इंडियन ऑयल कॉर्पीरेशन लिमिटेड (भारत सरकार का उपक्रम) पानीपत रिफाइनरी

इंडियन ऑयल

डाकघर : पानीपत रिफाइनरी, पानीपत-132140

अक्टर - वागावत (रकाइनरा, वाचावत-१७८) वर

Ref. No. PR/HS&E/4/368

To

The Additional Director(S)
Ministry of Environment & Forests,
Govt. of India,
Regional Office (N.R.)
Bays No. 24-25,
Sector-31-A, Dakshin Marg,
Chandigarh - 160047

Ref. No. J-11011/76/96-IA.II(I) dated 05.03.97- DHDS

Sub: Compliance report of environmental conditions - DHDS

Dear Sir,

Please find enclosed herewith the half-yearly compliance report of the MoE&F stipulations for the period Jan'12-Jun'12 w.r.t. DHDS (ref no.J-11011/76/96-IA.II(I) dated 05.03.97).

Thanking you

Yours faithfully,

INDIAN OIL CORPORATION LTD. (Govt. of India Undertaking)

Fax: 0180-2578833

Date: 27.07.2012

PANIPAT REFINERY

PO - PANIPAT REFINERY, PANIPAT- 132140 (Haryana),

4 hakaile

(V.S. Dhakate) Chief Manager (HS&E)

Encl: (i) Average SO2 emission by stacks

(ii) Effluent quality result

(iii) Copy of ground water quality report

CC: RO, HSPCB, Panipat

COMPLIANCE TO ENVIRONMENTAL CLEARANCE STIPULATIONS FROM MOEF FOR DHDS PROJECT AT PANIPAT REFINERY

Ref No. J-11011/76/96-IA.II(I) dated 05.03.97

Sl.	EC Conditions	Compliance Status
No.		·
1.	The project authority must strictly adhere to the stipulations laid down by the Haryana State Pollution Control Board and State Govt.	We have made a system to ensure strict compliance of conditions of HSPCB / Environment department etc. in NOC.
2.	No expansion or modernization of the plant should be carried out without approval of the Ministry of Environment and forest.	No expansion or modernization of DHDS plant done so far.
3.	The total SO2 emission from the Panipat Refinery including DHDS project should not exceed the norm of 1000 Kg/hr stipulated by the ministry.	SO2 emission is maintained below prescribed limits and SO2 emission data is enclosed as Annexure-1.
4.	The existing ETP should be adequately augmented (if required) to accommodate the additional effluent from DHDS project before commissioning of the project so as to ensure the treated effluent meets the MINAS.	Complied A typical report is enclosed as <u>Annexure-II</u>
5.	Time bound action plan for disposal of oil sludge/recovery of oil and design details of the solid waste disposal pit should be furnished to the ministry within a period of 3 months.	Centrifuges/ Melting are existing provided at the wastewater treatment plant. Lined pits are provided for storage of residual sludge.
6.	SRU having an efficiency of more than 99% should be installed.	With the expansion of Panipat Refinery to 15 MMTPA, 3 SRUs (out of five SRUs) remain in operation and rest two SRUs remain in standby mode.
7.	The ground water quality should be regularly monitored and report submitted to the ministry every six months.	Quarterly monitoring of ground water quality around the Refinery is done regularly. A latest typical report is enclosed as <u>Annexure-III</u>
8.	Time bound action plan to implement the conditions stipulated by Ministry while according environmental clearance to the Refinery complex should be submitted to the Ministry within 3 months alongwith details to funds allocated for implementing the above.	Six monthly compliance report on stipulations laid in Environmental Clearance to Panipat Refinery is being submitted regularly to your office.

EH HARYANA TEST HOUE

& Consutancy Services 50-C, Sector-25, Part-II, HUDA, Panipat-132 104 (HARYANA)

Ph: (O) 0180-3290403, (M) 94160-17160, Tele-Fax: 0180-2671112, Website: www.haryanatesthouse.net, e-mail: info@haryanatesthouse.net, ml.dua@sify.com,

Fest Results of Stack Emissions

Period: April 2012 to May 2012

Unit: Panipat Refinery

\2.5	Sr. Stack Particular	Date of Samoling	Temp.	Diameter of Stack	Gas	Flue Gas Volume at	Particulate Matter (SPM)	e Matter M)	Sul	Sulphur Dioxide	a-p	Oxides	Oxides of Nitrogen		Carbon	Carbon Monoxide		Nickel (Ni)		Vanadium		Nickel+Vanadium Limit: (Ni + V)	E C
	en dysk and distributed and seven payages below		့ပ	(E)	(m/sec.)	25°C (m/sec.) (Nm3/ Hr.)	Limit: Gas: 10 mg/Nm3 Liquid: 100 mg/N	as: 10 lm3 mg/Nm3	Limit: (Liquid	Limit: Gas: 50 mg/Nm3 Liquid: 1700 mg/Nm3	/Nm3 Nm3	Limit: Gas Liquid:	Limit: Gas: 350 mg/Nm3 Liquid: 450 mg/Nm3		imit:Gas: Liquid: 2	Limit:Gas:150 mg/Nm3 Liquid: 200 mg/Nm3	13 13	Ī	ACCEPTAGE OF THE PARTY OF THE P	Ε	Ę	Liquid: 5 mg/Nm3	, E
		tors.					mg/Nm ³	kg/hr.	mdd	mg/Nm³	kg/hr.	mdd III	mg/Nm ³	kg/hr. p	ppm mg/	mg/Nm³ Kg	Kg/hr.	mg/Nm³ kg	kg/hr. mg/	mg/Nm³ kg	kg/hr. mg/l	mg/Nm³ kg/	kg/hr.
≪I	NA.																						
-	NHT (PX-1)	16.05.2012	215	1.00	7.27	12061.67	41.34	0:0	43.11	113.07	1.36	36.67	69.14	0.83	6.	0 06:9	90:0	0.0	0.0000	0.0	0.0000 0.00		0.0000
2	CCR-H (PX-1)	16.05.2012	192	1.90	7.34	46136.32	9.97	0,46	10.78	28.27	1.30	26.39	49.75	2.30	9	0.30	0.32	0:0	0.0000	0.0	0.0000 0.00		0.0000
3	ISOMER (PX-2)	16.05.2012	207	1.20	7.46	18119.77	29.6	0.18	13.48	35.34	0.64	24.61	46.39	0.84	6.	0.90	0.13	0.0	0,0000	0.0	0.0000 0.00		0.0000
4	TATORAÝ (PX-2)	16.05.2012	170	1.20	7.16	18843.63	19.10	0.38	16.17	42.41	0.80	32.62	61.51	1.16	8	9.20	0.17	0.0	0.0000	0.0	0,000 0,00	-	0.0000
5	XYLENE (PX-2)	16.05.2012	220	2.00	7.05	46312.14	22.89	1,06	25.15	65.97	3.06	40.84	76.99	3.57	12 13	13.80 0	0.64	0:0	0.0000	0.0	0.0000 0.00		0.0000
മി	PIA																		_	<u></u>			
9	Hot Oil Heater (PTA)	17.05.2012	270	2.35	7.80	64227.82	42.52	2.73	68.28	179.06	11.50	55.82	105.25	92.9	10 11	11.50 0	0.74 0.	0.0380 0.0	0.0024 1.	1.01 0.0	0.0649 1.05		0.0673
7	FCPH (PTA)	17.05.2012	215	2.35	7.27	66610.55	44.85	2.99	73.67	193.20	12.87	51.08	96.31	6.42	8	9.20 0	0.61 0.	0.0300 0.0	0.0020 1.	1.10 0.0	0.0733 1.13	3 0.0763	63
8	Thermal Oxidizer (PTA)	17.05.2012	85	1.10	-	-	1	1	110.50	289.80	Yes	54.92	103.55	1	12 13	13.80	1		1		1		
OI	TPS/CPP												-							<u> </u>			
6	Boiler-1 (Uility)	23.05.2012	160	3.04	14.61	252465.58	86.44	21.82	115.96	304.13	76.78	55.85	105.30	26.58	16 18	18.40 4	4,65	0:0	0.0000	0.0	0.0000 0.00	0.0000	00
9	Boiler-2 (Utility)	23.05.2012	. 197	3.04	14.76	234978.60	95.13	22.35	84.34	221.19	51.97	65.40	123.31	28.98	14 16	16.10 3	3.78	0.0	0.0000	0.0	0.0000 0.00	0.0000	8
#	HRSG-1 (CPP)	24.05.2012	188	3.30	6.94	132733.06	62.45	8.29	64.77	169.86	22.55	28.16	53.09	7.05	7 8.	8.05 1.	1.07	0:0	0.0000	0.0	0.0000 0.00	0,0000	8
12	HRSG-2 (CPP)	24.05.2012	168	3.30	6.91	138152.90	61.89	8.55	73.76	193.45	26.73	26.97	50.84	7.02	6,	6.90	0.95	0:0	0.0000	0:0	0.0000 0.00	0 00000	8
5	HRSG-3 (CPP)	24.05.2012	172	3.30	6.82	135127.87	64.20	8.58	79.16	207.60	28.05	29,04	54.76	7.40	8	9.20	1.24	0:0	0.0000	0.0	0.0000 0.00	0.0000	8
				ı																1	1		1



Test Results of Stack Emissions

Test Results of Stack Emissions Period: April 2012 to May 2012 Unit: Panipat Refinery.

176 3.30 7.09 139.23 66.67 0.01 79.04 207.29 0.03 40.52 76.39 0.01 150 3.30 7.09 139.23 66.67 0.01 79.04 207.29 0.03 40.52 76.39 0.01 150 3.30 6.77 141113.59 63.97 9.03 61.08 160.18 22.60 36.55 68.91 9.72 190 3.04 14.82 235591.76 91.49 21.55 168.68 442.37 104.22 71.50 134.81 31.76 190 3.04 14.72 24356.11 87.66 21.31 137.06 389.43 87.39 67.50 127.27 30.94 175 5.09 5.79 271099.55 44.66 12.16 102.42 286.60 72.82 27.46 51.78 14.04 240 2.34 2.34 0.76 10.78 28.27 1.76 18.28 21.26 2.34 1.85	S OZ	Sr. Stack Particular No.	Date of Bampling	Temp.	Dlameter of Stack (m)	Gas Velocity (m/sec.)	Volume at 25°C (Nm3/ Hr.)	Farticulate Matter (SFM) Limit Gas: 10 mg/Nm3 Liquid: 100 mg/Nm3	M) ss: 10 m3 mg/Nm3	Limit of Liquid	Eutphur Dłoxide (SO ₂) Limit Gas: 50 mg/Nm3 Liquid: 1700 mg/Nm3	Mm3 Nm3	Oxidas Limit Gar Liquid:	Oxides of Nitrogen (NO.) Limit. Gas: 350 mg/Nm3 Liquid: 450 mg/Nm3	Nm3	Carbo Limit:Gar Liquid:	Carbon Monoxide (CO) Limit:Gae:150 mg/Nm3 Liquid: 200 mg/Nm3	Nm3	Nickel (Ni)		Vanadlum (V)		Nickel+Vanadium Limit: (Ni + N) Liquid: 5 mg/Nm3	nadium i + V) ng/Nm3
24.06.2012 176 3.30 7.09 139.23 66.67 0.01 79.04 407.29 0.03 40.62 76.39 0.01 24.06.2012 150 3.30 6.77 14113.59 6.397 9.03 61.08 160.18 22.60 36.55 68.31 9.72 23.06.2012 158 3.04 14.83 235.591.76 61.48 21.55 168.68 44.237 104.22 71.50 134.81 31.76 23.06.2012 158 3.04 14.72 243136.11 87.66 21.31 137.05 369.43 87.39 67.50 134.81 31.76 VUL1) 22.05.2012 175 5.09 5.79 27109.55 44.66 12.16 10.72 28.64 87.30 67.30 14.04 VCCRU) 22.05.2012 175 5.09 5.79 12.16 12.16 12.16 12.16 12.16 12.16 12.16 12.16 12.16 12.16 12.16 12.16 12.16								mg/Nm ³	kg/hr.		mg/Nm³	kg/hr.			-	m mdd	mg/Nm ³ K	Kg/hr.	mg/Nm ³	kg/hr.	mg/Nm ³	kg/nr.	mg/Nm ³	kg/hr.
23.06.2012 150 3.30 6.77 11113.59 63.97 9.03 61.08 160.18 22.60 36.55 68.91 972 972 23.06.2012 198 3.04 14.83 236591.76 91.49 21.55 168.68 44.237 104.22 71.50 134.81 31.76 35.04 14.72 243136.11 87.66 21.31 137.05 36.94.3 87.39 67.50 127.27 30.94 31.76 32.06.2012 175 5.09 5.79 271099.55 44.86 12.16 102.42 268.60 72.82 27.46 51.78 14.04 10.00 22.06.2012 24.0 23.34 27.10 22.06.2012 24.0 23.4 23.41 24.0 23.4 23.41 24.0 23.0 23.0 23.9 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0 23.0	_	IRSG-4 (CPP)	24.05.2012	176	3.30	7.09		29'99	0.01		207.29	0.03		76.39	0.01	-	L	0.00		0.0000		0.0000	00'0	0.0000
23.06.2012 198 3.04 14.83 235591.76 91.49 21.55 168.66 442.37 104.22 71.50 134.81 31.76 23.06.2012 180 3.04 14.72 243156.11 87.66 21.31 137.05 359.43 87.39 67.50 127.27 30.94 (CCRU) 22.05.2012 775 5.09 5.79 77199.55 44.86 12.16 102.42 288.60 72.82 77.46 51.78 14.04 (CCRU) 22.05.2012 240 2.34 7.19 62134.95 12.16 0.75 10.78 28.27 1.76 19.92 37.56 2.33 (CCRU) 22.05.2012 205 1.64 7.20 32800.84 13.41 0.44 8.08 21.20 0.70 29.88 56.34 1.85 (CCRU) 22.05.2012 205 1.68 7.31 33882.99 18.03 0.61 10.78 28.26 0.96 29.23 56.10 1.87 21.05.2012 21.05.2012 21.5 242 7.52 73067.03 9.67 0.71 8.38 21.99 1.61 33.43 6.30 4.61 1.99 (CORU) 23.05.2012 21.5 2.42 7.52 73067.03 9.67 0.71 8.38 21.99 1.61 33.43 6.30 4.61 1.99 (CORU) 23.05.2012 22.5 0.85 7.09 8528.13 22.89 0.19 75.45 197.87 1.65 54.92 103.54 0.86 1.99 (CORU) 23.05.2012 72.5 0.85 7.09 8528.13 22.89 0.19 75.45 197.87 1.65 54.92 103.54 0.86 1.99 (CORU) 23.05.2012 72.5 0.85 7.09 8528.13 22.89 0.19 75.45 197.87 1.65 54.92 103.54 0.86 1.99 (CORU) 23.05.2012 718 22.22 7.11 6.200.54 9.55 0.60 72.57 32.97 207 34.96 65.55 4.15	-	IRSG-5 (CPP)	24.05.2012	150	3.30	6.77	141113.59	63.97	9.03	61.08	160.18			68.91	9.72	<u> </u>	8 05	1.14		0.0000		0.000.0	00:0	0.0000
23.06.2012 180 3.04 14.72 243136.11 87.66 21.31 137.05 355.43 87.39 67.50 127.27 30.54		Noller-1 (TPS)	23.05.2012	198	3.04	14.83	235591.76	91.49	21.55	168.68	442.37				31.76	5	11.50	2.71		0.000.0		0.000.0	0.00	0.0000
VU-1) 22.05.2012 175 5.09 5.79 271099.56 44.86 12.16 102.42 268.60 72.82 27.46 51.78 14.04 (CCRU) 22.05.2012 240 2.34 7.19 62134.95 12.16 0.76 10.78 28.27 1.76 19.92 37.56 2.33 (CCRU) 22.05.2012 205 1.64 7.20 32800.84 13.41 0.44 8.08 21.20 0.70 29.88 66.34 1.85 (CCRU) 22.05.2012 205 1.64 7.20 32800.84 13.41 0.44 8.08 21.20 0.70 29.88 66.34 1.85 (CCRU) 22.05.2012 20 1.64 7.31 0.61 10.78 28.26 0.96 29.28 66.34 1.85 (CCRU) 22.05.2012 1.26 - - - - - - - 1.84 - - - - - - -	17 8	tolter-3 (TPS)	23.05.2012	180	3.04	14.72	243136.11	99.78	21.31	137.05	359.43		├		30.94	6	10.35	2.52	-	0.0000		0.0000	0.00	0.0000
(CCRU) 22.06.2012 175 5.09 5.73 271099.55 44.86 12.16 102.42 268.60 72.82 27.46 51.78 14.04 (CCRU) 22.05.2012 240 2.34 7.19 62134.95 12.16 0.75 10.78 28.27 1.76 19.92 37.56 2.33 (CCRU) 22.05.2012 205 1.64 7.20 32800.84 13.41 0.44 8.08 21.20 0.70 29.88 66.34 1.85 (CCRU) 22.05.2012 205 1.64 7.21 32802.89 18.03 0.61 10.78 28.26 0.96 29.28 66.34 1.85 (CCRU) 22.05.2012 205 1.66 7.31 33802.99 18.03 0.61 10.78 28.26 0.96 29.28 66.34 1.85 (CCRU) 22.05.2012 2.05 1.26 2.26 10.80 0.28 12.58 0.86 29.88 56.34 1.48 (COHCU)<																_								
(CCRU) 22.05.2012 175 5.09 5.79 271099.55 44.86 12.16 102.42 288.60 72.82 27.46 51.78 14.04 (CCRU) 22.05.2012 240 2.34 7.19 62134.95 12.16 0.76 10.78 28.27 1.76 19.92 37.56 2.33 (CCRU) 22.05.2012 205 1.64 7.20 32800.84 13.41 0.44 8.08 21.20 0.70 29.88 56.34 1.85 (CCRU) 22.05.2012 220 1.68 7.31 33882.99 18.03 0.61 10.78 28.26 0.96 29.23 56.10 1.87 (CCRU) 22.05.2012 1.35 1.26 6.42 26225.94 10.80 0.28 12.58 20.99 1.61 33.43 63.04 21.05.2012 1.35 2.42 7.52 73067.03 9.67 0.71 8.38 20.99 1.61 33.43 63.08 4.61 <tr< td=""><td></td><td>2R</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td><u> </u></td><td></td><td></td><td></td><td></td><td></td></tr<>		2R																	<u> </u>					
(CCRU) 22.05.2012 240 2.34 7.19 6213436 12.16 0.75 10.78 28.27 1.76 19.92 37.56 2.33 (CCRU) 22.05.2012 205 1.64 7.20 32800.84 13.41 0.44 8.08 21.20 0.70 29.88 56.34 1.85 (CCRU) 22.05.2012 220 1.64 7.20 32800.84 13.41 0.44 8.08 21.20 0.70 29.88 56.34 1.85 (CCRU) 22.05.2012 220 1.68 7.31 33882.99 18.03 0.61 10.78 28.26 0.96 29.23 56.10 1.87 21.05.2012 1.35 1.26 6.42 26.25.84 10.80 0.28 12.58 22.98 0.86 29.88 56.34 1.48 (CHCU) 23.05.2012 215 2.42 7.52 73067.03 9.67 0.71 8.38 21.99 1.61 33.43 63.03 4.61 1.48 (CHCU) 23.05.2012 215 0.85 7.44 23711.13 8.72 0.21 5.39 14.13 0.34 31.01 58.47 1.39 (CHCU) 17.05.2012 225 0.85 7.09 8328.13 22.89 0.19 75.45 197.87 1.65 54.92 103.54 0.86 1.86 1.86 1.86 1.86 1.86 1.86 1.86 1		3DU/ VDU/ NSU (AVU-1)	22.05.2012	175	5.09	5.79	271099.55	44.86	12.16	102.42	268.60			51.78	14.04	9	11.50	3,12		0.000.0		0.0000	0.00	0.0000
(CCRU) 22.05.2012 205 1.64 7.20 32800.84 13.41 0.44 8.08 21.20 0.70 29.88 56.34 1.85 (CCRU) 22.05.2012 220 1.68 7.31 33882.99 18.03 0.61 10.78 28.26 0.96 29.23 55.10 1.87 (CCRU) 22.05.2012 22 1.65.2012 1.35 1.26 6.42 26.225.94 10.80 0.28 12.58 32.98 0.86 29.88 56.34 1.48 (CORU) 23.05.2012 135 1.26 6.42 26.225.94 10.80 0.28 12.58 32.98 0.86 29.88 56.34 1.48 (CORU) 23.05.2012 190 1.35 7.44 23711.13 8.72 0.21 5.39 14.13 0.34 31.01 58.47 1.39 (CORU) 23.05.2012 225 0.85 7.09 8328.13 22.89 0.19 75.45 197.87 1.65 54.92 103.54 0.86 117.05.2012 178 2.22 7.11 62.905.94 9.56 0.60 12.57 32.97 2.07 34.98 65.95 4.15	_	Reformer Heater-1 (CCRU)	22.05.2012	240	2.34	7.19	62134.95	12.15	0.75	10.78	28.27			37.56	2.33		9.20	0.57	0.0110	0.0007	0.14	0.0087	0.15	0.0094
(CCRU) 22.05.2012 220 1.68 7.31 33882.99 18.03 0.61 10.78 28.26 0.96 29.23 56.10 1.87 21.05.2012 - 2.64 - - - - 7.18 18.84 - 30.78 58.04 - 21.05.2012 1.35 1.26 6.42 26225.94 10.80 0.28 12.58 32.98 0.86 29.88 56.34 1.48 e(OHCU) 23.05.2012 21.5 7.52 73067.03 9.67 0.71 8.38 21.99 1.61 33.43 65.34 1.48 r(OHCU) 23.05.2012 1.90 1.35 7.44 23711.13 8.72 0.21 5.39 14.13 0.34 31.01 58.47 1.39 r(OHCU) 23.05.2012 20.86 7.09 8328.13 22.89 0.19 75.45 197.87 1.65 54.92 103.54 0.86 r(OHCU) 17.05.2012 178 2.22	20 R	Reformer Heater-2 (CCRU)	22.05.2012	205	1.64	7.20	32800.84	13.41	0,44	80.8	21.20			56.34	1.85		9.20	0.30		0.0000		0.0000	0.00	0.0000
21.05.2012 - 2.64 7.18 18.84 - 30.78 58.04 - 10.80 0.28 12.58 32.98 0.86 29.88 56.34 1.48 1.00 0.20 1.25 205.2012 135 7.52 73067.03 9.67 0.71 8.38 21.99 1.61 33.43 63.03 4.61 1.48 17.05.2012 190 1.35 7.44 23711.13 8.72 0.21 5.39 14.13 0.34 31.01 58.47 1.39 17.05.2012 225 0.85 7.09 8328.13 22.89 0.19 75.45 197.87 1.65 54.92 103.54 0.86 17.05.2012 178 2.22 7.11 62905.94 9.56 0.60 12.57 32.97 2.07 34.98 65.95 4.15		Reformer Heater-3 (CCRU)	22.05.2012	220	1.68	7.31	33882.99	18.03	0.61	10.78	28.26			55.10	1.87	10 1	11.50	0.39		0.0000		0.0000	00.0	0.0000
21,05,2012 135 1,26 6,42 26225,94 10,80 0,28 12,58 32,98 0,86 29,88 56,34 1,48 (OHCU) 23,05,2012 215 2,42 7,52 73067,03 9,67 0,71 8 38 21,99 1,61 33,43 63,03 4,61 1,00 (OHCU) 23,05,2012 190 1,35 7,44 23711,13 8,72 0,21 5,39 14,13 0,34 31,01 58,47 1,39 1,00 (OHCU) 17,05,2012 225 0,86 7,09 8328,13 22,89 0,19 75,45 197,87 1,65 54,92 103,54 0,86 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,10 10,1		жнби	21.05.2012	1	2.64	1	1		1	7.18	18.84	1		58.04	***		9.20	1		1	;	1	:	- ;
(OHCU) 23.05.2012 215 2.42 7.52 73067.03 9.67 0.71 8.38 21.99 1.61 33.43 63.03 4.61 1.00 23.05.2012 190 1.35 7.44 23711.13 8.72 0.21 5.39 14.13 0.34 31.01 58.47 1.39 17.05.2012 225 0.85 7.09 8328.13 22.89 0.19 75.45 197.87 1.65 54.92 103.54 0.86 17.05.2012 178 2.22 7.11 62905.94 9.56 0.60 12.57 32.97 2.07 34.98 65.95 4.15		SOHO	21,05,2012	135	1.26	6.42	26225.94	10.80	0.28	12.58	32.98	0.86		56.34	1.48		10.35	0.27	0.0230	0.0006	0:30	0.0079	0.32	0.0085
r(OHCU) 23.06,2012 190 1,35 7.44 23711.13 8.72 0.21 5,39 14.13 0.34 31.01 58.47 1,39 17.05,2012 225 0.86 7.09 8328.13 22.89 0.19 75.45 197.87 1.65 54.92 103.54 0.86 18.05,2012 178 2.22 7.11 62906.94 9,56 0.60 12.57 32.97 2.07 34.98 65.95 4.15		P Suction Furnace (OHCU)	23.05.2012	215	2,42	7.52	73067.03	9.67	0.71	8 38	21.99			63.03	4.61		9.20	29.0		0.000.0		0.0000	0.00	0.0000
17.05.2012 225 0.85 7.09 8328.13 22.89 0.19 75.45 197.87 1.65 54.92 103.54 0.86 18.05.2012 178 2.22 7.11 62906.94 9.56 0.60 12.57 32.97 2.07 34.98 65.95 4.15		Recycle Gas Heater (OHCU)	23.05.2012	190	1.35	7.44	23711.13	8.72	0.21	5.39	14.13	<u> </u>		58.47	1.39		06.9	0.16		0.000.0		0,000,0	00:0	0.0000
18.05.2012 178 2.22 7.11 6290594 9.56 0.60 12.57 32.97 2.07 34.98 65.95 4.15		BU Stack	17.05.2012	225	0.85	7.09	8328.13	22.89	0.19	75.45	197.87		<u> </u>	103.54	0.86	10.	11.50	0.10	0.0080	0.0001	0.89	0.0074	06:0	0.0075
18.05.2012 178 2.22 7.11 62905.94 9.56 0.60 12.57 32.97 2.07 34.98 65.95 4.15	<u></u>													-		<u> </u>								
18.05.2012 178 2.22 7.11 62905.94 9.56 0.60 12.57 32.97 2.07 34.98 65.95 4.15	1 1	MSQ																						
	27 H	IDS Heater (MSQ)	18.05.2012	178	2.22	7.11	62905.94	9.55	09:0	12.57	32.97	2.07	34.98	65.95	4.15	80	9.20	0.58	0.0190	0.0012	0.50	0.0315	0.52	0.0326



Test Results of Stack Emissions Period: April 2012 to May 2012 Unit: Faniont Refinery

Physical Street annuals, this halons 17100, Take For 1882 Selected, Welcolly with Instrumental and Committee and Committee and Administration of the Admin

No. Stack Particular Date of Temp Diameter Of Stack Vest (m)	Tamp, Diameter of Black (m)	Temp. Diameter G eff Stock Valv (m)	Dismeter G of Brack Veh (m)	- F	Gas Valority (m/sec.)	Use Fire Gas Vetonny Volume at 25°C (m/sec.) (Nm3/ Hr.)	Farticulate Matter (SPM) Limit Gas: 10 mg/Nm3 Liquid: 100 mg/Nm3	Matter 1) 8: 10 n3 mg/N/m3	Bulg Liquid	Sulphur Dioxide (8O ₈) Limit: Gas: 50 mg/Nm3 Liquid: 1700 mg/Nm3	Man J	Umit Gr	Oxides of Nitrogen (NO _a) Imit Gas: 350 mg/Nm3 Liquid: 450 mg/Nm3	Nam3 BB3	Carbi	Carbon Monoside (CO) Limit Casi 150 mg/Nm3 Liquid: 200 mg/Nm3	Mm3	Nickal (Ni)	=	Vanadium (V)	mag	Nickel+Vanadium Limit: (Ni + V) Liquid: 5 mg/Nm3	madium N + V) mg/N/m3
mg/Nm³ kg/hr.							kg/hr.		mdd	mg/Nm ³	kg/hr.	mdd	mg/Nm ³	kg/hr.	mdd	mg/Nm ³	Kg/hr.	mg/Nm ³	kg/hr. r	mg/Nm ³	kg/hr.	mg/Nm³	kg/hr.
NHT Heater (MSQ) 18.05.2012 - 3.05	- 3.05	3.05	1	1	1		1		14.37	37.68	1	36.68	69.15	1	10	11.50	t	ı	1	1	ı	i	1
PREP																							
CDU/VDU (AVU-II) 18.05.2012 175 5.10 7.20 338444.54 47.35 16.03	175 5.10 7.20 338444.54 47.35	5.10 7.20 338444.54 47.35	7.20 338444.54 47.35	338444.54 47.35	47.35		16,03		86.23	226.14	76.54	34.51	90.39	22.02	9	11.50	3.89	0.0380	0.0129	2.04	0.6904	2.08	0.7033
HCU Stack (HCU) 18.05.2012 192 1.70 6.97 35072.79 12.75 0.45	192 1.70 6.97 35072.79 12.75	1.70 6.97 35072.79 12.75	6.97 35072.79 12.75	35072.79 12.75	12.75		0.45	_	9.88	25.91	0.91	31.48	59.35	2.08	0,	11.50	0,40	0.0150	0.0005	0.59	0.0207	0.61	0.0212
DHDT-1 (Heater-1) 18.05,2012 172 1.80 6.7 39495,94 28.14 1.11	172 1.80 6.7 39495.94 28.14	1.80 6.7 39495.94 28.14	6.7 39495.94 28.14	39495.94 28.14	28.14		1.11		19.76	51.82	2.05	30.56	57.62	2.28	ω	9.20	0.36	0.0230	0.0000	1.11	0.0438	1.13	0.0447
32 DHDT-2 (Heater-2) 18.05.2012 135 1.80 6.87 44170.70 25.97 1.15	135 1.80 6.87 44170.70 25.97	1.80 6.87 44170.70 25.97	6.87 44170.70 25.97	44170.70 25.97	25.97		1.15		16,16	42.39	1.87	33.43	63.03	2.78		8.05	0.36	0.0210	0.0009	66:0	0.0437	1.01	0.0447
33 HGU-76 (HGU) 21.05.2012 - 3.40	- 3.40	3.40	den den	-	4		1		9.88	25.91	1	30.15	56.84	1	8	9.20	,	;	1	1	;	1	[
HGU-77 (HGU) 21.05.2012 - 3.40	- 3.40	3.40	1	1	1		1		8.08	21.19	1	27.46	51.77	ı	10	11.50	ı	1	Į.	ì	1	1	
35 DCU (Heater I & II) 21.05.2012 222 0.96 7.32 11034.20 23.75 0.26	222 0.96 7.32 11034.20 23.75	0.96 7.32 11034.20 23.75	7.32 11034.20 23.75	11034.20 23.75	23.75		0.26		12.58	32.98	0.36	45.22	85.26	65.05	80	9.20	0.10	0.0130	0.0001	0.39	0.0043	0.40	0.0034
Total in (Kg/ hr) 164.84			164.84	164.84	164.84	164.84	164.84				616.34			298.12			32.03		0.02		0.1		1.02



Yest Results of Stack Emissions Period: May 2012 Unit: Paninat Refinery

Per per prince administer, that the party in the Part Section white the Party Section is the Party Section of the Contract Section in the Contract Section is the Party Section of the Charles Section in the Contract Section is the Party Section of the Charles Section in the C

mg/Nm3 mg/Nm3	Kg/hr.	N. D.	N.D				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Hydrogen Sulphide (H ₂ S) Limit: Old SRU 15 mg/Nm3 Limit: New SRU 10 mg/Nm3	mg/Nm ³	Ö.	N.D	Topical and the second				
Hydro Limit C	mdd	N.D	N.D					
de (CO) 0 mg/Nm3 0 mg/Nm3	Kg/hr.	0.28	0.18					
Carbon Monovide (CO) Limit: Old SRU 150 mg/Nm3 Limit: New SRU 100 mg/Nm3	mg/Nm ³	13.80	9.20					
Carbo Limit: O	mdd	12.00	8.00					
on (NO.) mg/Nm3	kg/hr.	0.27	0.29					
Oxides of Nitrogen (NO.) Limit Otd SRU 350 mg/Nm3 Limit New SRU 250 mg/Nm3	mg/Nm ³	13.38	15.06				*	
Oxide Limit o	mdd	5.10	5.74					
(608)	kg/hr.	16.37	14.10					
talphur Dioxide (5O ₂)	mg/Nm ³	819.74	734.94					
Culph	mdd	312.57	280.23					
The Gas Volume at 25°C	(m/sec.) (Nm3/ Hr.)	19973.31	19182.06					
Gas	(m/sec.)	6.93	6.99					
Olemeter of Stack (m)		1.16	1.16					
thug.	ပ္စ	105.00	124.00					
Date of Sampling		17.05.2012	17.05.2012			-		
Stack Parkuitar		SRU New (Unit 22,24)	SRU Old (Unit 25)					

N.D: Not Detectable



Test Results of Stack Emissions Period: April 2012 Unit: Panipat Refinery

Pile part from removals, this matern 1918s, Tale Was District Medium, Wolford,

				 		_			
de (H,B) mg/Nm3 mg/Nm3	Kg/hr.	N.D	N.D						
Hydrogen Sulphide (H,S) Limit Old SRU 16 mg/Nm3 Limit New SRU 10 mg/Nm3	mg/Nm ³	Q.N	O.N.						
E E E	mdd	O.N	O.Z						
ng/Nm3 mg/Nm3	Kg/hr,	0.24	0.15						
Carten Monoside (CO) Unit Old SRU 100 mg/Nm3 Limit New SRU 100 mg/Nm3	mg/Nm ³	11.90	7.94						
Carlo Linit N	mdd	10,35	6.90						
m (NO.) mg/Nm3 mg/Nm3	kg/hr.	0.41	0.35						
Oxides of Nitrogen (NO.) Limit Old SRU 350 mg/Nm3 Limit New SRU 250 mg/Nm3	mg/Nm ³	20.86	18.29						
Chill S	mdd	7.95	6.97						
(609)	kg/hr.	17.28	13.44						
Sulphur Dioxide (50.)	mg/Nm ³	869.60	706.55					2	
Bulph	mdd	331.58	269.41						
Flue Ges Volume at 25°C	(Nm3/ Hr.)	19876.29	19018.36				M. IT. I. S.		
Gas Velocity	(m/sec.)	7.17	7.07						
Diameter of Stack (m)		1.16	1.16						
Temp.	ပ္	120.00	132.00						
Date of Sampling		10.04.2012	10.04.2012						
Black Particular		SRU New (Unit 22,24)	SRU Old (Unit 25)						

N.D: Not Detectable

For Haryana Test House



& Consutancy Services

30-C, Sector-23, Part-II, HUDA, Panipat-132.104 (HARYANA)

Ph. (O) 0180-3290403, (M) 94160-17160, Tele-Fax: 0180-2671112, Website: www.haryanatesthouse.net, e-mail: info@haryanatesthouse.net, .ml.dua@slfy.com,

Date of Sampling: 22:06.2012

Test Results of Waste water sample

Period: June-2012

Unit: Panipat Refinery

1000		N H C A					
:7 :5	O SUBJECTION	nui)	-funt	(3(0)050) ((880)		En ec	ARTICOTES SALIDES
					ETP-1 (Treated Effluent)	ETP-2 (Treated Effluen	ed Effluent) a figure of the second s
***	S-PG	TOWN AND ADDRESS OF THE PARTY O	6.0 - 8.5	IS: 3025 (P-11)	6.93	6.14	
0	Oil & Grease (Free & Dissolved)	l/Bu	ķ	18: 3025 (P.39)	4.00	3,50	
W	Chemical Oxygen Demand (COD)	igin	125	APHA Open, Refilix method	86.27	62,74	
V	BOD for 3 days at 27°C	าเอูก	15	IS: 3025 (P-44)	13.29	10,38	
ល	Suspended Solids	MgA	8	IS: 3025 (P-17)	16.00	13.00	
9	Phenol as C ₆ H ₆ OH	mg,	0.35	(S; 30/25 (P-43)	0.20	0.15	
-	Sulphide as S	l/gm	6.5	IS: 3025 (P.29)	0.42	0.42	
60)	Cyanide as CN	NB/II	0,2	APHA	< 0.02	< 0.02	
Ð	Ammonical Nitrogen as N	mg/l	15	IS: 3025 (P.34)	14.18	10.89	
10	Total Kjeldhal Nitrogen as N	Megal	章	APHA	24.81	23,01	X
4-	Phosohate as P) Charles	43	IS: 3025 (P.31)	1.58	0.95	
12	Hexavalent Chromium as Cr [™]	Piche	1.0	DPC Method	< 0.01	× 0.01	
5	Total Chromium as Cr	mgd	74	AAS	<0.01	< 0.0°	
14	Lead as Pb	mg/l.	1.0	AAS	< 0,05	<0.05	
స	Mercury as Hg	गम्भू	0.03	IS: 3025 (P-48)	< 0.001	<0.001	
91,	Zinc as Zn	mg/i	ίς	AAS	< 0.1	<0.1	,
-	Nickei as Ni	ក្រឡា	-	AAS	<0.1	- F0 >	
ప	Copper as Cu	Ngm Ng.	ġ -	AAS	< 0.05	< 0.05	
ţ	Vanadium as V	शहरी	0.2	APHA H ₂ O ₂ Method	N.T.	Z	
20	Benzene	mg/î	0.3	•	N.T.	T.W	
2	Benzo(a) Pyrene	figin	0.2	1	N.	T,N	



N.T. Not Traceable



HISH HARYANA TEST HOUSE

& Consutancy Services

50-C, Sector-25, Part-II, HUDA, Panipat-132 104 (HARYANA)

Ph.: (O) 0180-3290403, (M) 94160-17160, Tele-Fax: 0180-2671112, Website: www.haryanatesthouse.net, e-mail: info@haryanatesthouse.net, ml.dua@sify.com,

Test Results of Ground Water Sample

Period: May-2012

Unit: Panipat Refinery

Date of Sampling: 25.05.2012

San Sandardan								
Sr. No	Sr. No. Parameters	unit	Protocol Used		GRC	GROUND WATER SAMPLES		
				Nr. DM Water Tank (No. 91T-416A)	Nr. OHCU Plant	Nr. CISF Gate	Nr. Gurdwara	Nr. Melting Pit Area
-	Colour	Hazen	IS: 3025 (P-04)	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
. 2	Odour	ı	(S: 3025 (P-05)	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable
8	Taste	1	í	Aggreable	Aggreable	Aggreable	Aggreable	Aggreable
4	Turbidity	UTN	IS: 3025 (P-10)	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
ည	Hd	į	IS: 3025 (P-11)	8.00	8.40	7.90	7.90	7.90
9	Total Hardness as CaCO ₃	тgЛ	IS: 3025 (P-21)	218.9	88.30	154.60	158.6	168.70
7	Iron as Fe	₩βw	APHA	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
∞	Residual Chlorine	₩6w	(S: 3025 (P.26)	ĽŽ	H.N	N.7	ĽΝ	L.X.
රා	Chloride as Cl	Mgm	(S; 3025 (P-32)	36.5	29.90	7.50	10.3	6.50
10	Coliform Organisms	MPN 100mi	15: 1622	w v	60	A 63	× ×	<u>«</u>



Ph. (C) 0140-3200403, (M) 94160-17160, Tele-Fax: 0180-3071113, Website: www.haryanafeshunas.net, e-mail: influgiblaryanaseshunas.net, mi-duagistiy.com, 10 C. Roctor 25, Parcil, HUDA, Pasipal 133 104 (HAR VARA)

Test Results of Ground Water Sample

Period: May-2012

Unit: Panipat Refinery

Date of Sampling: 25.05.2012

Sr. No.	Sr. No. Parameters	Unit	Protocol Used		GR	GROLIND WATER SAMPLES	THE RESERVE TO SERVE THE PARTY OF THE PARTY	TRANSPORTER DE
				Nr. PTA - ETP N	Nr. Bio-Remediation (New Area-1)	Nr. Bio-Remediation (New Area-2)	Nr. PTA Gate	
-	Colour	Hazen	IS: 3025 (P-04)	< 5.00	< 5.00	< 5.00	< 5.00	
2	Odour	, I	IS: 3025 (P-05)	Unobjectionable	Unobjectionable	Unobjectionable	Unobjectionable	
က	Taste			Aggreable	Aggreable	Aggreable	Aggreable	
ব	Turbidity	UTN	IS: 3025 (P-10)	< 5.00	< 5.00	< 5.00	< 5.00	
5	Hd	,	IS: 3025 (P-11)	8.50	8.26	7.90	7.40	
ço	Total Hardness as CaCO ₃	l/gm	IS: 3025 (P-21)	144.50	118.5	136.50	208.80	
7	Iron as Fe	j/gm	АРНА	< 0.05	< 0.05	< 0.05	< 0.05	
œ	Residual Chlorine	//bw	IS: 3025 (P-26)	N.T	Γ.N	N.T	N.T	
೦ಾ	Chloride as Cl	//gm	IS: 3025 (P-32)	08'09	5.6	5.60	51.50	
10	Coliform Organisms	MPNV 100ml	IS: 1622	۸ س	e >	v دی	8 ,	

For Haryana Teget House

N.T: Not Traceable