

रिफाइनरीज़ प्रभाग

Refineries Division

Ref No: PR/HSE/2021/EC Compliance

इडियन ऑयल कॉपोरेशन लिमिटेड पानीपत रिफाइनरी एवं पेट्रोकेमिकल कॉम्पलेक्स पानीपत, हरियाणा - 132140 Indian Oil Corporation Limited Panipat Refinery & Petrochemical Complex Panipat, Haryana - 132140 येवसाइट : www.iocl.com; ई-मेल : panipatrefinery@indianoil.in दुल्माप : 0180-2524001; फंक्स : 0180-2578833



Date: 17.01.2022

To,

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

Sub: Six Monthly Environmental Clearances (Jul'2021 to Dec'2021) Compliance Report- Panipat Refinery Complex.

Dear Sir,

Enclosed please find herewith the Six Monthly Environmental Clearances (ECs) Compliance Report- Panipat Refinery Complex for the period of July'2021 to December'2021 of the MoEFCC stipulations w.r.t. following EC letters;

- EC Letter No. J-11011/27/91-IA II(I) dated 16.07.1992 for setting up of a grass root refinery at Karnal district by Indian Oil Corporation Limited.
- EC Letter No. J.11011/60/2000-IA.II dated 09.04.2001 for Expansion of Panipat Refinery (PREP) from 6 MMTPA to 12 MMTPA.
- EC Letter No. J.11011/52/2000-IA.II dated 30.04.2001 for Integrated Paraxylene and Purified Terphthalic Acid Projects at Panipat by M/s IOCL.
- EC Letter No. J.11011/9/2001-IA II (I) dated 06.12.2001 for MS Quality Up-gradation Project at Panipat Refinery by IOCL.
- EC Letter No. J.11011/52/2000-IA II (I) dated 20.01.2003 for Modification in Plant layout of Paraxylene and Purified Terephthalic Acid (PX/PTA) Project within Panipat Refinery Complex and Integrated with Panipat Refinery (PR) and Panipat Refinery Expansion Project (PREP).
- EC Letter No. J.11011/7/2004-IA If (I) dated 09.08.2004 for expansion of Panipat Refinery (From 12 MMTPA to 15 MMTPA) and Setting up of Indalin+ unit at Panipat Refinery Complex of IOCL, Panipat Refinery Haryana.
- EC Letter No. J.11011/177/2016-IA II (I) dated 26th March, 2018 for BS-VI Fuel Quality up-gradation and expansion of PX/PTA plant at Panipat Refinery & Petrochemical Complex (PRPC), Panipat (Haryana) by M/s Indian Oil Corporation Limited.
- EC Letter No. IA-J-11011/43/2018-IA- II (I) dated 13.11.2019 for installation of 100 KLPD Ligno-Cellulosic 2G Ethanol Plant at Baholi, Block Madlauda, Panipat Refinery road, District Panipat (Haryana) By M/S Indian Oil Corporation Limited.
- EC Letter No. J-11011/78/2018-IA- II (I) dated 25.11.2019 for setting up 128 KL per day Ethanol Production Plant by M/s Indian Oil Corporation Ltd. (IOCL) In Panipat Refinery & Petrochemical Complex at Panipat, Haryana.
- EC Letter No. J-11011/177/2016-IA-II(I) dated 03.12.2021 for Panipat Refinery Capacity Expansion from Existing 15 MMTPA to 25 MMTPA within the Existing Refinery Complex by M/s Indian Oil Corporation Ltd. (IOCL), Panipat Refinery & Petrochemical Complex at Panipat, Haryana

Thanking you,

Yours faithfully,

Pitahnay ... 17-1-2022

(P V Ramakrishna) General Manager (HSE) Panipat Refinery and Petrochemical Complex

Copy to:

- The Regional Officer, HSPCB, Panipat
- Chairman, HSPCB, Panchkula

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पंजीमृत कार्यालय :जी9-, अली सावर जंग मार्ग, वांडा (पूर्व), मुंबई 400051, महाराष्ट्र (आवडा), Anager (Fault, Galay & Erwenner) Regd. Office: G-9, Ali Yavar Jung Marg, Bandra (East), Mambai-400051, Maharabin देशकाठी) व प्रेवेकिकन जॉन्द्रजेन (adjult of gala) CIN - 23201 MH 1959 GOI 011388 Parioat Refinery & Petrochemical Complex (I O C L) पानीपत, Panipal-132140

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S N	EC General & Specific Conditions / Environmental Monitoring Reports	Compliance Status
1.	EC Letter No. 1-11011/27/91-TA II(T) dated 16.07.1992 for setting up of a grass root refinery at Karnal district by Indian Oil Corporation Limited.	Attached as Annexure 1
2.	EC Letter No. J.11011/60/2000-IA.II dated 09.04.2001 for Expansion of Panipat Refinery (PREP) from 6 MMTPA to 12 MMTPA.	Attached as Annexure 2
3.	EC Letter No. J.11011/52/2000-IA.II dated 30.04.2001 for Integrated Para xylene and Purified Terphthalic Acid Projects at Panipat by M/s IOCL.	Attached as Annexure 3
4.	EC Letter No. J.11011/9/2001-IA II (I) dated 06.12.2001 for MS Quality Up- gradation Project at Panipat Refinery by IOCL.	Attached as Annexure 4
5.	EC Letter No. J.11011/52/2000-IA II (I) dated 20.01.2003 for Modification in Plant layout of Para xylene and Purified Terephthalic Acid (PX/PTA) Project within Panipat Refinery Complex and Integrated with Panipat Refinery (PR) and Panipat Refinery Expansion Project (PREP).	Attached as Annexure 5
6.	EC Letter No. J.11011/7/2004-IA II (I) dated 09.08.2004 for expansion of Panipat Refinery (From 12 MMTPA to 15 MMTPA) and Setting up of Indalin+ unit at Panipat Refinery Complex of IOCL, Panipat Refinery Haryana.	Attached as Annexure 6
7.	EC Letter No. J.11011/177/2016-IA II (I) dated 26 th March, 2018 for BS-VI Fuel Quality up-gradation and expansion of PX/PTA plant at Panipat Refinery & Petrochemical Complex (PRPC), Panipat (Haryana) by M/s Indian Oil Corporation Limited.	Attached as Annexure 7
8.	EC Letter No. IA-J-11011/43/2018-IA- II (I) dated 13.11.2019 for installation of 100 KLPD Ligno-Cellulosic 2G Ethanol Plant at Baholi, Block Madlauda, Panipat Refinery road, District Panipat (Haryana) By M/S Indian Oil Corporation Limited.	Attached as Annexure 8
9.	EC Letter No. J-11011/78/2018-IA- II (I) dated 25.11.2019 for setting up 128 KL per day Ethanol Production Plant by M/s Indian Oil Corporation Ltd. (IOCL) In Panipat Refinery & Petrochemical Complex at Panipat, Haryana.	Attached as Annexure 9
10.	EC Letter No. J-11011/177/2016-IA-II(I) dated 03.12.2021 for Panipat Refinery Capacity Expansion from Existing 15 MMTPA to 25 MMTPA within the Existing Refinery Complex by M/s Indian Oil Corporation Ltd. (IOCL), Panipat Refinery & Petrochemical Complex at Panipat, Haryana.	Attached as Annexure 1(
1 1 .	Six Monthly Ambient Air Quality and Stack Monitoring Data.	Attached as Annexure 12
12.	Six Monthly Treated Effluent Quality Data (ETP and STP).	Attached as Annexure 12
13.	Six Monthly Fugitive Emission Data.	Attached as Annexure 1
14.	Noise Survey Data.	Attached as Annexure 14

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COMPLIANCE TO ENVIRONMENTAL CLEARANCE STIPULATIONS FROM MOEFCC FOR SETTING UP OF A GRASSROOT REFINERY AT KARNAL, DISTRICT BY INDIAN OIL CORPORATION LIMITED - EC Letter no. J-11011/27/91-IA.II(I) dated 16.07.1992

SN	Stipulation	Compliance
1.	The project authority must strictly adhere to the stipulations laid down by the State Pollution Control Board and State Government.	Being Complied
2.	Any expansion of the plant, either with the existing product mix or new products can be taken up only with the prior approval of this ministry.	Being Complied
3.	Sulphur recovery unit with more than 90% Sulfur Recovery should be installed and commissioned before the project is completed, and measure for its continuous operation must be taken. Techno- economic feasibility study for additional standby sulphur recovery system may be initiated after the installation of first unit.	 Being Complied Panipat Refinery has 5 nos. Sulphur Recovery Units (SRUs) as detailed below and 4 (99.9% recovery efficiency) out of 5 units are in operation: 1 no. SRUs: 99% efficiency ,1X115 MT/day capacity 4 no. SRUs: 99.9% efficiency ,4X225 MT/day capacity
4.	Low Sulfur fuel (Sulphur content not exceeding 1%) should be used in the boilers/furnaces.	Being Complied
5.	Low NO _x burners should be used to avoid excessive formation of NO _x .	Being Complied Low NO, burners have been installed in the process heaters, Boilers, furnaces etc.
6.	Total emission of SO2 from the refinery should not exceed 1 Ton/hr.	Being Complied SO ₂ emission from the Refinery is well within the limit.
7.	The gaseous emissions $(SO_2, NO_8 \text{ etc.})$ from various process units should conform to the standards prescribed by the concerned authorities, from time to time. At no time the emission levels should go beyond the stipulated standards. In the event of failure of any pollution control system adopted by the unit, the respective unit should be put out of operation immediately and should not be restarted until the control measure are rectified to achieve the desired efficiency.	Being Complied
8.	Adequate number (a minimum of 7) of air quality monitoring stations should be set up in the down- wind direction as well as where maximum ground level concentration is anticipated. Stack emission should be monitored by setting up of an automatic continuous stack monitoring unit. The data on stack emission should be submitted to the State Pollution Control Board once in three months and to this Ministry once in six months along with the statistical analysis. The air quality monitoring station should be selected on the basis of modeling exercise to represent the short-term ground level concentrations.	 Being Complied Total 9 nos. of CAAQMS (2 nos. in Panipat city, 1 no. in Refinery township, 5 nos. in Refinery & 1 in Polishing Pond area) are in operation. These were set up in consultation with HSPCB. Also, one mobile van for ambient air quality monitoring is in place. For all stacks: SO₂, NO₄, CO & PM analyzers are available and connected to CPCB/HSPCB server. Data on stack emission are submitted to HSPCB/MoEFCC as per frequency mentioned.
9.	Fugitive emissions of hydrocarbons from storage tanks etc. should be minimized by adopting necessary measures.	Being Complied
10.	Fugitive emission should be regularly monitored and record maintained.	Being Complied Fugitive emission monitoring for Hydrocarbon an Benzene is done quarterly through approved agency.

- 100	Stipulation	Compliance			
SN 11.	There should be no change in the stack design without the approval of the State Pollution Control Board. Alternate pollution control system and proper design in the stack should be provided to take care of excess emissions due to failure in any system of	Being Complied.			
12.	the plant. The height of stacks attached to AVU, FCCU and TPS etc. should not be less than 100 m.	8 MGD water allocated for 6 MMTPA Refinery. However,			
13.	Total fresh water consumption (Industrial as well as township) should not exceed 8 MGD. Ground Water should not be tapped for this purpose.	8 MGD water allocated for 8 Minut A second form 6 to 12 further EC granted to Refinery expansion from 6 to 12 MMTPA (J.11011/7/2004-IA-II (I) dated 09.08.2004) Fresh water allocation increased to 30 cusec.			
14.	The project authorities must recycle wastewater to the maximum extent possible (at least 25% to 30% to start with). The treated effluent coming out of the plant must meet MINAS.	Being Complied ETP-I and II Treated effluent meeting Refinery M parameter is "Recycled and Reused" as feed to RO			
15.	Adequate number of effluent quality (oil & Grease, COD, BOD, suspended Solids, Phenols, Sulphides, pH and Flow) monitoring stations must be set up in consultation with State Pollution Control Board.	 Effluent quality is being monitored at various stages Effluent Treatment Plant. Also final Treated Effluent Quality parameters (pH, BOD, COD & TSS) are connected online to CPCB/HSPCB server. The raw oily sludge generated from the Refinery subjected to Oil recovery / Melting Pit treatment for recovery of oil. The recovered oil is recycled back with crude oil for processing. The residual sludge is disposed-off through confine Bio-remediation. Part of the sludge is processed in Coker unit. There are 4 nos. lined pits available for storing residual oily sludge. 			
16.	Maximum recovery of oil from the sludge should be done and residual oily sludge should be incinerated.				
17.	The project authorities must prepare a scheme for solid and hazardous waste disposal. The plan for disposal duly approved from the State Pollution Control Board should be submitted to this Ministry within one year and adequate space should be provided for it within the plant premises.	Being Complied A common hazardous waste disposal site is developed in the state by Haryana Environmental Management Society (HEMS) in consultation with Haryana State Pollution Control Board. Panipat Refinery is the member of this society.			
18.	A green belt of at least 500 m width and adequate density should be developed and maintained. Selection of the species should be done in consultation with the State Forest Department. A detailed green belt development plan taking into account attenuation factors, soil characteristics etc. should be prepared and submitted to this Ministry within six months.	Complied Greenbelt of 500 m width have been developed and maintained after consultation with State Forest Department.			
19.	A detailed risk analysis study based on Maximum Credible Accident (MCA) analysis should be done and submitted to this Ministry once the process design/technology and layout is finalized. Based on this, a Disaster Management Plan has to be prepared and after approval by the concerned Nodal Agency, should be submitted to this ministry within six months. The impact zone under no circumstances should cross the plant premises.	A Comprehensive Risk Analysis is conducted. Report has been submitted. On-site Disaster Management Plan based on this Risk Analysis is also prepared which is accredited from approved Third Party Inspection agency of PNGRB.			
20.	A 'no development zone' of minimum 5km radius in between the refinery and the Panipat town should	Action by State Government.			

	stiguistion			op to D	Panipa	dated 1	6.05.202	
SN	Stipulation be provided. Where only restricted growth on nonpolluting industries may be allowed (Action –	Letter sent from PR to DC, Panipat dated 16.05.202 requesting enforcement of this condition.						
	State Govt.)	Being Co	mplied					
21.	written order of the competent authority.	Complied						
22.	northern side of the retinery i.e. in the sp	a solid						
23.	A detailed Rehabilitation Plan for the affected people should be prepared and submitted to this	Complied						
24.	Contractor's labourers must leave place after the construction work is over to avoid creation of slum in the division areas of the refinery and township.	Complied						
25.	A comprehensive EIA must be prepared and submitted to this Ministry by September, 1993 covering regional implications and 'no development		Complied				d Rail.	
26.	Feasibility of using 20 tonner trucks may be studied / assessed wherever road transport is being envisaged and report submitted to this Ministry within three months.	Bulk Movement of Products through Pipeline and Rail.						
27.	Necessary approval may be obtained from the Regulatory Authority as per Section 5(2) and 5(3) of the Hazardous Wastes (Management and Handling) Rules, 1989 of the Environment (Protection) Act, 1986							
28.	The State Govt. should prepare a Master Plan for the region to avoid haphazard growth of industries and human settlements in the area.	Action by State Government.						
29.	The project authority must set up laboratory facilities for collection and analysis of samples under the supervision of competent technical personnel, who will directly report to the Chief Executive.	Complied						
30.	A separate Environment Management Cell with suitably qualified people to carry out various functions should be set up under the control of Sr. Executive, who will report directly to the Head of the	Complied						
31.	organization. The funds earmarked for the environmental protection measures should not be diverted for	Year-wise expenditure.						
	other purposes and year wise expenditure should be reported to this Ministry.	FY:20	18-19	FY:20	19-20	FY:20	20-21	
	reported to this manual r			(Rupees	in laks)			
		Recurr ing	Non- recurri ng	Recurr ing	Non- recurri ng	Recurr ing	Non- recurri ng	
		394.2	1728.6	551.8	3060.3	1229.8	3465.0	

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Compliance status with respect to the EC conditions stipulated in the letter for Panipat Refinery Expansion Projects (PREP) from 6 MMTPA to 12 MMTPA – EC letter no. J.11011/60/2000-IA.II dated 09.04.2001 :

SN	Conditions stipulated in the EC letter		Status
1.		ompany should strictly adhere to the stipulations made by &F vide O.M. No. J.11011/76/96-IAII dated 5 th March, 1997	Being Complied
2.	a)	The total SO ₂ emission from the entire Refinery complex should not exceed 1000 kg/hr even after proposed expansion.	Being Complied
	b)	The gaseous emissions (SO ₂ , NO _x , HC, CO) and particulate matters, from various process units should conform to the standards prescribed under Environmental (Protection) Rules, 1986 or norms stipulated by SPCB whichever is most stringent.	Being Complied
	c)	At no time, the emission level should go beyond the stipulated standards.	Being Complied
	d)	In the event of failure of pollution control system(s) adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.	Being Complied
3.	Sulph provi	our recovery units with more than 99% efficiency shall be ded.	Being Complied Four SRUs with 99.9% recovery have been installed & are operational.
4.	a)	Adequate ambient air quality monitoring stations SO ₃ , NO ₈ , HC should be set up in the Refinery area in consultation with SPCB, based on occurrence of maximum ground level concentration and down-wind direction of wind.	Being Complied 9 nos. of CAAQMS (5 nos. in Refinery, 2 nos. ir Panipat city, 1 no. each in Refinery Township and Polishing Pond area) are in operation These were set up in consultation with HSPCB. Also mobile van for ambient air quality monitoring is in place.
	b)	The monitoring network must be decided based on making exercise to represent short term GLCs.	Complied
	c)	In addition, a mobile van with adequate facilities to monitor ambient air quality outside the Refinery premises should be provided.	Complied Mobile van with adequate facilities for ambien air quality monitoring is already available & is in operation.
	d)	Continuous on-line stack monitoring equipment should be installed for measurement of SO ₂ , NOx, CO & PM.	For all stacks: SO ₂ , NO _x , CO & PM analyzers are available and connected to CPCB / HSPCE server.
5.	a)	Fugitive emission of HC from product storage tank yard, crude oil tanks etc, must be regularly monitored.	Being Complied Fugitive emission monitoring for Hydrocarbon and Benzene is done quarterly through approved agency.
	b}	Sensors for detecting HC leakages should also be provided at strategic locations.	Hydrocarbon leak detectors installed a strategic locations.

	The project authorities must strictly adhere to th	e stipulations Being complied
iN	Conditions stipulated in the EC letter	Status
- T	eral conditions:	-
	exceed 30 cusecs even after the proposed expansion	
9.	commissioning the project. The drawl of water from the Munak Head-work	s should not Being Complied.
	e) Approval from the nodal agency must be ob	Onsite and Offsite Emergency Preparedness plans already prepared for Panipat Refinery. tained before Complied.
	 d) Based on this, on-site and off-site emergency plan must be prepared. 	preparedness Complied.
	c) The company must prepare a compre- assessment/analysis of the Refinery an facilities once the engineering design and layer	d associated but is frozen.
	Report must be incorporated while firming layout and equipment design.	up the plant The recommendations of the Rapid Risk Assessment for the study have been incorporated in the plant layout and equipment design.
	b) The recommendations made in the Bapid Bi	Mounded storage is used for LPG storage.
8.		e for LPG. Complied.
	 b) The concerned units must be shut down in c quality exceeding the prescribed limits. 	ase of effluent Being Complied with.
1.+	provided to contain the effluent du disturbance and or ETP failure.	ity should be Complied . Iring process
7.	 c) The entire treated wastewater should b reuse in the plant operation and green bel so as to maintain zero discharge. a) Guard ponds of sufficient holding capacity 	t development reused as feed to RO plant and as make up to Cooling Tower. Treated Effluent from PTA-ETP (ETP-3) meeting Petrochemical MINAS is discharged into THIRANA DRAIN as per permission granted by Statutory bodies (MoEECC & HSPCB)
	c) The entire treat it	Treated Effluent from PTA-ETP (ETP-3) meetin Petrochemical MINAS is discharged int THIRANA DRAIN as per permission granted statutory bodies (MOEFCC & HSPCB).
	 b) The liquid effluent generated from the Refiterated comprehensively to conform to the standards and concentration limits prescriteration. 	he load based PTA Petrochemical Complex is being tracted
	b) The liquid effluent generated from the Bob	De no discharge Treated effluent from ETP-1 & ETP-2 is reuse as feed to RO plant and as make up to Coolin Tower. Treated Effluent from PTA-ETP (ETP-3) meetin Petrochemical MINAS is discharged int THIRANA DRAIN as per permission granted b statutory bodies (MOEFCC & HSPCB).

	made by the Haryana State Pollution Control Board and the State Government.	
2.	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forest.	Being complied
3.	In case of deviations or alterations in the project proposed from those submitted to this Ministry for Clearance, a fresh reference should be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Being complied
4.	Data on ambient air quality, stack emission as well as fugitive emissions of HC must be regularly monitored and submitted to CPCB once in 3 months and to Ministry's Regional Office once in 6 months.	Being complied. Mentioned reports are being sent to MOEF&CO once in 6 months. Stack analyzers are online connected with CPCB/HSPCB server.
5.	Influent and effluent quality monitoring stations should be set up in consultation with the State Pollution Control Board. Regular monitoring should be carried out for the MINAS parameters.	Influent and Effluent quality is being monitored at various stages of Effluent Treatment Plants also Final Treated Effluent Quality parameters (pH, BOD, COD & TSS) also connected online to CPCB/HSPCB server.
6.	The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended, on 3 rd October, 1994. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire & Safety Inspectorate etc. must be obtained.	Being complied.
7.	The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management & Handling) Rules, 1989. Authorization from the State Pollution Control Board must be obtained for collections/treatment/storage/disposal of hazardous wastes.	Being complied.
8.	Occupational health surveillance program should be undertaken as regular exercise for all the employees, especially for those engaged in handling hazardous substances.	Being complied.
9.	The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (Day time) and 70 dBA (night time)	Being complied. The Refinery has provided silencers or compressor discharge, acoustic leggings or turbo generators & ejectors and acoustic chambers at the burners. The ambient noise level meets the standards.
10.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA and risk analysis report.	Complied.
11.	The project proponent should have a scheme upliftment in the nearby villages with reference to contribution in road construction, education of children, festivals, health centers, sanitation facilities, drinking water supply, community awareness and employment to local people whenever possible both for technical and non technical jobs.	 Being complied Social upliftment and community development has been properly taken care as per IOCL's Corporate Social Responsibility Policy through following CSR activities. Promoting Sanitation Environment Sustainability/ Renewable Energy Sources Rural Development/ Promoting Preventive Healthcare/ Promotion of Sports Promoting Education

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1155		 Enhancement of Vocational Skills Empowering Women Welfare of Underprivileged
12.	A separate environmental management cell equipped with full fledged laboratory facilities must be set up to carry out the environmental management and monitored functions.	Being Complied Separate Environment Management Cell is in place.
13.	The project authorities will provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purpose.	Being Implemented.
14.	The implementation of the project vis-à-vis environmental action plans will be monitored by Ministry's Regional Office at Chandigarh / State Pollution Control Board / Central Pollution Control Board. A six monthly compliance status report should be submitted to monitoring agencies.	Being Complied. Six monthly compliance reports along with monitoring data are being submitted regularly.
15.	The project proponent should advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locally concerned informing that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board / Committee and may also be seen at Website of the Ministry and Forests at http://www.envfor.nic.in. the advertisement should be made within 7 days from the date of issue of the clearance letter and a copy of the same should be forwarded to the Ministry's Regional Office.	Complied
16.	The project authorities should inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	Complied

Integrated Paraxylene and Purified Terphthalic Acid Projects at Panipat by M/s IOCL – Environmental Clearance MOEF, N. Delhi letter no. J.11011/52/2000-IA.II dated 30.04.2001

SN	Conditions stipulated in the EC letter	Status
1	a) The gaseous emission (SO ₂ , NO, and HC, Benzene) from the various process units should conform to the standards prescribed under environment (Protection) Rules, 1986 or norms stipulated by the SPCB whichever is more stringent.	Being Complied. Emission from the stack is being monitored online and from approved lab on Bi-monthly basis. 48 stacks are connected online to CPCB/HSPCB server with parameters such as SO2, NOx, CO & PM.
	b) At no time, the emission level should go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the respective unit should not be restarted until; the control measures are rectified to achieve the desired efficiency.	Being Complied.
2	a) Adequate ambient air quality monitoring stations (SPM, SO ₂ , NO ₄ , HC and Benzene) should be set up in the petrochemical complex in consultation with SPCB, based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs	Being Complied. Out of 9, AAQMS two Ambient Air Monitoring stations set up in PX-PTA plant area. The location of these is finalized after consultation with HSPCB.
	b) Continuous on-line stack monitoring equipment should be installed for measurement of SO ₂ and NO _x .	Being Complied. PX-PTA stacks are connected online to CPCB/SPCB server with parameters such as SO2, NOx, CO & PM.
3	 Fugitive emission of HC from product storage tank yard, crude oil tanks etc. must be regularly monitored. 	Being Complied. Fugitive emission monitoring for Hydrocarbon and Benzene is done quarterly through approved agency.
	 b) Sensors for detecting HC leakage should also be provided at strategic locations. 	Being Complied. Hydrocarbon leak detectors installed at strategic locations.
4	 a) Liquid effluent generated from the petrochemical complex should be treated comprehensively to conform to the load based standards and concentration limits prescribed under EPA rules (MINAS standards). 	For Treating liquid effluent generated from Petrochemical complex separate ETP has been installed. PTA-ETP treated effluent meets the petrochemical MINAS. PTA ETP envisages Aerobic and Anaerobic Biological systems for treatment and the final effluent will meet Petrochemical MINAS.
	b) The BOD of the treated effluent should not exceed 30 mg/l at any point of time.	BOD is being maintained below 30 mg /l.
	c) The Company must undertake maximum recycling/ reusing of the treated effluent for process purposes in addition to green belt development and also adopt adequate water conservation measures.	Process Licensor M/s INVISTA has confirmed that "Recycle & Reuse" of PTA treated effluent is not feasible. However, Technical feasibility study for "Recycle & Reuse" of PTA treated effluent is being taken up with leading technology providers in the field of water treatment.

	d) As per the commitment given the total quantity of treated effluent discharged into Thirana drain should not exceed 255 m ³ /hr.	The discharge of PTA-ETP treated effluent into Thirana Drain is being restricted well below 255 m3/hr.
	e) The effluent quality at the discharge point must also be monitored periodically by an independent agency authorized by CPCB and report of the independent agency should be submitted to Ministry's Regional office at Chandigarh/CPCB/ HSPCB.	Effluent Quality of PTA ETP is monitored monthly by an authorized independent agency and report is being submitted to HSPCB (Monthly) and to MoEF&CC (Six-Monthly).
	f) The Company shall fully abide by the Hon'ble Supreme Court orders on regulation of industrial discharge to River Yamuna and it's canals / drains.	Being Complied.
5	 a) Guard ponds of sufficient holding capacity should be provided to contain the effluent during process disturbances and or ETP failure. 	Guard ponds of sufficient holding capacity are provided.
	 b) The concerned units must be shut down in cases of effluent quality exceeding the prescribed limits. General Conditions 	Being Complied.
SN	Conditions stipulated in the EC letter	Status/Action plan
1	The project authority must adhere to the stipulations made by Haryana State Pollution Control Board and State Government.	Being Complied
2	No expansion or modification of the plant should be carried out without prior approval of Ministry.	Noted
3	Data on ambient air quality and stack emissions as well as fugitive emissions of HC and Benzene from product storage tanks yard, naphtha tanks etc. must be regularly monitored and submitted to CPCB/ SPCB once in 3- months and to Ministry (Regional Office, Chandigarh) one in 6-months.	Being complied. Mentioned reports are being sent to MOEF&CC once in 6 months and to HSPCB on bi-monthly basis. Stack analyzers are online connected with CPCB/HSPCB server.
4	The effluent quality before and after treatment should be regularly monitored. The frequency of monitoring and number of influent and effluent quality monitoring stations should be set up in consultation with the State PCB. The monitored data should be submitted to CPCB/ SPCB once in 3- months and to Ministry (Regional Office, Chandigarh) once in 6-months.	Being Complied Influent and Effluent quality is being monitored at various stages of Effluent Treatment Plants also Final Treated Effluent Quality parameters (pH, BOD, COD &TSS) also connected online to CPCB/HSPCB server. Mentioned reports are being sent to MOEF&CC once in 6 months and to HSPCB on monthly basis
5	Handling, manufacturing, storage and transportation of hazardous chemicals should be carried out in accordance with the Manufacture, Storage & Import of Hazardous chemicals Rules, 1989, as amended in 1991. Permissions from State and Central nodal agencies in this regard must be obtained.	Being Complied
5	Hazardous wastes, if any, must be handled and disposed as per Hazardous waste (Management and Handling) Rules, 1989. Authorization from State Pollution Control Board in this regard must be obtained.	Being complied Authorization for Hazardous Waste has been obtained from HSPCB which is valid up to 30.09.2024.

			6		3	8	.0
		394.2	1728.	551.8	3060.	1229.	3465
	protection measures should not be diverted for any other purpose and year-wise expenditure should be submitted to this Ministry (Regional Office, Chandigarh/CPCB/SPCB)	rring	recur ring	rring	recur ring	rring	recur ring
		Recu	Non-	Recu	Non-	Recu	Non-
		FY:2018-19 FY:2019-20 FY:20 (Rupees In laks)				provide and the state of the state	20-21
14	The funds earmarked for the environmental protection measures should not be diverted for any	Being Implemented. Year-wise expenditure:					
13	The company must obtain ISO-14000 certification within a time frame of S years or so after the commissioning.	ISO-14000 certification has been obtained. Complied				J.	
12	A separate environmental management cell with full fledged laboratory facilities to carry out various management and monitoring functions should be set up under the control of senior executive.	Being Complied Separate environment management cell is in place.				2020011	
11	report. The project proponent should have a scheme for social upliftment in the surrounding villages with reference to contribution in road construction ,education of children festivals, health centers, sanitation facilities, drinking water supply, community awareness and employment to local people especially the displaced people whenever and wherever possible both for technical and non- technical jobs.	Being complied Social upliftment and community developm has been properly taken care as per IO: Corporate Social Responsibility Policy thro following CSR activities. – Promoting Sanitation – Environment Sustainability/ Renewable Energy Sources – Rural Development/ Promoting Preventive Healthcare/ Promotion of Sports – Promoting Education – Enhancement of Vocational Skills – Empowering Women – Welfare of Underprivileged				r IOCL throug ble	
10	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP and risk analysis	Complied					
9	Occupational Health Surveillance of the workers should be done on regular basis and records maintained.	Complie	ed				
8	The overall noise levels in and around the plant area should be kept well within the standards (85dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz 75 dBA (day time) and 70 dBA (night time).	Being complied. Silencers are provided on compressor dischar acoustic leggings on turbo generators & eject and acoustic chambers at the burners. The ambient noise level meets the standards.					ejecto
	Adequate provisions for infrastructure facilities such as water supply, fuel, sanitation etc. should be ensured for construction workers during the construction phase so as to avoid felling of trees and pollution of water and the surroundings.	Complied.					

15	Six monthly status reports on the project vis-à-vis environmental measures should be submitted to this Ministry (Regional Office, Chandigarh/ CPCB/SPCB.	Being Complied. Six monthly compliance reports along with monitoring data are being submitted regularly.
16	The implementation of the project vis-à-vis environmental action plans will be monitored by Ministry's Regional Office at Chandigarh/ State Pollution Control Board/ Central Pollution Control Board. A six monthly compliance status report should be submitted to monitoring agencies.	Will be adhered to.
17	The project proponent should advertise in at least two local newspaper widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned informing that the project has been accorded environmental clearances by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/ Committee and may also be seen at Website of the Ministry and Forests at http://www.envfor.nic.in	Complied
18	The Project Authorities should inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	Complied

COMPLIANCE TO ENVIRONMENTAL CLEARANCE STIPULATIONS FROM MOEF FOR MS QUALITY UPGRADATION PROJECT AT PANIPAT REFINERY BY IOCL,- J-11011/9/2001-IA. II (I) DATED 06.12.2001

SN	EC Conditions	Compliance Status
1.	The company shall ensure strictly implementations / Compliance of the terms and conditions mentioned vide Ministry's letter no. J.11011/60/2000-IA II dated 9 th April, 2001.	Being Complied (Stipulations are being strictly adhered for 6 MMTPA EC condition).
2.	The company shall also ensure that total SO ₂ emission from the Panipat Refinery (Including expansion and MS Quality Improvement Project) will not exceed 1000 kg/hr.	Being Complied SO ₂ emission from the Panipat Refinery (including expansion and MS Quality Improvement Project) is well within the limit.
3.	The company shall comply with all recommendations made by Haryana SPCB vide consent order dated 24.01.2001.	Complied.
4.	The company shall comply with all recommendations made by EMP and risk Analysis reports	Complied.
5.	The implementation of the project vis-à-vis environmental action plans will be monitored by Ministry's Regional Office at Chandigarh / State Pollution Control Board / Central Pollution Control Board. A six monthly compliance status report should be submitted to monitoring agencies.	Being Complied. Six monthly compliance reports along with monitoring data are being submitted regularly.
6,	The project proponent should advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locally concerned informing that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board / Committee and may also be seen at Website of the Ministry and Forests at http://envfor.nic.in the advertisement should be made within 7 days from the date of issue of the clearance letter and a copy of the same should be forwarded to the Ministry's Regional Office.	Complied.
7.	The project authorities should inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	

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Modification in Plant Layout of Paraxylne and Purified Terephthalic Acid (PX/PTA) Project within Panipat Refinery Complex and Integrated with Panipat Refinery (PR) and Panipat Refinery Expansion Project (PREP) by M/s IOCL – Reg. Environmental Clearance – J.11011/52/2000-IA II (I) dated 20.01.2003

SN	EC Conditions	Compliance Status
L	The company shall ensure strict implementation / compliance to the stipulations made by MOEF vide OM no. J-11011/60/2000-IA-II dated 9 th April, 2001 for expansion of Panipat Refinery from 6 MMTPA to 12 MMTPA and J-11011/52/2000-IA-II dated 30 th April, 2001 for integrated Paraxylene and Purified Terephthalic acid project at Panipat by M/s IOCL.	Being Complied.
2	Total SO ₂ emission after integration of PX-PTA project with PR/PREP shall not exceed 1275 kg/hr (i.e. 1000kg/hr. for PREP and 275 kg/hr from the proposed PX/PTA/CPP Project.)	SO ₂ emission is well within the limit.
3	As per the commitment given, the total quantity of treated effluent shall not exceed 255m3/hr from the proposed integration project.	Total quantity of treated effluent discharged into Thirana Drain is maintained well below 255m ³ /hr.
4	The company shall develop green belt in an area of 75 acres as per the original plan in the PX-PTA project area.	Complied.
5	The project authorities shall also comply with all the environmental protection measures and safeguards recommended in the EIA /EMP and risk analysis report submitted while seeking environmental clearance for the PREP and PX/PTA and PX/PTA/ PR project.	Being Complied.
6	As per the recommendations made in the Risk assessment study for the composite facility i.e. PX/PTA/PREP and associated facilities carried out by M/s KLG-TND Safety Technology Ltd., the various elements of safety management system should be reviewed and updated keeping in view the new facilities added to the Refinery Complex. These include: Process and facilities information and documentation; Process Hazard Analysis; Operation Procedures; Inspection and Maintenance and Onsite Emergency Management Plan.	Various elements of Safety Management System (SMS) has been reviewed and updated keeping in view the new facilities added. On-site Disaster Management Plan based on this Risk Analysis is also prepared which is accredited from PNGRB approved Third Party Inspection agency.
7	The project authorities must adhere to the stipulations made by the HSPCB for the PREP, PX/PTA projects and NOC granted for the installation of Captive Power Plant.	

P-15 COMPLIANCE TO ENVIRONMENTAL CLEARANCE STIPULATIONS FROM MOEF FOR EXPANSION OF PANIPAT REFINERY (FROM 12 MMTPA TO 15 MMTPA) AND SETTING UP OF INDALIN' UNIT AT PANIPAT REFINERY COMPLEX OF IOCL, PANIPAT REFINERY HARYANA J-11011/7/2004-IA. II (I) dated 09.08.2004

SN	EC Conditions	Compliance Status
1.	The company shall ensure strict implementation / compliance to the stipulations made by MOEF vide OM no. J-11001/60/2000-IA-II dated 9 th April, 2001 for expansion of Panipat Refinery from 6 MMTPA to 12 MMTPA	Being Complied
The standards prescribed officiency. (Protection) Rules, 1986 or norms stipulated by the SPCB whichever is more stringent. At no time, the emission level should go beyond the stipulated standards. In the event of failure pollution control system(s) adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency. online and from apprivation apprivation on the stipulated the standards of the stipulated of the stipulated of the stipulated standards. In the event of failure pollution control system(s) adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.		Gaseous emission from various process units meets the prescribed standards.
3.	Adequate ambient air quality monitoring stations, (SPM, SO ₂ , NO _x and HC, Benzene) should be set up in the refinery complex in consultation with SPCB, based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs. Continuous on-line stack monitoring equipment should be installed for measurement of SO ₂ and NO _x . Data on VOC should be monitored and submitted to the SPCB / Ministry.	 9 nos. CAAQMS (5 nos. in Refinery, 2 nos. In Panipat city, 1 no. each in Refinery township and Polishing Pond area are in operation. These were set up in consultation with HSPCB. Also mobile van for ambient air quality monitoring is in place. For all stacks: SO₂, CO, PM & NO₈ analyzers are available and connected with CPCB server. Fugitive emission monitoring for Hydrocarbon and benzene is done quarterly through approved agency. All reports are submitted to HSPCB regularly.
4.	Fugitive emission of HC from product storage tank yard, crude oil tanks etc. must be regularly monitored. Sensors for detecting HC leakage should also be provided at strategic locations.	Fugitive emission monitoring for Hydrocarbon and Benzene for product storage tanks and crude oil storage tanks is done through approved agency on quarterly basis. Hydrocarbon detectors have been provided at strategic locations.
5.	The company shall also ensure that the total SO2 emissions from the Panipat Refinery after expansion shall not exceed i.e. 1000 kg/hr. The company shall install an additional Sulphur Recovery Unit (225 MT/day capacity) with 99.9% efficiency and the entire gas generated should be amine treated to reduce the SO2 emissions level from the Refinery.	 The total SO2 emission of Panipat Refinery not exceeding the mentioned limit i.e. 1000 kg/hr. Panipat Refinery has 5 nos. Sulphur Recovery Units (SRUs) as detailed below and 4 (99.9 % recovery efficiency) out of 5 units are in operation: 1 no. SRU: 99% efficiency ,1X115 MT/day capacity 4 no. SRUs: 99.9% efficiency ,4X225 MT/day capacity

per the commitment given, there should be zero uent discharge due to the proposed expansion. I company should ensure that there will be no charge of treated effluent into Thirana Drain and treated effluent from the refinery is not charged along with the treated effluent from PX- plant. I entire treated waste water should be recycled reuse in the plant operation and greenbelt elopment so as to maintain zero discharge, ther, the liquid effluent generated from the nery should be treated comprehensively to form to the load based standards and centration limits prescribed under Environment tection) Act, 1986 Rules. IOCL shall ensure installation of continuous flow isurement devices so that only the permitted nity of treated effluent from PX-PTA plant im ³ /hr.) is discharged. Further, IOCL shall make efforts to recycle and reuse the treated effluent in PX-PTA plant after commencing of the unit.	Refinery operation into Thirana drain. ETP-1 & ETP-2 treated effluent meets Refinery MINAS. These treated effluents are re-used as a feed to RO plant and makeup to Cooling Towers. PTA-ETP treated effluent meeting Petrochemical MINAS is discharged into Thirana Drain as per Consent-To-Operate /approvals from MOEFCC, HSPCB & Irrigation Department.
charge of treated effluent into Thirana Drain and treated effluent from the refinery is not charged along with the treated effluent from PX- plant. entire treated waste water should be recycled reuse in the plant operation and greenbelt elopment so as to maintain zero discharge. ther, the liquid effluent generated from the nery should be treated comprehensively to form to the load based standards and centration limits prescribed under Environment tection) Act, 1986 Rules. IOCL shall ensure installation of continuous flow issuement devices so that only the permitted ntity of treated effluent from PX-PTA plant im ³ /hr.) is discharged. Further, IOCL shall make efforts to recycle and reuse the treated effluent	MINAS. These treated effluents are re-used as a feed to RO plant and makeup to Cooling Towers. PTA-ETP treated effluent meeting Petrochemical MINAS is discharged into Thirana Drain as per Consent-To-Operate /approvals from MOEFCC, HSPCB & Irrigation Department. Flow meters were installed at the time of setting up PTA-ETP. At no point of time discharge of treated effluent is exceeding the prescribed limit of 255 m ³ /hr. Process Licensor M/s INVISTA has confirmed that "Recycle and Reuse" of PTA treated effluent is not feasible.
tection) Act, 1986 Rules. IOCL shall ensure installation of continuous flow isurement devices so that only the permitted ntity of treated effluent from PX-PTA plant im ³ /hr.) is discharged. Further, IOCL shall make ifforts to recycle and reuse the treated effluent	Flow meters were installed at the time of setting up PTA-ETP. At no point of time discharge of treated effluent is exceeding the prescribed limit of 255 m ³ /hr. Process Licensor M/s INVISTA has confirmed that "Recycle and Reuse" of PTA treated effluent is not feasible.
IOCL shall ensure installation of continuous flow isurement devices so that only the permitted ntity of treated effluent from PX-PTA plant im ³ /hr.) is discharged. Further, IOCL shall make ifforts to recycle and reuse the treated effluent	up PTA-ETP. At no point of time discharge of treated effluent is exceeding the prescribed limit of 255 m ³ /hr. Process Licensor M/s INVISTA has confirmed that "Recycle and Reuse" of PTA treated effluent is not feasible.
	and Reuse of PTA treated effluent is being taken up with leading technology providers in the field of Water Treatment.
itional water requirement shall not exceed 400 nr. The total quantity of effluent generation uld not exceed 1280 m3/hr. as indicated in the ronment Management Plan. The treated tent should be reused/ recycled to achieve zero harge.	The total allowable withdrawal of fresh water as per previous EC was 3000 m ³ /hr (as per EC of 6- 12 MMTPA expansion). Adding the additional quantity of 400 m ³ /hr., the overall total allowable water quantity is 3400 m3/hr. Presently, fresh water consumption of the Refinery is well below the above mentioned limits. Total quantity of effluent generation remains <1100 m ³ /hr. ETP-1 & ETP-2 treated effluent meets MINAS. These treated effluents from Refinery operation are completely re-used as a feed to RO plant and as a makeup to Cooling Towers.
	PTA-ETP treated effluent meeting Petrochemical MINAS is discharged into Thirana Drain as per approvals/ Consent to Operate from MOEFCC, HSPCB, and Irrigation Department.
belt of adequate width and density should be ded to mitigate the effects of fugitive emissions bund the plant. The bio-sludge from the ETP	Greenbelts with adequate width & density were already provided. These greenbelts were developed in consultation with the District Forest Deptt. Bio-sludge from ETP is being used as manure after converting it to semi solid form.
	led to mitigate the effects of fugitive emissions

General 13 13 13 13 13 13 13 13 13 13 13 13 13	0.9 MMTPA) to organized industries having consent from the concerned State Pollution Control Board Further, the Pet-coke from the Delayed Coker Unit should be conveyed to storage area by pipe conveyer system. The company should ensure to prevent seepage in Pet-coke stockpile / storage area to prevent seepage in Pet-coke stockpile / storage area to prevent soil and ground water pollution. The only sludge generated from the refinery operation should be subjected to melting oil treatment for recovery of oil. The recovered oil should be recycled. The residual oily sludge should be disposed off in the HDPE lined pits. The company should adopt mounded storage for LPG. The project authorities shall also comply with all the environmental protection measures and safeguards recommended in the ElA/CMP and risk analysis report. Occupational Health Surveillance of the workers should done on a regular basis and records maintained as per the Factories Act.	same to consented/registered industries Pet-coke is conveyed to storage area by pipe conveyer system The raw oily sludge generated from the Refinery is subjected to Oil recovery/Melting Pit treatment for recovery of oil. The recovered oil is recycled back with crude oil for processing The residual sludge is disposed off through confined Bio remediation Part of the sludge is processed in Coker unit The Mounded Bullets are in operation The Refinery has a full fledged Occupational Health Centre (OHC) in operation the OHC carries out health surveillance of the workers on a regular basis and records are maintained
11. T 11. T 12. T 13. O 13. O 13. O 13. O 13. O 13. O 13. O 14. T 14. S 15. O 15. S 15. S 15	prevent seepage in Pet-coke stockpile / storage area to prevent soil and ground water pollution. The only sludge generated from the refinery operation should be subjected to melting of treatment for recovery of oil. The recovered oil should be recycled. The residual oily sludge should be disposed off in the HDPE lined pits. The company should adopt mounded storage for LPG. The project authorities shall also comply with all the environmental protection measures and safeguards recommended in the EUX/EMP and risk analysis report. Occupational Health Surveillance of the workers should done on a regular basis and records maintained as per the Factories Act. The project authorities must strictly adhere to the stipulations made by the Haryana State Pollution Control Board and the State Government.	The raw oily sludge generated from the Refinery is subjected to Oil recovery/Melting Pit treatment for recovery of oil. The recovered oil is recycled back with crude oil for processing. The residual sludge is disposed off through confined Bio remediation. Part of the sludge is processed in Coker unit. The Mounded Bullets are in operation. The Refinery has a full fiedged. Occupational Health. Centre. (OHC) in operation. The OHC carries out health surveillance of the workers on a regular basis and records are maintained.
General 13 13 13 13 13 13 13 13 13 13 13 13 13	operation should be subjected to melting oil treatment for recovery of oil. The recovered oil should be recycled. The residual oily sludge should be disposed off in the HDPE lined pits. The company should adopt mounded storage for LPG. The project authorities shall also comply with all the environmental protection measures and safeguards recommended in the EUA/CMP and risk analysis report. Occupational Health Surveillance of the workers should done on a regular basis and records maintained as per the Factories Act. al conditions. The project authorities must strictly adhere to the stipulations made by the Haryana State Pollution Control Board and the State Government.	In subjected to Oil recovery/Melting Pit treatment for recovery of oil. The recovered oil is recycled back with crude oil for processing The residual sludge is disposed off through confined Bio remediation Part of the sludge is processed in Coker unit. The Mounded Bullets are in operation. The Refinery has a full fieldged. Occupational Health Centre (OHC) in operation. The OHC carries out health surveillance of the workers on a regular basis and records are maintained.
General 13 O 13 O 10 M 1 T 1 T 1 T 1 T 1 T 1 T 1 T 1 T 1 T 1 T	LPG. The project authorities shall also comply with all the environmental protection measures and safeguards recommended in the ELA/CMP and risk analysis report. Occupational Health Surveillance of the workers should done on a regular basis and records maintained as per the Factories Act. al conditions The project authorities must strictly adhere to the stipulations made by the Haryana State Pollution Control Board and the State Government.	The Refinery has a full-fiedged Occupational Health Centre (OHC) in operation. The OHC carries out health surveillance of the workers on a regular basis and records are maintained.
Genera 1. Ti 51 52 N 51 7 8 8 9 9 1. Ti 51 51 1. Ti 51 51 51 51 51 51 51 51 51 51	should done on a regular basis and records maintained as per the Factories Act ral conditions The project authorities must strictly adhere to the stipulations made by the Haryana State Pollution Control Board and the State Government	Health Centre (OHC) in operation The OHC carries out health surveillance of the workers on a regular basis and records are maintained
1. TI st 2 N 3 A pr fe 0 0 d 4. TI st	The project authorities must strictly adhere to the stipulations made by the Haryana State Pollution Control Board and the State Government.	Complied
2 N 3 A 9 10 10 10 10 10 10 10 10 10 10 10 10 10	stipulations made by the Haryana State Pollution Control Board and the State Government	Complied
st N 3 A pr pr re ol di 4 Th st pr		
4 Th st	No further expansion or modernization in the plant should be carried out without prior approval of the Ministry of Environment & Forests	Noted.
4 Th st pr	At no time, the emissions should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the units, the respective unit should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved.	Being Complied Emission from the stack is being monitored online and from approved lab on bi-monthly basis All stacks are connected online to CPCB/HSPCB server with parameters such as SO ₂ , NO ₂ CO & PM
ni co	The overall noise levels in and around plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic noods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA.	The Refinery has provided silencers on compressor discharge, acoustic leggings on turbo generators & ejectors and acoustic chambers at the burners
tir	Rules, 1989 viz 75 dBA (day time) and 70 dBA (night ime)	
pr Im ch Co	he project authorities must strictly comply with the irovisions made in Manufacture. Storage and mport of Hazardous Chemicals Rules, 1989 as mended in 2000 for handling of hazardous	Complied.
Th	hemicals etc. Necessary approvals from Chief ontroller of Explosives must be obtained before ommission of the project.	

SN	EC Conditions	Compliance Status
	disposal of hazardous wastes in accordance with the Hazardous Waste (Management & Handling) Rules, 2003. Authorization from the State Pollution Control Board must be obtained for collections / treatment / storage / disposal of hazardous waste.	
7.	The project authorities will provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.	Being Implemented.
8.	The stipulated conditions will be monitored by the Regional of this Ministry at Chandigarh / Central Pollution Control Board. A six monthly compliance report and the monitored data should be submitted to them regularly.	Six monthly compliance report on EC conditions is regularly sent along with various monitoring reports.
9.	The Project Proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board / Committee and may also be seen at Website of the Ministry of Environment and Forests at <u>http://www/envfor.nic.in</u> This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional Office.	Complied.
10	D. The project authorities should inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	

ENVIRONMENTAL CLEARANCE STIPULATIONS FROM MOEFCC FOR BS-VI FUEL QUALITY UP-GRADATION AND EXPANSION OF PX/PTA PLANT AT PANIPAT REFINERY & PETROCHEMICAL COMPLEX (PRPC), PANIPAT (HARYANA) BY M/SINDIAN OIL CORPORATION LIMITED - ENVIRONMENTAL CLEARANCE - REG.

(Ref. No. J-11011/177/2016-IA II (I) dated 26.03.2018)

SI. No.	EC Conditions	Compliance Status	
(i)	Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.	Consent to Operate for BS-VI facilities includin Panipat Refinery & PX-PTA Petrochemical Comple received from HSPCB on 05.05.2020.	
(11)	As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.	There is no discharge of treated effluent from Refiner operations into Thirana drain. ETP-1 & ETP-2 treated effluent meets Refinery MINAS These treated effluents are re-used as a feed to RC plant and makeup to Cooling Towers. PTA-ETP treated effluent meeting Petrochemica MINAS is discharged into Thirana Drain as pe Consent-To-Operate/approvals from MOEFCC, HSPCI & Irrigation Department.	
{iii)	In case of PX/PTA expansion project, there shall not be any increase in effluent discharge and the treated effluent of 255 cum/hr shall continue to be discharged to the existing Thirana Drain.	There will be no increase in treated effluent discharg into Thirana Drain post PX-PTA capacity expansio project.	
(iv)	Necessary authorization required under the Hazardous and Other Wastes Management Rules, 2016 shall be obtained and the previous contained in the Rules shall be strictly adhered to.	i Management Rules, 2016 received from HSPCB o / 16.06.2020.	
(v)	Total SO ₂ emissions from the Refinery (including BS-VI Upgradation project) shall not exceed 1100 kg/hr whereas, for the PX/PTA plant after expansion, total SO ₂ emissions shall not exceed 375 kg/hr. Accordingly, total SO ₂ emissions from the Refinery Complex shall be limited to 1475 hg/hr.	SO ₂ emissions from the Refinery (including BS-VI U gradation project) is within 1100 kg/hr. SO ₂ emissions from the PX-PTA petrochemical project is well within 275 Kg/hr. PX-PTA expansion project i under implementation. Post commissioning, SO emission will be maintained below 375 Kg/hr.	
(vi)	National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21 st July, 2010 and amended from time to time shall be followed.	Being complied.	
(vii)	To control source and the fugitive emissions, suitable pollution control devices shall be installed with different stacks (attached to DHDT, HGU, Prime G) to meet the prescribed norms and /or the NAAQS. The gaseous emissions shall be dispersed through stacks of adequate height as per CPCB / SPCB guidelines.	For BS-VI fuel quality up gradation project being complied. Post commissioning of the PX-PTA capacity expansion project, same shall be ensured.	
(viii)	Total fresh water requirement shall not exceed 354 m3/hr (8500 KLD) to be met from Munak Regulator. Necessary permission in this regard shall be obtained from the concerned regulatory authority.	Complied	
(ix)	Process effluent/any waste water shall not be allowed to mix with storm water. Storm water drain shall be passed	Being complied	

si.	EC Conditions	Compliance Status	
No.	through guard pond.		
(x)	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.	Complied	
(xi)	Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF. The ash from boiler shall be sold to brick manufacturers/cement industry.	Complied. Being mixed fuel (Liquid +Gas) firing in the Boiler, there will be no ash generation.	
(xii)	The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.	Being complied	
(xiii)	Fly ash should be stored separately as per CPCB guidelines so that it should not adversely affect the air quality, becoming air borne by wind or water regime during rainy season by flowing along with the storm water. Direct exposure to workers to fly ash & dust should be avoided.	Not Applicable	
(xiv)	 The company shall undertake waste minimization measures as below: (a) Metering and control of quantities of active ingredients to minimize waste. (b) Reuse of by-products from the process as raw material or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapour recovery system. (f) Use of high pressure hoses for equipment clearing to reduce wastewater generation. 	Complied	
(xv)	The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.	Complied	
(xvi)	At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.	Complied	
(xvii)	For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.	Complied	
(xviii)	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.		
(xix)	Continuous online (24X7) monitoring system for stack emission shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server.	Complied	
	For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow	Complied	

SI. No.	EC Conditions	Compliance Status
110.	meters in the channel/drain carrying effluent within the premises. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet.	
(xx)	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	
Genera	Conditions	
(i)	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board, Central Pollution Control Board, State Government and any other statutory authority.	
(ii)	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. In case of deviations or alternations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Noted
(81)	The locations of ambient air quality monitoring stations shall be decided in consultation with State Pollution Control Board (SPCB) and it shall be ensured that at least one station each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	Complied 2 nos. of additional CAAQMS under BS-VI fuel qualit up-gradation project is installed in addition to existin 7 nos. of CAAQMS.
(iv)	The National Ambient Alr Quality Emission Standards issued by the Ministry vide G.S.R. No. 826 (E) dated 16 th November, 2009 shall be followed.	Complied
(v)	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environmental (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Complied
(vi)	The Company shall harvest rainwater from the roof tops of the building and storm water drains to recharge the ground water and us the same water for the process activities of the project to conserve fresh water.	Complied
(vii)	Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	Being complied
(viii)	The company shall also comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management and risk mitigation measures relating to the project shall be implemented.	Shall be complied
	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. ESC activities shall be undertaken by involving local	Complied

SI. No.	EC Conditions	Compliance Status	
No. 10 Percent	villages and administration.		
(×)	The company shall undertake eco-developmental measures including community welfare measures in the project area. for the overall improvement of the environment.	Complied	
(xi)	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	Being implemented	
(xii)	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal.	Complied	
(xiii)	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website to the company.	so in future	
(xiv)	The environmental statement for each financial year ending 31 st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.	This is being complied already and will continue to do so in future	
(xv)	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at <u>http://moef.nic.in</u> . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.		
(xvi)	Office of the Ministry. The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.		

ENVIRONMENTAL CLEARANCE STIPULATIONS FROM MOEFCC FOR INSTALLATION OF 100 KLPD LIGNO-CELLULOSIC 2G ETHANOL PLANT AT BAHOLI, BLOCK MADLAUDA, PANIPAT REFINERY ROAD, DISTRICT PANIPAT (HARYANA) BY M/S INDIAN OIL CORPORATION LIMITED - ENVIRONMENTAL CLEARANCE - REG. (Ref. No. IA-J-11011/43/2018-IA- II (I) dated 13.11.2019)

SN	EC Conditions	Compliance Status
Gen	eral Conditions	
1.	The project authorities must strictly adhere to the stipulations made by State Pollution Control Board (SPCB), State Govt. and/or any other statutory authority.	Shall be adhered
2.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. In case of deviations or alterations in the project proposal from those submitted to this ministry for clearance a fresh reference should be made to the ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Noted & Shall be adhered
3.	The location of Ambient Air Quality Monitoring Stations shall be decided in consultation with the State Pollution Control Board and it shall be ensured that at least one stations each is installed in upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	Will be complied.
4.	The Nation Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R No. 826 (E) dated 16 th November, 2009 shall be complied with.	Shall be complied
5.	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all source of noise generation. The ambient noise levels shall confirm to the standards prescribed under the Environment (Protection) Act, 1986 and the rules made there under.	Will be complied.
6.	The company shall harvest rain water from the rooftops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial operations inside the plant.	Will be complied.
7.	Training shall be imparted to all employees on safety and health aspects of chemical handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	Will be complied
8.	The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the ministry. All the recommendations made in the EIA/EMP in respect of environmental management risk mitigation measures and public hearing shall be implemented.	Will be complied.
9.	The company shall undertake all measures for improving socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villagers, administration and other stake holders. Also eco-developmental shall be undertaken for overall improvement of the environment.	Will be complied
10.	A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	Will be complied
11.	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forests and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/pollution control measures shall not be diverted for any other purpose.	Being implemented

12	concerned Panchayat, Zila Parishad/Municipal corporation, urban local body		
	and local NGO, if any, from whom suggestion/representation, if any, were received while processing the proposal.		
13	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (Both in hard copy as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status reports shall be posted on the website of the company.		
14	The environmental statement for each financial year ending 31 st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of Environmental Clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.	Will be complied	
15.	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at http://moef.nic.in . This shall be advertised within seven days from the date of issue of clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional Office of the Ministry.	Complied	
Spi	ecific Conditions		
1.	The project proponent shall install 10 TPD 2G Ethanol demo plant for R&D purpose.	Will be complied.	
2.	Prior approval shall be obtained from the Petroleum & Explosive Safety Organization (PESO) for the site and layout plan submitted to this ministry along with the proposal for EC. In case of any changes therein post PESO approval, the proposal shall require fresh appraisal by the sectoral EAC.	Will be complied.	
3.	Necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 as applicable from time to time shall be obtained from the State Pollution Control Board as required.	CTE dated 10.1.2020 received	
4.		Will be complied.	
5.	Sludge management plan shall be formulated and ensured.	Will be complied.	
6.	Ash management shall be ensured by utilizing for manufacturing bricks.	Will be complied.	
7.	Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement Rules ,2016 Solid Waste Management Rules ,2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.	Will be complied.	
8.	To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.	Will be complied.	
	Total fresh water requirement shall not exceed 109 m ³ /hr., proposed to be met from Munak Regulator on Western Yamuna Canal. Prior permission shall be obtained from the concerned regulatory authority.	Will be complied.	
.0.	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arrester shall be provided on tank farm and the solvent transfer through pumps.	Will be complied.	

11.	Process organic residue and spent carbon, if any shall be sent to cement industries. ETP sludge, process inorganic and evaporation salt shall be disposed off to the TSDF.	Will be complied.
12.	The company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as mentioned time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicles Act, 1989.	Will be complied.
13.	The company shall undertake waste minimization measures as below:- (a)Metering and control of quantities of active ingredients to minimize waste. (b)Reuse of by-products from the process as raw materials or as raw materials substitutes in other processes. (c) Use of automatic filling to avoid spillage. (d)Use of Close Feed System into batch reactors. (e)Venting equipment through vapor recovery system (f) Use of high pressure hoses for equipment clearing to reduce waste water generation.	Project under execution.
14.	total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be done as per the CPCB guidelines in consultation with the State Forest Department.	Will be complied.
15.	All the commitments made regarding issues raised during the public hearing / consultation meeting shall be satisfactorily implemented.	Will be complied.
16.		Will be complied.
17.	For the DG sets, emission limits and stack height shall be in conformity with the extant regulations and the CPCB regulations. Acoustic enclosures shall be provided to the DG set for controlling the noise pollution.	Will be complied.
18.	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.	Will be ensured, afte project execution.
19.	Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Will be complied
20.	There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places.	Will be ensured, afte project execution.
21.	Storage of raw material shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.	Will be ensured, afte project execution.
22.	Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel /drain carrying effluent within the premises.	Will be ensured

ENVIRONMENTAL CLEARANCE STIPULATIONS FROM MOEFCC FOR SETTING UP 128 KL PER DAY ETHANOL PRODUCTION PLANT BY M/S INDIAN OIL CORPORATION LTD. (IOCL) IN PANIPAT REFINERY & PETROCHEMICAL COMPLEX AT PANIPAT, HARYANA -ENVIRONMENTAL CLEARANCE - REGARDING (Ref. No. J-11011/78/2018-IA- II (I) dated 25.11.2019)

SN	EC Conditions	Compliance Status
Ger	neral Conditions	
1.	The project authorities must strictly adhere to the stipulations made by State Pollution Control Board (SPCB), State Govt. and/or any other statutory authority.	Shall be adhered.
2.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. In case of deviations or alterations in the project proposal from those submitted to this ministry for clearance a fresh reference should be made to the ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Shall be adhered.
3.	The location of Ambient Air Quality Monitoring Stations shall be decided in consultation with the State Pollution Control Board and it shall be ensured that at least one stations each is installed in upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	Will be complied
4.	The Nation Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R No. 826 (E) dated 16 th November, 2009 shall be complied with.	Will be complied
5.	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all source of noise generation. The ambient noise levels shall confirm to the standards prescribed under the Environment (Protection) Act, 1986 and the rules made there under.	Will be complied
6.	The company shall harvest rain water from the rooftops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial operations inside the plant.	Will be complied
7.	Training shall be imparted to all employees on safety and health aspects of chemical handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	Will be complied
8.	The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the ministry. All the recommendations made in the EIA/EMP in respect of environmental management risk mitigation measures and public hearing shall be implemented.	Will be Complied
9.	The company shall undertake all measures for improving socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villagers, administration and other stake holders. Also eco-developmental shall be undertaken for overall improvement of the environment.	Will be Complied
LO.	A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	Will be Complied
1.	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forests and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/pollution control measures shall not be diverted for any other	Will be Complied

A copy of the clearance letter shall be sent by the project proponent to the concerned Panchayat, Zila Parishad/Municipal corporation , urban local	Complied
body and local NGO, if any, from whom suggestion/representation, if any, were received while processing the proposal.	
The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (Both in hard copy as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status reports shall be posted on the website of the company.	Will be Complied
The environmental statement for each financial year ending 31 st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of Environmental Clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.	Will be Complied
The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at http://moef.nic.in . This shall be advertised within seven days from the date of issue of clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional Office of the Ministry.	Complied
cific Conditions	
Necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 as applicable from time to time shall be obtained from	Complied
Effluent of 209 cum per day shall be treated in existing Effluent Treatment Plant of Panipat Refinery and Panipat Refinery will not exceed the permissible discharge as allowed to Panipat Refinery while granting	Will be ensured
Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement Rules ,2016 Solid Waste Management Rules ,2016 shall be obtained and the provisions contained in	Will be complied
To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height	Will be complied
Odour shall be prevented at the source and effective odour management scheme shall be implemented.	Will be complied
Total fresh water requirement shall not exceed 3600 cum/day, proposed to be met from Munak Regulator on Western Yamuna Canal. Prior permission shall be obtained from the concerned regulatory authority.	Will be ensured
etc. Flame arrester shall be provided on tank farm and the solvent transfer through pumps.	Will be complied
Process organic residue and spent carbon, if any shall be sent to cement industries. ETP sludge, process inorganic and evaporation salt shall be	Will be complied
	compliance of the stipulated Environmental Clearance conditions including results of monitored data (Both in hard copy as well as by e-mail) to the respective Regional Office of MOEF&CC, the respective Zonal office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status reports shall be posted on the website of the company. The environmental statement for each financial year ending 31 st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1985, as amended subsequently, shall also be put on the website of the company along with the status of compliance of Environmental Clearance conditions and shall also be sent to the respective Regional Offices of MOEF&CC by e-mail. The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at http://moef.nic.in. This shall be advertised within seven days from the date of issue of clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional Office of the Ministry. Effic Conditions Necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1974 and sequerite. Effluent of 209 cum per day shall be treated in existing Effluent Treatment Plant of Panipat Refinery and Panipat Refinery will not exceed the permissible discharge as allowed to Panipat Refinery while granting environmental clearance vide letter dated 26 th March 2018. Necessary authorization required under the Haardous and Other Wastes (Management Rules ,2016 shall be obtained to. To control source and the fugitive emissions, suitable pollution control

	Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as mentioned time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicles Act, 1989.	2. State Web MAAA III A State
10.	The company shall undertake waste minimization measures as below:- (a)Metering and control of quantities of active ingredients to minimize waste. (b)Reuse of by-products from the process as raw materials or as raw materials substitutes in other processes. (c) Use of automatic filling to avoid spillage. (d)Use of Close Feed System into batch reactors. (e)Venting equipment through vapor recovery system (f) Use of high pressure hoses for equipment clearing to reduce waste water generation.	Project under execution
11.	The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be done as per the CPCB guidelines in consultation with the State Forest Department.	Will be complied
12,	All the commitments made regarding issues raised during the public hearing / consultation meeting shall be satisfactorily implemented.	Will be complied
13.	At least 1% of the total project cost shall be allocated for Corporate Environment Responsibility (CER) and item wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office. Priority shall be given for construction/repair of the village roads.	Will be complied
14.	For the DG sets, emission limits and stack height shall be in conformity with the extant regulations and the CPCB regulations. Acoustic enclosures shall be provided to the DG set for controlling the noise pollution.	Will be complied
15.	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.	Will be ensured after project execution
16.	Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Will be complied
17.	There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places.	Will be ensured after project execution
18.	Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel /drain carrying effluent within the premises.	Will be complied
.9.	The unit shall comply with NGT order and shall not damage environment any further including ground water.	Will be complied
20.	The unit shall take precautionary measures for control of VOCs and shall follow CPCB guideline and norms.	Will be complied

ENVIRONMENTAL CLEARANCE STIPULATIONS FROM MOEFCC FOR PANIPAT REFINERY CAPACITY EXPANSION FROM EXISTING 15 MMTPA TO 25 MMTPA WITHIN THE EXISTING REFINERY COMPLEX, ENVIRONMENTAL CLEARANCE – REGARDING

(EC Identification No. EC21A010HR142882; File No. J-11011/177/2016-IAII(I) dated 03.12.2021)

SN	EC Conditions	Compliance Status
(i).	Specific Conditions The project shall conform to ZLD.	Noted
(ii).	The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	Will be complied
(iii).	The National Emission Standards for Petroleum Oil Refinery issued by the Ministry vide G.S.R. 186(E) dated 18th March, 2008 and G.S.R.595(E) dated 21st August, 2009 as amended from time to time, shall be followed.	Noted
(IV).	Volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.997% with effective chillers/modern technology. For emission control and management, use of FG/NG in heater as fuel, adequate stack height, use of Low NOX burners in heater & boiler, continuous stack monitoring, Sulphur recovery plant, etc. shall be installed/ensured.	Will be complied
(v).	Total water requirement is 1,62,864 m3/day of which fresh water requirement of 98880 m3/day will be met from Western Yamuna Canal. Necessary permission in this regard shall be obtained from the concerned regulatory authority.	Will be complied
(vi).	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.	Will be complied
(vii),	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.	Will be complied
(viii).	Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.	Will be complied
(ix).	Fly ash should be stored separately as per CPCB guidelines so that it should not adversely affect the air quality, becoming air borne by wind or water regime during rainy season by flowing along with the storm water. Direct exposure of workers to fly ash & dust should be avoided. The ash from boiler shall be sold to brick manufacturers/cement industry.	Mixed fuel (Liquid +Gas) will be fired in the Boiler; there will be no ash generation.
(x).	The company shall undertake waste minimization measures as below: - a. Metering and control of quantities of active ingredients to minimize waste.	Will be complied
	 Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. 	
	c. Use of automated filling to minimize spillage.	
	d. Use of Close Feed system into batch reactors.	-
	 e. Venting equipment through vapour recovery system. f. Use of high pressure hoses for equipment clearing to reduce wastewater generation. 	

(xi).	The green belt of 5-10 m width shall be developed in the total proje area, mainly along the plant periphery, in downward wind directio and along road sides etc. The project proponent shall ensure 33 greenbelt area vis-à-vis the project area through afforestation in the degraded area. The Selection of plant species shall be as per the CPC guidelines in consultation with the State Forest Department.	n, 1%
(xii).	As per the Ministry's OM dated 30.09.2020 superseding the OM date 01.05.2018 regarding the Corporate Environmental Responsibility, and as per the action plan proposed by the project proponent to addree the socioeconomic and environmental issues in the study area, the project proponent, as committed, shall provide education funds technical training centers/ support in nearby village's schools, support in health care facilities, drinking water supply and funds for miscellaneous activities like solar street lights, battery, solar panel etc in the nearby villages. The action plan shall to be completed within time as proposed.	nd ss ne in rt or
(xiii).	For the DG sets, emission limits and the stack height shall be conformity with the extant regulations and the CPCB guideline Acoustic enclosure shall be provided to DG set for controlling the nois pollution.	s.
(xiv).	The unit shall make the arrangement for protection of possible fir hazards during manufacturing process in material handling. Firefightin system shall be as per the norms.	e Will be complied
(xv).	Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutant concentration, and the data to be transmitted to the CPCB and SPC server. For online continuous monitoring of effluent, the unit sha install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet.	is B II e
(xvi).	Occupational health surveillance of the workers shall be done on	a Will be complied
(xvii),	regular basis and records maintained as per the Factories Act. Process safety and risk assessment studies shall be further carried ou using advanced models, and the mitigating measures shall b undertaken/implemented accordingly.	will be complied
(xviii).	The PP should improve the efficiency of ETP Plant and the wate discharge should be as per prescribed CPCB Norms. They should also install 24x7 hours monitoring system (of the discharge) and the sam should be connected to the server of SCPB/CPCB.	0
Gener	al Conditions	
().	mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Noted
ii).	based, or advanced having preference in energy conservation and environment betterment.	Will be complied
iii).	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of	Will be complied

	noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	
(iv).	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	Will be complied
(v).	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/pollution control measures shall not be diverted for any other purpose.	Will be complied
(vi).	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.	Complied
(vii).	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by email) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.	This is being complied already and will continue to do so in future
(viii).	The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.	This is being complied already and will continue to do so in future
(ix).	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCD/Committee and may also be seen at Website of the Ministry and at https://parivesh.nic.in/. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	Complied and informed
(x).	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Will be complied
(xi).	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.	Noted

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Test Report

Issued to: M/s Indian Oil Corporation Limited (Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

Test Report No.: 20210722013-114 Test Report Date: 03/08/2021

Sample Particulars

Nature of the Sample **Purpose of Monitoring** Method of Sampling Monitoring Conducted By

Work for Quality

: Stack Monitoring : To Check the Pollution Load

: IS: 11255 (Part 7) : Mr. Veerpal Singh

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (meter)	Stack Diameter (meter)	Ambie nt Temp.	Stack Temp. (°C)	Average Gas Velocity	G	rbon Monox (as CO)	lde
			1.20	1911 25	(°C)		(m/s)	mg/Nm ³	Kg/hr	PPM
1	SRU-S7	22/07/2021	70	1.9	31	233	10.18	84	5.33	73.32
2	SRU-26	22/07/2021	70	1.9	30	225	10.38	97	5.94	86.67
		Permissible Lim	its (mg/Nm	1			Old		150	
						1	New		100	

Aemark:

801-Selow Detection Limit, Carbon Monoxide (as CO) 801 (LOC-1.0)

Somple Analysed within six days from the date of sampling. All above Parameters are measures with Plue Gas Analyses

BOR (AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

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Test Report

Issued to: M/s indian Oil Corporation Limited

(Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

Sample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By

Stack Monitoring

To Check the Pollution Load IS 11255 (Part 7) Mr. Veerpal Singh

ULR No .: TC 636621000001213-1214

Test Report Date: 03/08/2021

5r. No. 1 2	Stack Particulars	Date of Sampling	Stack Height (meter)	Stack Diamete	Ambient Temp. (°C)	Stack Temp. (*C)	Average Gas Velocity	Hydrogen Sulphide (as H ₂ S)		
				(meter)	1.4.174		(n/s)	mg/Nm	Kg/hr	PPM
1	SRU-S7	22/07/2021	70	1.9	31	233	10.18	BDL.	Α.	-4
2	SRU-26	22/07/2021	70	1.9	30	2.25	10.38	BOL		
		Permissible U	imits (mg/N	m ¹			014		15	
							New		10	
			Test Metho	đ			-	15	11255 (P-4	1

Remark

BDI -Below Detection Limit, " Mydrogen Sulphice (av m.33-804 (LDQ-0-1)). Sample Aralised within all dave from the date of campling





(RAVINDER MITTAL)

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Oxides of Sulphur

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Oxides of Nitrogen

Test Report

lss	ued to: M/s Indian O i (Refinery I Panipat Refir Haryana, IND	Division) Tery, Distt. Par					t No.: 2021072 t Date: 03/08/	
Natu Purp Met	ple Particulars ire of the Sample iose of Monitoring hod of Sampling ittoring Conducted By	(1	Stack Mon To Check t IS: 11255 (I Mr. Veerpa	he Polluti Part 7)	on Load	
Sr.	Stack Particulars	Date of	Stack	Stack	Ambient	Stack	Average	Oxide

Sr. No.	Stack Particulars	Date of Sampling	Stack Height	Stack Diameter	Ambient Temp. (°C)	Temp. (°C)	Gas	1.0100120	(as 50 _x)			(as NO.)		
			(meter)	(meter)	19	14	(m/s)	mg/N m ³	Kg/ hr	PPM	mg/Nm ¹	Kg/hr	PPM	
				10	22	233	10.18	14	0.9	5.3	31	1.90	15.48	
1	SRU-57	22/07/2021	70	1.9	31	1000			1.2	7.3	25	1.59	13.29	
	1001.35	22/07/2021	70	1.9	30	225	19.38	19	1.2	1.5	-		1 - MORTEN	
2	SRU-26	Permissible L		(m ³)			Old		•			350		
							New					250		

Remark:

BOL-Below Detection Limit, Oxides of Sulphur (as SO₄)-BOL (LOQ-1.0)

Sample Analysed within six days from the date of sampling, All above Parameters are measures with Hue Gas Analyser



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Test Report

Issued to: M/s Indian Oil Corporation Limited (Refinery Division)

Panipat Refinery, Distt. Panipat Haryana, INDIA

Test Report No.: 202107220110-113, 202107230110-113, 202107260110-114 Date: 03/08/2021

ample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling

Monitoring Conducted By

: Stack Monitoring

: To Check the Pollution Load

- : 15: 11255 (Part 7)
- : Mr. Veerpal Singh

ör. No.	Stack Particulars	Date of Sampling	Stack Height (meter)	Stack Diameter (meter)	Ambie nt Temp.	Stack Temp. (°C)	Average Gas Velocity	G	arbon Monox (as CO)	ide
20	HGU 77				(°C)		(m/s)	mg/Nm ³	Kg/hr	PPM
21	HGU-PDS	22/07/2021	60	3.4	33	245	9.14		-	
0.131		22/07/2021	60	1.7	32	243	100.000	40	6.88	34.92
22	AVU-2	22/07/2021	100	5.1	5.80 - /		10.86	44	2.25	38.41
23	DHDS	22/07/2021		2.25	31	211	10.33	0	0.00	0.00
24	OHCU LP Section		60	1.25	31	199	9.53	1	0.03	1042.1
25	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	23/07/2021	65	2.42	31	225	10.11	74		0.87
	OHCU RG Heater	23/07/2021	63	1.35	32	207		1.304	7.42	64.59
26	RFCC Heater	23/07/2021	59	0.9		- 2000 (Q	9.67	84	2.60	73.32
27	RFCC Boiler	23/07/2021		- 2855	32	246	10.28	70	0.95	61.10
28	MSQ-1	26/07/2021	100	2.4	33	252	9.46	79	6.91	
29	MSQ-2		60	1.64	32	214	9.12	47		68.96
30	HGU 76	26/07/2021	50	1.64	33	221	9.68	50	2.00	41.03
31	HGU 06	26/07/2021	60	3.3	31	180	8.95		2.22	43.65
32		25/07/2021	50	2.64	32	225	9.15	34	6.17	29.68
32	New Prime G	26/07/2021	60	0.8	33	178		1	0.11	0.87
							8.18	98	0.95	85.54
		Reminsible to a					Gas		150	
		Permissible Umi	ts (mg/Nm ³)				Liquid		200	
emark:							FCCU		400	

BOL-Below Detection Limit, Carbon Monoxide (as CO) BOL (LOQ-1.0)

Sample Analysed within six days from the date of sampling. All above Parameters are measures with flue Gas Analyser



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BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

Test Report

: Stack Monitoring

: IS: 11255 (Part 7)

: To Check the Pollution Load

Issued to: M/s Indian Oll Corporation Limited (Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

Work for Quality

Test Report No.:202107070110-114, 202107080110-112, 202107090110-114 202107160110-112

Date: 03/08/2021

Sample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (meter)	Stack Diameter (meter)	Amblent Temp. (°C)	Stack Temp. (°C)	Average Gas Velocity	Ca	arbon Mono (as CO)	nide
			(index.)	, includy	0.02		(m/s)	mg/Nm ³	Kg/hr	PPM
)	HRSG-1	7/7/2021	65	3.3	32	157	8.79	12	2.25	10.47
2	HRSG-Z	7/7/2021	70	3.3	34	162	9.45	10	1.99	8.73
3	HRSG-3	7/7/2021	70	3.3	31	167	10.35	10	2.16	8.73
4	HRSG-4	7/7/2021	70	3.3	33	168	9.61	4	0.80	3.49
5	HRSG-5	7/7/2021	70	3.3	34	172	9.37	6	1.16	5.24
6	CPP-VHP-1	\$/7/2021	100	3.34	35	150	10.21	4	0.91	3.49
7	CPP-VHP-2	8/7/2021	100	3.34	34	149	9.60	4	0.86	3,49
8	UB-02	8/7/2021	100	3.04	36	151	9.53	4	0.70	3.49
9	PX Isomer	9/7/2021	56	1.2	33	227	9,93	1	0.02	0.87
10	PX Tatory	9/7/2021	56	1.2	35	226	10.86	10	0.26	8.73
	PXCCR	9/7/2021	100	1.9	32	273	11.58	60	3.87	52.37
11	12.17/1/20	9/7/2021	78	2	34	130	9.96	1	0.08	0.87
12	PX-Xylene	9/7/2021	30	1	36	Z90	11.10	26	0.43	22.70
13	PX NHT PTA/FCPH	10/7/2021	60	2.35	35	258	11.41	24	2.40	20.95
15	PTA/Hot Oil Heater	10/7/2021	60	2.35	36	263	11.44	20	1.99	17.46
16	PTA/Thermal Oxidiser	10/7/2021	60	2.35	34	79	6.39	14	1.18	12.22
17	CCRU Reformer Heater-205 FF	16/07/2021	60	1.26	33	249	9.89	16	0.41	13.97
18	CCRU NHT Heater	16/07/2021	70	2.34	35	259	9.77	17	1.44	14.84
19	CCRU Reformer	16/07/2021	60	1.64	32	254	10.12	55	2.39	48.01

Heater-201, 202,203 FF Gas 150 Permissible Limits (mg/Nm²) 200 Liquid FCCU 400

Remark

BDL Below Detection Limit, Carbon Monoxide (as CO) BDL (LOO-1.0)

Sample Analysed within six days from the date of sampling. All above Parameters are measures with Flue Gas Analyser

(AUTHORISED SIGNATORY) (RAVINDER MITTAL)

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Test Report

Issued to: M/s Indian Oil Corporation Limited (Refinery Division)

Panipat Refinery, Distt. Panipat Haryana, INDIA

Test R. port No.: 202107220110-113, 202107230110-113, 202107260110-114 Date: 03/08/2021

+91-191-2465597

Sample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By

: Stack Monitoring : To Check the Pollution Load : IS: 11255 (Part 7) : Mr. Veerpal Singh

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (meter)	Stack Diameter (meter)	Ambie nt Temp.	Stack Temp. (°C)	Average Gas Velocity		es of Sulpi (as SO _x)	hur		as of Nitro (as NO,)	gen
					(°C)		(m/s)	mg/Nm [*]	Kg/hr	PPM	mg/Nm ³	Kg/hr	PPM
20	HGU 77	22/07/2021	60	3.4	33	245	9.14	6	1.0	2.3	6	1.07	50
21	HGU-PDS	22/07/2021	60	1.7	32	243	10.86	8	0.4	3.1	8	1.03	_
22	AVU-2	22/07/2021	100	5.1	31	211	10.33	3	1.4	1.1	51	0.41 23.87	4.25
23	DHDS	22/07/2021	60	1.25	31	199	9.53	3	0,1	1.1	1.75	COMOSSIC:	Sectorary.
24	OHCU LP Section	23/07/2021	65	2.42	31	225	10.11	8	0.8	3.1	60	1.59	31.89
25	OHCU RG Heater	23/07/2021	63	1.35	32	207					41	4.11	21.79
26	RECC Heater	23/07/2021	59			100000	9.67	10	0.3	3.8	35	1.08	18.60
27	RFCC Boller			0.9	32	246	10.28	8	0.1	3.1	120	1.52	63.78
28	1	23/07/2021	100	2.4	33	252	9.46	10	0.9	3.8	117	10.24	62.19
2763	MSQ-1	26/07/2021	60	1.64	32	214	2:12	9	0.4	3.4	76	3.23	40,40
29	MSQ-2	26/07/2021	60	1.64	33	221	9.68	7	0.3	2.7	76	3.38	40.40
30	HGU 76	26/07/2021	60	3.3	31	180	8.95	З	0.5	1.1	82	14.88	43.58
31	HGU 06	26/07/2021	50	2.64	32	2.5	9.15	3	0.3	1.1	35	3.78	13.60
32	New Prime G	26/07/2021	60	0.8	33	178	8.18	3	0.0	1.1	33	and the second	
		Permissible Li	mits (mg/Nn	3)			Gas		50			0.32	17.54
							11.11					33357	_
emark:							Liquid		1700			450	

BDL-Below Detection Limit, Oxides of Sulphur Jas 50,)-601 (LOQ-1.0)

Sample Analysed within six days from the date of sampling. All above Parameters are measures with Flue Gas Analyser

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BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

Test Report

NITYA LABORATORIES

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

Test Report No. 202107070110-114, 202107080110-112, 202107090110-114 202107160110-112

Date: 03/08/2021

Sample Particulars

Nitva

Work for Quality

Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By

Stack Monitoring

: To Check the Pollution Load

: 15: 11255 (Part 7)

Mr. Veerpal Singh

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (meter)	Stack Diamete	Ambient Temp. ("C)	Stack Temp. (°C)	Average Gas Velocity		es of Sulp? (as SO ₃)	NUF .	Oak	les of Nitr (as NO ₄)	ogen
			(instant)	(meter)		1042200	(7· [/] \$)	mg/Nm ¹	Kg/hr	PPM	mg/N m	Kg/hr	PPM
1	HRSG-1	7/7/2021	65	3.3	32	157	8.79	8	1.5	3.1	229	42.95	121.72
2	HRSG-2	7/7/2021	70	3.3	34	11.7	9.45	11	2.2	4.2	112	22.33	59.53
3	HRSG-3	7/7/2021	70	3.3	31	167	10.35	18	3.9	6.9	114	24.61	60.59
4	HRSG-4	7/7/2021	70	3.3	33	168	9.61	13	2.6	5.0	226	45.19	120.12
5	HRSG-5	7/7/2021	70	3.3	34	172	9.37	18	3.5	6.9	214	41.38	113.75
	CPP-VHP-1	8/7/2021	100	3.34	35	150	10.21	9	2.0	3.4	240	\$4.49	127.57
6	CPP-VHP-1 CPP-VHP-2	8/7/2021	100	3.34	34	149	9.60	9	1.9	3.4	226	48.34	120.12
7	A STREET CONTRACT	E-3507433/24	100	3.04	36	149	9.53	9	1.6	3.4	228	39.93	121.19
8	UB-02	8/7/2021 9/7/2021	56	1.2	33	227	9.93	3	0.1	1.1	80	1.93	42.52
9	PX isomer		56	1.2	35	226	10.86	3	0.1	1.1	78	2.06	41.46
10	PX Tatory	9/7/2021	100	1.9	32	273	11.58	3	0.2	1.1	107	6.90	56.87
11	PXCCR	9/7/2021		2	34	130	2.56	3	0.2	1.1	86	7.17	45.71
12	PX-Xylene	9/7/2021	78		36	290	11.10	3	0.0	1.1	90	1.50	47.84
13	PX NHT	9/7/2021	30	1	30	258	11.41	6	0.6	2.3	119	11.90	63.25
14	PTA/FCPH	10/7/2021	60	2.35					0.00	1.0224.0	107	10.63	56.87
15	PTA/Hot Oil Heater	10/7/2021	60	2.35	36	203	11.44	6	0.6	2.3			
16	PTA/Thermal Oxidiser	10/7/2021	60	2.35	34	79	6.39	15	1.3	5.7	138	11.66	73.35
1/	CCRU Reformer Heater-205 FF	16/07/2021	60	1.26	33	249	9.89	3	0.1	1.1	30	2.03	42.52
18	CCRU NHT Heater	16/07/2021	70	2.34	35	259	9.77	3	0.3	1.1	72	6.10	38.27
10		16/07/2021	60	1.64	32	254	10.12	6	0.3	2.3	140	6.09	74.43
19	CCRU Reformer Heater-201, 202,203 FF	16/07/2021			1224	1. 498							
	202,203 11	Permissible L	mits (mg/N	m ²)			5-5		50			350	
		250-1					Liquid		1700			450	

Remark:

BDL-Below Detection Limit, Oxides of Sulphu: (as 50,)-BDL (LOQ-1.0) Sample Analysed within als days from the date of sampling. All above Parameters are measures with Five Gas Analyses



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BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

Test Report

Issued to: M/s Indian Oil Corporation Limited (Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

Work for Quality

ULR No.: TC 636621000001209-1212, 1223-1235, 1240-1242. Test Report Date: 03/08/2021

Sample Particulars Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By

: Stack Monitoring : To Check the Pollution Load : 15: 11255 (Part 7) : Mr. Veerpal Singh

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (meter)	Stack Diameter (meter)	Ambient Temp. (°C)	Stack Temp. (*C)	Average Gas Velocity	Partici Matters ¹	117777 August 1		l & Vanadi as Ni & V) ²	
			1		1.14		(m/s)	mg/Nm ³	Kg/hr	mg/Nm ¹	Kg/hr	PPM
20	HGU 77	22/07/2021	60	3.4	33	245	9.14	21.26	3.7	BDL	-	2
21	HGU-PDS	22/07/2021	60	1.7	32	243	10.86	10.36	0.5	BDL		*
22	AVU-2	22/07/2021	100	5.1	31	211	10.33	16.28	7,6	BDL		1
23	DHOS	22/07/2021	60	1.25	31	199	1 53	12.28	0.33	BDL	¥	
24	OHCU LP Section	23/07/2021	65	2.42	31	225	10.11	15.23	1.5	BDL	*	-
25	OHCU RG Heater	23/07/2021	63	1.35	32	207	9.67	8.96	0.3	BDL		3
26	RFCC Heater	23/07/2021	59	0.9	32	246	10.28	9.24	0.1	BOL	+	
27	RFCC Boiler	23/07/2021	100	2.4	33	252	9.46	8.42	0.7	BDL		
28	MSQ-1	26/07/2021	60	1.64	32	214	9.12	8.96	0.4	BOL	•	
29	MSQ-2	26/07/2021	60	1.64	39	221	9.68	7.34	0.3	BDL	+	4
30	HGU 75	26/07/2021	60	3.3	31	180	8.95	21.24	3.9	SDL	÷	
31	HGU 06	25/07/2021	50	2.64	32	225	9.15	17.84	1.9	BDL		
32	New Prime G	26/07/2021	60	0.8	33	178	8.18	9.84	0.1	BOL	12	
		Permissible	Limits (mg/N	l,	r as	1	0		+			
							Liquid	10	0		5	
			Test Metho	d		1	IS-1125	is (P-1)	USEPA (Method 29	By AAS	

Remark:

BDL Below Detection Limit, ¹ Particulate Matters [as PM]-BDL [LOQ- 5.0], ² Nickel & Vanadium (as Ni & V) -BDL [LOQ- 0.5] Sample Analysed within six days from the date of sampling.



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Section 2

BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

Test Report

Issued to: M/s Indian Oil Corporation Limited (Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

ULR No.: TC 6366, 1000001115-1122, 1129-1136,1153-1155 Test Report Date: 03/08/2021

Sample Particulars Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By

Stack Monitoring

: To Check the Pollution Load

: IS: 11255 (Part 7)

: Mr. Veerpal Singh

Analysis Report

r.	Stack Particulars	Date of Sampling	Stack Height	Stack Diamet	Ambie nt	Stack Temp.	Average Gas	Partice Matters ³	ulate (as PM)	(a	& Vanadii s Ni & V) ²	
io.	6	Samping	(meter)	er (meter	(°C)	(°C)	Velocity (m/s)	mg/Nm ³	Kg/hr	mg/Nm ³	Kg/hr	PPM
				3.3	32	157	8.79	7.29	1.4	BDL	-	
1	HRSG-1	7/7/2021	65	3.3	34	162	9.45	9.36	1.9	BOL		-
2	HRSG-2	7/7/2021	70	10.515.0	31	e par	10.35	9.23	2.0	BDL	•	
з	HRSG-3	7/7/2021	70	3.3	1.000	167	9.61	6.26	1.3	8DL	-	
4	HRSG-4	7/7/2021	70	3.3	33	168	9.37		4.2	BDL	-	
	HRSG-5	7/7/2021	70	3.3	34	172		21.94	3.3	BOL		
5		8/7/2021	100	3.34	35	150	10.21	14,46	3.3	BDL		
6	CPP-VHP-1	8/7/2021	100	3.34	34	149	9.60	15.64	1.1.2.2		-	
7	CPP-VHP-2	8/7/2021	100	3.04	36	151	9.53	13.24	2.3	BDL		
8	U8-02	9/7/2021	56	1.2	33	227	9.93	10.24	0.2	BOL		1
9	PX Isomer	and a second sec	56	1.2	35	226	10.86	18.84	0.5	BDL		1
10	PX Tatory	9/7/2021	100	1.9	32	273	11.58	24.32	1.6	BOL	1	-
11	PXCCR	9/7/2021	78	2	34	130	9.96	13.27	1.1	BOL	-	-
12	PX-Xylene	9/7/2021	30	1	36	290	11.10	21.29	0.4	BDL		-
13	PX NHT	9/7/2021	60	2.35	35	258	11.41	6.29	0.6	BDL	1.5	-
14	PTA/FCPH	10/7/2021	- 190. -		36	263	11.44	8.92	0.9	BDL	-	-
15	PTA/Hot Oil Heater	10/7/2021	60	2.35	in the second	and and a second second		10.2	0.9	BDL		1.3
	112505010013-1	10/7/2021	60	2.35	34	79	6.39	in the second	1 - Changer	BUL	-	-
16	PTA/Thermal Oxidiser	1.1204-020	60	1.26	33	249	9.89	9.28	0.2	BUL		
17	CCRU Reformer Heater- 205 FF	16/07/2021	1.000	2.34	35	259	9.77	8.46	0.7	BDL	-	1.4
18	CCRU NHT Heater	16/07/2021	70	100011	32	254	10.12	8.24	0.4	BDL	1.20	-
19	CCRU Reformer Heater-	16/07/2021	60	1.64	32			1		BOL		1
19			long laine 31			-	Gas		10			
	Pe	ermissible Limits	Ingland 1				Liquid		100		5	
			Method		~	RAD		15-11	255 (P-1)	USEPA	Method	29 By A

Remark:

BDL-Below Detection Limit, * Particulate Metters (as PM)-BDL [LOQ- 5.0], * Nici et a. Vensellum (. _ Ni & Y) -BDL [LOQ- 0.5] AL

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Sample Analysed within six days from the date of sampling.

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BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery, Distt. Panipat Haryana, TNDIA

ULR No.: TC 636621000001388-1394 Test Report Date: 28/08/2021

Sample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By

Stack Monitoring

: To Check the Pollution Load

: 15: 11255 (Part 7)

Mr. Veerpal Singh

Analysis Report

Sr.	Stack Particulars	Date of Sampling	Stack Height (meter)	Stack Diameter (meter)	Ambie nt Temp.	Stack Temp . (°C)	Average Gas Velocity		culate rs¹ (as 4)	CONTRACTOR OF	& Vanadi s Ni & V) ²	
				324 B	(°C)		(m/s)	mg/N	Kg/hr	mg/N m ³	Kg/hr	PP M
1	DHDT-1	19/08/2021	70	1.8	35	225	9.59	16.54	0.9	6DL	-	
2	DHDT New	19/08/2021	20	1.8	36	155	9,53	19.32	1.2	BDL		- 41
3	DHDT H-02	19/08/2021	70	1.8	35	235	9.30	20.21	1.0	BDL.	-	+
4	DCU	20/08/2021	70	3	33	156	9.68	16.86	2.7	8DL	2	1.00
5	HGU BSVI	20/08/2021	59.7	4	32	152	8.83	13.76	3.9	BDL	-	-
6	New MSQ-3	20/08/2021	60	1,64	34	273	11.02	17 43	0.8	BDL.	-	-
7	HCU Unit	20/08/2021	70	1.7	32	172	9.95	12.56	0.7	8DL		×.
	No. 1						Gas	1	0		2	
		Permiss/ble	Limits (mg/	nun-)			Liquid	10	ю		5	
				IS-1125	5 (P-1)	USEPA	Method 2 AAS	9 By				

Remark

EC: Below Detection Limit,¹ Particulate Matters (as PM)-BDI (LOQ: S.0,⁻¹ Nuker & Vanatium (as Nr & V)² (BDL (LOQ: 6.5) Semple Anelysed within six days from the date of sampling.



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(RAVINDER MITTAL)

ADE: The interface actigs the increased as could of legist. The reside contained in this test equit added loss 2, the winge trades. Sectionary to be required as an except of all account encounters are presented as a section and the factor of the section and the section If you save any complaints feedback regarding the sample collection/texting/text report, pione such an ensail at info@mitplots.com and call at +91-191-2465507, +91-9673924053

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Test Report No.:202108190110-112, 202108200110-113

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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery, Distf. Panipat Haryana, INDIA

Sample Particulars

Nature of the Sample Purpose of Manitoring Method of Sampling Monitoring Conducted By

Stack Monitoring

To Check the Pollution Load

Test Report Date: 28/08/2021

- IS: 11255 (Part 7)
- Mr. Veerpal Singh

Analysis Report

Sr. No.		Date of Sampling	Stack Height (meter)	Stack Diamet er	Ambie nt Temp.	Stack Temp . (°C)	Average Gas Velocity		s of Sul as SO _x)		Oxid	es of Nit (as NO.	
	- Anna ann an Anna an A		an 28	(meter)	(°C)	100.000	(m/s)	mg/N m ³	Kg/	РРМ	mg/N m ³	Kg/	PPM
1	DHDT-1	19/08/2021	70	1.6	35	225	9.59	16	0.8	0.1	210	11.04	111.62
2	DHOT NEW	19/08/2021	70	1.8	35	155	9.53	18	1.1	6.9	74	4.50	39.33
3	DHDT H-02	19/08/2023	70	1.8	35	235	9.30	10	0.5	3.8	92	4.60	48.90
4	DCU	20/08/2021	70	3	33	156	9.08	4	0.6	1.5	69	11.08	36.68
5	HGU-BSVI	20/08/2021	59.7	4	32	152	8.83	6	1.7	2.3	94	26.34	49.96
6	New MSQ-3	20/08/2021	60	1.64	34	273	11.02	9	0.4	3.4	97	-1.44	51.56
2	HCU Unit	20/08/2021	70	1.7	32	172	9.95	12	0.7	4.6	89	4.85	47.31
	Permissible Limits (mg/Nm ³)								50			350	
	mark							1	1700			450	

601 Below Detection Limit, Oxides of Sughan (a) 50,1 Hox (1001 1.7) Tamoth Enalysed within the data from the date of campling. All access Parameters are measures with Flue Cas Analyse

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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Retinery Division) Panipat Refinery, Distt. Panipat

Haryana, INDIA

Sample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By

Stack Monitoring

ULR No :: TC 635621000001476-1477

Test Report Date: 08/09/2021

: To Check the Pollution Load 15: 11255 (Part 7) : Mr. Veerpal Singh

Analysis Report

. No.	Stack Particulars	Date of Sampling	Stack Height (meter)	Stack Diameter (meter)	Ambie nt Temp.	Stack Temp . (°C)	Average Gas Velocity		gen Sulphi as H ₂ S)	de
			(meter)	(meter)	(°C)		(m/s)	mg/Nm ³	Kg/hr	РРМ
	SRU-57	31/08/2021	70	1.9	33	227	9.75	BDL.		7
2	SRU-26	31/08/2021	70	1.9	34	217	10.07	BDL	+	
	C. MARKAN C.	1		Old		15				
		Permissible L		New		10				
			IS:11	1255 (P-4))					

Remark

Bit dense Gebeitige seint, "exprogen Sulande Las H(3) 604, 300-001. Sample Analysed within the date of temping



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Test Report

Issued to: M/s Indian Oil Corporation Limited (Refinery Division)

Panipat Refinery, Distr. Panipat Haryana, INDIA

Test Report No.: 202108310110-111 Test Report Date: 08/09/2021

Sample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By

: Stack Monitoring

: To Check the Pollution Load : 15: 11255 (Part 7)

: Mr. Veerpal Sinch

Analysis Report

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (meter)	Stack Diameter (meter)	Amb ient Tem	Stack Temp . (°C)	Average Gas Velocity	1.1211110.024	s of Su as SO _x			es of Nitro (as NO,)	igen
					p. (°C)		(m/s)	mg/N m ²	Kg/ hr	PPM	mg/N m ³	Kg/hr	PPM
1	SRU-57	31/08/2021	70	1.9	33	227	9.75	17	1.0	6.5	26	1.54	13.82
2	SRU-26	31/08/2021	70	1.9	34	217	10.07	21	13	8.0	29	1.81	15.61
			Old					350					
			New		- 23			250					

Bernach;

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(RAVINDER MITTAL)

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Issued to: M/s Indian Oil Corporation Limited (Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

Sample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By Test Report No.: 2021063:0110-111 Test Report Date: 08/09/2021

Stack Monitoring

: To Check the Pollution Load IS: (1255 (Part 7) Mr. Veerpai Singh

Analysis Report

Test Report

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (meter	Stack Diamet er	Ambi ent Temp	Stack Temp . (°C)	Average Gas Velocity	Car	bon Monox (as CO)	ide
)	(meter)	. (°C)	1000	(m/s)	mg/Nm ³	Kg/hr	РРМ
1	5KU-57	31/06/2021	70	1.9	33	227	9.75	88	5.22	76.82
2	SRU-26	31/08/2021	70	1.9	34	217	10.07	81	5.06	70.71
							bio		150	
	Pe	rmissible Lim	its (mg/N	(iii)			New		100	

Barrister

BD - Network Setablish unsit: Carolin Microsoft (a) 501 606 (1992) 1 41

target analysed within us days from the date of sampting. All above Parameters are measures with free Day Analyse



(AUTHORISED SIGNATORY) (RAVINDER MITTAL)

NOTE. The increasing all gas the registrate for enance in many time enances in the less enance tends. The start are treased in the tendence and the start are treased in the tendence and the start are treased in the start and tendence and the start are treased in the star

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CORPORATE OFFICE & CENTRAL LABORATORIES :-

E you have any compilal/feedback regarding the sample collection/testing/test report please send on emotion internations com and call at 111-2466517 +91-982372-893

weather two Proceed goodant only

NOTE the appraising obtach the responsibility for content of report. The results contained in this feat report restrict only to the sample finited liest report into its report and in the restrict within appraising in the eventsy his reaction of the main descended of the read budget of the descendence. The read and the readbacked accedence to the structure descendence of the organization. Early exists the readbacked accedence to the structure descendence of the organization. Early exists deproved after 3) days from the date of twe of two others attempted and spectred. Any concerning apport they to be communicated in writing white Fidos of two of the others by spectra attempt

Certificale No. T-6.366

(AUTHORISED SIGNATORY)

BOX-Below Detection Limit, ⁷ Perocubite Matters (as PM) BDL [LDQ: 5.0], ⁷ Woker & Vanadium Sample Analysed within six Gays from the date of simpling

15 fe S	v)* is	18	Autor of	50.	
	1	184	3	125	18
	411870		59		19
	1	100	111		2
		T	7	17	Q

(RAVINDER MITTAL)

		Test		IS-1125	5 (P-1)	USEPA	AAS	29 By				
			Liquid	10	0		5					
••		missible Limits	(mg/Nm ³)			Gas	10			-	
19	DHDT H-01	16/09/2021	70	1.8	34	230	5155-592171			BDL.		
18	CCRU Reformer Heater- 201, 202,203 FF	16/09/2021	60	1.64	32	instant.	11.55	8.94	0.6	BDL	-	
17	CCRU NHT Heater	16/09/2021	70			252	10.35	10.64	0.5	19423-0	-	-
16	CCRU Reformer Heater- 205 FF			2.34	34	261	10.14	9.64	0.8	BDL		
15	RFCC Boiler	16/09/2021	60	1.26	32	159	10.41	8.24	0.3	BDL	- 20	
		15/09/2021	100	2.4	40	287	13.55	9.24	1.1	BDL.		
13	RFCC Heater	15/09/2021	59	0.9	34	293	12.86	- S. 21 -	1	BDL		
12	OHCU RG Heater	15/09/2021	63	1.35	32	210	9.94	9.21	0.3			1
11	OHCU LP Section	15/09/2021	65	2,42	31	219	10.15	16.24	0.3	BDL BDL		-
10	MSQ-2 New Prime G	14/09/2021	60	0.8	31	272	12.97	9.16	0.1		100	
9	MSQ-1	14/09/2021	60	1.64	31	221	12.20	9.31	0.5	BDL BDL	5	-
8	HGU-PD5	14/09/2021	60	1.64	31	219	11.22	9.46	0.5	BCIL		-
7	HGU 76	14/09/2021	60	1.7	34	247	10.82	9.28	0.5	BDI.		-
6	CPP-VHP-1	14/09/2021	60	3.4	34	204	10.17	18.96	3.9	BDL		_
5	CARGE TO P	13/09/2021	100	3.34	30	166	10.66	14.46	3.3	BDI:		
4	HRSG-5	10/9/2021	70	3.3	28	169	10.61	16.34		BDI.		
	HRSG-4	10/9/2021	70	3.3	29	165	11.66	5.23	3.6	CE MIS	1	1
3	HRSG-3	10/9/2021	70	3.3	28	162	9.60	8.16	1.3	BDL BDL	-	
2	HRSG-2	10/9/2021		1000				11 1 1	1.7	BDL		

: Stack Monitoring

: To Check the Pollubon Load

: IS: 11255 (Part 7)

: Mr. Rishi Pal

Analysis Report

Ambie

nt

Temp

(°C)

31

29

Stack

Diamet

er

(meter)

3.3

1.1

Stack

Temp.

(°C)

167

159

Issued to: M/s Indian Oil Corporation Limited (Refinery Division) Panipat Refinery, Distt. Panipat

Stack

Height

(meter)

65

70

Date of

Sampling

10/9/2021

10/0/2021

ULR No.: TC 636621000001566-1570, 1574, 1583-1587, 1609-1612, 1618-1622 Test Report Date: 04/10/2021

Particulate

Matters1 (as PM)

Kg/hr

1.6

1.6

mg/Nm

8.28

7.14

Average

Gas

Velocity

(m/s)

9.03

10.83

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Work for Quality

Sample Particulars

Nature of the Sample

Purpose of Monitoring

Monitoring Conducted By

HRSG-1

Stack Particulars

Method of Sampling

Sr.

No.

Haryana, INDIA

Test Report



• 43, Sector-A1 Ext., Bhalla Enclave, Channi Himmat, Jammu-180 015, J&K (UT), India

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Nickel & Vanadium?

(as Ni & V)2

Kg/h

5

mg/Nm

BOL

BDU

PPM

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Work for Quality

Sample Particulars

Nature of the Sample Purpose of Monitoring

Method of Sampling

Monitoring Conducted By

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Test Report

Issued to: M/s Indian Oil Corporation Limited (Refinery Division) Panipat Refinery, Distt. Panipat

Haryana, INDIA

ULR No.: TC 636621000001652-1654, 1660-1664, 1680-1682, 1702, 1729

1730, 1755-1756

Lest Report Date: 04/10/2021

Stack Monitoring

: To Check the Pollution Load

: IS: 11255 (Part 7)

Mr. Rishi Pal

Analysis Report

	Stack	Date of Sampling	Stack	Stack Diameter	Ambien t Temp.	Stack Temp.	Averag e Gas Velocity	Particu Matters ¹	late (as PM)	Nicke (i	l & Vanadi as Ni & V)	
b .	Particulars	Samping	(meter)	(meter)	(°C)	(°C)	(m/s)	mg/Nm	Kg/hr	mg/Nm ³	Kg/hr	PPM
1					33	235	9.48	9.12	0.5	BOL		-
20	DHDT H-02	16/09/2021	70	-1.8	1.2.2	223	10.84	14.86	7.1	BD!		×
21	AVU-1	18/09/2021	100	5.1	32		9.08	15.92	1.8	801		1
22	HGU 06	18/09/2021	50	2.64	33	190	Second and	14.28	2.50	355		
3814	UB-02	18/09/2021	100	3.04	35	160	9.88		0.3	BDL		
23	11 H H H C 2011 ()	20/09/2021	56	1.2	35	221	9.86	12.33	0.5	BOL		
24	PX Isomer	in an and the second	56	1.2	35	220	10.80	17.26	1 million	A COLORED TO A COL	1	1
25	PX Tatory	20/09/2021	100	1.9	33	274	11.50	19.26	1.2	BDL		
26	PX CCR	20/09/2021		2	34	167	10.56	12.21	1.0	BOL		
27	PX-Xylene	20/09/2021	78		34	260	11.65	18.34	0.3	BDL		
28	PX NHT	20/09/2021	30	1000	37	180	11.73	7.26	0.5	BOL	-	
29	DHDT BSIV	21/09/2021	70	1.8	37	180	11.22	9.14	2.2	BDI		
30	HGU-BS-VI	21/09/2021	0	3.4	7/21	175	11.03	11.34	2.1	BOL	1	*
31	DCU Heater-1	21/09/2021	70	3	35		11.81	10.32	2.2	BOL	1. 2	-
100001	HGU 75 F-101	23/09/2021	60	3.3	33	231	1999-00-0	100000	0.3	BD.	1	1
32		24/09/2021	60	1.25	28	187	9.51	11.18	7.5	BOL	-	10 200
33	DHDS	24/09/2021	100	5.1	34	198	11.28	14,22	1000	BOL	-	1 -
34	AVU-11		60	2.35	38	267	13.00	10.28	1.2	Dore	-	
35	PTA/Hot Oil Heater	27/09/2021		0.00	35	253	12.96	9.22	1,1	BD.		
36	and the second se	27/09/2021	60	2.35			- 100000 -		10		1 2	
	Oxidiser		(/Nm ³)			Gas				5		
		L.G.U.(1230)	and an other three				Liquid		100			10.0. 14
			Test Me			-		15-11	255 (P-1)	USEP	A Method	ta BÅ HVG

BDL Below Detection Limit, * Particulate Metters (as PM) 400; [LDQ: 5.0], * Nickel & Vanadium (as Ni 5.V) Rumark Sample Analysed within sia days from the date of sampling.

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(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

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Test Report

Issued to: M/s Indian Oil Corporation Limited (Refinery Division) Panipat Refinery, Distt. Panipat

Test Report No.:202109100110-114, 202109130110, 202109140110-114, 202109150110-113, 202109160110-113 Date: 04/10/2021

Haryana, INDIA

Sample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By

Work for Quality

Stack Monitoring

: To Check the Pollution Load

: 15: 11255 (Part 7)

: Mr. Rishi Pal

Analysis Report

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (meter)	Stack Diamete	Ambient Temp. (°C)	Stack Temp. (°C)	Average Gas Velocity		es of Suip (as SO _x)	hur	Oxic	les of Nitr (as NO,)			
			functory	(meter)	1.4		(m/s)	mg/Nm ³	Kg/hr	PPM	mg/N m ³	Kg/hr	РРМ		
1	HRSG 1	10/9/2021	65	3.3	31	162	9.03	6	1.1	2.3	29	5.52	15.41		
2	HRSG-2	10/9/2021	70	3.3	29	159	10.83	7	1.6	2.7	22	5.06	11.69		
3	HRSG-3	10/9/2021	70	3.3	28	162	9.60	7	1.4	2.7	26	5.27	13.82		
4	HRSG-4	10/9/2021	70	3.3	29	165	11.66	16	3.9	6.1	230	56.20	122.25		
5	HRSG-5	10/9/2021	70	3.3	28	169	10.61	14	3.1	5.3	221	48.71	117,47		
6	CPP-VHP-1	13/09/2021	100	3.34	30	165	10.66	298	68.0	113.7	148	33.78	78.67		
7	HGU 76	14/09/2021	60	3.4	34	204	10.12	6	1.2	2.3	16	3.31	8.50		
	5.5.4.964.012654	14/09/2021	60	1.7	34	247	10.82	6	0.3	2.3	ő	0.30	3.19		
8	HGU-PD5	14/09/2021	60	1.64	31	219	11.22	6	0.3	2.3	Y	0.36	3.72		
9	MSQ 1 MSQ-2	14/09/2021	60	1.64	31	221	12.20	5	0.3	2.3	8	0.45	4.25		
	the second se	14/09/2021	60	0.8	31	272	12.87	4	0.1	1,5	7	0.09	3.72		
11	New Prime G	15/09/2021	65	1.42	31	219	10.15	6	0.6	2.3	20	2.04	10.63		
12	OHCU LP Section		63	1.35	32	210	9.94	6	0.2	2.3	10	0.32	5.32		
13	OHCU RG Heater	15/09/2021	59	0.9	34	293	12.86	ő	0.1	2.3	13	0.20	6.91		
14	RFCC Heater	15/09/2021		in the later			1200000000		0.4	1.1	117	13.17	59.53		
15	RFCC Boiler	15/09/2021	100	2.4	40	287	13.56	3	SECON.	1100		ALC: NO.	Contraste Data in		
16	CCRU Reformer Heater-205 FF	16/09/2021	60	1.26	32	159	10.41	8	0.3	3.1			20.20		
17	CCRU NHT Heater	16/09/2021	70	2.34	34	261	10.14	5	0.4	1.9			1.		
18	CCRU Reformer Heater-201, 202,203 FF	16/09/2021	60	1.64	32	252	10.35	7	0.3	2.7	6		3.19		
19	DHDT H-01	16/09/2021	70	1.8	34	230	11.55	14		3.3	109		100.90		
		Permissible Li	mits (mg/Nn	n')			Gas		50			Constant C			
									1700			112 13.17 59. 38 1.22 20. 52 4.56 27 6 0.27 3.			

Remark

10. Below Detection Limit, October of Sulphan (as \$0.) (ODL (LOD-1.0) Sumple Analysed within us days from the date of sampling. All abrive Parlumeters are measures with Flue Gas Analysin

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE The loboratory of ceptime responsibility for content of report. The results contorned in this test report regited provide testing for the response testing of the report statistic testing of the results of the rest of the results of the results of the results of the resul Market in according to control the relation of the legal purpose or the doubt that the relation of the legal purpose or the doubt that the relation of the rel

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Test Report

Issued to: M/s Indian Oil Corporation Limited (Refinery Division)

Panipat Refinery, Distt. Panipat Haryana, INDIA

Test Report No.: 202109160114, 202109180110-112, 202109200110-114 202109210110-113, 202109230110, 202109240110 111 202109270110-111

Date: 04/10/2021

Sample Particulars

Nature of the Sample

Work for Quality

Purpose of Monitoring Method of Sampling Monitoring Conducted By

: Stack Monitoring : To Check the Pollution Load : IS: 11255 (Part 7) : Mr.Rishi Pal

Analysis Report

ir. 10.	Stack Particulars	Date of Sampling	Stack Height	Stack Diameter	Amble nt	Stack Temp. ("C)	Average Gas Velocity		is of Sulph (as 50x)	107	100 C	as of Nitrog (as NO ₄)	en 🔴
			(meter)	(meter)	Temp. (°C)		(m/s)	mg/Nm ³	Kg/hr	PPM	mg/Nm ¹	Kg/hr	•
20	DHDT H-02	16/09/2021	70	1.8	33	235	9.48	12	0.6	4.6	104	5.30	\$5.28
20	AVU-1	18/09/2021	100	5.1	32	223	10.84	5	2.4	1.9	57	27.30	30.20
200	HGU 06	18/09/2021	50	2.64	33	190	9.08	б	0.7	2.3	46	5 30	24.35
22	UB-02	18/09/2021	100	3.04	35	166	9.88	124	21.7	47.3	44	7.72	23.39
23		20/09/2021	56	1.2	35	221	9.85	б	0.1	2.3	52	1.26	27.55
24	PX Isomer		56	1.2	35	220	10.80	5	0.1	1.9	47	1.25	24.98
25	PX Tatory	20/09/2021		1.9	33	274	11.50	6	0.4	2.3	26	1.66	13.82
26	PXCCR	20/09/2021	100	1.0450	525	1 - 28 X	10.56	6	0.5	2.3	18	1.46	9.57
27	PX-Xylene	20/09/2021	78	2	34	167		6	0.1	2.3	15	0.28	7.97
28	PX NHT	20/09/2021	30	1	34	260	11.65	14	1.0	5.3	62	4.39	32.95
29	DHDT BSIV	21/09/2021	70	1.8	37	180	11.73	122.5	1.9	3.1	58	14,00	\$3.93
30	HGU-BS-VI	21/09/2021	0	3.4	38	180	11.22	8	3.5	7.3	9	1.68	4.78
31	DCU Heater-1	21/09/2021	70	3	35	175	11.03	19	Seree.	7.3	9	1.94	4.75
32	HGU 75 F-101	23/09/2021	60	3.3	33	231	11.81	19	4.1	1.1.22	57	1.55	30.30
33	DHDS	24/09/2021	60	1.25	28	187	9.51	3	0.1	1.1 66.0	27	14.17	14.35
34	AVU-II	24/09/2021	100	5.1	34	198	11.26	173	90.8	3.4	5	0.56	2.66
35	PTA/Hot Oil Heater	27/09/2021	60	2.35	38	267	13.00	9	1.0		69	7.91	-
36	PTA/Thermal Oxidiser	27/09/2021	60	2.35	35	253	12.96	75	8.6	28.6	09	350	0
-	1.0001907	Permissible L	imits (mg/M	4m²)			Gas		50			450	
		, contraction of	10010101010101	stalije.			Liquid		1700			450	

Remark:

upp-Service Detection Limit, Oxides of Sulphur (as \$0,) 9DL (COD-1.0) Sample Analysed within sa days from the date of sampling. At above Patameters are measures with Five Cas Analyse

(AUTHORISED \$1GNATORY) (RAVINDER MITTAL)

NOTE The approximation of cepts the responsestive for content of replicit the result content of replicit the result of the residence of the result of the re NOTE the approximation is deply the responsibility to content of replan the result contained in the track to the same better test replant to the replant to

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Test Report

Issued to: M/s Indian Oil Corporation Limited

Work for Quality

Sample Particulars Nature of the Sample

Purpose of Monitoring

Monitoring Conducted By

Method of Sampling

(Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

Test Report No.: 202109100110-114, 202109130110, 202109140110-114, 202109150110-113, 202109160110-113 Date: 04/10/2021

: Stack Monitoring

: To Check the Pollution Load

1 1S: 11255 (Part 7)

: Mr. Rishi Pal

Analysis Report

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (meter)	Stack Diameter (meter)	Ambient Temp. (°C)	Stack Temp. ("C)	Average Gas Velocity (m/s)	c	xg/hr 1.71 2.76 2.23 1.47 1.10 2.74 4.55 0.71 5.48 6.16 1.64 7.13 2.50	ide
				1.000.0014	N:57	A	1.74.74	mg/Nm	Kg/hr	PPM
1	HRSG-1	10/9/2021	65	3.3	31	162	9.03	9	1.71	7.86
2	HRSG-2	10/9/2021	70	3.3	29	159	10.83	12	2,76	10.47
3	HRSG-3	10/9/2021	70	3.3	28	162	9.60	11	2.23	9.60
4	HRSG-4	10/9/2021	70	3.3	29	165	11.66	5	1.47	5.24
5	HRSG-S	10/9/2021	70	3.3	28	169	10.61	5	1.10	4.36
6	CPP-VHP-1	13/09/2021	100	3.34	30	155	10.66	12	2.74	10.47
7	HGU 76	14/09/2021	60	3.4	34	204	10.12	72	1.55	19.20
8	HGU-PDS	14/09/2021	60	1.7	34	247	10.82	14	0.71	12.22
9	M50-1	14/09/2021	60	1.64	31	219	11.22	106	5.48	92.53
10	MSQ+2	14/09/2021	60	1.64	31	221	12.20	110	6.16	96.02
11	New Prime G	14/09/2021	60	0.8	31	272	12.87	129	1.64	112.64
12	OHCU LP Section	15/09/2021	65	2.42	31	219	10.15	70	7.13	61.10
13	OHCU RG Heater	15/09/2021	63	1,35	32	210	9.94	79	2.50	68,96
14	RFCC Heater	15/09/2021	59	0.9	34	293	12.86	128	1.99	111.7
15	RFCC Boiler	15/09/2021	100	2.4	40	287	13.55	131	15.41	114.3
16	CCRU Reformer Heater-205 FF	16/09/2021	60	1.26	32	159	10.41	22	0.71	19.20
17	CCRU NHT Heater	16/09/2021	70	2.34	34	261	10.14	17	1.49	14.84
18	CCRU Reformer Heater-201, 202,203	16/09/2021	60	1.64	32	252	10.35	6	0.27	5.24
19	DHDT H-01	16/09/2021	70	1.8	34	230	11.55	12	0.75	10.47
		L					Gas		150	
		Permissible Lin	nits (mg/Nm	1)			Liquid 200			
							FCCU		400	

Remarks

BOL-Below Cetection Limit, Carbon Monoxide (as CO) BDL (LOQ-1.0)

Sample Analysed within six days from the date of sampling. All above Parameters are measures with Flue Gas Analyser

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

Test Report No.: 202109160114, 202109180110-112, 202109200110-114 202109210110-113, 202109230110, 202109240110-111 202109270110-111

Date: 04/10/2021

Sample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By

: Stack Monitoring

: To Check the Pollution Load

: 15: 11255 (Part 7)

: Mr. Rishi Pal

Analysis Report

r. No.	Stark Particulars	Date of	Stack	Stack Diameter	Ambient	Stack Temp	Average Gas Velocity	Ca	rbon Monoxid (as CO)	e
taktivi saitu		Sampling	Height (meter)	(meter)	("C)	(°c)	(m/s)	mg/Nm*	Kg/hr	PPM
				1.0	33	235	9.48	9	0.46	7.86
20	DHDT H-02	16/09/2021	70	1.8	- 76		10.84	11	5.27	9.60
21	AVU-1	18/09/2021	100	5.1	32	223	2020/05/4	5	0.58	4 36
22	HGU 06	18/09/2021	50	2.64	33	190	9.08	39	6.84	34.04
23	UB-02	18/09/2021	100	3.04	35	166	9.88	Language	0.97	34.92
	PX Isomer	20/09/2021	56	1.2	35	221	9.86	40		26.19
24	and the second sec	20/09/2021	56	1.2	35	220	10.80	30	0.80	and a second
25	PX Tatory	20/09/2021	100	1.9	33	274	11.50	56	3.58	48.88
26	PXCCR		78	2	34	167	10.56	100	8,09	87.29
27	PX-Xylene	20/09/2021	1	1	34	260	11.65	73	1.35	63.72
28	PX NHT	20/09/2021	30	1	37	180	11.73	12	0.85	10.47
29	DHDT 8SIV	21/09/2021	70	1.8		180	11.22	49	11.83	42.77
30	HGU-BS-VI	21/09/2021	0	3.4	38	222,232	11.03	5	0.93	4.36
31	DCU Heater-1	21/09/2021	70	3	35	175		5	1.08	4,36
32	HGU 75 F-101	23/09/2021	60	3.3	33	231	11.81	1	0.19	6.11
	DHDS	24/09/2021	60	1.25	28	137	9.51	7		33.17
33		24/09/2021	100	5.1	34	198	11.28	38	19.94	1. 262-362
34	AVU-II	27/09/2021	60	2.35	39	267	13.00	56	6.28	46.88
35	PTA/Hot Oil Heater	and the second second		2.35	35	253	12.96	9	1.03	7.86
36	PTA/Thermal Oxidiser	27/09/2021		(endia)		1	Gas		150	
1000							Liquid		200	
		Permissible Li	mits (mg/N	(^r m)			FCCU	-	400	

BDL-Below Detection Limit, Carbon Monoside (as CO) BDL (LCQ-1.0)

Sample Analysed within six days from the date of sampling. All above Parameters are measures with Flue Gas Analyser

SED SIGNATORY)

(RAVINDER MITTAL)

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4012 The following optimizers the responsibility for content of report. The report contained in this test report related and to the sumple history. Test report and over epities on an WOLE The following excepts the responsibility for content of report. The room contained in this feat room interaction the report man not the report room and the ro

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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

Sample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By ULR No.: 1C 536521000001731-1732 Test Report Date: 04/10/2021

: Stack Monitoring

: To Check the Pollution Load : IS: 11255 (Part 7) : Mr. Rishi Pal

Analysis Report

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (meter)	Stack Diameter (meter)	Ambient Temp. (°C)	Stack Temp. (°C)	Average Gas Velocity	Hydro	ogen Sulph (as H ₂ S)	ide
			(meter)	(meter)	· -/		(m/s)	mg/Nm ³	Kg/hr	ррм
1	5RU-26	24/09/2021	70	1.9	35	225	11.03	BOL		1
Z	SRU-57	24/09/2021	70	1.9	34	235	11.06	801	-	14
	-						Old		15	
		Permissible	: Limits (mg	/Nm ³)			New		10	
			Test Me	thod				15:	11255 (P-4)

Remark: BDL-listow Detection Limit, ⁴ Hydrogen Sulphide (ar. H, S) 804, (LOQ- 0.1), Sample Analysed within Sir days from the date of sampling.





(AUTHORISED SIGNATORY) (RAVINDER MITTAL)

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Sample Particulars

Nature of the Sample

Purpose of Monitoring

Monitoring Conducted By

Method of Sampling

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Test Report

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Tecuad	to: M/s	Indian	Oil Corporation	Linneeu

(Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

Test Report No.: 202109240112-113 Date: 04/10/2021

Stack Monitoring

- : To Check the Pollution Load
 - : IS: 11255 (Part 7)
 - , Mr. Rishi Pal

Analysis Report

Sr.	Stack	Date of Sampling	Stack Height	Stack Diameter	Ambien t Temp.	Stack Temp.	Average Gas		s of Sulp as SO _X)	hur	Oxide	s of Nitro (as NO _x)	igen	
No.	Particulars	Jamping	(meter)	(meter)	(°C)	(°C)	Velocity (m/s)	mg/N m ³	Kg/h	PPM	mg/N m ³	Kg/h r	PPM	
					11	-		36	2,4	13.7	6	(as NO _x) ng/N Kg/h	3.	
	1 5911-26	24/09/2021	70	1.9	35	225	11.03		A. Continue	14.1	8	0.53	4.26	
1	SRU-26					34	235	11.08	37	2.5	1.474	9		
2	SRU-57	24/09/2021	70	1.9	24	(4),40()	old	1.00			Ph4	350		
							Old					750		
		Permissih	le Limits (n	ng/Nm ³)			New					230		

Remarkt

BOL-Below Detection Linit, Oxides of Sulphur (as SO, (-50, -(-OD-1.0) BOU-Detaw Detection unitin, usines of adaptine (as swapping, (controlling) Sample Analysed within six days from the date of sampling. All above Parawy sam are pressures with Flam Cas Analyse

(AUTHORISED SIGNATORY) (RAVINDER MITTAL)

compatibility when when the test of the NOTE the approach of coops the regarded to content at report the result contained in all subsequences for the result of the resu encept in the wheel the action approval of the expension for approximation for approximation of the second second state () is the second s sectores date as a more accessing anexastrate. We have any complemittee watch sector and call at +11.121.2445597. +11.7073724073 If you have any complemittee work segmeting the comple collection/testing/test report, prease tend on emotion interimity along consider and call at +11.121.2445597. +11.7073724073 P PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

Test Report No. 202109240112-113 Date: 64/10/2021

Sample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By

Stack Monitoring

: To Check the Pollution Load : 15: 11255 (Part 7) : Mr. Rishi Pal

Analysis Report

Sr. No.	Stack Particulars	Date of Sampling	Stack Height	Stack Diameter	Ambie nt	Stack Temp.	Average Gas Velocity	Car	bon Monoxi (as CO)	de
no.			(meter)	(meter)	Temp. (°C)	(°C)	(m/s)	mg/Nm ¹	Kg/hr	PPM
		24/00/2021	70	1.9	35	225	11.03	89	6.00	77.69
1	SRU-26	24/09/2021		F/22	1.1.1.	235	11.08	52	(as CO) Kg/hr	45.39
2	SRU-57	24/09/2021	70	1.9	34	233	11.00			
	Construction of the	1		-			Old		150	
		Permissible L	lmits (mg/l	Nm ²)			New		100	

Remark

BDL-Below Detection Limit, Carbon Monazide (as CO) BDL (LOO-1.0)

Sample Analysed within the data from the date of sampling. All above Parameters are measures with file Gat Analyser

(AUTHORISED SIGNATORY) (RAVINDER MITTAL)

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Test Report

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Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery, Disti Panipat Haryana, INDIA

LAR No.: TC 636621000002204-2205, 2206-2212, 2254-2162, 2240 3145 Test Report Date: 37:32/2021

Sample Particulars

Nature of the Sample Purpose of Monitoring Hethod of Sampling Monitoring Conducted By

Work for Quality

Stack Monitoring

. To Check the Pollution Law . IS: 11255 (Part 7) : Hr. Rishi Pal

Analysis Report

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (meter)	Stack Diamet or	Ambie Ist Temp.	Stack Temp. (*C)	Gas Velocity	Partic Matters ¹			S Vanad s Ni S V)	
			(insert	(meter)	(°C)	25 15.	(m/s)	majNm	Kg/hr	ing/#im	Kg/h	- P/P
1	AVU-1	3/11/2021	100	5.1	23	119	9,50	1/38	9.2	172	Xei	
1	DHDS	8/11/2021	60	1.25	24	200	10.20	9.52	0.3	10		
3	HRSG-1	9/11/2021	65	3.3	24	155	\$.97	1.54	1,4	1131	an 190	
4	IIRSG-3	9/11/2021	70	3.3	23	149	9,635	-012	1.8	60		
5	HRSG-4	9/11/2021	70	3.3	24	231	10.43	11.95	2.1	+ 2		
6	HRSG-S	9/11/2021	70	33	23	220	读那	13.21	2.4	1973 -	L	
7	CPP-VHP-1	9/11/2021	100	3:30	205	145	10:11:21	11.87	3,5	310		
8	HGU 76	22/11/2021	60	3.4	23	225	- 读辞	13.26	2.5	80		
9	HGU-PDS	22/11/2021	60	11	26	237	10.01	3.74	0.5	10		
10	DHDT H-01	22/11/2021	70	1.6	24	23-1	11.00	10.342	0.1	ND.		
11	DHD/ H-02	22/11/2021	70	1.5	21	220	10-96	-567	0.5	HD	con la consta	
12	HCU	22/11/2021	70	1.3	25	157	9.61	14.21	0.5	3130		
13	MSQ-1	23/11/2021	60	1.64	έε čέ	299	11.5t	3,38	3.5	ED:		
14	M5Q-2	23/11/2021	60	1.69	22	30%	11.02	5,80	0.4	F3		
15	New Prime G	23/11/2021	60	0.8	21	29%	11.73	5.80	<u>5.2</u>	13		
16	AVU-II	23/11/2021	100	5.1	23	150	9.31	34.32	7.2	402.		
17	DCU Heater-1	24/11/2021	70	3	23	143	9.61	™ ₂ 74	1.8	÷D		
18	CCRU Reformer Heater- 205 FF	24/11/2021	60	1.26	24	293	h3,49	2.34	0.2	12.	12.000	
19	CCRU NHT Heater	24/11/2021	70	2.34	24	261	10.10	影结	0.8	1835		
20	CCRU Reformer Heater- 201, 202,203 FF	34/11/2021	60	1.54	29	273	10.43	0.71	0.3	10	L _g	
1.140	Per	missible Limit	s (mg/Nm ²)			Gas	14	I.			
							Liquid	10	0		5	

USEPA Method 29 A 15-11255 (P-1) AAS

Remark: Remains Info-large Desigtion umit, Pendoele Materia les Physicia. (100-5-8), " foid els variablem les 15 s villette (200-2-5 Service Revisión entre les descritom the descritoriemente)

Test Method





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BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

Test Report

Issued to: M/s Indian Oil Corporation Limited (Refinery Division)

Panipat Refinery, Distt. Panipat Harvaria, INDIA

ULR No.: TC 636621000:02394 2397, 7412-2417, 2431 2131, 2665, 814, 200 Test Report Date: 07/12/2021

Sample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling

Monitoring Conducted By

Stack Monitoring

: To Check the Pollution Load

15: 11255 (Part 7)

- Mr. Rishi Pal

Analysis Report

r. o.	Stack Particulars	Date of Sampling	Stack Height	Stack Diameter (meter)	Ambien t Temp. (*C)	Stack Temp. (°C)	Averag e fias Velocity	Partseu Scatcors' (Nie We	us Vanid as na 8-3)	i gini I
			(meter)	(meter)	1.54		(m/s)	$\inf_{\lambda} f^{tim}_{\lambda}$	us/m	mg/Re	Seller	¥/it
21	OHCU LP Section	25/11/2021	23	2.42	23	327	8.93	9/3	1.3	1628		
22	OHEU RG Heater	25/11/2021	23	1.35	23	170	H.74	3.40	16課	812		
23	RFCC Heater	25/11/2021	23	0.9	23	367	11.10	14	9.13	- FG21		
	RFCC Boller	25/11/2021	23	24	23	251	17:20	194	0.8	* Adl.		
24	DHDT BSIV	26/11/2021	25	18	.25	125	9.19	-£14	16.56	19650		
35		20/11/2021	26	3.4	26	150	317,47	$\tilde{g} = \tilde{g}$	$F_{\rm e}$	15 4 -		
26	HGU		25	3.04	2.5	151	9.99	10.19	39	1990		
17	vHP-3 Boiler	26/11/2021	24	3.04	21	150	1.12	15,45	- 5	P05:		
26	UB-02	26/11/2021			23	134	9:57	12,34	2.2	1025		
25	UB-01	26/11/2021	23	3.04		156	6 63	9.62	1.58	HEN:		
30	HGU-BS-VI	26/11/2021	25	3.4	25	1	10.76	13.74	0.3	6.31		
31	Px Isomer	27/11/2021	25	1.2	25	235		15.13	1.14	60	¥ ĝ.	
32	PX Tatory	27/11/202	24	1.2	24	240	15.52		0.9	8121		
33	PXCCR	27/11/2021	25	1.9	25	252	11,26	远海				
34	PX-Xylene	27/11/2021	24	2	Ş:	185	5.37	12/24	- 11	1979		
35	PX NHT	27/11/2071	24	1	24	25%	10.51	Mint of	0.3	1.0		-
1.15	PTA/Hot OI	29/11/2021	24	2.35	24	163	10.46	1495	- 12	$\hat{T}_{1}\hat{Y}_{0}=$		
36	Finater	0.7542605000		2.35		20	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	1.000	0.0	152		
37	PTA/Thermal Oxidiser	29/11/2021	23	14			1120	1.17	1.10	1.625		
- 13	and the second se	29/11/2021	25	2.35	23	168	1		10	1	1.00	
-		Permissibl	e Limits (mg	(Nett')			525		100		ić.	1
							1 icrust		100 256 (P.1)	14	auterned	

Star Book, Subsciencismit, Periodite Matagis (et 475 dft) (2007 dft), "Science Construments & Science of St Timere Analysis of the Science Agencies of Camping." Remarks

Test Method





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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery, Distt. Panipat. Test Report No.: 202111080110-111, 202111090110-114, 202111220110-114, 202111230100 113, 202111240110 113

Haryana, INDIA

Date: 07/12/2021

Sample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By

: Stack Monitoring

: To Check the Pollution Load

: IS: 11255 (Part 7)

: Mr. Rishi Pal

Analysis Report

Sr. No.	Stack Particulars	Date of Sampling	Stack Height (meter)	Stack Diamete	Ambient Temp. (°C)	Stack Temp. (*C)	Average Gas Velocity		es of Sulp (as SO ₂)	hur	Oxi	des of Niti (as NO,)	and the first state of
				(meter)	1025	0.05	(m/s)	mg/Nm ¹	Kg/hr	PPM	mg/N m ³	Kg/hr	PPM
1	AVU-1	8/11/2021	100	5.1	23	119	9.50	9	4.8	3.4	47	24.97	24.98
2	DHDS	8/11/2021	60	1.25	24	200	10.20	16	0.5	6.1	63	1.79	33.49
3	HRSG-1	9/11/2021	65	3.3	24	155	8.99	8	1.5	3.1	254	48.97	135.01
4	HRSG-3	9/11/2021	70	3.3	23	148	8.88	12	2.3	4.6	110	21.31	58.47
5	HRSG-4	9/11/2021	70	3.3	24	231	10.15	16	3.0	6.1	观药	38.01	108.96
6	HRSG-5	9/11/2021	70	3.3	23	226	10.06	14	2.6	5.3	258	47.76	137.13
7	OPP-VHP-1	9/11/2021	100	3.34	24	148	10.51	248	58.2	94.6	153	35.93	81.32
8	HGU 76	22/11/2021	60	3.4	23	220	10.62	12	2.5	4.6	21	4.41	11.16
9	HGU-PDS	22/11/2021	60	1.7	26	232	10.81	10	0.5	3.8	18	0.94	9.57
10	DHDT H-01	22/11/2021	70	1.8	24	234	11.90	8	0.5	3.1	120	7.69	63.78
11	DHDT H-02	22/11/2021	70	1.8	24	220	10.95	11	0.7	4.2	132	8.01	70.16
12	HCU	22/11/2021	70	13	25	157	9.61	8	0.3	3.1	121	3.85	64.31
13	MSO-1	23/11/2021	60	1.64	22	299	11.51	8	0.4	3.1	54	2,46	28.70
14	MSQ-2	23/11/2021	60	1.64	22	305	11 92	9	0.4	34	56	2.62	29.77
15	New Prime G	23/11/2021	60	0.8	21	296	11.73	6	0.1	2.3	48	0.53	25.51
16	AVU-II	23/11/2021	100	5.1	23	150	9.30	173	88.0	66.0	27	13.73	14.35
17	DCU Heater-1	24/11/2021	70	3	23	143	9.81	14	2.7	5.3	43	8.19	22.86
18	CCRU Reformer Heater-205 FF	24/11/2021	60	1.26	24	293	10.44	3	0.1	1.1	105	2.51	55,81
19	CCRU NHT Heater	24/11/2021	70	2.34	24	264	10.10	6	0.5	2.3	199	17.83	105.77
20	CCRU Reformer Heater-201, 202,203 FF	24/11/2021	50	1.64	24	273	10.43	6	0.2	2.3	176	6.52	93.55
	10-10-11-1	Permissible Lin	nits (mg/Nm	1			Gas		50		_	350	
						1	Liquid		1700			450	

Remark:

8Dx-Bolow Detection Limit, Oxides of Sulphur (as SU.) (IOL (LOD-1.0)

Sample Analysed within to days from the dato of somplang. All above Parameters are measures with flue Gas Analyser



NOTE: The laboratory access the responsibility for content of report. The results contained in this test report related only to the sample bisted. Thes report studies not the reproducted except in full, when appendix of the laboratory. This report studies only for your guidance and not for itsult appendix. This report studies not the reproducted except in full institution appendix of the supervision of the supervision of the supervision of the producted except in full institution. Samples will be reproduced except in full institution of the supervision of th ment of the vertice press one needed may be sample collection/testing/test report, please send an email at info@mitvalab.com and call at +91-191-2465597, +91-9873924093

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BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

Test Report No.: 202111250110-113, 202111260110-115, 202111270110-114, 202111290110-112

Date: 07/12/2021

Sample Particulars

Nitya

Work for Quality

Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By : Stack Monitoring

: To Check the Pollution Load

: IS: 11255 (Part 7) : Mr.Rishi Pal

Analysis Report

§r.	Stack Particulars	Date of Sampling	Stack Height	Stack Diameter	Ambie nt	Stack Temp.	Average Gas		s of Sulph as SO ₄)	ur		s of Nitrog (as NO _x)	En
No.		27utburk	(meter)	(meter)	Temp. (°C)	(°C)	Velocity (m/s)	mg/Nm ¹	Kg/hr	PPM	mg/Nm ³	Kg/hr	PPM
- 1					- 62			8	1.0	31	57	5 64	24.98
21	OHCU LP Section	25/11/2021	23	2.42	23	127	8.93	12	0.5	4.5	31	1.20	16.48
	OHCU RG Heater	25/11/2021	23	1.35	23	170	9.72	27	0.4	10.3	89	1.38	47.3
22		25/11/2021	23	0.9	23	267	11 18		and the second second	18.3	172	14.65	91.4
23	RFCC Heater		23	2.4	23	251	12.29	48	4.1	17.02215	70	4.99	37.2
24	RFCC Boiler	25/11/2021	105/3	1.8	25	128	9.19	9	0.6	3.4			1.59
25	DI IDT BSIV	26/11/2021	25		26	159	10.4/	9	2.0	3.4	3	0.68	1.54.5
26	HGU	26/11/2021	26	3.4	1.327	1.122.2	9.99	19	3.3	7.3	9	1.57	4.7
	VHP-3 Boiler	26/11/2021	26	3.04	26	151	1.232.3	86	14.4	32.8	92	15.45	48.9
27		26/11/2021	24	3.04	24	150	9.50	85	16.3	32.8	138	26.24	73.
28	UB-02	26/11/2021	23	3.04	23	134	9.12	14	3.4	5.3	74	18.01	39.
29	UB-01	26/11/2021	25	3.4	25	158	9.93		0.2	2.3	46	1.21	24.
30	HGU-BS-VI		25	1.2	25	236	10.76	6	0.2	2.3	103	2.77	54.
31	PX Isomer	27/11/2021	10	1.2	24	240	11.02	6		2.3	76	4.30	40.
32	PX Tatory	27/11/2021	1	1.9	25	252	11.36	6	0.3	11	43	3.33	22.
33	PXCCR	27/11/2021	519-1	2	24	185	9.77	3	0.2	1.1	88	1.49	45
34	PX-Xylene	27/11/2021			24	254	10.51	3	0.1	2.3		11.17	54
35	PX NHT	27/11/2021	-	2.35	24	163	10.16	6	0.7	6.5	1.000		1
36	PTA/Hot Oil	29/11/2021	29	2.33			1		24.4	75.2	86	10.65	45
	Heater		23	2 35	23	78	9.34	197	24.4			1	
37	PTA/Thermal	29/11/2021	1 23		1	1	1 1000	1	0.6	2.5	220	23.39	1 11
	Oxidiser	12111000	25	2.35	25	168	10.07	6					1
38	PTA/FCPH	29/11/2021	1			-	Gas		50		1	350	
-		Permissible	Limits (mg	/Nm')				-	1700	1		450	
38	PTAYHUM	Permissible		/Nm³)		_ !	Gas Liquid		50 1700	8			

Remark:

BDL-Beikw Detection Limit, Guides of Sulphys (41 SG.) (301 (LOQ-1.0) Sample Analysed within six days from the date of sum dung. At above Parameters are measures with Flue Gas Analyser.



NOTE: The laboratory accepts the responsibility for an end of point. The resists contained in this test report realied one to the sample intend from report sheen out to reproduced encode in this works a feet reportance and in the laboratory in the sample intended only for your guidance and not to report a feet report and intendement. This report shall not be reproduced encode of the sample intended only for your guidance and not to report a feet report, and the report shall not be reproduced encode of the sample intended on the laboratory of the sample intended in works agreed in the report shall not be reproduced encode of the sample control of the laboratory of the sample intended on the laboratory of the sample intended in works agreed in the report shall not be reproduced encode of the sample control of the laboratory of the sample control of the laboratory of the sample control of the laboratory of the sample control of the sam

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BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

Test Report No.: 202111080110-111, 202111090110-114, 202111220110-114, 202111230100-113, 202111240110-113

Date: 07/12/2021

Sample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By

: Stack Monitoring

: To Check the Pollution Load

: IS: 11255 (Part 7)

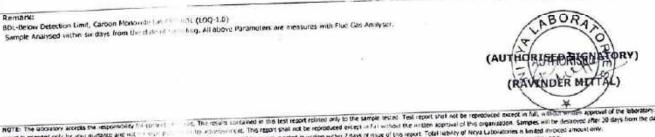
; Mr. Rishi Pal

Analysis Report

Sr. No.	Stack Particulars	Date of Sampling	Stack Height	Stack Diameter (meter)	Ambient Temp. (°C)	Stack Temp ("C)	Average Gas Velocity (m/s)	G	urbon Monoxi (as CO)	de
			(meter)	(meter)	1-1	1-1		mg/Nm ³	Kg/hr	PPM
	AVU-1	8/11/2021	100	5.1	23	119	9.50	14	7,44	12.22
2	DHDS	8/11/2021	60	1.25	24	200	10.20	9	0.26	7.86
3	HRSG-1		Cesic	3.3	24	i	8.99	12	2.31	10.47
	A10788518	9/11/2021	65		23	148	8.88	18	3.49	15.71
4	HRSG-3	9/11/2021	70	3.3	24	231	10.18	7	1.30	6.11
5	HRSG-4	9/11/2021	70	3.3	1000	226	10.06	12	2.22	10.47
6	HRSG-5	9/11/2021	70	3,3	23	1.0.13023		20	4.70	17.46
7	CPP-VHP-1	9/11/2021	100	3.34	24	148	10.51	53.2	9.87	41.03
8	HGU 76	22/11/2021	50	3.4	23	220	10.62	47	9.67	18.33
9	HGU-PDS	22/11/ 121	60	1.7	26	232	10.81	21	0.45	6.11
10	DHDT H-01	22/11/2021	70	1.8	24	234	11.90	7	20.22	7.86
11	DHDT H-02	22/11/2021	70	1.8	24	220	10.95	9	0.55	5.98
12	HCU	72/11 021	70	1.3	25	157	9.61	8	0.25	
		2:11: 321	60	1.64	22	299	11.51	9	0.41	7 86
13	MSQ-1 MSQ-2	23/11, 1021	60	1.64	22	305	11.92	18	0.84	15.71
14		1	60	0.8	21	296	11.73	73	0.81	63.72
15	New Prime G	.23/11/2021	-	1 1 1 1 1 1	10.5	150	9.30	38	19.33	33.17
16	AVU-II	23/11/021	100	5.1	23		and by		118-600-08	128.3
	DCU Heater-1	24/11/2021	70	3	23	143	9.81	147	28.00	1
17		a start and a start and a start and a start and a start	60	1.26	24	293	10.44	64	1.53	55.8
18	CCRU Reformer Heater-205 FF	24711/2021		2.34	29	204	10.10	20	2.35	22.2
19	CCRU NHT Heater	24:11 1.23	20	-2747 PA (-		273	10.43	35	1.30	30.5
20	CCRU Reformer Heater-201,	24/11/2021	60	1.64	24	2+3	10,43		10.00	
	202,203 FF						Gas		150	
		Permissible L	mits (mg/N	('m			Liquid		200	
							FCCU	_	400	

Remarki

BDL-Below Detection Limit, Carbon Monorade Lat. (LOQ-1.0) Sample Analysed within six days from the date of the million, All above Parameters are measures with Flue Cas Analyser.



NOTE: The aboratory accepts the responsible for control of the transmission to a the response of the transmission of transmission of the transmission of trans

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Test Report

NITYA LABORATORIES

Issued to: M/s Indian Oll Corporation Limited

(Refinery Division) Panipat Refinery, Dest. Panipat Haryana, INDIA

Test Report No.: 202111250110-113, 202111260110-115, 202111270110-114, 202111290110-112

Date: 07/12/2021

Sample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By

: Stack Monitoring

: To Check the Pollution Load

: 15: 11255 (Part 7)

: Mr. Rishi Pal

Analysis Report

, No.	Stack Particulars	Date of	Stack Height	Stack Diameter	Ambient Temp.	Stack Temp.	Average Gas Velocity	Car	rbon Monoxid (as CO)	
	1	Sampling	(meter)	(meter)	(°C)	(°C)	(m/s)	mg/Nm ³	Kg/hr	PPM
				0.42	23	127	8.93	91	10.92	79.43
21	OHCU LP Section	je/2021	23	2.42	1	170	9.72	105	1.07	91.65
22	OHCU RG Heater	25/11/2021	23	1.35	23		11.18	145	2.25	126.57
102001	RFCC Heater	25/11/2021	23	0.9	23	267	C PROVINCIA	147	12.52	128.32
23		25/11/2021	23	2.4	23	251	12.29	1	TUCCE	
24	RFCC Boiler	26/11/2021	25	1.8	25	128	9.19	BDL		10.47
25	DHDT BSIV	the second se	26	3.4	26	159	10.47	12	2.70	Carly and I
26	HGU	26/11/2021	1	3.04	26	151	9.99	5	0.87	4.36
27	VHP-3 Boiler	24%, 352.023	26	0.000	24	150	9.50	21	3.53	18.33
28	UB-02	26 1.7541	24	3.04		134	0.12	BDL		
29	UB-01	26 1.2071	23	3.04	2.1	1	9.93	1	0.24	0.87
199	HGU-BS-VI	26 1 2 21	25	3.4	25	158	1. 1984.999	2	0.05	1.75
30		77- 224	25	1.2	25	236	10.76		0.38	12.22
31	PX 1somer	72.11.2022	0	1.2	24	240	11.02	14	1 EC.	
32	PX Tatory		and the second se	1.9	25	252	11.36	2	0.13	1.75
33	PXCCR	general state	-	2	24	185	9.77	BOL		-
34	PX-Xylene	1.1.1.1.1			24	254	10.51	4	0.07	3.49
35	PX NHT	27/11/2/24		1		163	10.16	BOL		
36	PTA/Hot Oil Heater	2001-0-1	24	2.35	24	205776	9.34	34	4.21	29.68
37	PTA/Thermal Oxidiser	22:11 22-1	23	2.35	23	78		2	0.21	1.75
		70/11/2015	1 25	2,35	25	168	10.07	4	150	
38	Phyrcen			_			Gas	-	200	
		1/25/10/2012/2012	the level	Non ³)			Liquid	-	400	
		Pointesitile	innara (mgri	FCCU	1 400					

Pemark:

12.1.0) BDL-Below Detection Limit, Carbon Montoode (10)-Sample Analysed within six days from the dote the control of the over Parameters are measures with Flue Gas Analyser

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BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

Test Report

Issued to: M/s Indian Oil Corporation Limited (Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

Sample Particulars

Nature of the Sample Purpose of Monitoring Method of Sampling Monitoring Conducted By : Stack Monitoring

ULR No.: TC 636621000002370, 2398

Test Report Date: 07/12/2021

To Check the Pollebon Loud

: (S: 11255 (Part 7)

: Mr. Rishi Pal

Analysis Report

Sr.	No.	Stack Particulars	Date of Sampling	Stack Height	Stack Diameter	Ambient Temp.	Stack Temp.	Average Gas Velocity	Hydro	igen Sulph (as H ₂ S)	67
				(meter)	(meter)	(°C)	(°C)	(m/s)	mg/Mm ¹	Kg/n:	PP(4
-	1	SRU-26	24/11/2021	70	1.9	25	210	10.61	13171		
-	2	SRU-57	25/11/2021	70	1.9	25	225	11.12	HEL		
-			1 10 10		1			Did		15	
			Permissible	e Limits (mg	//Nm³)			New		10	
-				Test M	ethod	A.C. 100			15:3	1255 (2.4	1
				1.	2007/2017/2017						

Remarki Bitt, flerow Selection Limit, Wydrogen Scipride (ak H₂S) BDL (100)-0.1],

Semple Analysed within six days from the date of sempling





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Test Report

Issued to: M/s Indian Oil Corporation Limited

Sample Particulars

Nature of the Sample Sampling toophion

Purpose of Manitoling

Monitoring Conducted By Sampling Duration (Hw)

Method of Sampling

(Refinery Division) Panipat Refinery, Distl. Panipat Haryana, INE/A

ULR No., 10 515621060001104, 1106, 1123, 1137, 1156, 1193, 1217, 1247 Test Report Disto: 06/08/2021

Ambient Air Quality Monitoring

Root of Administration Building Annexe to Check the Pollution Locat-6.5162 (Port 14) Mr. Veic bor Snigh 74 Per.

Date of		Parameter													
Sampling	Particulat e Matter (PM2 5) µg/m3	Porticulat e Matter (PM10) µg/m3	Sulphur Dioxide (as SO2) µg/m3	Nitrogen Dioxide (as NO2) ug/m3	Ozone (as 03) ugrm3	Lead (as Pb ¹) µg/ m3	Carbon Monokid e (as CO) mg/m3	Ammon ia (as NH3) ugʻm3	Nickel (as NF) ng/m²	Arsenic (as As ³) ng/mJ	Sento (a) pyrene (as SAP4) ng/m ³	e (C6H8)) ug/m3			
62(67/202)	46,12	56,82	321	44.41	2022	201	k ja	46.89	801	BCR	313	:601			
3565712521	3432	92.45	25.25	34 3	26.49	301	1.12	50.24	80%	801	BOL.	(80)			
09907/2021	26.9	90.15	1623	32.24	34.22	601	0.98	32.43	BDC	801	BDU	1474			
(2,07/202)	32.82	94.95	22.92	36.14	2294	351	1.55	48.06	BO4	BCH	BOU	80.			
18/07/2021	30.44	88.93	15.42	30.45	28.43	BEL	1.56	62.18	301	801	01076	363			
(42)772921	56.24	98(8))	32/88	38.1+	22.28	18E) (10.35	825	BD+ :	fft./st	(THT)			
29/07/2021	\$4.92	40.AC	25.12	32.28	2e.14	10.	ζ.P.	54.2e	201	91.	0th	250			
18/07/2021	33,29	(1 <u>4</u>)水(2)	26.62	34.55	795	:501	1.49	11(24)	ê€1	BDL	10.3	8525			
Minimum	19,65	86052	(6.4)	30.47	20/16	- G	$\overline{U}[n] \in$	48.38	2	2	- F	4			
Maximum	56.24	98,62	22.92	38.56	26.43	14	T.24	54.26		**					
Average	52.05	92:43	23.86	34.36.	23 (8		196	55.50	3		5	1			
NAA QM Standards	60	100	80	80	100	1	2	400	20	Å	1	\$			
Test Method	40CFR Appendi x L Pait 53 CPCB Guidelin es	(5:5182 (P+23)	15.5782 (P+2)	(5:5182 (F+6)	15-5182 (P-9)	NL/SOP /AAQ 11	15 5182 (7-10)	Method of Air Samplin g & Analysis	NL/SO P/AAQ -13	NL/SOP /AAG 12	(P-12)	(5:518) (P-11)			

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Service Analysist within Seven days from the date of sampling.





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CORPORATE OFFICE & CENTRAL LABORATORIES

NITYA LABORATORIES • 43. Sector-A1 Cst. Bhalla Enclave. Nityak Work for Quality

Sample Particulars Nature of the Sample

Purpose of Monitoring

Monitoring Conducted By

Sampling Duration (Hrs.)

Method of Sampling

Remark

Sampling Location

9 43. Sector A1 Est , Bhalla Enclave, Channi Henerat, Jammu-180 015, J&K (UV), Ingla

191-191-2465597

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BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery, Dist. Panipat Haryana, INDIA

ULR No.: TC 636621000001264, 1291, 1312, 1336, 1358, 1397, 1408, 1433 Test Report Date: 06/09/2021

: Ambient Air Quality Monitoring

: Roof of Administration Building Annexe

: To Check the Pollution Load

Test Report

- : 15 5182 (Part 14)
- : Mr. Veerpal Singh
- : 24 Hrs.

					Para	meter					
Particula te Matter (PM2.5) µg/m3	Particula te Matter (PM10) µg/m3	Sulphur Dioxide (as 502) µg/m3	Nitroge n Dioxide (as NO2) ug/m3	Ozone (as O3) ug/m3	Lead (as Pb ¹) µg/ m3	Carbon Monoxid e (as CO) mg/m3	Ammon ia (as NH3) ug/m3	Nickel (as Ní ³) ng/nt ³	Arsenic (as As ³) ng/m3	Benzo (a) pyrene (as BAP ⁴) ng/m ³	Benzen e (C6H6 ⁵) ug/m3
40.82	80.62	20.61	30.62	16.44	BDL	1.08	40.62	BDL	BOL	BDL.	BDL.
45.32	86.92	18.42	28.55	20.62	BDI	1.14	48.26	ROI,	BCM.	BOL	BDL
41.22	82.46	22.68	30.99	18.55	BOL	0,96	44.96	BOL	EDL.	BOL	BOL
44.63	83.17	16.93	26.96	14.69	BOL	1.02	16.22	BD4.	BOL	BOL	BDL
47.58	89.29	21.81	32.68	22.84	BDL	1.13	42.28	BDL.	BOL	BOL	BDL
45.92	88.94	17.44	27.95	17.21	BDL	1.12	47.35	BDL	SDL	BDL.	BDL
48.66	82.22	22.68	24.99	21.38	BDI.	0.91	43,92	BOL	BDL	BDL.	BOL
45.25	87.93	19.84	28.44	23.95	BDL	1.18	45.39	BDL	BOL	BDL	BDL
40.82	80.62	16.93	24.99	14.69	•	0.91	40.62			(*	-
48.65	88.94	22.68	32.68	23.95	-	1.18	48.26				
45.18	84.56	20.05	28.89	19.46		1.06	44.88	2	- 84 III		-
60	100	80	80	100	1	2	400	20	6	1	5
40CFR Appendix L Part 53 CPCB Guideline S	IS:5182 (P-23)	IS:5182 (P-2)	15:5182 (P-6)	15:518 2 (P-9)	NL/SO P/AAQ- 11	15:5182 (P-10)	Method of Air Samplin g & Analysis	NL/SO P/AAQ -13	NL/SOP /AAQ- 12	15:5182 (P-12)	IS:5182 (P-11)
	te Matter (PM2.5) µg/m3 40.82 45.32 41.22 44.63 47.58 45.92 48.66 45.25 40.82 48.66 45.18 60 40CFR Appendix L Part 53 CPCB Guideline	te Matter (PM2.5) te Matter (PM10) µg/m3 40.82 80.62 46.32 86.92 41.22 82.46 44.63 83.17 47.58 84.24 45.92 88.91 48.66 82.22 46.25 87.93 40.82 80.62 44.63 83.17 47.58 84.24 45.92 88.91 48.66 82.22 46.25 87.93 40.82 80.62 48.66 88.94 45.18 84.56 60 100 40CFR Appendix L Part 53 CPC6 Guideline [P-23) CPC3	te Matter (PM2.5) te Matter (PM10) Dioxide (as SO2) 40.82 80.62 20.61 40.82 86.92 18.42 40.82 82.46 22.68 41.22 82.46 22.68 44.63 93.17 16.93 47.58 84.24 21.81 45.92 88.94 17.44 48.66 82.22 22.68 46.25 87.93 19.84 40.82 80.62 16.93 48.66 88.94 22.68 45.18 84.56 20.05 60 100 80 40CFR Appendix L Part 53 CPC6 IS:5182 (P-23) IS:5182 (P-2)	te Matter (PM2.5) µg/m3 te Matter (PM10) µg/m3 Dioxide (as SO2) µg/m3 n Dioxide (as SO2) µg/m3 40.82 80.62 20.61 30.62 40.82 80.62 20.61 30.62 40.82 80.62 18.42 28.55 41.22 82.46 22.68 30.99 44.63 83.17 16.93 26.86 47.58 84.24 21.81 32.68 45.92 88.94 17.44 27.95 48.66 82.22 22.68 24.99 48.65 88.94 16.93 28.49 40.82 80.62 16.93 24.99 48.65 88.94 22.68 32.68 45.18 84.56 20.05 28.89 60 100 80 80 40CFR Appendix L Part 53 CPC6 IS:5182 (P-23) IS:5182 (P-2) IS:5182 (P-2) (P-6)	te Matter (PM2.5) te Matter (PM10) Dioxide (as SO2) n Dioxide (as NO2) (as O3) 40.82 80.62 20.61 30.62 16.44 40.82 80.62 20.61 30.62 16.44 40.82 80.62 18.42 28.55 20.62 41.22 82.46 22.68 30.99 18.55 44.63 83.17 16.93 26.56 14.69 47.58 84.24 21.81 32.68 22.84 45.92 88.94 17.44 27.95 17.24 48.66 82.22 22.68 24.99 21.38 46.25 87.93 19.84 28.49 23.95 40.82 80.62 16.93 24.99 14.69 48.66 88.94 22.68 32.68 23.95 45.18 84.56 20.05 28.89 19.46 60 100 80 80 100 40CFR Appendix L Part 53 CPC6 IS:5182 (P-23) IS:5182 (P-2) I	Particula te Matter (PM2.5) Particula te Matter (PM10) Sulphur Dioxide (as SO2) Nitroge Dioxide (as NO2) Ozone (as O3) Lead (as Pb') 40.82 80.62 20.61 30.62 16.44 BDL 40.82 80.62 20.61 30.62 16.44 BDL 40.82 86.92 18.42 28.55 20.67 BDL 41.22 82.46 22.68 30.99 18.55 BDL 44.63 83.17 16.93 26.86 14.69 BOL 47.58 84.24 21.81 32.68 22.84 BDL 45.92 88.91 17.44 27.95 17.21 BDL 48.66 82.22 22.68 24.99 21.38 BDL 40.82 80.62 16.93 24.99 14.69 - 40.82 80.62 16.93 24.99 14.69 - 40.82 80.62 16.93 24.99 14.69 - 40.82 80.62 16.93 2	te Matter (PM2.5) te Matter (PM10) Dioxide (as SO2) n Dioxide (as SO2) (as O3) (as Pb ¹) (as Pb ¹) Monoxid e (as CO) 40.82 80.62 20.61 30.62 16.44 BDL 1.08 40.82 80.62 20.61 30.62 16.44 BDL 1.08 40.82 86.92 18.42 28.55 20.62 RDI 1.11 41.22 82.46 22.68 30.99 18.55 BDL 0.96 44.63 93.17 16.93 26.86 14.69 BOL 1.02 47.58 84.24 21.81 32.68 22.84 BOL 1.13 45.92 88.94 17.44 27.95 17.24 BDL 1.12 48.66 82.22 22.68 24.99 21.38 8DL 0.91 45.25 87.93 19.84 28.49 23.95 EDL 1.18 40.82 80.62 16.93 24.99 14.69 - 1.06	Particula te Matter (PM2.5) µg/m3 Particula te Matter (PM10) µg/m3 Sulphur Lioxide (as SO2) µg/m3 Nitroge n Dioxide (as NO2) µg/m3 Ozone (as O3) µg/m3 Lead (as Pb ¹) µg/ m3 Carbon Monoxid e (as CO) mg/m3 Ammon ia (as NH3) µg/m3 40.82 80.62 20.61 30.62 16.44 BDL 1.08 40.62 40.82 80.62 20.61 30.62 16.44 BDL 1.08 40.62 41.22 82.46 22.68 30.99 18.55 BDL 0.96 94.96 44.63 93.17 16.92 26.56 14.69 BOL 1.02 16.22 47.58 84.24 21.81 32.68 22.84 BOL 1.12 4/.35 48.66 82.22 22.68 24.99 21.38 8DL 0.91 43.92 46.25 87.93 19.84 28.49 23.95 BDL 1.18 45.39 40.82 80.62 16.93 24.99 14.69 - 1.06 44.88 60 100	Particula te Matter (PM2.5) µg/m3 Particula te Matter (PM2.5) µg/m3 Sulphur Dioxide (as 502) µg/m3 Nitroge n Dioxide (as 03) µg/m3 Ozone (as 03) µg/m3 Lead (as 03) µg/m3 Carbon Monoxid e (as 03) µg/m3 Ammon Nickel (as NH3) µg/m3 Nickel (as 03) µg/m3 40.82 80.62 20.61 30.62 16.44 BDL 1.08 40.62 BDL 46.32 86.92 18.42 28.55 20.62 8DL 1.08 40.62 BDL 41.22 82.46 22.68 30.99 18.55 BDL 0.96 44.96 BDL 44.63 83.17 16.92 26.86 14.69 DDL 1.02 46.22 DDL 47.58 84.24 21.81 32.68 22.84 BDL 1.11 47.35 BDL 48.66 82.72 22.68 24.99 21.38 8DL 0.91 43.92 BDL 40.82 80.62 16.93 24.99 21.38 8DL 0.91 40.62 - 45.18 84.56 20.05	Particula te Matter (PM2.5) µg/m3 Particula te Matter (PM10) µg/m3 Sulphur Loxide (as 502) µg/m3 Nitroge n Dioxide NO2) µg/m3 Ozone (as 03) µg/m3 Lead (as Pb ¹) µg/m3 Carbon Monoxid (as Pb ¹) µg/m3 Ammon ia (as NH3) µg/m3 Nickel (as NH3) µg/m3 Arsenic (as NH3) µg/m3 40.82 80.62 20.61 30.62 16.44 BDL 1.08 40.62 BDL BDL 40.82 86.92 18.42 28.55 20.62 RDL 1.11 48.926 BDL BDL 41.22 82.46 22.68 30.99 18.55 BDL 0.966 44.66 BDL EDL 44.63 83.17 16.92 26.86 14.69 BDL 1.12 42.28 BDL BDL 45.92 88.94 17.44 27.95 17.24 BDL 1.12 47.35 BDL BDL 45.25 87.93 19.84 28.49 23.95 BDL 1.18 45.29 BDL BDL 46.66 88.94 22.68 32.68 23.95	Particula te Matter (PM2.5) Particula te Matter (pM3.1) Particula te Matter (pM2.5) Sulphur Dioxide (as SO2) Nitroge Dioxide (as SO2) Ozone (as NO2) Lead (as Pb ¹) Carbon (as Pb ¹) Ammon is (as Pb ¹) Nickel (as NH3) Arsenic (as NH3) Benzo (as NH3) 40.82 80.62 20.61 30.62 16.44 BDL 1.08 40.62 BDL BDL BDL 46.32 96.92 18.42 28.55 20.62 BDL 1.11 48.96 RCL BDL BDL 44.63 93.17 16.92 26.86 14.69 BOL 1.02 46.22 BDL BDL BDL 44.63 93.17 16.92 26.86 14.69 BDL 1.02 46.22 BDL BDL BDL 44.63 83.17 16.92 26.86 14.69 BDL 1.12 47.35 BDL BDL BDL BDL 45.92 88.94 17.44 27.95 17.24 BDL 1.12 47.35 BDL BDL

*NAAQ5: Notional Antisent Air Quality Standards; Schedule VII, [Role 3 (38)], [Part II:sec.-3(i)] 16:11:2009 BDL-Below Detection Limit, "Arsenic BDL (LOQ: 0.5), "BAP-BDL (LOQ: 0.5), "Benzene BDL (LOQ: 0.5), "Local BDL (LOQ: 0.5), "Nickel-BDL (LOQ: 1.0) Sample Analysed within Seven days from the date of sampling.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The Tel Decore occups the responsibility for Costent of report. The results contained in this tell monit believe bench frequent with not be reproduced encount of the second of the bench frequency of the report of the reproduced encount of the reproduced encount of the bench frequency of the reproduced encount of the reprod

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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

ULR No.: TC 636621000001523, 1551, 1560, 1592, 1629, 1680, 1726, 1762 Test Report Date: 07/10/2021

Sample Particulars

Nature of the Sample Sampling Location Pumose of Monitoring Method of Sampling Monitoring Conducted By Sampling Duration (Hrs.)

Work for Quality

Ambient Air Quality Monitoring

- : Roof of Administration Building Annexe
- : To Check the Pollution Load
- : 15 5182 (Part 14)
- : Mr. Veerpal Singh
- : 24 Hrs.

Date of		Parameter													
Sampling	Particula te Matter (PM2.5) µg/m3	Particula te Matter (PM10) µg/m3	Sulphur Dioxide (as SO2) µg/m3	Nitroge n Dioxide (as NO2) ug/m3	Ozone (as O3) ug/m3	Lead (as Pb ¹) µg/ m3	Carbon Monoxid e (as CO) mg/m3	Ammon ia (as NH3) ug/m3	Nickel (as Ni ²) ng/m ³	Arsenic (as As ³) ng/m3	Benzo (a) pyrene (as BAP ⁴) ng/m ³	Benzen e (C6H6 ⁵) ug/m3			
03/09/2021	36.52	83.87	16.24	26.71	18,97	BDL.	1.18	46,48	BDL	BDL	BCM	6OL			
07/09/2021	42.97	89.71	22.28	35.66	16.55	BDL	1.09	40.57	BDL	BOL	BDL.	BOL			
10/09/2021	38.52	86.54	18.47	32.84	11.73	BDL	0.94	43.88	BDL	BOL	SDL	BDI,			
14/09/2021	41.97	78.68	12.83	28.44	15.69	BDL	0.98	41.52	BDL	BDL	3DL	801.			
17/09/2021	43.92	80.21	23.74	38.46	20.58	BDL	1.05	48.91	BDL	BDL	BDL	500			
21/09/2021	40,98	84.86	20.58	34.52	14.81	BDL.	1.15	44.55	BOL	BDL	BOL	90L			
24/09/2021	44.66	87.69	26.84	40.77	Z5.91	BDL.	1.18	50.49	BOL	BDL.	BOL	BOL			
28/09/2021	42.94	85.42	24.18	37.88	22.84	BDL	631	42.71	BDL	BDL	BDL	801			
Minimum	36.52	78.68	12.83	26.71	11.73	-	0.94	40.57	•	•		14			
Maximum	44.66	89.71	26.84	40.77	25.91		1.18	50.49	•			*			
Average	41.56	84.62	20.65	34.41	18.39		1.09	44.89		25					
NAAQM Standards	60	100	80	80	100	1	2	400	20	6	1	5			
Test Method	40CFR Appendix L Part 53 CPCB Guideline	15:5182 (P-23)	IS:5182 (P-2)	IS:5182 (P-6)	IS:518 2 (P-9)	NL/SO P/AAQ- 11	15:5182 (P-10)	Method of Air Samplin g & Analysis	NL/SO P/AAQ -13	NL/SOP /AAQ- 12	15:5182 (P-12)	IS:5183 (P-11)			

Remark

*NAAOS: National Ambient Air Queity Standards, Schedule-VII, [Rule 3 (30)], [Part-II-sec 32(14)(13)]; SUS-Below Detection Land, "Assence BDL [LOQ: 0.5], "DAP IDL [LOQ: 0.5], "Denenie BDA [LOG 0.5] "Note 501 [LOG 1.0] Sample Analysed within Seven days from the date of sampling.



(AUTHORISCD SIGNATORY)

(RAVINDER MITTAL)

NOTE: The allocatory access the resonation for content of report. The results contained in this test report scatted and to the sample rentring rentring the sample rentring to the samp report is interced only for your systems in the water or those in the destinance. This report dual not be not the interced only for your systems will be destinance. This report that not be not the interced on the interced on the organization. Sentence will be destinance with a format or the interced on the organization of the organization. Sentence will be destinance with a format organization or the organization of the organization of the organization organi organization organization organization organization organi or

CORPORATE OFFICE & CENTRAL LABORATORIES :-

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ssued to: M/s Indian Oil Corporation Limited (Refinery Division)

Panipat Refinery, Distt, Panipat Haryana, INDIA

Sample Particulars

Nature of the Sample Sampling Location Purpose of Monitoring Method of Sampling Monitoring Conducted By Sampling Duration (Hrs.)

Work for Quality

ULR No.: TC 636621000001897, 1912, 1941, 1954, 2009,2091,2114,2133 Test Report Date: 09/11/2021

Ambient Air Quality Monitoring

: Roof of Administration Building Annexe

: To Check the Pollution Load

- : IS 5182 (Part 14)
- : Mr. Rishi Pal

Test Report

NITYA LABORATORIES

: 24 Hrs.

Date of						Paran	neter					
Sampling	Particul ate Matter (PM2.5) µg/m3	Particul ate Matter (PM10) µg/m3	Sulphur Dioxide (as SO2) µg/m3	Nitroge n Dioxide (as NO2) ug/m3	Ozone (as O3) ug/m3	Lead (as Pb') µg/ m3	Carbon Monogid e (as CO) mg/m3	Ammon ia (as NH3) ug/m3	Nickel (as Ni ²) ng/m ³	Arsenic (as As') ng/m3	Benzo (a) pyrene (as BAP') ng/m ³	Benzen e (C6H6') ug/m3
01/10/2021	38.47	81.94	18.69	34.12	22.94	BDL	1,12	42,67	6DL	BDL	BDL	BDL.
05/10/2021	45,98	85.64	20.88	30.99	20.92	BDL	1.04	45.14	BDL	BDL	BDL	5OL
08/10/2021	42.46	82.86	15.91	28.43	18.24	BOL	0.96	40.58	BDL	BDL	BDL	BDL
12/10/2021	46.98	92.45	14.66	24.49	21.54	BDL	0.94	44.19	BDL	BDL	BDL	BDL
19/10/2021	40.88	80.96	20.28	36.11	17.58	BDL	1.01	41.85	8DL	BDL	BOL	BDL.
22/10/2021	35,49	76.85	17.55	33.42	19,66	BOL	1.12	43.86	BDI,	8DL	BDL	BDL.
26/10/2021	34.58	81.46	25.66	43.91	26.21	BDL.	1.13	56.29	BDL	BDL	BDL	BDL,
29/10/2021	41.88	84.4Z	22.92	40.53	23.84	BDL	1.16	48,51	BDL	BDL	BOL	BDL
Minimum	34.58	76.85	14.66	24.49	17.58	12	0.94	40.58	•			
Maximum	46.98	92.45	25.66	43.91	26.21		1.15	56.29	-1		-	
Average	40.84	83,32	19.57	34.00	21.32		1.06	45.39				
NAAQM Standards	60	100	80	80	100	1	2	400	20	6	1	5
Test Method	40CFR Appendix L Part 53 CPCB Guideline	I5:5182 (P-23)	IS:5182 (P-2)	IS:5182 (P-6)	IS:518 2 (P-9)	NL/SO P/AAQ- 11	15:5182 (P-10)	Method of Air Samplin G & Analysis	NL/SO P/AAQ -13	NL/SOP /AAQ- 12	15:5182 (P-12)	I5:5182 (P-11)

Remark:

NAAQS, Network Ambent Am Queloy Standorzh, Scheduer-VII, (Ruie 3 (38)). [Part-II-soc.-2(1)] 16.11.2009 801-Bolow Detection Limit, Virsenic-BDL [LDQ: 0.5], 'BAP-BDL [LOQ: 0.5], 'Bernene-BDL [LOQ: 0.5], 'Lead-BDL [LOQ: 0.5], 'Network-BDL [LOQ: 1.5]

Sample Analysed within Seven days from the date of sampling.

(AUTHORISED SIGNATORY (RAVINDER MITTAL)

NOTE: The baseding as yes the responsibility for contain of result. The most summaries a test report related only to sample reveal. This report and at the sample reveal of the reveal of the sample reveal of the sample reveal of the sample reveal of the reveal o

CORPORATE OFFICE & CENTRAL LABORATORIES :-

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BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery, Distt. Panipat Haryana, INDIA

Nitvak

Sample Particulars

Nature of the Sample Sampling Location

Purpose of Monitoring

Work for Quality

ULR No.: TC 636621000002185, 2198, 2217, 2262, 2307, 2325, 2367, 2422, 2443 Test Report Date: 07/12/2021

: Ambient Air Quality Monitoring

: Roof of Administration Building Annexe

: To Check the Pollution Load

Method of Sampling Monitoring Conducted By Sampling Duration (Hrs.)

NITYA LABORATORIES

: IS 5182 (Part 14)

: Mr. Rishi Pal : 24 Hrs.

Date of						Parar	neter					
Sampling	Particula te Matter (PM2.5) µg/m3	Particula te Matter (PM10) µg/m3	Sulphur Dioxide (as SO2) µg/m3	Nitroge n Dioxide (as NO2) ug/m3	Ozone (as O3) ug/m3	Lead (as Pb ¹) µg/ m3	Carbon Monoxid e (as CO) mg/m3	Ammon ia (as NH3) ug/m3	Nickel (as Ni ²) ng/m ³	Arsenic (as As ³) ng/m3	Benzo (a) pyrene (as BAP ⁴) ng/m ³	Benzer e (C6H6 ⁵) ug/m3
02/11/2021	34.34	78.28	16.22	30.41	24.71	BDL	1.08	44.69	BDL	BDL	BDL	BDL
05/11/2021	40.66	82.64	22.41	35.75	28.22	BDI.	1.06	48.41	BOL	BDL	BDL	BOL
09/11/2021	38.46	80.96	18.59	26.19	21.43	BDL	0.92	43 58	BIDL	BOL	BDL	BDL
12/11/2021	42.84	88.47	20.84	28.92	26.58	BDL	0.97	46.42	BOL	BDL	BDL	BDL
16/11/2021	44.67	92.68	24.78	34.92	30.73	BDL	1.05	42.81	BOL	BDL	BDL	BOL
19/11/2021	37.17	82.47	20.44	37.48	32.46	BDL	1.14	40.94	80L	BDL	BDL	BDL.
23/11/2021	35.97	75.21	17.95	25.88	22.58	BDL	1.18	50.47	8DL	BDL	BDL	BDL.
26/11/2021	43.64	96.44	21.73	32.73	27.49	BDL	1.15	45.28	BOL	BDL	BDL	BDL
29/11/2021	11.26	90.34	23.48	35.62	d3.52	÷QL	1.190	5 * 2+	BDL	4.57	61.44	BLA
Minimum	44.67	96.44	24.78	37.48	32.46	*	1.18	50.47			94 - C	-
Maximum	34.34	75.21	16.22	25.88	21.43		0.92	40.94			-	•
Average	39.89	85.28	20.73	31.99	26.41	-	1.07	45.54	-			
NAAQM Standards	60	100	80	80	100	1	2	400	20	6	1	5
Test Method	40CFR Appendix L Part 53 CPCB Guideline S	I5:5182 (P-23)	IS:5182 (P-2)	IS:5182 (P-6)	IS:518 2 (P-9)	NL/SO P/AAQ- 11	IS:5182 (P-10)	Method of Air Samplin g & Analysis	NL/SO P/AAQ -13	NL/SOP /AAQ- 12	IS:5182 (P-12)	IS:5182 (P-11)

Remark

*HAAQS: National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (38)], [Part-II-sec.-3(i)] 16.11.2009

HDL-Below Detection Limit, ²Arsenic-BDL [LOQ- 0.5], ⁴BAP-BDL [LOQ- 0.5], ⁴Benzene-BDL [LOQ- 0.5], ⁴Lead-BDL [LOQ- 0.5], ⁴Nickel-BDL [LOQ- 1.0]

Sample Analysed within Seven days from the date of sampling.



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Issued to: M/s Indian Oll Corporation Limited

(Refinery Division) **Panipat Refinery** Distt. Panipat, Haryana, INDIA ULR No.:TC636621000001162 Test Report Date: 27/07/2021

Sample Particulars:

Work for Quality

Nitva

Sample Quantity & Packaging	: 1.0 Liter, Pet Bottle
Test Started on	: 19/07/2021
Test Completed	: 26/07/2021
Method of Sampling	: SOP/B/D-3
Date of Sampling	: 17/07/2021
Sampling Conducted By	: Mr. Veerpal Singh
Place of Samolina	: ETP-1 O/L (PR)

Test Report

Sr, No.	Parameter	Unit	Result	Permissible Limits	Protocol
T	На	ñ,	7.74	6.0-8.5	I\$:3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	12.8	20.0	IS:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	90	125.0	IS:3025 (P-58)
4	Bio-Chemical Oxygen Demand (3 days of 27°C) (BOD)	mg/L	8.4	15.0	IS:3025 (P-44)
5	Oil & Grease (O&G)	mg/L	BDL (LOQ-1.0)	5.0	IS:3025 (P-39)
6	Phenois(CeHsOH)	mg/L	0.24	0.35	IS:3025 (P-43)
7	Sulphide (S)	mg/L	0.42	0.5	(S:3025 (P-29)
8	Total Kjeldahl Nitrogen (NH3)	mg/L	BDL (LOQ-0.2)	40	IS:3025 (P-34)
9	Phosphate	mg/L	0.42	3.0	IS:3025 (P-31)
10	Chromium Hexavalent (Cr**)	mg/L	BDL (LOQ-0.1)	0.1	IS:3025 (P-52)
11	Copper (Cu)	mg/L	BDL (LOQ-0.25)	1.0	APHA -23rd Ed
12	Lead (Pb)	mg/L	0.08	0.1	APHA-23rd Ed.
13	Mercury (Hg)	mg/L	BDL (LOQ-0.01)	0.01	APHA-23rd Ed.
14	Zinc (Zn)	mg/L	3.15	5.0	APHA-23rd Ed.
15	Nickel (Ni)	mg/L	0.61	1.0	APHA-23re Ed.

BOL-Below Detection Limit, LOG Limit of Quantification, the lowest concentration of a autoitation of



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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery Distl. Ponipat, Haryana, INDIA Test Report No: 202107170110 Test Report Date: 27/07/2021

Sample Particulars:

: 1.0 Liter, Pet Bottle
: 19/07/2021
: 26/07/2021
: SOP/B/D-3
: 17/07/2021
: Mr. Veerpal Singh
: ETP-1 O/L (PR)

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	Ammonia (N)	mg/L	7.14	15.0	IS:3025 (P-34)
2	Cyanide (CN)	mg/L	BDL (LOQ-0.2)	0.20	APHA-23rd Ed
3	Total Chromium	mg/L	BDL(LOQ-2.0)	2.0	IS:3025 (P-52)
4	Vanadium (V)	mg/L	BDL(LOQ-0.2)	0.2	APHA-23rd Ed
5	Benzene	mg/L	BDL(LOQ-0.1)	0.1	APHA-23'ª Ed.
6	Benzo(a)-Pyreen	mg/L	BDL(LOQ-0.2)	0.2	APHA-23 rd Ed.

e. BDL-Below Detection Limit, LOQ-Limit of Quantification, the lowest concentration of a substance that can be accurately measured under specified experimental conditions.



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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) **Panipat Refinery** Distt. Panipat, Haryana, INDIA ULR No.:1C636621000001163 Test Report Date: 27/07/2021

Sample Particulars:

Sample Quantity & Packaging Test Storted on Test Completed Method of Sampling Date of Sampling Sampling Conducted By Place of Sampling

: 19/07/2021 : 26/07/2021 : SOP/B/D-3 : 17/07/2021 : Mr. Veerpai Singh : ETP-2 O/L (PR)

: 1.0 Liter, Pet Bottle

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	рH		7.61	6.0-8.5	IS:3025 (P-11)
2	Total Suspended Salids (TSS)	mg/L	14.6	20.0	IS:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	80	125.0	IS:3025 (P-58)
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	6.8	15.0	IS:3025 (P-44)
5	Oil & Greose (O&G)	mg/L	BDL (LOQ-1.0)	5.0	IS:3025 [P-39]
6	Phenols(C ₆ H ₅ OH)	mg/L	0.22	0.35	IS:3025 (P-43)
7	Sulphide (S)	mg/L	0.48	0.5	IS:3025 (P-29)
8	Total Kjeldahl Nitrogen (NH3)	mg/L	BDL (LOQ-0.2)	40	IS:3025 (P-34)
9	Phosphale	mg/L	0.51	3.0	IS:3025 (P-31)
10	Chromium Hexavalent (Cr*)	mg/L	BDL (LOQ-0.1)	0.1	IS:3025 (P-52)
11	Copper (Cu)	mg/L	BDL (LOQ-0.25)	1.0	APHA -23rd Ed.
12	Lead (Pb)	mg/L	0.04	0.1	APHA-23 rd Ed.
13	Mercury (Hg)	mg/L	BDL (LOQ-0.01)	0.01	APHA-23" Ed.
14	Zinc (Zn)	mg/L	1.88	5.0	APHA-23ª Ed.
15	Nickel (Ni)	mg/L	0.65	1.0	APHA-23" Ed.

Remark BOL-Below Detection Limit, LOG-Limit of Quantification, the lowest mon 100 the percentage were stored or the affect repeativental conditions



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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) **Panipal Refinery** Distt. Panipat, Haryana, INDIA Test Report No: 202107170111 Test Report Date: 27/07/2021

Sample Particulars:

Sample Quantity & Packaging	: 1.0 Liter, Pet Bottle
Test Started on	: 19/07/2021
Test Completed	: 26/07/2021
Method of Sampling	: SOP/B/D-3
Date of Sampling	: 17/07/2021
Sampling Conducted By	: Mr. Veerpal Singh
Place of Sampling	: ETP-2 O/L (PR) Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	Ammonia (N)	mg/L	7.86	15.0	IS:3025 (P-34)
2	Cyanide (CN)	mg/L	BDL (LOQ-0.2)	0.20	APHA-23 rd Ed.
3	Total Chromium	mg/L	BDL(LOQ-2.0)	2.0	I\$:3025 (P-52)
4	Vanadium (V)	mg/L	BDL(LOQ-0.2)	0.2	APHA-23 rd Ed.
5	Benzene	mg/L	BDL(LOQ-0.1)	0.1	APHA-23 rd Ed.
6	Benzo(a)-Pyreen	mg/L	BDL(LOQ-0.2)	0.2	APHA-23rd Ed.

Remark BDL-Below Detection Limit, LOO-Limit of Quantification, the lowest concentration of a substance that can be accurately measured under specified experimental conditions

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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery Distt. Panipat, Haryana, INDIA ULR No.:TC636621000001164 Test Report Date: 27/07/2021

Sample Particulars:

Sample Quantity & Packoging	
Test Started on	
Test Completed	
Method of Sampling	
Date of Sampling	
Sampling Conducted By	
Place of Sampling	

: 19/07/2021 : 26/07/2021 : SOP/8/D-3 : 17/07/2021 : Mr. Veerpol Singh : ETP-3 (PTA-ETP)

: 1.0 Liter, Pet Bottle

Test Report

Sr. No.	Parameter	Urit	Result	Permissible Limits	Protocol
1	рН		7.64	6.5-8.5	IS:3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	52	100	IS:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	130	250	IS:3025 (P-58)
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	12.6	30	IS:3025 (P-44)
5	Phenois(CoHsOH)	mg/L	0.06	<1	IS:3025 (P-43)
6	Sulphide (S)	mg/L	1.6	2.0	IS:3025 (P-29)
7	Fluoride	mg/L	2.8	<5	IS:3025 (P-60)
8	Chromium Hexavalent (Cr*4)	mg/L	BDL(LOQ-0.1)	0.1	IS:3025 (P-52)

BDL-Below Detection Limit, LOD-Limit of Quantification, the lowest concentration of a substance that can be accurately measured under specified experimental conditions.





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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery Distt. Panipat, Haryana, INDIA Test Report No: 202107170112 Test Report Date: 27/07/2021

Sample Particulars:

Sample Quantity & Packaging Test Started on Test Completed Method of Sampling Date of Sampling Sampling Conducted By Place of Samplina

: 1.0 Liter, Pet Bottle : 19/07/2021 : 26/07/2021 : SOP/B/D-3 17/07/2021 : Mr. Veerpal Singh : ETP-3 (PTA-LIP)

Test Report

Sr. No.	Parameter	Unii	Result	Permissible Limits	Protocol
1	Cyanide (CN)	mg/L	BDL (LOQ-0.2)	0.20	APHA-23ª Ed.
2	Total Chromium	mg/L	BDL(LOQ-2.0)	2.0	IS:3025 (P-52)

BDL-Below Detection Limit, LCQ-Limit of Quantitication, the lowest concentration of a substance that can be occurately metasured under specified experimental conditions.

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(RAVINDER MITTAL)

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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panigat Refinery Distt. Panipat, Haryana, INDIA ULR No :TC636521000001342 Test Report Date: 23/08/2021

Sample Particulars:

Sample Quantity & Packaging	: 1.0 Liter, Pet Bottle
Test Started on	: 14/08/2021
Test Completed	: 21/08/2021
Method of Sampling	: SOP/B/D-3
Date of Sampling	: 13/08/2021
Sampling Conducted By	: Mr. Veerpal Singh
Place of Sampling	: ETP-1 O/L (PR)

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	рн		7.42	6.0-8.5	IS:3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	16.8	20.0	IS:3025 (P-17
3	Chemical Oxygen Demand (COD)	mg/t	110	125.0	15:3025 (P-58)
4	Bio Chemical Oxygen Demand (3 days at 27°C) (800)	mg/L	10	15.0	15:3025 (P-44)
5	Oif & Grease (O&G)	mg/L	BDL (LOQ-1.0)	5.0	15:3025 (P-39)
6	Pnenols(C ₆ H ₅ OH)	mg/L	0.21	0.35	IS:3025 (P-43)
?	Sulphide (S)	mg/L	0.42	0.5	15:3025 (P-29)
8	Total Kjeldahl Nitrogen (NH3)	rng/i	BDL (LOQ-0.2)	40	15:3025 (P-34)
9	Phosphate	mg/L	0.69	3.0	15:3025 (P-31)
10	Chromium Hexavalent (Cr+ ⁶)	mg/L	BDL (LOQ-0.05)	0.1	IS:3025 (P-52)
11	Copper (Cu)	mg/L	BOL (LOQ-0.1)	1.0	APHA -23 ^{ed} Ed.
12	Lead (Pb)	mg/L	0.05	0.1	APHA-23 rd Ed.
13	Mercury (Hg)	mg/L	BDL (LOQ-0.005)	0.01	APHA-23" Ed.
14	Zinc (Zn)	mg/L	3.0	5.0	APHA-23" Ed.
15	Nickel (NI)	mg/L	0.72	1.0	APHA 23 rd Ed

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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery Distt. Pacipat, Haryana, INDIA

Test Report No. 202108130110 Test Report Date: 23/08/2021

Sample Particulars:

Sample Quantity & Packaging	1.0 Liber, Pet Bottle
Test Started on	
Test Completed	14/08/2021
Method of Sampling	: 21/08/2021
	: SOP/8/D-3
Date of Sampling	: 13/08/2021
Sampling Conducted By	: Mr. Veerbal Sinch
Place of Sampling	: ETP-1 O/L (PR)

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	Ammonia (N)				
		mg/L	6,8	15.0	IS:3025 (P-34)
5	Cyanide (CN)	mg/L	BDL (LOQ-0.1)	0.20	APHA-23 rd Ed
3	Total Chromium	mg/L	BDL(LOQ-0.05)	2.0	15:3025 (P-52)
4	Vanadium (V)	mg/L	BDL(LOQ-0.1)	0.2	APHA-23 rd Ed.
5	Benzene	mg/L	BDL(LOQ-0.01)	0.1	APHA-237 Ed.
6	Benzo(a)-Pyreen	mg/L	BDL(LOQ-0.02)	0.2	APHA 23" Ed.

BCC-Below Elementary Time 1100 climit of Quantification, the climital cancers also of a substance that can be accurately negligated under specified equilibrium al conditions.

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery Distt. Panipat, Haryana, INDIA ULR No.: TC636621000001343 Test Report Date: 23/08/2021

Sample Particulars:

Sample Quantity & Packaging	: 1.0 Liter, Pet Bottle
Test Started on	: 14/08/2021
Test Completed	21/05/2021
Method of Sampling	: SOP/B/D-3
Date of Sampling	: 13/06/2021
Sampling Conducted By	: Mr. Veerpal Singh
Place of Sampling	: ETP-2 O/L (PR)

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	рH	-00	7.55	6.0-8.5	(S:3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	12.8	20.0	IS:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	100	125.0	IS:3025 (P 58)
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	8.2	15.0	IS:3025 (P-44)
5	Oil & Grease (O&G)	mg/L	BDL (LOQ-1.0)	5.0	IS:3025 (P-39)
6	Phenols(C ₆ H ₅ OH)	mg/L	0.24	0.35	IS:3025 (P-43)
7	Sulphide (S)	mg/L	0.42	0.5	IS: 3025 (P-29)
8	Total Kjeldahl Nitrogen (NH3)	mig/L	BDL (LOQ-0.2)	40	IS:3025 (P-34)
9	Phosphate	mg/L	0.94	3.0	15:3025 (P-31)
10	Chromium Hexavalent (Cr* ⁶)	mg/L	BDL (LOQ-0.05)	0.1	IS:3025 (P-52)
11	Copper (Cu)	mg/L	BDL (LOQ-0.1)	1.0	APHA -23" Ed.
12	Lead (Pb)	mg/L	0.06	0.1	APHA-23 ²⁵ Ed.
13	Mercury (Hg)	mg/L	BDL (LOQ-0.005)	0.01	APHA-23 ⁿ² Ed.
14	Zmc (Zn)	mq/L	2.18	5.0	APHA-23*1 Ed.
15	Nickel (Ni)	mg/L	0.68	1.0	APHA-23" Ed.

BDL-Below Detaction Level, LDQ-Level of Quantification that invest concentration of a substance that can be accurately measured when spectre desperanental concentration



(AUTHORISED SIGNATORY) (RAVINDER-MITTAL)

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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery Distt. Panipat, Haryana, INDIA Test Report No. 202108130111 lest Report Date; 23/68/2021

Sample Particulars:

Sample Quantity & Packaging	: 1.0 Liter, Pet Bottie		
Test Started on	14/08/2021		
Test Completed	21/08/2021		
Method of Sampling	: SOP/B/D-3		
Date of Sampling	: 13/08/2021		
Sampling Conducted By	: Mr. Veerpal Singh		
Place of Sampling	: ETP-2 O/L (PR)		

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	Ammonia (N)	mg/L	8.2	15.0	15-3025 (P-34)
2	Cyanide (CN)	mg/L	BDL (LOQ-0.1)	0.20	APHA-23 rd Ed.
3	Total Chromum	mg/L	BDL(LOQ-0.05)	2.0	15:3025 (P-52)
4	Vanadium (V)	mg/L	BDL(LOQ-0.1)	0.2	APHA-23" Ed.
5	Benzene	mg/L	BDL(LOQ-0.01)	0.1	APHA-23 rd Ed.
6	Benzo(a)-Pyreen	mg/L	DDL(LOQ-0.02)	0.2	APHA-23 ¹⁰ Ed.

BDL-Below Detection Limit, 10(2) Limit of Quarchisation, the medial sincerthation of a substance that can be accurately measured under specified experimental conductive BDL-Below Detection Limit, 10(2) Limit of Quarchisation, the medial sincerthation of a substance that can be accurately measured under specified experimental conductive set.

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery Distt. Panipat, Haryana, INDIA ULR No. 17C636621000001344 Test Report Date: 23/08/2021

Sample Particulars:

Sample Quantity & Packaging	: 1.0 Liter, Pet Bottle
Test Started on	14/08/2021
Test Completed	21/08/2021
Method of Sampling	. SOP/8/0-3
Date of Sampling	: 13/08/2021
Sampling Conducted By	: Mr. Veerpal Singh
Place of Sampling	: ETP-3 (PTA-ETP)

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH	ilie -	7.53	6.5-8.5	IS:3025 (P-11)
2	Total Suspended Solids (T\$S)	mg/L	68	100	15:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	140	250	15:3025 (P-58)
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	14.8	30	15:3025 (P-44)
5	Phenois(C ₄ H ₃ OH)	mg/L	0.07	<1	15:3025 (P-43)
6	Sulphide (S)	mg/L	1.4	2.0	IS:3025 (P-29)
7	Fluoride	m:⊴/L.	2.2	<5	IS:3025 (P 60)
8	Chromium Hexavalent (Cr+ ⁶)	mg/L	B0L(LOQ-0.05)	0.1	IS:3025 (P-52)



BDL-Beine Detection Limit LCO-Limit of Quantification. The lowest concentration of a substance that can be accurately measured unstar specified experimental ophations



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(RAVINDER MITTAL)

NOTE The second ary exceptions and exception of the result of the result installed in this way repeated with a second with the second of the s

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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery Distt, Panipat, Haryana, INDIA

Test: Report No: 202108130112 Test Report Date: 23/08/2021

Sample Particulars:

-1

Sample Quantity & Packaging	
Test Started on	1.0 Liter, Pet Bottle
Test Completed	14/06/2021
Method of Sampling	: 21/08/2021
Date of Sampling	SOP/B/D-3
Sampling Conducted By	: 13/68/2021
Place of Sampling	: Mr. Veerpal Singh
and a panifeitið	ETP-3 (PTA ETP)

Test Report

51. No.	Parameter				
	e arangeer	Unit	Result	Permissible Limits	Protocol
1	Cyanide (CN)				
		mg/L	BDL (LOQ-D.1)	0.20	APHA 23" Ed.
2	Total Chromium	ence fl	And a second second second		
		mg/L	BD1 (LOQ-0.05)	2.0	IS:3025 (P-52)

n (BBL-Below Decement 1 with LCO Centrol Quantification. The lowest condicipation of it substance that can be accurately measured under specified experimental conditions

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(RAVINDER MITTAL)

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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery Distt. Panipat, Haryana, INDIA

ULR No .: TC636	621000001575
Test Report Da	te: 22/09/2021

Sample Particulars:

Nitva

Work for Quality

Sample Quantity & Packaging	: 1.0 Liter, Pet Bottle
Test Started on	: 14/09/2021
Test Completed	: 21/09/2021
Method of Sampling	: SOP/B/D-3
Date of Sampling	: 13/09/2021
Sampling Conducted By	: Mr. Rishi Pal
Place of Sampling	: ETP-1 O/L (PR)

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	ald	3112	7.27	6.0-8.5	IS:3025 (P-11)
	pH Total Suspended Solids (TSS)	mg/L	17.8	20.0	IS:3025 (P-17)
2	Chemical Oxygen Demand (COD)	mg/L	56	125.0	IS: 3025 (P-58)
3	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	12	15.0	IS:3025 (P-44)
5	Oil & Grease (O&G)	mg/L	2	5.0	15:3025 (P-39)
6	Phenols(C ₆ H ₅ OH)	mg/L	0.28	0.35	IS:3025 (P-43
7	Sulphide (S)	mg/L	0.4	0.5	15:3025 (P-29)
8	Total Kjeldahl Nitrogen (NH3)	mg/L	BDL (LOQ-0.2)	40	IS:3025 (P-34)
9	Phosphate	mg/L	0.21	3.0	IS:3025 (P-31)
10	Chromium Hexavalent (Cr+6)	mg/L	BDL (LOQ-0.05)	0.1	IS:3025 (P-52)
	Copper (Cu)	mg/L	BDL (LOQ-0.1)	1.0	APHA -23rd Ed.
11		mg/L	0.08	0.1	APHA-23" Ed.
12	Lead (Pb)	mg/L	BDL (LOQ-0.005)	0.01	APHA-23 nd Ed.
13	Mercury (Hg)	rng/L	3.2	5.0	APHA-23rd Ed.
				1.0	APHA-23rd Ed.
14 15	Zinc (Zn) Nickel (Ni)	mg/L	0.53	Storie	1

Ftomark measured under sponhed ex BDL-Below Detection Limit 1.00-Limit of Quantification, the lowest concentra



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Test Report

Test Report No. 202109130110 Test Report Date: 22/09/2021
: 1.0 Liter, Pet Bottle
: 14/09/2021
; 21/09/2021
: SOP/8/D-3
: 13/09/2021
: Mr. Rishi Pal
: ETP-1 O/L (PR)

Test Report

r. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	Ammonia (N)	mg/L	7.4	15.0	IS:3025 (P-34)
2	Cyanide (CN)	mg/L	BDL (LOQ-0.1)	0.20	APHA-23 ^{tt} Ed.
3	Total Chromium	mg/L	BDL(LOQ-0.05)	2.0	IS:3025 (P-52)
4	Vanadium (V)	mg/L	BDL(LOQ-0.1)	0.2	APHA-23 ⁿ¹ Ed.
5	Benzene	mg/L	BDL(LOQ-0.01)	0.1	APHA-23" Ed.
6	Benzo(a)-Pyreen	mg/L	BDL(LOQ-0.02)	0.2	APHA-23 rd Ed.

BDL-Below Detection Line 1.00 Linet of Quantification, the lowest concentration of a substance, that can be accurately measured under specified experimental connections

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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division)	
Panipat Refinery	
Distt. Panipat, Haryana, INDIA	

ULR	No.: TC636621000001576
Test	Report Date: 22/09/2021

Sample Particulars:

Nitva

1

Work for Quality

Sample Quantity & Packaging	: 1.0 Liter, Pet Bottle
Test Started on	: 14/09/2021
Test Completed	: 21/09/2021
Method of Sampling	: SOP/B/D-3
Date of Sampling	: 13/09/2021
Sampling Conducted By	: Mr. Rishi Pal
Place of Sampling	: ETP-2 O/L (PR)

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	рн		8.23	6.0-8.5	15:3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	16.0	20.0	IS:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	88	125.0	IS:3025 (P-58)
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	14	15.0	IS:3025 (P-44)
5	Oil & Grease (O&G)	mg/L	2	5.0	IS: 3025 (P-39)
6	Phenois(C ₆ H ₅ OH)	mg/L	0.22	0.35	IS: 3025 (P-43)
7	Sulphide (S)	mg/L	0.42	0.5	IS: 3025 (P-29)
8	Total Kjeldahl Nitrogen (NH3)	mg/L	BDL (LOQ-0.2)	10	IS: 3025 (P-34)
9	Phosphate	mg/L	0.064	3.0	IS:3025 (P-31)
10	Chromium Hexavalent (Cr+6)	mg/L	BDL (LOQ-0.05)	0.1	IS: 3025 (P-52)
11	Copper (Cu)	mg/L	BDL (LOQ-0.1)	1.0	APHA -23'd Ed.
12	Lead (Pb)	mg/L	0.04	0.1	APHA-23" Ed.
13	Mercury (Hg)	mg/L	BDL (LOQ-0.005)	0.01	APHA-23 rd Ed.
14	Zinc (Zn)	mg/L	2 58	5.0	APHA-23 rd Ed.
15	Nickel (Ni)	mg/L	0.37	1.0	APHA-23rd Ed.

BDL Below Detection Limit 1.00-Limit of Quantification, the lowest concentration of a substance that can be accurately measured under sphothed experimental conductors



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Test Report

Test Report No: 202109130111 Test Report Date: 22/09/2021	
: 1.0 Liter, Pet Bottle	
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a second second and a second	12
Construction (Section 201	
: ETP-2 O/L (PR)	
	Test Report Date: 22/09/2021 : 1.0 Liter, Pet Bottle : 14/09/2021 : 21/09/2021 : SOP/B/D-3 : 13/09/2021 : Mr. Rishi Pal

Test Report

Parameter	Unit	Result	Permissible Limits	Protocol
Ammonia (N)	mg/L	0.258	15.0 -	IS:3025 (P-34)
Cyanide (CN)	mg/L	BDL (LOQ-0.1)	0.20	APHA-23 rd Ed.
Total Chromium	mg/L	BDL(LOQ-0.05)		15:3025 (P-52)
Vanadium (V)	mg/L	BDL(LOQ-0.1)		APHA-23 rd Ed.
Benzene	mg/L	BDL(LOQ-0.01)		APHA-23 rd Ed.
Benzo(a)-Pyreen	mg/L	100 1948 C 55480 A24 C 5548		APHA-23 rd Ed.
	Ammonia (N) Cyanide (CN) Total Chromium Vanadium (V) Benzene	Ammonia (N) mg/L Cyanide (CN) mg/L Total Chromium mg/L Vanadium (V) mg/L Benzene mg/L	Ammonia (N)mg/L0.258Cyanide (CN)mg/LBDL (LOQ-0.1)Total Chromiummg/LBDL(LOQ-0.05)Vanadium (V)mg/LBDL(LOQ-0.1)Benzenemg/LBDL(LOQ-0.1)	Ammonia (N)mg/L0.25815.0Cyanide (CN)mg/LBDL (LOQ-0.1)0.20Total Chromiummg/LBDL(LOQ-0.05)2.0Vanadium (V)mg/LBDL(LOQ-0.1)0.2Benzenemg/LBDL(LOQ-0.01)0.1

s BOL-Below Detection Lime, 1/OQ-Limit of Quantification, the lowest concentration of a substance that can be accurately measured under sceletion exponential concentration

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Place of Sampling

Test Report

Issued to: M/s Indian Oil Corporation Limited (Refinery Division) Panipat Refinery Distt. Panipat, Haryana, INDIA	ULR No.:TC536621000001577 Test Report Date: 22/09/2021
Sample Particulars:	
Sample Quantity & Packaging	: 1.0 Liter, Pet Bottle
Test Started on	: 14/09/2021
Test Completed	: 21/09/2021
Method of Sampling	: SOP/B/D-3
Date of Sampling	: 13/09/2021
Sampling Conducted By	: Mr. Rishi Pal
Place of Sampling	: ETP-3 (PTA-ETP)

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH		7.23	6.5-8.5	15:3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	25	100	15:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	136	250	15:3025 (P-58)
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	22	30	IS:3025 (P-44)
5	Phenois(C ₆ H ₅ OH)	mg/L	0.14	<1	IS:3025 (P-43)
6	Sulphide (S)	mg/L	1.6	2.0	IS:3025 (P-29)
7	Fluoride	mg/L	2.48	<5	IS:3025 (P-60)
8	Chromium Hexavalent (Cr+ ⁶)	mg/L	BDL(LOQ-0.05)	0.1	15:3025 (P-52)

BOL-Below Detection Linet, LOQ-Limit of Quantification, the lowest concentration of a substance that can be accurately measured under specified experimental conducts. Remark



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Test Report

Issued to: M/s Indian Oil Corporation Limited (Refinery Division) Panipat Refinery Distt. Panipat, Haryana, INDIA	Test Report No: 202109130112 Test Report Date: 22/09/2021	
Sample Particulars:		
Sample Quantity & Packaging	: 1.0 Liter, Pet Bottle	
Test Started on	: 14/09/2021	
Test Completed	: 21/09/2021	
Method of Sampling	: SOP/B/D-3	
Date of Sampling	: 13/09/2021	
Sampling Conducted By	: Mr. Rishi Pal	
Place of Sampling	: ETP-3 (PTA-ETP)	

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	Cyanide (CN)	mg/L	BDL (LOQ-0.1)	0.20	APHA-23rd Ed.
2	Total Chromium	mg/L	BDL(LOQ-0.05)	2.0	IS:3025 (P-52)

BDL Reliev Detection Limit 1.00% Limit of Quantificative, the invest rencentration of a substance that can be according transmission outper second according

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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery Distt. Panipat, Haryana, IND1A

ULR No.: TC636621000001914 Test Report Date: 16/10/2021

Sample Particulars:

Work for Quality

Sample Quantity & Packaging	: 1.0 Liter, Pet Bottle
Test Started on	: 07/10/2021
Test Completed	: 15/10/2021
Method of Sampling	: SOP/8/D-3
Date of Sampling	: 06/10/2021
Sampling Conducted By	: Mr. Rishi Pal
Place of Sampling	: ETP-1 O/L (PR)

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	рH		7.65	6.0-8.5	IS:3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	14.0	20.0	IS:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	60	125.0	IS:3025 (P-58)
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	8	15.0	IS:3025 (P-44)
5	Oil & Grease (O&G)	mg/L	3.8	5.0	IS: 3025 (P-39)
6	Phenois(CeH5OH)	mg/L	0.24	0.35	IS:3025 (P-43)
7	Sulphide (S)	mg/L	0.2	0.5	IS: 3025 (P-29)
8	Total Kjeldah! Nitrogen (NH3)	mg/L	60L (LOQ-0.2)	40	15:3025 (P-34)
9	Phosphate	mg/L	0.35	3.0	IS:3025 (P-31)
10	Chromium Hexavalent (Cr ⁻⁶)	mg/L	BDL (LOQ-0.05)	0.1	IS:3025 (P-52)
11	Copper (Cu)	mg/L	BDL (LOQ-0.1)	1.0	APHA -23" Ed.
12	Lead (Pb)	mg/L	0.06	0.1	APHA-23rd Ed.
13	Mercury (Hg)	mg/L	BDL (LOQ-0.005)	0.01	APHA-23 rd Ed.
14	Zinc (Zn)	mg/L	3.5	5.0	APHA-23 rd Ed.
15	Nickel (NI)	mg/L	0.41	1.0	APHA-23" Ed.

Remark End. Beine Detection Limit LOD Limit of Qualithication, this lowest concentration of a substance that our be accurately measured under specified experimental concentrations



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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery Distt. Panipat, Haryana, INDIA

Test Report No: 202110060110 Test Report Date: 16/10/2021

Sample Particulars:

Sample Quantity & Packaging	: 1.0 Liter, Pet Bottle
Test Started on	
Test Completed	: 07/10/2021
The second contraction of the second	: 15/10/2021
Method of Sampling	SOP/B/D-3
Date of Sampling	: 06/10/2021
Sampling Conducted By	: Mr. Rishi Pal
Place of Sampling	
WANNER FOR THE TREE TO FOR THE P	: ETP-1 O/L (PR)

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	Ammonia (N)	mg/L	5.8	15.0	IS:3025 (P-34
2	Cyanide (CN)	mg/L	BDL (LOQ-0.1)	0.20	APHA-23" Ed.
3	Total Chromium	mg/L	BDL(LOQ-0.05)	2.0	IS:3025 (P-52)
4	Vanadium (V)	mo/L	BDL(LOQ-0.1)	0.2	APHA-23" Ed.
5	Benzene	mg/L	BDL(LOQ-0.01)	0.1	APHA-23 rd Ed.
6	Benzo(a)-Pyreen	mg/L	BDL(LOQ-0.02)	0.2	APHA-23" Ed.

tion Limit, LOQ-Limit of Quartification. The lowest concentration of a substance triad can be accurately measured under specified appointmental conductors



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Test Report

Issued to: M/s Indian Oil Corporation Limited

(Refinery Division) Panipat Refinery Distt. Panipat, Haryana, INDIA ULR No.: TC636621000001916 Test Report Date: 16/10/2021

Sample Particulars:

Work for Quality

Sample Quantity & Packaging	: 1.0 Liter, Pet Bottle
Test Started on	07/10/2021
Test Completed	: 15/10/2021
Method of Sampling	SOP/B/D-3
Date of Sampling	: 06/10/2021
Sampling Conducted By	: Mr. Rishi Pal
Place of Sampling	: ETP-3 (PTA-ETP)
	lest Report

Sr. No. Parameter Unit Result Permissible Protocol Limits 1 pH 7.67 6.5-8.5 IS:3025 (P-11) 2 Total Suspended Solids (TSS) 54 mg/L 100 IS:3025 (P-17) 3 Chemical Oxygen Demand (COD) mg/L 160 250 IS:3025 (P-58) 4 Bio-Chemical Oxygen Demand (3 days at mgil 16.0 30 IS:3025 (P-44) 27°C) (BOD) 5 Phenols(C6H5OH) mg/L 0.16 <1 IS:3025 (P-43) 6 Sulphide (S) mg/L 1.8 2.0 IS:3025 (P-29) 7 Fluoride mg/L 2.82 <5 IS:3025 (P-60) 8 (Cr-0) Chromium Hexavalent BDL(LOQ-0.05) mg/L 0.1 IS:3025 (P-52)

Remark

RDC-Bellow Dataction Lunit; 100-Lunit of Duantification, the lowest concentration of a substance that can be accurately measured rated represented carefulors.



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Test Report

Issued to: M/s Indian Oil Corporation Limited (Refinery Division) Panipat Refinery Distt. Panipat, Haryana, INDIA	Test Report No: 202110050112 Test Report Date: 16/10/2021
Sample Particulars:	
Sample Quantity & Packaging	: 1.0 Liter, Pet Bottle
Test Started on	07/10/2021

Con provided on	: 07/10/2021
Test Completed	: 15/10/2021
Method of Sampling	: 50P/B/D-3
Date of Sampling	: 06/10/2021
Sampling Conducted By	: Mr. Rishi Pal
Place of Sampling	ETP-3 (PTA-ETP)

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	Cyanide (CN)	mg/L	BDL (LOQ-0.1)	0.20	APHA-23rd Ed.
2	Total Chromium	mg/L	BDL(LOQ-0.05)	2.0	IS:3025 (P-52)

remarks. BOL Below Detection Lime, LDO-Limit of Guantification, the lowest concentration of a substance that cart be accurately measured under specified experimental constructors



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	Test Report
Issued to: M/s Indian Oil Corporation Limited (Refinery Division) Panipat Refinery Distt. Panipat, Haryana, INDIA	ULR No.:TC636621000002315 Test Report Date: 26/11/2021
Sample Particulars:	
Sample Quantity & Packaging	: 1.0 Litre, Pet Bottle
Test Started on	: 18/11/2021
Test Completed	: 25/11/2021
Method of Sampling	: SOP/8/D-3
Date of Sampling	. 17/11/2021
Sampling Conducted By	: Mr. Rishi Pal
Place of Sampling	: ETP-1 O/L (PR)

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Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH		7.49	6.0-8.5	IS:3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	18.0	20.0	IS:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	70	125.0	15:3025 (P-58)
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	6	15.0	IS:3025 (P-44)
5	Oil & Grease (O&G)	mg/L	2.9	5.0	15:3025 (P-39)
6	Phenois(C ₆ H ₅ OH)	mg/L	0.21	0.35	IS:3025 (P-43)
7	Sulphide (S)	mg/L	0.26	0.5	IS:3025 (P-29)
8	Total Kjeldahl Nitrogen (NH3)	mg/L	BDL (LOQ-0.2)	40	IS:3025 (P-34)
9	Phosphate	mg/L	0.67	3.0	IS:3025 (P-31)
10	Chromium Hexavalent (Cr ⁻⁶)	mg/L	BDL (LOQ-0.05)	0.1	IS:3025 (P-52)
11	Copper (Cu)	mg/L	BDL (LOQ-0.1)	1.0	APHA -23rd Ed.
12	Lead (Pb)	mg/L	0.06	0.1	APHA-23rd Ed.
13	Mercury (Hg)	mg/L	BDL (LOQ-0.005)	0.01	APHA-23rd Ed.
15	Zinc (Zn)	mg/L	3.1	5.0	APHA-23'd Ed.
14	Nickel (Ni)	mg/L	0 67	1.0	APHA-23rd Ed.

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Remark: BDL-Below Detection Limit, LOO-Limit of Quantification, the towest concurritation of a substance true can be accurately measured under specified expe



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BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

Test Report

Test Report No: 202111170110
Test Report Date: 26/11/2021
: 1.0 Litre, Pet Bottle
: 18/11/2021
: 25/11/2021
: SOP/B/D-3
: 17/11/2021
: Mr. Rishi Pal
: ETP-1 O/L (PR)

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	Ammonia (N)	mg/L	3.8	15.0	IS:3025 (P-34)
2	Cyanide (CN)	mg/L	BDL (LOQ-0.1)	0.20	APHA-23 rd Ed.
3	Total Chromium	mg/L	BDL(LOQ-0.05)	2.0	15:3025 (P-52)
4	Vanadium, (V)	mg/L	BDL(LOQ-0 1)	0.2	APHA-23 rd Ed.
5	Benzene	mg/L	BDL(LOQ-0.01)	0.1	APHA-23rd Ed.
6	Benzo(a)-Pyreen	mg/L	BDL(LOQ 0.02)	0.2	APHA-23 rd Ed.

Remence BDI-Balow Dotection Limit, LOO-Limit of Quantification, the lowest concentration of a substance that can be accurately measured under specified experimental conditions



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Test Report

ULR No :TC636621000002316
Test Report Date: 26/11/2021
: 1.0 Litre, Pet Bottle
: 18/11/2021
: 25/11/2021
: SOP/8/D-3
: 17/11/2021
Mr. Rishi Pal
: ETP-2 O/L (PR)

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH	1	7.69	6.0-8 5	IS:3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	14	20.0	IS:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/	100	125.0	IS: 3025 (P-58
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	10	15.0	IS:3025 (P-44)
5	Oil & Grease (O&G)	mg/L	1.8	5.0	IS:3025 (P-39)
6	Phenols(C,H _c OH)	m/g/1	0.26	D.35	15:3025 (P-43)
7	Sulphide (S)	mg/L	0.3	0.5	15:3025 (P-29)
8	Total Kjeldahl Nitrogen (NH3)	mg/L	BDL (LOQ-0.2)	40	15:3025 (P-34)
9	Phosphate -	mg/L	0.43	3.0	IS:3025 (P-31)
10	Chromium Hexavalent (Cr ^{-h})	mg/L	BDL (LOQ-0.05)	0.1	IS:3025 (P-52)
11	Copper (Cu)	mg/L	BDL (LOQ-0.1)	1.0	APHA -23" Ed.
12	Lead (Pb)	mg/L	0.04	0.1	APHA-23 rd Ed.
13	Mercury (Hg)	mg/L	BDL (LOQ-0.005)	0.01	APHA-23'd Ed.
14	Zinc (Zn)	u.d.u	2.62	5.0	APHA-23 rd Ed
15	Nickel (Ni)	mg/L	0.84	1.0	APHA-23 rd Ed

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Test Report

Issued to: M/s Indian Oil Corporation Limited	Test Report No: 202111170111
(Refinery Division)	Test Report Date: 26/11/2021
Panipat Refinery	
Distt. Panipat, Haryana, INDIA	
Sample Particulars:	
Sample Quantity & Packaging	: 1.0 Litre, Pet Bottle
Test Started on	: 18/11/2021
Test Completed	: 25/11/2021
Method of Sampling	: SOP/B/D-3
Date of Sampling	: 17/11/2021
Sampling Conducted By	: Mr. Rishi Pal
Place of Sampling	: ETP-2 O/L (PR)
	Test Report

Protocol Permissible Result Sr. No. Parameter Unit Limits 15:3025 (P-34) 15.0 3.6 Ammonia (N). mg/L 1 APHA-23rd Ed. 0.20 BDL (LOQ-0.1) mg/L Cyanide (CN) 2 IS: 3025 (P-52) 2.0 BDL(LOQ-0.05) mg/L **Total Chromium** 3 APHA-23rd Ed. BDL(LOQ-0.1) 0.2 mg/L 4 Vanadium (V) APHA-23rd Ed. BDL(LOQ-0.01) 0.1 mg/L Benzene 5 APHA-23rd Ed. 0.2 BDL(LOQ-0.02) mg/L Benzo(a)-Pyreen 6

-

Remains BOL-Bries Detection Limit LOD-Limit of Duantification, the lowest containtration of a substance may contain the accurately measured under specified experimental care toms

NOTE: The aboratory access the responsibility for content of report. The results contained in this test report related only to the sample insted. Test report shall not be reproduted except in full val of the leopratory This NOTE: The laboratory access the responsibility for content of report. The results contained in this test report sealed only to the tample tested. Test report shall not be reproduted except in full, will obmail access of the incompany access the responsibility for content of report. This report shall not be reproduced except in full without the united approxited except and not for incompany. This report shall be reproduced end of the voltage will be destroted after 30 days from the cute of responsibility for contents specified. Any completents about the reproduced except in full without the united approxited except and not for incompletent specified except and access and not for incompletent specified. Any completents about the report shall be communicated in writing within 7 days of noun of the report. Total without the tamper of helps Laboratores (a fund) without the united approxite of the laboratores (a fund) without the united approxited except and not for in Addle Score and except the access of hereines specified. Any completion (negative) and/or the control and/or the united approximation of the laboratores (a fund) without the united approximation of the laboratores (a fund) without the united approximation of the laboratores (a fund) without the united approximation of the laboratores (a fund) without the united approximation of the laboratores (a fund) without the united approximation of the laboratores (a fund) without the united approximation of the laboratores (a fund) without the united approximation of the laboratores (a fund) without the united approximation of the laboratores (a fund) without the united approximation of the laboratores (a fund) without the united approximation of the laboratores (a fund) without the united approximation of the laboratores (a fund) without the united approximation of the laboratores (a fund) without the united approximation of the laboratores (a fund) without the united approximation of the laboratores (a fund) without the united approximation of the laboratores

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BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB

Test Report

Issued to: M/s Indian Oil Corporation Limited (Refinery Division)	ULR No.:TC636621000002317 Test Report Date: 26/11/2021	
Panipat Refinery		
Distt. Panipat, Haryana, INDIA		
Sample Particulars:		
Sample Quantity & Packaging	: 1.0 Litre, Pet Bottle	
Test Started on	: 18/11/2021	
Test Completed	. 25/11/2021	
Method of Sampling	: SOP/B/D-3	
Date of Sampling	: 17/11/2021	
Sampling Conducted By	: Mr. Rishi Pal	
Place of Sampling	: ETP-3 (PTA-ETP)	
Frace of Sumpring	Test Report	

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
			7.92	6.5-8.5	15:3025 (P-11)
1	pH		68	100	IS:3025 (P-17)
2	Total Suspended Solids (TSS)	mg/L			Contraction of the second
3	Chemical Oxygen Demand (COD)	mg/L	180	250	IS:3025 (P-58)
4	Bio-Chemical Oxygen Demand (3 days at	mg/L	18.0	30	IS:3025 (P-44)
	27°C) (BOD)	mg/L	0.26	<1	IS: 3025 (P-43)
5	Phenols(C ₆ H ₅ OH)	mg/L	1.4	. 2.0	IS:3025 (P-29)
6	Sulphide (S)		3.57	<5	IS.3025 (P-60)
7	Fluoride	mg/L	3.31	3.	and a second second second
8	Chromium Hexavalent (Cr.5)	mg/L	BDL(LOQ-0.05)	0.1	IS:3025 (P-52)

Remark: BDL-Below Detection Limit, LOO-Limit of Ocantification, the lowest concentration of a substance that can be accurately measured under specified experimental conditions



0 TORY (AUTHORISED SIGN 7 (RAVINDER MITTAL)

NOTE. The laboratory activity determined in the content of report. The regular contrained in this test report related, one to be service table? That report out as to result determined except in hit, written approval of the to report at the report relation of the top include accept in hit. Written approval of the top include accept in hit, written approval of the top include accept in hit. Written approval of the top include accept in hit. Written approval of the top include accept in hit. Written approval of the top include accept in hit. Written approval of the top include accept in hit. Written approval of the top include accept in hit. Written approval of the top include accept in hit. Written approval of the organization accept in the organization accept include accept in hit. Written approval of the organization accept in the organization accept and include accept in the organization accept and the top interval accept in the organization accept accept accept and interval accept ac al of the laboratory. The IN LALE OF inconty. * not in MAGE Scope

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Test Report

(Refinery Division) Panipat Refinery Distt. Panipat, Haryana, INDIA	Test Report No: 202111170112 Test Report Date: 26/11/2021
Sample Particulars:	
Sample Quantity & Packaging	: 1.0 Litre. Pet Bottle
Test Started on	: 18/11/2021
Test Completed	: 25/11/2021
Method of Sampling	: SOP/B/D-3
Date of Sampling	: 17/11/2021
Sampling Conducted By	: Mr. Rishi Pal
Place of Sampling	: ETP-3 (PTA-ETP)

Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	Cyanide (CN)	mg/L	BDL (LOQ-0.1)	0.20	APHA-23rd Ed.
2	I otal Chromium	mg/L	BDL(LOQ-0.05)	2.0	IS:3025 (P-52)

Issued to: M/c Tadia

Remark
BDL-Balew Detection Limit, LOQ-Limit of Quantification the lowest concentration of a substance that can be accurately muchum d under specified experimental conduces



NOTE: The laboratory accepts the responsibility for contant of report. The results contained in this tost report related only to the sample tested. Lest report that not be responsed access in Ref. without infilled approve of the report of t THE OF THE LADORATION. THE tays from the date of NOT IN NAME STOOL

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TLV for Noise (OISD-GDN-166, First Edition, July, 1997)

Exposure Time (In hours)	TLV (in dB)
8	90
4	95
2	100
1	105
1/2 hrs.	110
METER MODEL NO RT.5001	

SOUND LEVEL METER MODEL NO. :- RT-5001

METER SR. NO .: - 111102404

MAKE: REYTHON TECHNOLOGY

CALIBRATION ON:- 10.12.2020

NEXT DUE DATE OF CLIBRATION:-10.12,2021

S.NO	Plant/Unit	Area	Source	Sound Level(dB)	DATE
1	SRU-I	21-PM-CF-002-A	PUMP	84.3	02.12.2021
2	SRU-I	21-PM-CF-001-C	PUMP	86.7	02.12.2021
3	SRU-I	21-PM-CF-003-C	PUMP	89.9	02.12.2021
4	SRU-I	21-PM-CF-007-A	PUMP	87.3	02.12.2021
5	SRU-I	18-PA-CF-004-B	PUMP	87.5	02.12.2021
1	SRU-II	51-PM-104-8	PUMP	87.8	02.12.2021
2	SRU-II	51-PM-109-B	PUMP	89.1	02.12.2021
3	SRU-II	53-PM-103-A	PUMP	88.4	02.12.2021
4	SRU-II	53-PM-103-R	PUMP	86.7	02.12.2021
5	SRU-II	54-PM-103-B	PUMP	85.1	02.12.2021
6	SRU-II	54-PM-102-A	PUMP	87.4	02.12.2021
7	SRU-II	57-PM-101-A	PUMP	90	02.12.2021
8	SRU-II	57-PM-103-A	PUMP	90	02.12.2021
9	SRU-II	57-PM-102-B	PUMP	89.9	02.12.2021
10	SRU-II	26-KM-101-B	COMPRESSOR	88.5	02.12.2021
11	SRU-II	57-KM-101-B	COMPRESSOR	90	02.12.2021
12	SRU-II	57-KM-101-A	COMPRESSOR	89.9	02.12.2021
13	SRU-II	20-PM-103-B	PUMP	89.7	02.12.2021
14	SRU-II	20-PM-102-A	PUMP	88.9	02.12.2021
15	SRU-II	25-PM-109-B	PUMP	87.9	02.12.2021
16	SRU-II	25-PM-108-B	PUMP	88	02.12.2021
17	SRU-II	88-PM-1002-B	PUMP	89.6	02.12.2021
18	SRU-II	26-PM-101-B	PUMP	86	02.12.2021
19	SRU-II	26-PM-103-A	PUMP	89.7	02.12.2021
20	SRU-II	26-PM-102-A	PUMP	90	02.12.2021
1	MSQ.	301-KM-201-B	COMPRESSOR	77.9	03.12.2021
2	MSQ	301-KM-101-A	COMPRESSOR	76.2	03.12.2021
3	MSQ	301-PM-101-8	PUMP	83	03.12.2021
4	MSQ	303-PM-206-A	PUMP	79.6	03.12.2021
5	MSQ	303-PM-202-A	PUMP	84.5	03.12.2021
6	MSQ	303-PM-102-A	PUMP	84.7	03.12.2021
7	MSQ	303-PM-204-8	PUMP	86.2	03.12.2021
8	MSQ	303-PM-202-B	PUMP	87.5	03.12.2021
9	MSQ	303-PM-101-B	PUMP	85.8	03.12.2021
10	MSQ	303-PM-210-A	PUMP	85	03.12.2021
11	MSQ	301-PM-211-B	PUMP	83.6	03.12.2021
12	MSQ	301-PM-213-A	PUMP	83	03.12.202
13	MSQ	301-PM-214-B	PUMP	81.9	03.12.202
14	MSQ	301-PM-212-B	PUMP	84.2	03.12.202
	MSQ	301-PM-201-A	PUMP	88.5	03.12.202
15		301-PM-203-A	PUMP	83.5	03.12.202
16	MSQ	301-PM-215-A	PUMP	82.4	03.12.202
17	MSQ	301-PM-215-A 301-PM-254-A	PUMP	81	03.12.202

19	MSQ	301-PM-253-B	PUMP	88.8	03.12.2021
20	MSQ	303-K-201-B	COMPRESSOR	80	03 12 2021
21	MSQ	UNDER COMPRESSOR HOUSE	COMPRESSOR	77.9	03.12.2021
22	MSQ	303-K-301-B	COMPRESSOR	89.7	03.12.202
23	MSQ	303-P-303-A	PUMP	82.7	03.12.202
24	MSQ	303-P-301-A	PUMP	87.8	03.12.2021
25	MSQ	303-P-111-A	PUMP	84.2	03.12.202
		A C PR AND A PROV			
1	DHDT	72-PM-003-8	PUMP	90	04.12.2021
2	DHDT	72-P-02-C	PUMP	85.7	04.12.2021
3	DHDT	72-PM-004-A	PUMP	87.9	04.12.2021
4	DHDT	72 PM-005-8	PUMP	87.7	04.12.2021
5	DHDT	72-PM-007-8	PUMP	88.3	04.12.2021
6	DHDT	UNDER COMP. HOUSE	COMPRESSOR	85.5	04.12.2021
7	DHDT	72-KM-002-A	COMPRESSOR	85.6	04.12.2021
8	DHDT	72-KM-002-B	COMPRESSOR	88.3	04.12.2021
9	DHDT	72-PM-001-A	PUMP	83.5	04.12.2021
1	HGU-II (75)	76-P-103-B	PUMP	or e	
2	HGU-II (76)	76-KM-001-B	COMPRESSOR	85.8	04.12.2021
3	HGU-II (76)	76-KM-103-A	COMPRESSOR	77.9	04.12.2021
4	HGU-II (76)	UNDER COMP. HOUSE	COMPRESSOR	78.7	04.12.2021
5	HGU-II (76)	76-P-002-A	PUMP	77.2	04.12.2021
6	HGU-II (76)	76-P-101-B	PUMP	89.8	04.12.2021
100			THE R. L.		100
1	CPP/TPS	UB CONTROL ROOM	CONTROL ROOM	64.2	07.12.2021
2	CPP/TPS	VHP CONTROL ROOM	CONTROL ROOM	69.3	07.12.2021
3	CPP/TPS	GTG-3	GENERATOR	92.5	07.12.2021
4	CPP/TPS	GTG-2	GENERATOR	92.8	07.12.2021
5	CPP/TP5	BOILER NO.1 STG	BOILER	92.8	07.12.2021
6	CPP/TP5	BOILER NO.3 STG	BOILER	89.8	07.12.2021
7	CPP/TPS	9060-39-FD-FM-101-A	FD FAN 1 A	89.6	07.12.2021
8	CPP/TPS	9060-39-FD-FM-101-B	FD FAN 1 B	87.5	07.12.2021
9	CPP/TP5	9060-39-ID-PM-101-B	ID FAN	85.6	07.12.2021
10	CPP/TPS	9060-39-ID-PM-101-A	ID FAN	87	07.12.2021
11 12	CPP/TPS	9060-39-PM-CF-408-8	PUMP	80.9	07.12.2021
12	CPP/TP5	9060-89-PM-CF-608-B	PUMP	85.5	07.12.2021
13	CPP/TP5 CPP/TPS	9060-89-PM-CF-508-A	PUMP	87.7	07.12.2021
15	CPP/TPS CPP/TPS	89 PM CF 808-A	PUMP	84.1	07.12.2021
15	the second s	9060-89-FD-FM-1103-A	FD FAN	87.2	07.12.2021
10	CPP/TPS CPP/TPS	9060-39-ID-FM-301-B	ID FAN 3 B	85	07.12.2021
18	CPP/TPS CPP/TPS	9060-39-FD-FM-301-B	FD FAN 3 B	87	07.12.2021
19	CPP/TPS CPP/TPS	9060-39-FD-FM-301-A	FD FAN 3 A	89.9	07.12.2021
20	CPP/TPS CPP/TPS	9060-39-PM-CF-457-8	PUMP	89.8	07.12.2021
20	CPP/TPS CPP/TPS	9060-89-PA-CF-9904-A	PUMP	89	07.12.2021
22		9060-89-PA-CF-9904-C	PUMP	88.7	07.12.2021
	CPP/TPS	9060-89-PA-CF-9902-A	PUMP	89.4	07.12.2021
23	CPP/TPS	9060-89-FD-FM-1103-B	FD FAN	89.4	07.12.2021

S.NO	Plant/Unit	Area	Source	Sound Level(dB)	DATE
1	AVU-I	03-PM-CF-103-C	PUMP	89.8	05.11.2021
2	AVU-I	03-PM-CF-103-A	PUMP	90	05.11.2021
3	AVU-I	03-P-22-A	PUMP	89.4	05.11.2021
4	AVU-I	03-PM-CF-21-A	PUMP	93.5	05.11.2021
5	AVU-I	03-P-102-A	PUMP	94.2	05.11.2021
6	AVU-I	03-P-61-8	PUMP	90	05.11.2021
7	AVU-I	03-PM-CF-16-B	PUMP	93.8	05.11.2021
8	AVU-I	03-PM-CF-15-B	PUMP	94.6	05.11.2021
9	AVU-I	03-PM-CF-5-B	PUMP	97.2	05.11.2021

10	AVU-I	03-PM-CF-4-8	PUMP	98.6 89.6	05.11.2021
11	AVU-I	03-P-13-A	PUMP	93.8	05.11.2021
12	AVU-I	04-P-04-B		90	05.11.2021
13	AVU-I	03-P-07-B	PUMP	93.8	05.11.2021
14	AVU-I	03-PM-CF-7-A	PUMP	94.6	05.11.2021
15	AVU-I	04-P-02-B	PUMP	90	05.11.2021
16	AVU-l	04-PM-CF-3-D	PUMP	89.5	05.11.2021
17	AVU-I	04-FF-FN-04	ID FAN	86.9	05.11.2021
18	AVU-I	04-FF-FN-03-A	FD FAN	84.5	05.11.2021
19	AVU-I	04-FF-FN-03-8	FD FAN	88.1	05.11.2021
20	AVU-I	03-FF-FN-04	ID FAN FD FAN	85.2	05.11.2021
21	AVU-I	03-FF-FN-03-B	FD FAN	84.2	05.11.2021
22	AVU-I	03-FF-FN-03-A	PUMP	89.9	05.11.2021
23	AVU-I	03-P-9-A	PUMP	89.8	05.11.2021
24	AVU-I	03-P-9-8	PUMP	99.8	05.11.2021
25	AVU-I	03-PM-CF-14-A	PUMP	90	05.11.2021
26	AVU-I	03-PM-CF-14-D	PUMP	89.9	05.11.2021
27	AVU-I	03-PM-CF-8-A	PUMP	95.1	05.11.2021
28	AVU-1	03-PM-CF-6-A	PUMP	96.2	05.11.2021
29	AVU-I	03-PM-CF-6-B	PUMP	93.6	05.11.2021
30	AVU-I	03-PM-CF-8-B		89.5	05.11.2021
31	AVU-I	19-PM-CF-01-B	PUMP	93.4	05.11.2021
32	AVU-I	03-P-35-A	PUMP	93.1	05.11.2021
33	AVU-I	03-PM-CF-36-B	PUMP	90	05.11.2021
34	AVU-I	04-P-101-A	PUMP	93.4	05.11.2021
35	AVU-I	03-PM-CF-11-8	PUMP	96	05.11.2021
36	AVU-I	03-P-01-B 03-P-01-C	PUMP	95.2	05.11.2021
37	AVU-I	03-P-01-C		THE HALF PLAN	A ST ST
M. A.	074	21-P1-125-A	PUMP	86.1	09.11.2021
1	PTA	Process Air Compressor	COMPRESSOR	104.5	09.11.2021
2	PTA	21-FN-164-A	FO FAN	89.5	09.11.2021
3	PTA	21-FN-165	FD FAN	89.4	09.11.2021
4	PTA	21-P1-0512	PUMP	88.9	09.11.2021
5	PTA	21-P1-632-B	PUMP	88.8	09.11.2021
6	PTA	21-P1-407-B	PUMP	87.8	09.11.2021
7	PTA	21-P1-1605-B	PUMP	90	09.11.2021
8	PTA	21-P1-165-A	PUMP	89.9	09.11.2021
1.2.2.1	PTA	21-P1-606-A	PUMP	90	09.11.2021
10	PTA	21-P1-607-B	PUMP	92.5	09.11.2021
11	PTA	P1-1207-A	PUMP	90	09.11.2021
12	PTA	P1-1209-A	PUMP	89.9	09.11.2021
15	PIA	P1-1209-D	PUMP	89.8	09.11.2021
15	PTA	P1-1209-D	PUMP	89.7	09.11.2021
16	PTA	K1-1260	ID FAN	86.6	09.11.2021
10	PTA	FN-1259-A	FD FAN	88.7	09.11.2021
18	PTA	FN-1259-B	FD FAN	89.1	09.11.2021
19	PTA	21-P1-1251-C	PUMP	88.8	09.11.2023
20	PTA	21-P1-1251-A	PUMP	89.5	09.11.2021
20	PTA	21-P1-1407	PUMP	88.7	09.11.2021
22	PTA	21-P1-1602-B	PUMP	89.6	09.11.2021
23	PTA	21-P1-1616-B	PUMP	88.2	09.11.202
	PTA	P1-1410-B	PUMP	88.7	09.11.202
24	PIA	21-P1-1420-A	PUMP	85	09 11.202
		P1-2301-A	PUMP	89.8	09.11.202
26	PTA	P1-1816-B	PUMP	90	09.11.202
27	PTA		PUMP	89.6	09.11.202
28	PTA	21-P1-2202-A		89.9	09.11.202
29	PTA	21-P1-2210-8	PUMP		09.11.202
	PTA	21-P1-2625-8	PUMP	90	
30					
30 31	PTA	21-K1-830-A	COMPRESSOR PUMP	86.7 87.6	09.11.20

33	PTA	21-P1-2401-B	PUMP	88.1	09.11.2021
34	PTA	Near Combuster Heater	COMPRESSOR	103.1	09.11.2021
1			SPACE BIRGHT		
2	PX-I	202-P-10-A	PUMP	85.4	12.11.2021
3	PX-I	202-PM-16-A	PUMP	87.1	12.11.2021
	PX-I	202-PM-02-A	PUMP	84.4	12.11.2021
4	PX-I	202-P-01-B	PUMP	88.6	12.11.2021
5	PX-I	202-P-03-A	PUMP	88	12.11.2021
6	PX-I	202-P-04-P	PUMP	87.5	12.11.2021
7	PX-I	201-PM-01-A	PUMP	90	12.11.2021
8	PX-I	201-P-08-B	PUMP	89.4	12.11.2021
9	PX-I	201-P-02-A	PUMP	87.6	12.11.2021
10	PX-I	202-KM-2-A	COMPRESSOR	89.6	12.11.2021
11	PX-I	202-KM-4	COMPRESSOR	89.1	12.11.2021
12	PX-I	202-KM-3	COMPRESSOR	89.3	12.11.2021
13	PX-I	201-KM-1-A	COMPRESSOR	88.5	12.11.2021
2.962				50.5	12.11.2021
1	PX-II	205-P-101-8	PUMP	88.3	12.11.2021
2	PX-II	205 PM-02-A	PUMP	90	12.11.2021
3	PX-II	205-PM-02-B	PUMP	89.8	12.11.2021
4	PX-II	205-P-04-B	PUMP	89.4	12.11.2021
5	PX-II	205-P-08-B	PUMP	89.7	and the second sec
6	PX-II	206-P-07-B	PUMP	88.8	12.11.2021
7	PX-II	207-PM-01-B	PUMP	83.5	12.11.2021
8	PX-II	205-P-03-A	PUMP	89.5	12.11.2021
9	PX-II	205-PM-07-B	PUMP	and the second se	12.11.2021
10	PX-II	206-PM-03-8	PUMP	90	12.11.2021
11	PX-II	205-PM-06-A	PUMP	89.9	12.11.2021
12	PX-II	205-PM-05-A	PUMP	89.1	12.11.2021
13	PX-II	206-PM-04-C	PUMP	82.1	12.11.2021
14	PX-II	206-PM-04-A	PUMP	83.6	12.11.2021
15	PX-II	206-PM-02-B	PUMP	83.9	12.11.2021
16	PX-II	206-FN-02	FD FAN	90	12.11.2021
17	PX-II	206-FN-01	FD FAN	91.2	12.11.2021
18	PX-II	206-FN-03		90	12.11.2021
19	PX-11	207-PM-04-B	ID FAN PUMP	89.7	12.11.2021
20	PX-II	207-PM-02-A	1.0.0	89.7	12.11.2021
21	PX-II	207-PM-03-A	PUMP	89.3	12.11.2021
22	PX-II	208 KM-01	PUMP COMPRESSOR	88.9	12.11.2021
23	PX-II	208-P-03-A		87	12.11.2021
24	PX-II	208-P-02-A	PUMP	88.2	12.11.2021
25	PX-II	208-P-01-A	PUMP	87.4	12.11.2021
26	PX-II	206-P-013-A	PUMP	89.8	12.11.2021
	III SANGARAN IN	2007-013-4	PUMP	87.5	12.11.2021
1	RFCCU	12-KM-001-A	COMPRESSON	00.4	
2	RFCCU	07-P-002-A	COMPRESSOR	89.1	20.11.2021
3	RFCCU	07-PM-CF-302-B	PUMP	90	20.11.2021
4	RFCCU	07-PM-CF-212-B	PUMP	89.5	20.11.2021
5	RFCCU	07-PM-CF-209-A	PUMP	87.4	20.11.2021
6	RFCCU		PUMP	89.1	20.11.2021
; +	RFCCU	07-PM-CF-202-A	PUMP	90.1	20.11.2021
		07-PM-CF-207-B	PUMP	89.6	20.11.2021
3	RFCCU	07-PM-CF-202-B	PUMP	90	20.11.2021
	RFCCU	07-PM-CF-201-B	PUMP	89	20.11.2021
	RFCCU	07-PM-CF-303-A	PUMP	89.1	20.11.2021
1	RFCCU	07-PM-CF-303-B	PUMP	87.1	20.11.2021
2	RFCCU	07-PM-CF-204-B	PUMP	90	20.11.2021
3	RFCCU	07-PM-CF-205-A	PUMP	89.9	20.11.2021
4	RFCCU	07-PM-CF-305-A	PUMP	89.5	20.11.2021
5	RFCCU	07-PM-CF-203-A	PUMP	89.6	20.11.2021
5	RFCCU	07-PM-CF-311-A	PUMP	87	20.11.2021
7	RFCCU	07-PM-CF-305-A	PUMP	87.9	20.11.2021

18	RFCCU	07-PM-CF-210-A	PUMP	90	20.11.2021
	RECCU	07-PM-CF-210-B	PUMP	89.9	20.11.2021
19	NI COU	The second second second second second			
1	CCRU	KA-RP-202-A	COMPRESSOR	86,9	22.11.2021
2	CCRU	KA-RP-301-A	COMPRESSOR	90	22.11.2021
3	CCRU	KA-RP-202-C	COMPRESSOR	80.9	22.11.2021
4	CCRU	KA-RP-101-A	COMPRESSOR	86.7	22.11.2021
5	CCRU	UNDER COMPRESSOR HOUSE	COMPRESSOR	81.9	22.11.2021
6	CCRU	08-KM-RP-303-8	COMPRESSOR	82.6	22.11.2021
7	CCRU	08-PM-CF-202-A	PUMP	85.6	22.11.2021
/	CCRU	08-PM-CF-104-A	PUMP	84.8	22.11.2021
8	27.7.0.7%	08-PM-CF-102-A	PUMP	87.4	22.11.2021
9	CCRU	08-PM-CF-203-8	PUMP	89.8	22.11.2021
10	CCRU		PUMP	90	22.11.2021
11	CCRU	08-PM-CF-201-8	PLIMP	88.5	22.11.2021
12	CCRU	08-PM-CF-204 A	PUMP	88.3	22.11.2021
13	CCRU	08-PM-CF-101-A	PUMP	89.1	22.11.2021
14	CCRU	08-PM-CF-105-A		89.9	22.11.2021
15	CCRU	08-PM-CF-701-A	PUMP	02.2	

-		Noise survey of Target un	Source	Sound Level(dB)	DATE
S.NO	Plant/Unit	Area	PUMP	91.8	04.10.2021
1	онси	05-PMRC-07-F	PUMP	87.8	04.10.2021
2	онси	P-001-A	PUMP	91.5	04.10 2021
3	OHCU	05-PM-CF-503-B	PUMP	95.2	04.10.2021
4	OHCU	05-PM-CF-511-A	PUMP	93.8	04.10.2021
5	OHCU	05-PM-CF-301-A	PUMP	94.6	04.10.2021
6	OHCU	05-PM-CF-504-B	PUMP	94.2	04.10 2021
7	OHCU	05-PM-CF-501-A	PUMP	92.1	04.10.2021
8	OHCU	05-PM-CF-505-A		93.8	04.10.2021
9	OHCU	05-PM-CF-508-A	PUMP	91.3	04.10.2021
10	OHCU	05-PM-CF-502-B	PUMP	91.8	04.10.2021
11	OHCU	05-PM-CF-507-A	PUMP	91.2	04.10.2021
12	OHCU	05-PM-CF-506-A	PUMP	91.5	04.10.2021
13	OHCU	05-PM-CF-510-A	PUMP	85.8	04.10.2021
14	OHCU	05-PM-CF-509-B	PUMP	81.5	04.10.2021
15	OHCU	05-PM-CF-529-A	PUMP	.10	AL MELSE
Section 1	State of Heating State	New York Products and the		89.9	04.10.2021
1	HGU-1	06-P-202-A	PUMP	89.4	04.10.2021
2	HGU-1	06-P-203-B	PUMP	82	04.10.2021
3	HGU-1	06-KA-203-A	ID FAN	86.2	04.10.2021
4	HGU-1	06-KA-202	ID FAN	81	04.10.2021
5	HGU-1	06-KA-201	FD FAN	10	04.20.2023
-	CONTRACTOR BO	HONORAN CONTRACT		10.2	05.10.2021
1	AVU-II	73-FN-002	ID FAN	79.3	05.10.2021
2	AVU-II	73-FN-02	ID FAN TURBINE	93.5	05.10.2021
3	AVU-II	73-FN-001	ID FAN	93.1	05.10.2021
and the second second	AVU-II	73-FN-01	ID FAN	89.2	05.10.2021
4	AVU-II	74-PM-05-8	PUMP	89.7	05.10.2021
5	AVU-II	74-PM-05-A	PUMP	88.5	05.10.2021
	AVU-II	73-PM-10-B	PUMP	89.2	05.10.2023
7	AVU-II	73-PM-10-A	PUMP	88.9	
8	AVU-II	74-PM-01-B	PUMP	86.3	05.10.2023
9		74-PM-02-B	PUMP	88.6	05.10.202
10	AVU-II	73-P-013-C	PUMP	88.7	05.10.2021
11	AVU-II	73-P-013-B	PUMP	88.8	05.10.2023
12	AVU-II	73-P-09-C	PUMP	93.8	05.10.202
13	AVU-II		PUMP	85.6	05.10.202
14	AVU-II	73-PM-08-B	PUMP	88.4	05.10.202
15	AVU-II	74-PM-06-A	PUMP	89.3	05.10.202
16	AVU-II	74-PM-06-B		94.5	05,10.202
17	AVU II	59-PM-01-A	PUMP	34.5	

18	AVU-II	59-PM-02-B	PUMP	1	
19	AVU-II	73-PM-14-B	PUMP	89.7	05.10.2021
20	AVU-II	73-PM-02-D	PUMP	86.3	05.10.2021
21	AVU-II	73-PM-02-B	PUMP	88.3	05.10.2021
22	AVU-II	73-PM-02-A	PUMP	85.9	05.10.2021
23	AVU-II	73-PM-003-A	PUMP	87	05.10.2021
24	AVU-II	73-PM-032-A	PUMP	83.3	05.10.2021
25	AVU-II	73-PM-024-B	PUMP	90.1	05.10.2021
26	AVU-II	73-PM-811-C	PUMP	86.8	05.10.2021
27	AVU-II	74-PM-04-A	PUMP	84.8	05.10.2021
28	AVU-II	73-P-01-A	PUMP	89	05.10.2021
29	AVU-II	73-P-01-B		85.3	05.10.2021
30	AVU-II	73-P-01-D	PUMP	86.2	05.10.2021
31	AVU-II	73-PM-04-A	PUMP	88.5	05.10.2021
32	AVU-II	73-PM-015-B	PUMP	88	05.10.2021
33	AVU-II	59-PM-04-B		89.9	05.10.2021
34	AVU-II	73 P-012-A	PUMP	87.4	05.10.2021
35	AVU-II	73-P-006-A		85	05.10.2021
36	AVU-II	73-PM-036-A	PUMP	88.7	05.10.2021
37	AVU-II	73-P-007-A	PUMP	87.7	05.10.2021
38	AVU-II	74-P-007-A		85.7	05.10.2021
39	AVU-II	74-P-03-A	PUMP	84.2	05.10.2021
40	AVU-II	74-P-03-C	PUMP	83.1	05.10.2021
41	AVU-II	73-PM-020-A		88.7	05.10.2021
42	AVU-II	73-PM-05-B	PUMP	88,9	05.10.2021
12010		1511105-0	PUMP	88.1	05.10.2021
1	HCU	75-FN-103	ID FAN	01.0	A MARKEN AND
2	HCU	75-FN-102	ID FAN ID FAN	81.9	06.10.2021
3	HCU	75-FN-101	ID FAN	80.7	06.10.2021
4	нси	75-PM-106-8	PUMP	82	06.10.2021
5	HCU	75-PM-107-A	PUMP	86.8	06.10.2021
6	HCU	75-PM-111-B	PUMP	93.1	05.10.2021
7	HCU	75-PM-104-A	PUMP	92	05.10.2021
8	HCU	75-PM-103-8	PUMP	89.9	06.10.2021
9	HCU	75-PM-102-A	PUMP	89.8	06.10.2021
10	HCU	75-PM-113-8	PUMP	91.2	06.10.2021 05.10.2021
11	HCU	75-PM-114-B	PUMP	92.3	06.10.2021
12	HCU	75-PM-112-B	PUMP	89.8	06.10.2021
13	HCU	75-PM-116-8	PUMP	96.5	06.10.2021
14	HCU	75-PM-115-8	PUMP	89.7	06.10.2021
15	HCU	75-PM-201-B	PUMP	89.8	06.10.2021
16	HCU	75-K-002-A	COMPRESSOR	92.1	06.10.2021
17	HCU	75-К-002-В	COMPRESSOR	92.8	06.10.2021
18	HCU	UNDER COMP. HOUSE	COMPRESSOR	88.4	06.10.2021
19	HCU	75-PT-2034	PUMP	78.5	06.10.2021
20	HCU	75-P-001-A	PUMP	84.6	06.10.2021
- 10		Subject the specific set in	A State of the second state of the	- Internation	CONTRACT OF
1	DCU	PB-79-PM-01-8	PUMP	80.7	12.10.2021
2	DCU	78-PM-135-B	PUMP	88.1	12.10.2021
3	DCU	78-PM-148-B	PUMP	87.3	12.10.2021
4	DCU	78-PM-131-A	PUMP	87.4	12.10.2021
5	DCU	78-PM-112-A	PUMP	89.9	12.10.2021
6	DCU	78-PM-105-A	PUMP	89.9	12.10.2021
7	DCU	78-PM-113-B	PUMP	87.9	12.10.2021
8	DCU	78-PM-124-B	PUMP	86.9	12.10.2021
9	DCU	78-PM-111-A	PUMP	88.3	12.10.2021
0	DCU	78-PM-161-B	PUMP	88	12.10.2021
1	DCU	78-PM-122-B	PUMP	89.4	12.10.2021
2	DCU	78-PM-109-A	PUMP	88.9	12.10.2021
3	DCU	78-PM-108-B	PUMP	89.4	12 10 2021
14	DCU	78-PM-107-A	PUMP		

15	DCU	78-PM-110-B	PUMP	88.8	12.10.2021
16	DCU	78-PM-125-A	PUMP	87	12.10.2021
17	DCU	78-PM-104-A	PUMP	86.3	12.10.2021
18	DCU	78-PM-116-8	PUMP	87.7	12.10.2021
19	DCU	78-PM-126-A	PUMP	86.7	12.10.2021
20	DCU	78-PM-127-B	PUMP	87.1	12.10.2021
21	DCU	78-P-134-A	PUMP	87.5	12.10.2021
22	DCU	78-FD-101-A	FD FAN	79.1	12.10.2021
23	DCU	78-FD-101-B	FD FAN	78.9	12.10.2021
24	DCU	78-FD-102-8	FD FAN	77.3	12.10.2021
25	DCU	78-FD-102-A	FD FAN	78.6	12.10.2021
26	DCU	78-1D-102	ID FAN	80.5	12.10.2021
27	DCU	78-ID-101	ID FAN	82.1	12.10.2021
28	DCU	78-PM-101-B	PUMP	89.9	12.10.2021
29	DCU	78-PM-114-A	PUMP	83.5	12.10.2021
30	DCU	78-PM-104-P1-A	PUMP	83.8	12.10.2021
31	DCU	78-P-118-B	PUMP	88.2	12.10.2021
1	DHDS	FD-01-B	FD FAN	58.1	13.10.2021
2	DHD5	FD-01-A	FD FAN	68.5	13.10.2021
3	DHDS	52-PA-CF-107-B	PUMP	90	13.10.2021
4	DHDS	52-PA-CF-123-B	PUMP	85.2	13,10,2021
5	DHDS	52-PA-CF-101-A	PUMP	89.9	13.10.2021
6	DHDS	52-PM-CF-102-B	PUMP	87.4	13.10.2021
7	DHDS	52-KM-RP-101-B	COMPRESSOR	82.3	13.10.2021
8	DHDS	UNDER COMP. HOUSE	COMPRESSOR	81.1	13.10.2021

S.NO	Plant/Unit	Area	Source	Sound Level(dB)	DATE
1	CPP	GTG-3	GENRATOR	97.3	03.09.2021
2	CPP	BURNER-4	BURNER-UBP	89.8	03.09.2021
3	CPP	9050-397D-PM-101 A-ID FAN-1A	ID FAN-1 A	89.5	03.09.2021
4	CPP	9060-39-ID-FD-FM-101-B-FD FAN 10	ID FAN-1 B	89.3	03.09.2021
5	CPP	9060-39-ID-FD-FM-101-8-FD FAN	FD FAN	88.6	03.09.2021
6	CPP	9060-89-FM-CF-1203-B-FD FAN	FD FAN	89.2	03.09.2021
7	CPP	9060-89-PM-CF-1203-A	ED EAN	92.6	03.09.2021
8	CPP	9060-89-PM-CF-508-A	FD FAN	88	03.09.2021
9	CPP	89-PM-CF-508-A	PUMP	88.5	03.09.2021
10	CPP	89-PM-CF - 808 -A	PUMP	88.5	03.09.2021
11	CPP	9060-39-DB-FM413-A	COMPRESURE	89.2	03.09.2021
12	CPP	9050-89-PA-CF9904-A	PUMP	87.4	03.09.2021
13	CPP	9050-39-PM-CF457-A	PUMP	86.4	03.09.2021
14	CPP	OLD CONTROL ROOM	GENRATOR	64.Z	03.09.2021
15	CPP	NEAR OUTER CABIN CABIN	GENRATOR	88.2	03.09.2021
16	CPP	GT CABIN OUTER SIDE	GENRATOR	76.2	03.09.2021
17	CPP	GT CABIN INNER SIDE	GENRATOR	62.1	03.09.2021
18	CPP	CONTROL ROOM	GENRATOR	66.9	03.09.2021
19	CPP	OUTER UHP SIDE	EA CABIN	79.8	03.09.2021
20	CPP	RSG / BOP CABIN OUTER	EA CABIN	61.7	03.09.2021
21	CPP	STG / BOP CABIN INNER	EA CABIN	75.6	03.09.2021
22	CPP	MP HOUSE CABIN OUTER	EA CABIN	76.9	03.09.2021
23	CPP	UMP HOUSE CABIN OUTER	EA CABIN	81.5	03.09.2021
24	CPP	UMP HOUSE CABIN INNER	EA CABIN	61.6	03.09.2021
1.7				1420 315024	SAL & WATER
1	MSQ	301-KM-201-A	COMPRESURE	79.1	21.09.2021
2	MSQ	301-KM-101-8	PUMP	80.5	21.09.2021
3	MSQ	301-PM-101-A	PUMP	86.3	21.09.2021
4	MSQ	303-PM-206-B	PUMP	80,1	21.09.2071
5	the second s	303-PM-202-B	PUMP	81.8	21.09.2023
2	MSQ	303-PM-102-A	PUMP	84.3	21.09.2023

7	MSQ	303-PM-204-B	PUMP	86.3	21.09.202
8	MSQ	303-PM-201-A	PUMP	87.4	21.09.202
9	MSQ	303-PM-101-8	PUMP	87.4	21.09.202
10	MSQ	301-PM-210-B	PUMP	82.5	21.09.202
11	MSQ	301-PM-211-B	PUMP	84.6	21.09.202
12	MSQ	301-PM-213-B	PUMP	83.8	21.09.202
13	MSQ	301-PM-212-A	PUMP	86.8	21.09.202
14	MSQ	301-PM-203-A	PUMP	82.9	21.09.2021
15	MSQ	301-PM-201-B	PUMP	85.3	21.09.2021
16	MSQ	301-PM-215-8	PUMP	82.8	21.09.2021
17	MSQ	301-PM-254-B	PUMP	79.8	21.09.2021
18	MSQ	301-PM-253-B	PUMP	85.9	21.09.2021
1.112	diffestion and the	Contraction of the second		00.5	12 00 1011
1	HGU-(76)	76 ID - FAN	ID-FAN	88.5	23.09.2021
2	HGU (75)	76 P 002 A	PUMP	89.5	23.09.2021
3	HGU-(76)	76 - P -103-A	COMPRESURE	92.4	
4	HGU-(76)	76 - KM -001-A	COMPRESURE	84.8	23.09.2021
5	HGU-(76)	75 - KM -103-A	COMPRESURE	81.3	23.09.2021
6	HGU-(76)	UNDER COMPRESSURE HOUSE	COMPRESURE	80.4	23.09.2021
7	HGU-(76)	UPPER SIDE	COMPRESURE	85.2	23.09.2021
8	HGU-(76)	76 - E -114-B	DRUM HEAD	83.4	23.09.2021
9	HGU-(76)	76 - E -115	DRUM HEAD	81.3	
10	HGU-(76)	76-E-114-A	DRUM HEAD	79.5	23.09.2021
1	DHDT	72-FD-004-B	FD FAN	81.2	23.09.2021
2	DHDT	72-PM-004-A	PUMP	89.1	23.09.2021
3	DHDT	72-PM-007-B	PUMP	88.9	23.09.2021
4	DHDT	UNDER COMPRESSURE HOUSE	COMPRESURE	86.7	23.09.2021
5	DHDT	72-KM-002-B	COMPRESURE	89.8	23.09.2021
6	DHDT	72-KM-002-C	COMPRESURE	88.3	23.09.2021
7	DHDT	72-PM-001-A	PUMP	87.6	23.09.2021
8	DHDT	72-PM-003-A	PUMP	92.2	23.09.2021
9	DHDT	72-P-002-C	PUMP	85.5	23.09.2021
10.0	CHIERON CONTRACTOR		Reserved All Shares I.		Diversity of
1	SRU-I	18-PA-CF-004-8	PUMP	81.1	28.09.2021
2	SRU-I	21-PA-CF-002-A	PUMP	87.1	28.09.2021
3	SRU-I	21-PA-CF-001-A	PUMP	90.4	28.09.2021
4	SRU-I	21-PA-CF-001-B	PUMP	90.7	28.09.2021
5	SRU-I	21-PM-CF-003-8	PUMP	93.1	28.09.2021
6	SRU-I	21-PM-CF-003-A	PUMP	94.7	28.09.2021
1.00	In South Statute		24 And Share	10 S 0.0	
1	SRU-II	51-PM-104-B	PUMP	87.2	28.09.2021
2	SRU-II	51-PM-101-B	PUMP	89.7	28.09.2021
3	SRU-II	51-PM-102-A	PUMP	87.3	28.09.2021
4	SRU-II	53-PM-103-A	PUMP	89.4	28.09.2021
5	SRU-II	54-PM-103-A	PUMP	86.1	28.09.2021
6	SRU-II	54-PM-102-A	PUMP	88.1	28.09.2021
1	SRU-II	53-PM-101-A	PUMP	86.1	28.09.2021
3	SRU-II	53-PM-102-A	PUMP	90.1	28.09.2021
	SRU-II	26-KM-101-8	COMPRESSOR	89.8	28.09.2021
	SRU-II	57-KM-101-B	COMPRESSOR	90.9	28.09.2021
	SRU-II	26-PM-104-A	PUMP	89.9	28.09.2021
	SRU-II	21-PM-102-A	PUMP	90.8	28.09.2021
	SRU-II	26-PM-103-B	PUMP	87.5	28.09.2021
	SRU-II	26-PM-101-A	PUMP	89.2	28.09.2021
	SRU-II	26-PM-103-A	PUMP	90.5	28.09.2021
	SRU-II	25-PM-109-C	PUMP	89.3	28.09.2021
9	SRU-II	25-PM-108-C	PUMP	88.6	28.09.2021

Noise survey of Target units of PR & PREP August -2021

30	AVU-1	03 PM - CF - 01 -B	PUMP	90	10.00 303
.41	AVU-1	03 PM - CF - 1 -D	PUMP	87.6	18 08.2021
1	PTA		State of the state	Ser 10	18.08.2021
2	PIA	21-Р-125-В	PUMP	84.1	17.08.2021
3	PTA	21-FN-164-B	FD FAN	85.7	17.08.2021
4	PTA	21-FN-164-A	FD FAN	83.9	17.08.2021
5	PTA	21-FN-165	FD FAN	86	17.08.2021
6	PTA	21-B1-0553	AIR BLOWER PUMP	90	17.08.2021
7	PTA	21-P1-556-B	PUMP	88.1	17.08.2021
8	PTA	21-P1-1/3-A	PUMP	89.1	17.08.2021
9	PTA	21-FN-1259-B	FD FAN	84.1	17.08.2021
10	PTA	21-FD-1259-A	FD FAN	83.6	17.08.2021
11	PTA	K1-1260	COMPRESSOR	84.3	17.08.2021
12	PTA	Р1-1207-В	PUMP	90.1	17.08.2021
13		P1-1209-A	PUMP	90.5	17.08.2021
14	PTA	Р1-1209-В	PUMP	90.2	17.08.2021
15	PTA	P1-1209-D	PUMP	91.4	17.08.2021
16	PTA	21-P1-1251-C	PUMP	88.7	17.08.2021
17	PTA	21-1251-A	PUMP	89.8	17.08.2021
18	PTA	21P1-1420-B	PUMP	82.8	17.08.2021
19	PTA	P1-2301-A	PUMP	87.9	17.08.2021
20	PTA	Р1-1816-В	PUMP	84.4	17.08.2021
20	PTA PTA	21-P1-2210-B	PUMP	88.1	17.08 2021
22		21-P1-2202-8	PUMP	89	17.08.2021
23	PTA	21-P1-2203-A	PUMP	85.5	17.08.2021
23	PTA	P1-1410-A	PUMP	84.6	17.08.2021
24	PTA	21-P1-702-B	PUMP	86.7	17.08.2021
	PTA	Р1-507-В	PUMP	87	17.08.2021
26	PTA	21-Р1-607-В	PUMP	89	17.08.2021
27	PTA	21-P1-606-B	PUMP	88	17.08.2021
28 29	PTA	21-P1-615-B	PUMP	88.9	17.08.2021
	PTA	21-P1-632-A	PUMP	88	17.08.2021
30	PTA	21-P1-407-A	PUMP	87	17.08.2021
31	PTA	21-P1-4313-A	PUMP	89.8	17.08.2021
32 33	PTA	21-P1-1606-B	PUMP	87.4	17.08.2021
	PTA	21-Р1-0710-В	PUMP	82.8	17.08.2021
34	PTA	21-Р1-2221-В	PUMP	81.7	17.08.2021
35 36	PTA	21-P1-2625-A	PUMP	90.1	17.08.2021
120	PTA	21-P1-2401-B	PUMP	82	17.08.2021
37	PTA	21-P1-2401-A	PUMP	83.5	17.08.2021
38	PTA	Process Air Compressor	COMPRESSOR	102.4	17.08.2021
1 1	DV 1		Contraction of the second second second		1
1 2	PX-1	203 - P -2 A	PUMP	80.4	09.08.2021
	PX-1	201 - P -08 - A	PUMP	86.6	09.08.2021
3	PX-1	201 - PM -01 - B	PUMP	88.3	09.08.2021
4	PX-1	202 - P -03 - B	PUMP	83.2	09.08.2021
5	PX-1	202 - P -D1 - A	PUMP	85.2	09.08.2021
6	PX-1	202 - P -02 - A	PUMP	85.2	09.08.2021
	PX-1	202 - PM -16 - A	PUMP	85.5	09.08.2021
3	PX-1	202 - K2 - B	COMPRESSURE	84.3	09.08.2021
	PX-1	201 - K - 1 -B	COMPRESSURE	89.2	09.08.2021
>	PX-1	202 - KM -4	COMPRESSURE	83.7	09.08.2021
	PX-1	209 - PM 05 -A	PUMP	84.7	09.08.2021
	PX-1	209 - PM -05 - A	PUMP	88.8	09.08.2021
	PX-1	204 - PM -06 -B	PUMP	83.2	09.08.2021
	PX-1	204 - PM -07 -B	PUMP	86.5	09.08.2021
	PX-1	206 - FM - 03	ID FAN	81.4	09.08.2021
	PX-1	206 - FM - 01	ID FAN	83.5	09.08.2021
	PX-1	206 - FM - 02	ID FAN	83.2	09.08.2021
	PX-1	207 - PM - 04 -A	PUMP	87.2	09.08.2021
	PX-1	207 - P - 03-A	PUMP	85.1	09.08.2021

20	PX-1	207 - P - 03 -B	PUMP	86.2	09.08.2021
		208 - P - 03	PUMP	83.1	09.08.2021
1	PX-II	208 P - 02 - A	PLIMP	85.5	09.08.2021
2	PX-II	and the second sec	PUMP	88.8	09.08.2021
3	PX-II	208 - P - 01 - A	PUMP	83.2	09.08.2021
4	PX-II	206 - P 013 - A	PUMP	90.1	09.08.2021
5	PX-11	205 - P- 02 -A		86.3	09.08.2021
6	PX-II	205 - P -101 -B	PUMP	84.8	09.08.2021
7	PX-II	205 - PM - 02 -B	PUMP	1.000	09.08.2021
8	PX-II	205 - P -04- A	PUMP	85.1	09.08.2021
9	PX-II	207 - PM - 01- A	PUMP	89.4	09.08.2021
10	PX-II	206 - 07 - P	PUMP	90.1	09.08.2021
11	PX-II	205 - PM -07 -B	PUMP	86.1	
12	PX-II	205 - PM -03 -B	PUMP	90.1	09.08.2021
13	PX-II	205 - P - 07 - A	PUMP	86.9	09.08.2021
14	PX-II	205 -PM -03 -A	PUMP	90.2	09.08.2021
15	PX-II	205 - P - 05 - A	PUMP	87.6	09.08.2021
16	PX-II	206 -PM - 06 - B	PUMP	89.Z	09.08.2021
17	PX-II	206 - PM - 06 -A	PUMP	88.1	09.08.2021
18	PX-II	205 - PM - 05 - A	PUMP	89.5	09.08.2021
19	PX-II	205 - PM -04 -C	PUMP	90.5	09.08.2021
20	PX-II	206 -PM 04 -A	PUMP	90.1	09.08.2021
20	PX-II	206 P 01 - A	PUMP	86	09.08.2021
22	PX-II	206 - PM -02 -A	PUMP	86.7	09.08.2021

S.NO	Plant/Unit	Noise survey of Target u	Source	Sound Level(dB)	DATE
1	DHDS	52-PA-MT-120-8	PUMP	85.5	21.07.2021
2	DHDS	52-PA-CF-102-A	PUMP	89.9	21.07.2021
3	DHDS	52-PA-CF-107-B	PUMP	90.5	21.07.2021
4	DHDS	52-PA-CF-104-A	PUMP	89.2	21.07.2021
5	DHDS	UNDER COMPRESSOR	COMPRESSOR	83.2	21.07.2021
6	DHDS	52-KM-RP-101-B	COMPRESSOR	83.5	21.07.2021
	W1		State of the second		105
1	HGU-06	06-K-A-202	ID FAN	82,9	22.07.2021
2	HGU-06	06-P-202-B	PUMP	91.2	22.07.2021
3	HGU-06	06-P-203-B	PUMP	89.9	22.07.2021
4	HGU-06	06-K-A-203-A	PUMP	86.2	22.07.2021
	Same and		PUMP	84.3	22.07.2021
1	AVU-II	73-PM-024-B	PUMP	84	22.07.2021
2	AVU-II	73-PM-022-B	PUMP	83.3	22.07.2021
3	AVU-II	73-PM-021-B		87.4	22.07.2021
4	AVU-II	73-PM-032-A	PUMP	84.4	22.07.2021
5	AVU-II	73-PM-03-B	PUMP	86.1	22.07.2021
6	AVU-II	73-PM-02-B	PUMP	86.5	22.07.2021
7	AVU-II	73-PM-02-C	PUMP	86.5	22.07.2021
8	AVU-II	73-PM-02-D	PUMP	86.3	22.07.2021
9	AVU-II	73-PM-14-B	PUMP	7.7.7.	
10	AVU-II	73-PM-9-A	PUMP	85.4	22.07.2021
11	AVU-II	73-PM-13-B	PUMP	89.2	22.07.2021
12	AVU-II	73-PM-13-C	PUMP	89.6	22.07.2021
13	AVU-II	74-PM-02-A	PUMP	85.7	22.07.2021
14	AVU-II	74-PM-01-8	PUMP	84.6	22.07.2021
15	AVU-II	74-PM-03-C	PUMP	84.7	22.07.2021
16	AVU-II	74-PM-03-A	PUMP	82.8	22.07.2023
17	AVU-II	74-PM-07-A	PUMP	85.2	22.07.202
18	AVU-II	74-PM-10-B	PUMP	84.7	22.07.202
19	AVU-II	73-PM-07-B	PUMP	87	22.07.202

20	AVU-II	73-PM-036-A	PUMP	86.8	22.07.202
21	AVU-II	73-PM-06-B	PUMP	88	22.07.202
22	AVU-II	73-PM-12-A	PUMP	85.1	22.07.202
23	AVU-II	59-PM-04-A	PUMP	86.6	22.07.202
24	AVU-II	73-PM-015-C	PUMP	88.8	22.07.202
25	AVU-II	73-PM-04-A	PUMP	86.8	22.07.202
26	AVU-II	73-PM-01-D	PUMP	87.5	22.07.202
27	AVU-II	73-PM-01-B	PUMP	87.9	22.07.202
28	AVU-II	74-PM-04-8	PUMP	88.9	22.07.202
29	AVU-II	73-PM-10-B	PUMP	88.6	22.07.202
30	AVU-II	73-PM-10-C	PUMP	89.5	22.07.2021
31	AVU-II	73-FN-001-A	FD FAN	83.3	22.07.202
32	AVU-II	73-FN-001-B	FD FAN	90.7	22.07.2021
1	OHCU	05-PM-RC-07-E	PUMP	88.5	22.07.2021
2	ОНСИ	05-PM-CF-503-A	PUMP		23.07.2021
3	OHCU	05-PM-CF-513-A	and the second second	88.7	23.07.2021
4	OHCU	05-PM-CF-514-A	PUMP	89.2	23.07.2021
5	ОНСИ	05-PM-CF-511-A	PUMP	89.3	23.07.2021
6	онси	05-PM-CF-301-A	PUMP	94.1	23.07.2021
7	OHCU	05-PM-CF-504-A	PUMP	93.7	23.07.2021
8	OHCU	05-PM-CF-501-A	PUMP	92.2	23.07.2021
9	OHCU	05-PM-CF-505-A	PUMP	93.7	23.07.2021
10	OHCU	05-PM-CF-508-B	PUMP	93.7	23.07.2021
11	онси	05-PM-CF-502-C	PUMP	89.3	
12	OHCU	05-PM-CF-507-A	PUMP	89.3	23.07.2021
13	OHCU	05-PM-CF-506-A	PUMP	90.4	23.07.2021
14	OHCU	05-PM-CF-502-A	PUMP	90.7	23.07.2021
15	OHCU	05-PM-CF-516-A	PUMP	85.5	23.07.2021
16	OHCU	FF-FN-505	ID FAN	83.7	23.07.2021
17	OHCU	FF-FN-504-B	FD FAN	82.9	23.07.2021
18	OHCU	05-KA-RP-01-A	COMPRESSOR	87.4	23.07.2021
19	OHCU	05-KA-RP-01-C	COMPRESSOR	86	23.07.2021
20	OHCU	05-KA-RP-01-D	COMPRESSOR	87.7	23.07.2021
21	OHCU	UNDER COMPRESSOR	COMPRESSOR	87	23.07.2021
1	DCU	70 014 135 4			W. Santa
2	DCU	78-PM-135-A	PUMP	88.6	26.07.2021
3	DCU	78-PM-148-8	PUMP	88.7	26.07.2021
4	DCU	78-PM-131-B	PUMP	87	26.07.2021
5	DCU	78-PM-105-B	PUMP	89.4	26.07.2021
6	DCU	78-PM-124-8 78-PM-161-8	PUMP	89.6	26.07.2021
7	DCU	78-PM-125-A	PUMP	88.9	26.07.2021
8	DCU	78-PM-104-A	PUMP	90.7	26.07.2021
9	DCU	78-PM-104-A 78-PM-116-A	PUMP	88.1	26.07.2021
10	DCU	78-PM-122-8	PUMP	88.9	26.07.2021
		78-PM-109-8	PUMP	91.3	26.07.2021
	DOUT		PUMP	89.7	26.07.2021
11	DCU		010.00		
2	DCU	78-PM-108-B	PUMP	90.9	26.07.2021
11 2 3	DCU DCU	78-PM-108-B 78-FD-101-B	FD FAN	83	26.07.2021 26.07.2021
11 12 3 4	DCU DCU DCU	78-PM-108-B 78-FD-101-8 78-FD-101-A	FD FAN FD FAN	83 82.1	
11 12 3 4 5	DCU DCU DCU DCU	78-PM-108-B 78-FD-101-8 78-FD-101-A 78-FD-102-B	FD FAN FD FAN FD FAN	83 82.1 80	26.07.2021
11 12 3 4 5 5	DCU DCU DCU DCU DCU	78-PM-108-B 78-FD-101-8 78-FD-101-A 78-FD-102-B 78-FD-102-A	FD FAN FD FAN FD FAN FD FAN	83 82.1 80 82	26.07.2021 26.07.2021
11 12 3 4 5 5 7	DCU DCU DCU DCU DCU DCU DCU	78-PM-108-B 78-FD-101-8 78-FD-101-A 78-FD-102-B 78-FD-102-A 78-ID-101	FD FAN FD FAN FD FAN FD FAN ID FAN	83 82.1 80 82 83.1	26.07.2021 26.07.2021 26.07.2021
11 12 3 4 5 5 7	DCU DCU DCU DCU DCU	78-PM-108-B 78-FD-101-8 78-FD-101-A 78-FD-102-B 78-FD-102-A	FD FAN FD FAN FD FAN FD FAN	83 82.1 80 82	26.07.2021 26.07.2021 26.07.2021 26.07.2021
11 12 3 4 5 5 5 7 8	DCU DCU DCU DCU DCU DCU DCU	78-PM-108-B 78-FD-101-8 78-FD-101-A 78-FD-102-8 78-FD-102-A 78-ID-101 78-ID-102	FD FAN FD FAN FD FAN ID FAN ID FAN	83 82.1 80 82 83.1 83.1	26.07.2021 26.07.2021 26.07.2021 26.07.2021 26.07.2021 26.07.2021
11 12 3 4 5 5 7 8	DCU DCU DCU DCU DCU DCU DCU	78-PM-108-B 78-FD-101-8 78-FD-101-A 78-FD-102-8 78-FD-102-A 78-ID-101 78-ID-102 75-FNM-102	FD FAN FD FAN FD FAN FD FAN ID FAN ID FAN PUMP	83 82.1 80 82 83.1 83.1 83.1 83.1	26.07.2021 26.07.2021 26.07.2021 26.07.2021 26.07.2021 26.07.2021 28.07.2021
11 12 3 4 5 5 7	DCU DCU DCU DCU DCU DCU DCU DCU HCU HCU	78-PM-108-B 78-FD-101-8 78-FD-101-A 78-FD-102-B 78-FD-102-A 78-ID-101 78-ID-102 75-FNM-102 75-FNM-101	FD FAN FD FAN FD FAN FD FAN ID FAN ID FAN PUMP PUMP	83 82.1 80 82 83.1 83.1 83.1 83.1 81 82.2	26.07.2021 26.07.2021 26.07.2021 26.07.2021 26.07.2021 26.07.2021 28.07.2021 28.07.2021
11 12 3 4 5 5 7	DCU DCU DCU DCU DCU DCU DCU DCU DCU	78-PM-108-B 78-FD-101-8 78-FD-101-A 78-FD-102-B 78-FD-102-A 78-ID-101 78-ID-102 75-FNM-102 75-FNM-101 75-PM-105-A	FD FAN FD FAN FD FAN ID FAN ID FAN ID FAN PUMP PUMP PUMP	83 82.1 80 82 83.1 83.1 83.1 83.1 81 82.2 85.6	26.07.2021 26.07.2021 26.07.2021 26.07.2021 26.07.2021 26.07.2021 28.07.2021 28.07.2021 28.07.2021
11 11 12 13 4 5 6 7 3 	DCU HCU HCU HCU	78-PM-108-B 78-FD-101-8 78-FD-101-A 78-FD-102-B 78-FD-102-A 78-ID-101 78-ID-102 75-FNM-102 75-FNM-101	FD FAN FD FAN FD FAN FD FAN ID FAN ID FAN PUMP PUMP	83 82.1 80 82 83.1 83.1 83.1 83.1 81 82.2	26.07.2021 26.07.2021 26.07.2021 26.07.2021 26.07.2021 26.07.2021 28.07.2021 28.07.2021

7	HCU	75-PM-103-A	PUMP	89.3	28.07.2021
8	HCU	75-PM-113-8	PUMP	90.1	28.07.2021
9	HCU	75-PM-114-A	PUMP	88.9	28.07.2021
10	HCU	75-PM-112-8	PUMP	89.8	28.07.2021
11	HCU	75-PM-116-0	PUMP	91,3	28.07.2021
12	HCU	75-PM-117-B	PUMP	86.8	28.07.2021
13	HCU	75-PM-201-A	PUMP	88.9	28.07.2021
14	HCU	75-K-002-C	COMPRESSOR	89.1	28.07.2021
15	HCU	COMPRESSOR HOUSE	COMPRESSOR	88.4	28.07.2021
16	HCU	75-K-002-B	COMPRESSOR	90.2	28.07.2021
17	HCU	UNDER COMPRESSOR HOUSE	COMPRESSOR	84.8	28.07.2021

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OH Physician