55.02	0.05	0.07
2022-08-31 00:00:00	20.12	50.93	0.05	0.07
Prescribed Standards	0 - 60	0 - 100	0 -	0 -
Maximum Value	34.9	78.43	0.07	0.09

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-1				
Time	WATER_TREATMENT_PLANT- PM2.5(ug/m3)	WATER_TREATMENT_PLANT- PM10(ug/m3)	WATER_TREATMENT_PLANT- VOC(ug/m3)	TANK_FORM- VOC(ug/m3)
Maximum Value At Time	2022-03-23 00:00:00	2022-04-24 00:00:00	2022-06-24 00:00:00	2022-04-09 00:00:00
Minimum Value	16.39	37.15	0.04	0.02
Minimum Value At Time	2022-03-02 00:00:00	2022-01-12 00:00:00	2022-01-14 00:00:00	2022-02-12 00:00:00
Geometric Mean	21.98	60.84	0.08	0.17
Median	21.12	59.36	0.05	0.07
Standard Deviation	2.68	8.83	0.43	1.24
Valid Data Points	240	240	236	236
Total Data Points	243	243	243	243
Data Availability %	98.77	98.77	97.12	97.12

ANNEXURE - 6B

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-2				
Time	CONTROL_ROOM- PM2.5(ug/m3)	CONTROL_ROOM- PM10(ug/m3)	CONTROL_ROOM- VOC(ug/m3)	WATER_TREATMENT_P LANT-VOC(ug/m3)
2022-01-01 00:00:00	28.94	57.31	NA	NA
2022-01-02 00:00:00	28.58	58.85	NA	NA
2022-01-03 00:00:00	36.93	61.45	0	0.14
2022-01-04 00:00:00	35.55	62.12	0	0.14
2022-01-05 00:00:00	33.34	57.61	0	0.15
2022-01-06 00:00:00	31.25	51.09	0	0.14
2022-01-07 00:00:00	27.76	46.57	0	0.14
2022-01-08 00:00:00	26.43	43.87	0	0.14
2022-01-09 00:00:00	28.38	48.45	0	0.14
2022-01-10 00:00:00	26.87	42.24	0	0.15
2022-01-11 00:00:00	22.71	40.34	0	0.14
2022-01-12 00:00:00	24.79	43.01	0	0.14
2022-01-13 00:00:00	27.46	49.63	0	0.14
2022-01-14 00:00:00	30.37	50.93	0	0.14
2022-01-15 00:00:00	29.61	49.87	0	0.14
2022-01-16 00:00:00	22.11	45.43	0	0.14
2022-01-17 00:00:00	22.74	50.11	0	0.15
2022-01-18 00:00:00	32.64	58.03	0	0.15
2022-01-19 00:00:00	37.42	63.6	0	0.14
2022-01-20 00:00:00	38.84	65.37	0	0.15
2022-01-21 00:00:00	39.82	61.78	0	0.15
2022-01-22 00:00:00	32.16	58.63	0	0.14
2022-01-23 00:00:00	30.01	58.27	0	0.15
2022-01-24 00:00:00	28.13	55.27	0	0.14
2022-01-25 00:00:00	32.21	55.62	0	0.15
2022-01-26 00:00:00	24.94	46.34	0	0.15
2022-01-27 00:00:00	26.38	40.95	0	0.14
2022-01-28 00:00:00	26.7	51.64	0	0.14
2022-01-29 00:00:00	34.78	62.41	0	0.15
2022-01-30 00:00:00	35.01	62.63	0	0.14
2022-01-31 00:00:00	33.75	60.98	0	0.14
2022-02-01 00:00:00	34.28	56.94	0	0.14
2022-02-02 00:00:00	33.25	49.72	0	0.15
2022-02-03 00:00:00	32.19	50.88	0	0.15
2022-02-04 00:00:00	33.72	50.81	0	0.14
2022-02-05 00:00:00	28.96	50.65	0	0.14
2022-02-06 00:00:00	28.47	45.55	0	0.14
2022-02-07 00:00:00	31.29	51.21	0	0.14
2022-02-08 00:00:00	30.95	53.26	0	0.15
2022-02-09 00:00:00	26.71	50.7	0	0.14
2022-02-10 00:00:00	37.1	56.85	0	0.14
2022-02-11 00:00:00	32.76	50.01	0	0.14
2022-02-12 00:00:00	29.73	48.37	0	0.14
2022-02-13 00:00:00	41.72	57.91	0	0.15
2022-02-14 00:00:00	41.83	62.25	0	0.14
2022-02-15 00:00:00	37.14	53.2	0	0.14
2022-02-16 00:00:00	41.08	61.98	0	0.14
2022-02-17 00:00:00	38.89	58.78	0	0.15
2022-02-18 00:00:00	39.12	59.62	0	0.15
2022-02-19 00:00:00	39.54	58.83	0	0.14

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-2				
Time	CONTROL_ROOM- PM2.5(ug/m3)	CONTROL_ROOM- PM10(ug/m3)	CONTROL_ROOM- VOC(ug/m3)	WATER_TREATMENT_P LANT-VOC(ug/m3)
2022-02-20 00:00:00	41.52	60.81	0	0.14
2022-02-21 00:00:00	35.89	55.26	0	0.14
2022-02-22 00:00:00	33.53	52.9	0	0.14
2022-02-23 00:00:00	32.42	50.16	0	0.14
2022-02-24 00:00:00	38.49	47.31	0	0.14
2022-02-25 00:00:00	35.76	44.54	0	0.15
2022-02-26 00:00:00	34.09	42.72	0	0.14
2022-02-27 00:00:00	37.51	51.64	0	0.14
2022-02-28 00:00:00	35.3	47.54	0	0.14
2022-03-01 00:00:00	34.98	48.21	0	0.14
2022-03-02 00:00:00	36.26	53.08	0	0.14
2022-03-03 00:00:00	37.85	57.13	0	0.14
2022-03-04 00:00:00	40.01	54.64	0	0.14
2022-03-05 00:00:00	42.25	52.11	0	0.15
2022-03-06 00:00:00	28.06	52.39	0	0.15
2022-03-07 00:00:00	33.3	46.67	0	0.14
2022-03-08 00:00:00	40.27	53.28	0	0.14
2022-03-09 00:00:00	39.94	58.78	0	0.14
2022-03-10 00:00:00	38.49	53.6	0	0.14
2022-03-11 00:00:00	43.14	58.8	0	0.15
2022-03-12 00:00:00	40.16	59.46	0	0.15
2022-03-13 00:00:00	43.03	62.67	0	0.15
2022-03-14 00:00:00	39.97	59.89	0	0.14
2022-03-15 00:00:00	41.87	60.49	0	0.14
2022-03-16 00:00:00	38.92	53.7	0	0.14
2022-03-17 00:00:00	37.95	50.62	0	0.14
2022-03-18 00:00:00	36.49	53.86	0	0.14
2022-03-19 00:00:00	35.98	56.72	0	0.14
2022-03-20 00:00:00	40.62	60.17	0	0.15
2022-03-21 00:00:00	41.5	60.31	0	0.15
2022-03-22 00:00:00	37.97	58.8	0	0.14
2022-03-23 00:00:00	36.18	55.2	0	0.14
2022-03-24 00:00:00	32.89	54.13	0	0.14
2022-03-25 00:00:00	33.31	55.88	0	0.14
2022-03-26 00:00:00	32.08	55.16	0	0.14
2022-03-27 00:00:00	31.29	52.82	0	0.15
2022-03-28 00:00:00	31.92	56.22	0	0.14
2022-03-29 00:00:00	34.85	60.22	0	0.13
2022-03-30 00:00:00	38.2	53.74	0	0.13
2022-03-31 00:00:00	25.05	42.38	0	0.13
2022-04-01 00:00:00	32.35	45.32	0	0.13
2022-04-02 00:00:00	34.74	57.38	0	0.14
2022-04-03 00:00:00	35.98	55.72	0	0.14
2022-04-04 00:00:00	35.08	59.5	0	0.13
2022-04-05 00:00:00	30.85	60.76	0	0.14
2022-04-06 00:00:00	34.07	59.36	0	0.13
2022-04-07 00:00:00	31.08	60.56	0	0.13
2022-04-08 00:00:00	32.93	58.56	0	0.13
2022-04-09 00:00:00	32.91	60.65	0	0.13
2022-04-10 00:00:00	30.65	62.35	0	0.14

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-2				
Time	CONTROL_ROOM- PM2.5(ug/m3)	CONTROL_ROOM- PM10(ug/m3)	CONTROL_ROOM- VOC(ug/m3)	WATER_TREATMENT_P LANT-VOC(ug/m3)
2022-04-11 00:00:00	29.8	57.82	0	0.14
2022-04-12 00:00:00	29.19	58.36	0	0.13
2022-04-13 00:00:00	36.44	58.52	0	0.13
2022-04-14 00:00:00	33.7	54.71	0	0.14
2022-04-15 00:00:00	30.73	56.83	0	0.13
2022-04-16 00:00:00	31.57	57.72	0	0.13
2022-04-17 00:00:00	31.54	56.32	0	0.13
2022-04-18 00:00:00	38.69	63.49	0	0.13
2022-04-19 00:00:00	39.34	63.78	0	0.14
2022-04-20 00:00:00	42.32	58.29	0	0.14
2022-04-21 00:00:00	34.95	57.07	0	0.14
2022-04-22 00:00:00	30.72	56	0	0.14
2022-04-23 00:00:00	37.27	61.66	0	0.14
2022-04-24 00:00:00	38.32	61.45	0	0.14
2022-04-25 00:00:00	36.58	55.96	0	0.14
2022-04-26 00:00:00	47.23	66.53	0	0.14
2022-04-27 00:00:00	39.36	58.69	0	0.14
2022-04-28 00:00:00	41.97	61.28	0	0.14
2022-04-29 00:00:00	41.77	61.07	0	0.14
2022-04-30 00:00:00	43.34	62.62	0	0.14
2022-05-01 00:00:00	47.59	66.88	0	0.14
2022-05-02 00:00:00	38.07	57.42	0	0.14
2022-05-03 00:00:00	44.72	64.07	0	0.14
2022-05-04 00:00:00	38.97	58.34	0	0.14
2022-05-05 00:00:00	41.68	60.99	0	0.14
2022-05-06 00:00:00	56.83	76.03	0	0.14
2022-05-07 00:00:00	56.87	76.09	0	0.14
2022-05-08 00:00:00	56.88	76.05	0	0.14
2022-05-09 00:00:00	47.19	66.41	0	0.14
2022-05-10 00:00:00	40.69	61.45	0	0.14
2022-05-11 00:00:00	32.07	51.02	0	0.14
2022-05-12 00:00:00	28.95	44.55	0	0.14
2022-05-13 00:00:00	28.63	42.4	0	0.65
2022-05-14 00:00:00	31.46	51.49	0	0.24
2022-05-15 00:00:00	35.19	45.28	0	0.25
2022-05-16 00:00:00	33.15	45.28	0	0.24
2022-05-17 00:00:00	30.71	46.07	0	0.24
2022-05-18 00:00:00	29.48	45.32	0	0.24
2022-05-19 00:00:00	29.48	45.83	0	0.25
2022-05-20 00:00:00	32.23	45.83	0	0.25
2022-05-21 00:00:00	32.95	51.53	0	0.25
2022-05-22 00:00:00	33.94	44.77	0	0.46
2022-05-23 00:00:00	33.24	53.31	0	0.25
2022-05-24 00:00:00	31.63	49.92	0	0.25
2022-05-25 00:00:00	26.49	44.83	0	0.25
2022-05-26 00:00:00	34.51	51.92	0	0.24
2022-05-27 00:00:00	32.24	48.92	0	0.24
2022-05-28 00:00:00	30	43.51	0	0.24
2022-05-29 00:00:00	30.59	50.17	0	0.24
2022-05-30 00:00:00	28.56	50.21	0	0.24
2022-05-31 00:00:00	29.59	49.1	0	0.24

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-2				
Time	CONTROL_ROOM- PM2.5(ug/m3)	CONTROL_ROOM- PM10(ug/m3)	CONTROL_ROOM- VOC(ug/m3)	WATER_TREATMENT_P LANT-VOC(ug/m3)
2022-05-31 00:00:00	26.64	52.18	0	0.24
2022-06-01 00:00:00	32.55	49.77	0.12	0.99
2022-06-02 00:00:00	33.09	56.67	0.13	0.05
2022-06-03 00:00:00	29.73	49.7	0.13	0.06
2022-06-04 00:00:00	37.23	56.48	0.14	0.06
2022-06-05 00:00:00	28.21	43.08	0.14	0.06
2022-06-06 00:00:00	29.23	48.18	0.14	0.06
2022-06-07 00:00:00	30.15	40.99	0.14	0.07
2022-06-08 00:00:00	24.08	41.76	0.14	0.07
2022-06-09 00:00:00	28.38	39.24	0.14	0.07
2022-06-10 00:00:00	23.88	42.41	0.14	0.07
2022-06-11 00:00:00	29.74	41.17	0.14	0.07
2022-06-12 00:00:00	21.24	40.07	0.14	0.07
2022-06-13 00:00:00	29.37	45.83	0.14	0.07
2022-06-14 00:00:00	36.79	55.81	0.14	0.07
2022-06-15 00:00:00	37.57	59.32	0.14	0.07
2022-06-16 00:00:00	31.27	51.85	0.15	0.08
2022-06-17 00:00:00	35.29	57.06	0.14	0.07
2022-06-18 00:00:00	34.89	55.65	0.14	0.06
2022-06-19 00:00:00	33.06	57.13	0.14	0.06
2022-06-20 00:00:00	31.44	49.06	0.14	0.06
2022-06-21 00:00:00	27.03	45.12	0.14	0.07
2022-06-22 00:00:00	30.54	46.01	0.14	0.07
2022-06-23 00:00:00	32.17	48.11	0.14	0.07
2022-06-24 00:00:00	29.57	41.87	0.14	0.06
2022-06-25 00:00:00	30.79	39.43	0.14	0.06
2022-06-26 00:00:00	31.33	39.39	0.14	0.07
2022-06-27 00:00:00	27.77	37.35	0.14	0.06
2022-06-28 00:00:00	26.94	43.88	0.14	0.07
2022-06-29 00:00:00	24.53	39.3	0.14	0.07
2022-06-30 00:00:00	28.28	42.71	0.14	0.07
2022-07-01 00:00:00	25.6	41.08	0.14	0.07
2022-07-02 00:00:00	23.01	40.24	0.15	0.07
2022-07-03 00:00:00	28.15	40.94	0.14	0.07
2022-07-04 00:00:00	25.43	38.46	0.14	0.07
2022-07-05 00:00:00	26.33	40.13	0.14	0.07
2022-07-06 00:00:00	27.19	40.14	0.14	0.07
2022-07-07 00:00:00	31.16	44.31	0.14	0.07
2022-07-08 00:00:00	22.7	33.05	0.15	0.07
2022-07-09 00:00:00	16.05	42.78	0.14	0.07
2022-07-10 00:00:00	16.19	38.03	0.15	0.07
2022-07-11 00:00:00	19.65	39.39	0.14	0.07
2022-07-12 00:00:00	22.65	40.9	0.14	0.07
2022-07-13 00:00:00	28.3	38.67	0.14	0.07
2022-07-14 00:00:00	25.45	33.03	0.14	0.07
2022-07-15 00:00:00	26.81	39.51	0.14	0.07
2022-07-16 00:00:00	27.62	38.99	0.15	0.07
2022-07-17 00:00:00	29.71	45.02	0.14	0.07
2022-07-18 00:00:00	30.51	54.35	0.14	0.07
2022-07-19 00:00:00	33.02	55.64	0.15	0.07

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-2				
Time	CONTROL_ROOM- PM2.5(ug/m3)	CONTROL_ROOM- PM10(ug/m3)	CONTROL_ROOM- VOC(ug/m3)	WATER_TREATMENT_P LANT-VOC(ug/m3)
2022-07-20 00:00:00	33.44	53.44	0.14	0.07
2022-07-21 00:00:00	37.02	54.15	0.14	0.07
2022-07-22 00:00:00	30.61	55.73	0.15	0.08
2022-07-23 00:00:00	35.72	55.07	0.15	0.07
2022-07-24 00:00:00	36.36	55.67	0.15	0.07
2022-07-25 00:00:00	33.34	52.59	0.14	0.07
2022-07-26 00:00:00	21.16	40.44	0.15	0.07
2022-07-27 00:00:00	28.88	48.23	0.14	0.07
2022-07-28 00:00:00	33.76	53.08	0.14	0.07
2022-07-29 00:00:00	34.54	53.8	0.14	0.07
2022-07-30 00:00:00	34.91	54.21	0.14	0.07
2022-07-31 00:00:00	35.03	54.28	0.15	0.07
2022-08-01 00:00:00	35.04	54.32	0.14	0.07
2022-08-02 00:00:00	38.03	56.81	0.59	0.59
2022-08-03 00:00:00	36.22	55.52	0.14	0.07
2022-08-04 00:00:00	35.22	54.51	0.14	0.07
2022-08-05 00:00:00	23	42.38	0.14	0.07
2022-08-06 00:00:00	20.26	39.64	0.14	0.07
2022-08-07 00:00:00	19	38.32	0.14	0.07
2022-08-08 00:00:00	20.31	41.26	0.14	0.07
2022-08-09 00:00:00	21.45	40.83	0.14	0.07
2022-08-10 00:00:00	19.67	39.02	0.14	0.07
2022-08-11 00:00:00	22.33	41.63	0.14	0.07
2022-08-12 00:00:00	25.25	44.61	0.14	0.07
2022-08-13 00:00:00	20.99	40.39	0.13	0.06
2022-08-14 00:00:00	21.71	41.08	0.14	0.07
2022-08-15 00:00:00	23.9	43.29	0.14	0.07
2022-08-16 00:00:00	23.04	42.37	0.14	0.07
2022-08-17 00:00:00	25.98	45.31	0.14	0.07
2022-08-18 00:00:00	24.75	44.13	0.14	0.07
2022-08-19 00:00:00	28.58	47.96	0.14	0.07
2022-08-20 00:00:00	26.03	45.42	0.14	0.07
2022-08-21 00:00:00	27.03	46.41	0.14	0.07
2022-08-22 00:00:00	20.4	39.83	0.14	0.07
2022-08-23 00:00:00	20.98	40.4	0.14	0.07
2022-08-24 00:00:00	22.88	42.22	0.14	0.07
2022-08-25 00:00:00	26	45.36	0.14	0.07
2022-08-26 00:00:00	18.59	37.99	0.15	0.08
2022-08-27 00:00:00	22.72	42.04	0.15	0.08
2022-08-28 00:00:00	15.99	35.43	0.14	0.07
2022-08-29 00:00:00	27.04	46.4	0.14	0.07
2022-08-30 00:00:00	19.59	39.01	0.14	0.07
2022-08-31 00:00:00	25.89	45.25	0.14	0.07
Prescribed Standards	0 - 60	0 - 100	0 -	0 -
Maximum Value	56.88	76.09	0.59	0.99
Maximum Value At Time	2022-05-08 00:00:00	2022-05-07 00:00:00	2022-08-02 00:00:00	2022-06-01 00:00:00
Minimum Value	15.99	33.03	0	0.05
Minimum Value At Time	2022-08-28 00:00:00	2022-07-14 00:00:00	2022-01-03 00:00:00	2022-06-02 00:00:00
Geometric Mean	32.08	51.32	0.06	0.13
Median	32.16	51.85	0	0.14

Online Pollution Monitoring Portal				
Manali Petrochemicals Ltd., Plant-2				
Time	CONTROL_ROOM- PM2.5(ug/m3)	CONTROL_ROOM- PM10(ug/m3)	CONTROL_ROOM- VOC(ug/m3)	WATER_TREATMENT_P LANT-VOC(ug/m3)
Standard Deviation	6.85	8.21	0.08	0.09
Valid Data Points	243	243	241	241
Total Data Points	243	243	243	243
Data Availability %	100	100	99.18	99.18

ANNEXURE - 7

BEFORE THE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE, CHENNAI

Original Application No. 256 of 2020 (SZ)

IN THE MATTER OF

Tribunal on its own motion-SUOMOTU based on The News item in News Desk Magazine dated 11.11.2020, Air Pollution and Industries, "These Six Industries in North Chennai are polluting the air for more than half the year, the North Chennai Thermal Power station alone Ennore Port"

Union of India
Ministry of Environment, Forest and
Climate Change & 15 Others

....Respondents

PAPER BOOK I

REPLY STATEMENT FILED ON BEHALF OF
MANALI PETROCHEMICALS LIMITED
15TH RESPONDENT

M/s. AL. GANTHIMATHI
ADVOCATES FOR 15TH RESPONDENT

For Manali Petrochemicals Limited



M. Karthikeyan
Whole-time Director (Operations)

**BEFORE THE NATIONAL GREEN TRIBUNAL SOUTHERN
ZONE, CHENNAI**

Original Application No. 256 of 2020 (SZ)

IN THE MATTER OF

Tribunal on its own motion-SUO MOTU

Based on The News item in News Desk

Magazine Dated 11.11.2020, Air Pollution and
Industries, "These Six Industries in North Chennai are
polluting the air for more than half the year, the North
Chennai Thermal Power station alone Ennore Port"

1. Union of India,
Ministry of Environment, Forest and Climate Change,
Rep. by its Secretary,
Indira Paryavaran Bhavan, Jorbagh Road, New Delhi - 100 003.
2. The Chief Secretary to Govt. of Tamil Nadu,
Govt. Secretariat, Fort St. George,
Chennai, Tamil Nadu - 600009.
3. The Secretary to Govt. of Tamil Nadu, Department of Environment,
Govt. Secretariat, Fort St. George,
Chennai, Tamil Nadu - 600009.
4. The Principal Secretary to Govt. of Tamil Nadu,
Industries Department,
Govt. Secretariat, Fort St. George,
Chennai, Tamil Nadu - 600009.
5. Additional Chief Secretary to Govt. of Tamil Nadu,
Municipal Administration and Water Supply Department,
Govt. Secretariat, Fort St. George,
Chennai, Tamil Nadu - 600009.
6. Principal Secretary to Government,
Health and Family Welfare Department,
Secretariat, Chennai 600 009.
7. The Chairman,
Central Pollution Control Board (CPCB),
Parivesh Bhawan, East Arjun Nagar,
Shahdara, Delhi 110 032.
8. The Chairman,
Tamil Nadu Pollution Control Board (TNPCB),

For Manali Petrochemicals Limited

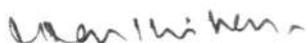


M. Karthikeyan
Whole-time Director (Operations)

- No. 76, Anna Salai, Guindy,
Chennai, Tamil Nadu-600032.
9. The Greater Chennai Corporation,
Rep. by its Commissioner,
Ripon Building, Chennai - 600 003.
 10. The District Collector,
Chennai District,
District Collectorate Office,
No. 62, Rajaji Salai, 4th Floor,
Chennai 600 001.
 11. North Chennai Thermal Power Station
Rep by its Chairman cum Managing Director (TANGEDCO)
Attpattu Main Road,
Thiruvallur District, Athipattu,
Tamil Nadu 600 120.
 12. NTPC Tamil Nadu Energy Company Limited (NTECL)
Rep. by its General Manager (TS),
Vallur Thermal Power Project,
P.O: Vellivoyal Chavadi, Ponneri Taluk, Tiruvallur District, Chennai 600 103.
 13. Chennai Petroleum Corporation Limited (CPCL)
Rep. by its Managing Director,
New No. 536, Anna Salai, Teynampet,
Chennai 600018.
 14. Tamil Nadu Petro products Limited (TPL) ,
Rep. by its Chairperson,
Manali Express Highway, Manali, Chennai 600 068.
 15. Manali Petrochemicals Limited (MPL),
Rep. by its Chairman,
SPIC House, VI Floor, No. 88 Mount Road,
Guindy, Chennai 600 032.
 16. Madras Fertilizers Limited (MFL)
Rep by its Chairman & Managing Director,
SH 104, Harikrishna Puram,
Manali, Chennai, Tamil Nadu – 600 068.

...Respondents

For Manali Petrochemicals Limited



M. Karthikeyan
Whole-time Director (Operations)

REPLY STATEMENT FILED ON BEHALF OF MANALI PETROCHEMICALS LIMITED - 15th RESPONDENT

It is respectfully submitted as follows:

1. It is submitted that the Application No. 256 of 2020, has been taken up by this Hon'ble Tribunal on its own motion Suo moto based on the news item published in News Desk Magazine dated 11.11.2020 under the caption "These Six Industries in North Chennai are polluting the air for more than half the year".
2. The allegations against the 15th Respondent reported in newspaper are factually incorrect and have been made without verifying the facts and hence liable to be dismissed. It is submitted that the main allegation in the newspaper report was six industries mentioned therein have been constantly violating the conditions/consent/permissions granted resulting in serious emission from the industries affecting the air quality in that area. It has been alleged that the stack monitoring systems provided in these units were not proper and the pollution control mechanisms were also not properly maintained by these units. It is submitted that none of the above allegations is correct in so far as Manali Petrochemicals Limited, the 15th Respondent is concerned.
3. Manali Petrochemicals Limited (hereinafter referred to as MPL) is a petrochemical manufacturing Company having its manufacturing facilities in (1) Ponneri High Road, Manali and (2) Sathangadu Village,. MPL is an Associate Sector enterprise of Tamilnadu Industrial Development Corporation Limited (TIDCO), wholly owned by Government of Tamilnadu and produces Propylene Glycol (PG), Polyols, similar petrochemicals and also Propylene Oxide (PO), the feedstock for the said products.
4. MPL is the only Indian manufacturer of PG and the first manufacturer of Polyols and PO in the country. Polyols are made in four grades, viz., Flexible Slab stock, Flexible Cold Cure, Rigid and Elastomers. These find application in the automobile, refrigeration & temperature control, adhesive, sealant, coatings, furniture and textile industries. Use of Polyols is gaining popularity in footwear and roofing applications also.
5. Propylene Glycol (PG) is a colorless, clear, nearly odorless liquid with a faint sweet taste chemical produced by reaction of propylene oxide with water. It is chemically neutral and so does not react with other substances.

For Manali Petrochemicals Limited



M. Karthikeyan
Whole-time Director (Operations)

PG when mixed with water, chloroform and acetone can form a homogenous mixture and it tends to absorb moisture from air. PG remains without affecting the properties of the substances that are required to react. Thus, it is useful in mixing contrasting elements such as perfumes and is also consumed as solvent in a wide variety of applications. PG is used in large varieties of applications and most commonly as drug solubilizer in tropical, oral and injectable medications, stabilizer for vitamins and also as a water miscible co solvent. The Food and Drug Administration (FDA) has recognized PG as a safe additive for human consumption, especially for pharmaceutical and food formulations. In addition to the above, PG is also used as moisturizer in cosmetic products and as a dispersant in fragrances. PG also has industrial applications like manufacture of resins and other products.

6. MPL has installed boilers of various capacities in its Plants for operational purposes, for which all the required licenses have been obtained as per Indian Boiler Regulations (IBR). The details of the boilers and the licenses of Plant – 1 & 2 are given below:

Details of Boilers – Plant - 1			
Boiler Reg. No.	Boiler Capacity	Make	License validity
T-5158	18 TPH	Thermax	05-08-2021
T-5159	18 TPH	Thermax	27-05-2022
Details of Boilers – Plant - 2			
Boiler Reg. No.	Boiler Capacity	Make	License validity
T-5111	10 TPH	Nestler	28-09-2021
T-5848	10 TPH	Thermax	24-08-2021
T-11564	21 TPH	Thermax	26-11-2021

Copies of the licenses have been enclosed in **Annexure – I-A, I-B, I-C, I-D & I-E.**

7. It is submitted that at present MPL uses Re-gasified Liquefied Natural Gas (R-LNG) as fuel for the boilers in Plant 1 and Low Sulphur Fuel Oil (LSFO) in Plant 2. It is submitted that, actions have been taken for switchover to LNG in Plant 2 also, but the supplies have not commenced due to delay in laying of pipelines by IOCL for the same.
8. It is submitted that, in respect of operating above boilers, MPL has been complying with the emission norms prescribed under the Relevant

For Manali Petrochemicals Limited



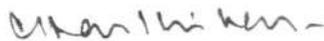
M. Karthikeyan
Whole-time Director (Operations)

Regulations. The emission values are submitted to the CARE-AIR Centre of the Tamilnadu Pollution Control Board on a real time basis. In addition to this, MPL also conducts periodical tests through accredited labs. The details of the emission reports carried out by the accredited labs are furnished in **Annexure II-A and II-B** from which it could be seen that the values have been within the norms.

9. The News report in the News Desk Magazine dated 11.11.2020 alleges that MPL Plants have not complied with the norms for 6104 hours or 9% of the total hours during the period 01/01/2019 to 15/12/2019 which is totally incorrect. This news has been published based on an unverified Report of the Chennai Climate Action Group (CCAG) titled "POISON IN THE AIR - THE REGULATORY BLACK HOLE IN THE ENNORE- MANALI INDUSTRIAL ZONE."
10. ***It is submitted by the 15th Respondent that on a close look at the information provided in Table 7 of Annexure 2 in the Report of the CCAG, it could be seen that the number of exceedance hours by MPL is "Zero". The Report has chosen to classify, "No data hours as non-compliance", which is incorrect and misleading.***
11. In Table 4 of the said Annexure 2 in the Report of the CCAG, the values have been furnished for each of the Plants separately, which contain information on the no data hours which is also totally contrary to the facts as could be seen from the below paras:
12. It is submitted that MPL has installed all the required equipment for Continuous Emission Monitoring System (CEMS) for online connectivity to TNPCB / CPCB monitoring websites and all the analysis are carried out to produce representative data by way of doing the operations and calibration as per CPCB CEMS Guidelines 2018. The details of the CEMS equipment installed in both the Plants is given below, which are calibrated once in six months as prescribed in the Guidelines:

Parameters	Make / Model	Certification TUV / MCERTS	Range of Analyzers in mg/Nm ³	Name of the stack	Emission limit value (ELV) in mg/Nm ³
SO ₂	SICK / S710	MCERTS	0-28000	Boiler	1700
NO _x	SICK / S710	MCERTS	0-3350	Boiler	450

For Manali Petrochemicals Limited



M. Karthikeyan
Whole-time Director (Operations)

CO	SICK / S710	MCERTS	0-3125	Boiler	200
SPM	SICK / DUST HUNTER SB30	MCERTS	0-200	Boiler	100

13. It is submitted that as per the Real Time Data Acquisition And Monitoring information downloaded from the Care Air Centre Portal TNPCB/CPCB (<http://glens.glensserver.com>) for the above period 01/01/2019 to 15/12/2019, the data availability period was above 94% for Plant 1 and above 96% for Plant 2 and not as alleged in the Report of the CCAG. The information downloaded from the Care Air Centre Portal are given in **Annexure III-A** for Plant 1 and **Annexure III-B** for Plant 2, respectively.
14. The summary of the data availability during the period 01/01/2019 to 15/12/2019 is given in the below tables:

Description	SO ₂ _U	NO _x _U	CO_U	PM_U
Prescribed Standards	-	-	-	-
Maximum Data	819.71	132.21	25.42	65.46
Minimum Data	0.0	0.1	0.0	0.0
Geometric Mean	188.35	83.35	8.28	40.28
Median	219.82	98.77	9.89	45.02
Standard Deviation	97.87	41.11	4.26	16.11
Maximum Value At Time	2019-01-25	2019-05-26	2019-03-02	2019-05-18
Minimum Value At Time	2019-01-08	2019-01-01	2019-01-01	2019-11-10
Valid Data Points	332	334	334	331
Total Data Points	350	350	350	350
Data Availability %	94.86%	95.43%	95.43%	94.57%

Description	SO ₂ _U	SO ₂ _U	SO ₂ _U	SO ₂ _U
Prescribed Standards	-	-	-	-
Maximum Data	522.84	59.71	56.77	14.15
Minimum Data	68.3	1.34	0.56	4.02
Geometric Mean	213.2	19.0	7.5	12.32
Median	182.88	7.64	0.97	13.13
Standard Deviation	76.64	18.35	11.42	2.0
Maximum Value At Time	2019-01-12	2019-01-26	2019-04-13	2019-05-11
Minimum Value At Time	2019-11-11	2019-11-16	2019-11-17	2019-11-15

For Manali Petrochemicals Limited



M. Karthikeyan
Whole-time Director (Operations)

Valid Data Points	337	340	340	340
Total Data Points	350	350	350	350
Data Availability %	96.29%	97.14%	97.14%	97.14%

15. It is submitted that as per Clause 11(d) of the CEMS Guidelines 2018 Rev.01, issued by the Central Pollution Control Board (Page No. 79 & 80), an industry shall ensure 85% data availability and exemption is allowed for 15% of non-Connectivity period for maintenance of analyzers, network issues etc. From the above tables it could be seen that the data availability had been well above the minimum prescribed for both the Plants of MPL.
16. It is submitted that, had the CCAG approached MPL, the above could have been explained and CCAG could have avoided giving a false Report in the public domain. So, it is really sad that the CCAG made the allegations of non-compliance on MPL without taking any efforts to check the information in detail.
17. It is further submitted that MPL as a conscientious Corporate Citizen is aware of its social responsibilities and so complies with all the regulatory requirements, in letter and spirit.
18. Based on the above facts, it is respectfully submitted by the 15th Respondent as follows:
- The allegations of non-compliance with the emission norms by MPL Plants in the Report of the Chennai Climate Action Group published in News Desk on 11-11-2020 are baseless and contrary to the facts explained above.
 - The action of the CCAG in publishing its Report without going into the details and fact-checking with the concerned industries is improper and so the information is not reliable at all.
 - The period of emission data made available in the Care Air Centre Portal by MPL has been well above the minimum hours prescribed under the CEMS Guidelines, 2018, Rev.01.
 - It has been admitted in the above Report of CCAG itself that there were no exceedance hours by MPL on any single day.
 - The CCAG describing the no-data hours as non-compliance period is contrary to facts and looks, to have been made with the sole aim to sensationalize the matter.

In the light of the above, the 15th Respondent respectfully prays to the Hon'ble Tribunal that they may be discharged from the Suo moto application and render justice.

Dated at Chennai on this 23rd day of July 2021.

For Manali Petrochemicals Limited



M. Karthikeyan
Whole-time Director (Operations)

VERIFICATION

I, M Karthikeyan, Wholetime Director (Operations) of Manali Petrochemicals Limited the 15th Respondent Company herein, do hereby declare that what is stated in the above paragraphs are true and correct to the best of my knowledge, information, and belief.

For Manali Petrochemicals Limited

M. Karthikeyan Verified at Chennai on this 23rd day of July 2021
COUNSEL FOR 15th RESPONDENT

M. Karthikeyan
M. Karthikeyan
Whole-time Director (Operations)

DEPONENT

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI**

Original Application No. 256 of 2020 (SZ)

IN THE MATTER OF

Tribunal on its own motion - SUO MOTU based on The News item in News Desk Magazine dated 11.11.2020, Air Pollution and Industries, "These Six Industries in North Chennai are polluting the air for more than half the year, the North Chennai Thermal Power station alone Ennore Port"

Union of India
Ministry of Environment, Forest and
Climate Change & 15 Others

....Respondents

PAPER BOOK I

**REPLY STATEMENT FILED ON BEHALF OF
MANALI PETROCHEMICALS LIMITED
15TH RESPONDENT**

**M/s. AL. GANTHIMATHI
ADVOCATES FOR 15TH RESPONDENT**

BEFORE THE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE, CHENNAI

Original Application No. 256 of 2020 (SZ)

IN THE MATTER OF

Tribunal on its own motion-SUO MOTU based on The News item in News Desk Magazine dated 11.11.2020, Air Pollution and Industries, "These Six Industries in North Chennai are polluting the air for more than half the year, the North Chennai Thermal Power station alone Ennore Port"

Union of India
Ministry of Environment, Forest and
Climate Change & 15 Others

....Respondents

**INDEX TO THE TYPESET OF DOCUMENTS FILED ON BEHALF OF THE 15th
RESPONDENT**

S. No.	Annexure	Description	Pages
1.	I-A, I-B	Copies of Boiler Licences of Plant - 1	1-2
2.	I-C, I-D, I-E	Copies of Boiler Licences of Plant - 2	3-5
3.	II-A	Stack Emission Analysis Reports by Accredited Laboratories - Plant - 1	6-16
4.	II-B	Stack Emission Analysis Reports by Accredited Laboratories - Plant - 2	17-27
5.	III-A	CEMS Data from Care Air Centre Portal - Plant - 1	28-37
6.	III-B	CEMS Data from Care Air Centre Portal - Plant - 2	38-46

Dated at Chennai on this the 23rd day of July, 2021.

H. W

Counsel for the 15th Respondent.

Acer-2--Job-18--370-2

No. 55/chc/2020-21 DIRECTORATE OF BOILERS, TAMILNADU
 Certificate for use of a boiler
 (Regulation 389)
 FORM VI

Registry Number of Boiler : T-5158 Type of Boiler : HMT

Boiler Rating : 458 Sgm Place and year of manufacture : Pune, 1989

Maximum continuous Evaporation : 18,000 kg/hr

Name of Owner : M/s Manali Petrochemicals Ltd.

Situation of Boiler : Manali, Chennai - 68

Repairs : -

Remarks : -

Hydraulically tested on 6-8-20 to 30.50 kg/cm²

I hereby certify that the above described boiler is permitted by me / the Director of Boilers under the provisions of Section 7/8 of the Boilers Act 1923, (Act V of 1923) to be worked at a maximum pressure of 24.40 Kg. per Square C.M. for the period from 6.8.20 to 5.8.2021

The loading of the DSL Safety valve is not to exceed 24.40 kg/cm²

I further certify that the main steam pipe tested hydraulically to a pressure of 36.60 Kg. per Square C.M. last on 4.5.90

Fee Rs. 5800/- Paid on 7.7.20

Dated at Manali

This 6th day of August 20 20

J. Meegay Countersigned.
 Deputy Director of Boilers,
 Chennai Circle, Chennai-5.

Director of Boilers

Acer-2--Job-18--370-2

No. 13/CAC/2021-22 DIRECTORATE OF BOILERS, TAMILNADUCertificate for use of a boiler
(Regulation 389)

FORM VI

Registry Number of Boiler : T-5159 Type of Boiler : HMT with ECO & S.HBoiler Rating : 458 Place and year of manufacture : Pune, 1989
sqmMaximum continuous Evaporation : 18000 kg/hrName of Owner : M/s Manali Petrochemicals LtdSituation of Boiler : Ponneri High road, Manali, Chennai-600068Repairs : —Remarks: —Hydraulically tested on 28-05-2021 to 30-5 kg/cm²I hereby certify that the above described boiler is permitted by me / the Director of Boilers under the provisions of Section 1/8 of the Boilers Act 1923, (Act V of 1923) to be worked at a maximum pressure of 24.40 Kg. per Square C.M. for the period from 28-05-21 to 27-05-2022The loading of the DSC Safety valve is not to exceed 24.40 kg/cm²I further certify that the main steam pipe tested hydraulically to a pressure of 36.60 Kg. per Square C.M. last on 28-6-90Fee Rs. 5800 / Paid on 13-5-2021Dated at ManaliThis 28 day of May 2021

J. Meegay
28/5/21
Deputy Director of Boilers,
Competent Person
Chennai Circle, Chennai-5.

Countersigned.

Director of Boilers

Acer-2--Job-18--370-2

No. 81/chc/2020-21 DIRECTORATE OF BOILERS, TAMILNADUCertificate for use of a boiler
(Regulation 389)

FORM VI

Registry Number of Boiler : T-5111 Type of Boiler : HMTBoiler Rating 299 sqm Place and year of manufacture : Gujarat, 1989Maximum continuous Evaporation : 10,000 kg/hrName of Owner : M/s Manali Petrochemicals LtdSituation of Boiler : Plant-II, Sathangadu village, Manali,
Chennai-600068Repairs :
—Remarks :
—Hydraulically tested on 29.9.2020 to 22 kg/cm²I hereby certify that the above described boiler is permitted by me / the Director of Boilers under the provisions of Section 7/8 of the Boilers Act 1923, (Act V of 1923) to be worked at a maximum pressure of 17.50 Kg. per Square C.M. for the period from 29.9.20 to 28.9.2021The loading of the DSL Safety valve is not to exceed 17.50 kg/cm²I further certify that the main steam pipe tested hydraulically to a pressure of 26.50 Kg. per Square C.M. last on 12-01-1990Fee Rs. 5000/- Paid on 24.8.20Dated at ManaliThis 29th day of Sept 2020

[Signature]
29/9/2020
Deputy Director of Boilers,
Chennai Circle, Chennai-5.

Countersigned.

Director of Boilers

Acer-2--Job-18--370-2

No. 63/ch.c/2020-21 DIRECTORATE OF BOILERS, TAMILNADU
 Certificate for use of a boiler
 (Regulation 389)
 FORM VI

Registry Number of Boiler : T.5848 Type of Boiler : HMT

Boiler Rating : 386 sqm Place and year of manufacture : Pune, 1996

Maximum continuous Evaporation : 10,000 kg/hr

Name of Owner : M/s manali Petrochemicals Ltd

Situation of Boiler : Plant II manali ch.68

Repairs : -

Remarks: -

Hydraulically tested on 25.8.2020 to 22 kg/cm²

I hereby certify that the above described boiler is permitted by me / the Director of Boilers under the provisions of Section 7/8 of the Boilers Act 1923, (Act V of 1923) to be worked at a maximum pressure of 17.50 Kg. per Square C.M. for the period from 25.8.20 to 24.8.2021

The loading of the DSL Safety valve is not to exceed 17.5 kg/cm²

I further certify that the main steam pipe tested hydraulically to a pressure of 26.80 Kg. per Square C.M. last on 12.9.96

Fee Rs. 5000/- Paid on 7.7.2020

Dated at manali

This 25th day of August 2020

J. Meegul
 Deputy Director of Boilers,
 Chennai Circle, Chennai-5.

Countersigned.

Director of Boilers

Acer-2--Job-18--370-2

No. 109/chc/2020-21 DIRECTORATE OF BOILERS, TAMILNADU
 Certificate for use of a boiler
 (Regulation 389)
 FORM VI

Registry Number of Boiler : T-11564 Type of Boiler : HMT

Boiler Rating : 710 sqm Place and year of manufacture : Vadodara, 2017

Maximum continuous Evaporation : 21 T/hr

Name of Owner : M/s Manali Petrochemicals Ltd.

Situation of Boiler : Plant II Sattankadu Village
Manali, Chennai - 600068

Repairs : —

Remarks : —

Hydraulically tested on 27-11-2020 to 22 kg/cm²

I hereby certify that the above described boiler is permitted by me / the Director of Boilers under the provisions of Section 78 of the Boilers Act 1923, (Act V of 1923) to be worked at a maximum pressure of 17.50 Kg. per Square C.M. for the period from 27-11-2020 to 26-11-2021

The loading of the DSC Safety valve is not to exceed 17.5 kg/cm²

I further certify that the main steam pipe tested hydraulically to a pressure of 26.25 Kg. per Square C.M. last on 2.12.2017

Fee Rs. 6300/- Paid on 4.11.20

Dated at Manali

This 27th day of NOV 2020

J. Meegay
27/11/2020
 Deputy Director of Boilers,
 Chennai - 600005.

Countersigned.

Director of Boilers



CVR Labs (P) Limited

CIN NO: U 74140TN1999PTC043582

Nº 22555

Dignity Centre, 2nd Floor, New No. 2/9, Old No. 21 Abdul Razack Street,
Saidapet, Chennai - 600 015. Phone : +91 44 2433 0382 to 85
E-mail : info@cvrlabs.com | Web : www.cvrlabs.com

TEST REPORT

ANNEXURE - II-A

Issued To

Manali Petrochemicals Limited
Ponneri High Road, Manali, Chennai - 600 068.

Date of report : 24/01/2019

Received on : 22/01/2019

Commenced on : 24/01/2019

Report Number : 19010141.02

Completed on : 24/01/2019

Date of Sampling : 21/01/2019

Sampled by : CVR Labs

Sample Description : Source Emission

Sampling Location : MPL Plant - 1 Boiler stack

S.No.	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	By Digital Thermocouple	K	467	-
2	Velocity of the Flue Gas	EPA Method 1-3 -1996	m/sec	11.0	-
3	Flue Gas Discharge	EPA Method 1-3 -1996 IS 11255 (Part-3) 2008	Nm ³ /hr	44896.56	-
4	Sulphur Dioxide (SO ₂)	IS 11255 (Part-2) 1985 (Reaff:2017)	mg/Nm ³	218.32	-
5	Oxides of nitrogen (NO _x)	IS 11255 (Part-7) 2005 (Reaff:2017)	mg/Nm ³	3.33	-
6	Carbon monoxide (CO)	IS 13270 : 1992 (Reaff 2003)	ppm	2	-
7	Carbon Dioxide (CO ₂)	IS 13270 : 1992 (Reaff 2003)	%	8.2	-
8	Oxygen (O ₂)	IS 13270 : 1992 (Reaff 2003)	%	6.5	-
9	Moisture Content	EPA Method 1-3	%	6.7	-
10	Particulate Matter (PM)	IS 11255 (Part-1):1985	mg/Nm ³	28.67	150

Verified By

For CVR LABS PVT. LTD.

E. Janaki
Authorised Signatory
E.JANAKI
Asst. Quality Manager

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

Recognized / Approved by : NABL, FSSAI, BIS , Ministry of Environment & Forests , ISO 9001 : 2008 , OSHAS 18001

Terms and Conditions:

- The test results furnished relate only to the particular sample is submitted.
- The test results reflect to the sample tested on the above mentioned date and environments condition.
- The test report shall not be reproduced except in full without our written approval.
- The tested items will not be retained for more than 15 days from the date of issue of test report except in the case as required by the applicable regulations.



CVR Labs (P) Limited

CIN NO: U 74140TN1999PTC043582

No 22538

Dignity Centre, 2nd Floor, New No. 2/9, Old No. 21 Abdul Razack Street,
Saidapet, Chennai - 600 015. Phone : +91 44 2433 0382 to 85
E-mail : info@cvrlabs.com | Web : www.cvrlabs.com

TEST REPORT

Issued To:

Manali Petrochemicals Limited
Ponneri High Road, Manali, Chennai - 600 068.

Date of report : 28/02/2019

Received on : 26/02/2019

Commenced on : 26/02/2019

Report Number : 19020208.01

Completed on : 28/02/2019

Date of Sampling : 26/02/2019

Sampled by : CVR Labs

Sample Description : Source Emission

Sampling Location : MPL Plant - I Boiler stack

S.No.	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	By Digital Thermocouple	K	463	-
2	Velocity of the Flue Gas	EPA Method 1-3 -1996	m/sec	8.10	-
3	Flue Gas Discharge	EPA Method 1-3 -1996 IS 11255 (Part-3) 2008	Nm3/hr	33681	-
4	sulphur Dioxide (SO2)	IS 11255 (Part-2) 1985 (Reaff.2017)	mg/Nm3	306.5	-
5	Oxides of nitrogen (NOx)	IS 11255 (Part-7) 2005 (Reaff.2017)	mg/Nm3	2.44	-
6	Carbon monoxide (CO)	IS 13270 : 1992 (Reaff 2003)	ppm	12	-
7	Carbon Dioxide (CO2)	IS 13270 : 1992 (Reaff 2003)	%	8.9	-
8	Oxygen (O2)	IS 13270 : 1992 (Reaff 2003)	%	5.0	-
9	Moisture Content	EPA Method 1-3	%	5.4	-
10	Particulate Matter (PM)	IS 11255 (Part-1):1985	mg/Nm3	25.93	150

For CVR LABS PVT. LTD.

Verified By

E. Janaki
Authorised Signatory
Asst. Quality Manager

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

Recognized / Approved by : NABL, FSSAI, BIS, Ministry of Environment & Forests, ISO 9001 : 2008, OSHAS 18001

Terms and Conditions:

- The test results furnished relate only to the particular sample is submitted.
- The test results reflect to the sample tested on the above mentioned date and environments condition.
- The test report shall not be reproduced except in full without our written approval.
- The tested items will not be retained for more than 15 days from the date of issue of test report except in the case as required by the applicable regulations.



CVR Labs (P) Limited

CIN NO: U 74140TN1999PTC043582

No 23972

Dignity Centre, 2nd Floor, New No. 2/9, Old No. 21 Abdul Razack Street,
Saidapet, Chennai - 600 015. Phone : +91 44 2433 0382 to 85
E-mail : info@cvrlabs.com | Web : www.cvrlabs.com

TEST REPORT

Page: 1 of 1

Issued To :

Manali Petrochemicals Limited
Ponneri High Road, Manali,
Chennai - 600 068.

Date of report : 29/04/2019

Received on : 26/04/2019

Commenced on : 27/04/2019

Report Number : 19040155.01

Completed on : 29/04/2019

Date of Sampling : 24/04/2019

Sampled by : CVR Labs

Sample Description : Source Emission

Sampling Location : Boiler Stack - MPL Plant -I

Customer Reference :-

S.No:	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	CVR/SOP/ENVI/100	K	435	-
2	Velocity of the Flue Gas	EPA Method 1-3 -1996	m/sec	11.5	-
3	Flue Gas Discharge	EPA Method 1-3 -1996 IS 11255 (Part-3) 2008	Nm ³ /hr	56875.03	-
4	sulphur Dioxide (SO ₂)	IS 11255 (Part-2)-1995	mg/Nm ³	248.7	-
5	Oxides of nitrogen (NO _x)	IS 11255 (Part-7) 2005	mg/Nm ³	20.58	-
6	Carbon monoxide (CO)	CVR/SOP/ENVI/100	ppm	26	-
7	Carbon Dioxide (CO ₂)	CVR/SOP/ENVI/100	%	8.3	-
8	Oxygen (O ₂)	CVR/SOP/ENVI/100	%	6.3	-
9	Moisture Content	EPA Method 1-3 -1996	%	0.94	-
10	Particulate Matter (PM)	IS 11255 (Part-1):1985	mg/Nm ³	26.89	150

Verified By

For CVR Labs (P) Limited

Authorized Signatory

K.B. Manoj
Senior Analyst

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

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CVR Labs (P) Limited

CIN NO: U 74140TN1999PTC043582

Dignity Centre, 2nd Floor, New No. 2/9, Old No. 21 Abdul Razack Street,
Saidapet, Chennai - 600 015. Phone : +91 44 2433 0382 to 85
E-mail : info@cvrlabs.com | Web : www.cvrlabs.com

TEST REPORT

001440

Issued To :

M/s. Manali Petrochemicals Limited
Ponneri High Road, Manali,
Chennai - 600 068.

Report Number : 19050175.01
Date of Sampling : 22/05/2019
Sampling Description : Source Emission
Sampling Location : Boiler Stack - Plant I

Date of Report : 23/05/2019
Received On : 23/05/2019
Commenced On : 23/05/2019
Completed On : 23/05/2019
Sampled By : CVR Labs

S.No:	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	CVR /SOP/ENVI/100	K	421	-
2	Velocity of the Flue Gas	EPA Method 1-3 -1996	m/sec	11.06	-
3	Flue Gas Discharge	EPA Method 1-3 -1996 IS 11255 (Part-3) 2008	Nm ³ /hr	49673	-
4	Sulphur Dioxide (SO ₂)	IS 11255 (Part-2)-1995	mg/Nm ³	225	-
5	Oxides of nitrogen (NO _x)	IS 11255 (Part-7) 2005	mg/Nm ³	34.55	-
6	Carbon monoxide (CO)	CVR/SOP/ENVI/100	ppm	48	-
7	Carbon Dioxide (CO ₂)	CVR/SOP/ENVI/100	%	8.6	-
8	Oxygen (O ₂)	CVR/SOP/ENVI/100	%	5.9	-
9	Moisture Content	EPA Method1-3 -1996	%	4.1	-
10	Particulate Matter (PM)	IS 11255 (Part-1):1985	mg/Nm ³	42.15	150

Verified By

For CVR Labs

Authorized Signatory
K.B.Nirmala
Senior-Chemist

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E-mail : info@cvglabs.com | Web : www.cvglabs.com

002373

TEST REPORT

Issued To :

Manali Petrochemicals Limited

Ponneri High Road, Manali, Chennai - 600 068.

Report Number	: 19060066.01	Received on	: 22/06/2019
Date Of Sampling	: 21/06/2019	Commenced on	: 22/06/2019
Sample Description	: Source Emission	Completed on	: 22/06/2019
Sample Location	: Boiler Plant -1	Date of report	: 22/06/2019
Sample By	: CVR Labs		

S.No:	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	CVR/SOP/ENVI/100	K	440	-
2	Velocity of the Flue Gas	EPA Method1-3 -1996	m/sec	11.09	-
3	Flue Gas Discharge	EPA Method1-3 -1996 IS 11255 (Part-3) 2008	Nm ³ /hr	47657.9	-
4	suiphur Dioxide(SO ₂)	IS 11255 (Part-2) 1985 (Realf:2014)	mg/Nm ³	378.58	-
5	Oxides of nitrogen(NO _x)	IS 11255 (Part-7) 2005 (Realf:2017)	mg/Nm ³	26.7	-
6	Carbon monoxide(CO)	CVR/SOP/ENVI/100	ppm	38	-
7	Carbon Dioxide(CO ₂)	CVR/SOP/ENVI/100	%	7.8	-
8	Oxygen(O ₂)	CVR/SOP/ENVI/100	%	6.5	-
9	Moisture Content	EPA Method1-3	%	5.82	-
10	Particulate Matter (PM)	IS 11255(Part-1):1985 (Realf:2014)	mg/Nm ³	36.9	150

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For CVR Labs (P) Limited

Authorized Signatory

K.B.Nirmala
Senior Chemist

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TEST REPORT

002999

Issued To :

Manali Petrochemicals Limited

Ponneri High Road, Manali, Chennai - 600 068.

Report Number : **19070155.01**
Date of Sampling : 30/07/2019
Sample Description : Emission
Sampling Location : Boiler Plant-I
Sampled By : CVR Labs

Received on : 31/07/2019
Commenced on : 31/07/2019
Completed on : 01/08/2019
Date of report : 01/08/2019

S.No.	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	CVR/SOP/ENVI/100	K	437	-
2	Velocity of the Flue Gas	EPA Method1-3 -1996	m/sec	10.04	-
3	Flue Gas Discharge	EPA Method1-3 -1996 IS 11255 (Part-3) 2008	Nm ³ /hr	43441.81	-
4	Sulphur Dioxide (SO ₂)	IS 11255 (Part-2) 1985 (Reaff:2014)	mg/Nm ³	427.5	-
5	Oxides of Nitrogen (NOx)	IS 11255 (Part-7) 2005 (Reaff:2017)	mg/Nm ³	25.61	-
6	Carbon monoxide (CO)	CVR/SOP/ENVI/100	ppm	47	-
7	Carbon Dioxide (CO ₂)	CVR/SOP/ENVI/100	%	8.5	-
8	Oxygen (O ₂)	CVR/SOP/ENVI/100	%	6.3	-
9	Moisture Content	EPA Method1-3	%	5.38	-
10	Particulate Matter (PM)	IS 11255(Part-1):1985 (Reaff:2014)	mg/Nm ³	41.56	150

M. Jy
Verified By

For CVR Labs (P) Limited
N. N. N. N.
Authorized Signatory

K.B.Ninnala
Senior-Chemist

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TEST REPORT

003808

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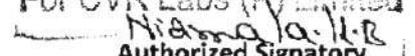
Manali Petrochemicals Limited

Ponneri High Road, Manali, Chennai - 600 068.

Report Number	: 19080129.01	Received on	: 22/08/2019
Date of Sampling	: 22/08/2019	Commenced on	: 23/08/2019
Sample Description	: Source Emission	Completed on	: 23/08/2019
Sampling Location	: Boiler 01	Date of report	: 23/08/2019
Sampled By	: CVR Labs		

S.No:	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	CVR/SOP/ENVI/100	K	434	-
2	Velocity of the Flue Gas	EPA Method1-3 -1996	m/sec	11.7	-
3	Flue Gas Discharge	EPA Method1-3 -1996 IS 11255 (Part-3) 2008	Nm ³ /hr	50981	-
4	Sulphur Dioxide (SO ₂)	IS 11255 (Part-2) 1985 (Reaff:2014)	mg/Nm ³	408.8	-
5	Oxides of Nitrogen (NO _x)	IS 11255 (Part-7) 2005 (Reaff:2017)	mg/Nm ³	46.41	-
6	Carbon monoxide (CO)	CVR/SOP/ENVI/100	ppm	48	-
7	Carbon Dioxide (CO ₂)	CVR/SOP/ENVI/100	%	7.4	-
8	Oxygen (O ₂)	CVR/SOP/ENVI/100	%	6.9	-
9	Moisture Content	EPA Method1-3	%	5.3	-
10	Particulate Matter (PM)	IS 11255(Part-1):1985 (Reaff:2014)	mg/Nm ³	42.86	150


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For CVR Labs (P) Limited

Authorized Signatory

K.B.Nirmala
Senior-Chemist

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005274

TEST REPORT

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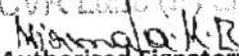
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Report Number	: 19090123.01	Received on	: 25/09/2019
Date of Sampling	: 25/09/2019	Commenced on	: 25/09/2019
Sample Description	: Source Emission	Completed on	: 26/09/2019
Sampling Location	: Boiler Stack Plant-I	Date of report	: 26/09/2019
Sampled By	: CVR Labs		

S.No:	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	CVR/SOP/ENVI/100	K	435	-
2	Velocity of the Flue Gas	EPA Method1-3 -1996	m/sec	12.2	-
3	Flue Gas Discharge	EPA Method1-3 -1996 IS 11255 (Part-3) 2008 (RA 2013)	Nm ³ /hr	53031	-
4	Sulphur dioxide (SO ₂)	IS 11255 (Part-2) 1985 (RA 2014)	mg/Nm ³	320.31	-
5	Oxides of Nitrogen (NO _x)	IS 11255 (Part-7) 2005 (RA 2017)	mg/Nm ³	33.44	-
6	Carbon monoxide (CO)	CVR/SOP/ENVI/100	ppm	33	-
7	Carbon dioxide (CO ₂)	CVR/SOP/ENVI/100	%	7.5	-
8	Oxygen (O ₂)	CVR/SOP/ENVI/100	%	7.1	-
9	Moisture Content	EPA Method1-3	%	5.4	-
10	Particulate Matter (PM)	IS 11255(Part-1) 1985(RA 2014)	mg/Nm ³	35.67	150


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For CVR Labs (P) Limited

Authorized Signatory

K.B.Nirmala
Senior-Chemist

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TEST REPORT

006766

Issued To :

Manali Petrochemicals Limited

Ponneri High Road, Manali, Chennai - 600 068.

Report Number	: 19100147.01	Received on	: 31/10/2019
Date of Sampling	: 31/10/2019	Commenced on	: 31/10/2019
Sample Description	: Stack Emission	Completed on	: 01/11/2019
Sampling Location	: Boiler Stack	Date of report	: 01/11/2019
Sampled By	: CVR Labs		

S.No:	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	CVR/SOP/ENVI/100	K	437	-
2	Velocity of the Flue Gas	EPA Method1-3 -1996	m/sec	12.7	-
3	Flue Gas Discharge	EPA Method1-3 -1996 IS 11255 (Part-3) 2008 (RA 2013)	Nm ³ /hr	54959	-
4	Sulphur Dioxide (SO ₂)	IS 11255 (Part-2) 1985 (RA 2014)	mg/Nm ³	306.4	-
5	Oxides of Nitrogen (NOx)	IS 11255 (Part-7) 2005 (RA 2017)	mg/Nm ³	39.69	-
6	Carbon monoxide (CO)	CVR/SOP/ENVI/100	ppm	47	-
7	Carbon Dioxide (CO ₂)	CVR/SOP/ENVI/100	%	8.1	-
8	Oxygen (O ₂)	CVR/SOP/ENVI/100	%	6.8	-
9	Moisture Content	EPA Method1-3	%	3.2	-
10	Particulate Matter (PM)	IS 11255 (Part-1) 1985 (RA 2014)	mg/Nm ³	34.88	150

M. Jay
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For CVR Labs (P) Limited

Nirmala K.B
Authorized Signatory
K.B. Nirmala
Senior-Chemist

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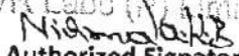
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Report Number	: 19110119.01	Received on	: 19/11/2019
Date of Sampling	: 19/11/2019	Commenced on	: 19/11/2019
Sample Description	: Source Emission	Completed on	: 20/11/2019
Sampling Location	: Boiler Stack - Plant I	Date of report	: 20/11/2019
Sampled By	: CVR Labs		

S.No:	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	CVR/SOP/ENVI/100	K	389	-
2	Velocity of the Flue Gas	EPA Method1-3 -1996	m/sec	11.0	-
3	Flue Gas Discharge	EPA Method1-3 -1996 IS 11255 (Part-3) 2008 (RA 2013)	Nm ³ /hr	53475.64	-
4	Sulphur Dioxide(SO ₂)	IS 11255 (Part-2) 1985 (RA 2014)	mg/Nm ³	52.03	-
5	Oxides of Nitrogen(NO _x)	IS 11255 (Part-7) 2005 (RA 2017)	mg/Nm ³	12.95	-
6	Carbon monoxide(CO)	CVR/SOP/ENVI/100	ppm	18	-
7	Carbon Dioxide(CO ₂)	CVR/SOP/ENVI/100	%	13.1	-
8	Oxygen(O ₂)	CVR/SOP/ENVI/100	%	5.2	-
9	Moisture Content	EPA Method1-3	%	3.2	-
10	Particulate Matter (PM)	IS 11255(Part-1) 1985(RA 2014)	mg/Nm ³	22.43	150


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For CVR Labs (P) Limited

Authorized Signatory

K.B.Nirmala
Senior-Chemist

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No 21290

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TEST REPORT

ANNEXURE - II-B

Issued To :

Manali Petrochemicals Limited
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Date of report : 10/01/2019

Received on : 10/01/2019

Commenced on : 10/01/2019

Report Number : 19010073.01

Completed on : 10/01/2019

Date of Sampling : 10/01/2019

Sampled by : CVR Labs

Sample Description : Source Emission

Sampling Location : MPL Plant - 2 Boiler Stack

Customer Reference :-

S.No:	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	By Digital Thermocouple	K	425	-
2	Velocity of the Flue Gas	EPA Method 1-3 -1996	m/sec	12.2	-
3	Flue Gas Discharge	EPA Method 1-3 -1996 IS 11255 (Part-3) 2008	Nm3/hr	54278.341	-
4	sulphur Dioxide (SO2)	IS 11255 (Part-2) 1985 (Reaff:2017)	mg/Nm3	137.4	-
5	Oxides of nitrogen (NOx)	IS 11255 (Part-7) 2005 (Reaff:2017)	mg/Nm3	92.80	-
6	Carbon monoxide (CO)	IS 13270 : 1992 (Reaff 2003)	ppm	-	-
7	Carbon Dioxide (CO2)	IS 13270 : 1992 (Reaff 2003)	%	8.2	-
8	Oxygen (O2)	IS 13270 : 1992 (Reaff 2003)	%	6.4	-
9	Moisture Content	EPA Method 1-3	%	6.1	-
10	Particulate Matter (PM)	IS 11255 (Part-1):1985	mg/Nm3	38.55	150

Verified By

For CVR LABS PVT. LTD.

Authorised Signatory

E. JANAKI
Asst. Quality Manager

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CVR Labs (P) Limited

CIN NO: U 74140TN1999PTC043582

Nº 22246

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TEST REPORT

Issued To :

Manali Petrochemicals Limited
Ponneri High Road, Manali, Chennai - 600 068.

Date of report : 16/02/2019

Received on : 15/02/2019

Commenced on : 16/02/2019

Report Number : 19020125.02

Completed on : 16/02/2019

Date of Sampling : 14/02/2019

Sampled by : CVR Labs

Sample Description : Source Emission

Sampling Location : MPL Plant - II Boiler stack

S.No	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	By Digital Thermocouple	K	423	-
2	Velocity of the Flue Gas	EPA Method 1-3 -1996	m/sec	12.75	-
3	Flue Gas Discharge	EPA Method 1-3 -1996 IS 11255 (Part-3) 2008	Nm3/hr	56993	-
4	sulphur Dioxide (SO ₂)	IS 11255 (Part-2) 1985 (Reaff:2017)	mg/Nm ³	329.3	-
5	Oxides of nitrogen (NO _x)	IS 11255 (Part-7) 2005 (Reaff:2017)	mg/m ³	1.32	-
6	Carbon monoxide (CO)	IS 13270 : 1992 (Reaff 2003)	ppm	Nil	-
7	Carbon Dioxide (CO ₂)	IS 13270 : 1992 (Reaff 2003)	%	8.4	-
8	Oxygen (O ₂)	IS 13270 : 1992 (Reaff 2003)	%	6.1	-
9	Moisture Content	EPA Method 1-3	%	5.29	-
10	Particulate Matter (PM)	IS 11255 (Part-1):1985	mg/Nm ³	40.12	150

Verified By

For CVR LABS PVT. LTD.

E. Janaki
Authorised Signatory

E.JANAKI
Asst. Quality Manager

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No 23973

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TEST REPORT

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Ponneri High Road, Manali,
Chennai - 600 068.

Date of report : 29/04/2019

Received on : 26/04/2019

Commenced on : 27/04/2019

Completed on : 29/04/2019

Sampled by : CVR Labs

Report Number : 19040155.02

Date of Sampling : 24/04/2019

Sample Description : Source Emission

Sampling Location : Boiler Stack - MPL Plant -II

Customer Reference :-

S.No:	Parameters	Protocol	Unit	Results	Limit**
1	Stack Temperature	CVR /SOP/ENVI/100	K	418	-
2	Velocity of the Flue Gas	EPA Method 1-3 -1996	m/sec	10.2	-
3	Flue Gas Discharge	EPA Method 1-3 -1996 IS 11255 (Part-3) 2008	Nm ³ /hr	46140.2	-
4	Oxides of Sulphur (SO _x)	IS 11255 (Part-2)-1995	mg/Nm ³	253.25	-
5	Oxides of nitrogen (NO _x)	IS 11255 (Part-7) 2005	mg/Nm ³	22.75	-
6	Carbon monoxide (CO)	CVR/SOP/ENVI/100	ppm	21	-
7	Carbon Dioxide (CO ₂)	CVR/SOP/ENVI/100	%	8.4	-
8	Oxygen (O ₂)	CVR/SOP/ENVI/100	%	4.2	-
9	Moisture Content	EPA Method 1-3 -1996	%	0.917	-
10	Particulate Matter (PM)	IS 11255 (Part-1):1985	mg/Nm ³	26.51	150

**Ministry of Environmental and Forests, Government of India (G.S.R.371 (E), 2016

Verified By

For CVR Labs (P) Limited

Authorised Signatory
K.B.S.P. Srinivasan
Saidapet, Chennai

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CVR Labs (P) Limited

CIN NO: U 74140TN1999PTC043582

Dignity Centre, 2nd Floor, New No. 2/9, Old No. 21 Abdul Razack Street,
Saicapet, Chennai - 600 015. Phone : +91 44 2433 0382 to 85
E-mail : info@cvglabs.com | Web : www.cvglabs.com

TEST REPORT

002374

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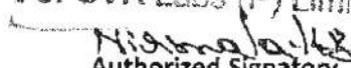
Manali Petrochemicals Limited

Ponneri High Road, Manali, Chennai - 600 068.

Report Number	: 19060066.02	Received on	: 22/06/2019
Date Of Sampling	: 21/06/2019	Commenced on	: 22/06/2019
Sample Description	: Source Emission	Completed on	: 22/06/2019
Sample Location	: Boiler Plant -2	Date of report	: 22/06/2019
Sample By	: CVR Labs		

S.No:	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	CVR/SOP/ENVI/100	K	425	-
2	Velocity of the Flue Gas	EPA Method1-3-1996	m/sec	10.55	-
3	Flue Gas Discharge	EPA Method1-3-1996 IS 11255 (Part-3) 2008	Nm ³ /hr	46937.41	-
4	sulphur Dioxide(SO ₂)	IS 11255 (Part-2) 1985 (Reaff:2014)	mg/Nm ³	272.8	-
5	Oxides of nitrogen(NO _x)	IS 11255 (Part-7) 2005 (Reaff:2017)	mg/Nm ³	28.96	-
6	Carbon monoxide(CO)	CVR/SOP/ENVI/100	ppm	31	-
7	Carbon Dioxide(CO ₂)	CVR/SOP/ENVI/100	%	8.1	-
8	Oxygen(O ₂)	CVR/SOP/ENVI/100	%	5.8	-
9	Moisture Content	EPA Method1-3	%	5.37	-
10	Particulate Matter (PM)	IS 11255(Part-1):1985 (Reaff:2014)	mg/Nm ³	41.73	150


Verified By ✓

For CVR Labs (P) Limited

Authorized Signatory
K.B.Nirmala
Senior-Chemist

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001439

TEST REPORT

Issued To :

M/s. Manali Petrochemicals Limited
Ponneri High Road, Manali,
Chennai - 600 068.

Date of report : 23/05/2019

Received on : 23/05/2019

Commenced on : 23/05/2019

Report Number : 19050175.02

Completed on : 23/05/2019

Date of Sampling : 22/05/2019

Sampled by : CVR Labs

Sample Description : Source Emission

Sampling Location : Boiler Stack- Plant II

Customer Reference :-

S.No:	Parameters	Protocol	Unit	Results	CPCB Limit
1	Stack Temperature	CVR /SOP/ENVI/100	K	139	-
2	Velocity of the Flue Gas	EPA Method 1-3 -1996	m/sec	11.15	-
3	Flue Gas Discharge	EPA Method 1-3 -1996 IS 11255 (Part-3) 2008	Nm ³ /hr	51172	-
4	Sulphur Dioxide (SO ₂)	IS 11255 (Part-2)-1995	mg/Nm ³	307.9	-
5	Oxides of nitrogen (NO _x)	IS 11255 (Part-7) 2005	mg/Nm ³	32.5	-
6	Carbon monoxide (CO)	CVR/SOP/ENVI/100	ppm	35	-
7	Carbon Dioxide (CO ₂)	CVR/SOP/ENVI/100	%	7.9	-
8	Oxygen (O ₂)	CVR/SOP/ENVI/100	%	6.0	-
9	Moisture Content	EPA Method1-3 -1996	%	5.84	-
10	Particulate Matter (PM)	IS 11255 (Part-1):1985	mg/Nm ³	35.46	150

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For CVR Labs (P) Limited

Nirmala K.B
Authorised Signatory
R.B.Nirmala
Senior-Chemist

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003000

TEST REPORT

Issued To :

Manali Petrochemicals Limited

Ponneri High Road, Manali, Chennai - 600 068.

Report Number : **19070155.02**
Date of Sampling : 30/07/2019
Sample Description : Emission
Sampling Location : Boiler Plant-II
Sampled By : CVR Labs

Received on : 31/07/2019
Commenced on : 31/07/2019
Completed on : 01/08/2019
Date of report : 01/08/2019

S.No:	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	CVR/SOP/ENVI/100	K	416	-
2	Velocity of the Flue Gas	EPA Method1-3 -1996	m/sec	9.63	-
3	Flue Gas Discharge	EPA Method1-3 -1996 IS 11255 (Part-3) 2008	Nm ³ /hr	43765.45	-
4	Sulphur Dioxide (SO ₂)	IS 11255 (Part-2) 1985 (Reaff:2014)	mg/Nm ³	303.09	-
5	Oxides of Nitrogen (NO _x)	IS 11255 (Part-7) 2005 (Reaff:2017)	mg/Nm ³	32.27	-
6	Carbon monoxide (CO)	CVR/SOP/ENVI/100	ppm	39	-
7	Carbon Dioxide (CO ₂)	CVR/SOP/ENVI/100	%	9.2	-
8	Oxygen (O ₂)	CVR/SOP/ENVI/100	%	5.5	-
9	Moisture Content	EPA Method1-3	%	4.51	-
10	Particulate Matter (PM)	IS 11255(Part-1):1985 (Reaff:2014)	mg/Nm ³	44.07	150

M. Jey.
Verified By ✓

For CVR Labs (P) Limited
Nirmala KB
Authorized Signatory
K.B.Nirmala
Senior Chemist

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003803

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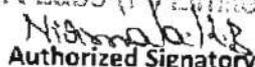
Ponneri High Road, Manali, Chennai - 600 068.

Report Number : **19080129.02**
Date of Sampling : 22/08/2019
Sample Description : Source Emission
Sampling Location : Boiler 02
Sampled By : CVR Labs

Received on : 22/08/2019
Commenced on : 23/08/2019
Completed on : 23/08/2019
Date of report : 23/08/2019

S.No:	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	CVR/SOP/ENVI/100	K	421	-
2	Velocity of the Flue Gas	EPA Method1-3 -1996	m/sec	11.6	-
3	Flue Gas Discharge	EPA Method1-3 -1996 IS 11255 (Part-3) 2008	Nm ³ /hr	52099	-
4	Sulphur Dioxide(SO ₂)	IS 11255 (Part-2) 1985 (Reaff:2014)	mg/Nm ³	260.69	-
5	Oxides of Nitrogen(NOx)	IS 11255 (Part-7) 2005 (Reaff:2017)	mg/Nm ³	38.5	-
6	Carbon monoxide(CO)	CVR/SOP/ENVI/100	ppm	40	-
7	Carbon Dioxide(CO ₂)	CVR/SOP/ENVI/100	%	8.0	-
8	Oxygen(O ₂)	CVR/SOP/ENVI/100	%	6.7	-
9	Moisture Content	EPA Method1-3	%	3.6	-
10	Particulate Matter (PM)	IS 11255(Part-1):1985 (Reaff:2014)	mg/Nm ³	38.77	150

Verified By 

For CVR Labs (P) Limited

Authorized Signatory

K.B.Nirmala
Senior-Chemist

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TEST REPORT

005275

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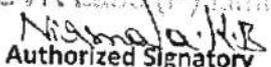
Manali Petrochemicals Limited

Ponneri High Road, Manali, Chennai - 600 068.

Report Number	: 19090123.02	Received on	: 25/09/2019
Date of Sampling	: 25/09/2019	Commenced on	: 25/09/2019
Sample Description	: Source Emission	Completed on	: 26/09/2019
Sampling Location	: Boiler Stack Plant-II	Date of report	: 26/09/2019
Sampled By	: CVR Labs		

S.No:	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	CVR/SOP/ENVI/100	K	422	-
2	Velocity of the Flue Gas	EPA Method1-3 -1996	m/sec	11.7	-
3	Flue Gas Discharge	EPA Method1-3 -1996 IS 11255 (Part-3) 2008 (RA 2013)	Nm ³ /hr	52431	-
4	Sulphur dioxide (SO ₂)	IS 11255 (Part-2) 1985 (RA 2014)	mg/Nm ³	237.98	-
5	Oxides of Nitrogen (NO _x)	IS 11255 (Part-7) 2005 (RA 2017)	mg/Nm ³	29.17	-
6	Carbon monoxide (CO)	CVR/SOP/ENVI/100	ppm	44	-
7	Carbon dioxide (CO ₂)	CVR/SOP/ENVI/100	%	7.9	-
8	Oxygen (O ₂)	CVR/SOP/ENVI/100	%	6.7	-
9	Moisture Content	EPA Method1-3	%	3.2	-
10	Particulate Matter (PM)	IS 11255(Part-1) 1985(RA 2014)	mg/Nm ³	39.89	150


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For CVR Labs (P) Limited

Authorized Signatory

K.B.Nimela
Senior Chemist

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Page No. 24



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006565

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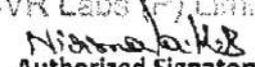
Manali Petrochemicals Limited

Ponneri High Road, Manali, Chennai - 600 068.

Report Number	: 19100077.02	Received on	: 17/10/2019
Date of Sampling	: 16/10/2019	Commenced on	: 17/10/2019
Sample Description	: Source Emission	Completed on	: 18/10/2019
Sampling Location	: Boiler Stack Plant-II	Date of report	: 18/10/2019
Sampled By	: CVR Labs		

S.No:	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	CVR/SOP/ENVI/100	K	444	-
2	Velocity of the Flue Gas	EPA Method1-3 -1996	m/sec	7.7	-
3	Flue Gas Discharge	EPA Method1-3 -1996 IS 11255 (Part-3) 2008(Reaff.2013)	Nm ³ /hr	32787.34	-
4	Sulphur dioxide (SO ₂)	IS 11255 (Part-2) 1985 (Reaff.2014)	mg/Nm ³	234.89	-
5	Oxides of Nitrogen (NO _x)	IS 11255 (Part-7) 2005 (Reaff.2017)	mg/Nm ³	30.24	-
6	Carbon monoxide (CO)	CVR/SOP/ENVI/100	ppm	29	-
7	Carbon dioxide (CO ₂)	CVR/SOP/ENVI/100	%	8.4	-
8	Oxygen (O ₂)	CVR/SOP/ENVI/100	%	5.6	-
9	Moisture Content	EPA Method1-3	%	2.27	-
10	Particulate Matter (PM)	IS 11255(Part-1):1985 (Reaff:2014)	mg/Nm ³	39.85	150


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Authorized Signatory

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Senior-Chemist

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007831

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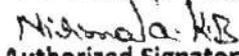
Manali Petrochemicals Limited

Ponneri High Road, Manali,
Chennai - 600 068.

Report Number	: 19110119.02	Received on	: 19/11/2019
Date of Sampling	: 19/11/2019	Commenced on	: 19/11/2019
Sample Description	: Source Emission	Completed on	: 20/11/2019
Sampling Location	: Boiler Stack - Plant II	Date of report	: 20/11/2019
Sampled By	: CVR Labs		

S.No:	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	CVR/SOP/ENVII/100	K	412	-
2	Velocity of the Flue Gas	EPA Method1-3 -1996	m/sec	11.6	-
3	Flue Gas Discharge	EPA Method1-3 -1996 IS 11255 (Part-3) 2008 (RA 2013)	Nm ³ /hr	53244.372	-
4	Sulphur Dioxide(SO ₂)	IS 11255 (Part-2) 1985 (RA 2014)	mg/Nm ³	224.86	-
5	Oxides of Nitrogen(NOx)	IS 11255 (Part-7) 2005 (RA 2017)	mg/Nm ³	24.45	-
6	Carbon monoxide(CO)	CVR/SOP/ENVII/100	ppm	38	-
7	Carbon Dioxide(CO ₂)	CVR/SOP/ENVII/100	%	9.4	-
8	Oxygen(O ₂)	CVR/SOP/ENVII/100	%	6.8	-
9	Moisture Content	EPA Method1-3	%	5.4	-
10	Particulate Matter (PM)	IS 11255(Part-1) 1985(RA 2014)	mg/Nm ³	34.73	150


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For CVR Labs (P) Limited

Authorized Signatory
K.B.Nirmala
Senior Chemist

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TEST REPORT

008614

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Manali Petrochemicals Limited

Ponneri High Road, Manali,
Chennai - 600 068.

Report Number	: 19120039.02	Received on	: 06/12/2019
Date of Sampling	: 05/12/2019	Commenced on	: 07/12/2019
Sample Description	: Source Emission	Completed on	: 07/12/2019
Sampling Location	: Boiler Stack - Plant II	Date of report	: 07/12/2019
Sampled By	: CVR Labs		

S.No:	Parameters	Protocol	Unit	Results	CPCB Norms
1	Stack Temperature	CVR/SOP/ENVI/100	K	409	-
2	Velocity of the Flue Gas	EPA Method1-3 -1996	m/sec	12.18	-
3	Flue Gas Discharge	EPA Method1-3 -1996 IS 11255 (Part-3) 2008 (RA 2013)	Nm ³ /hr	56309.2	-
4	Sulphur Dioxide (SO ₂)	IS 11255 (Part-2) 1985 (RA 2014)	mg/Nm ³	327.4	-
5	Oxides of Nitrogen (NO _x)	IS 11255 (Part-7) 2005 (RA 2017)	mg/Nm ³	82.1	-
6	Carbon monoxide (CO)	CVR/SOP/ENVI/100	ppm	18	-
7	Carbon Dioxide (CO ₂)	CVR/SOP/ENVI/100	%	9.3	-
8	Oxygen (O ₂)	CVR/SOP/ENVI/100	%	9.9	-
9	Moisture Content	EPA Method1-3	%	2.3	-
10	Particulate Matter (PM)	IS 11255(Part-1) 1985 (RA 2014)	mg/Nm ³	32.6	150

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For CVR Labs (P) Limited

Authorized Signatory
K.B.Nirmala
Senior-Chemist

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Page 1 of 1

Page No. 27



Real Time Data Acquisition And Monitoring

Site Name: Manali Petrochemicals Ltd Plant 1

Report: Custom Report

From Date: 2019/01/01 00:00:00 To Date : 2019/12/16 23:29:49

Description	STACK_1_Boiler-SO ₂ _U	STACK_1_Boiler-NO _x _U	STACK_1_Boiler-CO_U	STACK_1_Boiler-PM_U
Prescribed Standards	-	-	-	-
Maximum Data	819.71	132.21	25.42	65.46
Minimum Data	0.0	0.1	0.0	0.0
Geometric Mean	188.35	83.35	8.28	40.28
Median	219.82	98.77	9.89	45.02
Standard Deviation	97.67	41.11	4.26	16.11
Maximum Value At Time	2019-01-25	2019-05-26	2019-03-02	2019-05-18
Minimum Value At Time	2019-01-08	2019-01-01	2019-01-01	2019-11-10
Valid Data Points	332	334	334	331
Total Data Points	350	350	350	350
Data Availability %	94.86%	95.43%	95.43%	94.57%

Sl No	Time	STACK_1_Boiler-SO ₂ _U	STACK_1_Boiler-NO _x _U	STACK_1_Boiler-CO_U	STACK_1_Boiler-PM_U
1	2019-01-01	2.21	0.10	0.00	0.05
2	2019-01-02	2.21	0.10	0.00	0.05
3	2019-01-03	2.21	0.10	0.00	0.05
4	2019-01-04	2.21	0.10	0.00	0.05
5	2019-01-05	2.21	0.10	0.00	0.05
6	2019-01-06	2.21	0.10	0.00	0.05
7	2019-01-07	2.51	0.10	0.00	0.05
8	2019-01-08	0.00	0.10	0.00	0.05
9	2019-01-09	0.00	0.10	0.00	0.05
10	2019-01-10	0.00	0.10	0.00	0.05
11	2019-01-11	0.00	0.10	0.00	0.05
12	2019-01-12	0.00	0.10	0.00	0.05
13	2019-01-13	0.00	0.10	0.00	0.05
14	2019-01-14	0.00	0.10	0.00	0.05
15	2019-01-15	0.00	0.10	0.00	0.05
16	2019-01-16	0.00	0.10	0.00	0.05
17	2019-01-17	0.00	0.10	0.00	0.05
18	2019-01-18	0.00	0.10	0.00	0.05
19	2019-01-19	0.00	0.10	0.00	0.05
20	2019-01-20	0.00	0.10	0.00	0.05

SI No	Time	STACK_1_Boiler-SO2_U	STACK_1_Boiler-NOx_U	STACK_1_Boiler-CO_U	STACK_1_Boiler-PM_U
21	2019-01-21	0.00	0.10	0.00	0.05
22	2019-01-22	0.00	0.10	0.00	0.05
23	2019-01-23	0.00	0.10	0.00	0.05
24	2019-01-24	0.00	0.10	0.00	0.05
25	2019-01-25	819.71	7.87	7.66	0.16
26	2019-01-26	NA	NA	NA	NA
27	2019-01-27	NA	NA	NA	NA
28	2019-01-28	0.00	1.28	0.04	0.05
29	2019-01-29	0.00	1.28	0.04	0.05
30	2019-01-30	0.00	1.28	0.00	0.05
31	2019-01-31	0.00	1.28	0.00	19.97
32	2019-02-01	0.00	1.28	0.00	50.49
33	2019-02-02	0.00	1.28	0.00	47.71
34	2019-02-03	0.00	1.28	0.00	48.05
35	2019-02-04	0.00	1.28	0.00	51.19
36	2019-02-05	0.00	1.28	0.00	44.01
37	2019-02-06	0.00	1.28	0.00	55.17
38	2019-02-07	0.00	1.28	0.00	36.39
39	2019-02-08	0.00	1.28	0.00	56.71
40	2019-02-09	0.00	1.28	0.00	59.34
41	2019-02-10	0.00	1.28	0.00	44.36
42	2019-02-11	0.00	1.28	0.00	48.88
43	2019-02-12	0.00	1.28	0.00	51.35
44	2019-02-13	0.00	1.28	0.00	51.82
45	2019-02-14	0.00	1.28	0.00	45.26
46	2019-02-15	0.00	1.28	0.00	49.55
47	2019-02-16	0.00	1.28	0.00	44.50
48	2019-02-17	0.00	1.28	0.00	43.87
49	2019-02-18	0.00	1.28	0.00	44.31
50	2019-02-19	NA	1.28	0.00	45.05
51	2019-02-20	NA	1.28	0.00	44.86
52	2019-02-21	0.00	1.28	0.00	42.96
53	2019-02-22	0.00	1.28	0.00	43.35
54	2019-02-23	0.00	1.28	0.10	41.88
55	2019-02-24	0.00	1.28	0.00	43.00
56	2019-02-25	0.00	1.28	0.00	44.13
57	2019-02-26	0.00	1.28	0.00	46.54
58	2019-02-27	0.00	1.28	0.00	46.45
59	2019-02-28	0.00	1.28	0.00	44.75
60	2019-03-01	75.76	44.02	11.18	43.80
61	2019-03-02	143.01	85.84	25.42	45.23

Sl No	Time	STACK_1_Boiler-SO2_U	STACK_1_Boiler-NOx_U	STACK_1_Boiler-CO_U	STACK_1_Boiler-PM_U
62	2019-03-03	143.03	85.84	21.33	43.99
63	2019-03-04	137.81	102.94	6.52	33.38
64	2019-03-05	160.20	116.17	7.58	25.86
65	2019-03-06	213.85	99.35	10.30	44.81
66	2019-03-07	200.03	89.92	10.31	41.65
67	2019-03-08	210.39	94.77	10.52	40.01
68	2019-03-09	198.80	88.61	10.18	39.71
69	2019-03-10	202.57	89.97	10.30	38.24
70	2019-03-11	229.45	101.21	11.32	43.60
71	2019-03-12	220.40	97.63	10.77	37.11
72	2019-03-13	199.01	88.81	9.97	36.54
73	2019-03-14	190.58	84.40	9.84	36.76
74	2019-03-15	213.70	94.51	10.74	44.21
75	2019-03-16	194.99	85.97	9.93	41.79
76	2019-03-17	196.84	87.10	9.88	42.36
77	2019-03-18	194.17	90.64	10.03	44.10
78	2019-03-19	196.82	90.50	9.93	44.00
79	2019-03-20	193.85	96.90	10.37	47.26
80	2019-03-21	203.52	95.68	10.16	46.67
81	2019-03-22	187.12	90.98	9.83	44.30
82	2019-03-23	203.40	93.63	10.05	45.66
83	2019-03-24	223.12	106.78	10.53	52.10
84	2019-03-25	211.25	107.51	10.61	52.46
85	2019-03-26	215.11	103.56	10.40	50.41
86	2019-03-27	233.93	106.67	10.90	51.85
87	2019-03-28	218.47	102.65	10.35	49.72
88	2019-03-29	210.04	99.24	10.19	48.01
89	2019-03-30	210.44	96.69	9.89	47.05
90	2019-03-31	198.08	87.95	9.79	42.81
91	2019-04-01	207.68	92.38	9.57	44.74
92	2019-04-02	202.25	97.12	10.19	46.22
93	2019-04-03	224.36	109.48	11.11	53.42
94	2019-04-04	242.95	109.45	11.18	53.37
95	2019-04-05	202.61	96.22	10.30	46.85
96	2019-04-06	188.28	100.32	10.18	48.87
97	2019-04-07	226.25	107.46	10.64	52.23
98	2019-04-08	226.60	113.63	10.31	55.36
99	2019-04-09	197.52	97.36	9.14	47.38
100	2019-04-10	197.58	97.06	9.10	47.04
101	2019-04-11	215.29	98.09	10.00	47.45

SI No	Time	STACK_1_Boiler-SO2_U	STACK_1_Boiler-NOx_U	STACK_1_Boiler-CO_U	STACK_1_Boiler-PM_U
102	2019-04-12	200.77	89.29	8.77	43.48
103	2019-04-13	196.48	88.91	8.05	43.34
104	2019-04-14	198.34	87.79	8.28	42.75
105	2019-04-15	202.01	89.74	8.80	43.67
106	2019-04-16	221.82	100.13	10.23	48.67
107	2019-04-17	232.69	102.55	10.69	49.83
108	2019-04-18	236.43	104.09	9.82	50.69
109	2019-04-19	234.68	103.60	9.78	50.44
110	2019-04-20	217.59	95.94	9.23	41.45
111	2019-04-21	234.84	107.95	10.55	50.42
112	2019-04-22	240.53	109.41	10.48	51.64
113	2019-04-23	234.86	104.04	9.62	49.19
114	2019-04-24	262.05	116.93	11.05	53.99
115	2019-04-25	226.57	100.14	9.08	48.81
116	2019-04-26	236.11	104.10	8.96	50.84
117	2019-04-27	210.77	96.20	10.15	45.50
118	2019-04-28	206.82	93.36	9.70	44.30
119	2019-04-29	224.70	99.79	10.96	48.25
120	2019-04-30	263.88	116.39	12.76	56.71
121	2019-05-01	241.98	106.69	11.76	51.93
122	2019-05-02	233.63	103.17	9.80	50.16
123	2019-05-03	280.73	123.83	10.89	60.41
124	2019-05-04	267.75	118.10	12.93	57.63
125	2019-05-05	231.24	102.17	11.15	49.79
126	2019-05-06	206.07	101.88	11.20	49.63
127	2019-05-07	171.84	114.53	12.16	55.83
128	2019-05-08	249.68	110.08	10.59	53.63
129	2019-05-09	277.11	122.12	12.27	59.65
130	2019-05-10	265.56	117.21	12.63	57.19
131	2019-05-11	229.05	126.65	13.67	61.81
132	2019-05-12	256.80	113.43	12.39	55.29
133	2019-05-13	261.03	115.14	12.54	56.13
134	2019-05-14	265.63	117.35	12.72	57.25
135	2019-05-15	259.46	115.04	12.24	55.92
136	2019-05-16	287.89	126.42	13.74	62.15
137	2019-05-17	281.01	123.86	13.41	60.51
138	2019-05-18	303.42	132.03	14.49	65.46
139	2019-05-19	249.20	114.48	11.94	50.98
140	2019-05-20	210.18	115.42	11.58	45.20
141	2019-05-21	215.02	98.12	10.57	46.80
142	2019-05-22	251.85	111.38	11.95	54.25

Sl No	Time	STACK_1_Boiler-SO2_U	STACK_1_Boiler-NOx_U	STACK_1_Boiler-CO_U	STACK_1_Boiler-PM_U
143	2019-05-23	269.63	119.15	12.67	58.15
144	2019-05-24	252.77	111.89	12.03	54.45
145	2019-05-25	237.35	105.21	11.26	51.17
146	2019-05-26	299.63	132.21	14.17	64.62
147	2019-05-27	247.25	109.33	11.63	53.24
148	2019-05-28	240.39	106.41	11.28	51.78
149	2019-05-29	227.94	101.71	10.86	49.11
150	2019-05-30	252.18	111.04	12.04	54.35
151	2019-05-31	216.64	95.99	10.20	46.78
152	2019-06-01	247.46	109.66	10.77	53.49
153	2019-06-02	258.87	121.43	11.92	59.26
154	2019-06-03	255.20	120.51	11.68	58.76
155	2019-06-04	188.02	85.87	8.80	41.76
156	2019-06-05	230.93	114.15	10.68	55.72
157	2019-06-06	212.38	103.98	10.17	50.72
158	2019-06-07	207.02	99.84	9.78	48.67
159	2019-06-08	239.17	117.57	10.50	57.36
160	2019-06-09	204.57	93.57	8.83	45.57
161	2019-06-10	216.26	97.06	9.94	47.28
162	2019-06-11	236.89	104.72	10.41	50.82
163	2019-06-12	246.30	113.24	11.25	52.77
164	2019-06-13	210.24	100.12	10.24	43.54
165	2019-06-14	206.27	100.20	9.74	47.89
166	2019-06-15	218.89	102.79	10.11	49.73
167	2019-06-16	233.46	113.79	10.30	54.96
168	2019-06-17	202.96	93.75	8.83	45.16
169	2019-06-18	262.92	117.75	10.47	55.97
170	2019-06-19	227.03	100.90	9.52	48.74
171	2019-06-20	223.80	99.31	9.56	48.03
172	2019-06-21	238.04	109.39	10.45	53.21
173	2019-06-22	215.68	103.08	10.07	49.58
174	2019-06-23	227.08	112.15	10.18	54.41
175	2019-06-24	238.24	111.62	10.45	52.83
176	2019-06-25	231.68	106.53	10.15	50.90
177	2019-06-26	218.88	101.84	9.85	48.41
178	2019-06-27	207.57	96.45	9.52	44.14
179	2019-06-28	193.34	86.46	9.08	39.25
180	2019-06-29	238.19	110.13	10.94	48.14
181	2019-06-30	215.80	95.60	9.14	44.98
182	2019-07-01	204.66	90.92	8.62	44.06

SI No	Time	STACK_1_Boiler-SO2_U	STACK_1_Boiler-NOx_U	STACK_1_Boiler-CO_U	STACK_1_Boiler-PM_U
183	2019-07-02	198.83	88.40	8.86	42.07
184	2019-07-03	235.47	103.89	9.87	50.61
185	2019-07-04	216.04	95.38	9.38	46.27
186	2019-07-05	252.33	111.40	10.07	54.14
187	2019-07-06	245.83	108.31	10.14	51.90
188	2019-07-07	256.15	112.93	10.28	54.35
189	2019-07-08	223.42	98.53	9.31	47.71
190	2019-07-09	260.24	114.81	10.79	55.52
191	2019-07-10	257.58	113.88	10.11	53.68
192	2019-07-11	262.68	115.68	10.68	55.80
193	2019-07-12	208.67	91.94	9.05	43.22
194	2019-07-13	220.89	97.70	9.28	46.05
195	2019-07-14	262.10	115.73	9.74	55.63
196	2019-07-15	218.00	96.25	8.66	46.79
197	2019-07-16	233.23	103.24	8.74	49.46
198	2019-07-17	253.44	111.93	10.48	53.03
199	2019-07-18	250.94	110.62	10.06	53.94
200	2019-07-19	219.99	97.04	9.54	47.29
201	2019-07-20	244.87	108.06	9.97	52.69
202	2019-07-21	259.85	114.69	10.58	55.83
203	2019-07-22	215.81	95.40	9.44	46.49
204	2019-07-23	225.95	99.33	10.37	48.21
205	2019-07-24	245.64	107.95	11.41	52.24
206	2019-07-25	234.62	103.34	10.85	50.23
207	2019-07-26	260.10	114.36	12.00	55.54
208	2019-07-27	251.74	110.81	11.17	53.89
209	2019-07-28	220.13	97.21	10.03	47.12
210	2019-07-29	275.99	121.73	11.29	59.18
211	2019-07-30	256.03	112.77	10.56	54.95
212	2019-07-31	257.22	113.51	10.22	55.38
213	2019-08-01	242.43	107.14	10.46	52.07
214	2019-08-02	242.63	107.19	10.63	52.06
215	2019-08-03	262.29	115.80	11.38	56.35
216	2019-08-04	257.72	113.86	10.77	55.56
217	2019-08-05	249.27	110.17	10.17	53.49
218	2019-08-06	253.35	111.84	10.73	49.31
219	2019-08-07	259.94	114.61	10.16	53.40
220	2019-08-08	258.16	113.95	9.89	55.02
221	2019-08-09	257.08	113.53	10.65	55.29
222	2019-08-10	204.23	90.43	9.50	44.02
223	2019-08-11	229.12	101.28	10.52	49.36

SI No	Time	STACK_1_Boiler-SO2_U	STACK_1_Boiler-NOx_U	STACK_1_Boiler-CO_U	STACK_1_Boiler-PM_U
224	2019-08-12	265.17	117.01	11.93	56.62
225	2019-08-13	261.29	115.43	11.84	55.14
226	2019-08-14	246.05	108.84	10.95	50.98
227	2019-08-15	241.67	106.90	10.33	45.02
228	2019-08-16	283.46	125.03	11.82	58.06
229	2019-08-17	253.23	111.80	10.93	52.74
230	2019-08-18	281.75	124.22	12.57	60.44
231	2019-08-19	266.69	117.68	11.80	56.74
232	2019-08-20	252.09	111.32	11.44	54.06
233	2019-08-21	271.99	119.95	11.64	57.30
234	2019-08-22	245.76	108.33	10.71	52.79
235	2019-08-23	245.88	108.29	11.28	52.85
236	2019-08-24	241.81	106.61	11.16	51.97
237	2019-08-25	223.32	98.61	10.36	48.21
238	2019-08-26	242.79	107.11	11.17	52.31
239	2019-08-27	268.29	118.23	12.09	57.57
240	2019-08-28	282.09	124.30	11.35	58.99
241	2019-08-29	252.87	111.13	10.97	53.50
242	2019-08-30	246.15	108.71	10.57	53.16
243	2019-08-31	231.36	101.47	10.59	49.37
244	2019-09-01	258.22	113.12	11.50	55.05
245	2019-09-02	264.12	115.67	11.79	46.68
246	2019-09-03	258.15	113.18	11.52	35.98
247	2019-09-04	256.68	112.64	11.39	35.86
248	2019-09-05	NA	NA	NA	NA
249	2019-09-06	NA	NA	NA	NA
250	2019-09-07	NA	NA	NA	NA
251	2019-09-08	NA	NA	NA	NA
252	2019-09-09	NA	NA	NA	NA
253	2019-09-10	NA	NA	NA	NA
254	2019-09-11	NA	NA	NA	NA
255	2019-09-12	NA	NA	NA	NA
256	2019-09-13	NA	NA	NA	NA
257	2019-09-14	NA	NA	NA	NA
258	2019-09-15	NA	NA	NA	NA
259	2019-09-16	NA	NA	NA	NA
260	2019-09-17	NA	NA	NA	NA
261	2019-09-18	NA	NA	NA	NA
262	2019-09-19	227.54	100.13	10.61	32.20
263	2019-09-20	201.80	88.54	9.40	28.28

SI No	Time	STACK_1_Boiler-SO2_U	STACK_1_Boiler-NOx_U	STACK_1_Boiler-CO_U	STACK_1_Boiler-PM_U
264	2019-09-21	236.10	103.49	10.36	32.90
265	2019-09-22	219.88	96.88	10.54	30.83
266	2019-09-23	234.72	103.03	10.21	32.86
267	2019-09-24	223.68	76.78	8.48	42.92
268	2019-09-25	266.07	83.29	7.27	54.47
269	2019-09-26	247.86	108.73	7.81	34.67
270	2019-09-27	236.43	104.18	7.81	33.29
271	2019-09-28	225.84	99.43	7.81	33.09
272	2019-09-29	257.96	112.82	7.81	37.48
273	2019-09-30	239.50	104.72	7.81	33.26
274	2019-10-01	253.04	111.14	7.81	35.47
275	2019-10-02	238.17	104.34	7.81	33.23
276	2019-10-03	197.26	86.48	7.87	27.37
277	2019-10-04	203.75	88.98	7.92	29.47
278	2019-10-05	225.21	98.45	7.81	32.14
279	2019-10-06	196.78	86.10	7.92	27.38
280	2019-10-07	193.99	89.18	7.95	27.11
281	2019-10-08	198.94	87.83	7.82	27.69
282	2019-10-09	202.08	90.91	7.82	28.09
283	2019-10-10	221.83	98.85	7.82	30.83
284	2019-10-11	219.65	97.73	7.86	30.56
285	2019-10-12	205.79	90.15	7.82	28.65
286	2019-10-13	196.79	86.92	7.81	27.37
287	2019-10-14	215.89	98.04	7.81	30.11
288	2019-10-15	238.81	106.53	7.82	33.07
289	2019-10-16	205.82	89.83	7.99	28.52
290	2019-10-17	191.19	83.87	8.31	26.39
291	2019-10-18	221.42	97.36	8.44	30.69
292	2019-10-19	221.00	98.72	8.47	30.61
293	2019-10-20	243.01	107.95	8.54	33.73
294	2019-10-21	226.75	98.87	8.53	31.35
295	2019-10-22	219.77	99.80	8.57	30.48
296	2019-10-23	238.54	104.89	8.57	33.04
297	2019-10-24	250.66	109.77	8.54	34.82
298	2019-10-25	229.51	100.08	8.43	31.77
299	2019-10-26	255.15	111.44	8.40	35.46
300	2019-10-27	295.05	130.02	8.28	40.98
301	2019-10-28	224.34	98.82	8.13	31.12
302	2019-10-29	238.37	104.17	8.16	33.10
303	2019-10-30	211.28	92.61	8.39	29.30
304	2019-10-31	224.65	98.53	8.53	31.15

SI No	Time	STACK_1_Boiler-SO2_U	STACK_1_Boiler-NOx_U	STACK_1_Boiler-CO_U	STACK_1_Boiler-PM_U
305	2019-11-01	238.53	104.54	8.44	33.13
306	2019-11-02	251.74	110.17	8.22	34.95
307	2019-11-03	220.92	96.72	8.34	30.57
308	2019-11-04	210.11	92.28	8.51	29.08
309	2019-11-05	160.20	73.49	8.30	22.08
310	2019-11-06	33.57	15.79	3.27	10.96
311	2019-11-07	0.00	1.28	0.00	NA
312	2019-11-08	0.00	1.28	0.00	NA
313	2019-11-09	0.00	1.21	0.00	NA
314	2019-11-10	0.00	1.18	0.00	0.00
315	2019-11-11	0.00	1.28	0.00	0.00
316	2019-11-12	114.04	50.36	5.39	15.91
317	2019-11-13	248.44	108.47	10.89	34.38
318	2019-11-14	215.98	95.50	9.33	29.75
319	2019-11-15	226.21	99.70	10.10	31.30
320	2019-11-16	219.67	97.10	9.91	30.35
321	2019-11-17	226.71	99.69	10.20	31.29
322	2019-11-18	229.41	100.45	10.45	31.75
323	2019-11-19	205.92	93.73	9.34	28.42
324	2019-11-20	205.18	89.60	8.39	28.30
325	2019-11-21	201.76	88.30	9.09	27.80
326	2019-11-22	217.65	95.38	10.20	30.06
327	2019-11-23	198.82	87.78	9.19	27.27
328	2019-11-24	210.46	93.11	9.88	29.01
329	2019-11-25	246.04	108.78	10.47	34.06
330	2019-11-26	201.69	88.16	9.40	27.74
331	2019-11-27	184.25	80.06	8.78	25.40
332	2019-11-28	193.51	84.70	9.20	26.66
333	2019-11-29	188.39	82.41	8.87	26.51
334	2019-11-30	165.12	72.63	7.71	23.67
335	2019-12-01	209.13	91.80	9.77	29.18
336	2019-12-02	195.25	85.58	9.21	26.95
337	2019-12-03	214.00	93.81	10.20	29.57
338	2019-12-04	214.09	93.95	10.12	29.59
339	2019-12-05	236.06	103.89	11.22	32.88
340	2019-12-06	216.37	95.67	10.29	30.17
341	2019-12-07	220.99	97.18	10.41	30.68
342	2019-12-08	225.50	98.70	10.59	31.25
343	2019-12-09	236.95	104.04	11.05	32.92
344	2019-12-10	216.65	94.86	10.21	29.95

SI No	Time	STACK_1_Boiler-SO2_U	STACK_1_Boiler-NOx_U	STACK_1_Boiler-CO_U	STACK_1_Boiler-PM_U
345	2019-12-11	223.52	99.92	10.69	31.59
346	2019-12-12	237.36	105.14	11.18	33.36
347	2019-12-13	221.15	97.07	10.21	30.85
348	2019-12-14	218.95	97.17	10.45	30.67
349	2019-12-15	210.81	91.74	9.93	28.97
350	2019-12-16	243.29	106.84	11.41	33.80

Report Details: MPL1 | 2021-03-08 16:06:36 | Custom Report



Real Time Data Acquisition And Monitoring

Site Name: Manali Petrochemicals Ltd., Plant-2

Report: Custom Report

From Date: 2019/01/01 00:01:00 To Date : 2019/12/16 23:59:18

Description	STACK-SO ₂ _U	STACK-NO _x _U	STACK-CO_U	STACK-SPM_U
Prescribed Standards	-	-	-	-
Maximum Data	522.84	59.71	56.77	14.15
Minimum Data	68.3	1.34	0.56	4.02
Geometric Mean	213.2	19.0	7.5	12.32
Median	182.88	7.64	0.97	13.13
Standard Deviation	76.64	18.35	11.42	2.0
Maximum Value At Time	2019-01-12	2019-01-26	2019-04-13	2019-05-11
Minimum Value At Time	2019-11-11	2019-11-16	2019-11-17	2019-11-15
Valid Data Points	337	340	340	340
Total Data Points	350	350	350	350
Data Availability %	96.29%	97.14%	97.14%	97.14%

SI No	Time	STACK-SO ₂ _U	STACK-NO _x _U	STACK-CO_U	STACK-SPM_U
1	2019-01-01	465.12	49.63	2.27	11.91
2	2019-01-02	389.56	55.31	25.61	13.04
3	2019-01-03	465.82	55.73	14.60	13.13
4	2019-01-04	483.35	56.23	2.55	13.23
5	2019-01-05	378.80	57.11	2.02	13.40
6	2019-01-06	343.48	56.81	2.03	13.34
7	2019-01-07	346.52	58.20	2.00	13.62
8	2019-01-08	351.94	55.80	2.03	13.13
9	2019-01-09	346.41	57.64	2.01	13.52
10	2019-01-10	414.93	58.32	1.98	13.65
11	2019-01-11	519.14	55.76	5.69	13.09
12	2019-01-12	522.84	55.09	2.54	12.95
13	2019-01-13	464.65	53.65	2.61	12.67
14	2019-01-14	392.24	57.03	2.04	13.34
15	2019-01-15	313.26	59.26	2.04	13.79
16	2019-01-16	313.59	57.97	2.04	13.52
17	2019-01-17	316.96	55.43	2.08	13.01
18	2019-01-18	304.87	55.59	2.04	13.05
19	2019-01-19	288.94	54.36	2.08	12.80
20	2019-01-20	284.42	55.89	2.05	13.12
21	2019-01-21	270.38	55.74	2.82	13.10
22	2019-01-22	221.74	55.69	1.66	13.06
23	2019-01-23	349.64	53.17	5.26	12.55
24	2019-01-24	202.74	51.32	5.02	12.20
25	2019-01-25	244.76	37.96	0.82	12.26
26	2019-01-26	265.20	59.71	0.99	13.86
27	2019-01-27	229.01	58.71	1.03	13.66

SI No	Time	STACK-SO ₂ _U	STACK-NO _x _U	STACK-CO_U	STACK-SPM_U
28	2019-01-28	241.56	57.78	0.65	13.50
29	2019-01-29	227.67	55.11	0.84	12.95
30	2019-01-30	224.16	55.62	0.96	13.05
31	2019-01-31	182.28	55.17	0.93	12.95
32	2019-02-01	201.74	55.97	1.20	13.10
33	2019-02-02	177.80	57.27	0.98	13.37
34	2019-02-03	180.18	58.93	0.99	13.70
35	2019-02-04	230.60	57.95	14.48	13.50
36	2019-02-05	180.08	57.05	0.96	13.31
37	2019-02-06	184.43	55.79	0.90	13.07
38	2019-02-07	171.19	58.42	0.97	13.59
39	2019-02-08	168.58	55.78	0.95	13.06
40	2019-02-09	159.09	55.12	0.94	12.93
41	2019-02-10	151.62	58.69	0.96	13.65
42	2019-02-11	139.95	59.16	0.96	13.74
43	2019-02-12	138.11	57.68	0.92	13.46
44	2019-02-13	134.27	58.05	0.95	13.52
45	2019-02-14	127.43	57.77	0.92	13.46
46	2019-02-15	132.49	55.74	0.86	13.07
47	2019-02-16	118.02	27.75	0.80	13.19
48	2019-02-17	186.96	7.36	0.80	13.07
49	2019-02-18	127.02	7.35	0.77	13.29
50	2019-02-19	125.79	7.59	0.86	13.62
51	2019-02-20	136.12	7.66	7.90	13.70
52	2019-02-21	179.17	7.64	35.90	13.57
53	2019-02-22	180.81	7.62	36.29	13.68
54	2019-02-23	179.76	7.61	36.09	13.62
55	2019-02-24	173.97	7.47	34.90	13.32
56	2019-02-25	184.64	7.64	37.06	13.90
57	2019-02-26	178.47	7.62	35.88	13.60
58	2019-02-27	185.05	7.65	37.15	13.93
59	2019-02-28	174.41	7.42	15.15	13.36
60	2019-03-01	NA	NA	NA	NA
61	2019-03-02	NA	NA	NA	NA
62	2019-03-03	NA	NA	NA	NA
63	2019-03-04	178.26	7.56	0.88	13.59
64	2019-03-05	176.40	7.55	1.00	13.49
65	2019-03-06	187.92	7.35	0.83	13.27
66	2019-03-07	183.71	7.43	0.75	13.65
67	2019-03-08	183.63	7.52	0.74	13.42
68	2019-03-09	183.67	7.27	0.73	13.34
69	2019-03-10	183.82	6.99	0.77	12.86
70	2019-03-11	184.62	7.07	0.92	13.28
71	2019-03-12	175.71	7.55	0.90	13.39

SI No	Time	STACK-SO ₂ _U	STACK-NO _x _U	STACK-CO_U	STACK-SPM_U
72	2019-03-13	181.63	7.56	0.90	13.73
73	2019-03-14	167.15	6.95	0.83	13.00
74	2019-03-15	177.04	7.46	0.85	13.54
75	2019-03-16	NA	NA	NA	NA
76	2019-03-17	NA	NA	NA	NA
77	2019-03-18	176.18	7.74	0.96	13.49
78	2019-03-19	174.14	7.70	1.54	13.43
79	2019-03-20	172.22	7.58	1.60	13.62
80	2019-03-21	172.66	7.68	1.64	13.87
81	2019-03-22	175.89	7.72	1.65	13.81
82	2019-03-23	177.22	7.64	1.48	13.76
83	2019-03-24	175.82	7.56	1.45	13.73
84	2019-03-25	174.54	7.57	1.40	13.64
85	2019-03-26	163.55	6.63	1.36	12.34
86	2019-03-27	135.58	4.60	1.33	9.45
87	2019-03-28	97.48	2.74	1.33	6.54
88	2019-03-29	92.71	2.59	1.17	6.05
89	2019-03-30	88.62	2.21	0.75	5.30
90	2019-03-31	92.53	1.78	0.72	4.85
91	2019-04-01	110.18	3.52	0.85	7.79
92	2019-04-02	157.91	6.56	3.39	12.19
93	2019-04-03	169.41	7.04	25.88	13.22
94	2019-04-04	174.49	7.54	12.10	13.82
95	2019-04-05	176.22	7.56	15.86	13.95
96	2019-04-06	175.15	7.58	7.67	13.74
97	2019-04-07	176.30	7.49	0.66	13.99
98	2019-04-08	177.60	7.53	0.71	14.04
99	2019-04-09	173.14	7.27	0.64	13.27
100	2019-04-10	171.70	6.70	29.94	12.67
101	2019-04-11	177.20	7.97	48.48	13.33
102	2019-04-12	177.45	7.58	52.83	13.09
103	2019-04-13	178.92	7.59	56.77	13.14
104	2019-04-14	185.49	7.99	46.43	13.90
105	2019-04-15	184.68	7.83	38.26	13.79
106	2019-04-16	177.13	7.65	11.55	13.31
107	2019-04-17	172.33	7.82	11.83	13.55
108	2019-04-18	169.09	7.66	12.21	13.27
109	2019-04-19	168.26	7.32	9.27	13.08
110	2019-04-20	176.55	7.84	6.84	13.47
111	2019-04-21	183.39	7.84	1.00	13.60
112	2019-04-22	179.78	7.53	0.97	13.18
113	2019-04-23	147.86	7.81	1.03	13.81
114	2019-04-24	81.98	7.70	1.45	13.41
115	2019-04-25	179.55	7.24	6.85	13.10

SI No	Time	STACK-SO ₂ _U	STACK-NO _x _U	STACK-CO_U	STACK-SPM_U
116	2019-04-26	181.09	7.37	5.61	13.00
117	2019-04-27	185.73	7.72	0.94	13.46
118	2019-04-28	186.07	7.74	1.04	13.50
119	2019-04-29	182.79	7.63	1.26	13.41
120	2019-04-30	182.72	7.71	0.94	13.45
121	2019-05-01	184.14	7.78	0.96	13.50
122	2019-05-02	181.45	7.77	0.94	13.47
123	2019-05-03	181.96	7.73	0.88	13.64
124	2019-05-04	173.82	7.44	0.82	13.24
125	2019-05-05	180.01	7.68	0.85	13.52
126	2019-05-06	178.97	7.81	0.97	13.44
127	2019-05-07	169.77	6.64	0.94	11.90
128	2019-05-08	174.62	6.42	0.93	11.36
129	2019-05-09	171.76	7.07	0.96	12.60
130	2019-05-10	174.98	7.71	1.01	13.37
131	2019-05-11	181.07	7.89	0.96	14.15
132	2019-05-12	178.58	7.81	0.95	13.98
133	2019-05-13	176.45	7.66	0.92	13.74
134	2019-05-14	173.11	7.43	0.85	13.23
135	2019-05-15	173.33	7.53	0.89	13.21
136	2019-05-16	174.85	7.58	0.93	13.40
137	2019-05-17	170.20	7.12	0.92	12.81
138	2019-05-18	173.90	7.49	0.92	13.13
139	2019-05-19	181.33	7.99	1.12	13.90
140	2019-05-20	178.34	7.94	1.05	13.68
141	2019-05-21	176.50	7.85	1.02	13.68
142	2019-05-22	176.91	7.72	0.96	13.58
143	2019-05-23	182.34	7.65	0.88	13.70
144	2019-05-24	178.60	7.61	0.90	13.34
145	2019-05-25	180.28	7.54	0.93	13.34
146	2019-05-26	175.30	7.27	0.89	13.21
147	2019-05-27	161.92	6.56	1.00	11.91
148	2019-05-28	172.29	7.39	1.10	13.02
149	2019-05-29	170.92	7.43	1.00	13.18
150	2019-05-30	172.74	7.62	1.01	13.17
151	2019-05-31	172.27	7.37	0.98	13.01
152	2019-06-01	177.29	7.81	0.99	13.57
153	2019-06-02	178.23	7.83	1.00	13.42
154	2019-06-03	185.17	7.85	1.02	13.48
155	2019-06-04	180.55	7.61	1.02	13.40
156	2019-06-05	170.63	6.90	0.95	12.31
157	2019-06-06	180.05	7.71	0.99	13.73
158	2019-06-07	183.59	7.87	0.98	13.83
159	2019-06-08	187.70	7.95	1.00	14.02
160	2019-06-09	185.22	7.89	1.00	13.76

SI No	Time	STACK-SO2_U	STACK-NOx_U	STACK-CO_U	STACK-SPM_U
161	2019-06-10	182.92	7.82	1.00	13.93
162	2019-06-11	178.16	7.52	1.00	13.32
163	2019-06-12	178.53	7.57	0.90	13.38
164	2019-06-13	179.14	7.52	0.80	13.50
165	2019-06-14	180.97	7.50	0.78	13.37
166	2019-06-15	184.40	7.61	0.78	13.66
167	2019-06-16	180.69	6.36	0.74	12.00
168	2019-06-17	168.16	6.79	0.73	12.44
169	2019-06-18	164.59	7.01	0.77	12.83
170	2019-06-19	164.54	6.95	0.93	12.75
171	2019-06-20	167.55	7.36	0.90	13.07
172	2019-06-21	164.81	6.95	0.89	12.81
173	2019-06-22	169.84	7.53	0.85	13.22
174	2019-06-23	173.84	7.50	0.85	13.58
175	2019-06-24	178.19	7.39	0.88	13.22
176	2019-06-25	179.46	7.67	0.89	13.75
177	2019-06-26	180.27	7.70	0.84	13.93
178	2019-06-27	177.27	7.65	0.85	13.54
179	2019-06-28	117.87	3.26	0.86	7.02
180	2019-06-29	97.35	1.85	0.89	4.81
181	2019-06-30	99.48	2.45	0.89	5.54
182	2019-07-01	149.90	5.84	0.84	11.11
183	2019-07-02	175.80	7.49	0.82	13.82
184	2019-07-03	173.92	7.53	0.78	13.59
185	2019-07-04	179.76	7.64	0.83	13.68
186	2019-07-05	186.50	7.67	0.82	14.12
187	2019-07-06	187.96	7.76	0.87	14.12
188	2019-07-07	183.25	7.66	0.86	13.75
189	2019-07-08	176.88	6.99	0.82	12.76
190	2019-07-09	179.71	7.55	0.83	13.42
191	2019-07-10	175.07	6.56	0.83	12.58
192	2019-07-11	175.26	7.01	0.78	13.01
193	2019-07-12	178.15	7.14	0.83	13.10
194	2019-07-13	173.91	6.96	0.91	12.40
195	2019-07-14	180.69	7.62	0.91	13.37
196	2019-07-15	178.00	6.92	0.92	12.70
197	2019-07-16	166.03	5.80	0.93	10.99
198	2019-07-17	165.53	6.02	0.82	11.06
199	2019-07-18	178.87	6.93	0.77	12.81
200	2019-07-19	176.99	6.73	0.84	12.41
201	2019-07-20	178.50	6.87	0.96	12.52
202	2019-07-21	179.99	7.16	0.97	12.96
203	2019-07-22	177.98	6.71	0.98	12.50
204	2019-07-23	186.63	7.52	0.94	13.37
205	2019-07-24	182.74	7.27	0.98	12.92

SI No	Time	STACK-SO2_U	STACK-NOx_U	STACK-CO_U	STACK-SPM_U
206	2019-07-25	172.77	6.60	0.99	11.90
207	2019-07-26	184.72	7.21	1.00	12.82
208	2019-07-27	186.78	7.42	0.95	13.15
209	2019-07-28	187.73	7.33	0.89	13.13
210	2019-07-29	182.03	6.87	0.87	12.48
211	2019-07-30	188.70	7.36	0.89	13.14
212	2019-07-31	186.69	7.21	0.82	13.08
213	2019-08-01	186.65	6.92	0.81	12.92
214	2019-08-02	186.51	6.97	0.84	12.88
215	2019-08-03	185.18	6.78	0.85	12.68
216	2019-08-04	190.44	7.24	0.78	13.28
217	2019-08-05	191.51	7.48	0.77	13.36
218	2019-08-06	187.93	7.10	0.79	12.97
219	2019-08-07	189.54	7.18	0.79	13.07
220	2019-08-08	191.21	7.43	0.77	13.29
221	2019-08-09	184.35	6.60	0.82	12.39
222	2019-08-10	190.63	7.10	0.89	13.02
223	2019-08-11	186.02	6.79	0.88	12.69
224	2019-08-12	189.69	6.95	0.90	12.85
225	2019-08-13	193.02	6.99	0.90	12.90
226	2019-08-14	198.24	7.38	0.89	13.32
227	2019-08-15	197.70	7.38	0.91	13.32
228	2019-08-16	198.33	7.32	0.85	13.46
229	2019-08-17	198.44	7.56	0.86	13.42
230	2019-08-18	198.52	7.38	0.86	13.53
231	2019-08-19	197.06	7.46	0.81	13.47
232	2019-08-20	194.66	7.64	0.82	13.84
233	2019-08-21	198.11	7.74	0.81	13.96
234	2019-08-22	190.17	7.28	0.83	13.20
235	2019-08-23	193.75	7.65	0.87	13.63
236	2019-08-24	190.59	7.43	0.83	13.33
237	2019-08-25	190.79	7.44	0.82	13.39
238	2019-08-26	185.96	7.38	0.79	13.14
239	2019-08-27	185.97	7.51	0.75	13.40
240	2019-08-28	189.73	7.58	0.74	13.57
241	2019-08-29	184.73	7.59	0.81	13.32
242	2019-08-30	163.50	5.79	0.95	10.88
243	2019-08-31	180.06	6.82	0.85	12.66
244	2019-09-01	182.17	6.63	0.83	12.49
245	2019-09-02	188.83	7.55	0.87	13.28
246	2019-09-03	184.65	7.16	0.89	12.97
247	2019-09-04	185.12	7.12	0.93	12.98
248	2019-09-05	187.84	7.61	0.92	13.31
249	2019-09-06	189.72	7.55	0.92	13.48

SI No	Time	STACK-SO2_U	STACK-NOx_U	STACK-CO_U	STACK-SPM_U
250	2019-09-07	183.99	7.36	0.88	13.21
251	2019-09-08	183.85	7.44	0.87	13.32
252	2019-09-09	182.32	7.41	0.92	13.23
253	2019-09-10	182.17	7.63	0.90	13.31
254	2019-09-11	180.75	7.52	0.83	13.28
255	2019-09-12	182.88	7.61	0.85	13.47
256	2019-09-13	180.37	7.45	0.85	13.24
257	2019-09-14	175.27	7.03	0.85	12.62
258	2019-09-15	182.56	7.63	0.84	13.52
259	2019-09-16	179.87	7.50	0.80	13.23
260	2019-09-17	182.10	7.52	0.74	13.50
261	2019-09-18	180.45	7.48	0.82	13.26
262	2019-09-19	185.07	7.65	0.81	13.78
263	2019-09-20	178.61	7.19	0.88	13.03
264	2019-09-21	175.23	6.82	0.90	12.72
265	2019-09-22	174.26	6.78	0.92	12.67
266	2019-09-23	176.50	6.88	0.89	12.72
267	2019-09-24	288.92	15.82	11.26	11.27
268	2019-09-25	347.47	39.97	23.47	9.37
269	2019-09-26	317.05	40.32	22.53	8.87
270	2019-09-27	304.47	39.39	21.67	8.87
271	2019-09-28	307.01	39.55	21.82	8.87
272	2019-09-29	NA	NA	NA	NA
273	2019-09-30	305.42	39.48	21.78	8.87
274	2019-10-01	302.73	39.30	21.57	8.88
275	2019-10-02	314.30	40.14	22.34	8.87
276	2019-10-03	324.39	40.93	23.03	8.87
277	2019-10-04	301.88	39.18	21.40	8.87
278	2019-10-05	327.92	41.22	23.29	8.87
279	2019-10-06	324.30	40.94	23.03	8.87
280	2019-10-07	318.61	40.54	22.65	8.87
281	2019-10-08	317.31	40.37	22.55	8.87
282	2019-10-09	301.97	39.19	21.41	8.87
283	2019-10-10	298.57	38.90	21.25	8.87
284	2019-10-11	297.82	38.90	21.13	8.87
285	2019-10-12	319.51	40.62	22.76	8.87
286	2019-10-13	315.27	40.25	22.38	8.87
287	2019-10-14	313.62	40.09	22.28	9.35
288	2019-10-15	304.42	39.38	21.61	9.37
289	2019-10-16	337.94	42.01	24.04	10.09
290	2019-10-17	315.47	40.26	22.42	9.60
291	2019-10-18	451.24	38.47	16.66	9.75
292	2019-10-19	304.42	37.79	20.71	10.76
293	2019-10-20	314.54	38.44	30.13	10.94
294	2019-10-21	269.35	35.04	36.01	9.92

SI No	Time	STACK-SO2_U	STACK-NOx_U	STACK-CO_U	STACK-SPM_U
295	2019-10-22	256.03	33.96	37.00	9.60
296	2019-10-23	295.00	37.15	35.94	10.53
297	2019-10-24	311.74	38.43	35.53	10.93
298	2019-10-25	296.96	37.23	32.77	10.58
299	2019-10-26	277.23	35.57	32.65	10.10
300	2019-10-27	301.61	37.63	29.89	10.69
301	2019-10-28	294.51	37.02	30.56	10.52
302	2019-10-29	277.39	35.44	35.27	10.03
303	2019-10-30	303.97	37.73	30.86	10.73
304	2019-10-31	287.39	36.50	26.10	10.34
305	2019-11-01	301.17	37.58	26.12	10.67
306	2019-11-02	297.81	37.33	26.08	10.59
307	2019-11-03	314.14	38.65	26.09	10.98
308	2019-11-04	313.44	38.62	26.12	10.96
309	2019-11-05	310.30	38.32	26.04	10.90
310	2019-11-06	309.86	38.27	25.98	10.89
311	2019-11-07	304.50	37.80	26.01	10.76
312	2019-11-08	304.87	37.82	25.98	10.77
313	2019-11-09	316.70	38.78	25.93	11.06
314	2019-11-10	198.65	29.42	25.93	8.24
315	2019-11-11	68.30	19.00	25.96	5.16
316	2019-11-12	NA	NA	NA	NA
317	2019-11-13	NA	NA	NA	NA
318	2019-11-14	NA	NA	NA	NA
319	2019-11-15	NA	1.37	0.60	4.02
320	2019-11-16	NA	1.34	0.57	4.02
321	2019-11-17	NA	1.34	0.56	4.02
322	2019-11-18	NA	NA	NA	NA
323	2019-11-19	70.08	4.17	0.79	8.54
324	2019-11-20	70.75	3.98	0.82	8.33
325	2019-11-21	71.37	3.11	0.81	6.64
326	2019-11-22	71.38	2.88	0.84	6.04
327	2019-11-23	71.51	5.20	0.86	9.62
328	2019-11-24	71.87	5.14	0.94	9.59
329	2019-11-25	93.65	9.04	2.24	9.92
330	2019-11-26	237.58	15.99	10.70	9.87
331	2019-11-27	211.38	12.76	13.85	8.55
332	2019-11-28	322.63	23.05	16.00	12.68
333	2019-11-29	314.57	21.58	14.98	12.07
334	2019-11-30	325.82	23.25	16.18	12.74
335	2019-12-01	333.99	24.07	16.76	13.08
336	2019-12-02	313.57	21.98	15.19	12.23
337	2019-12-03	321.87	23.05	16.01	12.65
338	2019-12-04	325.82	24.04	16.79	13.03
339	2019-12-05	317.36	23.32	16.26	12.74

SI No	Time	STACK-SO ₂ _U	STACK-NO _x _U	STACK-CO_U	STACK-SPM_U
340	2019-12-06	318.30	24.82	17.41	13.37
341	2019-12-07	315.26	25.19	17.72	13.51
342	2019-12-08	300.18	23.77	16.62	12.93
343	2019-12-09	312.27	25.07	17.51	13.47
344	2019-12-10	303.22	23.99	16.79	13.03
345	2019-12-11	300.51	23.73	16.59	12.92
346	2019-12-12	311.53	24.89	17.40	13.35
347	2019-12-13	307.26	24.58	17.25	13.24
348	2019-12-14	291.66	22.94	15.95	12.57
349	2019-12-15	284.74	22.24	15.47	12.32
350	2019-12-16	284.34	21.37	18.37	11.94

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