

Annexure - I

AVERAGE MONTHLY EXTRACT OF NOISE LEVEL (IN dB) IN AND AROUND REFINERY

MONTH	BOUNDARY WALL NORTH OF THE REFINERY	BOUNDARY WALL SOUTH OF THE REFINERY	BOUNDARY WALL EAST OF THE REFINERY	BOUNDARY WALL WEST OF THE REFINERY
APRIL - 11	62	56	52	50
MAY - 11	51	53	52	49
JUNE - 11	60	51	54	52
JULY - 11	58	50	55	48
AUGUST - 11	54	51	50	45
SEPTEMBER - 11	52	54	48	49

Annexure - II

Location	Kuthambur (Monsoon)	Kuthambur (winter)	Kuthambur (summer)	Kalivayar (Monsoon)	Kalivayar (winter)	Kalivayar (summer)	Jokkalle (Monsoon)	Jokkalle (winter)	Jokkalle (summer)	Maliyapada (Monsoon)	Maliyapada (winter)	Maliyapada (summer)
Conductivity (micro siemens)	0.2	0	9.3	7.1	7	7.6	8.1	8.5	7.6	7.0	7.7	4
100 ppm	220	630	70	60	300	70	100	670	240	70	200	12
Turbidity (NTU)	121	214	30	20	154	43	00	341	127	30	210	12
arsenicly ppm	NA	1	30	1	1	2	1	8	3	0.2	0	11
in-situly ppm	00	NA	NA	NA	NA	NA	NA	NA	NA	14	NA	14
Thardness ppm	70.4	100	44	10.8	30	6	02	116	74	23	30	30
Ca. hardness ppm	40.2	50	44	10.1	20	44	07	105	115	23.4	100	02
Chloride ppm	11	45	10	10	30	13	50.3	05	70	10.8	30	31
Phenol ppm	ND	ND	ND	ND	ND	10	21	60	11	0	10	10
Iron ppm	0.154	ND	0.24	0.016	ND	0.023	0.013	ND	ND	0.007	ND	ND
Copper micro gm/L	ND	ND	ND	1	ND	2	1	ND	3	1	ND	ND
Zinc ppm	0.051	NA	ND	0.024	ND	ND	0.02	ND	ND	0.183	ND	ND
Arsenic micro gm/L	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead micro gm/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium micro gm/L	11	ND	ND	15	ND	ND	14	20	ND	ND	ND	ND
Oil ppm	ND	ND	ND	ND	ND	ND	ND	ND	ND	18	ND	ND

ND - Non detectable level
NA - Not Applicable

Following test wells are from Kuthambur
 HGIL Slide
 Source Well
 Fernandes open well
 Joseph Fernandes
 VP qtr
 Dr. Souza DMV

Following test wells are from Malayapada
 HPCL
 Borwell near ETP
 WWTP-2 GW
 Following are test wells are from Jokkalle
 Jokkalle
 Thokkar

Sulphur Dioxide Emission Report for the month of April - 11

		Quantity	% Sulphur	SO ₂ Emissions in TPD
Total Fuel Oil Consumption	T/month	40340	0.93	25.01
Fuel Gas Consumption	T/month	12629	0.002	0.017
	Total			25.03

Sulphur Dioxide Emissions from SRU Units in TPD

SRU-I	1.35
SRU-II	0.00
SRU-III	1.41

Total Sulphur Dioxide Emissions from SRU	2.76
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Total Sulphur Dioxide Emissions from the Refinery in TPD	27.79
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Sulphur Dioxide Emission Report for the month of May - 11

	Quantity	% Sulphur	SO ₂ Emissions in TPD
Total Fuel Oil Consumption	T/month 43942	0.94	26.65
Fuel Gas Consumption	T/month 12493	0.002	0.016
Total			26.66

Sulphur Dioxide Emissions from SRU Units in TPD

SRU-I	1.34
SRU-II	0.00
SRU-III	1.36

Total Sulphur Dioxide Emissions from SRU	2.70
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Total Sulphur Dioxide Emissions from the Refinery in TPD	29.37
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Sulphur Dioxide Emission Report for the month of June - 11

		Quantity	% Sulphur	SO ₂ Emissions in TPD
Total Fuel Oil Consumption	T/month	39975	0.94	25.05
Fuel Gas Consumption	T/month	13546	0.002	0.018
Total				25.07

Sulphur Dioxide Emissions from SRU Units in TPD

SRU-I	1.43
SRU-II	0.00
SRU-III	1.52

Total Sulphur Dioxide Emissions from SRU	2.95
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Total Sulphur Dioxide Emissions from the Refinery in TPD	28.02
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Sulphur Dioxide Emission Report for the month of July - 11

		Quantity	% Sulphur	SO ₂ Emissions in TPD
Total Fuel Oil Consumption	T/month	40082	0.95	24.57
Fuel Gas Consumption	T/month	15000	0.002	0.019
Total				24.59

Sulphur Dioxide Emissions from SRU Units in TPD

SRU-I	1.33
SRU-II	0.00
SRU-III	1.25

Total Sulphur Dioxide Emissions from SRU	2.58
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Total Sulphur Dioxide Emissions from the Refinery in TPD	27.16
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Sulphur Dioxide Emission Report for the month of August - 11

		Quantity	% Sulphur	SO ₂ Emissions in TPD
Total Fuel Oil Consumption	T/month	35017	0.92	20.78
Fuel Gas Consumption	T/month	18166	0.002	0.023
Total				20.81

Sulphur Dioxide Emissions from SRU Units in TPD

SRU-I	1.89
SRU-II	0.00
SRU-III	2.14

Total Sulphur Dioxide Emissions from SRU	4.03
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Total Sulphur Dioxide Emissions from the Refinery in TPD	24.84
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Sulphur Dioxide Emission Report for the month of September - 11

		Quantity	% Sulphur	SO ₂ Emissions in TPD
Total Fuel Oil Consumption	T/month	28996	0.96	18.56
Fuel Gas Consumption	T/month	8800	0.002	0.012
Total				18.57

Sulphur Dioxide Emissions from SRU Units in TPD

SRU-I	1.79
SRU-II	0.00
SRU-III	1.69

Total Sulphur Dioxide Emissions from SRU	3.49
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Total Sulphur Dioxide Emissions from the Refinery in TPD	22.06
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Annexure - V

Average Ambient Air Quality Report

Apr-11

Locations	SO ₂ , microgram/ m ³	NO _x , microgram/ m ³	PM, microgram/ m ³	CO, milligram/ m ³	O ₃ , microgram/ m ³	Benzene, microgram/ m ³
Permude	9.75	19.88	21.75	BDL	BDL	BDL
Perara	9.63	19.13	25.25	BDL	BDL	BDL
Ganeshpura	10.00	20.50	27.13	BDL	BDL	BDL
Cooling Tower	14.56	25.63	38.75	BDL	BDL	BDL
ETP	13.75	25.75	34.00	BDL	BDL	BDL

May-11

Locations	SO ₂ , microgram/ m ³	NO _x , microgram/ m ³	PM, microgram/ m ³	CO, milligram/ m ³	O ₃ , microgram/ m ³	Benzene, microgram/ m ³
Permude	9.61	20.28	23.44	BDL	BDL	BDL
Perara	11.33	21.67	24.89	BDL	BDL	BDL
Ganeshpura	9.78	21.89	26.67	BDL	BDL	BDL
Cooling Tower	15.39	26.11	38.11	BDL	BDL	BDL
ETP	15.89	26.89	37.44	BDL	BDL	BDL

Jun-11

Locations	SO ₂ , microgram/ m ³	NO _x , microgram/ m ³	PM, microgram/ m ³	CO, milligram/ m ³	O ₃ , microgram/ m ³	Benzene, microgram/ m ³
Permude	9.72	21.00	23.33	BDL	BDL	BDL
Perara	10.56	22.33	24.22	BDL	BDL	BDL
Ganeshpura	9.33	21.00	25.22	BDL	BDL	BDL
Cooling Tower	14.89	26.11	35.33	BDL	BDL	BDL
ETP	14.89	26.22	33.67	BDL	BDL	BDL

Jul-11

Locations	SO ₂ , microgram/ m ³	NO _x , microgram/ m ³	PM, microgram/ m ³	CO, milligram/ m ³	O ₃ , microgram/ m ³	Benzene, microgram/ m ³
Permude	7.38	17.75	20.88	BDL	BDL	BDL
Perara	8.63	19.38	21.63	BDL	BDL	BDL
Ganeshpura	8.38	17.25	22.38	BDL	BDL	BDL
Cooling Tower	13.63	24.63	30.00	BDL	BDL	BDL
ETP	13.00	23.63	28.63	BDL	BDL	BDL

Aug-11

Locations	SO ₂ , microgram/ m ³	NO _x , microgram/ m ³	PM, microgram/ m ³	CO, milligram/ m ³	O ₃ , microgram/ m ³	Benzene, microgram/ m ³
Permude	8.37	17.72	22.11	BDL	BDL	BDL
Perara	8.67	17.67	21.44	BDL	BDL	BDL

Ganeshpura	8.87	15.94	22.44	BDL	BDL	BDL
Cooling Tower	14.06	24.00	30.22	BDL	BDL	BDL
ETP	13.56	22.44	30.11	BDL	BDL	BDL

Sep-11

Locations	SO ₂ , microgram/ m ³	NO _x , microgram/ m ³	PM, microgram/ m ³	CO, milligram/ m ³	O ₃ , microgram/ m ³	Benzene, microgram/ m ³
Permude	7.99	17.33	25.78	BDL	BDL	BDL
Perara	8.26	15.67	25.00	BDL	BDL	BDL
Ganeshpura	8.42	15.44	24.11	BDL	BDL	BDL
Cooling Tower	15.00	24.89	33.89	BDL	BDL	BDL
ETP	14.78	24.56	34.11	BDL	BDL	BDL

BDL: Below Detection Limit