

Deepak Rajput

From: Environment Team
Sent: 05 June 2026 09:18
To: Environment Wing IRO Chandigarh
Cc: narendersharm.cpcb@gov.in; ronz.chd-mef@nic.in; seezobti@gmail.com; eerobti@yahoo.in; CoOrdinator Chd
Subject: Sixth Monthly EC Compliance Report of GGSR from Oct'25 to Mar'26
Attachments: GGSR_Sixth monthly EC compliance report_Oct'25-Mar'26.pdf

To,

The Director,

Ministry of Environment, Forest & Climate Change,

Northern Regional Office,

Bays No. 24-25, Sector 31-A,

Dakshin Marg,

Chandigarh – 160 030.

Subject: Six Monthly EC Compliance Report (from Oct'25 to Mar'26) for Guru Gobind Singh Refinery at Phullokhari, Bathinda District, Punjab.

Ref: Environmental Clearance No. J-11011/24/98-IA II (dated 6th November, 1998

Environmental Clearance No. J-11011/27512007-IA II (I) date 16th July 2007

Environmental Clearance: F. No.: J-11011/275/2007 IA II (I) date 22nd June 2015 and

Environmental Clearance: F. No. J-11011/386/2016-IA-II (I) dated 7th August 2018

Dear Sir,

Please find enclosed Sixth monthly EC compliance report (Oct'25 to Mar'26) of Guru Gobind Singh Refinery (along with Annexures) on the environmental conditions stipulated by MoEF&CC.

Thanks and Regards



Date: 04th June 2026

Ref: HMEL-OE-40-ENV 1347

To,
The Director,
Ministry of Environment, Forest & Climate Change,
Northern Regional Office,
Bays No. 24-25, Sector 31-A,
Dakshin Marg, Chandigarh – 160 030.

Subject: Six Monthly EC Compliance Report (from Oct'25 to Mar'26) for Guru Gobind Singh Refinery at Phullokhari, Bathinda District, Punjab.

Ref: Environmental Clearance No. J-11011/24/98-IA II (dated 6th November 1998
Environmental Clearance No. J-11011/27512007-IA II (I) date 16th July 2007
Environmental Clearance: F. No. J-11011/275/2007 IA II (I) date 22nd June 2015 and
Environmental Clearance: F. No. J-11011/386/2016-IA-II (I) dated 7th August 2018

Dear Sir,

Please find enclosed six-monthly EC compliance report (from Oct'25 to Mar'26) of Guru Gobind Singh Refinery (along with Annexures) on the environmental conditions stipulated by MoEF&CC.

Thanking you,

Very Truly Yours,

Jatinder Kumar
(Manager-Env.)

R *A*
Stack P
126.25

Cc: Regional Director, Central Pollution Control Board, First Floor, PIC-UP Building, Vibuti Khand, Gomtinagar, Lucknow, UP, Pin Code-226010 (India).

Cc: Punjab Pollution Control Board, Zonal Office, Street No. 12, Power House Road, Bathinda, Punjab.

Cc: Punjab Pollution Control Board, Regional Office, Bathinda.

Enclosure: Six monthly EC compliance report

Annexure-I: Online continuous ambient air quality monitoring data.

Annexure-II: Ambient noise quality monitoring reports

Annexure-III: Social upliftment activities are carried out in the nearby village.

Annexure-IV: Acknowledgement copy of the last six-month EC compliance report submitted to MoEF&CC, Regional Office, Chandigarh. For the period of Apr'25 to Sep'25.

Annexure-V: Stack emission monitoring data.

Annexure-VI: Effluent analysis reports and ground water reports

Annexure-VII: Online data of ETP parameters

Annexure-VIII: Activities undertaken for improving the socio-economic conditions of the surrounding villages.

Annexure-IX: Eco-developmental measures including community welfare measures in the project area.

Annexure-X: Copy of Air CTO and Water CTO (Consent to Operate)

Annexure-XI: CER plan for the BS-VI Fuel Quality Up-gradation Project.

Annexure-XII: Copy of the advertisement publishing the accordance of Environmental Clearance by MoEF&CC.

HPCL-Mittal Energy Limited

ENVIRONMENT CLEARANCE COMPLIANCE
&
MONITORING REPORTS

Six Monthly EC Compliance Report
(Oct'2025 to Mar'2026)

Guru Gobind Singh refinery
(HPCL-Mittal Energy Limited)

Village: Phullokhari,

Distt. Bathinda-151301.

Bathinda (Punjab), India

EC for 9 MMTPA Grass Root Refinery Project (Guru Gobind Singh Refinery).

(Ref. Letter No. J-11011/24/98-IA II, dated 6th November, 1998)

I. SPECIFIC CONDITIONS:

Sr. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS														
i.	No construction of the Refinery Project shall be undertaken till environmental clearance for the linked proposal viz. Captive Power Plant, COT and Crude Oil Pipeline and SPM are accorded by this Ministry.	Complied with.														
ii.	The gaseous emissions (SO ₂ , NO _x , HC, CO) and particulate matters, from various process units should conform to the standards prescribed by the concerned authorities from time to time. The total SO ₂ emission from the refinery including power plant shall not exceed 1000 kg/hr (maximum). At no time, the emission level should go beyond the stipulated standards. In the event of failure of pollution control systems (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 with regularly. All process units are designed to ensure that gaseous emissions and total SO ₂ emissions are within the standards prescribed by the CPCB.														
iii.	Sulphur recovery units with more than 99% efficiency shall be provided.	Complied with. Sulphur Recovery Unit (SRU) with >99.9% wt. recovery of Sulphur has been installed. Month-wise details are as follows: <table border="1" data-bbox="906 1496 1441 1854"> <thead> <tr> <th>Month</th> <th>Sulphur Recovery (in %)</th> </tr> </thead> <tbody> <tr> <td>Oct'25</td> <td>99.98%</td> </tr> <tr> <td>Nov'25</td> <td>99.99%</td> </tr> <tr> <td>Dec'25</td> <td>99.98%</td> </tr> <tr> <td>Jan'26</td> <td>99.98%</td> </tr> <tr> <td>Feb'26</td> <td>99.98%</td> </tr> <tr> <td>Mar'26</td> <td>99.98%</td> </tr> </tbody> </table>	Month	Sulphur Recovery (in %)	Oct'25	99.98%	Nov'25	99.99%	Dec'25	99.98%	Jan'26	99.98%	Feb'26	99.98%	Mar'26	99.98%
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iv.	A minimum of five Ambient Air Quality Monitoring Stations should be set up and around the refinery area based on the micro meteorological conditions as well	Complied with.														

Sr. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS								
	<p>as where maximum ground level concentration of SPM, SO_x, NO_x, HC and RPM are anticipated in consultation with the State Pollution Control Board. In addition, a mobile van with adequate facilities to monitor ambient air quality outside the refinery premises should be provided.</p>	<p>Five (5) nos. of continuous ambient air quality monitoring stations have been set up inside GGSR in consultation with regulatory body.</p> <p>Subsequently, we have a mobile van with adequate facilities to monitor ambient air quality outside the refinery premises. Month wise data of ambient air quality is attached as Annexure-I.</p>								
v.	<p>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.</p>	<p>Being complied with.</p> <p>Hydrocarbon detectors have been installed in all areas where there is a likelihood of HC leakages.</p> <p>Details of Hydrocarbon and other detectors installed in plant premises are given below:</p> <table border="1" data-bbox="874 927 1485 1137"> <thead> <tr> <th data-bbox="874 927 1225 999">Type of Detector</th> <th data-bbox="1225 927 1485 999">Numbers of Detector</th> </tr> </thead> <tbody> <tr> <td data-bbox="874 999 1225 1037">Hydrocarbon (process area)</td> <td data-bbox="1225 999 1485 1037">845</td> </tr> <tr> <td data-bbox="874 1037 1225 1108">Hydrocarbon (analyzer shelter)</td> <td data-bbox="1225 1037 1485 1108">77</td> </tr> <tr> <td data-bbox="874 1108 1225 1137">Toxic gases + Hydrogen</td> <td data-bbox="1225 1108 1485 1137">368</td> </tr> </tbody> </table>	Type of Detector	Numbers of Detector	Hydrocarbon (process area)	845	Hydrocarbon (analyzer shelter)	77	Toxic gases + Hydrogen	368
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Hydrocarbon (process area)	845									
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vi.	<p>Liquid effluent generated from the refinery should be treated comprehensively to conform to the load based standards and concentration limits prescribed under EPA rules. The treated waste water should be recycled to the maximum extent for reuse in the plant operation and green belt development.</p>	<p>Complied with.</p> <p>The effluent generated in the refinery is being treated in the effluent treatment plant. The treated wastewater is reused in green belt development. The treatment consists of a primary treatment section followed by the biological treatment section, which consists of a Sequential Batch Reactor & a Membrane Bio Reactor.</p>								
vii.	<p>Influent and effluent quality monitoring station should be set up in consultation with the State Pollution Control Board. Regular monitoring should be carried out for the MINAS.</p>	<p>This condition is being complied with.</p>								
viii.	<p>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</p>	<p>Being complied with.</p> <p>The overall noise levels in and around the plant areas are well within standards. Various noise control measures, such as acoustic hoods, enclosures, etc.,</p>								

Sr. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
	conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time) .	have been provided to reduce the impact of high-noise-generating equipment. The daytime and nighttime noise levels are well within the standards prescribed under the Environment (Protection) Act 1986 Rules, 1989. Please refer to Annexure-II for ambient noise monitoring reports.
ix.	The Company must submit a report on the Black Dust Generation from the refinery and its analysis including RPM, chemical composition within 6 months of plant operation.	Complied. Report already submitted.
x.	The Company must take up a detailed study regarding the Bio- Monitoring aspect of the dust emissions including its particle size distribution, RPM content, chemical characteristics etc. In consultation with an Expert Institute / Organization in order to assess the health impact due to the RPM emissions from the project within 6 months of project commissioning.	Complied. Report already submitted.
xi.	Comprehensive EIA must be carried out and EMP drawn. The Report should be submitted to the Ministry within 1 year incorporating firmed up action plans on pollution control and environmental management for the Refinery.	Complied. Report already submitted.
xii.	In addition to obtaining statutory clearances from CCF, Chief Inspectorate of factories, in the first instances, the project authority must obtain the recommendations of Chief Fire Adviser, Government of India (Ministry of Home Affairs) with regard to the Refinery Safety and fire protection measures. A report in this regard may be submitted to the ministry within 6 months	This condition is complied with. Necessary approval and recommendation from the Chief Fire Adviser, Government of India (Ministry of Home Affairs) have been obtained vide letter no. VIII-11011/01/07-DGCD(F) dated 14 July 2010. Report already submitted.
xiii.	Detailed Risk Analysis of the Refinery and associated facilities must be done once the engineering design and layout is frozen. Specifically, comprehensive	Condition stands already complied with.

Sr. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
	safety and fire protection measures must be taken with respect to LPG tank area and crude oil storage areas in the plant lay out. Based on this, onsite and off-site emergency preparedness plan must be prepared. Approval from the nodal agency must be obtained before commissioning the project.	

II. GENERAL CONDITIONS:

Sr. No.	GENERAL CONDITON	Status
i.	The project authorities must strictly adhere to the stipulations made by the Punjab Pollution Control Board and State Government.	Being complied with.
ii.	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment of Forests.	Being complied with.
iii.	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.	Complied with. No alterations carried out.
iv.	The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous chemicals Rules, 1989 as amended on 3rd October, 1994. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, fire Safety Inspectorate etc. must be obtained.	This condition is already complied with.
v.	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	This condition is being complied with.

Sr. No.	GENERAL CONDITON	Status
	must be obtained for collections/ treatment/ storage/disposal.	
vi.	Occupational health surveillance programme should be undertaken as regular exercise for all the employees, specifically for those engaged in handling hazardous substances.	This condition is being complied with.
vii.	A green belt of adequate width and density should be developed using native plant species, within and around plant premises in consultation with State Forest Department. A norm of 2000-2500 plants per Hectare may be followed.	Complied with. The green belt has been developed as per the latest amended EC obtained from MoEF&CC dated 07 th December, 2021.
viii.	Adequate provisions for infrastructure facilities such as water supply, fuel, sanitation etc. should be ensured for constructions workers during the construction phase so as to avoid felling of trees and pollution of water and the surroundings.	This condition was complied with during the construction phase.
ix.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA and Risk Analysis report.	Complied with. The environmental protection measures and safeguards recommended in the EIA and Risk Analysis report are being complied with.
x.	The project proponent should have a scheme for social upliftment in the nearby village 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.	Condition is being complied with. Various measures taken for social upliftment in the nearby villages till date by the project proponent are enclosed in Annexure-III.
xi.	A separate environmental management cell equipped with full-fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.	This condition stands complied with. A full-fledged environment management cell headed by DGM-Operational Excellence and laboratory facilities have been established to carry out the environmental management and monitoring functions.

Sr. No.	GENERAL CONDITON	Status
xii.	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.	Complied with. Adequate funds have been allocated for adhering to the conditions stipulated by MoEF&CC / CPCB/ PPCB and these funds are not diverted for any other purpose.
xiii.	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.	This condition is being complied with on a regular basis. Six monthly EC compliance report along with monitoring reports are being submitted regularly. Latest submission done vide letter no. HMEL-OE-40-ENV 1297 dated 3 rd December 2025, copy of the submission is attached as Annexure-IV.

Six Monthly EC compliance report of GGSR for Modification of Refinery Configuration of 9 MMTPA refinery.
(Letter no. J-11011/27512007-IA II (I) date 16th July 2007).

A. SPECIFIC CONDITIONS:

Sr. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
i.	All the conditions stipulated by this Ministry vide its letter no. J-11011/24/98-IA-II (I) dated 6 th November, 1998 shall be strictly implemented.	Complied with.
ii.	The gaseous emissions (SO ₂ , NO _x , HC, H ₂ S and Benzene), from various process units shall conform to the standards prescribed under Environment (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 of pollution control systems (s) adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.	Complied with. The gaseous emissions (SO ₂ , NO _x , HC, etc.) from the various process units comply with the requirements prescribed by PPCB and Refinery Standards as notified in 2008.
iii.	Adequate Ambient Air Quality Monitoring Stations [SPM, SO ₂ , NO _x , HC, and Benzene] shall be set up in consultation with SPCB, based on occurrence of maximum ground level concentration and down wind direction i.e. maximum impact zone. The monitoring network must be decided based on modeling exercise to represent short term GLCs. Continuous on-line stack monitoring equipment shall be installed for measurement of SO ₂ , NO _x . The company shall install online monitors for VOC measurements. Data on VOC shall be monitored and submitted to the SPCB/Ministry.	This condition is complied with. Five (5) continuous ambient air quality monitoring stations have been set up inside GGSR in consultation with the regulatory body. Parameters like PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , Benzene, and THC are being monitored on a continuous basis, the report is attached as Annexure-I for the same.
iv.	Measures for fugitive emissions control shall be taken by provision of double mechanical seals to all pumps handling high vapor pressure materials, Sensors for detecting HC/toxic leakages at strategic locations, regular inspection of floating roof seals, maintenance of	Complied with. The refinery has taken various measures for controlling fugitive emissions. Most of the HC pumps are designed with double mechanical seals. HC and toxic gas detectors have been installed at strategic locations for the detection of leaks. Inspection of floating roof seals,

Sr. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS														
	valves and other equipments and regular skimming of separators/equalization basin.	maintenance of valves, and other equipment are done as standard practice.														
v.	All new standards /norms that are being proposed by CPCB for oil refineries and petrochemicals shall be applicable for the proposed refinery configuration. The project authorities shall take necessary measures to comply with the above proposed emission norms including monitoring facilities and intimate the same to the ministry.	Complied with.														
vi.	The company shall adopt Leak Detection and Repair (LDAR) programme for quantification and control of fugitive emissions.	<p>This condition is complied with.</p> <p>The LDAR programme is being carried out throughout the year for the quantification and control of fugitive emissions by third parties, and records are maintained. From Oct'25 to Mar'26, a total of 42000 points has been monitored.</p>														
vii.	The Company shall also ensure that the total SO ₂ emissions shall not exceed 1000 kg/hr. Sulphur recovery units with more than 99% efficiency shall be installed.	<p>This condition is being complied with.</p> <p>SO₂ emissions are well within the stipulated limits of the CPCB.</p> <p>Existing SO₂ emission: average range: 670 kg/hr to 730 kg/hr (16.0 TPD to 17.5 TPD).</p> <p>The overall sulphur recovery efficiency of Sulphur Recovery Unit with tail gas treatment for the compliance period was 99.98%.</p> <table border="1" data-bbox="927 1473 1469 1832"> <thead> <tr> <th>Month</th> <th>Sulphur Recovery (in %)</th> </tr> </thead> <tbody> <tr> <td>Oct'25</td> <td>99.98%</td> </tr> <tr> <td>Nov'25</td> <td>99.99%</td> </tr> <tr> <td>Dec'25</td> <td>99.98%</td> </tr> <tr> <td>Jan'26</td> <td>99.98%</td> </tr> <tr> <td>Feb'26</td> <td>99.98%</td> </tr> <tr> <td>Mar'26</td> <td>99.98%</td> </tr> </tbody> </table>	Month	Sulphur Recovery (in %)	Oct'25	99.98%	Nov'25	99.99%	Dec'25	99.98%	Jan'26	99.98%	Feb'26	99.98%	Mar'26	99.98%
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viii.	To mitigate NO _x emission, the company shall install low NO _x burners.	This condition is complied with. Low NO _x burners are installed in all boilers and heaters.														

Sr. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
ix.	<p>The waste-water effluent shall not exceed 450 m³/hr. The waste-water shall be segregated in different streams at the source. The treated effluent shall comply with the standards stipulated by PSPC/CPCB for discharge on land for irrigation. The treated effluent shall be recycled and reused for cooling, service, green belt, dust suppression and fire water etc.</p>	<p>Complied with. The wastewater effluent is well within 350 m³/hr. The wastewater is segregated into different streams at the source, like Stripped Sour Water, CRWS, OWS, etc. The treated effluent complies with the standards stipulated by PPCB and CPCB for discharge on land for irrigation. The treated effluent water is being reused and recycled for cooling service, green belt development, dust suppression and the fire network within the refinery.</p>
x.	<p>The oily sludge generated from the ETP after oil recovery shall be disposed in the secured land fill as per CPCB requirement. The spent catalyst from various units shall be returned to the manufacturers for reuse/recycle. The pet coke generated should be sold. The design of the secured landfill site shall be as per the Central Pollution Control Board guidelines.</p>	<p>Complied with. The Oily Sludge generated from ETP is partially processed / recycled in the Delayed Coker Unit (DCU). The spent catalyst from the various process units is disposed off to the approved recyclers. Details are provided in the annual return under HOWM, Rules, 2016. The pet coke generated by DCU is being used/sold. A Secured Land Fill (SLF) site has been developed for the disposal of solid/hazardous waste, complying with all the applicable regulations / guidelines issued by MoEF&CC.</p>
xi.	<p>Green belt shall be provided to mitigate the effects of fugitive emissions all around the plant in an area of 300 acres in consultation with DFO as per CPCB guidelines.</p>	<p>Complied with. The green belt has been developed as per the latest amended EC obtained from MoEF&CC dated 07th December 2021.</p>
xii.	<p>Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories act.</p>	<p>This condition is being complied with. A full-fledged Occupational Health Centre (OHC) is established at GGSR for health surveillance and records are maintained on a regular basis.</p>
xiii.	<p>The company shall prepare comprehensive EIA/EMP report and should be submitted to the Ministry within 1 year.</p>	<p>This condition is complied with. The EIA / EMP report has already been submitted to the Ministry.</p>

Sr. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
xiv.	Detailed Risk Analysis of the Refinery and associated facilities shall be prepared once the engineering design and layout is frozen. Onsite and off-site emergency preparedness plan must be prepared and approval from the nodal agency shall be obtained before commissioning the project.	This condition is complied with. A detailed risk analysis of the refinery and associated facilities was prepared by Engineers India Limited. Onsite and off-site emergency plans are prepared, and approval for the same is obtained from the director of the factory.

B. GENERAL CONDITIONS:

S. No.	GENERAL CONDITONS	COMPLIANCE STATUS
i.	The project authorities must strictly adhere to the stipulations made by the Punjab Pollution Control Board and State Government.	The stipulations made by PPCB are being adhered to strictly.
ii.	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment & Forests.	Condition noted. Prior approval is obtained from the MOEF&CC for any expansion / modification activities.
iii.	At no time, the emission level 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 immediately put out of operation and should not be restarted until the desired efficiency has been achieved.	The emission levels are within the stipulated standards as per the norms prescribed by the CPCB. Online Continuous Emission Monitoring System (OCMS) has been installed as per the direction of CPCB and PPCB, and data is being transmitted on the servers of CPCB and PPCB.
iv.	The overall noise levels in and around the plant area should be kept well within the standards (75 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 with. The overall noise levels in and around the plant areas are well within standards. Various noise control measures, such as acoustic hoods, enclosures, etc., have been provided to reduce the impact of high-noise-generating equipment. The daytime and nighttime noise levels are well within the standards prescribed under the Environment (Protection) Act 1986 Rules, 1989. Please refer Annexure-II ambient noise monitoring reports.

S. No.	GENERAL CONDITONS	COMPLIANCE STATUS
v.	The project authorities must strictly comply with provisions made in Manufacture, Storage, and Import of Hazardous chemicals Rules, 1989 as amended in 2000 for handling of Hazardous chemicals etc. Necessary approvals from Chief Controller of Explosives must be obtained before commission of project.	This condition is being complied with.
vi.	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, 2003. Authorization from the State Pollution Control Board must be obtained for collections/treatment/storage/disposal of Hazardous wastes.	Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 are being complied with. Authorization from PPCB has been obtained and is valid till 30 th June 2029.
vii.	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.	Adequate funds have been allocated to adhering to the conditions stipulated by MoEF&CC and PPCB and are not diverted for any other purpose.
viii.	The stipulated conditions will be monitored by regional office of this ministry at Chandigarh/Central Pollution Control Board/State Pollution Control Board. A Six Monthly compliance report and the monitored data should be submitted to them regularly.	This condition is being complied with. Six monthly EC compliance report along with monitoring reports are being submitted regularly. Latest submission done vide letter no. HMEL-OE-40-ENV 1297 dated 3 rd December 2025, copy of the submission is attached as Annexure-IV.
ix.	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	This condition already stands complied with.

S. No.	GENERAL CONDITONS	COMPLIANCE STATUS
	<p>http://www.envfor.nic.in. This should be advertised within seven days from the issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in vernacular language of the locality concerned and a copy the same should be forwarded to the regional office.</p>	
x.	<p>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.</p>	<p>This condition is complied with.</p> <p>The financial closure of the project had been achieved in July 2007, and the zero date for the project had been declared as 14th November, 2007.</p> <p>The above had already been communicated to the Regional office as well as to the Ministry.</p>

Six monthly EC Compliance Report for Expansion of Refinery from 9 MMTPA to 11.25 MMTPA by HMEI at Village Phullokharl, Bhatinda, Punjab.

EC Letter No.: J-11011/275/2007 IA II (I) date 22nd June 2015

SPECIFIC CONDITIONS

S. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS												
i	Compliance to all the environmental conditions stipulated in the environmental clearance letter no. J11011/24/98-IA II dated 6 th November 1998 and J-11011/275/2007-IA II dated 16 th July 2007 shall be satisfactorily implemented and compliance reports submitted to the Ministry's regional office at Chandigarh.	<p>Complied with.</p> <p>Compliance with all the environmental conditions stipulated in the environmental clearances granted in 1998 and 2007 has been certified by MoEF&CC, Regional Office, Chandigarh, vide letter no. 4-81/2004-RO (N2)/293-294 dated 14th July 2017. The summary status of the compliances stipulated in the said letter is given below:</p> <table border="1"> <thead> <tr> <th>EC grant year</th> <th>No. of Conditions</th> <th>No of Conditions Complied</th> <th>No of conditions pending</th> </tr> </thead> <tbody> <tr> <td>2007</td> <td>24</td> <td>24</td> <td>Nil</td> </tr> <tr> <td>1998</td> <td>26</td> <td>26</td> <td>Nil</td> </tr> </tbody> </table>	EC grant year	No. of Conditions	No of Conditions Complied	No of conditions pending	2007	24	24	Nil	1998	26	26	Nil
EC grant year	No. of Conditions	No of Conditions Complied	No of conditions pending											
2007	24	24	Nil											
1998	26	26	Nil											
ii	M/s HPCL-Mittal Energy Limited shall comply with new standards/norms for oil refinery industry notified under the Environment (Protection) Rules, 1986 vide G.S.R 186E dated 18 th March 2008.	<p>Complied with.</p> <p>All the standards/norms for oil refineries notified under the EP Rules 1986 vide GSR 186 E dated 18th March 2008 are being complied with.</p> <p>The stack emission monitoring reports and effluent analysis reports are attached as Annexure-V and Annexure-VI respectively.</p>												
iii	Continuous online stack monitoring of SO ₂ , NO _x & CO of all stacks shall be carried out. Low NO _x burners shall be installed.	<p>Complied with.</p> <p>Continuous online stack monitoring analyzers for SO₂, NO_x, CO and SPM have been installed in all stacks, and the data is being transmitted online to CPCB/PPCB servers.</p> <p>Low NO_x burners have been installed in all the boilers and heaters.</p>												
iv	ESP along within stack of adequate height shall be provided to pet. coke/coal fired boiler. Limestone	Complied with.												

S. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS								
	will be injected to pet coke/coal fired boiler to control SO ₂ emission.	ESPs and adequate stack height have been provided for petcoke and coal-fired boilers. A limestone injection facility is installed in the pet coke and coal-fired boilers to control SO ₂ emissions.								
v	The process emissions SO ₂ , NO _x , HC (Methane & non methane), VOC's & Benzene from various units shall conform to the standards prescribed under Environmental (Protection) Act. At no time shall emission levels shall go beyond the stipulated standards. In the event of failure of pollution control systems adopted by the units, the unit shall be immediately put out of operation and should be not restarted until the desired efficiency of the pollution control device has been achieved.	Complied with. The continuous emission monitoring systems (CEMS) data on gaseous emissions and particulate matter from various units are being transmitted online to CPCB/PPCB servers. Manual monitoring for gaseous emissions and particulate matter in stacks is also being monitored by a third party (MoEF&CC and NABL-approved laboratory). The stack emission monitoring reports are attached as Annexure-V.								
vi	Leak Detection & Repair Program shall be prepared and implemented to control HC/VOC emissions. Focus shall be given to prevent fugitive emissions for which preventive maintenance of pumps, valves, pipelines are required. Proper maintenance of mechanical seals of pumps and valves shall be given. A preventive maintenance schedule for each unit shall be prepared and adhered to. Fugitive emissions of HC from product storage tank yards etc. must be regularly monitored. Sensors for detecting HC leakage shall be provided at strategic locations.	Complied with. A LDAR program for the refinery has been implemented for the control of HC/VOC emissions. The program focuses on preventive maintenance of pumps, compressors, flanges, and valves. From Oct'25 to Mar'26, a total of 42000 points has been monitored. Sensors for detecting HC leakage have also been provided at strategic locations in the ISBL area. <table border="1" data-bbox="853 1467 1460 1713"> <thead> <tr> <th>Type of Detector</th> <th>Numbers</th> </tr> </thead> <tbody> <tr> <td>Hydrocarbon (process area)</td> <td>845</td> </tr> <tr> <td>Hydrocarbon (analyzer shelter)</td> <td>77</td> </tr> <tr> <td>Toxic gases + Hydrogen</td> <td>368</td> </tr> </tbody> </table>	Type of Detector	Numbers	Hydrocarbon (process area)	845	Hydrocarbon (analyzer shelter)	77	Toxic gases + Hydrogen	368
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Hydrocarbon (process area)	845									
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vii	SO ₂ emissions after expansion from the plant shall no exceed 23.64 TPD and further efforts shall be made for reduction of SO ₂ load through use of low sulphur fuel. Sulphur recovery units shall be installed for control of H ₂ S emissions. The overall	This condition is being complied with. The total SO ₂ emission from the GGSR has been modified to 23.8 TPD as per EC dated 07 th August 2018, which includes emissions from the expansion projects. SO ₂ emissions from the existing refinery remained in								

S. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS														
	sulphur recovery efficiency of sulphur recovery unit with tail gas treating shall not be less than 99.9 %.	<p>the range of 16 TPD to 17.50 TPD against the limit of 23.8 TPD.</p> <p>The overall sulphur recovery efficiency of Sulphur Recovery Unit with tail gas treatment for the compliance period was 99.98%</p> <p>Month wise sulphur recovery is given below:</p> <table border="1" data-bbox="884 622 1422 981"> <thead> <tr> <th>Month</th> <th>Sulphur Recovery (in %)</th> </tr> </thead> <tbody> <tr> <td>Oct'25</td> <td>99.98%</td> </tr> <tr> <td>Nov'25</td> <td>99.99%</td> </tr> <tr> <td>Dec'25</td> <td>99.98%</td> </tr> <tr> <td>Jan'26</td> <td>99.98%</td> </tr> <tr> <td>Feb'26</td> <td>99.98%</td> </tr> <tr> <td>Mar'26</td> <td>99.98%</td> </tr> </tbody> </table>	Month	Sulphur Recovery (in %)	Oct'25	99.98%	Nov'25	99.99%	Dec'25	99.98%	Jan'26	99.98%	Feb'26	99.98%	Mar'26	99.98%
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Mar'26	99.98%															
viii	As proposed, record of sulphur balance shall be maintained at the Refinery as part of the environmental data on regular basis. The basic component of sulphur balance include sulphur unit through feed (sulphur content in crude oil), sulphur output from refinery through products, byproducts (elemental sulphur), atmospheric emissions etc. will be maintained.	<p>This condition is being complied with.</p> <p>The sulphur balance of the refinery is calculated considering the sulphur content of crude oil, atmospheric SO₂ emissions from various units, solid sulphur produced, and the sulphur content of various products. The sulphur balance is regularly computed and the data maintained.</p>														
ix	Flare gas recovery system shall be installed.	<p>Complied with.</p> <p>The flare recovery system is in operation.</p> <p>The month-wise HC recovery is given below:</p> <table border="1" data-bbox="852 1541 1453 1832"> <thead> <tr> <th>Month</th> <th>HC Recovery (MT)</th> </tr> </thead> <tbody> <tr> <td>Oct'25</td> <td>238</td> </tr> <tr> <td>Nov'25</td> <td>652</td> </tr> <tr> <td>Dec'25</td> <td>723</td> </tr> <tr> <td>Jan'26</td> <td>409</td> </tr> <tr> <td>Feb'26</td> <td>358</td> </tr> <tr> <td>Mar'26</td> <td>276</td> </tr> </tbody> </table>	Month	HC Recovery (MT)	Oct'25	238	Nov'25	652	Dec'25	723	Jan'26	409	Feb'26	358	Mar'26	276
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x	Ambient air quality monitoring stations, (PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , H ₂ S, Mercaptan, non-methane-HC and Benzene) shall be set up in the complex in	This condition is being complied with.														

S. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS						
	<p>consultation with State Pollution Control Board, 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. Trend analysis w.r.t past monitoring results shall also be carried out. Adequate measures based on the trend analysis shall be taken to improve the ambient air quality in the project area.</p>	<p>Five (5) continuous ambient air quality monitoring stations have been set up inside GGSR in consultation with the regulatory body.</p> <p>Ambient air quality monitoring data is attached as Annexure-I.</p>						
xi	<p>The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Besides, acoustic enclosure/silencer shall be installed wherever it is possible.</p>	<p>Complied with.</p> <p>A suitable stack height as per the prescribed standards and the necessary acoustic enclosure are provided for the DG sets.</p>						
xii	<p>Total water requirement from Kotla Canal after expansion shall not exceed 2,420 m³/hr and prior permission shall be obtained from the competent authority. Industrial effluent generation shall not exceed 720m³/h and treated in the effluent treatment plant. Out of which 376 m³/h of industrial effluent generated from cooling tower blow down and boiler blow down shall be treated through Reverse Osmosis (RO) and Demineralize Plant (DM) and permeate shall be recycled for cooling tower make up and boiler blow down. RO rejects shall be evaporated in the Multiple effect evaporator (MEE). Process effluent and condensate from MEE shall be treated in the ETP comprising API and TPI oil removal units, biological treatment units such as SBR, MBR and tertiary treatment unit. Treatment effluent shall be recycled for cooling tower make up water and reused for horticulture /</p>	<p>This condition is being complied with.</p> <p>As per the latest Environmental Clearance (EC) dated 07 August 2018, the total water requirement is 5,952 m³/hr, comprising:</p> <ul style="list-style-type: none"> • Existing Refinery: 2,420 m³/hr • Polymer Addition Complex: 3,500 m³/hr • BS-VI Complex: 32 m³/hr <p>The total requirement is met by the existing raw water system sourced from Kotla Canal, for which permission was obtained vide letter no. 021/2014-(2) 1128-4426/1 dated 30 July 2018.</p> <p>The average raw water consumption for the period October 2025 to March 2026 is 3,322 m³/hr, which is within the approved limits, details are given below:</p> <table border="1" data-bbox="853 1825 1460 1977"> <thead> <tr> <th>Month</th> <th>Raw water consumption (m³/hr)</th> </tr> </thead> <tbody> <tr> <td>Oct'25</td> <td>3733</td> </tr> <tr> <td>Nov'25</td> <td>3205</td> </tr> </tbody> </table>	Month	Raw water consumption (m ³ /hr)	Oct'25	3733	Nov'25	3205
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S. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS	
	gardening. Domestic sewage shall be treated in sewage treatment plant (STP).	Dec'25	3263
		Jan'26	2945
		Feb'26	3467
		Mar'26	3320
		Average	3322
		<p>Industrial effluent generation and reuse are maintained within stipulated norms. Boiler blowdown and cooling tower blowdown are treated in RO-DM units, and the permeate is recycled back into the system. RO rejects are managed through an evaporation system (MEE/solar evaporation system).</p> <p>Process effluent and MEE condensate are treated in the ETP consisting of API, TPI, biological (SBR/MBR), and tertiary treatment units. Treated effluent is reused for cooling tower make-up and horticulture purposes.</p> <p>Domestic sewage is treated in sewage treatment plants (STP).</p>	
xiii	All the effluents after treatment shall be routed to a properly lined guard pond for equalization and final control. In the guard pond, automatic monitoring system for flow rate, pH and TOC shall be provided. Data shall be uploaded on company's website and provided to respective regional Office of MoEF&CC and SPCB.	<p>Complied with.</p> <p>All the effluent after treatment is routed to the treated effluent tank. The online flow meter, pH, COD, BOD & TSS analyzers are installed at the ETP outlet and data is being transmitted to the CPCB / PPCB server as per the direction of CPCB/PPCB in 2016, copy of data from Oct'25 to Mar'26 is attached as Annexure-VII.</p> <p>The ETP outlet data is uploaded along with six monthly compliance reports on the company's website and also submitted to RO, MoEF&CC, and Chandigarh.</p>	
xiv	Oil catchers / oil traps shall be provided at all possible locations in rain / storm water drainage system inside factory premises.	Complied with.	

S. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
		Two (2) nos. of oil catchers are provided in the upstream of the storm water pond within the refinery complex.
xv	Oily sludge shall be disposed off into coker and balance oily sludge will be treated in the bioremediation facility. Annual oily sludge generation and disposal data shall be submitted to the Ministry's Regional office and CPCB.	<p>Complied with.</p> <p>The oily sludge generated is disposed off in the delayed coker unit (DCU), and the balance of the oily sludge is disposed of in the secured landfill facility within the refinery complex.</p> <p>The annual return (Form-IV) of hazardous waste containing the data for oily sludge that is generated & disposed off for the period of 2024-25 was submitted vide letter no. HMEL-TS-40-ENV 1250 on dated 27th June, 2025.</p> <p>During Oct'25 to Mar'26, total 7301 MT oily and chemical sludge is generated which is reprocessed in DCU (Delayed Coker Unit) or disposed off within secure SLF.</p>
xvi	The company should strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October, 1994 and January, 2000. Hazardous waste should be disposed of as per Hazardous Waste (Management, Handling & Trans - Boundary movement) rules 2008 & amended time to time.	<p>Complied with.</p> <p>The rules and regulations specified under MSIHC Rules, 1989, have been incorporated into the design requirements of refineries and their associated facilities and accordingly implemented. The hazardous waste is handled, stored, transported, and disposed of as per the Hazardous Waste (Management, Handling, and Transboundary Movement) Rules, 2016 and the hazardous waste authorization issued by PPCB which is valid until 30.06.2029.</p> <p>Hence, this condition is complied with.</p>
xvii	The membership of common TSDF should be obtained for the disposal of the hazardous waste. Copy of authorization or membership of TSDF should be submitted to Ministry's Regional Office at Chandigarh. Chemical/ Inorganic sludge shall be	<p>Complied.</p> <p>The refinery has an operational Secured Landfill (SLF) facility within the complex. Non-recyclable or non-reprocessable hazardous waste from the existing as well as expansion units is disposed off in this SLF.</p>

S. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS												
	sent to treatment storage disposal facility (TSD) for hazardous waste. Spent catalyst shall be sent to authorized recyclers /re-processors.	Hence, membership of the common TSD has not been taken. Spent catalyst from various units is disposed off at SPCB authorized recyclers and re-processors.												
xviii	Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of oil/petroleum products and ensure regular monitoring.	Complied with. The oil spillage/leakage prevention management plan is in place.												
xix	The company shall strictly follow all the recommendations mentioned in Charter on Corporate Responsibility for Environmental Protection (CREP).	<p>The CREP recommendations implementation status is as follows:</p> <table border="1" data-bbox="852 882 1461 1946"> <thead> <tr> <th data-bbox="852 882 922 981">Sr. No</th> <th data-bbox="922 882 1102 981">Requirement of CREP</th> <th data-bbox="1102 882 1461 981">Status</th> </tr> </thead> <tbody> <tr> <td data-bbox="852 981 922 1592">1</td> <td data-bbox="922 981 1102 1592">Installation of online monitoring system</td> <td data-bbox="1102 981 1461 1592">Completed. Continuous Emission and Effluent Monitoring Systems have been installed in stacks and ETP outlets. Continuous Ambient Air Quality Monitoring Stations (CAAQMS) are also installed. The CEMS and CAAQMS data has been transmitted online to CPCB servers since March 2016.</td> </tr> <tr> <td data-bbox="852 1592 922 1845">2</td> <td data-bbox="922 1592 1102 1845">Zero Liquid Discharge</td> <td data-bbox="1102 1592 1461 1845">Completed. GGSR is a ZLD refinery. The entire treated water from ETP is used for greenbelt and horticulture development.</td> </tr> <tr> <td data-bbox="852 1845 922 1946">3</td> <td data-bbox="922 1845 1102 1946">Oily Sludge management</td> <td data-bbox="1102 1845 1461 1946">Oily sludge generated from ETP is processed in DCU, sold</td> </tr> </tbody> </table>	Sr. No	Requirement of CREP	Status	1	Installation of online monitoring system	Completed. Continuous Emission and Effluent Monitoring Systems have been installed in stacks and ETP outlets. Continuous Ambient Air Quality Monitoring Stations (CAAQMS) are also installed. The CEMS and CAAQMS data has been transmitted online to CPCB servers since March 2016.	2	Zero Liquid Discharge	Completed. GGSR is a ZLD refinery. The entire treated water from ETP is used for greenbelt and horticulture development.	3	Oily Sludge management	Oily sludge generated from ETP is processed in DCU, sold
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S. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS	
			to offsite re-processors, or disposed off in SLF.
		4	<p>Installation of VOC collection and treatment system in ETP.</p> <p>Completed.</p> <p>Since the design stage, the VOC collection and treatment system has been installed and operational in ETP.</p>
		5	<p>Air Emission reduction measures adopted.</p> <p>a) Use of Low Sulphur Fuel Oil and Fuel Gas in Refinery (<0.5 % sulphur in FO & < 150 mg/nm³ sulphur in FG).</p> <p>b) Use of low NOx burners in all heaters and boilers to minimize NOx emissions.</p> <p>c) Stack heights have been provided in line with the minimum stack height criteria as per CPCB Standards</p> <p>d) Installation of a Third Stage Separator (TSS) and a Fourth Stage Separator (FSS) in the FCC to minimize particulate matter emissions</p> <p>e) Floating roofs are provided in storage tanks to minimize the fugitive emissions.</p> <p>f) VOC emission treatment at ETP to minimize fugitive emissions.</p>

S. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS	
			<p>g) Closed Blowdown System to minimize hydro - carbon emissions.</p> <p>h) LDAR programme implemented.</p>
xx.	Occupational Health Surveillance of the workers should be done on regular basis and records maintained as per Factories Act.	<p>Complied with.</p> <p>A health check is done once every six (6) months for workers working in the operation area and once a year for workers working in the non-operational area. The health checkup records are being maintained as per the Factories Act.</p> <p>Hence, the condition is being complied with.</p>	
xxi	As proposed Green Belt over 33 % of the total project area shall be developed within the plant premises with at least 10 meters wide green belt on all sides along the periphery of the project area, in downwards direction, and along road sides etc. Selection of plant species shall be as per CPCB guidelines in consultation with the DFO.	<p>Complied with.</p> <p>A green belt has been developed as per the latest amended EC obtained from MoEF&CC dated 07th December, 2021.</p>	
xxii	Company shall prepare project specific environmental manual and a copy shall be made available at the project site for the compliance.	<p>Complied with.</p> <p>Environment manuals for ETP have been prepared and is available at the site with the concerned persons.</p>	
xxiii	All the recommendations mentioned in the Rapid Risk Assessment report, disaster management plan & safety guidelines shall be implemented. The company should make the arrangement for protection of possible fire and explosion hazards during manufacturing process in material handling.	<p>Complied with.</p> <p>All the recommendations mentioned in the Rapid Risk Assessment report, disaster management plan & safety guidelines have been implemented.</p>	
xxiv	All commitment made regarding issues raised during the public hearing/consultation meeting held on 14 th October, shall be satisfactorily implemented. Accordingly provision of budget to be kept.	<p>Complied with.</p> <p>A total of 13 queries were raised during the public hearing for the expansion project. 12 queries have already been completed. One query was related to the</p>	

S. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
		shifting of Kanakwal village and the same was closed by the District Administration. Hence, the condition is complied with.
xxv	At least 2.5% (54 crores) of the total cost of the project shall be earmarked towards the Enterprise social responsibility based on Public Hearing Issues and item-wise details along with time bound action plan shall be prepared and submitted to Ministry's Regional Office at Chandigarh.	Complied with. The details of Enterprise Social Responsibility activities undertaken are enclosed as Annexure-III . The time bound action plan has been submitted to the RO, MoEF&CC, Chandigarh.
xxvi	Company shall adopt Corporate Environment Policy as per the Ministry's O.M No. J-11013/41/2006-IA II (I) dated 26 th April 2011 and implemented.	Complied with. We have already adopted and implemented our Corporate Environment Policy.
xxvii	Provision shall be made for the housing of construction labour within site with all necessary infrastructure and facility such as fuel for cooking, mobile toilets, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after completion of the project.	Complied. The project was completed in 2017. During the project, canteen facilities, toilet facilities, RO drinking water facilities, medical health care facilities, etc. were provided. Hence, this condition was complied with during the construction phase of the project.

A. GENERAL CONDITIONS:

S. No.	GENERAL CONDITIONS	COMPLIANCE STATUS
i	The project authorities shall strictly adhere to the stipulations made by the State Government & Punjab Pollution Control Board.	Complied with. All the stipulations made by the State Government and the Punjab Pollution Control Board are being complied with.
ii	No further expansion or modification in the plant shall be carried out with our prior approval of the Ministry of Environment and Forest. In case of deviations or alterations in the project proposal from those submitted to this Ministry for Clearance,	Complied with. Pursuant to obtaining this clearance, prior Environmental Clearance (EC) has been obtained from MoEF&CC before implementing the BS VI project vide

S. No.	GENERAL CONDITIONS	COMPLIANCE STATUS
	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.	EC letter no. letter no. F.No. J-11011/386/2016-IA-II (I) dated 7 th August 2018. There have been no deviations or alterations made in the project proposal from those submitted to MoEF&CC.
iii	The locations of ambient air quality monitoring stations shall be decided in consultation with the Punjab Pollution Control Board (PPCB) and it shall be insured that at least one station is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	Complied with. Five (5) Continuous Ambient Air Quality Monitoring stations have been installed in consultation with PPCB in suitable locations in the Refinery. Hence, this condition is complied with.
iv	The overall noise levels in and around the plant area shall be kept 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 Environment (Protection) Act 1986 Rules,1989 viz.75 dBA (Day time) & 70 dBA (Night time).	Complied with. The overall noise levels in and around the plant areas are well within standards. Various noise control measures, such as acoustic hoods, enclosures, etc., have been provided to reduce the impact of high-noise-generating equipment. The day time and night time noise levels are well within the standards prescribed under the Environment (Protection) Act 1986 Rules, 1989. Please refer to Annexure-II for ambient noise monitoring reports.
v	The company shall harvest rainwater from the roof top of the building and storm drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.	Complied with. A total of six rainwater harvesting and groundwater charging pits are installed inside the refinery premises. In refinery, a storm water pond is provided to harvest rainwater. Collected storm water is being utilized for horticulture.
vi	The company shall obtain Authorization for collection, storage and disposal of hazardous waste under the Hazardous Waste (Management, Handling and Trans-Boundary Movement) Rules	Complied with. The authorization for collection, storage, and disposal of hazardous waste is available for refinery and is valid till 30 th June 2029.

S. No.	GENERAL CONDITIONS	COMPLIANCE STATUS
	2008 and its amendment time to time and prior permissions from PPCB shall be obtained for disposal of solid/hazardous waste including boiler ash.	
vii	During transfer of materials, spillage shall be avoided and garland drains be constructed to avoid mixing of accidental spillages with domestic wastewater and storm water drains.	The condition is complied with. To avoid the mixing of accidental spillages with domestic wastewater and storm water drains during the transfer of material, garland drains have been constructed.
viii	Usage of Personal Protection Equipment's by all employees/workers should be ensured.	This condition is being complied with. PPE's has been provided to all the employees/workers. It is being ensured by all the plants that proper PPE's are worn by all concerned.
ix	Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examination for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	This condition is being complied with. Each worker is imparted safety training before issuing a gate pass, and refresher training is done every 6 months. Pre-employment and periodic medical examinations are done six monthly for workers working in operational areas and yearly for workers working in non-operational areas.
x	The company shall also comply with all the environmental protection measures and safeguards proposed in the project report submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management risk mitigation measures and public hearing relating to the project shall be implemented.	Complied with.
xi	The company shall undertake CSR activities and all the relevant measures for improving the socio-economic conditions of the surrounding area.	This condition is being complied with. Details of activities undertaken to improve the socio-economic conditions of the surrounding areas are attached as Annexure-VIII.

S. No.	GENERAL CONDITIONS	COMPLIANCE STATUS
xii	The company shall undertake eco-developmental measures including community welfare measure in the project area for the overall improvement of the environment.	This condition is being complied with. Details of eco-developmental measures, including community welfare measures in the project area, are enclosed as Annexure-IX.
xiii	A separate Environmental Management cell equipped with full-fledged laboratory facilities shall be set up to carry out the environmental Management and Monitoring functions.	Complied with. A dedicated Environment Management Cell headed by the Deputy General Manager (Environment) looks after the environmental management and monitoring functions of the refinery. GGSR also has a state-of-the art laboratory with environmental pollution analysis equipment.
xiv	As proposed the company shall earmark the sufficient funds toward capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment and Forest 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.	This condition has been complied with. Adequate funds have been allocated for capital and recurring cost and these funds are not diverted for any other purpose.
xv	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 who suggestions /representations, if any, were received while processing the proposal.	This condition has already been complied with. The company has not received any suggestions/ representations while processing the proposal.
xvi	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 email) to the respective regional office of MoEF&CC, the respective zonal office of CPCB and	This condition is being complied with. Six monthly EC compliance report along with monitoring reports are being submitted regularly. Latest submission done vide letter no. HMEL-OE-40-ENV 1297 dated 3 rd December 2025, copy of the submission is attached as Annexure-IV.

S. No.	GENERAL CONDITIONS	COMPLIANCE STATUS
	the Punjab Pollution Control Board. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.	A copy of an environmental clearance and six monthly compliance reports have been uploaded on the HMEL website at the link given below: https://www.hmel.in/wp-content/uploads/2025/09/six-monthly-ec-compliance-report-of-ggsr-for-the-period-of-oct24-to-mar25.pdf
xvii	The environmental statement for each financial year ending 31 st March in Form - V as is mandated shall be submitted to the Punjab Pollution Control Board as prescribed under Environment (Protection) Rules, 1986, as amended subsequently, shall also be put up on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the Chandigarh Regional offices of MOEF by e-mail.	This condition is being complied with. The environment statement for each financial year ending 31 st March in Form-V is being submitted to PPCB and a copy of the same is uploaded on the HMEL website in the link given below: https://www.hmel.in/wp-content/uploads/2025/10/Environmental-Statement-Form-V_2024-25_HMEL.pdf
xviii i	The project proponent shall inform the public that the project has been accorded Environment Clearance by the Ministry and copies of the clearance letter are available with SPCB/committee and may also be seen at website of the ministry at http://envfor.nic.in . This shall be advertised within seven days from the date of issue of the clearance letter at least in two local newspaper 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 Ministry.	Complied. The accordance of Environmental Clearance for the project was advertised in two widely circulated local newspapers namely Tribune Bathinda (English) and Ajit (Punjabi) on 30 th June 2015. A copy of these advertisements was submitted to the Regional Office, MoEF&CC, Chandigarh vide our letter no. 9112-000-TSHQ-009-2015-14 dated 7 th July, 2015.
xix	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.	The requested project milestones are as follows: 1. The date of final board approval is 21 st December, 2012. 2. The date of financial closure is 20 th March, 2013.

S. No.	GENERAL CONDITIONS	COMPLIANCE STATUS
		3. The date of the start of the project is 9 th September, 2015.

Six Monthly EC Compliance Report from for Fuel Quality Up-gradation Project at Guru Gobind Singh Refinery, Village Phulokhari, Bathinda District, Punjab (India).

EC No: F. No. J-11011/386/2016-IA-II (I) dated 7th August 2018.

SPECIFIC CONDIONS:

S. No.	SPECIFIC CONDIONS	COMPLIANCE STATUS
(i)	The project proponent shall take stringent mitigating and other remedial measure to minimize the incremental concentration of air pollution (mainly PM ₁₀ & PM _{2.5}) to extent possible.	Complied with. The following measures have been implemented to minimize the emissions from the proposed project: <ol style="list-style-type: none"> 1. Regular sprinkling of water on roads. 2. Widening and bitumen laying of roads. 3. Bitumen carpeting in vehicle parking areas at the refinery main gate. 4. Discourage of stubble burning by providing happy seeders to villagers.
(ii)	The project proponent shall develop local air quality management plan in consultation with SPCB and implemented to achieve desired standards.	The local air quality management plan has been prepared and submitted to PPCB vide letter no. HMEL-TS-40-ENV 644, dated 24 th May'19.
(iii)	The incremental ground level concentration (GLCs) for PM ₁₀ , PM _{2.5} , SO ₂ & NO _x due to the increased vehicular and other allied/developmental activities, shall be analysed and reported for actual impact of the project.	This condition is being complied with.
(iv)	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.	Complied with. The Consent to Operate (CTO) for the project has been 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. A copy of the same is attached as Annexure-X .
(v)	For the fuel quality up-gradation, as already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.	Complied with. The existing refinery complex as well as the Fuel Up-gradation plant are Zero Liquid Discharge (ZLD) refinery. Treated effluent is recycled and re-used for

S. No.	SPECIFIC CONDIONS	COMPLIANCE STATUS
		greenbelt/horticulture etc. Hence, no waste/treated water is discharged outside the premises.
(vi)	Necessary authorization required under the Hazardous and other Wastes (Management and Trans-Boundary Movement) Rules, 2016 and Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in Rules shall be strictly adhered to.	This condition has been complied with. The authorization for collection, storage & disposal of Hazardous waste has already been obtained and is valid till 30 th June 2029.
(vii)	National Emission Standards for Petroleum Oil Refinery issued by the Ministry vide G.S.R. 186(E) dated 18 th March, 2008 and G.S.R. 595(E) dated 21st August, 2009 as amended time to time shall be followed.	This condition is being complied with.
(viii)	Total SO ₂ emission from the refinery shall not exceed 990 kg/hr.	This condition is being complied with. Exiting SO ₂ emission: Average range: 670 kg/hr to 730 kg/hr (16.0 TPD to 17.5 TPD).
(ix)	The 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 stack of adequate height as per CPCB/SPCB guidelines.	Complied with. The DHDT and HGU plants are designed to meet prescribed CPCB/PPCB norms for the refinery. Gaseous emissions are discharged through stacks of adequate height as per CPCB/PPCB norms.
(x)	Total fresh water requirement shall not exceed 5,952 cum/hr (including 32 cum/hr for the proposed project) to be met from Kotla Canal. Necessary permission in this regard shall be obtained from the concerned regulatory authority.	This condition is being complied with. As per the latest Environmental Clearance (EC) dated 07 August 2018, the total water requirement is 5,952 m ³ /hr, comprising: <ul style="list-style-type: none"> • Existing Refinery: 2,420 m³/hr • Polymer Addition Complex: 3,500 m³/hr • BS-VI Complex: 32 m³/hr The total requirement is met by the existing raw water system sourced from Kotla Canal, for which permission was obtained vide letter no. 021/2014-(2) 1128-4426/1 dated 30 July 2018.

S. No.	SPECIFIC CONDIONS	COMPLIANCE STATUS																
		<p>The average raw water consumption for the period October 2025 to March 2026 is 3,322 m³/hr, which is within the approved limits.</p> <p>Details of raw water consumption are given below:</p> <table border="1" data-bbox="879 510 1481 925"> <thead> <tr> <th>Month</th> <th>Raw water consumption (m³/hr)</th> </tr> </thead> <tbody> <tr> <td>Oct'25</td> <td>3733</td> </tr> <tr> <td>Nov'25</td> <td>3205</td> </tr> <tr> <td>Dec'25</td> <td>3263</td> </tr> <tr> <td>Jan'26</td> <td>2945</td> </tr> <tr> <td>Feb'26</td> <td>3467</td> </tr> <tr> <td>Mar'26</td> <td>3320</td> </tr> <tr> <td>Average</td> <td>3322</td> </tr> </tbody> </table> <p>Industrial effluent generation and reuse are maintained within stipulated norms. Boiler blowdown and cooling tower blowdown are treated in RO-DM units, and the permeate is recycled back into the system. RO rejects are managed through an evaporation system (MEE/solar evaporation system).</p> <p>Process effluent and MEE condensate are treated in the ETP consisting of API, TPI, biological (SBR/MBR), and tertiary treatment units. Treated effluent is reused for cooling tower make-up and horticulture purposes.</p> <p>Domestic sewage is treated in sewage treatment plants (STP).</p>	Month	Raw water consumption (m ³ /hr)	Oct'25	3733	Nov'25	3205	Dec'25	3263	Jan'26	2945	Feb'26	3467	Mar'26	3320	Average	3322
Month	Raw water consumption (m ³ /hr)																	
Oct'25	3733																	
Nov'25	3205																	
Dec'25	3263																	
Jan'26	2945																	
Feb'26	3467																	
Mar'26	3320																	
Average	3322																	
(xi)	Process effluent/any wastewater shall not be allowed to mix with storm water. The storm water from the premises shall be collected and discharged through a separate conveyance system.	Complied with.																
(xii)	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arrestors shall be	This condition is being complied with.																

S. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
	provided on tank farm, and solvent transfer to be done through pumps.	
(xiii)	Process organic residue and spent carbon 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.	This condition is being complied with. There is no boiler in the BS-VI project.
(xiv)	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.	This condition is being complied with.
(xv)	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.	Complied with. There is no boiler in the BS-VI project. Fly as generated from the two CFBC boilers of 300 TPH capacity each is stored in silos and given to the cement industries.
(xvi)	<p>The company shall undertake waste minimization measures as below:-</p> <ol style="list-style-type: none"> 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 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 vapor recovery system f. Use of high pressure hoses for equipment clearing to reduce wastewater generation 	Noted & complied with.

S. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
(xvii)	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 guideline in consultation with State Forest Department.	A green belt has been developed as per the latest amended EC obtained from MoEF&CC dated 07 th December, 2021.
(xviii)	At least 0.25% 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.	<p>INR: 275 lakhs i.e. about 0.25% of the total project cost has been allocated for Corporate Environment Responsibility (CER) and the time bound action plan has been submitted to MoEF&CC. A copy of the mail to MoEF&CC is enclosed as Annexure-XI.</p> <p>A 250 KLD wastewater treatment plant has been installed and made operational by the company in Phullokharl village under Corporate Environmental Responsibility (CER). Till date, the company has incurred an expenditure of INR: 70 lakhs (Approx).</p>
(xix)	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.	<p>Complied with.</p> <p>A suitable stack height as per the prescribed standards and the necessary acoustic enclosure are provided for the DG sets.</p>
(xx)	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.	<p>Condition Complied with.</p> <p>Firefighting systems in manufacturing processes and material handling areas are already installed as per OISD standards.</p>
(xxi)	Continuous online (24*7) 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 premises	<p>Condition Complied with.</p> <p>Online SO₂, NO_x, CO and SPM analyzers for the existing refinery have been installed and the online data is being transmitted to CPCB / PPCB servers. Similarly, online continuous effluent monitoring systems and flow meters have been installed at the existing ETP and the online data is being transmitted to CPCB/PPCB. In the proposed project, CEMS for SO_x, NO_x, CO, and PM have been installed, and the</p>

S. No.	SPECIFIC CONDIONS	COMPLIANCE STATUS
		online data is being transmitted to CPCB and PPCB servers.
(xxii)	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Complied with. Occupation health surveillance is done once every six (6) months for employees working in operational areas and once a year for employees working in non-operational areas, and records are maintained as per the Factories Act.

10.1: GENERIC CONDIONS:

S. No.	GENERIC CONDITIONS	COMPLIANCE STATUS
(i)	The project authorities must strictly adhere to the stipulations made by the State Government, Central Pollution Control Board, State Pollution Control Board and any other statutory authority.	Complied with. All the conditions stipulated by the MoEF&CC, CPCB and PPCB are being strictly adhered.
(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 alterations 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.	Complied with. Prior Environmental Clearances have been obtained from MoEF&CC before implementing the modification/expansion of the existing refinery. Hence, this condition has been complied with.
(iii)	The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured at least one station each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	This condition is being complied with. Five (5) Continuous Ambient Air Quality Monitoring Stations (CAAQMS) have been installed at the periphery of the refinery in consultation with the Punjab Pollution Control Board (PPCB).

(iv)	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R No 826(E) dated 16 th November, 2009 shall be followed.	Condition noted and complied with. The National Ambient Air Quality Emission Standards issued by MoEF&CC vide G.S.R. No. 826 (E) dated 16 th November 2009 are being monitored and the data is being transmitted online to CPCB / PPCB servers.
(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 level shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules viz. 75 dBA (day time) and 70 dBA (night time).	Being complied with. The overall noise levels in and around the plant areas are well within standards. Various noise control measures, such as acoustic hoods, enclosures, etc., have been provided to reduce the impact of high-noise-generating equipment. The daytime and night time noise levels are well within the standards prescribed under the Environment (Protection) Act 1986 Rules, 1989. Please refer to Annexure-II ambient noise monitoring reports (from Oct'25 to Mar'26).
(vi)	The company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water	Complied with. A total of six rainwater harvesting and groundwater charging pits are installed inside the refinery premises. In the refinery, a storm water pond is provided to harvest rainwater. Collected storm water is being utilized for firefighting and horticulture.
(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.	Complied with. Each worker is imparted safety training before issuing a gate pass, and refresher training is done every 6 months. Pre-employment and periodic medical examinations are done six months a year for workers working in operational areas and once a year for workers working in non-operational areas.
(viii)	The company shall also comply with all the environment 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	This condition is being complied with.

	mitigation measures relating to the project shall be implemented.	
(ix)	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 villages and administration.	This condition is being complied with. Details of activities undertaken to improve the socio-economic conditions of the surrounding areas are attached as Annexure-VIII .
(x)	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	This condition is being complied with. Details of eco-developmental measures, including community welfare measures in the project area, are enclosed as Annexure-IX .
(xi)	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement 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.	Complied with. The company has earmarked sufficient funds towards capital cost and recurring cost per annum to implement conditions stipulated by the MoEF&CC as well as PPCB and will not be diverted for any other purpose.
(xii)	A copy of 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.	A copy of the EC letter had already been sent to the concerned quarters.
(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 Environment Clearance and six monthly compliance status report shall be posted on the website of the company.	This condition is being complied with. The last six-monthly compliance reports were submitted to the Regional Office of MoEF&CC, the respective Zonal office of CPCB and SPCB vide letter no. Latest submission via letter no. HMEL-OE-40-ENV 1297 dated 3 rd December 2025, copy of the submission is attached as Annexure-IV . A copy of Environment Clearance and six-monthly compliance report has been uploaded on the HMEL website in the link given below:

		https://www.hmel.in/wp-content/uploads/2025/09/six-monthly-ec-compliance-report-of-ggsr-for-the-period-of-oct24-to-mar25.pdf
(xiv)	The environment 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 send to the respective Regional Offices of MoEF&CC by e-mail.	<p>This condition is being complied with.</p> <p>The environment statement for each financial year ending 31st March in Form-V is being submitted to PPCB and a copy of the same is uploaded on the HMEI website in the link given below:</p> <p>https://www.hmel.in/wp-content/uploads/2025/10/Environmental-Statement-Form-V_2024-25_HMEL.pdf</p>
(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 http://moef.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 other concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry	<p>A copy of the advertisement publishing the accordance of environmental clearance by MoEF&CC in the two widely circulated local newspapers is attached as Annexure-XII.</p> <p>Hence, this condition has been complied with.</p>
(xvi)	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.	<p>This condition is complied with.</p> <p>The requested project milestones are as follows:</p> <ol style="list-style-type: none"> 1. Final board approval of the Project: 30th December, 2016. 2. Start of the Project: 6th May, 2019. 3. Financial closure of the project: Financial closure is 01.03.2021.

ANNEXURE-I

Monthly Average AAQMS Data of GGSR for Oct'2025 to Mar'2026

Parameter		SO ₂	NO ₂	PM ₁₀	PM _{2.5}	BENZENE	Ethyl BENZENE
Station No.	Month	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
AAQMS 1	Oct-25	6.21	21.40	173.42	77.81	3.19	0.90
AAQMS 2		6.54	23.15	127.77	90.03	2.98	2.96
AAQMS 3		17.20	29.77	146.93	51.89	1.58	2.92
AAQMS 4		9.16	21.16	180.84	88.52	3.16	1.52
AAQMS 5		7.29	21.59	131.90	75.37	1.52	2.51
Min		6.21	21.16	127.77	51.89	1.52	0.90
Max		17.20	29.77	180.84	90.03	3.19	2.96
Avg		9.28	23.42	152.17	76.72	2.48	2.16
CPCB limit		80	80	100	60	5	
AAQMS 1	Nov-25	8.15	21.14	216.90	105.15	3.34	1.25
AAQMS 2		9.43	22.33	182.54	103.49	3.25	2.00
AAQMS 3		8.05	26.99	160.62	85.16	1.71	2.23
AAQMS 4		10.51	21.81	214.94	111.18	3.55	2.14
AAQMS 5		9.32	24.07	184.32	119.80	2.18	2.75
Min		8.05	21.14	160.62	85.16	1.71	1.25
Max		10.51	26.99	216.90	119.80	3.55	2.75
Avg		9.09	23.27	191.87	104.96	2.80	2.08
CPCB limit		80	80	100	60	5	
AAQMS 1	Dec-25	10.06	25.66	166.17	72.76	3.11	1.67
AAQMS 2		10.05	23.58	171.66	58.18	2.73	1.84
AAQMS 3		12.87	29.47	95.62	37.77	2.78	2.59
AAQMS 4		11.13	22.56	151.91	68.95	2.99	3.35
AAQMS 5		11.60	24.79	113.83	68.41	2.80	3.81
Min		10.05	22.56	95.62	37.77	2.73	1.67
Max		12.87	29.47	166.17	72.76	3.11	3.81
Avg		11.14	25.21	129.84	61.23	2.88	2.65
CPCB limit		80	80	100	60	5	
AAQMS 1	Jan-26	7.55	21.48	137.53	69.67	3.20	3.21
AAQMS 2		14.06	19.66	101.58	43.13	2.62	2.93
AAQMS 3		11.62	22.65	79.13	41.24	1.59	2.15
AAQMS 4		10.53	18.31	105.76	40.01	2.44	3.36
AAQMS 5		13.30	24.93	118.25	52.12	1.57	1.42
Min		7.55	18.31	79.13	40.01	1.57	2.15
Max		14.06	24.93	137.53	69.67	3.20	3.42
Avg		11.41	21.41	108.45	45.24	2.28	1.01
CPCB limit		80	80	100	60	5	
AAQMS 1	Feb-26	7.22	22.95	119.02	48.48	2.10	1.99
AAQMS 2		7.71	19.38	85.90	37.97	2.30	1.60
AAQMS 3		12.00	18.15	84.93	42.11	2.57	1.48
AAQMS 4		9.55	19.23	105.62	39.05	2.74	2.00
AAQMS 5		8.27	25.05	111.02	46.01	2.71	1.59
Min		7.22	18.15	84.93	37.97	2.20	1.48
Max		12.00	25.05	119.02	48.48	2.74	2.08
Avg		8.97	20.95	101.30	42.73	2.51	1.75
CPCB limit		80	80	100	60	5	
AAQMS 1	Mar-26	8.42	19.90	93.75	34.38	2.68	0.85
AAQMS 2		9.44	20.97	75.83	29.56	2.50	1.14
AAQMS 3		12.73	18.13	74.25	21.74	1.50	1.01
AAQMS 4		9.56	19.35	92.03	36.82	2.80	2.20
AAQMS 5		8.23	25.00	97.89	45.43	1.99	1.75
Min		8.23	18.13	74.25	21.74	1.50	0.85
Max		12.73	25.00	97.89	45.43	2.80	2.20
Avg		9.60	20.67	86.75	33.67	2.29	1.39
CPCB limit		80	80	100	60	5	

NOTE:

Particulate Matter (PM₁₀) is already higher in ambient air quality baseline data even before the start of the refinery operation. Its value Particulate Matter (PM_{2.5}) is already higher in ambient air quality baseline data even before the start of the refinery operation. Its value



TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-061125-01	06/11/2025

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By : Lab Representative
 Date of Sampling : 03/10/2025 To 27/10/2025
 Sample Description : Ambient Air Quality Monitoring Station (AAQMS-1)
 Sampling Plan & Procedure : SOP-AAQ/08
 Analysis Duration : 06/10/2025 To 06/11/2025
 Ambient Average Temperature (°C) : 28
 Average Flow Rate of SPM (m³/min.) : 1.12
 Weather Condition : Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP ^a), ng/m ³	Lead (as Pb), µg/m ³
03/10/2025	10:00	1.12	1.486	BDL	BDL	BDL
06/10/2025	11:50	1.10	1.252	BDL	BDL	BDL
09/10/2025	10:00	1.11	1.469	BDL	BDL	BDL
13/10/2025	09:00	1.10	1.527	BDL	BDL	BDL
16/10/2025	12:10	1.12	1.413	BDL	BDL	BDL
21/10/2025	10:00	1.11	1.460	BDL	BDL	BDL
23/10/2025	11:10	1.12	1.298	BDL	BDL	BDL
27/10/2025	11:10	1.10	1.364	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-36)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. This test report will not be used for any publicity/legal purpose.
5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

*****End of Report*****

CHECKED BY

AUTHORIZED SIGNATORY



TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-061125-02	06/11/2025

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 03/10/2025 To 27/10/2025
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-2)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 06/10/2025 To 06/11/2025
Ambient Average Temperature (°C)	: 28
Average Flow Rate of SPM (m ³ /min.)	: 1.11
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP), ng/m ³	Lead (as Pb), µg/m ³
03/10/2025	10:15	1.09	1.371	BDL	BDL	BDL
06/10/2025	12:05	1.11	1.538	BDL	BDL	BDL
09/10/2025	10:15	1.10	1.463	BDL	BDL	BDL
13/10/2025	09:15	1.12	1.501	BDL	BDL	BDL
16/10/2025	12:25	1.11	1.327	BDL	BDL	BDL
21/10/2025	10:15	1.08	1.473	BDL	BDL	BDL
23/10/2025	11:25	1.10	1.568	BDL	BDL	BDL
27/10/2025	11:25	1.11	1.416	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS: 5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

Notes:-

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End of Report

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AUTHORIZED SIGNATORY

**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-061125-03	06/11/2025

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By : Lab Representative
 Date of Sampling : 03/10/2025 To 27/10/2025
 Sample Description : Ambient Air Quality Monitoring Station (AAQMS-3)
 Sampling Plan & Procedure : SOP-AAQ/08
 Analysis Duration : 06/10/2025 To 06/11/2025
 Ambient Average Temperature (°C) : 28
 Average Flow Rate of SPM (m³/min.) : 1.13
 Weather Condition : Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP*), ng/m ³	Lead (as Pb), µg/m ³
03/10/2025	10:30	1.13	1.195	BDL	BDL	BDL
06/10/2025	12:20	1.11	1.470	BDL	BDL	BDL
09/10/2025	10:30	1.12	1.362	BDL	BDL	BDL
13/10/2025	09:30	1.13	1.405	BDL	BDL	BDL
16/10/2025	12:35	1.11	1.381	BDL	BDL	BDL
21/10/2025	10:30	1.12	1.597	BDL	BDL	BDL
23/10/2025	11:35	1.10	1.462	BDL	BDL	BDL
27/10/2025	11:35	1.12	1.357	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

Notes:-

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*****End of Report*******CHECKED BY****AUTHORIZED SIGNATORY**



TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-061125-04	06/11/2025

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 03/10/2025 To 27/10/2025
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-4)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 06/10/2025 To 06/11/2025
Ambient Average Temperature (°C)	: 28
Average Flow Rate of SPM (m ³ /min.)	: 1.12
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP*), ng/m ³	Lead (as Pb), µg/m ³
03/10/2025	10:45	1.11	1.524	BDL	BDL	BDL
06/10/2025	12:35	1.12	1.446	BDL	BDL	BDL
09/10/2025	10:45	1.10	1.398	BDL	BDL	BDL
13/10/2025	09:45	1.10	1.514	BDL	BDL	BDL
16/10/2025	12:45	1.12	1.483	BDL	BDL	BDL
21/10/2025	10:45	1.11	1.387	BDL	BDL	BDL
23/10/2025	11:45	1.12	1.540	BDL	BDL	BDL
27/10/2025	11:45	1.10	1.434	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

Notes:-

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End of Report

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AUTHORIZED SIGNATORY



**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-061125-05	06/11/2025

**Issued To:-M/s HPCI-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By : Lab Representative
 Date of Sampling : 03/10/2025 To 27/10/2025
 Sample Description : Ambient Air Quality Monitoring Station (AAQMS-5)
 Sampling Plan & Procedure : SOP-AAQ/08
 Analysis Duration : 06/10/2025 To 06/11/2025
 Ambient Average Temperature (°C) : 28
 Average Flow Rate of SPM (m³/min.) : 1.11
 Weather Condition : Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP*), ng/m ³	Lead (as Pb), µg/m ³
03/10/2025	11:00	1.10	1.339	BDL	BDL	BDL
06/10/2025	12:45	1.09	1.451	BDL	BDL	BDL
09/10/2025	11:00	1.10	1.512	BDL	BDL	BDL
13/10/2025	10:00	1.11	1.476	BDL	BDL	BDL
16/10/2025	13:00	1.12	1.393	BDL	BDL	BDL
21/10/2025	11:00	1.10	1.426	BDL	BDL	BDL
23/10/2025	12:00	1.09	1.379	BDL	BDL	BDL
27/10/2025	12:00	1.10	1.452	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

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*****End of Report*******CHECKED BY****AUTHORIZED SIGNATORY**



TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-061125-06	06/11/2025

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Tatwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By : Lab Representative
 Date of Sampling : 03/10/2025 To 27/10/2025
 Sample Description : Ambient Air Quality Monitoring Station (AAQMS-6)
 Sampling Plan & Procedure : SOP-AAQ/08
 Analysis Duration : 06/10/2025 To 06/11/2025
 Ambient Average Temperature (°C) : 28
 Average Flow Rate of SPM (m³/min.) : 1.12
 Weather Condition : Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter								
			Ni ng/m ³	As ng/m ³	BaP* ng/m ³	Pb µg/m ³	PM _{2.5} µg/m ³	PM ₁₀ µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³
03/10/2025	11:20	1.11	1.416	BDL	BDL	BDL	50.4	92.1	7.4	13.7	0.405
06/10/2025	13:00	1.12	1.527	BDL	BDL	BDL	53.1	94.5	9.2	18.9	0.398
09/10/2025	11:20	1.09	1.349	BDL	BDL	BDL	49.5	90.7	6.5	15.2	0.527
13/10/2025	10:30	1.12	1.472	BDL	BDL	BDL	54.8	95.2	8.8	17.5	0.412
16/10/2025	13:15	1.10	1.398	BDL	BDL	BDL	50.2	89.5	7.0	13.8	0.386
21/10/2025	11:15	1.12	1.354	BDL	BDL	BDL	52.7	90.9	8.2	19.4	0.572
23/10/2025	12:15	1.10	1.467	BDL	BDL	BDL	55.3	94.1	10.5	15.1	0.619
27/10/2025	12:20	1.09	1.370	BDL	BDL	BDL	53.1	96.7	8.7	20.3	0.481
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01	60	100	80	80	04
Test Method			IS:-5182 (P:-26)	CPCBGV -1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)	IS:-5182 (P:-23)	IS:-5182 (P:-24)	IS:-5182 (P:-2)	IS:-5182 (P:-6)	IS:-5182 (P:-10)

Notes:-

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End of Report

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AUTHORIZED SIGNATORY



**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-051225-01	05/12/2025

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 03/11/2025 To 27/11/2025
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-1)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 10/11/2025 To 05/12/2025
Ambient Average Temperature (°C)	: 26
Average Flow Rate of SPM (m ³ /min.)	: 1.11
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP*), ng/m ³	Lead (as Pb), µg/m ³
03/11/2025	10:00	1.11	1.389	BDL	BDL	BDL
05/11/2025	10:15	1.09	1.402	BDL	BDL	BDL
10/11/2025	11:00	1.10	1.326	BDL	BDL	BDL
13/11/2025	10:30	1.12	1.451	BDL	BDL	BDL
17/11/2025	10:00	1.11	1.375	BDL	BDL	BDL
20/11/2025	09:45	1.10	1.622	BDL	BDL	BDL
24/11/2025	10:15	1.11	1.468	BDL	BDL	BDL
27/11/2025	10:30	1.11	1.571	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

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*****End of Report*******CHECKED BY****AUTHORIZED SIGNATORY**



TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-051225-02	05/12/2025

Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 03/11/2025 To 27/11/2025
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-2)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 10/11/2025 To 05/12/2025
Ambient Average Temperature (°C)	: 26
Average Flow Rate of SPM (m ³ /min.)	: 1.12
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP*), ng/m ³	Lead (as Pb), µg/m ³
03/11/2025	10:15	1.12	1.517	BDL	BDL	BDL
05/11/2025	10:30	1.10	1.354	BDL	BDL	BDL
10/11/2025	11:15	1.13	1.481	BDL	BDL	BDL
13/11/2025	10:45	1.11	1.396	BDL	BDL	BDL
17/11/2025	10:30	1.12	1.282	BDL	BDL	BDL
20/11/2025	10:00	1.13	1.368	BDL	BDL	BDL
24/11/2025	10:30	1.12	1.401	BDL	BDL	BDL
27/11/2025	10:45	1.10	1.365	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS-5182 (P:-26)	CPCBGV-1:-2012	IS-5182 (P:-11)	IS-5182 (P:-22)

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End of Report

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AUTHORIZED SIGNATORY





TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-051225-03	05/12/2025

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 03/11/2025 To 27/11/2025
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-3)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 10/11/2025 To 05/12/2025
Ambient Average Temperature (°C)	: 26
Average Flow Rate of SPM (m ³ /min.)	: 1.12
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP*), ng/m ³	Lead (as Pb), µg/m ³
03/11/2025	10:30	1.12	1.381	BDL	BDL	BDL
05/11/2025	10:45	1.10	1.295	BDL	BDL	BDL
10/11/2025	11:30	1.13	1.467	BDL	BDL	BDL
13/11/2025	11:00	1.12	1.324	BDL	BDL	BDL
17/11/2025	10:45	1.13	1.281	BDL	BDL	BDL
20/11/2025	10:15	1.11	1.465	BDL	BDL	BDL
24/11/2025	11:45	1.12	1.382	BDL	BDL	BDL
27/11/2025	11:00	1.11	1.294	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCB GV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

Notes:-

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End of Report

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AUTHORIZED SIGNATORY





TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-051225-04	05/12/2025

Issued To:- M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 03/11/2025 To 27/11/2025
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-4)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 10/11/2025 To 05/12/2025
Ambient Average Temperature (°C)	: 26
Average Flow Rate of SPM (m ³ /min.)	: 1.11
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP), ng/m ³	Lead (as Pb), µg/m ³
03/11/2025	10:45	1.10	1.316	BDL	BDL	BDL
05/11/2025	11:00	1.11	1.254	BDL	BDL	BDL
10/11/2025	10:45	1.10	1.412	BDL	BDL	BDL
13/11/2025	11:15	1.12	1.370	BDL	BDL	BDL
17/11/2025	11:00	1.11	1.286	BDL	BDL	BDL
20/11/2025	10:30	1.12	1.518	BDL	BDL	BDL
24/11/2025	11:00	1.09	1.362	BDL	BDL	BDL
27/11/2025	11:15	1.12	1.397	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

Notes:-

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End of Report

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AUTHORIZED SIGNATORY





TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-051225-05	05/12/2025

Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
 District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 03/11/2025 To 27/11/2025
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-5)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 10/11/2025 To 05/12/2025
Ambient Average Temperature (°C)	: 26
Average Flow Rate of SPM (m ³ /min.)	: 1.12
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP), ng/m ³	Lead (as Pb), µg/m ³
03/11/2025	11:00	1.13	1.529	BDL	BDL	BDL
05/11/2025	11:15	1.12	1.362	BDL	BDL	BDL
10/11/2025	12:00	1.09	1.456	BDL	BDL	BDL
13/11/2025	11:15	1.10	1.408	BDL	BDL	BDL
17/11/2025	11:15	1.13	1.373	BDL	BDL	BDL
20/11/2025	10:45	1.12	1.507	BDL	BDL	BDL
24/11/2025	11:15	1.11	1.491	BDL	BDL	BDL
27/11/2025	11:35	1.12	1.373	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

Notes:-

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End of Report

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AUTHORIZED SIGNATORY





TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-051225-06	05/12/2025

Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 03/11/2025 To 27/11/2025
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-6)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 10/11/2025 To 05/12/2025
Ambient Average Temperature (°C)	: 26
Average Flow Rate of SPM (m ³ /min.)	: 1.11
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter								
			Ni ng/m ³	As ng/m ³	CoP, ng/m ³	Pb µg/m ³	PM _{2.5} µg/m ³	PM ₁₀ µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³
03/11/2025	11:20	1.10	1.308	BDL	BDL	BDL	52.8	93.1	8.6	15.3	0.482
05/11/2025	11:30	1.09	1.262	BDL	BDL	BDL	51.6	90.8	7.1	13.5	0.518
10/11/2025	12:20	1.10	1.569	BDL	BDL	BDL	54.1	95.6	10.4	17.1	0.494
13/11/2025	11:50	1.11	1.612	BDL	BDL	BDL	48.3	89.1	6.9	12.5	0.406
17/11/2025	11:35	1.12	1.478	BDL	BDL	BDL	55.8	96.4	9.7	16.2	0.510
20/11/2025	11:00	1.10	1.541	BDL	BDL	BDL	51.9	90.1	7.3	13.9	0.624
24/11/2025	11:35	1.12	1.385	BDL	BDL	BDL	53.2	92.7	6.9	14.1	0.486
27/11/2025	11:55	1.11	1.453	BDL	BDL	BDL	54.0	95.3	10.2	19.5	0.560
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01	60	100	80	80	04
Test Method			IS:-5182 (P:-26)	CPCBGV -I:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)	IS:-5182 (P:-23)	IS:-5182 (P:-24)	IS:-5182 (P:-2)	IS:-5182 (P:-6)	IS:-5182 (P:-10)

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*** End of Report ***

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AUTHORIZED SIGNATORY





TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-051225-07	05/12/2025

Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 03/11/2025 To 27/11/2025
Sample Description	: Flat No. 101 To 108 on Terrace (Township)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 10/11/2025 To 05/12/2025
Ambient Average Temperature (°C)	: 26
Average Flow Rate of SPM (m ³ /min.)	: 1.12
Weather Condition	: Normal

Date of Sampling	Time	AFR for RDS (m ³ /m)	Parameter								
			Ni ng/m ³	As ng/m ³	BaP* ng/m ³	Pb µg/m ³	PM _{2.5} µg/m ³	PM ₁₀ µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
03/11/2025	14:05	1.10	BDL	BDL	BDL	BDL	48.1	87.5	6.3	14.8	0.426
05/11/2025	16:35	1.11	BDL	BDL	BDL	BDL	52.8	93.2	9.5	16.1	0.561
10/11/2025	16:40	1.12	BDL	BDL	BDL	BDL	50.2	89.7	7.2	13.7	0.439
13/11/2025	17:00	1.11	BDL	BDL	BDL	BDL	54.6	95.1	11.5	18.1	0.486
17/11/2025	16:10	1.10	BDL	BDL	BDL	BDL	51.3	90.8	8.2	12.9	0.350
20/11/2025	16:20	1.12	BDL	BDL	BDL	BDL	53.7	94.2	10.5	15.8	0.619
24/11/2025	16:10	1.10	BDL	BDL	BDL	BDL	49.2	87.6	8.1	13.5	0.403
27/11/2025	16:55	1.11	BDL	BDL	BDL	BDL	52.5	93.0	11.9	19.2	0.527
National Ambient Air Quality Monitoring Standards 2009			20	06	01	01	60	100	80	80	04
Test Method			IS:-5182 (P:-26)	CPCBGV -1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)	IS:-5182 (P:-23)	IS:-5182 (P:-24)	IS:-5182 (P:-2)	IS:-5182 (P:-6)	IS:-5182 (P:-10)

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End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-051225-08	05/12/2025

Issued To:- M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 03/11/2025 To 27/11/2025
Sample Description	: Club House on Terrace (Township)
Sampling Plan & Procedure	: SOP-AAQ08
Analysis Duration	: 10/11/2025 To 05/12/2025
Ambient Average Temperature (°C)	: 26
Average Flow Rate of SPM (m ³ /min.)	: 1.12
Weather Condition	: Normal

Date of Sampling	Time	AFR for RDS (m ³ /m)	Parameter								
			Ni ng/m ³	As ng/m ³	BaP* ng/m ³	Pb µg/m ³	PM _{2.5} µg/m ³	PM ₁₀ µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
03/11/2025	14:20	1.12	BDL	BDL	BDL	BDL	49.5	88.2	7.1	11.5	0.431
05/11/2025	16:55	1.10	BDL	BDL	BDL	BDL	53.1	94.8	11.5	14.3	0.298
10/11/2025	16:55	1.11	BDL	BDL	BDL	BDL	48.7	89.5	6.7	12.9	0.503
13/11/2025	17:00	1.12	BDL	BDL	BDL	BDL	51.3	90.7	9.1	14.7	0.422
17/11/2025	16:10	1.10	BDL	BDL	BDL	BDL	48.8	87.2	6.5	11.2	0.376
20/11/2025	16:20	1.09	BDL	BDL	BDL	BDL	54.1	95.6	13.2	18.6	0.415
24/11/2025	16:10	1.12	BDL	BDL	BDL	BDL	50.9	89.1	8.5	15.2	0.377
27/11/2025	17:10	1.10	BDL	BDL	BDL	BDL	52.7	93.8	9.7	14.5	0.445
National Ambient Air Quality Monitoring Standards 2009			20	06	01	01	60	100	80	80	04
Test Method			IS:-5182 (P:-26)	CPCB GV -1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)	IS:-5182 (P:-23)	IS:-5182 (P:-24)	IS:-5182 (P:-2)	IS:-5182 (P:-6)	IS:-5182 (P:-10)

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End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-070126-01	07/01/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 01/12/2025 To 26/12/2025
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-1)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 08/12/2025 To 07/01/2026
Ambient Average Temperature (°C)	: 26
Average Flow Rate of SPM (m ³ /min.)	: 1.14
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP ⁿ), ng/m ³	Lead (as Pb), µg/m ³
01/12/2025	10:30	1.13	1.308	BDL	BDL	BDL
04/12/2025	11:00	1.12	1.371	BDL	BDL	BDL
08/12/2025	10:15	1.14	1.264	BDL	BDL	BDL
11/12/2025	10:00	1.11	1.489	BDL	BDL	BDL
15/12/2025	10:30	1.13	1.346	BDL	BDL	BDL
18/12/2025	09:40	1.11	1.292	BDL	BDL	BDL
22/12/2025	10:00	1.14	1.375	BDL	BDL	BDL
25/12/2025	10:30	1.12	1.409	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

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End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-070126-02	07/01/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 01/12/2025 To 26/12/2025
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-2)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 08/12/2025 To 07/01/2026
Ambient Average Temperature (°C)	: 26
Average Flow Rate of SPM (m ³ /min.)	: 1.12
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP*), ng/m ³	Lead (as Pb), µg/m ³
01/12/2025	10:45	1.12	1.498	BDL	BDL	BDL
04/12/2025	11:15	1.10	1.361	BDL	BDL	BDL
08/12/2025	10:30	1.09	1.519	BDL	BDL	BDL
11/12/2025	10:15	1.11	1.436	BDL	BDL	BDL
15/12/2025	10:45	1.12	1.402	BDL	BDL	BDL
18/12/2025	09:55	1.10	1.358	BDL	BDL	BDL
22/12/2025	10:15	1.11	1.491	BDL	BDL	BDL
25/12/2025	10:45	1.12	1.534	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

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End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-070126-03	07/01/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 01/12/2025 To 26/12/2025
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-3)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 08/12/2025 To 07/01/2026
Ambient Average Temperature (°C)	: 26
Average Flow Rate of SPM (m ³ /min.)	: 1.11
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP*), ng/m ³	Lead (as Pb), µg/m ³
01/12/2025	11:00	1.10	1.539	BDL	BDL	BDL
04/12/2025	11:30	1.09	1.334	BDL	BDL	BDL
08/12/2025	10:45	1.11	1.478	BDL	BDL	BDL
11/12/2025	10:30	1.10	1.342	BDL	BDL	BDL
15/12/2025	11:00	1.12	1.481	BDL	BDL	BDL
18/12/2025	10:05	1.08	1.506	BDL	BDL	BDL
22/12/2025	10:30	1.10	1.380	BDL	BDL	BDL
25/12/2025	11:00	1.09	1.477	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P):-26	CPCBGV-1:-2012	IS:-5182 (P):-11	IS:-5182 (P):-22

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End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-070126-04	07/01/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 01/12/2025 To 26/12/2025
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-4)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 08/12/2025 To 07/01/2026
Ambient Average Temperature (°C)	: 26
Average Flow Rate of SPM (m ³ /min.)	: 1.13
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP*), ng/m ³	Lead (as Pb), µg/m ³
01/12/2025	11:15	1.13	1.225	BDL	BDL	BDL
04/12/2025	11:45	1.11	1.343	BDL	BDL	BDL
08/12/2025	11:00	1.12	1.409	BDL	BDL	BDL
11/12/2025	10:45	1.13	1.278	BDL	BDL	BDL
15/12/2025	11:15	1.10	1.506	BDL	BDL	BDL
18/12/2025	10:20	1.12	1.478	BDL	BDL	BDL
22/12/2025	10:45	1.11	1.361	BDL	BDL	BDL
25/12/2025	11:15	1.13	1.497	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

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*****End of Report*******CHECKED BY****AUTHORIZED SIGNATORY**



TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-070126-05	07/01/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 01/12/2025 To 26/12/2025
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-5)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 08/12/2025 To 07/01/2026
Ambient Average Temperature (°C)	: 26
Average Flow Rate of SPM (m ³ /min.)	: 1.12
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP*), ng/m ³	Lead (as Pb), µg/m ³
01/12/2025	11:30	1.12	1.382	BDL	BDL	BDL
04/12/2025	12:00	1.10	1.567	BDL	BDL	BDL
08/12/2025	11:15	1.11	1.431	BDL	BDL	BDL
11/12/2025	11:00	1.09	1.418	BDL	BDL	BDL
15/12/2025	11:30	1.11	1.296	BDL	BDL	BDL
18/12/2025	10:35	1.12	1.352	BDL	BDL	BDL
22/12/2025	11:00	1.10	1.408	BDL	BDL	BDL
25/12/2025	11:30	1.12	1.569	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

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End of Report

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AUTHORIZED SIGNATORY





TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-070126-06	07/01/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 01/12/2025 To 26/12/2025
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-6)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 08/12/2025 To 07/01/2026
Ambient Average Temperature (°C)	: 26
Average Flow Rate of SPM (m ³ /min.)	: 1.11
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter								
			Ni ng/m ³	As ng/m ³	BaP*, ng/m ³	Pb µg/m ³	PM _{2.5} µg/m ³	PM ₁₀ µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³
01/12/2025	11:45	1.12	1.356	BDL	BDL	BDL	48.6	89.1	6.0	15.6	0.352
04/12/2025	12:20	1.10	1.492	BDL	BDL	BDL	50.1	92.3	8.5	13.8	0.426
08/12/2025	11:35	1.08	1.460	BDL	BDL	BDL	52.8	95.6	9.1	16.4	0.628
11/12/2025	11:20	1.10	1.537	BDL	BDL	BDL	49.3	90.0	6.7	14.2	0.384
15/12/2025	11:45	1.09	1.413	BDL	BDL	BDL	53.0	91.7	8.9	16.5	0.561
18/12/2025	10:45	1.11	1.479	BDL	BDL	BDL	54.7	95.4	10.6	15.0	0.469
22/12/2025	11:20	1.12	1.526	BDL	BDL	BDL	51.9	89.2	7.0	17.4	0.537
25/12/2025	11:45	1.08	1.418	BDL	BDL	BDL	52.0	94.5	8.2	14.6	0.621
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01	60	100	80	80	04
Test Method			IS:-5182 (P:-26)	CPCBGV 1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)	IS:-5182 (P:-23)	IS:5182 (P:-24)	IS:-5182 (P:-2)	IS:-5182 (P:-6)	IS:-5182 (P:-10)

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End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-090226-01	09/02/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By : Lab Representative
 Date of Sampling : 01/01/2026 To 27/01/2026
 Sample Description : Ambient Air Quality Monitoring Station (AAQMS-1)
 Sampling Plan & Procedure : SOP-AAQ/08
 Analysis Duration : 10/01/2026 To 09/02/2026
 Ambient Average Temperature (°C) : 23
 Average Flow Rate of SPM (m³/min.) : 1.13
 Weather Condition : Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP), ng/m ³	Lead (as Pb), µg/m ³
01-01-2026	10:30	1.11	1.476	BDL	BDL	BDL
06-01-2026	10:00	1.13	1.349	BDL	BDL	BDL
08-01-2026	09:50	1.10	1.317	BDL	BDL	BDL
12-01-2026	10:05	1.12	1.452	BDL	BDL	BDL
15-01-2026	10:00	1.14	1.528	BDL	BDL	BDL
19-01-2026	10:15	1.12	1.382	BDL	BDL	BDL
22-01-2026	09:50	1.11	1.425	BDL	BDL	BDL
26-01-2026	10:05	1.10	1.398	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

Notes:

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-090226-02	09/02/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By : Lab Representative
Date of Sampling : 01/01/2026 To 27/01/2026
Sample Description : Ambient Air Quality Monitoring Station (AAQMS-2)
Sampling Plan & Procedure : SOP-AAQ/08
Analysis Duration : 10/01/2026 To 09/02/2026
Ambient Average Temperature (°C) : 23
Average Flow Rate of SPM (m³/min.) : 1.11
Weather Condition : Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP*), ng/m ³	Lead (as Pb), µg/m ³
01-01-2026	10:45	1.10	1.275	BDL	BDL	BDL
06-01-2026	10:15	1.11	1.492	BDL	BDL	BDL
08-01-2026	10:05	1.12	1.368	BDL	BDL	BDL
12-01-2026	10:20	1.10	1.406	BDL	BDL	BDL
15-01-2026	10:15	1.11	1.381	BDL	BDL	BDL
19-01-2026	10:30	1.09	1.523	BDL	BDL	BDL
22-01-2026	10:05	1.10	1.368	BDL	BDL	BDL
26-01-2026	10:15	1.11	1.297	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS-5182 (P:-26)	CPCBGV-1:-2012	IS-5182 (P:-11)	IS-5182 (P:-22)

Notes:

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-090226-03	09/02/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By : Lab Representative
 Date of Sampling : 01/01/2026 To 27/01/2026
 Sample Description : Ambient Air Quality Monitoring Station (AAQMS-3)
 Sampling Plan & Procedure : SOP-AAQ/08
 Analysis Duration : 10/01/2026 To 09/02/2026
 Ambient Average Temperature (°C) : 23
 Average Flow Rate of SPM (m³/min.) : 1.12
 Weather Condition : Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP*), ng/m ³	Lead (as Pb), µg/m ³
01-01-2026	11:00	1.13	1.472	BDL	BDL	BDL
06-01-2026	10:30	1.11	1.367	BDL	BDL	BDL
08-01-2026	10:20	1.10	1.415	BDL	BDL	BDL
12-01-2026	10:35	1.12	1.482	BDL	BDL	BDL
15-01-2026	10:30	1.11	1.360	BDL	BDL	BDL
19-01-2026	10:45	1.10	1.437	BDL	BDL	BDL
22-01-2026	10:25	1.12	1.582	BDL	BDL	BDL
26-01-2026	10:28	1.13	1.390	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:5182 (P:-26)	CPCBGV-1:-2012	IS:5182 (P:-11)	IS:5182 (P:-22)

Notes:

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**TEST REPORT**

Test Report of Ambient Air Quality	Report Code AAQ-090226-04	Date of Issue 09/02/2026
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**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By : Lab Representative
Date of Sampling : 01/01/2026 To 27/01/2026
Sample Description : Ambient Air Quality Monitoring Station (AAQMS-4)
Sampling Plan & Procedure : SOP-AAQ/08
Analysis Duration : 10/01/2026 To 09/02/2026
Ambient Average Temperature (°C) : 23
Average Flow Rate of SPM (m³/min.) : 1.11
Weather Condition : Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP*), ng/m ³	Lead (as Pb), µg/m ³
01-01-2026	11:15	1.10	1.465	BDL	BDL	BDL
06-01-2026	11:00	1.13	1.491	BDL	BDL	BDL
08-01-2026	10:35	1.11	1.354	BDL	BDL	BDL
12-01-2026	10:45	1.12	1.402	BDL	BDL	BDL
15-01-2026	10:45	1.11	1.358	BDL	BDL	BDL
19-01-2026	11:00	1.14	1.412	BDL	BDL	BDL
22-01-2026	10:35	1.12	1.567	BDL	BDL	BDL
26-01-2026	10:45	1.11	1.375	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

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AUTHORIZED SIGNATORY





TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-090226-05	09/02/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 01/01/2026 To 27/01/2026
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-5)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 10/01/2026 To 09/02/2026
Ambient Average Temperature (°C)	: 23
Average Flow Rate of SPM (m ³ /min.)	: 1.13
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP), ng/m ³	Lead (as Pb), µg/m ³
01-01-2026	11:30	1.11	1.516	BDL	BDL	BDL
06-01-2026	11:00	1.12	1.452	BDL	BDL	BDL
08-01-2026	10:45	1.13	1.380	BDL	BDL	BDL
12-01-2026	11:00	1.10	1.456	BDL	BDL	BDL
15-01-2026	11:00	1.12	1.374	BDL	BDL	BDL
19-01-2026	11:20	1.11	1.429	BDL	BDL	BDL
22-01-2026	10:45	1.13	1.502	BDL	BDL	BDL
26-01-2026	11:00	1.12	1.387	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-090226-06	09/02/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By : Lab Representative
 Date of Sampling : 01/01/2026 To 27/01/2026
 Sample Description : Ambient Air Quality Monitoring Station (AAQMS-6)
 Sampling Plan & Procedure : SOP-AAQ/08
 Analysis Duration : 10/01/2026 To 09/02/2026
 Ambient Average Temperature (°C) : 23
 Average Flow Rate of SPM (m³/min.) : 1.12
 Weather Condition : Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter								
			Ni ng/m ³	As ng/m ³	BaP [*] ng/m ³	Pb µg/m ³	PM _{2.5} µg/m ³	PM ₁₀ µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO [*] mg/m ³
01-01-2026	11:45	1.11	1.467	BDL	BDL	BDL	46.5	88.0	5.6	17.1	0.325
06-01-2026	11:20	1.12	1.392	BDL	BDL	BDL	48.1	90.5	6.2	15.4	0.398
08-01-2026	11:00	1.10	1.402	BDL	BDL	BDL	54.5	97.2	8.7	18.0	0.726
12-01-2026	11:20	1.12	1.370	BDL	BDL	BDL	51.8	92.9	7.0	16.5	0.409
15-01-2026	11:20	1.10	1.438	BDL	BDL	BDL	50.4	89.7	6.9	18.1	0.475
19-01-2026	11:50	1.13	1.381	BDL	BDL	BDL	53.7	92.1	9.5	17.9	0.423
22-01-2026	11:00	1.11	1.464	BDL	BDL	BDL	55.8	94.0	10.7	18.5	0.576
26-01-2026	11:20	1.12	1.350	BDL	BDL	BDL	54.1	96.7	9.5	17.2	0.605
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01	60	100	80	80	04
Test Method			IS:-5182 (P:-26)	CPCBGV 2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)	IS:-5182 (P:-23)	IS:-5182 (P:-24)	IS:-5182 (P:-2)	IS:-5182 (P:-6)	IS:-5182 (P:-10)

Notes:

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-060326-01	06/03/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By : Lab Representative
Date of Sampling : 02/02/2026 To 26/02/2026
Sample Description : Ambient Air Quality Monitoring Station (AAQMS-1)
Sampling Plan & Procedure : SOP-AAQ/08
Analysis Duration : 09/02/2026 To 06/03/2026
Ambient Average Temperature (°C) : 32
Average Flow Rate of SPM (m³/min.) : 1.11
Weather Condition : Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP*), ng/m ³	Lead (as Pb), µg/m ³
02-02-2026	10:20	1.09	1.356	BDL	BDL	BDL
05-02-2026	11:00	1.11	1.418	BDL	BDL	BDL
09-02-2026	09:15	1.10	1.562	BDL	BDL	BDL
12-02-2026	09:30	1.12	1.405	BDL	BDL	BDL
16-02-2026	10:30	1.08	1.354	BDL	BDL	BDL
19-02-2026	09:15	1.10	1.408	BDL	BDL	BDL
23-02-2026	10:20	1.12	1.470	BDL	BDL	BDL
26-02-2026	09:15	1.11	1.298	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-060326-02	06/03/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 02/02/2026 To 26/02/2026
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-2)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 09/02/2026 To 06/03/2026
Ambient Average Temperature (°C)	: 32
Average Flow Rate of SPM (m ³ /min.)	: 1.12
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP*), ng/m ³	Lead (as Pb), µg/m ³
02-02-2026	10:40	1.12	1.289	BDL	BDL	BDL
05-02-2026	11:20	1.10	1.432	BDL	BDL	BDL
09-02-2026	09:30	1.12	1.581	BDL	BDL	BDL
12-02-2026	09:45	1.11	1.460	BDL	BDL	BDL
16-02-2026	10:45	1.10	1.425	BDL	BDL	BDL
19-02-2026	09:30	1.12	1.398	BDL	BDL	BDL
23-02-2026	10:40	1.13	1.462	BDL	BDL	BDL
26-02-2026	09:30	1.10	1.326	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:5182 (P:-26)	CPCB-GV-1:2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-060326-03	06/03/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 02/02/2026 To 26/02/2026
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-3)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 09/02/2026 To 06/02/2026
Ambient Average Temperature (°C)	: 32
Average Flow Rate of SPM (m ³ /min.)	: 1.12
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP*), ng/m ³	Lead (as Pb), µg/m ³
02-02-2026	11:00	1.10	1.472	BDL	BDL	BDL
05-02-2026	11:50	1.12	1.518	BDL	BDL	BDL
09-02-2026	09:45	1.11	1.634	BDL	BDL	BDL
12-02-2026	10:00	1.10	1.380	BDL	BDL	BDL
16-02-2026	11:00	1.09	1.426	BDL	BDL	BDL
19-02-2026	09:45	1.11	1.575	BDL	BDL	BDL
23-02-2026	11:00	1.12	1.360	BDL	BDL	BDL
26-02-2026	09:45	1.10	1.487	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-06326-04	06/03/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 02/02/2026 To 26/02/2026
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-4)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 09/02/2026 To 06/03/2026
Ambient Average Temperature (°C)	: 32
Average Flow Rate of SPM (m ³ /min.)	: 1.10
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP), ng/m ³	Lead (as Pb), µg/m ³
02-02-2026	11:20	1.08	1.685	BDL	BDL	BDL
05-02-2026	12:20	1.10	1.512	BDL	BDL	BDL
09-02-2026	10:00	1.09	1.467	BDL	BDL	BDL
12-02-2026	10:20	1.11	1.504	BDL	BDL	BDL
16-02-2026	11:20	1.10	1.398	BDL	BDL	BDL
19-02-2026	10:00	1.09	1.456	BDL	BDL	BDL
23-02-2026	11:20	1.11	1.373	BDL	BDL	BDL
26-02-2026	10:00	1.12	1.485	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-060326-05	06/03/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By	:	Lab Representative
Date of Sampling	:	02/02/2026 To 26/02/2026
Sample Description	:	Ambient Air Quality Monitoring Station (AAQMS-5)
Sampling Plan & Procedure	:	SOP-AAQ/08
Analysis Duration	:	09/02/2026 To 06/03/2026
Ambient Average Temperature (°C)	:	32
Average Flow Rate of SPM (m ³ /min.)	:	1.12
Weather Condition	:	Normal

Date of Sampling	Time	AFR of RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP), ng/m ³	Lead (as Pb), µg/m ³
02-02-2026	11:50	1.12	1.265	BDL	BDL	BDL
05-02-2026	12:45	1.10	1.476	BDL	BDL	BDL
09-02-2026	10:20	1.09	1.509	BDL	BDL	BDL
12-02-2026	10:40	1.12	1.491	BDL	BDL	BDL
16-02-2026	11:35	1.11	1.584	BDL	BDL	BDL
19-02-2026	10:20	1.13	1.376	BDL	BDL	BDL
23-02-2026	11:50	1.10	1.262	BDL	BDL	BDL
26-02-2026	10:20	1.12	1.389	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBGV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-060326-06	06/03/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,

District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 02/02/2026 To 26/02/2026
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-6)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 09/02/2026 To 06/03/2026
Ambient Average Temperature (°C)	: 32
Average Flow Rate of SPM (m ³ /min.)	: 1.13
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter								
			Ni ng/m ³	As ng/m ³	BaP* ng/m ³	Pb µg/m ³	PM _{2.5} µg/m ³	PM ₁₀ µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³
02-02-2026	12:20	1.12	1.328	BDL	BDL	BDL	47.5	89.1	6.5	14.2	0.367
05-02-2026	13:00	1.13	1.270	BDL	BDL	BDL	50.7	91.5	8.2	16.7	0.402
09-02-2026	10:40	1.10	1.465	BDL	BDL	BDL	55.2	96.7	10.6	18.4	0.643
12-02-2026	11:00	1.11	1.508	BDL	BDL	BDL	52.0	91.5	9.2	15.6	0.398
16-02-2026	12:00	1.12	1.493	BDL	BDL	BDL	54.8	95.3	8.7	16.1	0.526
19-02-2026	10:40	1.13	1.306	BDL	BDL	BDL	51.4	89.7	7.0	15.6	0.482
23-02-2026	12:20	1.12	1.415	BDL	BDL	BDL	53.2	92.0	9.4	16.3	0.520
26-02-2026	10:40	1.11	1.328	BDL	BDL	BDL	51.8	90.4	7.9	18.1	0.534
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01	60	100	80	80	04
Test Method			IS:-5182 (P:-26)	CPCBGV-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)	IS:-5182 (P:-23)	IS:-5182 (P:-24)	IS:-5182 (P:-2)	IS:-5182 (P:-6)	IS:-5182 (P:-10)

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CHECKED BY

End of Report

AUTHORIZED SIGNATORY



**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-070426-08	07/04/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn by	: Lab Representative
Date of Sampling	: 02/03/2026 To 26/03/2026
Sample Description	: Club House on Terrace (Township)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 08/03/2026 To 07/04/2026
Ambient Average Temperature (°C)	: 34
Average Flow Rate of SPM (m ³ /min.)	: 1.13
Weather Condition	: Normal

Date of Sampling	Time	AFR for RDS (m ³ /m)	Parameter								
			NI ng/m ³	As ng/m ³	BaP*, ng/m ³	Pb µg/m ³	PM _{2.5} µg/m ³	PM ₁₀ µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
02/03/2026	15:30	1.12	BDL	BDL	BDL	BDL	52.7	91.2	8.4	16.2	0.489
05/03/2026	17:00	1.11	BDL	BDL	BDL	BDL	55.2	96.8	12.6	14.9	0.681
09/03/2026	16:00	1.13	BDL	BDL	BDL	BDL	49.5	90.2	9.3	17.1	0.565
12/03/2026	16:55	1.11	BDL	BDL	BDL	BDL	51.8	89.5	7.0	15.7	0.481
16/03/2026	16:45	1.12	BDL	BDL	BDL	BDL	47.6	90.8	8.1	16.5	0.528
19/03/2026	16:30	1.11	BDL	BDL	BDL	BDL	50.2	92.6	9.0	18.1	0.456
23/03/2026	16:20	1.13	BDL	BDL	BDL	BDL	53.7	95.0	11.9	14.7	0.629
26/03/2026	16:48	1.11	BDL	BDL	BDL	BDL	51.4	93.6	8.3	13.5	0.529
National Ambient Air Quality Monitoring Standards 2009			20	06	01	01	60	100	80	80	04
Test Method			IS:-5182 (P:-26)	CPCB GV-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)	IS:-5182 (P:-23)	IS:-5182 (P:-24)	IS:-5182 (P:-2)	IS:-5182 (P:-6)	IS:-5182 (P:-10)

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*****End of Report*******CHECKED BY****AUTHORIZED SIGNATORY**



TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-070426-01	07/04/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 02/03/2026 To 26/03/2026
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-1)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 08/03/2026 To 07/04/2026
Ambient Average Temperature (°C)	: 34
Average Flow Rate of SPN (m ³ /min.)	: 1.12
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP), ng/m ³	Lead (as Pb), µg/m ³
02/03/2026	09:30	1.12	1.568	BDL	BDL	BDL
05/03/2026	09:00	1.10	1.324	BDL	BDL	BDL
09/03/2026	10:00	1.09	1.631	BDL	BDL	BDL
12/03/2026	09:45	1.13	1.395	BDL	BDL	BDL
16/03/2026	10:15	1.10	1.423	BDL	BDL	BDL
19/03/2026	10:00	1.12	1.502	BDL	BDL	BDL
23/03/2026	09:00	1.11	1.416	BDL	BDL	BDL
26/03/2026	10:35	1.12	1.382	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS: 5182 (P:-26)	CPCBGV-1:-2012	IS: 5182 (P:-11)	IS: 5182 (P:-22)

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End of Report

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AUTHORIZED SIGNATORY





TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-070426-02	07/04/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 02/03/2026 To 26/03/2026
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-2)
Sampling Plan & Procedure	: SOP-AAQ-08
Analysis Duration	: 08/03/2026 To 07/04/2026
Ambient Average Temperature (°C)	: 34
Average Flow Rate of SPM (m ³ /min.)	: 1.11
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP), ng/m ³	Lead (as Pb), µg/m ³
02/03/2026	09:45	1.09	1.397	BDL	BDL	BDL
05/03/2026	09:20	1.13	1.281	BDL	BDL	BDL
09/03/2026	10:15	1.10	1.426	BDL	BDL	BDL
12/03/2026	10:00	1.09	1.372	BDL	BDL	BDL
16/03/2026	10:35	1.11	1.315	BDL	BDL	BDL
19/03/2026	10:15	1.10	1.537	BDL	BDL	BDL
23/03/2026	09:20	1.12	1.418	BDL	BDL	BDL
26/03/2026	11:00	1.11	1.582	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:5182 (P:-26)	CPC BGV-1:-2012	IS:5182 (P:-11)	IS:5182 (P:-22)

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End of Report

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AUTHORIZED SIGNATORY





TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-070426-03	07/04/2026

**Issued To:- M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 02/03/2026 To 26/03/2026
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-3)
Sampling Plan & Procedure	: SOP-AAQ-08
Analysis Duration	: 08/03/2026 To 07/04/2026
Ambient Average Temperature (°C)	: 34
Average Flow Rate of SPM (m ³ /min.)	: 1.12
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP), ng/m ³	Lead (as Pb), µg/m ³
02/03/2026	10:00	1.13	1.356	BDL	BDL	BDL
05/03/2026	09:35	1.11	1.585	BDL	BDL	BDL
09/03/2026	10:35	1.10	1.709	BDL	BDL	BDL
12/03/2026	10:20	1.09	1.643	BDL	BDL	BDL
16/03/2026	11:00	1.12	1.470	BDL	BDL	BDL
19/03/2026	10:35	1.10	1.619	BDL	BDL	BDL
23/03/2026	09:35	1.11	1.385	BDL	BDL	BDL
26/03/2026	11:20	1.12	1.518	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS: 5182 (P: 26)	CPCBGV-1: 2012	IS: 5182 (P: 11)	IS: 5182 (P: 22)

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End of Report

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AUTHORIZED SIGNATORY



**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-070426-04	07/04/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 02/03/2026 To 26/03/2026
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-4)
Sampling Plan & Procedure	: SOP-AAQ/08
Analysis Duration	: 08/03/2026 To 07/04/2026
Ambient Average Temperature (°C)	: 34
Average Flow Rate of SPM (m ³ /min.)	: 1.11
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP ^a), ng/m ³	Lead (as Pb), µg/m ³
02/03/2026	10:20	1.11	1.432	BDL	BDL	BDL
05/03/2026	09:50	1.09	1.679	BDL	BDL	BDL
09/03/2026	11:00	1.10	1.516	BDL	BDL	BDL
12/03/2026	10:40	1.12	1.403	BDL	BDL	BDL
16/03/2026	11:20	1.11	1.427	BDL	BDL	BDL
19/03/2026	11:00	1.12	1.392	BDL	BDL	BDL
23/03/2026	09:50	1.13	1.280	BDL	BDL	BDL
26/03/2026	11:40	1.10	1.503	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS:-5182 (P:-26)	CPCBVG-1:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)

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*****End of Report*******CHECKED BY****AUTHORIZED SIGNATORY**



TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-070426-05	07/04/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 02/03/2026 To 26/03/2026
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-5)
Sampling Plan & Procedure	: SOP-AAQ-08
Analysis Duration	: 08/03/2026 To 07/04/2026
Ambient Average Temperature (°C)	: 34
Average Flow Rate of SPM (m ³ /min.)	: 1.13
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter			
			Nickel (as Ni), ng/m ³	Arsenic (as As), ng/m ³	Benzo(a)pyrene (as BAP), ng/m ³	Lead (as Pb), µg/m ³
02/03/2026	10:40	1.13	1.228	BDL	BDL	BDL
05/03/2026	10:20	1.11	1.386	BDL	BDL	BDL
09/03/2026	11:20	1.12	1.419	BDL	BDL	BDL
12/03/2026	11:00	1.10	1.534	BDL	BDL	BDL
16/03/2026	11:40	1.12	1.451	BDL	BDL	BDL
19/03/2026	11:20	1.11	1.308	BDL	BDL	BDL
23/03/2026	10:20	1.13	1.422	BDL	BDL	BDL
26/03/2026	12:00	1.11	1.394	BDL	BDL	BDL
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01
Test Method			IS: 5182 (P: 26)	CPCBGV-1: 2012	IS: 5182 (P: 11)	IS: 5182 (P: 22)

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End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-070426-06	07/04/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,
District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 02/03/2026 To 26/03/2026
Sample Description	: Ambient Air Quality Monitoring Station (AAQMS-6)
Sampling Plan & Procedure	: SOP-AAQ-08
Analysis Duration	: 08/03/2026 To 07/04/2026
Ambient Average Temperature (°C)	: 34
Average Flow Rate of SPM (m ³ /min.)	: 1.12
Weather Condition	: Normal

Date of Sampling	Time	AFR of RDS (m ³ /min)	Parameter								
			NI ng/m ³	As ng/m ³	BaP*, ng/m ³	Pb µg/m ³	PM _{2.5} µg/m ³	PM ₁₀ µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO* mg/m ³
02/03/2026	11:00	1.12	1.436	BDL	BDL	BDL	52.8	93.5	7.9	18.1	0.619
05/03/2026	10:50	1.11	1.391	BDL	BDL	BDL	47.0	89.1	6.1	15.7	0.376
09/03/2026	11:40	1.10	1.289	BDL	BDL	BDL	51.9	92.7	8.2	17.3	0.542
12/03/2026	11:20	1.12	1.467	BDL	BDL	BDL	54.1	96.9	11.8	14.7	0.728
16/03/2026	12:00	1.13	1.512	BDL	BDL	BDL	50.4	91.7	7.3	17.5	0.587
19/03/2026	11:40	1.11	1.486	BDL	BDL	BDL	56.1	97.3	12.0	16.1	0.693
23/03/2026	10:50	1.12	1.538	BDL	BDL	BDL	52.5	94.1	10.5	17.0	0.556
26/03/2026	12:20	1.11	1.423	BDL	BDL	BDL	49.8	91.6	8.3	16.2	0.507
National Ambient Air Quality Monitoring Standards (2009)			20	06	01	01	60	100	80	80	04
Test Method			IS:-5182 (P:-26)	CPCBGV -I:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)	IS:-5182 (P:-23)	IS:-5182 (P:-24)	IS:-5182 (P:-2)	IS:-5182 (P:-6)	IS:-5182 (P:-10)

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End of Report

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AUTHORIZED SIGNATORY





TEST REPORT

Test Report of	Report Code	Date of Issue
Ambient Air Quality	AAQ-070426-07	07/04/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phullakhari, Taluka Talwandi Sabo,

District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	: Lab Representative
Date of Sampling	: 02/03/2026 To 26/03/2026
Sample Description	: Flat No. 101 To 108 on Terrace (Township)
Sampling Plan & Procedure	: SOP-AAQ-08
Analysis Duration	: 08/03/2026 To 07/04/2026
Ambient Average Temperature (°C)	: 34
Average Flow Rate of SPM (m ³ /min.)	: 1.12
Weather Condition	: Normal

Date of Sampling	Time	AFR for RDS (m ³ /m)	Parameter								
			Ni ng/m ³	As ng/m ³	BaP*, ng/m ³	Pb µg/m ³	PM _{2.5} µg/m ³	PM ₁₀ µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
02/03/2026	15:00	1.13	BDL	BDL	BDL	BDL	52.6	94.8	11.5	16.8	0.603
05/03/2026	16:30	1.10	BDL	BDL	BDL	BDL	48.2	90.5	6.8	18.2	0.528
09/03/2026	15:30	1.11	BDL	BDL	BDL	BDL	50.9	91.7	6.0	15.5	0.491
12/03/2026	16:25	1.12	BDL	BDL	BDL	BDL	54.1	96.4	10.3	14.8	0.703
16/03/2026	16:10	1.10	BDL	BDL	BDL	BDL	49.3	91.8	7.5	16.2	0.618
19/03/2026	16:00	1.11	BDL	BDL	BDL	BDL	53.7	95.3	9.1	13.6	0.506
23/03/2026	15:40	1.12	BDL	BDL	BDL	BDL	51.5	93.4	8.6	16.4	0.612
26/03/2026	16:20	1.13	BDL	BDL	BDL	BDL	50.8	91.6	8.0	14.9	0.467
National Ambient Air Quality Monitoring Standards 2009			20	06	01	01	60	100	80	80	04
Test Method			IS:-5182 (P:-26)	CPCBGV -I:-2012	IS:-5182 (P:-11)	IS:-5182 (P:-22)	IS:-5182 (P:-23)	IS:-5182 (P:-24)	IS:-5182 (P:-2)	IS:-5182 (P:-6)	IS:-5182 (P:-10)

Notes:-

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ANNEXURE-II

**TEST REPORT**

Test Report of Ambient Noise	Report Code AN-070426-09	Date of Issue 07/04/2026
Issued to	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka-TalwandiSaboo, Distt. Bhatinda(Punjab) India	
Date of Sampling	13/03/2026	
Name of the Location	HMEL REFINERY	

Sr. No.	Location	Test Result dB(A) Day Time	Test Result dB(A) Night Time
1	Near Refinery Main Gate	72.8	58.6
2	Near Fire Water Reservoir	66.1	52.4
3	Near Road Crude Oil Tanks	70.5	53.9
4	Near ETP-1 (Refinery)	72.7	55.1
5	Near ETP-2 (Petchem)	71.2	53.5
6	Near Storm Water Pond East Side	69.0	51.3
7	Near Sulphur Yard South East Side	71.8	55.1
8	Near Rail Loading Dispatch South East Side	72.6	56.0
9	Near CPP North East Side	70.9	54.1
10	Near Poly Propylene Dispatch Area	72.5	52.9
11	Near Ecological Pond Area	64.8	51.6
12	Near Refinery Flare Area	73.1	65.4
13	Near Petchem Flare Area	71.9	64.6
14	Near Cool Heading Yard	73.5	53.8
15	Battery Limits DFCU	72.8	55.1
Permissible Limit in *dB(A) Leq For Industrial Area		75 dB(A)	70 dB(A)

*dB (A) Leq denotes the time weighted average of the level of sound in decibel on scale 'A' which is relative to human hearing.

CPCB = Central Pollution Control Board

Note: The Noise Ambient Air Quality Standards are given for reference

Area Code	Category of Area/Zone	Limits in dB(A) Leq	
		Day Time	Night Time
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Silence Zone	50	40

End of Report

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**TEST REPORT**

Test Report of Ambient Noise	Report Code AN-060326-09	Date of Issue 06/03/2026
Issued to	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-TalwandiSaboo, Distt. Bhatinda(Punjab) India	
Date of Sampling	25/02/2026	
Name of the Location	HMEL REFINERY	

Sr. No.	Location	Test Result dB(A)	Test Result dB(A)
		Day Time	Night Time
1	Near Refinery Main Gate	71.9	57.5
2	Near Fire Water Reservoir	65.4	51.9
3	Near Road Crude Oil Tanks	72.8	55.1
4	Near ETP-1 (Refinery)	73.0	56.7
5	Near ETP-2 (Petchem)	72.1	54.3
6	Near Storm Water Pond East Side	70.4	52.9
7	Near Sulphur Yard South East Side	72.7	56.4
8	Near Rail Loading Dispatch South East Side	73.9	57.1
9	Near CPP North East Side	72.5	55.6
10	Near Poly Propylene Dispatch Area	73.2	54.9
11	Near Ecological Pond Area	66.1	52.7
12	Near Refinery Flare Area	74.3	66.8
13	Near Petchem Flare Area	73.0	65.1
14	Near Cool Heading Yard	72.3	55.9
15	Battery Limits DFCU	71.5	54.2
Permissible Limit in *dB(A) Leq For Industrial Area		75 dB(A)	70 dB(A)

*dB (A) Leq denotes the time weighted average of the level of sound in decibel on scale 'A' which is relative to human hearing.

CPCB = Central Pollution Control Board

Note: The Noise Ambient Air Quality Standards are given for reference

Area Code	Category of Area/Zone	Limits in dB(A) Leq	
		Day Time	Night Time
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Silence Zone	50	40

End of Report

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**TEST REPORT**

Test Report of Ambient Noise	Report Code AN-090226-09	Date of Issue 09/02/2026
Issued to	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-TalwandiSaboo, Distt. Bhatinda(Punjab) India	
Date of Sampling	29/01/2026	
Name of the Location	HMEL REFINERY	

Sr. No.	Location	Test Result dB(A) Day Time	Test Result dB(A) Night Time
1	Near Refinery Main Gate	72.0	63.5
2	Near Fire Water Reservoir	69.7	55.0
3	Near Road Crude Oil Tanks	70.9	54.2
4	Near ETP-1 (Refinery)	73.4	56.7
5	Near ETP-2 (Petchem)	72.0	58.3
6	Near Storm Water Pond East Side	67.5	55.1
7	Near Sulphur Yard South East Side	70.8	54.0
8	Near Rail Loading Dispatch South East Side	72.1	56.4
9	Near CPP North East Side	71.0	57.2
10	Near Poly Propylene Dispatch Area	70.5	54.7
11	Near Ecological Pond Area	64.2	55.4
12	Near Refinery Flare Area	73.0	64.1
13	Near Petchem Flare Area	71.8	63.5
14	Near Cool Heading Yard	70.0	53.7
15	Battery Limits DFCU	71.2	54.0
Permissible Limit in *dB(A) Leq For Industrial Area		75 dB(A)	70 dB(A)

*dB (A) Leq denotes the time weighted average of the level of sound in decibel on scale 'A' which is relatable to human hearing.
CPCB = Central Pollution Control Board

Note: The Noise Ambient Air Quality Standards are given for reference

Area Code	Category of Area/Zone	Limits in dB(A) Leq	
		Day Time	Night Time
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Silence Zone	50	40

End of Report

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**TEST REPORT**

Test Report of Ambient Noise	Report Code AN-070126-09	Date of Issue 07/01/2026
Issued to	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-TalwandiSaboo, Distt. Bhatinda(Punjab) India	
Date of Sampling	26/12/2025	
Name of the Location	HMEL REFINERY	

Sr. No.	Location	Test Result dB(A) Day Time	Test Result dB(A) Night Time
1	Near Refinery Main Gate	74.9	61.2
2	Near Fire Water Reservoir	67.2	54.7
3	Near Road Crude Oil Tanks	72.5	57.0
4	Near ETP-1 (Refinery)	70.8	58.6
5	Near ETP-2 (Petchem)	73.1	57.9
6	Near Storm Water Pond East Side	69.7	54.3
7	Near Sulphur Yard South East Side	71.5	56.8
8	Near Rail Loading Dispatch South East Side	73.2	55.5
9	Near CPP North East Side	72.6	58.3
10	Near Poly Propylene Dispatch Area	71.8	56.1
11	Near Ecological Pond Area	66.0	54.5
12	Near Refinery Flare Area	74.1	66.7
13	Near Petchem Flare Area	73.8	65.0
14	Near Cool Heading Yard	71.4	54.7
15	Battery Limits DFCU	72.7	55.1
Permissible Limit in *dB(A) Leq For Industrial Area		75 dB(A)	70 dB(A)

*dB (A) Leq denotes the time weighted average of the level of sound in decibel on scale 'A' which is reliable to human hearing.

CPCB = Central Pollution Control Board

Note: The Noise Ambient Air Quality Standards are given for reference

Area Code	Category of Area/Zone	Limits in dB(A) Leq	
		Day Time	Night Time
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Silence Zone	50	40

End of Report

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TEST REPORT

Test Report of Ambient Noise	Report Code AN-051225-09	Date of Issue 05/12/2025
Issued to	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-TalwandiSaboo, Distt. Bhatinda(Punjab) India	
Date of Sampling	28/11/2025	
Name of the Location	HMEL REFINERY	

Sr. No.	Location	Test Result dB(A)	
		Day Time	Night Time
1	Near Refinery Main Gate	74.9	62.6
2	Near Fire Water Reservoir	68.1	55.4
3	Near Road Crude Oil Tanks	72.3	58.7
4	Near ETP-1 (Refinery)	70.6	53.2
5	Near ETP-2 (Petchem)	72.8	56.5
6	Near Storm Water Pond East Side	66.3	54.8
7	Near Sulphur Yard South East Side	74.1	57.6
8	Near Rail Loading Dispatch South East Side	71.9	53.0
9	Near CPP North East Side	72.4	57.7
10	Near Poly Propylene Dispatch Area	73.8	56.2
11	Near Ecological Pond Area	66.1	52.9
12	Near Refinery Flare Area	74.7	66.2
13	Near Petchem Flare Area	73.0	65.6
14	Near Cool Heading Yard	72.1	57.2
15	Battery Limits DFCU	71.9	55.4
Permissible Limit in *dB(A) Leq For Industrial Area		75 dB(A)	70 dB(A)

*dB(A) Leq denotes the time weighted average of the level of sound in decibel on scale 'A' which is reliable to human hearing.

CPCB - Central Pollution Control Board

Note: The Noise Ambient Air Quality Standards are given for reference

Area Code	Category of Area/Zone	Limits in dB(A) Leq	
		Day Time	Night Time
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Silence Zone	50	40

End of Report

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TEST REPORT

Test Report of Ambient Noise	Report Code AN-061125-09	Date of Issue 06/11/2025
Issued to	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-TalwandiSaboo, Distt. Bhatinda(Punjab) India	
Date of Sampling	30/10/2025	
Name of the Location	HMEL REFINERY	

Sr. No.	Location	Test Result dB(A)	Test Result dB(A)
		Day Time	Night Time
1	Near Refinery Main Gate	73.4	59.7
2	Near Fire Water Reservoir	66.1	52.5
3	Near Road Crude Oil Tanks	74.6	56.8
4	Near ETP-1 (Refinery)	72.1	54.6
5	Near ETP-2 (Petchem)	70.8	55.2
6	Near Storm Water Pond East Side	68.2	53.5
7	Near Sulphur Yard South East Side	73.6	55.8
8	Near Rail Loading Dispatch South East Side	72.8	54.1
9	Near CPP North East Side	70.3	56.9
10	Near Poly Propylene Dispatch Area	74.5	55.7
11	Near Ecological Pond Area	67.1	53.5
12	Near Refinery Flare Area	73.8	64.9
13	Near Petchem Flare Area	74.6	63.2
14	Near Cool Heading Yard	70.2	53.5
15	Battery Limits DFCU	73.6	56.8
Permissible Limit in *dB(A) Leq For Industrial Area		75 dB(A)	70 dB(A)

*dB (A) Leq denotes the time weighted average of the level of sound in decibel on scale 'A' which is relative to human hearing.

CPCB - Central Pollution Control Board

Note: The Noise Ambient Air Quality Standards are given for reference

Area Code	Category of Area/Zone	Limits in dB(A) Leq	
		Day Time	Night Time
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Silence Zone	50	40

End of Report

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ANNEXURE-III







Activities undertaken for improving socio-economic conditions in the surrounding areas from Oct'25 to Mar'2026		
CSR Pillars	Beneficiaries	Remarks
Community Healthcare & Hygiene	24211	Medical Camps; Promoting Sports among youth; Road cleaning and Housekeeping; Support of Fitness Equipment's; Support to Drug de-addiction Centre and Bal Bhawan; Fogging & Spraying in vicinity villages; Humane Education Program; Support for flood relief measures in flood affected areas;
Livelihood and Sustainable Development	14785	Women Empowerment initiatives; Women Entrepreneurship Development (SHG); Animal Husbandry Camp; Skill Training program
Promoting Sport, Arts & Culture	7	Phulkari the Traditional Art (Embroidery); Sports promotion initiative
Total	39003	

Photographs of activities undertaken for improving socio-economic conditions in the surrounding areas from Oct'25 to Mar'2026

<p>Livelihood and Sustainable Development (Animal health checkup camp)</p>	<p>Livelihood and Sustainable Development (Women Entrepreneurship Initiatives)</p>
	
<p>Community Healthcare & Hygiene (Support of Fitness Equipments)</p>	<p>Community Healthcare & Hygiene (Medical Camp)</p>
	
<p>Livelihood and Sustainable Development (Skill Training Program)</p>	<p>Promoting Sport, Arts & Culture (Phulkari Traditional Art Embroidery)</p>
	

Activities undertaken for community welfare including eco-developmental measures in the surrounding areas from Oct'25 to Mar'2026		
CSR Pillars	Beneficiaries	Remarks
Education Development	16719	Distribution of School Bags & Stationery items in Government schools; Support for Coaching classes for higher studies in Engineering; Scholarship & Other support to Meritorious students for 10th & 12th class students; School infrastructure Development work; Sports and Drawing Competition for Govt. Schools; Distribution of school uniforms in Government schools; Support to Red Cross society for providing education to special abled children; Infrastructure support to Education institutions;
Community infrastructure and Environment	73138	Community level rural development work; Tree Guards & Concrete Benches; Support to community Institutions; Construction of Sewerage System; Winter Relief support through Red Cross Society; Support for Heath infrastructure development; Sports Infrastructure development; Renovation of Pond & Water Works in vicinity villages;
Total	89587	

Photographs of activities undertaken for community welfare including eco-developmental measures

<p align="center">Education Development (Bicycle for Girls Students)</p>	<p align="center">Education Development (School Bag & Stationery distribution)</p>
	
<p align="center">Education Development (Support for Coaching classes for higher studies in Engineering)</p>	<p align="center">Education Development (Scholarship Distribution)</p>
	
<p align="center">Community infrastructure and Environment (Supply of Concrete Benches)</p>	<p align="center">Community infrastructure and Environment (Renovation of Pond)</p>
	

ANNEXURE-IV

O/C



Date: 3rd December, 2025
Ref: HMEL-OE-40-ENV 1297

To,
The Director,
Ministry of Environment, Forest & Climate Change,
Northern Regional Office,
Bays No. 24-25, Sector 31-A,
Dakshin Marg, Chandigarh – 160 030.

Subject: Six Monthly EC Compliance Report (from Apr'25 to Sept'25) for Guru Gobind Singh Refinery at Phulokhari, Bathinda District, Punjab.

Ref: Environmental Clearance No. J-11011/24/98-IA II (dated 6th November 1998)
Environmental Clearance No. J-11011/27512007-IA II (I) date 16th July 2007
Environmental Clearance: F. No.: J-11011/275/2007 IA II (I) date 22nd June 2015 and
Environmental Clearance: F. No. J-11011/386/2016-IA-II (I) dated 7th August 2018

Dear Sir,

Please find enclosed six-monthly EC compliance report (from Apr'25 to Sept'25) of Guru Gobind Singh Refinery (along with Annexures) on the environmental conditions stipulated by MoEF&CC.

Thanking you,

Very Truly Yours,

Jatinder Kumar
(DM-Env.)

Cc: Regional Director, Central Pollution Control Board, First Floor, PIC-UP Building, Vibuti Khand, Gantinggar,
Lucknow, UP, Pin Code-226010 (India).
Cc: Punjab Pollution Control Board, Zonal Office, Faridkot/Bathinda, Punjab.
Cc: Punjab Pollution Control Board, Regional Office, Bathinda.

Enclosure: Six monthly EC compliance report
Annexure-I: Online continuous ambient air quality monitoring data.
Annexure-II: Ambient noise quality monitoring reports
Annexure-III: Social upliftment activities are carried out in the nearby village.
Annexure-IV: Acknowledgement copy of the last six-month EC compliance report submitted to MoEF&CC, Regional Office, Chandigarh. For the period of Oct'24 to Mar'25.
Annexure-V: Stack emission monitoring data.
Annexure-VI: Effluent analysis reports and ground water reports
Annexure-VII: Online data of ETP parameters
Annexure-VIII: Activities undertaken for improving the socio-economic conditions of the surrounding villages.
Annexure-IX: Eco-developmental measures including community welfare measures in the project area.
Annexure-X: Copy of applications under Air and Water CTO (Consent to Operate).
Annexure-XI: CER plan for the BS-VI Fuel Quality Up-gradation Project.
Annexure-XII: Copy of the advertisement publishing the accordance of Environmental Clearance by MoEF&CC.

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09/11/25

HPCL-Mittal Energy Limited

Deepak Rajput

From: Environment Team
Sent: 05 December 2025 11:53
To: ecompliance-nro@gov.in
Cc: narendersharma.cpcb@gov.in; ron.z.chd-mef@nic.in; seezobti@gmail.com; eerobti@yahoo.in; CoOrdinator Chd; Sanket Thapar; Ravi Deshwal; Jatinder Kumar1; Deepak Rajput
Subject: Sixth Monthly EC Compliance Report of GGSR from Apr'25 to Sept'25
Attachments: Sixth monthly EC compliance report_GGSR Apr'25-Sept'25.pdf

To,
The Director,
Ministry of Environment, Forest & Climate Change,
Northern Regional Office,
Bays No. 24-25, Sector 31-A,
Dakshin Marg,
Chandigarh – 160 030.

Subject: Six Monthly EC Compliance Report (from Apr'25 to Sept'25) for Guru Gobind Singh Refinery at Phulokhari, Bathinda District, Punjab.

Ref: Environmental Clearance No. J-11011/24/98-IA II (dated 6th November, 1998
Environmental Clearance No. J-11011/27512007-IA II (I) date 16th July 2007
Environmental Clearance: F. No.: J-11011/275/2007 IA II (I) date 22nd June 2015 and
Environmental Clearance: F. No. J-11011/386/2016-IA-II (I) dated 7th August 2018

Dear Sir,

Please find enclosed Sixth monthly EC compliance report (Apr'25 to Sept'25) of Guru Gobind Singh Refinery (along with Annexures) on the environmental conditions stipulated by MoEF&CC.

Thanks & Regards,
Environment Team,
Guru Gobind Singh refinery
Bathinda.

ANNEXURE-V

**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-34	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	29/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	UB-2
Stack Identification	-	Stack attached to UB-2
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100
Diameter of Stack (m)	-	3.1
Sampling Duration (Minutes)	-	26
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	130
Ambient Temperature (°C)	-	34
Average Stack Velocity (m/s)	-	12.00
Quantity of Emission (Nm ³ /hr)	-	220000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	5.0	44
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	14.3	335
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	155.8	730
3.	Carbon Monoxide (as CO)	IS:-13270	7.2	143
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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AUTHORIZED SIGNATORY



**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-35	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	29/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	UB-4
Stack Identification	-	Stack attached to UB-4
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100
Diameter of Stack (m)	-	3.1
Sampling Duration (Minutes)	-	26
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	135
Ambient Temperature (°C)	-	35
Average Stack Velocity (m/s)	-	12.50
Quantity of Emission (Nm ³ /hr)	-	230000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	6.9	44
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	141.3	335
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	128.7	730
3.	Carbon Monoxide (as CO)	IS:-13270	6.0	143
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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AUTHORIZED SIGNATORY



**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-36	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	29/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	UB-5
Stack Identification	-	Stack attached to UB-5
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	130
Diameter of Stack (m)	-	3.25
Sampling Duration (Minutes)	-	26
Parameters Monitored	-	PM, NO _x , & SO ₂
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	132
Ambient Temperature (°C)	-	33
Average Stack Velocity (m/s)	-	12.07
Quantity of Emission (Nm ³ /hr)	-	845000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Per Cock Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	21.8	150
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	116.2	300
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	226.5	400

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-37	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	29/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	UB-6
Stack Identification	-	Stack attached to UB-6
Normal Operating Schedule	-	As per requirement.
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	130
Diameter of Stack (m)	-	3.25
Sampling Duration (Minutes)	-	26
Parameters Monitored	-	PM, NO _x & SO ₂
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	135
Ambient Temperature (°C)	-	34
Average Stack Velocity (m/s)	-	12.62
Quantity of Emission (Nm ³ /hr.)	-	860000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Pet Cock Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	27.2	150
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	126.1	300
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	138.9	400

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-30	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	09/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phallokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	SRU-525
Stack Identification	-	Stack attached to SRU-525
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100.0
Diameter of Stack (m)	-	2.0
Sampling Duration (Minutes)	-	26
Parameters Monitored	-	NO _x , SO ₂ , CO & H ₂ S
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	290
Ambient Temperature (°C)	-	28
Average Stack Velocity (m/s)	-	17.02
Quantity of Emission (Nm ³ /hr)	-	12000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	73.8	250
2.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	1156.4	NA
3.	Carbon Monoxide (as CO)	IS:-13270	38.7	100
4.	Hydrogen Sulphide (as H ₂ S)	IS:-11255 (PART:-4)	6.3	10

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-31	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	08/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	HGU-1
Stack Identification	-	Stack attached to HGU-1
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	2.6
Sampling Duration (Minutes)	-	38
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	180
Ambient Temperature (°C)	-	30
Average Stack Velocity (m/s)	-	9.13
Quantity of Emission (Nm ³ /hr.)	-	87000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	9.5	42
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	7.3	330
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	4.9	693
3.	Carbon Monoxide (as CO)	IS:-13270	3.7	140
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-32	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	08/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village- Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	HGU-2
Stack Identification	-	Stack attached to HGU-2
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	2.6
Sampling Duration (Minutes)	-	37
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	175
Ambient Temperature (°C)	-	30
Average Stack Velocity (m/s)	-	9.64
Quantity of Emission (Nm ³ /hr.)	-	87000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	9.8	38
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	18.3	320
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	6.1	636
3.	Carbon Monoxide (as CO)	IS:-13270	4.0	137
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-33	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	08/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	Naphtha Super Heater
Stack Identification	-	Stack attached to Naphtha Super Heater
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	30
Diameter of Stack (m)	-	1.2
Sampling Duration (Minutes)	-	45
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	290
Ambient Temperature (°C)	-	32
Average Stack Velocity (m/s)	-	9.69
Quantity of Emission (Nm ³ /hr)	-	16000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	9.5	41
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	22.9	329
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	16.2	679
3.	Carbon Monoxide (as CO)	IS:-13270	5.7	139
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5


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End of Report





TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-38	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	09/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Dist. Bhatinda (Punjab) India
Emission Source Monitored	-	VGO Heater
Stack Identification	-	Stack attached to VGO Heater
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	65
Diameter of Stack (m)	-	2.25
Sampling Duration (Minutes)	-	40
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	160
Ambient Temperature (°C)	-	31
Average Stack Velocity (m/s)	-	8.03
Quantity of Emission (Nm ³ /hr.)	-	90000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	10.1	41
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	84.8	328
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	29.2	676
3.	Carbon Monoxide (as CO)	IS:-13270	7.0	139
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-39	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	13/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DHDT-1
Stack Identification	-	Stack attached to DHDT-1
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	75
Diameter of Stack (m)	-	2.25
Sampling Duration (Minutes)	-	40
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	185
Ambient Temperature (°C)	-	30
Average Stack Velocity (m/s)	-	8.34
Quantity of Emission (Nm ³ /hr)	-	53000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	14.4	40
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	74.2	327
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	48.1	666
3.	Carbon Monoxide (as CO)	IS:-13270	8.5	138
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-40	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	13/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DHDT-2
Stack Identification	-	Stack attached to DHDT-2
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	60
Diameter of Stack (m)	-	1.46
Sampling Duration (Minutes)	-	43
Parameters Monitored	-	PM, NO _x , SO ₂ & CO
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	175
Ambient Temperature (°C)	-	32
Average Stack Velocity (m/s)	-	10.06
Quantity of Emission (Nm ³ /hr)	-	12000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas (mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	4.0	5
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	26.5	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	8.1	50
4.	Carbon Monoxide (as CO)	IS:-13270	7.4	100

End of Report

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**TEST REPORT**

Test Report of Stack Emission	Report Code ST-061125-41	Date of Issue 06/11/2025
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SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	10/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	CDU/VDU
Stack Identification	-	Stack attached to CDU/VDU
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	85
Diameter of Stack (m)	-	4.3
Sampling Duration (Minutes)	-	24
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	168
Ambient Temperature (°C)	-	26
Average Stack Velocity (m/s)	-	14.29
Quantity of Emission (Nm ³ /hr)	-	198000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	18.9	40
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	32.4	326
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	112.8	659
3.	Carbon Monoxide (as CO)	IS:-13270	16.1	138
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report


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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-42	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	10/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Sabon, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	BBU
Stack Identification	-	Stack attached to BBU
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	60
Diameter of Stack (m)	-	2.0
Sampling Duration (Minutes)	-	40
Parameters Monitored	-	PM, NO _x , SO ₂ & CO,
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	154
Ambient Temperature (°C)	-	28
Average Stack Velocity (m/s)	-	8.56
Quantity of Emission (Nm ³ /hr)	-	519000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas (mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	2.6	5
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	163.2	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	21.8	50
4.	Carbon Monoxide (as CO)	IS:-13270	13.4	100


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End of Report



**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-43	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	14/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	FCCU Heater
Stack Identification	-	Stack attached to FCCU Heater
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	80
Diameter of Stack (m)	-	1.75
Sampling Duration (Minutes)	-	42
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	205
Ambient Temperature (°C)	-	26
Average Stack Velocity (m/s)	-	8.95
Quantity of Emission (Nm ³ /hr.)	-	15400

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	6.3	41
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	56.7	328
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	33.5	678
3.	Carbon Monoxide (as CO)	IS:-13270	14.1	139
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report


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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-44	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	14/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	FCCU Regenerator
Stack Identification	-	Stack attached to FCCU Regenerator
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	42
Diameter of Stack (m)	-	3.3
Sampling Duration (Minutes)	-	28
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	210
Ambient Temperature (°C)	-	27
Average Stack Velocity (m/s)	-	15.03
Quantity of Emission (Nm ³ /hr)	-	236000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	5.5	50
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	23.2	350
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	14.6	500
3.	Carbon Monoxide (as CO)	IS:-13270	5.1	300
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	2


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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-45	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	07/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	NHT Reactor
Stack Identification	-	Stack attached to NHT Reactor
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	50
Diameter of Stack (m)	-	1.2
Sampling Duration (Minutes)	-	41
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	205
Ambient Temperature (°C)	-	29
Average Stack Velocity (m/s)	-	9.10
Quantity of Emission (Nm ³ /hr)	-	11000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	6.8	39
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	18.3	324
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	13.7	645
3.	Carbon Monoxide (as CO)	IS:-13270	2.5	137
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-46	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	07/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	CCR Heater
Stack Identification	-	Stack attached to CCR Heater
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	68
Diameter of Stack (m)	-	2.5
Sampling Duration (Minutes)	-	40
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	275
Ambient Temperature (°C)	-	30
Average Stack Velocity (m/s)	-	10.90
Quantity of Emission (Nm ³ /hr)	-	15500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	24.0	40
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	86.8	326
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	28.2	659
3.	Carbon Monoxide (as CO)	IS:-13270	17.9	138
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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AUTHORIZED SIGNATORY





TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-47	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	16/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	HRSG-2
Stack Identification	-	Stack attached to HRSG-2
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	35
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	33
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	170
Ambient Temperature (°C)	-	28
Average Stack Velocity (m/s)	-	10.42
Quantity of Emission (Nm ³ /hr)	-	370500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	6.4	44
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	175.8	335
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	8.0	730
3.	Carbon Monoxide (as CO)	IS:-13270	7.3	143
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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AUTHORIZED SIGNATORY





TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-48	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	17/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DCU
Stack Identification	-	Stack attached to DCU
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	65
Diameter of Stack (m)	-	3.15
Sampling Duration (Minutes)	-	40
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	165
Ambient Temperature (°C)	-	30
Average Stack Velocity (m/s)	-	8.73
Quantity of Emission (Nm ³ /hr)	-	134000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	4.6	43
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	35.2	334
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	14.1	719
3.	Carbon Monoxide (as CO)	IS:-13270	5.0	142
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5


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End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-49	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	16/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	HRS-G-1
Stack Identification	-	Stack attached to HRS-G-1
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	35
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	33
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	175
Ambient Temperature (°C)	-	29
Average Stack Velocity (m/s)	-	10.43
Quantity of Emission (Nm ³ /hr.)	-	520500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	8.4	44
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	287.9	335
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	18.2	730
3.	Carbon Monoxide (as CO)	IS:-13270	14.5	143
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-50	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	30/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-1
Stack Identification	-	Stack attached to DFCU-1
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	40
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	170
Ambient Temperature (°C)	-	27
Average Stack Velocity (m/s)	-	11.69
Quantity of Emission (Nm ³ /hr.)	-	28000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	2.4	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	119.5	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	9.7	50
3.	Carbon Monoxide (as CO)	IS:-13270	64.3	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-51	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	30/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-2
Stack Identification	-	Stack attached to DFCU-2
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	32
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	189
Ambient Temperature (°C)	-	28
Average Stack Velocity (m/s)	-	11.17
Quantity of Emission (Nm ³ /hr.)	-	25500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	3.1	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	150.8	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	17.9	50
3.	Carbon Monoxide (as CO)	IS:-13270	82.1	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-52	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	30/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokbari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-3
Stack Identification	-	Stack attached to DFCU-3
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	31
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	197
Ambient Temperature (°C)	-	29
Average Stack Velocity (m/s)	-	11.85
Quantity of Emission (Nm ³ /hr.)	-	22000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	2.7	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	139.2	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	20.5	50
3.	Carbon Monoxide (as CO)	IS:-13270	74.3	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-53	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	30/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-4
Stack Identification	-	Stack attached to DFCU-4
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	30
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	188
Ambient Temperature (°C)	-	29
Average Stack Velocity (m/s)	-	11.90
Quantity of Emission (Nm ³ /hr.)	-	24500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	3.0	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	157.8	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	22.1	50
3.	Carbon Monoxide (as CO)	IS:-13270	88.9	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-54	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	30/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-5
Stack Identification	-	Stack attached to DFCU-5
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	36
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	190
Ambient Temperature (°C)	-	29
Average Stack Velocity (m/s)	-	10.29
Quantity of Emission (Nm ³ /hr.)	-	19000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	1.9	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	114.3	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	16.1	50
3.	Carbon Monoxide (as CO)	IS:-13270	64.2	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-55	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	30/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-6
Stack Identification	-	Stack attached to DFCU-6
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	33
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	185
Ambient Temperature (°C)	-	30
Average Stack Velocity (m/s)	-	10.96
Quantity of Emission (Nm ³ /hr.)	-	21500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	2.2	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	133.7	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	25.0	50
3.	Carbon Monoxide (as CO)	IS:-13270	70.2	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-061125-56	06/11/2025

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team,
Date of Sampling	-	30/10/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Dist. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-7
Stack Identification	-	Stack attached to DFCU-7
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	30
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	198
Ambient Temperature (°C)	-	30
Average Stack Velocity (m/s)	-	12.30
Quantity of Emission (Nm ³ /hr.)	-	24000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	3.3	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255(PART:-7)	141.9	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	27.8	50
3:	Carbon Monoxide (as CO)	IS:-13270	79.0	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-29	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	31/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	SRU-524
Stack Identification	-	Stack attached to SRU-524
Normal Operating Schedule	-	As per requirement.
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100.0
Diameter of Stack (m)	-	2.0
Sampling Duration (Minutes)	-	29
Parameters Monitored	-	NO _x , SO ₂ , CO & H ₂ S
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	300
Ambient Temperature (°C)	-	13
Average Stack Velocity (m/s)	-	15.41
Quantity of Emission (Nm ³ /hr)	-	10200

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	38.6	250
2.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	941.8	NA
3.	Carbon Monoxide (as CO)	IS:-13270	11.5	100
4.	Hydrogen Sulphide (as H ₂ S)	IS:-11255 (PART:-4)	4.9	10

End of Report

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TEST REPORT

Test Report of Stack Emission	Report Code ST-070126-30	Date of Issue 07/01/2026
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SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	31/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	SRU-525
Stack Identification	-	Stack attached to SRU-525
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100.0
Diameter of Stack (m)	-	2.0
Sampling Duration (Minutes)	-	29
Parameters Monitored	-	NO _x , SO ₂ , CO & H ₂ S
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	293
Ambient Temperature (°C)	-	15
Average Stack Velocity (m/s)	-	15.21
Quantity of Emission (Nm ³ /hr)	-	11000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	51.8	250
2.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	1096.5	NA
3.	Carbon Monoxide (as CO)	IS:-13270	36.1	100
4.	Hydrogen Sulphide (as H ₂ S)	IS:-11255 (PART:-4)	5.9	10

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-31	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	26/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	HGU-1
Stack Identification	-	Stack attached to HGU-1
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	2.6
Sampling Duration (Minutes)	-	38
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	178
Ambient Temperature (°C)	-	17
Average Stack Velocity (m/s)	-	9.37
Quantity of Emission (Nm ³ /hr.)	-	89500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	12.9	42
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	9.5	330
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	6.1	693
3.	Carbon Monoxide (as CO)	IS:-13270	4.7	140
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-32	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	26/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	HGU-2
Stack Identification	-	Stack attached to HGU-2
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	2.6
Sampling Duration (Minutes)	-	34
Parameters Monitored	-	PM ₁₀ , NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	173
Ambient Temperature (°C)	-	18
Average Stack Velocity (m/s)	-	10.10
Quantity of Emission (Nm ³ /hr.)	-	89500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	10.4	38
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	22.1	320
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	7.9	636
3.	Carbon Monoxide (as CO)	IS:-13270	5.2	137
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-33	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	26/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	Naphtha Super Heater
Stack Identification	-	Stack attached to Naphtha Super Heater
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	30
Diameter of Stack (m)	-	1.2
Sampling Duration (Minutes)	-	40
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	292
Ambient Temperature (°C)	-	20
Average Stack Velocity (m/s)	-	9.39
Quantity of Emission (Nm ³ /hr)	-	14800

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	8.0	41
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	20.8	329
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	14.6	679
3.	Carbon Monoxide (as CO)	IS:-13270	3.4	139
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-34	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	30/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	VGO Heater
Stack Identification	-	Stack attached to VGO Heater
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	65
Diameter of Stack (m)	-	2.25
Sampling Duration (Minutes)	-	42
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	165
Ambient Temperature (°C)	-	14
Average Stack Velocity (m/s)	-	8.35
Quantity of Emission (Nm ³ /hr.)	-	91500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	12.4	41
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	89.6	328
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	32.1	676
3.	Carbon Monoxide (as CO)	IS:-13270	8.5	139
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of Stack Emission	Report Code ST-070126-35	Date of Issue 07/01/2026
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SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	24/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Sahoo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DHDT-1
Stack Identification	-	Stack attached to DHDT-1
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	75
Diameter of Stack (m)	-	2.25
Sampling Duration (Minutes)	-	43
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	180
Ambient Temperature (°C)	-	17
Average Stack Velocity (m/s)	-	8.23
Quantity of Emission (Nm ³ /hr)	-	52700

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	13.0	40
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	72.3	327
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	46.5	666
3.	Carbon Monoxide (as CO)	IS:-13270	7.1	138
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-36	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	30/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari , Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DHDT-2
Stack Identification	-	Stack attached to DHDT-2
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	60
Diameter of Stack (m)	-	1.46
Sampling Duration (Minutes)	-	37
Parameters Monitored	-	PM, NO _x , SO ₂ & CO
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	170
Ambient Temperature (°C)	-	19
Average Stack Velocity (m/s)	-	9.28
Quantity of Emission (Nm ³ /hr)	-	11500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas (mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	3.2	5
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	24.7	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	7.3	50
4.	Carbon Monoxide (as CO)	IS:-13270	6.1	100

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-37	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	30/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Sabou, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	CDU/VDU
Stack Identification	-	Stack attached to CDU/VDU
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	85
Diameter of Stack (m)	-	4.3
Sampling Duration (Minutes)	-	25
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	170
Ambient Temperature (°C)	-	19
Average Stack Velocity (m/s)	-	13.65
Quantity of Emission (Nm ³ /hr)	-	199000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	20.7	40
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	34.5	326
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	115.9	659
3.	Carbon Monoxide (as CO)	IS:-13270	18.3	138
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-38	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	26/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	BBU
Stack Identification	-	Stack attached to BBU
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	60
Diameter of Stack (m)	-	2.0
Sampling Duration (Minutes)	-	41
Parameters Monitored	-	PM, NO _x , SO ₂ & CO,
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	150
Ambient Temperature (°C)	-	21
Average Stack Velocity (m/s)	-	9.97
Quantity of Emission (Nm ³ /hr)	-	535000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas (mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	3.0	5
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	169.5	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	23.2	50
4.	Carbon Monoxide (as CO)	IS:-13270	15.8	100

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-39	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	24/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	FCCU Heater
Stack Identification	-	Stack attached to FCCU Heater
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	80
Diameter of Stack (m)	-	1.75
Sampling Duration (Minutes)	-	42
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	200
Ambient Temperature (°C)	-	20
Average Stack Velocity (m/s)	-	9.18
Quantity of Emission (Nm ³ /hr.)	-	16500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	8.2	41
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	58.5	328
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	34.7	678
3.	Carbon Monoxide (as CO)	IS:-13270	15.9	139
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-40	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	24/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	FCCU Regenerator
Stack Identification	-	Stack attached to FCCU Regenerator
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	42
Diameter of Stack (m)	-	3.3
Sampling Duration (Minutes)	-	27
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	205
Ambient Temperature (°C)	-	21
Average Stack Velocity (m/s)	-	14.03
Quantity of Emission (Nm ³ /hr)	-	220000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	4.8	50
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	21.3	350
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	13.0	500
3.	Carbon Monoxide (as CO)	IS:-13270	5.5	300
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	2

End of Report

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**TEST REPORT**

Test Report of Stack Emission	Report Code ST-070126-41	Date of Issue 07/01/2026
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SAMPLING & ANALYSIS DATA

Description	- Stack Emission Monitoring conducted by our team.
Date of Sampling	- 29/12/2025
Name & Address of the Industry	- M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	- NHT Reactor
Stack Identification	- Stack attached to NHT Reactor
Normal Operating Schedule	- As per requirement
Type of Stack (ACC/Metal)	- Mild Steel
Stack Height From Ground Level (meter)	- 50
Diameter of Stack (m)	- 1.2
Sampling Duration (Minutes)	- 43
Parameters Monitored	- PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	- Assessment of Pollution load
General Sensory Observations	- Normal
Fugitive Emission (if any)	- Nil
Stack Temperature (°C)	- 202
Ambient Temperature (°C)	- 21
Average Stack Velocity (m/s)	- 9.26
Quantity of Emission (Nm ³ /hr)	- 11500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	6.1	39
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	15.7	324
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	11.5	645
3.	Carbon Monoxide (as CO)	IS:-13270	2.2	137
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-42	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	29/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	CCR Heater
Stack Identification	-	Stack attached to CCR Heater
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	68
Diameter of Stack (m)	-	2.5
Sampling Duration (Minutes)	-	40
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	270
Ambient Temperature (°C)	-	21
Average Stack Velocity (m/s)	-	8.81
Quantity of Emission (Nm ³ /hr)	-	14700

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	21.7	40
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	83.4	326
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	26.8	659
3.	Carbon Monoxide (as CO)	IS:-13270	15.1	138
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of Stack Emission	Report Code ST-070126-43	Date of Issue 07/01/2026
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SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	29/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	HRSG-2
Stack Identification	-	Stack attached to HRSG-2
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	35
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	37
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	172
Ambient Temperature (°C)	-	20
Average Stack Velocity (m/s)	-	9.73
Quantity of Emission (Nm ³ /hr)	-	360000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	5.9	44
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	174.1	335
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	7.4	730
3.	Carbon Monoxide (as CO)	IS:-13270	6.0	143
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-44	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	29/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	HRSG-1
Stack Identification	-	Stack attached to HRSG-1
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	35
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	36
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	168
Ambient Temperature (°C)	-	21
Average Stack Velocity (m/s)	-	9.65
Quantity of Emission (Nm ³ /hr.)	-	510000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	7.5	44
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	283.1	335
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	17.9	730
3.	Carbon Monoxide (as CO)	IS:-13270	13.4	143
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-45	07/01/2026

SAMPLING & ANALYSIS DATA

Description	- Stack Emission Monitoring conducted by our team.
Date of Sampling	- 23/12/2025
Name & Address of the Industry	- M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	- DFCU-1
Stack Identification	- Stack attached to DFCU-1
Normal Operating Schedule	- As per requirement
Type of Stack (ACC/Metal)	- Mild Steel
Stack Height From Ground Level (meter)	- 70
Diameter of Stack (m)	- 3.5
Sampling Duration (Minutes)	- 30
Parameters Monitored	- PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	- Assessment of Pollution load
General Sensory Observations	- Normal
Fugitive Emission (if any)	- Nil
Stack Temperature (°C)	- 178
Ambient Temperature (°C)	- 15
Average Stack Velocity (m/s)	- 11.66
Quantity of Emission (Nm ³ /hr.)	- 28700

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	1.8	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	116.5	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	8.3	50
3.	Carbon Monoxide (as CO)	IS-13270	62.7	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-46	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	23/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-2
Stack Identification	-	Stack attached to DFCU-2
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	33
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	186
Ambient Temperature (°C)	-	15
Average Stack Velocity (m/s)	-	10.92
Quantity of Emission (Nm ³ /hr.)	-	24000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	2.8	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	148.5	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	16.2	50
3.	Carbon Monoxide (as CO)	IS:-13270	79.7	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-47	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	23/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-3
Stack Identification	-	Stack attached to DFCU-3
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	31
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	194
Ambient Temperature (°C)	-	16
Average Stack Velocity (m/s)	-	11.60
Quantity of Emission (Nm ³ /hr.)	-	21600

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	1.6	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	134.2	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	18.5	50
3.	Carbon Monoxide (as CO)	IS:-13270	71.7	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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AUTHORIZED SIGNATORY



**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-48	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	23/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taloka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-4
Stack Identification	-	Stack attached to DFCU-4
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	30
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	190
Ambient Temperature (°C)	-	16
Average Stack Velocity (m/s)	-	11.72
Quantity of Emission (Nm ³ /hr.)	-	25000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	2.3	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	152.8	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	19.6	50
3.	Carbon Monoxide (as CO)	IS:-13270	84.0	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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AUTHORIZED SIGNATORY





TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-49	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	23/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-5
Stack Identification	-	Stack attached to DFCU-5
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	35
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	185
Ambient Temperature (°C)	-	17
Average Stack Velocity (m/s)	-	10.48
Quantity of Emission (Nm ³ /hr.)	-	19500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	1.1	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	108.5	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	12.9	50
3.	Carbon Monoxide (as CO)	IS:-13270	60.2	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-50	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	23/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-6
Stack Identification	-	Stack attached to DFCU-6
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	32
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	180
Ambient Temperature (°C)	-	18
Average Stack Velocity (m/s)	-	11.12
Quantity of Emission (Nm ³ /hr.)	-	22600

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	2.5	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	127.2	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	23.6	50
3.	Carbon Monoxide (as CO)	IS:-13270	67.3	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070126-51	07/01/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	23/12/2025
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka-Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-7
Stack Identification	-	Stack attached to DFCU-7
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	31
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	190
Ambient Temperature (°C)	-	18
Average Stack Velocity (m/s)	-	11.65
Quantity of Emission (Nm ³ /hr.)	-	22900

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	3.1	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255(PART:-7)	143.7	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	25.2	50
3.	Carbon Monoxide (as CO)	IS:-13270	76.4	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-090226-29	09/02/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	22/01/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	SRU-524
Stack Identification	-	Stack attached to SRU-524
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100.0
Diameter of Stack (m)	-	2.0
Sampling Duration (Minutes)	-	41
Parameters Monitored	-	NO _x , SO ₂ , CO & H ₂ S
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	290
Ambient Temperature (°C)	-	23
Average Stack Velocity (m/s)	-	10.69
Quantity of Emission (Nm ³ /hr)	-	9500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	30.5	250
2.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	909.0	NA
3.	Carbon Monoxide (as CO)	IS:-13270	8.7	100
4.	Hydrogen Sulphide (as H ₂ S)	IS:-11255 (PART:-4)	4.1	10

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-090226-30	09/02/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	22/01/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	SRU-525
Stack Identification	-	Stack attached to SRU-525
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100.0
Diameter of Stack (m)	-	2.0
Sampling Duration (Minutes)	-	43
Parameters Monitored	-	NO _x , SO ₂ , CO & H ₂ S
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	305
Ambient Temperature (°C)	-	15
Average Stack Velocity (m/s)	-	10.49
Quantity of Emission (Nm ³ /hr)	-	10000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	40.7	250
2.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	973.5	NA
3.	Carbon Monoxide (as CO)	IS:-13270	27.6	100
4.	Hydrogen Sulphide (as H ₂ S)	IS:-11255 (PART:-4)	4.8	10

End of Report

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TEST REPORT

Test Report of Stack Emission	Report Code ST-090226-31	Date of Issue 09/02/2026
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SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	28/01/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	UB-2
Stack Identification	-	Stack attached to UB-2
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100
Diameter of Stack (m)	-	3.1
Sampling Duration (Minutes)	-	36
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	132
Ambient Temperature (°C)	-	15
Average Stack Velocity (m/s)	-	11.45
Quantity of Emission (Nm ³ /hr)	-	215000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	4.3	44
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	12.8	335
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	150.3	730
3.	Carbon Monoxide (as CO)	IS:-13270	6.7	143
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-090226-32	09/02/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	28/01/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	UB-3
Stack Identification	-	Stack attached to UB-3
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100
Diameter of Stack (m)	-	3.1
Sampling Duration (Minutes)	-	26
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	130
Ambient Temperature (°C)	-	16
Average Stack Velocity (m/s)	-	11.89
Quantity of Emission (Nm ³ /hr)	-	210800

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	6.0	44
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	136.5	335
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	122.9	730
3.	Carbon Monoxide (as CO)	IS:-13270	5.3	143
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-090226-33	09/02/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	30/01/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	UB-5
Stack Identification	-	Stack attached to UB-5
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	130
Diameter of Stack (m)	-	3.25
Sampling Duration (Minutes)	-	26
Parameters Monitored	-	PM, NO _x & SO ₂
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	132
Ambient Temperature (°C)	-	20
Average Stack Velocity (m/s)	-	12.07
Quantity of Emission (Nm ³ /hr)	-	837000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Per Cock Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	20.5	150
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	113.1	300
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	220.7	400

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-090226-34	09/02/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	30/01/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	UB-6
Stack Identification	-	Stack attached to UB-6
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	130
Diameter of Stack (m)	-	3.25
Sampling Duration (Minutes)	-	26
Parameters Monitored	-	PM, NO _x & SO ₂
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	135
Ambient Temperature (°C)	-	21
Average Stack Velocity (m/s)	-	12.62
Quantity of Emission (Nm ³ /hr.)	-	850500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Pet Cokk Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	25.9	150
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	120.4	300
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	133.1	400

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-29	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	11/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	SRU-524
Stack Identification	-	Stack attached to SRU-524
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100.0
Diameter of Stack (m)	-	2.0
Sampling Duration (Minutes)	-	26
Parameters Monitored	-	NO _x , SO ₂ , CO & H ₂ S
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	290
Ambient Temperature (°C)	-	18
Average Stack Velocity (m/s)	-	17.01
Quantity of Emission (Nm ³ /hr)	-	12500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	48.5	250
2.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	1073.2	NA
3.	Carbon Monoxide (as CO)	IS:-13270	16.8	100
4.	Hydrogen Sulphide (as H ₂ S)	IS:-11255 (PART:-4)	6.3	10

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-30	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	11/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka - Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	SRU-525
Stack Identification	-	Stack attached to SRU-525
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100.0
Diameter of Stack (m)	-	2.0
Sampling Duration (Minutes)	-	29
Parameters Monitored	-	NO _x , SO ₂ , CO & H ₂ S
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	305
Ambient Temperature (°C)	-	21
Average Stack Velocity (m/s)	-	15.87
Quantity of Emission (Nm ³ /hr)	-	10500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	54.6	250
2.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	1012.4	NA
3.	Carbon Monoxide (as CO)	IS:-13270	44.7	100
4.	Hydrogen Sulphide (as H ₂ S)	IS:-11255 (PART:-4)	6.0	10

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-31	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	02/03/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	HGU-1
Stack Identification	-	Stack attached to HGU-1
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	2.6
Sampling Duration (Minutes)	-	38
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	180
Ambient Temperature (°C)	-	30
Average Stack Velocity (m/s)	-	9.13
Quantity of Emission (Nm ³ /hr.)	-	86200

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	9.0	42
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	6.8	330
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	4.5	693
3.	Carbon Monoxide (as CO)	IS:-13270	3.1	140
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-32	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	02/03/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village- Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	HGU-2
Stack Identification	-	Stack attached to HGU-2
Normal Operating Schedule	-	As per requirement.
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	2.6
Sampling Duration (Minutes)	-	37
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	175
Ambient Temperature (°C)	-	30
Average Stack Velocity (m/s)	-	8.90
Quantity of Emission (Nm ³ /hr.)	-	83500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	7.3	38
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	15.1	320
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	5.7	636
3.	Carbon Monoxide (as CO)	IS:-13270	3.5	137
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-33	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team
Date of Sampling	-	02/03/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	Naphtha Super Heater
Stack Identification	-	Stack attached to Naphtha Super Heater
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	30
Diameter of Stack (m)	-	1.2
Sampling Duration (Minutes)	-	45
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	290
Ambient Temperature (°C)	-	32
Average Stack Velocity (m/s)	-	10.05
Quantity of Emission (Nm ³ /hr)	-	17000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	10.3	41
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	24.5	329
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	18.1	679
3.	Carbon Monoxide (as CO)	IS:-13270	6.4	139
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-34	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	25/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	UB-2
Stack Identification	-	Stack attached to UB-2
Normal Operating Schedule	-	As per requirement.
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100
Diameter of Stack (m)	-	3.1
Sampling Duration (Minutes)	-	26
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	130
Ambient Temperature (°C)	-	26
Average Stack Velocity (m/s)	-	11.89
Quantity of Emission (Nm ³ /hr)	-	215000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	4.3	44
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	12.8	335
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	153.5	730
3.	Carbon Monoxide (as CO)	IS:-13270	6.0	143
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-35	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	25/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	UB-3
Stack Identification	-	Stack attached to UB-3
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100
Diameter of Stack (m)	-	3.1
Sampling Duration (Minutes)	-	26
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	130
Ambient Temperature (°C)	-	27
Average Stack Velocity (m/s)	-	12.45
Quantity of Emission (Nm ³ /hr)	-	227000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	6.1	44
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	138.7	335
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	124.5	730
3.	Carbon Monoxide (as CO)	IS:-13270	5.3	143
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of Stack Emission	Report Code ST-060326-36	Date of Issue 06/03/2026
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SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	27/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	UB-5
Stack Identification	-	Stack attached to UB-5
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	130
Diameter of Stack (m)	-	3.25
Sampling Duration (Minutes)	-	26
Parameters Monitored	-	PM, NO _x & SO ₂
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	132
Ambient Temperature (°C)	-	33
Average Stack Velocity (m/s)	-	12.07
Quantity of Emission (Nm ³ /hr)	-	830000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Pet Cock Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	20.4	150
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	113.1	300
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	224.7	400

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-37	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	27/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Dist. Bhatinda (Punjab) India
Emission Source Monitored	-	UB-6
Stack Identification	-	Stack attached to UB-6
Normal Operating Schedule	-	As per requirement.
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	130
Diameter of Stack (m)	-	3.25
Sampling Duration (Minutes)	-	26
Parameters Monitored	-	PM, NO _x & SO ₂
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	135
Ambient Temperature (°C)	-	34
Average Stack Velocity (m/s)	-	12.62
Quantity of Emission (Nm ³ /hr.)	-	848000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Pet Cock Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	24.9	150
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	123.5	300
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	134.2	400

End of Report

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**TEST REPORT**

Test Report of Stack Emission	Report Code ST-060326-38	Date of Issue 06/03/2026
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SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	24/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	VGO Heater
Stack Identification	-	Stack attached to VGO Heater
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	65
Diameter of Stack (m)	-	2.25
Sampling Duration (Minutes)	-	42
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	175
Ambient Temperature (°C)	-	24
Average Stack Velocity (m/s)	-	8.35
Quantity of Emission (Nm ³ /hr.)	-	90500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	11.8	41
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	86.2	328
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	30.5	676
3.	Carbon Monoxide (as CO)	IS:-13270	7.9	139
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of Stack Emission	Report Code ST-060326-39	Date of Issue 06/03/2026
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SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	24/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DHDT-1
Stack Identification	-	Stack attached to DHDT-1
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	75
Diameter of Stack (m)	-	2.25
Sampling Duration (Minutes)	-	34
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	185
Ambient Temperature (°C)	-	27
Average Stack Velocity (m/s)	-	10.35
Quantity of Emission (Nm ³ /hr)	-	55000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	16.7	40
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	76.1	327
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	51.4	666
3.	Carbon Monoxide (as CO)	IS:-13270	9.2	138
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

*** End of Report ***

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TEST REPORT

Test Report of Stack Emission	Report Code ST-060326-40	Date of Issue 06/03/2026
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SAMPLING & ANALYSIS DATA

Description	- Stack Emission Monitoring conducted by our team.
Date of Sampling	- 27/02/2026
Name & Address of the Industry	- M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	- DHDT-2
Stack Identification	- Stack attached to DHDT-2
Normal Operating Schedule	- As per requirement
Type of Stack (ACC/Metal)	- Mild Steel
Stack Height From Ground Level (meter)	- 60
Diameter of Stack (m)	- 1.46
Sampling Duration (Minutes)	- 43
Parameters Monitored	- PM, NO _x , SO ₂ & CO
Purpose of Monitoring	- Assessment of Pollution load
General Sensory Observations	- Normal
Fugitive Emission (if any)	- Nil
Stack Temperature (°C)	- 175
Ambient Temperature (°C)	- 32
Average Stack Velocity (m/s)	- 10.06
Quantity of Emission (Nm ³ /hr)	- 12500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas (mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	4.8	5
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	27.2	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	9.0	50
4.	Carbon Monoxide (as CO)	IS:-13270	8.3	100

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-41	06/03/2026

SAMPLING & ANALYSIS DATA

Description	- Stack Emission Monitoring conducted by our team.
Date of Sampling	- 13/02/2026
Name & Address of the Industry	- M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	- CDU/VDU
Stack Identification	- Stack attached to CDU/VDU
Normal Operating Schedule	- As per requirement
Type of Stack (ACC/Metal)	- Mild Steel
Stack Height From Ground Level (meter)	- 85
Diameter of Stack (m)	- 4.3
Sampling Duration (Minutes)	- 24
Parameters Monitored	- PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	- Assessment of Pollution load
General Sensory Observations	- Normal
Fugitive Emission (if any)	- Nil
Stack Temperature (°C)	- 168
Ambient Temperature (°C)	- 25
Average Stack Velocity (m/s)	- 14.23
Quantity of Emission (Nm ³ /hr)	- 190000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	17.2	40
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	31.5	326
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	110.9	659
3.	Carbon Monoxide (as CO)	IS:-13270	14.3	138
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-42	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	16/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Dist. Bhatinda (Punjab) India
Emission Source Monitored	-	BBU
Stack Identification	-	Stack attached to BBU
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	60
Diameter of Stack (m)	-	2.0
Sampling Duration (Minutes)	-	37
Parameters Monitored	-	PM, NO _x , SO ₂ & CO,
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	148
Ambient Temperature (°C)	-	28
Average Stack Velocity (m/s)	-	8.89
Quantity of Emission (Nm ³ /hr)	-	520000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas (mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	2.1	5
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	161.8	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	20.5	50
4.	Carbon Monoxide (as CO)	IS:-13270	12.9	100

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-43	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	16/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	FCCU Heater
Stack Identification	-	Stack attached to FCCU Heater
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	80
Diameter of Stack (m)	-	1.75
Sampling Duration (Minutes)	-	42
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	205
Ambient Temperature (°C)	-	21
Average Stack Velocity (m/s)	-	8.94
Quantity of Emission (Nm ³ /hr.)	-	15000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	5.7	41
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	54.1	328
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	32.5	678
3.	Carbon Monoxide (as CO)	IS:-13270	12.3	139
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-44	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	16/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka - Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	FCCU Regenerator
Stack Identification	-	Stack attached to FCCU Regenerator
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	42
Diameter of Stack (m)	-	3.3
Sampling Duration (Minutes)	-	25
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	210
Ambient Temperature (°C)	-	25
Average Stack Velocity (m/s)	-	15.45
Quantity of Emission (Nm ³ /hr)	-	240000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	6.2	50
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	24.5	350
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	13.1	500
3.	Carbon Monoxide (as CO)	IS:-13270	4.8	300
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	2

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-45	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	26/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Dist. Bhatinda (Punjab) India
Emission Source Monitored	-	NHT Reactor
Stack Identification	-	Stack attached to NHT Reactor
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	50
Diameter of Stack (m)	-	1.2
Sampling Duration (Minutes)	-	41
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	205
Ambient Temperature (°C)	-	29
Average Stack Velocity (m/s)	-	9.10
Quantity of Emission (Nm ³ /hr)	-	12000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	7.5	39
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	19.8	324
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	14.2	645
3.	Carbon Monoxide (as CO)	IS:-13270	3.0	137
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of Stack Emission	Report Code ST-060326-46	Date of Issue 06/03/2026
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SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	26/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Sahoo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	CCR Heater
Stack Identification	-	Stack attached to CCR Heater
Normal Operating Schedule	-	As per requirement.
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	68
Diameter of Stack (m)	-	2.5
Sampling Duration (Minutes)	-	40
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	275
Ambient Temperature (°C)	-	30
Average Stack Velocity (m/s)	-	10.35
Quantity of Emission (Nm ³ /hr)	-	15000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	22.8	40
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	83.1	326
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	26.4	659
3.	Carbon Monoxide (as CO)	IS:-13270	15.7	138
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-47	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	26/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	HRSG-2
Stack Identification	-	Stack attached to HRSG-2
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	35
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	33
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	170
Ambient Temperature (°C)	-	28
Average Stack Velocity (m/s)	-	10.41
Quantity of Emission (Nm ³ /hr)	-	370000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	5.7	44
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	172.4	335
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	7.1	730
3.	Carbon Monoxide (as CO)	IS:-13270	6.7	143
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-48	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	13/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Tabwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DCU
Stack Identification	-	Stack attached to DCU
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	65
Diameter of Stack (m)	-	3.15
Sampling Duration (Minutes)	-	40
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	165
Ambient Temperature (°C)	-	21
Average Stack Velocity (m/s)	-	8.72
Quantity of Emission (Nm ³ /hr)	-	13000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	3.9	43
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	34.0	334
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	13.5	719
3.	Carbon Monoxide (as CO)	IS:-13270	4.2	142
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of Stack Emission	Report Code ST-060326-49	Date of Issue 06/03/2026
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SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	26/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	HRSO-1
Stack Identification	-	Stack attached to HRSO-1
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	35
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	33
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	175
Ambient Temperature (°C)	-	29
Average Stack Velocity (m/s)	-	10.43
Quantity of Emission (Nm ³ /hr.)	-	530000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	9.7	44
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	282.5	335
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	16.0	730
3.	Carbon Monoxide (as CO)	IS:-13270	12.9	143
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-50	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	23/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-1
Stack Identification	-	Stack attached to DFCU-1
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	36
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	190
Ambient Temperature (°C)	-	24
Average Stack Velocity (m/s)	-	10.29
Quantity of Emission (Nm ³ /hr.)	-	26000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	1.8	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	116.3	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	8.1	50
3.	Carbon Monoxide (as CO)	IS:-13270	62.7	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of Stack Emission	Report Code ST-060326-51	Date of Issue 06/03/2026
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SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	23/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-2
Stack Identification	-	Stack attached to DFCU-2
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	33
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	198
Ambient Temperature (°C)	-	25
Average Stack Velocity (m/s)	-	11.11
Quantity of Emission (Nm ³ /hr.)	-	25000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	2.5	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	146.3	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	16.1	50
3.	Carbon Monoxide (as CO)	IS:-13270	80.4	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-52	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	23/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-3
Stack Identification	-	Stack attached to DFCU-3
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	32
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	190
Ambient Temperature (°C)	-	26
Average Stack Velocity (m/s)	-	11.24
Quantity of Emission (Nm ³ /hr.)	-	22800

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	3.2	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	145.0	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	21.9	50
3.	Carbon Monoxide (as CO)	IS:-13270	76.1	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-53	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	23/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-4
Stack Identification	-	Stack attached to DFCU-4
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	30
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	185
Ambient Temperature (°C)	-	27
Average Stack Velocity (m/s)	-	11.64
Quantity of Emission (Nm ³ /hr.)	-	25000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	3.7	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	159.4	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	23.8	50
3.	Carbon Monoxide (as CO)	IS:-13270	90.1	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-060326-54	06/03/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	23/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-5
Stack Identification	-	Stack attached to DFCU-5
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	30
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	196.
Ambient Temperature (°C)	-	28
Average Stack Velocity (m/s)	-	12.32
Quantity of Emission (Nm ³ /hr.)	-	20500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	2.3	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	117.1	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	18.9	50
3.	Carbon Monoxide (as CO)	IS:-13270	66.2	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of Stack Emission	Report Code ST-060326-55	Date of Issue 06/03/2026
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SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	23/02/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-6
Stack Identification	-	Stack attached to DFCU-6
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	30
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	178
Ambient Temperature (°C)	-	29
Average Stack Velocity (m/s)	-	11.77
Quantity of Emission (Nm ³ /hr.)	-	23000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	3.0	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	135.8	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	26.1	50
3.	Carbon Monoxide (as CO)	IS:-13270	72.6	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

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TEST REPORT

Test Report of Stack Emission	Report Code ST-060326-56	Date of Issue 06/03/2026
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SAMPLING & ANALYSIS DATA

Description	- Stack Emission Monitoring conducted by our team.
Date of Sampling	- 23/02/2026
Name & Address of the Industry	- M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	- DFCU-7
Stack Identification	- Stack attached to DFCU-7
Normal Operating Schedule	- As per requirement
Type of Stack (ACC/Metal)	- Mild Steel
Stack Height From Ground Level (meter)	- 70
Diameter of Stack (m)	- 3.5
Sampling Duration (Minutes)	- 29
Parameters Monitored	- PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	- Assessment of Pollution load
General Sensory Observations	- Normal
Fugitive Emission (if any)	- Nil
Stack Temperature (°C)	- 180
Ambient Temperature (°C)	- 28
Average Stack Velocity (m/s)	- 12.41
Quantity of Emission (Nm ³ /hr.)	- 23000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	2.8	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255(PART:-7)	138.2	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	25.0	50
3.	Carbon Monoxide (as CO)	IS:-13270	76.5	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070426-29	07/04/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	25/03/2026
Name & Address of the Industry	-	M/s HPCI-Mittal Energy Limited, Village-Phulokhari, Taluka - Talwandi Sahoo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	SRU-524
Stack Identification	-	Stack attached to SRU-524
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100.0
Diameter of Stack (m)	-	2.0
Sampling Duration (Minutes)	-	32
Parameters Monitored	-	NO _x , SO ₂ , CO & H ₂ S
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	209
Ambient Temperature (°C)	-	32
Average Stack Velocity (m/s)	-	12.11
Quantity of Emission (Nm ³ /hr)	-	10000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	40.5	250
2.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	983.2	NA
3.	Carbon Monoxide (as CO)	IS:-13270	13.1	100
4.	Hydrogen Sulphide (as H ₂ S)	IS:-11255 (PART:-4)	5.6	10

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-0740426-30	07/04/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	25/03/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka - Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	SRU-525
Stack Identification	-	Stack attached to SRU-525
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100.0
Diameter of Stack (m)	-	2.0
Sampling Duration (Minutes)	-	35
Parameters Monitored	-	NO _x , SO ₂ , CO & H ₂ S
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	198
Ambient Temperature (°C)	-	33
Average Stack Velocity (m/s)	-	11.00
Quantity of Emission (Nm ³ /hr)	-	9500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	36.1	250
2.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	908.5	NA
3.	Carbon Monoxide (as CO)	IS:-13270	40.2	100
4.	Hydrogen Sulphide (as H ₂ S)	IS:-11255 (PART:-4)	4.0	10

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070426-31	07/04/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	25/03/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Dist. Bhatinda (Punjab) India
Emission Source Monitored	-	UB-2
Stack Identification	-	Stack attached to UB-2
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100
Diameter of Stack (m)	-	3.1
Sampling Duration (Minutes)	-	33
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	187
Ambient Temperature (°C)	-	28
Average Stack Velocity (m/s)	-	10.68
Quantity of Emission (Nm ³ /hr)	-	200000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	3.7	44
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	11.2	335
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	140.5	730
3.	Carbon Monoxide (as CO)	IS:-13270	5.1	143
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070426-32	07/04/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	25/03/2026
Name & Address of the Industry	-	M/s IIPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	UB-3
Stack Identification	-	Stack attached to UB-3
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	100
Diameter of Stack (m)	-	3.1
Sampling Duration (Minutes)	-	23
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	128
Ambient Temperature (°C)	-	27
Average Stack Velocity (m/s)	-	13.75
Quantity of Emission (Nm ³ /hr)	-	245000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	8.5	44
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	146.2	335
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	131.9	730
3.	Carbon Monoxide (as CO)	IS:-13270	6.7	143
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070426-33	07/04/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	25/03/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	UB-5
Stack Identification	-	Stack attached to UB-5
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	130
Diameter of Stack (m)	-	3.25
Sampling Duration (Minutes)	-	25
Parameters Monitored	-	PM, NO _x , & SO ₂
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	133
Ambient Temperature (°C)	-	31
Average Stack Velocity (m/s)	-	12.53
Quantity of Emission (Nm ³ /hr)	-	835000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Pet Cock Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	23.7	150
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	116.5	300
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	228.1	400

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070426-34	07/04/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	25/03/2026
Name & Address of the Industry	-	M/s HPC L-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	UB-6
Stack Identification	-	Stack attached to UB-6
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	130
Diameter of Stack (m)	-	3.25
Sampling Duration (Minutes)	-	25
Parameters Monitored	-	PM, NO _x & SO ₂
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	139
Ambient Temperature (°C)	-	31
Average Stack Velocity (m/s)	-	13.09
Quantity of Emission (Nm ³ /hr.)	-	850000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Pet Coek Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	28.1	150
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	127.6	300
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	139.2	400

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070426-35	07/04/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	25/03/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DHDT-2
Stack Identification	-	Stack attached to DHDT-2
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	60
Diameter of Stack (m)	-	1.46
Sampling Duration (Minutes)	-	33
Parameters Monitored	-	PM, NO _x , SO ₂ & CO
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	186
Ambient Temperature (°C)	-	29
Average Stack Velocity (m/s)	-	10.87
Quantity of Emission (Nm ³ /hr)	-	13000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas (mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	4.0	5
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	29.5	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	10.3	50
4.	Carbon Monoxide (as CO)	IS:-13270	9.7	100

End of Report

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**TEST REPORT**

Test Report of Stack Emission	Report Code ST-070426-36	Date of Issue 07/04/2026
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SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	25/03/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	CDU/VDU
Stack Identification	-	Stack attached to CDU/VDU
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	85
Diameter of Stack (m)	-	4.3
Sampling Duration (Minutes)	-	33
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	197
Ambient Temperature (°C)	-	33
Average Stack Velocity (m/s)	-	11.11
Quantity of Emission (Nm ³ /hr)	-	189000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Mixed Fuel Limits (in mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	16.0	40
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	30.1	326
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	108.5	659
3.	Carbon Monoxide (as CO)	IS:-13270	12.9	138
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070426-37	07/04/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	25/03/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka - Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	BBU
Stack Identification	-	Stack attached to BBU
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	60
Diameter of Stack (m)	-	2.0
Sampling Duration (Minutes)	-	34
Parameters Monitored	-	PM, NO _x , SO ₂ & CO,
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	178
Ambient Temperature (°C)	-	32
Average Stack Velocity (m/s)	-	10.35
Quantity of Emission (Nm ³ /hr)	-	535000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas (mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	3.5	5
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	165.9	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	22.4	50
4.	Carbon Monoxide (as CO)	IS:-13270	14.8	100

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070426-38	07/04/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	24/03/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-1
Stack Identification	-	Stack attached to DFCU-1
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	36
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	188
Ambient Temperature (°C)	-	30
Average Stack Velocity (m/s)	-	10.15
Quantity of Emission (Nm ³ /hr.)	-	24500

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	1.4	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	110.9	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	7.6	50
3.	Carbon Monoxide (as CO)	IS:-13270	60.2	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070426-39	07/04/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	24/03/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-2
Stack Identification	-	Stack attached to DFCU-2
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	33
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	196
Ambient Temperature (°C)	-	32
Average Stack Velocity (m/s)	-	11.09
Quantity of Emission (Nm ³ /hr.)	-	24000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	1.9	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	142.1	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	15.0	50
3.	Carbon Monoxide (as CO)	IS:-13270	78.4	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of Stack Emission	Report Code ST-070426-40	Date of Issue 07/04/2026
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SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	24/03/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-3
Stack Identification	-	Stack attached to DFCU-3
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	32
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	190
Ambient Temperature (°C)	-	32
Average Stack Velocity (m/s)	-	11.17
Quantity of Emission (Nm ³ /hr.)	-	23000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	2.3	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	141.1	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	19.7	50
3.	Carbon Monoxide (as CO)	IS:-13270	72.5	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070426-41	07/04/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	24/03/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-4
Stack Identification	-	Stack attached to DFCU-4
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	32
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load.
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	185
Ambient Temperature (°C)	-	31
Average Stack Velocity (m/s)	-	11.69
Quantity of Emission (Nm ³ /hr.)	-	24700

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	3.0	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	156.1	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	24.8	50
3.	Carbon Monoxide (as CO)	IS:-13270	88.3	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of Stack Emission	Report Code ST-070426-42	Date of Issue 07/04/2026
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SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team,
Date of Sampling	-	24/03/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-5
Stack Identification	-	Stack attached to DFCU-5
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	30
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	196
Ambient Temperature (°C)	-	32
Average Stack Velocity (m/s)	-	12.32
Quantity of Emission (Nm ³ /hr.)	-	20000

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	2.0	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	115.0	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	16.2	50
3.	Carbon Monoxide (as CO)	IS:-13270	64.5	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070426-43	07/04/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	24/03/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka - Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-6
Stack Identification	-	Stack attached to DFCU-6
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	30
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	178
Ambient Temperature (°C)	-	30
Average Stack Velocity (m/s)	-	11.93
Quantity of Emission (Nm ³ /hr.)	-	23800

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	3.7	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255 (PART:-7)	142.6	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	28.1	50
3.	Carbon Monoxide (as CO)	IS:-13270	75.4	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070426-44	07/04/2026

SAMPLING & ANALYSIS DATA

Description	-	Stack Emission Monitoring conducted by our team.
Date of Sampling	-	24/03/2026
Name & Address of the Industry	-	M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India
Emission Source Monitored	-	DFCU-7
Stack Identification	-	Stack attached to DFCU-7
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Mild Steel
Stack Height From Ground Level (meter)	-	70
Diameter of Stack (m)	-	3.5
Sampling Duration (Minutes)	-	29
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, Ni & V
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	180
Ambient Temperature (°C)	-	31
Average Stack Velocity (m/s)	-	12.41
Quantity of Emission (Nm ³ /hr.)	-	23200

TEST RESULT

S.N.	Parameter	Test Method	Results (mg/Nm ³)	Limits for 100 % Fuel Gas(mg/Nm ³)
1.	Particulate Matters (as PM)	IS:-11255 (PART:-1)	2.4	05
2.	Oxide of Nitrogen (as NO _x)	IS:-11255(PART:-7)	134.2	250
3.	Oxides of Sulphur (as SO ₂)	IS:-11255 (PART:-2)	23.6	50
3.	Carbon Monoxide (as CO)	IS:-13270	72.9	100
5.	Nickel & Vanadium (as Ni & V)	USEPA Method 29 By AAS	BDL	5

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Stack Emission	ST-070226-01	07/02/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village-Phulokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	-	Lab Representative
Date of Sampling	-	03/02/2026
Emission Source Monitored	-	Stack attached to DG (CPP)
Stack Identification	-	DGSet No-1 (3520 KVA)
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Metal
Stack Height From Ground Level (meter)	-	30
Diameter of Stack (m)	-	0.1016
Sampling Duration (Minutes)	-	30
Parameters Monitored	-	PM ₁₀ , NO _x , SO ₂ , CO, HC
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	345
Ambient Temperature (°C)	-	20
Average Stack Velocity (m/s)	-	11.6
Quantity of Emission (Nm ³ /hr)	-	163.2

TEST RESULT

S.N.	Parameter	Test Method	Results	Units
1.	Particulate Matter	IS:-11255(Part:-1)	0.04	g/kw-hr
2.	Sulphur Dioxide	IS:-11255(Part:-2)	19.8	mg /Nm ³
3.	Nitrogen Dioxide	IS:-11255(Part:-7)	11.7	g/kw-hr
4.	Carbon monoxide(as CO)	IS:-13270	0.74	g/kw-hr
5.	Hydrocarbon(HC)	ASPL/SOP/SE/01	0.045	g/kw-hr

End of Report

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TEST REPORT

Test Report of DG Noise (Acoustic)	Report Code DGN-070226-02	Date of Issue 07/02/2026
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DG Noise Analysis Report

Name of Site & Location : M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka –
Talwandi Saboo, Distt. Bhatinda (Punjab) India
Date of Monitoring : 03/02/2026
Time of Monitoring : 10:55 am

Sound Pressure Level dB (A)			Activities
	DG Canopy Opened	0.5 m away from the DG closed canopy	
Min	105.9	74.4	DG Set-01 (CPP) 3520 KVA was running
Max	110.6	79.8	
Leq	107.1	76.6	
Insertion LossLeq :30.5dB (A)			
(Minimum 25 dB (A) required)			
TEST METHOD: IS 4758			

End of Report

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TEST REPORT

Test Report of Stack Emission	Report Code ST-070226-03	Date of Issue 07/02/2026
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Issued To:- M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka – Talwandi Saboo, Distt. Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Drawn By	-	Lab Representative
Date of Sampling	-	03/02/2026
Emission Source Monitored	-	Stack attached to DG (DHD/T-2)
Stack Identification	-	DGSet No-2 (1010 KVA)
Normal Operating Schedule	-	As per requirement
Type of Stack (ACC/Metal)	-	Metal
Stack Height From Ground Level (meter)	-	37
Diameter of Stack (m)	-	0.1016
Sampling Duration (Minutes)	-	30
Parameters Monitored	-	PM, NO _x , SO ₂ , CO, HC
Purpose of Monitoring	-	Assessment of Pollution load
General Sensory Observations	-	Normal
Fugitive Emission (if any)	-	Nil
Stack Temperature (°C)	-	214
Ambient Temperature (°C)	-	20
Average Stack Velocity (m/s)	-	9.02
Quantity of Emission (Nm ³ /hr)	-	166.8

TEST RESULT

S.N.	Parameter	Test Method	Results	Units
1.	Particulate Matter	IS:-11255(Part:-1)	0.030	g/kw-hr
2.	Sulphur Dioxide	IS:-11255(Part:-2)	15.1	mg /Nm ³
3.	Nitrogen Dioxide	IS:-11255(Part:-7)	8.0	g/kw-hr
4.	Carbon monoxide(as CO)	IS:-13270	0.53	g/kw-hr
5.	Hydrocarbon(HC)	ASPL/SOP/SE/01	0.031	g/kw-hr

End of Report

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TEST REPORT

Test Report of DG Noise (Acoustic)	Report Code DGN-070226-04	Date of Issue 07/02/2026
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DG Noise Analysis Report

Name of Site & Location : M/s HPCL-Mittal Energy Limited, Village-Phullokhari, Taluka –
Talwandi Saboo, Distt. Bhatinda (Punjab) India
Date of Monitoring : 03/02/2026
Time of Monitoring : 02:40 pm

Sound Pressure Level dB (A)			Activities
	DG Canopy Opened	0.5 m away from the DG closed canopy	
Min	93.4	66.9	DG Set-02(DHDT-2)
Max	99.8	71.3	1010 KVA was running
Leq	95.9	68.4	
Insertion Loss Leq :27.5dB (A)			
(Minimum 25 dB (A) required)			
TEST METHOD : IS 4758			

End of Report

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ANNEXURE-VI

**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ground Water	GW-061125-15	06/11/2025

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 28/10/2025
 Sample Collected By : Laboratory
 Sample Description : **Ground Water**
 Sample Quantity/Packing detail : 2.0lts
 Weather Conditions : Normal
 Analysis Duration : 30/10/2025 To 06/11/2025

Parameter	pH	Odour	Color	Taste	Temp.	Turbidity	TDS	Alkalinity as (CaCO ₃)	Total Hardness as (CaCO ₃)	Chlorides	Fluorides
Location											
GW1	7.45	Agreeable	<5	Agreeable	26.6	<1	292	160	191	130.1	0.20
GW2	7.39	Agreeable	<5	Agreeable	26.4	<1	316	199	282	124.9	0.29
GW3	7.11	Agreeable	<5	Agreeable	26.5	<1	306	200	227	130.1	0.23
GW4	7.56	Agreeable	<5	Agreeable	26.2	<1	305	191	252	136.7	0.25
GW5	7.27	Agreeable	<5	Agreeable	26.0	<1	335	165	204	115.2	0.21
GW6	7.32	Agreeable	<5	Agreeable	26.4	<1	297	189	257	125.5	0.28
GW7	7.25	Agreeable	<5	Agreeable	26.6	<1	330	163	235	140.0	0.25
GW8	7.28	Agreeable	<5	Agreeable	26.5	<1	310	127	219	131.2	0.22
GW9	7.21	Agreeable	<5	Agreeable	26.1	<1	281	173	260	121.9	0.27
GW10	7.25	Agreeable	<5	Agreeable	26.3	<1	315	195	211	142.3	0.28
GW11	7.41	Agreeable	<5	Agreeable	26.6	<1	280	179	226	181.7	0.26
Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1.0	500	200	200	250	1.0
Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5.0	2000	600	600	1000	1.5
Protocol	IS:-3025 (P-11)	IS:-3025 (P:-5)	IS:-3025 (P:-4)	IS:-3025 (P:-7)	IS:-3025 (P:-9)	IS:-3025 (P:-10)	IS:-3025 (P-16)	IS:-3025 (P:-23)	IS:-3025 (P:-21)	IS:-3025 (P:-32)	IS:-3025 (P:-60)



TEST REPORT

Parameter	Calcium as Ca	Magnesium as Mg	Sulphate	Nitrates	Phenolic Compounds	Iron (as Fe)	Mercury (as Hg)	Zinc (as Zn)	Cadmium (as Cd)	Chromium (as Cr)	Arsenic (as As)
GW1	34.9	25.2	65.0	26.2	BDL	0.25	BDL	BDL	BDL	BDL	BDL
GW2	44.6	41.4	70.1	22.4	BDL	0.20	BDL	BDL	BDL	BDL	BDL
GW3	43.1	29.0	68.9	21.0	BDL	0.22	BDL	BDL	BDL	BDL	BDL
GW4	40.0	36.9	67.7	24.1	BDL	0.18	BDL	BDL	BDL	BDL	BDL
GW5	32.2	30.0	72.0	22.9	BDL	0.21	BDL	BDL	BDL	BDL	BDL
GW6	39.5	38.5	61.8	23.7	BDL	0.20	BDL	BDL	BDL	BDL	BDL
GW7	40.8	32.3	71.2	22.9	BDL	0.22	BDL	BDL	BDL	BDL	BDL
GW8	35.5	31.6	71.1	26.2	BDL	0.20	BDL	BDL	BDL	BDL	BDL
GW9	45.7	35.4	78.1	25.0	BDL	0.19	BDL	BDL	BDL	BDL	BDL
GW10	39.9	27.08	72.0	21.1	BDL	0.16	BDL	BDL	BDL	BDL	BDL
GW11	37.5	32.1	72.9	21.2	BDL	0.25	BDL	BDL	BDL	BDL	BDL
Desirable	75	30	200	45	0.001	0.3	0.001	5	0.003	0.05	0.01
Permissible	200	100	400	No Relaxation	0.002	No Relaxation	No Relaxation	15	No Relaxation	No Relaxation	0.05
Protocol	IS: 3025 (P-40)	IS: 3025 (P-46)	IS:3025 (P-24)	IS: 3025 (P-34)	IS:3025 (P-43)	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.

End of Report


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**TEST REPORT**

Parameter	Lead (as Pb)	Boron (as B)	Selenium (as Se*)	FRC	Polycyclic Aromatic Hydrocarbons (PAH*)	Anionic Detergent*	Aluminum (as Al)	Total Coliform
GW1	BDL	0.26	BDL	BDL	BDL	BDL	BDL	Absent
GW2	BDL	0.20	BDL	BDL	BDL	BDL	BDL	Absent
GW3	BDL	0.32	BDL	BDL	BDL	BDL	BDL	Absent
GW4	BDL	0.26	BDL	BDL	BDL	BDL	BDL	Absent
GW5	BDL	0.21	BDL	BDL	BDL	BDL	BDL	Absent
GW6	BDL	0.19	BDL	BDL	BDL	BDL	BDL	Absent
GW7	BDL	0.27	BDL	BDL	BDL	BDL	BDL	Absent
GW8	BDL	0.30	BDL	BDL	BDL	BDL	BDL	Absent
GW9	BDL	0.35	BDL	BDL	BDL	BDL	BDL	Absent
GW10	BDL	0.23	BDL	BDL	BDL	BDL	BDL	Absent
GW11	BDL	0.18	BDL	BDL	BDL	BDL	BDL	Absent
Desirable	0.01	0.5	0.01	0.2	0.0001	0.2	0.03	Absent
	No Relaxation	1.0	No	1.0	No	1.0	0.2	Absent
Permissible								
Protocol	APHA:-23 rd Ed.	IS:-3025 (P:-57)	APHA:-23 rd Ed.	APHA:- 23 rd Ed.	APHA:-23 rd Ed.	IS:-3025 (P:- 68)	APHA:-23 rd Ed.	IS:-15185

Remarks: Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. This test report will not be used for any publicity/legal purpose.
5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.


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End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ground Water	GW-061125-16	06/11/2025

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 28/10/2025
 Sample Collected By : Laboratory
 Sample Description : Ground Water
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 30/10/2025 To 06/11/2025

Parameters		Cyanide (as CN*)	Mineral Oil*
GW1		BDL	BDL
GW2		BDL	BDL
GW3		BDL	BDL
GW4		BDL	BDL
GW5		BDL	BDL
GW6		BDL	BDL
GW7		BDL	BDL
GW8		BDL	BDL
GW9		BDL	BDL
GW10		BDL	BDL
GW11		BDL	BDL
IS 10500	Desirable	0.05	0.5
	Permissible	No	No
Protocol		IS:3025 (P-27)	APHA 23rd Ed.

Remarks:

GW1: Near Storm Water Pond-South East Side,GW2: Near Storm Water Pond – North East Side, GW3:Near Ecological Pond West Side,
 GW4: Near Ecological Pond South East SideGW5: Near Solar Pond South East Side- East Side of Water Block Area, GW6: Near Solar Pond South East
 Side- North East Side of Water Block Area,GW7: Near RODM Plant East Side Area, GW8: Near Secured Landfill Area North Side, GW9: Secured
 Landfill Area West Side, GW10: Secured Landfill Area South Side GW11: Near Etp South Side

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ground Water	GW-061125-27	06/11/2025

Issued To: -M/s HMEL Organics Private Limited (HOPL), Village Phullokhari, Taluka Tahwandi Saboo, District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 28/10/2025
 Sample Collected By : Laboratory
 Sample Description : **Ground Water**
 Sample Quantity/Packing detail : 2.0lts
 Weather Conditions : Normal
 Analysis Duration : 30/10/2025 To 06/11/2025

Parameter	pH	Odour	Color	Taste	Temp.	Turbidity	TDS	Alkalinity as (CaCO ₃)	Total Hardness as (CaCO ₃)	Chlorides	Fluorides
Location											
GW1	7.35	Agreeable	<5	Agreeable	26.8	<1	303	176	210	156.1	0.31
GW2	7.40	Agreeable	<5	Agreeable	26.6	<1	299	132	196	140.3	0.28
Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1.0	500	200	200	250	1.0
Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5.0	2000	600	600	1000	1.5
Protocol	IS: -3025 (P:-11)	IS:-3025 (P:-5)	IS:-3025 (P:-4)	IS:-3025 (P:-7)	IS:-3025 (P:-9)	IS:-3025 (P:-10)	IS:-3025 (P:-16)	IS:-3025 (P:-23)	IS:-3025 (P:-21)	IS:-3025 (P:-32)	IS:-3025 (P:-60)

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL).

**TEST REPORT**

Parameter	Calcium as Ca	Magnesium as Mg	Sulphate	Nitrates	Phenolic Compounds	Iron (as Fe)	Mercury (as Hg)	Zinc (as Zn)	Cadmium (as Cd)	Chromium (as Cr)	Arsenic (as As)
GW1	32.2	31.5	67.2	26.4	BDL	0.19	BDL	BDL	BDL	BDL	BDL
GW2	30.5	29.1	60.7	23.1	BDL	0.17	BDL	BDL	BDL	BDL	BDL
Desirable	75	30	200	45	0.001	0.3	0.001	5	0.003	0.05	0.01
Permissible	200	100	400	No Relaxation	0.002	No Relaxation	No Relaxation	15	No Relaxation	No Relaxation	0.05
Protocol	IS: 3025 (P-40)	IS: 3025 (P-46)	IS:3025 (P-24)	IS: 3025 (P-34)	IS:3025 (P-43)	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.

GW1:-West side of Ethanol Plant (HOPI), GW2:-North side of Ethanol Plant (HOPI)

Remarks:-Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
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**TEST REPORT**

Parameter	Lead (as Pb)	Boron (as B)	Selenium (as Se*)	FRC	Polycyclic Aromatic Hydrocarbons (PAH*)	Anionic Detergent*	Aluminium (as Al)	Total Coliform
GW1	BDL	0.32	BDL	BDL	BDL	BDL	BDL	Absent
GW2	BDL	0.25	BDL	BDL	BDL	BDL	BDL	Absent
Desirable	0.01	0.5	0.01	0.2	0.0001	0.2	0.03	Absent
	No Relaxation	1.0	No	1.0	No	1.0	0.2	Absent
Permissible								
Protocol	APHA:-23 rd Ed.	IS:-3025 (P:-57)	APHA:-23 rd Ed.	APHA:- 23 rd Ed.	APHA:-23 rd Ed.	IS:-3025 (P:- 68)	APHA:-23 rd Ed.	IS:-15185

GW1:-West side of Ethanol Plant (HIOPL), GW2:-North side of Ethanol Plant (HIOPL).

Remarks:-Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
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5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ground Water	GW-061125-28	06/11/2025

Issued To: -M/s HMEL Organics Private Limited (HOPL), Village Phullokhari, Taluka Talwandi Saboo, District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 28/10/2025
 Sample Collected By : Laboratory
 Sample Description : Ground Water
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 30/10/2025 To 06/11/2025

Parameters		Cyanide (as CN*)	Mineral Oil*
GW1		BDL	BDL
GW2		BDL	BDL
IS 10500	Desirable	0.05	0.5
	Permissible	No	No
Protocol		IS:-3025 (P:-27)	APHA 23rd Ed.

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL)

Remarks:-Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. This test report will not be used for any publicity/legal purpose.
5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

*****End of Report*****

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TEST REPORT

Test Report of Ground Water	Report Code GW-051225-27	Date of Issue 05/12/2025
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Issued To: -M/s HMEL Organics Private Limited (HOPL), Village Phullokhari, Taluka Talwandi Saboo, District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 27/11/2025
 Sample Collected By : Laboratory
 Sample Description : Ground Water
 Sample Quantity/Packing detail : 2.0lts
 Weather Conditions : Normal
 Analysis Duration : 28/11/2025 To 05/12/2025

Parameter	pH	Odour	Color	Taste	Temp.	Turbidity	TDS	Alkalinity as (CaCO ₃)	Total Hardness as (CaCO ₃)	Chlorides	Fluorides
Location											
GW1	7.30	Agreeable	<5	Agreeable	25.3	<1	299	170	216	151.2	0.29
GW2	7.36	Agreeable	<5	Agreeable	25.7	<1	305	137	190	136.4	0.25
Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1.0	500	200	200	250	1.0
Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5.0	2000	600	600	1000	1.5
Protocol	IS:-3025 (P-11)	IS:-3025 (P:-5)	IS:-3025 (P:-4)	IS:-3025 (P:-7)	IS:-3025 (P:-9)	IS:-3025 (P:-10)	IS:-3025 (P-16)	IS:-3025 (P:-23)	IS:-3025 (P:-21)	IS:-3025 (P:-32)	IS:-3025 (P:-60)

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL)

**TEST REPORT**

Parameter	Calcium as Ca	Magnesium as Mg	Sulphate	Nitrates	Phenolic Compounds	Iron (as Fe)	Mercury (as Hg)	Zinc (as Zn)	Cadmium (as Cd)	Chromium (as Cr)	Arsenic (as As)
GW1	35.8	30.78	62.6	22.5	BDL	0.21	BDL	BDL	BDL	BDL	BDL
GW2	31.5	27.07	59.7	20.8	BDL	0.19	BDL	BDL	BDL	BDL	BDL
Desirable	75	30	200	45	0.001	0.3	0.001	5	0.003	0.05	0.01
Permissible	200	100	400	No Relaxation	0.002	No Relaxation	No Relaxation	15	No Relaxation	No Relaxation	0.05
Protocol	IS: 3025 (P-40)	IS: 3025 (P-46)	IS:3025 (P-24)	IS: 3025 (P-34)	IS:3025 (P-43)	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL).

Remarks:-Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
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Parameter	Lead (as Pb)	Boron (as B)	Selenium (as Se ⁶⁺)	FRC	Polycyclic Aromatic Hydrocarbons (PAH ⁶⁺)	Anionic Detergent*	Aluminium (as Al)	Total Coliform
GW1	BDL	0.29	BDL	BDL	BDL	BDL	BDL	Absent
GW2	BDL	0.27	BDL	BDL	BDL	BDL	BDL	Absent
Desirable	0.01	0.5	0.01	0.2	0.0001	0.2	0.03	Absent
	No Relaxation	1.0	No	1.0	No	1.0	0.2	Absent
Permissible								
Protocol	APHA:-23 rd Ed.	IS:-3025 (P:-57)	APHA:-23 rd Ed.	APHA:- 23 rd Ed.	APHA:-23 rd Ed.	IS:-3025 (P:- 68)	APHA:-23 rd Ed.	IS:-15185

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL).

Remarks:-Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ground Water	GW-051225-28	05/12/2025

Issued To: -M/s HMEL Organics Private Limited (HOPL), Village Phullokhari, Taluka Talwandi Saboo, District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 27/11/2025
Sample Collected By : Laboratory
Sample Description : Ground Water
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 28/11/2025 To 05/12/2025

Parameters		Cyanide (as CN*)	Mineral Oil*
GW1		BDL	BDL
GW2		BDL	BDL
IS 10500	Desirable	0.05	0.5
	Permissible	No	No
Protocol		IS:-3025 (P:-27)	APHA 23rd Ed.

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL).

Remarks:-Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ground Water	GW-051225-15	05/12/2025

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 27/11/2025
 Sample Collected By : Laboratory
 Sample Description : Ground Water
 Sample Quantity/Packing detail : 2.0lts
 Weather Conditions : Normal
 Analysis Duration : 28/11/2025 To 05/12/2025

Parameter	pH	Odour	Color	Taste	Temp.	Turbidity	TDS	Alkalinity as (CaCO ₃)	Total Hardness as (CaCO ₃)	Chlorides	Fluorides
Location											
GW1	7.48	Agreeable	<5	Agreeable	25.1	<1	288	166	186	125.4	0.18
GW2	7.35	Agreeable	<5	Agreeable	25.7	<1	310	189	279	119.6	0.24
GW3	7.05	Agreeable	<5	Agreeable	25.4	<1	315	198	218	124.1	0.21
GW4	7.48	Agreeable	<5	Agreeable	25.2	<1	299	201	261	129.5	0.24
GW5	7.30	Agreeable	<5	Agreeable	25.3	<1	328	172	211	120.3	0.20
GW6	7.38	Agreeable	<5	Agreeable	25.0	<1	300	182	249	130.5	0.23
GW7	7.20	Agreeable	<5	Agreeable	25.5	<1	338	170	228	134.1	0.22
GW8	7.23	Agreeable	<5	Agreeable	25.3	<1	320	135	210	131.2	0.26
GW9	7.27	Agreeable	<5	Agreeable	25.1	<1	291	169	258	114.9	0.25
GW10	7.29	Agreeable	<5	Agreeable	25.3	<1	322	185	230	149.5	0.27
GW11	7.37	Agreeable	<5	Agreeable	25.7	<1	275	165	215	178.2	0.28
Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1.0	500	200	200	250	1.0
Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5.0	2000	600	600	1000	1.5
Protocol	IS:-3025 (P:-11)	IS:-3025 (P:-5)	IS:-3025 (P:-4)	IS:-3025 (P:-7)	IS:-3025 (P:-9)	IS:-3025 (P:-10)	IS:-3025 (P:-16)	IS:-3025 (P:-23)	IS:-3025 (P:-21)	IS:-3025 (P:-32)	IS:-3025 (P:-60)



TEST REPORT

Parameter	Calcium as Ca	Magnesium as Mg	Sulphate	Nitrates	Phenolic Compounds	Iron (as Fe)	Mercury (as Hg)	Zinc (as Zn)	Cadmium (as Cd)	Chromium (as Cr)	Arsenic (as As)
GW1	37.4	22.5	61.9	22.8	BDL	0.20	BDL	BDL	BDL	BDL	BDL
GW2	40.7	43.12	72.2	19.8	BDL	0.18	BDL	BDL	BDL	BDL	BDL
GW3	39.0	29.32	64.5	25.5	BDL	0.25	BDL	BDL	BDL	BDL	BDL
GW4	42.2	37.83	71.7	23.1	BDL	0.21	BDL	BDL	BDL	BDL	BDL
GW5	35.6	29.68	72.0	21.0	BDL	0.17	BDL	BDL	BDL	BDL	BDL
GW6	41.1	35.58	50.2	25.2	BDL	0.16	BDL	BDL	BDL	BDL	BDL
GW7	37.7	32.54	68.3	20.8	BDL	0.23	BDL	BDL	BDL	BDL	BDL
GW8	31.5	31.93	76.0	27.6	BDL	0.22	BDL	BDL	BDL	BDL	BDL
GW9	47.0	34.19	79.9	24.7	BDL	0.24	BDL	BDL	BDL	BDL	BDL
GW10	42.2	30.30	70.0	18.9	BDL	0.17	BDL	BDL	BDL	BDL	BDL
GW11	35.0	31.02	75.2	22.0	BDL	0.19	BDL	BDL	BDL	BDL	BDL
Desirable	75	30	200	45	0.001	0.3	0.001	5	0.003	0.05	0.01
Permissible	200	100	400	No Relaxation	0.002	No Relaxation	No Relaxation	15	No Relaxation	No Relaxation	0.05
Protocol	IS: 3025 (P-40)	IS: 3025 (P-46)	IS:3025 (P-24)	IS: 3025 (P-34)	IS:3025 (P-43)	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.

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**TEST REPORT**

Parameter	Lead (as Pb)	Boron (as B)	Selenium (as Se*)	FRC	Polycyclic Aromatic Hydrocarbons (PAH*)	Anionic Detergent*	Aluminum (as Al)	Total Coliform
GW1	BDL	0.21	BDL	BDL	BDL	BDL	BDL	Absent
GW2	BDL	0.24	BDL	BDL	BDL	BDL	BDL	Absent
GW3	BDL	0.28	BDL	BDL	BDL	BDL	BDL	Absent
GW4	BDL	0.30	BDL	BDL	BDL	BDL	BDL	Absent
GW5	BDL	0.23	BDL	BDL	BDL	BDL	BDL	Absent
GW6	BDL	0.20	BDL	BDL	BDL	BDL	BDL	Absent
GW7	BDL	0.22	BDL	BDL	BDL	BDL	BDL	Absent
GW8	BDL	0.29	BDL	BDL	BDL	BDL	BDL	Absent
GW9	BDL	0.31	BDL	BDL	BDL	BDL	BDL	Absent
GW10	BDL	0.27	BDL	BDL	BDL	BDL	BDL	Absent
GW11	BDL	0.25	BDL	BDL	BDL	BDL	BDL	Absent
Desirable	0.01	0.5	0.01	0.2	0.0001	0.2	0.03	Absent
	No Relaxation	1.0	No	1.0	No	1.0	0.2	Absent
Permissible								
Protocol	APHA:-23 rd Ed.	IS:-3025 (P:-57)	APHA:-23 rd Ed.	APHA:-23 rd Ed.	APHA:-23 rd Ed.	IS:-3025 (P:-68)	APHA:-23 rd Ed.	IS:-15185

Remarks: Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ground Water	GW-051225-16	05/12/2025

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 27/11/2025
 Sample Collected By : Laboratory
 Sample Description : Ground Water
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 28/11/2025 To 05/12/2025

Parameters		Cyanide (as CN ⁻)	Mineral Oil*
GW1		BDL	BDL
GW2		BDL	BDL
GW3		BDL	BDL
GW4		BDL	BDL
GW5		BDL	BDL
GW6		BDL	BDL
GW7		BDL	BDL
GW8		BDL	BDL
GW9		BDL	BDL
GW10		BDL	BDL
GW11		BDL	BDL
IS 10500	Desirable	0.05	0.5
	Permissible	No	No
Protocol		IS:3025 (P-27)	APHA 23rd Ed.

Remark:

GW1: Near Storm Water Pond-South East Side, GW2: Near Storm Water Pond - North East Side, GW3: Near Ecological Pond West Side,
 GW4: Near Ecological Pond South East Side, GW5: Near Solar Pond South East Side- East Side of Water Block Area, GW6: Near Solar Pond South East
 Side- North East Side of Water Block Area, GW7: Near RO DM Plant East Side Area, GW8: Near Secured Landfill Area North Side, GW9: Secured
 Landfill Area West Side, GW10: Secured Landfill Area South Side, GW11: Near Etp South Side

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ground Water	GW-070126-15	07/01/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 15/12/2025
 Sample Collected By : Laboratory
 Sample Description : **Ground Water**
 Sample Quantity/Packing detail : 2.0lts
 Weather Conditions : Normal
 Analysis Duration : 18/12/2025 To 30/12/2025

Parameter	pH	Odour	Color	Taste	Temp.	Turbidity	TDS	Alkalinity as (CaCO ₃)	Total Hardness as (CaCO ₃)	Chlorides	Fluorides
Location											
GW1	7.36	Agreeable	<5	Agreeable	25.5	<1	288	157.10	210.0	119.04	0.18
GW2	7.40	Agreeable	<5	Agreeable	25.8	<1	310	202.0	277.2	129.0	0.25
GW3	7.22	Agreeable	<5	Agreeable	26.0	<1	299	189.02	220.7	136.1	0.20
GW4	7.47	Agreeable	<5	Agreeable	25.9	<1	289	207.4	247.1	114.4	0.22
GW5	7.19	Agreeable	<5	Agreeable	26.2	<1	312	191.5	224.8	101.0	0.24
GW6	7.24	Agreeable	<5	Agreeable	26.1	<1	304	200.7	243.03	118.8	0.26
GW7	7.17	Agreeable	<5	Agreeable	26.4	<1	325	171.06	208.1	136.5	0.21
GW8	7.31	Agreeable	<5	Agreeable	25.7	<1	320	137.0	210.9	124.4	0.23
GW9	7.15	Agreeable	<5	Agreeable	25.6	<1	292	180.1	248.0	116.2	0.29
GW10	7.32	Agreeable	<5	Agreeable	25.5	<1	325	201.8	239.2	134.6	0.22
GW11	7.37	Agreeable	<5	Agreeable	25.3	<1	276	186.7	212.4	184.4	0.27
Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1.0	500	200	200	250	1.0
Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5.0	2000	600	600	1000	1.5
Protocol	IS:-3025 (P-11)	IS:-3025 (P:-5)	IS:-3025 (P:-4)	IS:-3025 (P:-7)	IS:-3025 (P:-9)	IS:-3025 (P:-10)	IS:-3025 (P-16)	IS:-3025 (P:-23)	IS:-3025 (P:-21)	IS:-3025 (P:-32)	IS:-3025 (P:-60)

**TEST REPORT**

Parameter	Calcium as Ca	Magnesium as Mg	Sulphate	Nitrates	Phenolic Compounds	Iron (as Fe)	Mercury (as Hg)	Zinc (as Zn)	Cadmium (as Cd)	Chromium (as Cr)	Arsenic (as As)
GW1	35.6	29.4	59.8	24.4	BDL	0.22	BDL	BDL	BDL	BDL	BDL
GW2	43.01	41.28	75.1	20.07	BDL	0.19	BDL	BDL	BDL	BDL	BDL
GW3	36.7	31.37	72.04	19.1	BDL	0.20	BDL	BDL	BDL	BDL	BDL
GW4	42.8	34.0	61.5	21.7	BDL	0.17	BDL	BDL	BDL	BDL	BDL
GW5	38.1	31.5	68.9	19.7	BDL	0.23	BDL	BDL	BDL	BDL	BDL
GW6	44.7	31.9	59.8	20.3	BDL	0.24	BDL	BDL	BDL	BDL	BDL
GW7	39.1	26.8	66.7	24.2	BDL	0.18	BDL	BDL	BDL	BDL	BDL
GW8	40.6	26.6	64.1	23.4	BDL	0.25	BDL	BDL	BDL	BDL	BDL
GW9	41.4	35.1	71.7	22.8	BDL	0.16	BDL	BDL	BDL	BDL	BDL
GW10	37.2	35.5	69.9	18.2	BDL	0.19	BDL	BDL	BDL	BDL	BDL
GW11	43.9	24.9	75.6	25.1	BDL	0.21	BDL	BDL	BDL	BDL	BDL
Desirable	75	30	200	45	0.001	0.3	0.001	5	0.003	0.05	0.01
Permissible	200	100	400	No Relaxation	0.002	No Relaxation	No Relaxation	15	No Relaxation	No Relaxation	0.05
Protocol	IS: 3025 (P-40)	IS: 3025 (P-46)	IS:3025 (P-24)	IS: 3025 (P-34)	IS:3025 (P-43)	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.

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TEST REPORT

Parameter	Lead (as Pb)	Boron (as B)	Selenium (as Se*)	FRC	Polycyclic Aromatic Hydrocarbons (PAH*)	Anionic Detergent*	Aluminum (as Al)	Total Coliform
GW1	BDL	0.23	BDL	BDL	BDL	BDL	BDL	Absent
GW2	BDL	0.22	BDL	BDL	BDL	BDL	BDL	Absent
GW3	BDL	0.28	BDL	BDL	BDL	BDL	BDL	Absent
GW4	BDL	0.22	BDL	BDL	BDL	BDL	BDL	Absent
GW5	BDL	0.20	BDL	BDL	BDL	BDL	BDL	Absent
GW6	BDL	0.17	BDL	BDL	BDL	BDL	BDL	Absent
GW7	BDL	0.29	BDL	BDL	BDL	BDL	BDL	Absent
GW8	BDL	0.25	BDL	BDL	BDL	BDL	BDL	Absent
GW9	BDL	0.30	BDL	BDL	BDL	BDL	BDL	Absent
GW10	BDL	0.19	BDL	BDL	BDL	BDL	BDL	Absent
GW11	BDL	0.21	BDL	BDL	BDL	BDL	BDL	Absent
Desirable	0.01	0.5	0.01	0.2	0.0001	0.2	0.03	Absent
	No Relaxation	1.0	No	1.0	No	1.0	0.2	Absent
Permissible								
Protocol	APHA:-23 rd Ed.	IS:-3025 (P:-57)	APHA:-23 rd Ed.	APHA:-23 rd Ed.	APHA:-23 rd Ed.	IS:-3025 (P:-68)	APHA:-23 rd Ed.	IS:-15185

Remarks: Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. This test report will not be used for any publicity/legal purpose.
5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

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*** End of Report ***

AUTHORIZED SIGNATORY





TEST REPORT

Test Report of	Report Code	Date of Issue
Ground Water	GW-070126-16	07/01/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 15/12/2025
 Sample Collected By : Laboratory
 Sample Description : Ground Water
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 18/12/2025 To 30/12/2025

Parameters		Cyanide (as CN*)	Mineral Oil*
GW1		BDL	BDL
GW2		BDL	BDL
GW3		BDL	BDL
GW4		BDL	BDL
GW5		BDL	BDL
GW6		BDL	BDL
GW7		BDL	BDL
GW8		BDL	BDL
GW9		BDL	BDL
GW10		BDL	BDL
GW11		BDL	BDL
IS 10500	Desirable	0.05	0.5
	Permissible	No	No
Protocol		IS:3025 (P-27)	APHA 23rd Ed.

Remarks:

GW1: Near Storm Water Pond-South East Side, GW2: Near Storm Water Pond - North East Side, GW3: Near Ecological Pond West Side,
 GW4: Near Ecological Pond South East Side, GW5: Near Solar Pond South East Side- East Side of Water Block Area, GW6: Near Solar Pond South East
 Side- North East Side of Water Block Area, GW7: Near RO/DM Plant East Side Area, GW8: Near Secured Landfill Area North Side, GW9: Secured
 Landfill Area West Side, GW10: Secured Landfill Area South Side, GW11: Near Etp South Side

End of Report

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TEST REPORT

Test Report of Ground Water	Report Code GW-070126-27	Date of Issue 07/01/2026
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Issued To: -M/s HMEL Organics Private Limited (HOPL), Village Phullokhari, Taluka Talwandi Saboo, District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On	: 15/12/2025
Sample Collected By	: Laboratory
Sample Description	: Ground Water
Sample Quantity/Packing detail	: 2.0lts
Weather Conditions	: Normal
Analysis Duration	: 18/12/2025 To 30/12/2025

Parameter	pH	Odour	Color	Taste	Temp.	Turbidit y	TDS	Alkalinit y as (CaCO3)	Total Hardnes s as (CaCO3)	Chlor ides	Fluorid es
Location											
GW1	7.41	Agreeable	<5	Agreeable	25.8	<1	297.0	181.1	217.0	161.2	0.29
GW2	7.37	Agreeable	<5	Agreeable	25.5	<1	288.0	140.05	201.7	138.07	0.25
Desirable	6.5- 8.5	Agreeable	5	Agreeable	-	1.0	500	200	200	250	1.0
Permissible	6.5- 8.5	Agreeable	15	Agreeable	-	5.0	2000	600	600	1000	1.5
Protocol	IS: - 3025 (P-11)	IS:-3025 (P:-5)	IS:- 3025 (P:-4)	IS:-3025 (P:-7)	IS:- 3025 (P:-9)	IS:-3025 (P:-10)	IS:- 3025(P-16)	IS:-3025 (P:-23)	IS:-3025 (P:-21)	IS:- 3025 (P:-32)	IS:- 3025 (P:-60)

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL).



TEST REPORT

Parameter	Calcium as Ca	Magnesium as Mg	Sulphate	Nitrates	Phenolic Compounds	Iron (as Fe)	Mercury (as Hg)	Zinc (as Zn)	Cadmium (as Cd)	Chromium (as Cr)	Arsenic (as As)
GW1	41.0	27.8	59.7	23.3	BDL	0.21	BDL	BDL	BDL	BDL	BDL
GW2	37.2	26.4	64.1	20.7	BDL	0.19	BDL	BDL	BDL	BDL	BDL
Desirable	75	30	200	45	0.001	0.3	0.001	5	0.003	0.05	0.01
Permissible	200	100	400	No Relaxation	0.002	No Relaxation	No Relaxation	15	No Relaxation	No Relaxation	0.05
Protocol	IS: 3025 (P-40)	IS: 3025 (P-46)	IS:3025 (P-24)	IS: 3025 (P-34)	IS:3025 (P-43)	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL).

Remarks:-Test parameters coming in under limit. Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
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End of Report

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TEST REPORT

Parameter	Lead (as Pb)	Boron (as B)	Selenium (as Se*)	FRC	Polycyclic Aromatic Hydrocarbons (PAH*)	Anionic Detergent*	Aluminium (as Al)	Total Coliform
GW1	BDL	0.29	BDL	BDL	BDL	BDL	BDL	Absent
GW2	BDL	0.21	BDL	BDL	BDL	BDL	BDL	Absent
Desirable	0.01	0.5	0.01	0.2	0.0001	0.2	0.03	Absent
	No Relaxation	1.0	No	1.0	No	1.0	0.2	Absent
Permissible								
Protocol	APHA:-23 rd Ed.	IS:-3025 (P:-57)	APHA:-23 rd Ed.	APHA:-23 rd Ed.	APHA:-23 rd Ed.	IS:-3025 (P:-68)	APHA:-23 rd Ed.	IS:-15185

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL).

Remarks:-Test parameters coming in under limit. Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
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End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ground Water	GW-070126-28	07/01/2026

Issued To: -M/s HMEL Organics Private Limited (HOPL), Village Phullokhari, Taluka Talwandi Saboo, District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On	: 15/12/2025
Sample Collected By	: Laboratory
Sample Description	: Ground Water
Sample Quantity/Packing detail	: 2.0 lts
Weather Conditions	: Normal
Analysis Duration	: 18/12/2025 To 30/12/2025

Parameters		Cyanide (as CN*)	Mineral Oil*
GW1		BDL	BDL
GW2		BDL	BDL
IS 10500	Desirable	0.05	0.5
	Permissible	No	No
Protocol		IS:-3025 (P:-27)	APHA 23rd Ed.

GW1:-West side of Ethanol Plant (HOPL.), GW2:-North side of Ethanol Plant (HOPL.)

Remarks:-Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
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5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

*****End of Report*****

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ground Water	GW-070126-52	07/01/2026

ISSUED TO:-M/s HPCL-Mittal Energy Limited, Village:-Phulokhari, Taluka:-Talwandi Saboo,
District:-Bhafinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On	: 25/12/2025
Sample Collected By	: Laboratory
Sample Description	: Ground & Surface Water (Out Side Refinery)
Sample Quantity/Packing detail	: 2.0lts
Weather Conditions	: Normal
Analysis Duration	: 27/12/2025 To 07/01/2026

Parameter	pH	Odour	Color	Taste	Temp.	Turbidity	TDS	Alkalinity as (CaCO3)	Total Hardness as (CaCO3)	Chlorides	Fluorides
Location											
GW1	7.29	Agreeable	<5	Agreeable	25.8	<1	552	136	262.2	232.5	0.25
GW2	7.57	Agreeable	<5	Agreeable	25.9	<1	539	151	277.0	205.3	0.22
GW3	7.32	Agreeable	<5	Agreeable	25.7	<1	546	125	211.5	159.4	0.27
GW4	7.41	Agreeable	<5	Agreeable	26.1	<1	531	141	236.05	167.1	0.34
GW5	7.62	Agreeable	<5	Agreeable	25.7	<1	566	267	266.0	222.0	0.30
GW6	7.59	Agreeable	<5	Agreeable	26.2	<1	484	202	219.5	191.2	0.26
GW7	7.31	Agreeable	<5	Agreeable	26.1	<1	533	244	255.8	257.07	0.31
GW8	7.73	Agreeable	<5	Agreeable	25.9	<1	478	187.1	238.1	169.0	0.23
GW9	7.66	Agreeable	<5	Agreeable	26.3	<1	508	281.02	228.9	186.4	0.28
GW10	7.58	Agreeable	<5	Agreeable	26.2	<1	475	213	215.8	292.0	0.29
GW11	7.25	Agreeable	<5	Agreeable	26.1	<1	583	183.4	258.4	181.7	0.25
Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1.0	500	200	200	250	1.0
Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5.0	2000	600	600	1000	1.5
Protocol	IS:-3025 (P:-11)	IS:-3025 (P:-5)	IS:-3025 (P:-4)	IS:-3025 (P:-7)	IS:-3025 (P:-9)	IS:-3025 (P:-10)	IS:-3025 (P:-16)	IS:-3025 (P:-23)	IS:-3025 (P:-21)	IS:-3025 (P:-32)	IS:-3025 (P:-60)



TEST REPORT

Parameter	Lead (as Pb)	Boron (as B)	Selenium (as Se*)	FRC	Polycyclic Aromatic Hydrocarbons (PAH*)	Anionic Detergent*	Aluminum (as Al)	Total Coliform
GW1	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW2	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW4	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW7	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW8	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW9	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW10	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW11	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
Desirable	0.01	0.5	0.01	0.2	0.0001	0.2	0.03	Absent
	No Relaxation	1.0	No	1.0	No	1.0	0.2	Absent
Permissible								
Protocol	APHA 23 rd Ed.	IS:-3025 (P-57)	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	IS:-3025 (P-68)	APHA 23 rd Ed.	IS:-15185

Remarks:-Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

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End of Report

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AUTHORIZED SIGNATORY



**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ground Water	GW-090226-27	09/02/2026

Issued To: -M/s HMEL Organics Private Limited (HOPL), Village Phullokhari, Taluka Talwandi Saboo, District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 22/01/2026
 Sample Collected By : Laboratory
 Sample Description : Ground Water
 Sample Quantity/Packing detail : 2.0lts
 Weather Conditions : Normal
 Analysis Duration : 27/01/2026 To 09/02/2026

Parameter	pH	Odour	Color	Taste	Temp.	Turbidity	TDS	Alkalinity as (CaCO ₃)	Total Hardness as (CaCO ₃)	Chlorides	Fluorides
Location											
GW1	7.36	Agreeable	<5	Agreeable	25.7	<1	301.0	179.5	219.1	159.4	0.26
GW2	7.29	Agreeable	<5	Agreeable	25.8	<1	291.0	138.9	207.8	142.1	0.23
Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1.0	500	200	200	250	1.0
Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5.0	2000	600	600	1000	1.5
Protocol	IS:-3025 (P-11)	IS:-3025 (P-5)	IS:-3025 (P-4)	IS:-3025 (P-7)	IS:-3025 (P-9)	IS:-3025 (P-10)	IS:-3025 (P-16)	IS:-3025 (P-23)	IS:-3025 (P-21)	IS:-3025 (P-32)	IS:-3025 (P-60)

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL).

**TEST REPORT**

Parameter	Calcium as Ca	Magnesium as Mg	Sulphate	Nitrates	Phenolic Compounds	Iron (as Fe)	Mercury (as Hg)	Zinc (as Zn)	Cadmium (as Cd)	Chromium (as Cr)	Arsenic (as As)
GW1	39.2	29.4	62.2	24.8	BDL	0.23	BDL	BDL	BDL	BDL	BDL
GW2	40.2	26.1	65.8	22.05	BDL	0.21	BDL	BDL	BDL	BDL	BDL
Desirable	75	30	200	45	0.001	0.3	0.001	5	0.003	0.05	0.01
Permissible	200	100	400	No Relaxation	0.002	No Relaxation	No Relaxation	15	No Relaxation	No Relaxation	0.05
Protocol	IS: 3025 (P-40)	IS: 3025 (P-46)	IS:3025 (P-24)	IS: 3025 (P-34)	IS:3025 (P-43)	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.

GW1:-West side of Ethanol Plant (HOPI), GW2:-North side of Ethanol Plant (HOPI).

Remarks:-Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
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5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

End of Report

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AUTHORIZED SIGNATORY



**TEST REPORT**

Parameter	Lead (as Pb)	Boron (as B)	Selenium (as Se ²⁺)	FRC	Polycyclic Aromatic Hydrocarbons (PAH ^a)	Anionic Detergent ^a	Aluminium (as Al)	Total Coliform
GW1	BDL	0.25	BDL	BDL	BDL	BDL	BDL	Absent
GW2	BDL	0.22	BDL	BDL	BDL	BDL	BDL	Absent
Desirable	0.01	0.5	0.01	0.2	0.0001	0.2	0.03	Absent
	No Relaxation	1.0	No	1.0	No	1.0	0.2	Absent
Permissible								
Protocol	APHA:-23 rd Ed.	IS:-3025 (P):-57)	APHA:-23 rd Ed.	APHA:- 23 rd Ed.	APHA:-23 rd Ed.	IS:-3025 (P):- 68)	APHA:-23 rd Ed.	IS:-15185

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL).

Remarks:-Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
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End of Report

CHECKED BY *J. J. J.*

AUTHORIZED SIGNATORY





TEST REPORT

Test Report of	Report Code	Date of Issue
Ground Water	GW-090226-28	09/02/2026

Issued To: -M/s HMEL Organics Private Limited (HOPL), Village Phullokhari, Taluka Talwandi Saboo, District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 22/01/2026
 Sample Collected By : Laboratory
 Sample Description : **Ground Water**
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 27/01/2026 To 09/02/2026

Parameters		Cyanide (as CN*)	Mineral Oil*
GW1		BDL	BDL
GW2		BDL	BDL
IS 10500	Desirable	0.05	0.5
	Permissible	No	No
Protocol		IS:-3025 (P:-27)	APHA 23rd Ed.

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL).

Remarks:-Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
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*****End of Report*****

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ground Water	GW-090226-15	09/02/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 22/01/2026
 Sample Collected By : Laboratory
 Sample Description : **Ground Water**
 Sample Quantity/Packing detail : 2.0lts
 Weather Conditions : Normal
 Analysis Duration : 27/01/2026 To 09/02/2026

Parameter	pH	Odour	Color	Taste	Temp.	Turbidity	TDS	Alkalinity as (CaCO ₃)	Total Hardness as (CaCO ₃)	Chlorides	Fluorides
Location											
GW1	7.30	Agreeable	<5	Agreeable	25.4	<1	278	152.1	208.5	115.2	0.20
GW2	7.45	Agreeable	<5	Agreeable	25.6	<1	317	199.8	274.1	126.01	0.22
GW3	7.16	Agreeable	<5	Agreeable	25.9	<1	282	192.4	215.7	131.3	0.24
GW4	7.40	Agreeable	<5	Agreeable	25.7	<1	290	204.2	241.0	110.5	0.20
GW5	7.25	Agreeable	<5	Agreeable	26.0	<1	321	192.5	230.06	106.7	0.23
GW6	7.19	Agreeable	<5	Agreeable	26.3	<1	314	202.5	245.2	122.4	0.22
GW7	7.24	Agreeable	<5	Agreeable	26.1	<1	330	169.4	212.0	132.0	0.19
GW8	7.38	Agreeable	<5	Agreeable	25.9	<1	326	140.8	207.8	121.05	0.21
GW9	7.21	Agreeable	<5	Agreeable	25.8	<1	287	178.7	252.7	113.2	0.27
GW10	7.27	Agreeable	<5	Agreeable	25.4	<1	319	205.1	241.1	133.1	0.25
GW11	7.41	Agreeable	<5	Agreeable	25.6	<1	271	190.0	215.9	181.6	0.29
Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1.0	500	200	200	250	1.0
Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5.0	2000	600	600	1000	1.5
Protocol	IS:-3025 (P-11)	IS:-3025 (P:-5)	IS:-3025 (P:-4)	IS:-3025 (P:-7)	IS:-3025 (P:-9)	IS:-3025 (P:-10)	IS:-3025 (P-16)	IS:-3025 (P:-23)	IS:-3025 (P:-21)	IS:-3025 (P:-32)	IS:-3025 (P:-60)

**TEST REPORT**

Parameter	Calcium as Ca	Magnesium as Mg	Sulphate	Nitrates	Phenolic Compounds	Iron (as Fe)	Mercury (as Hg)	Zinc (as Zn)	Cadmium (as Cd)	Chromium (as Cr)	Arsenic (as As)
GW1	37.5	27.9	61.2	22.5	BDL	0.20	BDL	BDL	BDL	BDL	BDL
GW2	46.2	38.5	73.4	18.2	BDL	0.18	BDL	BDL	BDL	BDL	BDL
GW3	38.4	29.1	70.5	21.4	BDL	0.22	BDL	BDL	BDL	BDL	BDL
GW4	41.1	33.6	63.2	23.1	BDL	0.19	BDL	BDL	BDL	BDL	BDL
GW5	35.7	34.2	65.1	22.0	BDL	0.26	BDL	BDL	BDL	BDL	BDL
GW6	42.06	34.08	56.4	19.9	BDL	0.23	BDL	BDL	BDL	BDL	BDL
GW7	37.9	28.5	59.7	23.5	BDL	0.16	BDL	BDL	BDL	BDL	BDL
GW8	43.5	24.12	62.2	22.2	BDL	0.27	BDL	BDL	BDL	BDL	BDL
GW9	39.8	37.2	69.8	20.8	BDL	0.18	BDL	BDL	BDL	BDL	BDL
GW10	42.2	33.0	66.0	19.4	BDL	0.21	BDL	BDL	BDL	BDL	BDL
GW11	45.1	25.1	73.2	24.2	BDL	0.24	BDL	BDL	BDL	BDL	BDL
Desirable	75	30	200	45	0.001	0.3	0.001	5	0.003	0.05	0.01
Permissible	200	100	400	No Relaxation	0.002	No Relaxation	No Relaxation	15	No Relaxation	No Relaxation	0.05
Protocol	IS: 3025 (P-40)	IS: 3025 (P-46)	IS:3025 (P-24)	IS: 3025 (P-34)	IS:3025 (P-43)	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.

End of Report

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**TEST REPORT**

Parameter	Lead (as Pb)	Boron (as B)	Selenium (as Se*)	FRC	Polycyclic Aromatic Hydrocarbons (PAH*)	Anionic Detergent*	Aluminum (as Al)	Total Coliform
GW1	BDL	0.21	BDL	BDL	BDL	BDL	BDL	Absent
GW2	BDL	0.24	BDL	BDL	BDL	BDL	BDL	Absent
GW3	BDL	0.25	BDL	BDL	BDL	BDL	BDL	Absent
GW4	BDL	0.20	BDL	BDL	BDL	BDL	BDL	Absent
GW5	BDL	0.19	BDL	BDL	BDL	BDL	BDL	Absent
GW6	BDL	0.18	BDL	BDL	BDL	BDL	BDL	Absent
GW7	BDL	0.25	BDL	BDL	BDL	BDL	BDL	Absent
GW8	BDL	0.27	BDL	BDL	BDL	BDL	BDL	Absent
GW9	BDL	0.29	BDL	BDL	BDL	BDL	BDL	Absent
GW10	BDL	0.17	BDL	BDL	BDL	BDL	BDL	Absent
GW11	BDL	0.24	BDL	BDL	BDL	BDL	BDL	Absent
Desirable	0.01	0.5	0.01	0.2	0.0001	0.2	0.03	Absent
	No Relaxation	1.0	No	1.0	No	1.0	0.2	Absent
Permissible								
Protocol	APHA:-23 rd Ed.	IS:-3025 (P:-57)	APHA:-23 rd Ed.	APHA:-23 rd Ed.	APHA:-23 rd Ed.	IS:-3025 (P:-68)	APHA:-23 rd Ed.	IS:-15185

Remarks: Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. This test report will not be used for any publicity/legal purpose.
5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ground Water	GW-090226-16	09/02/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 22/01/2026
 Sample Collected By : Laboratory
 Sample Description : Ground Water
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 27/01/2026 To 09/02/2026

Parameters		Cyanide (as CN*)	Mineral Oil*
GW1		BDL	BDL
GW2		BDL	BDL
GW3		BDL	BDL
GW4		BDL	BDL
GW5		BDL	BDL
GW6		BDL	BDL
GW7		BDL	BDL
GW8		BDL	BDL
GW9		BDL	BDL
GW10		BDL	BDL
GW11		BDL	BDL
IS 10500	Desirable	0.05	0.5
	Permissible	No	No
Protocol		IS:3025 (P-27)	APHA 23rd Ed.

Remarks:

GW1: Near Storm Water Pond-South East Side, GW2: Near Storm Water Pond - North East Side, GW3: Near Ecological Pond West Side,
 GW4: Near Ecological Pond South East Side, GW5: Near Solar Pond South East Side- East Side of Water Block Area, GW6: Near Solar Pond South East
 Side- North East Side of Water Block Area, GW7: Near RODM Plant East Side Area, GW8: Near Secured Landfill Area North Side, GW9: Secured
 Landfill Area West Side, GW10: Secured Landfill Area South Side, GW11: Near Etp South Side

*****End of Report*****

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ground Water	GW-060326-15	06/03/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 25/02/2026
 Sample Collected By : Laboratory
 Sample Description : **Ground Water**
 Sample Quantity/Packing detail : 2.0lts
 Weather Conditions : Normal
 Analysis Duration : 27/02/2026 To 06/03/2026

Parameter	pH	Odour	Color	Taste	Temp.	Turbidity	TDS	Alkalinity as (CaCO ₃)	Total Hardness as (CaCO ₃)	Chlorides	Fluorides
Location											
GW1	7.40	Agreeable	<5	Agreeable	25.6	<1	288	154	189.2	124.8	0.22
GW2	7.35	Agreeable	<5	Agreeable	25.2	<1	310	189	277.0	119.5	0.27
GW3	7.16	Agreeable	<5	Agreeable	25.5	<1	301	206	219.4	127.0	0.20
GW4	7.50	Agreeable	<5	Agreeable	25.3	<1	298	199	246.02	140.9	0.28
GW5	7.32	Agreeable	<5	Agreeable	25.2	<1	329	171	199.8	121.0	0.25
GW6	7.37	Agreeable	<5	Agreeable	25.3	<1	287	199	241.1	118.5	0.21
GW7	7.20	Agreeable	<5	Agreeable	25.5	<1	324	159	228.0	134.7	0.29
GW8	7.23	Agreeable	<5	Agreeable	25.8	<1	305	134	210.03	139.2	0.19
GW9	7.26	Agreeable	<5	Agreeable	25.7	<1	279	169	254.0	126.1	0.23
GW10	7.30	Agreeable	<5	Agreeable	25.3	<1	309	186	215.4	147.5	0.26
GW11	7.36	Agreeable	<5	Agreeable	25.6	<1	276	192	221.9	186.6	0.30
Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1.0	500	200	200	250	1.0
Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5.0	2000	600	600	1000	1.5
Protocol	IS:-3025 (P-11)	IS:-3025 (P:-5)	IS:-3025 (P:-4)	IS:-3025 (P:-7)	IS:-3025 (P:-9)	IS:-3025 (P:-10)	IS:-3025 (P-16)	IS:-3025 (P:-23)	IS:-3025 (P:-21)	IS:-3025 (P:-32)	IS:-3025 (P:-60)

**TEST REPORT**

Parameter	Calcium as Ca	Magnesium as Mg	Sulphate	Nitrates	Phenolic Compounds	Iron (as Fe)	Mercury (as Hg)	Zinc (as Zn)	Cadmium (as Cd)	Chromium (as Cr)	Arsenic (as As)
GW1	31.2	27.05	60.5	22.5	BDL	0.22	BDL	BDL	BDL	BDL	BDL
GW2	44.6	40.27	67.1	27.1	BDL	0.18	BDL	BDL	BDL	BDL	BDL
GW3	39.1	29.6	71.2	26.8	BDL	0.20	BDL	BDL	BDL	BDL	BDL
GW4	43.5	33.40	65.8	20.3	BDL	0.21	BDL	BDL	BDL	BDL	BDL
GW5	36.4	26.48	69.6	19.5	BDL	0.23	BDL	BDL	BDL	BDL	BDL
GW6	42.6	32.7	59.5	25.6	BDL	0.19	BDL	BDL	BDL	BDL	BDL
GW7	37.2	32.85	74.8	21.0	BDL	0.25	BDL	BDL	BDL	BDL	BDL
GW8	34.0	30.42	76.4	24.2	BDL	0.26	BDL	BDL	BDL	BDL	BDL
GW9	41.9	38.4	74.0	23.0	BDL	0.23	BDL	BDL	BDL	BDL	BDL
GW10	43.3	26.9	70.05	18.5	BDL	0.18	BDL	BDL	BDL	BDL	BDL
GW11	40.0	29.6	68.6	18.5	BDL	0.28	BDL	BDL	BDL	BDL	BDL
Desirable	75	30	200	45	0.001	0.3	0.001	5	0.003	0.05	0.01
Permissible	200	100	400	No Relaxation	0.002	No Relaxation	No Relaxation	15	No Relaxation	No Relaxation	0.05
Protocol	IS: 3025 (P-40)	IS: 3025 (P-46)	IS:3025 (P-24)	IS: 3025 (P-34)	IS:3025 (P-43)	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.

End of Report

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**TEST REPORT**

Parameter	Lead (as Pb)	Boron (as B)	Selenium (as Se*)	FRC	Polycyclic Aromatic Hydrocarbons (PAH*)	Anionic Detergent*	Aluminum (as Al)	Total Coliform
GW1	BDL	0.24	BDL	BDL	BDL	BDL	BDL	Absent
GW2	BDL	0.18	BDL	BDL	BDL	BDL	BDL	Absent
GW3	BDL	0.29	BDL	BDL	BDL	BDL	BDL	Absent
GW4	BDL	0.28	BDL	BDL	BDL	BDL	BDL	Absent
GW5	BDL	0.24	BDL	BDL	BDL	BDL	BDL	Absent
GW6	BDL	0.21	BDL	BDL	BDL	BDL	BDL	Absent
GW7	BDL	0.25	BDL	BDL	BDL	BDL	BDL	Absent
GW8	BDL	0.29	BDL	BDL	BDL	BDL	BDL	Absent
GW9	BDL	0.33	BDL	BDL	BDL	BDL	BDL	Absent
GW10	BDL	0.27	BDL	BDL	BDL	BDL	BDL	Absent
GW11	BDL	0.20	BDL	BDL	BDL	BDL	BDL	Absent
Desirable	0.01	0.5	0.01	0.2	0.0001	0.2	0.03	Absent
	No Relaxation	1.0	No	1.0	No	1.0	0.2	Absent
Permissible								
Protocol	APHA:-23 rd Ed.	IS:-3025 (P:-57)	APHA:-23 rd Ed.	APHA:-23 rd Ed.	APHA:-23 rd Ed.	IS:-3025 (P:-68)	APHA:-23 rd Ed.	IS:-15185

Remarks: Test parameters coming in under limit. Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. This test report will not be used for any publicity/legal purpose.
5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

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End of Report





TEST REPORT

Test Report of	Report Code	Date of Issue
Ground Water	GW-060326-16	06/03/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 25/02/2026
 Sample Collected By : Laboratory
 Sample Description : Ground Water
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 27/02/2026 To 06/03/2026

Parameters		Cyanide (as CN*)	Mineral Oil*
	GW1	BDL	BDL
	GW2	BDL	BDL
	GW3	BDL	BDL
	GW4	BDL	BDL
	GW5	BDL	BDL
	GW6	BDL	BDL
	GW7	BDL	BDL
	GW8	BDL	BDL
	GW9	BDL	BDL
	GW10	BDL	BDL
	GW11	BDL	BDL
IS 10500	Desirable	0.05	0.5
	Permissible	No	No
Protocol		IS:3025 (P-27)	APHA 23rd Ed.

Remark:

GW1: Near Storm Water Pond-South East Side, GW2: Near Storm Water Pond - North East Side, GW3: Near Ecological Pond West Side,
 GW4: Near Ecological Pond South East Side, GW5: Near Solar Pond South East Side- East Side of Water Block Area, GW6: Near Solar Pond South East
 Side- North East Side of Water Block Area, GW7: Near RO/DM Plant East Side Area, GW8: Near Secured Landfill Area North Side, GW9: Secured
 Landfill Area West Side, GW10: Secured Landfill Area South Side, GW11: Near Etp South Side

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Ground Water	GW-060326-28	06/03/2026

Issued To: -M/s HMEL Organics Private Limited (HOPL), Village Phulokhari, Taluka Talwandi Saboo, District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 24/02/2026
 Sample Collected By : Laboratory
 Sample Description : Ground Water
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 27/02/2026 To 06/03/2026

Parameters		Cyanide (as CN*)	Mineral Oil*
GW1		BDL	BDL
GW2		BDL	BDL
IS 10500	Desirable	0.05	0.5
	Permissible	No	No
Protocol		IS:-3025 (P:-27)	APHA 23rd Ed.

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL).

Remarks:-Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. This test report will not be used for any publicity/legal purpose.
5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

End of Report

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TEST REPORT

Parameter	Lead (as Pb)	Boron (as B)	Selenium (as Se*)	FRC	Polycyclic Aromatic Hydrocarbons (PAH*)	Anionic Detergent*	Aluminium (as Al)	Total Coliform
GW1	BDL	0.26	BDL	BDL	BDL	BDL	BDL	Absent
GW2	BDL	0.30	BDL	BDL	BDL	BDL	BDL	Absent
Desirable	0.01	0.5	0.01	0.2	0.0001	0.2	0.03	Absent
	No Relaxation	1.0	No	1.0	No	1.0	0.2	Absent
Permissible								
Protocol	APHA:-23 rd Ed.	IS:-3025 (P:-57)	APHA:-23 rd Ed.	APHA:-23 rd Ed.	APHA:-23 rd Ed.	IS:-3025 (P:-68)	APHA:-23 rd Ed.	IS:-15185

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL).

Remarks:- Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. This test report will not be used for any publicity/legal purpose.
5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

*****End of Report*****

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ground Water	GW-060326-27	06/03/2026

Issued To: -M/s HMEL Organics Private Limited (HOPL), Village Phullokhari, Taluka Talwandi Saboo, District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 24/02/2026
 Sample Collected By : Laboratory
 Sample Description : Ground Water
 Sample Quantity/Packing detail : 2.0lts
 Weather Conditions : Normal
 Analysis Duration : 27/02/2026 To 06/03/2026

Parameter	pH	Odour	Color	Taste	Temp.	Turbidity	TDS	Alkalinity as (CaCO ₃)	Total Hardness as (CaCO ₃)	Chlorides	Fluorides
Location											
GW1	7.26	Agreeable	<5	Agreeable	26.4	<1	297	168	209	150.2	0.29
GW2	7.34	Agreeable	<5	Agreeable	26.5	<1	280	127	189	139.5	0.26
Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1.0	500	200	200	250	1.0
Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5.0	2000	600	600	1000	1.5
Protocol	IS:-3025 (P:-11)	IS:-3025 (P:-5)	IS:-3025 (P:-4)	IS:-3025 (P:-7)	IS:-3025 (P:-9)	IS:-3025 (P:-10)	IS:-3025 (P:-16)	IS:-3025 (P:-23)	IS:-3025 (P:-21)	IS:-3025 (P:-32)	IS:-3025 (P:-60)

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL).



TEST REPORT

Parameter	Calcium as Ca	Magnesium as Mg	Sulphate	Nitrates	Phenolic Compounds	Iron (as Fe)	Mercury (as Hg)	Zinc (as Zn)	Cadmium (as Cd)	Chromium (as Cr)	Arsenic (as As)
GW1	39.14	26.80	59.2	24.8	BDL	0.11	BDL	BDL	BDL	BDL	BDL
GW2	34.06	25.27	62.1	20.3	BDL	0.18	BDL	BDL	BDL	BDL	BDL
Desirable	75	30	200	45	0.001	0.3	0.001	5	0.003	0.05	0.01
Permissible	200	100	400	No Relaxation	0.002	No Relaxation	No Relaxation	15	No Relaxation	No Relaxation	0.05
Protocol	IS: 3025 (P-40)	IS: 3025 (P-46)	IS:3025 (P-24)	IS: 3025 (P-34)	IS:3025 (P-43)	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL).

Remarks:-Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. This test report will not be used for any publicity/legal purpose.
5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ground Water	GW-070426-15	07/04/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 18/03/2026
 Sample Collected By : Laboratory
 Sample Description : Ground Water
 Sample Quantity/Packing detail : 2.0lts
 Weather Conditions : Normal
 Analysis Duration : 21/03/2026 To 07/04/2026

Parameter	pH	Odour	Color	Taste	Temp.	Turbidity	TDS	Alkalinity as (CaCO ₃)	Total Hardness as (CaCO ₃)	Chlorides	Fluorides
Location											
GW1	7.26	Agreeable	<5	Agreeable	26.9	<1	294	161.5	192.4	118.6	0.20
GW2	7.41	Agreeable	<5	Agreeable	26.5	<1	316	190.2	280.1	124.2	0.25
GW3	7.10	Agreeable	<5	Agreeable	26.9	<1	311	210.0	215.9	131.05	0.19
GW4	7.56	Agreeable	<5	Agreeable	26.5	<1	301	201.0	240.0	145.1	0.27
GW5	7.28	Agreeable	<5	Agreeable	26.5	<1	331	179.4	201.4	126.4	0.22
GW6	7.41	Agreeable	<5	Agreeable	26.2	<1	279	204.1	237.06	121.9	0.24
GW7	7.16	Agreeable	<5	Agreeable	26.5	<1	336	164.5	232.1	140.0	0.28
GW8	7.29	Agreeable	<5	Agreeable	26.8	<1	396	137.1	209.6	135.7	0.21
GW9	7.21	Agreeable	<5	Agreeable	25.7	<1	282	168.2	260.4	120.0	0.26
GW10	7.34	Agreeable	<5	Agreeable	26.3	<1	316	191.0	219.2	142.8	0.29
GW11	7.46	Agreeable	<5	Agreeable	26.6	<1	286	197.8	224.0	184.2	0.27
Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1.0	500	200	200	250	1.0
Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5.0	2000	600	600	1000	1.5
Protocol	IS:-3025 (P:-11)	IS:-3025 (P:-5)	IS:-3025 (P:-4)	IS:-3025 (P:-7)	IS:-3025 (P:-9)	IS:-3025 (P:-10)	IS:-3025 (P:-16)	IS:-3025 (P:-23)	IS:-3025 (P:-21)	IS:-3025 (P:-32)	IS:-3025 (P:-60)

**TEST REPORT**

Parameter	Calcium as Ca	Magnesium as Mg	Sulphate	Nitrates	Phenolic Compounds	Iron (as Fe)	Mercury (as Hg)	Zinc (as Zn)	Cadmium (as Cd)	Chromium (as Cr)	Arsenic (as As)
GW1	29.8	28.6	62.8	25.6	BDL	0.22	BDL	BDL	BDL	BDL	BDL
GW2	43.4	41.7	65.0	28.1	BDL	0.20	BDL	BDL	BDL	BDL	BDL
GW3	40.9	27.6	73.1	24.7	BDL	0.19	BDL	BDL	BDL	BDL	BDL
GW4	38.1	35.22	66.7	22.4	BDL	0.24	BDL	BDL	BDL	BDL	BDL
GW5	32.4	29.2	71.05	21.01	BDL	0.25	BDL	BDL	BDL	BDL	BDL
GW6	41.6	32.3	64.4	26.0	BDL	0.21	BDL	BDL	BDL	BDL	BDL
GW7	35.4	34.9	76.2	22.01	BDL	0.23	BDL	BDL	BDL	BDL	BDL
GW8	34.7	39.8	80.7	27.6	BDL	0.28	BDL	BDL	BDL	BDL	BDL
GW9	42.01	37.80	76.2	28.3	BDL	0.26	BDL	BDL	BDL	BDL	BDL
GW10	40.9	28.46	68.9	20.2	BDL	0.17	BDL	BDL	BDL	BDL	BDL
GW11	39.2	30.66	72.4	17.6	BDL	0.25	BDL	BDL	BDL	BDL	BDL
Desirable	75	30	200	45	0.001	0.3	0.001	5	0.003	0.05	0.01
Permissible	200	100	400	No Relaxation	0.002	No Relaxation	No Relaxation	15	No Relaxation	No Relaxation	0.05
Protocol	IS: 3025 (P-40)	IS: 3025 (P-46)	IS:3025 (P-24)	IS: 3025 (P-34)	IS:3025 (P-43)	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.

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**TEST REPORT**

Parameter	Lead (as Pb)	Boron (as B)	Selenium (as Se*)	FRC	Polycyclic Aromatic Hydrocarbons (PAH*)	Anionic Detergent*	Aluminum (as Al)	Total Coliform
GW1	BDL	0.22	BDL	BDL	BDL	BDL	BDL	Absent
GW2	BDL	0.20	BDL	BDL	BDL	BDL	BDL	Absent
GW3	BDL	0.27	BDL	BDL	BDL	BDL	BDL	Absent
GW4	BDL	0.30	BDL	BDL	BDL	BDL	BDL	Absent
GW5	BDL	0.26	BDL	BDL	BDL	BDL	BDL	Absent
GW6	BDL	0.23	BDL	BDL	BDL	BDL	BDL	Absent
GW7	BDL	0.24	BDL	BDL	BDL	BDL	BDL	Absent
GW8	BDL	0.28	BDL	BDL	BDL	BDL	BDL	Absent
GW9	BDL	0.29	BDL	BDL	BDL	BDL	BDL	Absent
GW10	BDL	0.31	BDL	BDL	BDL	BDL	BDL	Absent
GW11	BDL	0.21	BDL	BDL	BDL	BDL	BDL	Absent
Desirable	0.01	0.5	0.01	0.2	0.0001	0.2	0.03	Absent
	No Relaxation	1.0	No	1.0	No	1.0	0.2	Absent
Permissible								
Protocol	APHA:-23 rd Ed.	IS:-3025 (P:-57)	APHA:-23 rd Ed.	APHA:-23 rd Ed.	APHA:-23 rd Ed.	IS:-3025 (P:-68)	APHA:-23 rd Ed.	IS:-15185

Remarks: Test parameters coming in under limit. Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. This test report will not be used for any public or legal purpose.
5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ground Water	GW-070426-16	07/04/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 18/03/2026
 Sample Collected By : Laboratory
 Sample Description : **Ground Water**
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 21/03/2026 To 07/04/2026

Parameters		Cyanide (as CN ⁻)	Mineral Oil*
GW1		BDL	BDL
GW2		BDL	BDL
GW3		BDL	BDL
GW4		BDL	BDL
GW5		BDL	BDL
GW6		BDL	BDL
GW7		BDL	BDL
GW8		BDL	BDL
GW9		BDL	BDL
GW10		BDL	BDL
GW11		BDL	BDL
IS 10500	Desirable	0.05	0.5
	Permissible	No	No
Protocol		IS:3025 (P-27)	APHA 23rd Ed.

Remark:

GW1: Near Storm Water Pond-South East Side, GW2: Near Storm Water Pond - North East Side, GW3: Near Ecological Pond West Side,
 GW4: Near Ecological Pond South East Side, GW5: Near Solar Pond South East Side- East Side of Water Block Area, GW6: Near Solar Pond South East
 Side- North East Side of Water Block Area, GW7: Near RO/DM Plant East Side Area, GW8: Near Secured Landfill Area North Side, GW9: Secured
 Landfill Area West Side, GW10: Secured Landfill Area South Side, GW11: Near Etp South Side

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Waste Water	WW-070426-17	07/04/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 18/03/2026
 Sample Collected By : Laboratory
 Sample Description : Waste Water (ETP Outlet, Inside GGSR)
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 21/03/2026 To 07/04/2026

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH	...	7.46	6.0-8.5	IS:-3025 (P:-11)
2	Total Suspended Solids (TSS)	mg/L	11.0	20.0	APHA:-23 rd Ed.
3	Chemical Oxygen Demand (COD)	mg/L	61.4	125.0	APHA:-23 rd Ed.
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	BDL	15.0	IS:-3025 (P:-44)
5	Oil & Grease (O&G)	mg/L	1.1	5.0	APHA:-23 rd Ed.
6	Phenolic Compounds(C6H5OH)	mg/L	0.19	0.35	APHA:-5530:-C
7	Sulphide (S)	mg/L	0.3	0.5	APHA:-23 rd Ed.
8	Total Kjeldahl Nitrogen (NH3)	mg/L	0.52	40	APHA:-23 rd Ed.
9	Phosphate	mg/L	1.3	3.0	APHA:-23 rd Ed.
10	Chromium Hexavalent (Cr ⁶)	mg/L	BDL	0.1	APHA:-23 rd Ed.
11	Copper (Cu)	mg/L	BDL	1.0	APHA:-23 rd Ed.
12	Lead (Pb)	mg/L	BDL	0.1	APHA:-23 rd Ed.
13	Mercury (Hg)	mg/L	BDL	0.01	APHA:-23 rd Ed.
14	Zinc (Zn)	mg/L	BDL	5.0	APHA:-23 rd Ed.
15	Nickel (Ni)	mg/L	BDL	1.0	APHA:-23 rd Ed.

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-070426-18	07/04/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo, District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 18/03/2026
 Sample Collected By : Laboratory
 Sample Description : Waste Water (ETP Outlet, Inside GGSB)
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 21/03/2026 To 07/04/2026

Sr.No.	Parameter	Unit	Result	Permissible Limits	Protocol
16	Ammonia (N)	mg/L	6.56	15.0	APHA:-23 rd Ed.
17	Cyanide (CN)	mg/L	BDL	0.20	APHA:-23 rd Ed.
18	Total Chromium	mg/L	BDL	2.0	APHA:-23 rd Ed.
19	Vanadium (V)	mg/L	BDL	0.2	APHA:-23 rd Ed.
20	Benzene	mg/L	BDL	0.1	USEPA:-8260:-C
21	Benzo(a)-Pyreen	mg/L	BDL	0.2	USEPA:-8260:-C

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-070426-19	07/04/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 18/03/2026
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Inside GGSR)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 21/03/2026 To 07/04/2026

Sr. No.	Parameters	Unit	Test Result	Protocol
1	Bioassay Toxic Test	%	92% Survival of fish after 96 hours in 100% effluent	IS:-6582

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Ground Water	GW-070426-27	07/04/2026

Issued To: -M/s HMEL Organics Private Limited (HOPL), Village Phullokhari, Taluka Talwandi Saboo, District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 18/03/2026
 Sample Collected By : Laboratory
 Sample Description : Ground Water
 Sample Quantity/Packing detail : 2.0lts
 Weather Conditions : Normal
 Analysis Duration : 21/03/2026 To 07/04/2026

Parameter	pH	Odour	Color	Taste	Temp.	Turbidity	TDS	Alkalinity as (CaCO ₃)	Total Hardness as (CaCO ₃)	Chlorides	Fluorides
Location											
GW1	7.32	Agreeable	<5	Agreeable	26.8	<1	301	165	215	153.7	0.27
GW2	7.40	Agreeable	<5	Agreeable	26.8	<1	295	130	192	140.0	0.24
Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1.0	500	200	200	250	1.0
Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5.0	2000	600	600	1000	1.5
Protocol	IS:-3025 (P:-11)	IS:-3025 (P:-5)	IS:-3025 (P:-4)	IS:-3025 (P:-7)	IS:-3025 (P:-9)	IS:-3025 (P:-10)	IS:-3025 (P:-16)	IS:-3025 (P:-23)	IS:-3025 (P:-21)	IS:-3025 (P:-32)	IS:-3025 (P:-60)

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL)

**TEST REPORT**

Parameter	Calcium as Ca	Magnesium as Mg	Sulphate	Nitrates	Phenolic Compounds	Iron (as Fe)	Mercury (as Hg)	Zinc (as Zn)	Cadmium (as Cd)	Chromium (as Cr)	Arsenic (as As)
GW1	37.4	29.5	60.5	25.06	BDL	0.13	BDL	BDL	BDL	BDL	BDL
GW2	32.9	26.7	64.0	21.4	BDL	0.17	BDL	BDL	BDL	BDL	BDL
Desirable	75	30	200	45	0.001	0.3	0.001	5	0.003	0.05	0.01
Permissible	200	100	400	No Relaxation	0.002	No Relaxation	No Relaxation	15	No Relaxation	No Relaxation	0.05
Protocol	IS: 3025 (P-40)	IS: 3025 (P-46)	IS:3025 (P-24)	IS: 3025 (P-34)	IS:3025 (P-43)	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.	APHA 23 rd Ed.

GW1:-West side of Ethanol Plant (HOPL), GW2:-North side of Ethanol Plant (HOPL)

Remarks:-Test parameters coming in under limit, Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
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**TEST REPORT**

Parameter	Lead (as Pb)	Boron (as B)	Selenium (as Se ⁶⁺)	FRC	Polycyclic Aromatic Hydrocarbons (PAH ⁶⁺)	Anionic Detergent*	Aluminium (as Al)	Total Coliform
GW1	BDL	0.24	BDL	BDL	BDL	BDL	BDL	Absent
GW2	BDL	0.28	BDL	BDL	BDL	BDL	BDL	Absent
Desirable	0.01	0.5	0.01	0.2	0.0001	0.2	0.03	Absent
	No Relaxation	1.0	No	1.0	No	1.0	0.2	Absent
Permissible								
Protocol	APHA:-23 rd Ed.	IS:-3025 (P:-57)	APHA:-23 rd Ed.	APHA:- 23 rd Ed.	APHA:-23 rd Ed.	IS:-3025 (P:- 68)	APHA:-23 rd Ed.	IS:-15185

GW1--West side of Ethanol Plant (HOPI), GW2--North side of Ethanol Plant (HOPI)

Remarks:- Test parameters coming in under limit. Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the invoiced amount only.
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4. This test report will not be used for any publicity/legal purpose.
5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

End of Report

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TEST REPORT

Test Report of Ground Water	Report Code GW-070426-28	Date of Issue 07/04/2026
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Issued To: -M/s HMEL Organics Private Limited (HOPL), Village Phullokhari, Taluka Talwandi Saboo, District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 18/03/2026
 Sample Collected By : Laboratory
 Sample Description : Ground Water
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 21/03/2026 To 07/04/2026

Parameters		Cyanide (as CN*)	Mineral Oil*
GW1		BDL	BDL
GW2		BDL	BDL
IS 10500	Desirable	0.05	0.5
	Permissible	No	No
Protocol		IS:-3025 (P:-27)	APHA 23rd Ed.

GW1-West side of Ethanol Plant (HOPL), GW2-North side of Ethanol Plant (HOPL)

Remarks:-Test parameters coming in under limit. Prescribe limits are given by MoEF/Central Pollution Control Board.

Notes:-

1. The results given above are related to the tested sample, as received & mentioned parameters. The customer asked for the above tests only.
2. Responsibility of the Laboratory is limited to the involved amount only.
3. This test report will not be generated again, either wholly or in part, without prior written permission of the laboratory.
4. This test report will not be used for any publicity/legal purpose.
5. The test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Waste Water	WW-061125-17	06/11/2025

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 28/10/2025
 Sample Collected By : Laboratory
 Sample Description : Waste Water (ETP Outlet, Inside GGSR)
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 30/10/2025 To 06/11/2025

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH	...	7.45	6.0-8.5	IS:-3025 (P:-11)
2	Total Suspended Solids (TSS)	mg/L	12.3	20.0	APHA:-23 rd Ed.
3	Chemical Oxygen Demand (COD)	mg/L	63.1	125.0	APHA:-23 rd Ed.
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	BDL	15.0	IS:-3025 (P:-44)
5	Oil & Grease (O&G)	mg/L	1.56	5.0	APHA:-23 rd Ed.
6	Phenolic Compounds(C ₆ H ₅ OH)	mg/L	0.20	0.35	APHA:-5530:-C
7	Sulphide (S)	mg/L	0.1	0.5	APHA:-23 rd Ed.
8	Total Kjeldahl Nitrogen (NH ₃)	mg/L	0.62	40	APHA:-23 rd Ed.
9	Phosphate	mg/L	1.49	3.0	APHA:-23 rd Ed.
10	Chromium Hexavalent (Cr ⁶)	mg/L	BDL	0.1	APHA:-23 rd Ed.
11	Copper (Cu)	mg/L	BDL	1.0	APHA:-23 rd Ed.
12	Lead (Pb)	mg/L	BDL	0.1	APHA:-23 rd Ed.
13	Mercury (Hg)	mg/L	BDL	0.01	APHA:-23 rd Ed.
14	Zinc (Zn)	mg/L	BDL	5.0	APHA:-23 rd Ed.
15	Nickel (Ni)	mg/L	BDL	1.0	APHA:-23 rd Ed.

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-061125-18	06/11/2025

Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 28/10/2025
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Inside GGSR)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 30/10/2025 To 06/11/2025

Sr.No.	Parameter	Unit	Result	Permissible Limits	Protocol
16	Ammonia (N)	mg/L	6.85	15.0	APHA:-23 rd Ed.
17	Cyanide (CN)	mg/L	BDL	0.20	APHA:-23 rd Ed.
18	Total Chromium	mg/L	BDL	2.0	APHA:-23 rd Ed.
19	Vanadium (V)	mg/L	BDL	0.2	APHA:-23 rd Ed.
20	Benzene	mg/L	BDL	0.1	USEPA:-8260:-C
21	Benzo(a)-Pyreen	mg/L	BDL	0.2	USEPA:-8260:-C

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-061125-19	06/11/2025

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 28/10/2025
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Inside GGSR)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 30/10/2025 To 06/11/2025

Sr. No.	Parameters	Unit	Test Result	Protocol
1	Bioassay Toxic Test	%	93% Survival of fish after 96 hours in 100% effluent	IS:-6582

End of Report

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TEST REPORT

Test Report of Waste Water	Report Code WW-061125-12	Date of Issue 06/11/2025
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**ISSUED TO:-M/s HPCL-Mittal Energy Limited,Village:-Phullokhari, Taluka:-
Talwandi Saboo, District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On	: 28/10/2025
Sample Collected By	: Laboratory
Sample Description	: Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail	: 2.0 lts
Weather Conditions	: Normal
Analysis Duration	: 30/10/2025 To 06/11/2025

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH	...	7.35	6.0-8.5	IS:-3025 (P:-11)
2	Total Suspended Solids (TSS)	mg/L	12.1	20.0	APHA:-23 rd Ed.
3	Chemical Oxygen Demand (COD)	mg/L	61.9	125.0	APHA:-23 rd Ed.
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	BDL	15.0	IS:-3025 (P:-44)
5	Oil & Grease (O&G)	mg/L	4.10	5.0	APHA:-23 rd Ed.
6	Phenolic Compounds(C6H5OH)	mg/L	0.26	0.35	APHA:-5530:-C
7	Sulphide (S)	mg/L	0.4	0.5	APHA:-23 rd Ed.
8	Total Kjeldahl Nitrogen (NH3)	mg/L	0.72	40	APHA:-23 rd Ed.
9	Phosphate	mg/L	1.94	3.0	APHA:-23 rd Ed.
10	Chromium Hexavalent (Cr ⁶)	mg/L	BDL	0.1	APHA:-23 rd Ed.
11	Copper (Cu)	mg/L	BDL	1.0	APHA:-23 rd Ed.
12	Lead (Pb)	mg/L	BDL	0.1	APHA:-23 rd Ed.
13	Mercury (Hg)	mg/L	BDL	0.01	APHA:-23 rd Ed.
14	Zinc (Zn)	mg/L	BDL	5.0	APHA:-23 rd Ed.
15	Nickel (Ni)	mg/L	BDL	1.0	APHA:-23 rd Ed.

End of Report

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TEST REPORT

Test Report of Waste Water	Report Code WW-061125-13	Date of Issue 06/11/2025
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ISSUED TO:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-
Talwandi Saboo, District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 28/10/2025
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 30/10/2025 To 06/11/2025

Sr.No.	Parameter	Unit	Result	Permissible Limits	Protocol
16	Ammonia (N)	mg/L	7.24	15.0	APHA:-23 rd Ed.
17	Cyanide (CN)	mg/L	BDL	0.20	APHA:-23 rd Ed.
18	Total Chromium	mg/L	BDL	2.0	APHA:-23 rd Ed.
19	Vanadium (V)	mg/L	BDL	0.2	APHA:-23 rd Ed.
20	Benzene	mg/L	BDL	0.1	USEPA:-8260:-C
21	Benzo(a)-Pyreen	mg/L	BDL	0.2	USEPA:-8260:-C

End of Report

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TEST REPORT

Test Report of Waste Water	Report Code WW-061125-14	Date of Issue 06/11/2025
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ISSUED TO:-M/s HPCL-Mittal Energy Limited,Village:-Phullokhari, Taluka:-
Talwandi Saboo, District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 28/10/2025
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 30/10/2025 To 06/11/2025

Sr. No.	Parameters	Unit	Test Result	Protocol
1	Bioassay Toxic Test	%	91 % Survival of fish 96 hours in 100% effluent	IS:-6582

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-051225-12	05/12/2025

ISSUED TO:-M/s HPCL-Mittal Energy Limited,Village:-Phullokhari, Taluka:-
Talwandi Saboo, District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On	: 27/11/2025
Sample Collected By	: Laboratory
Sample Description	: Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail	: 2.0 lts
Weather Conditions	: Normal
Analysis Duration	: 28/11/2025 To 05/12/2025

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH	---	7.60	6.0-8.5	IS:-3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	14.9	20.0	APHA:-23 rd Ed.
3	Chemical Oxygen Demand (COD)	mg/L	68.2	125.0	APHA:-23 rd Ed.
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	BDL	15.0	IS:-3025 (P-44)
5	Oil & Grease (O&G)	mg/L	3.67	5.0	APHA:-23 rd Ed.
6	Phenolic Compounds(C6H5OH)	mg/L	0.21	0.35	APHA:-5530-C
7	Sulphide (S)	mg/L	0.2	0.5	APHA:-23 rd Ed.
8	Total Kjeldahl Nitrogen (NH3)	mg/L	0.63	40	APHA:-23 rd Ed.
9	Phosphate	mg/L	2.27	3.0	APHA:-23 rd Ed.
10	Chromium Hexavalent (Cr ⁶⁺)	mg/L	BDL	0.1	APHA:-23 rd Ed.
11	Copper (Cu)	mg/L	BDL	1.0	APHA:-23 rd Ed.
12	Lead (Pb)	mg/L	BDL	0.1	APHA:-23 rd Ed.
13	Mercury (Hg)	mg/L	BDL	0.01	APHA:-23 rd Ed.
14	Zinc (Zn)	mg/L	BDL	5.0	APHA:-23 rd Ed.
15	Nickel (Ni)	mg/L	BDL	1.0	APHA:-23 rd Ed.

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Waste Water	WW-051225-13	05/12/2025

**ISSUED TO:-M/s HPCL-Mittal Energy Limited,Village:-Phullokhari, Taluka:-
Talwandi Saboo, District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 27/11/2025
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 28/11/2025 To 05/12/2025

Sr.No.	Parameter	Unit	Result	Permissible Limits	Protocol
16	Ammonia (N)	mg/L	7.35	15.0	APHA:-23 rd Ed.
17	Cyanide (CN)	mg/L	BDL	0.20	APHA:-23 rd Ed.
18	Total Chromium	mg/L	BDL	2.0	APHA:-23 rd Ed.
19	Vanadium (V)	mg/L	BDL	0.2	APHA:-23 rd Ed.
20	Benzene	mg/L	BDL	0.1	USEPA:-8260-C
21	Benzo(a)-Pyreen	mg/L	BDL	0.2	USEPA:-8260-C

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-051225-14	05/12/2025

ISSUED TO:-M/s HPCL-Mittal Energy Limited,Village:-Phullokhari, Taluka:-
Talwandi Saboo, District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 27/11/2025
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 28/11/2025 To 05/12/2025

Sr. No.	Parameters	Unit	Test Result	Protocol
I	Bioassay Toxic Test	%	93 % Survival of fish 96 hours in 100% effluent	IS:-6582

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-051225-17	05/12/2025

Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 27/11/2025
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Inside GGSR)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 28/11/2025 To 05/12/2025

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH	...	7.30	6.0-8.5	IS:-3025 (P:-11)
2	Total Suspended Solids (TSS)	mg/L	13.8	20.0	APHA:-23 rd Ed.
3	Chemical Oxygen Demand (COD)	mg/L	66.4	125.0	APHA:-23 rd Ed.
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	BDL	15.0	IS:-3025 (P:-44)
5	Oil & Grease (O&G)	mg/L	2.15	5.0	APHA:-23 rd Ed.
6	Phenolic Compounds(C ₆ H ₅ OH)	mg/L	0.27	0.35	APHA:-5530:-C
7	Sulphide (S)	mg/L	0.3	0.5	APHA:-23 rd Ed.
8	Total Kjeldahl Nitrogen (NH ₃)	mg/L	0.51	40	APHA:-23 rd Ed.
9	Phosphate	mg/L	1.98	3.0	APHA:-23 rd Ed.
10	Chromium Hexavalent (Cr ⁶)	mg/L	BDL	0.1	APHA:-23 rd Ed.
11	Copper (Cu)	mg/L	BDL	1.0	APHA:-23 rd Ed.
12	Lead (Pb)	mg/L	BDL	0.1	APHA:-23 rd Ed.
13	Mercury (Hg)	mg/L	BDL	0.01	APHA:-23 rd Ed.
14	Zinc (Zn)	mg/L	BDL	5.0	APHA:-23 rd Ed.
15	Nickel (Ni)	mg/L	BDL	1.0	APHA:-23 rd Ed.

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-051225-18	05/12/2025

Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 27/11/2025
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Inside GGSR)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 28/11/2025 To 05/12/2025

Sr.No.	Parameter	Unit	Result	Permissible Limits	Protocol
16	Ammonia (N)	mg/L	7.10	15.0	APHA:-23 rd Ed.
17	Cyanide (CN)	mg/L	BDL	0.20	APHA:-23 rd Ed.
18	Total Chromium	mg/L	BDL	2.0	APHA:-23 rd Ed.
19	Vanadium (V)	mg/L	BDL	0.2	APHA:-23 rd Ed.
20	Benzene	mg/L	BDL	0.1	USEPA:-8260:-C
21	Benzo(a)-Pyrene	mg/L	BDL	0.2	USEPA:-8260:-C

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-051225-19	05/12/2025

Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 27/11/2025
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Inside GGSR)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 28/11/2025 To 05/12/2025

Sr. No.	Parameters	Unit	Test Result	Protocol
1	Bioassay Toxic Test	%	90% Survival of fish after 96 hours in 100% effluent	IS:-6582

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TEST REPORT

Test Report of Waste Water	Report Code	Date of Issue
	WW-070126-12	07/01/2026

ISSUED TO:-M/s HPCL-Mittal Energy Limited,Village:-Phullokhari, Taluka:-
Talwandi Saboo, District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On	: 15/12/2025
Sample Collected By	: Laboratory
Sample Description	: Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail	: 2.0 lts
Weather Conditions	: Normal
Analysis Duration	: 18/12/2025 To 30/12/2025

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH	---	7.55	6.0-8.5	IS:-3025 (P:-11)
2	Total Suspended Solids (TSS)	mg/L	14.9	20.0	APHA:-23 rd Ed.
3	Chemical Oxygen Demand (COD)	mg/L	66.7	125.0	APHA:-23 rd Ed.
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	BDL	15.0	IS:-3025 (P:-44)
5	Oil & Grease (O&G)	mg/L	3.95	5.0	APHA:-23 rd Ed.
6	Phenolic Compounds(C ₆ H ₅ OH)	mg/L	0.18	0.35	APHA:-5530:-C
7	Sulphide (S)	mg/L	0.2	0.5	APHA:-23 rd Ed.
8	Total Kjeldahl Nitrogen (NH ₃)	mg/L	0.60	40	APHA:-23 rd Ed.
9	Phosphate	mg/L	1.25	3.0	APHA:-23 rd Ed.
10	Chromium Hexavalent (Cr ⁶)	mg/L	BDL	0.1	APHA:-23 rd Ed.
11	Copper (Cu)	mg/L	BDL	1.0	APHA:-23 rd Ed.
12	Lead (Pb)	mg/L	BDL	0.1	APHA:-23 rd Ed.
13	Mercury (Hg)	mg/L	BDL	0.01	APHA:-23 rd Ed.
14	Zinc (Zn)	mg/L	BDL	5.0	APHA:-23 rd Ed.
15	Nickel (Ni)	mg/L	BDL	1.0	APHA:-23 rd Ed.

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-070126-13	07/01/2026

ISSUED TO:-M/s HPCL-Mittal Energy Limited,Village:-Phullokhari, Taluka:-
Tatwandi Saboo, District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On	:	15/12/2025
Sample Collected By	:	Laboratory
Sample Description	:	Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail	:	2.0 lts
Weather Conditions	:	Normal
Analysis Duration	:	18/12/2025 To 30/12/2025

Sr.No.	Parameter	Unit	Result	Permissible Limits	Protocol
16	Ammonia (N)	mg/L	7.20	15.0	APHA:-23 rd Ed.
17	Cyanide (CN)	mg/L	BDL	0.20	APHA:-23 rd Ed.
18	Total Chromium	mg/L	BDL	2.0	APHA:-23 rd Ed.
19	Vanadium (V)	mg/L	BDL	0.2	APHA:-23 rd Ed.
20	Benzene	mg/L	BDL	0.1	USEPA:-8260:-C
21	Benzo(a)-Pyrene	mg/L	BDL	0.2	USEPA:-8260:-C

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-070126-14	07/01/2026

ISSUED TO:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-
Talwandi Saboo, District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 15/12/2025
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 18/12/2025 To 30/12/2025

Sr. No.	Parameters	Unit	Test Result	Protocol
1	Bioassay Toxic Test	%	95 % Survival of fish 96 hours in 100% effluent	IS:-6582

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-070126-17	07/01/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 15/12/2025
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, inside GGSR)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 18/12/2025 To 30/12/2025

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH	---	7.46	6.0-8.5	IS:-3025 (P:-11)
2	Total Suspended Solids (TSS)	mg/L	15.02	20.0	APHA:-23 rd Ed.
3	Chemical Oxygen Demand (COD)	mg/L	57.8	125.0	APHA:-23 rd Ed.
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	BDL	15.0	IS:-3025 (P:-44)
5	Oil & Grease (O&G)	mg/L	1.09	5.0	APHA:-23 rd Ed.
6	Phenolic Compounds(C ₆ H ₅ OH)	mg/L	0.20	0.35	APHA:-5530:-C
7	Sulphide (S)	mg/L	0.2	0.5	APHA:-23 rd Ed.
8	Total Kjeldahl Nitrogen (NH ₃)	mg/L	0.37	40	APHA:-23 rd Ed.
9	Phosphate	mg/L	1.19	3.0	APHA:-23 rd Ed.
10	Chromium Hexavalent (Cr ⁶)	mg/L	BDL	0.1	APHA:-23 rd Ed.
11	Copper (Cu)	mg/L	BDL	1.0	APHA:-23 rd Ed.
12	Lead (Pb)	mg/L	BDL	0.1	APHA:-23 rd Ed.
13	Mercury (Hg)	mg/L	BDL	0.01	APHA:-23 rd Ed.
14	Zinc (Zn)	mg/L	BDL	5.0	APHA:-23 rd Ed.
15	Nickel (Ni)	mg/L	BDL	1.0	APHA:-23 rd Ed.

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Waste Water	WW-070126-18	07/01/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 15/12/2025
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Inside GGSR)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 18/12/2025 To 30/12/2025

Sr.No.	Parameter	Unit	Result	Permissible Limits	Protocol
16	Ammonia (N)	mg/L	7.10	15.0	APHA:-23 rd Ed.
17	Cyanide (CN)	mg/L	BDL	0.20	APHA:-23 rd Ed.
18	Total Chromium	mg/L	BDL	2.0	APHA:-23 rd Ed.
19	Vanadium (V)	mg/L	BDL	0.2	APHA:-23 rd Ed.
20	Benzene	mg/L	BDL	0.1	USEPA:-8260:-C
21	Benzo(a)-Pyrene	mg/L	BDL	0.2	USEPA:-8260:-C

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-070126-19	07/01/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 15/12/2025
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Inside GSR)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 18/12/2025 To 30/12/2025

Sr. No.	Parameters	Unit	Test Result	Protocol
1	Bioassay Toxic Test	%	90% Survival of fish after 96 hours in 100% effluent	IS:-6582

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Waste Water	WW-090226-18	09/02/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Tatwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 22/01/2026
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Inside GGSR)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 27/01/2026 To 09/02/2026

Sr.No.	Parameter	Unit	Result	Permissible Limits	Protocol
16	Ammonia (N)	mg/L	7.10	15.0	APHA:-23 rd Ed.
17	Cyanide (CN)	mg/L	BDL	0.20	APHA:-23 rd Ed.
18	Total Chromium	mg/L	BDL	2.0	APHA:-23 rd Ed.
19	Vanadium (V)	mg/L	BDL	0.2	APHA:-23 rd Ed.
20	Benzene	mg/L	BDL	0.1	USEPA:-8260:-C
21	Benzo(a)-Pyrene	mg/L	BDL	0.2	USEPA:-8260:-C

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-090226-19	09/02/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 22/01/2026
 Sample Collected By : Laboratory
 Sample Description : Waste Water (ETP Outlet, Inside GGSR)
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 27/01/2026 To 09/02/2026

Sr. No.	Parameters	Unit	Test Result	Protocol
1	Bioassay Toxic Test	%	93% Survival of fish after 96 hours in 100% effluent	IS:-6582

*****End of Report*****

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Waste Water	WW-090226-17	09/02/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 22/01/2026
 Sample Collected By : Laboratory
 Sample Description : Waste Water (ETP Outlet, Inside GGSR)
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 27/01/2026 To 09/02/2026

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH	...	7.46	6.0-8.5	IS:-3025 (P:-11)
2	Total Suspended Solids (TSS)	mg/L	15.02	20.0	APHA:-23 rd Ed.
3	Chemical Oxygen Demand (COD)	mg/L	57.8	125.0	APHA:-23 rd Ed.
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	BDL	15.0	IS:-3025 (P:-44)
5	Oil & Grease (O&G)	mg/L	1.09	5.0	APHA:-23 rd Ed.
6	Phenolic Compounds(C ₆ H ₅ OH)	mg/L	0.20	0.35	APHA:-5530:-C
7	Sulphide (S)	mg/L	0.2	0.5	APHA:-23 rd Ed.
8	Total Kjeldahl Nitrogen (NH ₃)	mg/L	0.37	40	APHA:-23 rd Ed.
9	Phosphate	mg/L	1.19	3.0	APHA:-23 rd Ed.
10	Chromium Hexavalent (Cr ⁶)	mg/L	BDL	0.1	APHA:-23 rd Ed.
11	Copper (Cu)	mg/L	BDL	1.0	APHA:-23 rd Ed.
12	Lead (Pb)	mg/L	BDL	0.1	APHA:-23 rd Ed.
13	Mercury (Hg)	mg/L	BDL	0.01	APHA:-23 rd Ed.
14	Zinc (Zn)	mg/L	BDL	5.0	APHA:-23 rd Ed.
15	Nickel (Ni)	mg/L	BDL	1.0	APHA:-23 rd Ed.

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-090226-12	09/02/2026

ISSUED TO:-M/s HPCL-Mittal Energy Limited,Village:-Phullokhari, Taluka:-
Talwandi Saboo, District:-Bhafinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On	: 22/01/2026
Sample Collected By	: Laboratory
Sample Description	: Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail	: 2.0 lts
Weather Conditions	: Normal
Analysis Duration	: 27/01/2026 To 09/02/2026

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH	---	7.47	6.0-8.5	IS:-3025 (P:-11)
2	Total Suspended Solids (TSS)	mg/L	15.2	20.0	APHA:-23 rd Ed.
3	Chemical Oxygen Demand (COD)	mg/L	64.5	125.0	APHA:-23 rd Ed.
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	BDL	15.0	IS:-3025 (P:-44)
5	Oil & Grease (O&G)	mg/L	4.1	5.0	APHA:-23 rd Ed.
6	Phenolic Compounds(C6H5OH)	mg/L	0.16	0.35	APHA:-5530:-C
7	Sulphide (S)	mg/L	0.19	0.5	APHA:-23 rd Ed.
8	Total Kjeldahl Nitrogen (NH3)	mg/L	0.57	40	APHA:-23 rd Ed.
9	Phosphate	mg/L	1.18	3.0	APHA:-23 rd Ed.
10	Chromium Hexavalent (Cr:6)	mg/L	BDL	0.1	APHA:-23 rd Ed.
11	Copper (Cu)	mg/L	BDL	1.0	APHA:-23 rd Ed.
12	Lead (Pb)	mg/L	BDL	0.1	APHA:-23 rd Ed.
13	Mercury (Hg)	mg/L	BDL	0.01	APHA:-23 rd Ed.
14	Zinc (Zn)	mg/L	BDL	5.0	APHA:-23 rd Ed.
15	Nickel (Ni)	mg/L	BDL	1.0	APHA:-23 rd Ed.

*** End of Report***

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Waste Water	WW-090226-13	09/02/2026

**ISSUED TO:-M/s HPCL-Mittal Energy Limited,Village:-Phullokhari, Taluka:-
Talwandi Saboo, District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 22/01/2026
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 27/01/2026 To 09/02/2026

Sr.No.	Parameter	Unit	Result	Permissible Limits	Protocol
16	Ammonia (N)	mg/L	7.20	14.5	APHA:-23 rd Ed.
17	Cyanide (CN)	mg/L	BDL	0.19	APHA:-23 rd Ed.
18	Total Chromium	mg/L	BDL	1.8	APHA:-23 rd Ed.
19	Vanadium (V)	mg/L	BDL	0.21	APHA:-23 rd Ed.
20	Benzene	mg/L	BDL	0.15	USEPA:-8260:-C
21	Benzo(a)-Pyrene	mg/L	BDL	0.17	USEPA:-8260:-C

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TEST REPORT

Test Report of Waste Water	Report Code WW-090226-14	Date of Issue 09/02/2026
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ISSUED TO:-M/s HPCL-Mittal Energy Limited,Village:-Phullokhari, Taluka:-
Talwandi Saboo, District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 22/01/2026
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 27/01/2026 To 09/02/2026

Sr. No.	Parameters	Unit	Test Result	Protocol
1	Bioassay Toxic Test	%	90 % Survival of fish 96 hours in 100% effluent	IS:-6582

End of Report

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TEST REPORT

Test Report of Waste Water	Report Code WW-060326-19	Date of Issue 06/03/2026
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**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 25/02/2026
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Inside GCSR)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 27/02/2026 To 06/03/2026

Sr. No.	Parameters	Unit	Test Result	Protocol
1	Bioassay Toxic Test	%	90% Survival of fish after 96 hours in 100% effluent	IS:-6582

*****End of Report*****

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Waste Water	WW-060326-18	06/03/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phulokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 25/02/2026
Sample Collected By : Laboratory
Sample Description : **Waste Water (ETP Outlet, Inside GGSR)**
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 27/02/2026 To 06/03/2026

Sr.No.	Parameter	Unit	Result	Permissible Limits	Protocol
16	Ammonia (N)	mg/L	6.70	15.0	APHA:-23 rd Ed.
17	Cyanide (CN)	mg/L	BDL	0.20	APHA:-23 rd Ed.
18	Total Chromium	mg/L	BDL	2.0	APHA:-23 rd Ed.
19	Vanadium (V)	mg/L	BDL	0.2	APHA:-23 rd Ed.
20	Benzene	mg/L	BDL	0.1	USEPA:-8260:-C
21	Benzo(a)-Pyrene	mg/L	BDL	0.2	USEPA:-8260:-C

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Waste Water	WW-060326-17	06/03/2026

**Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 25/02/2026
 Sample Collected By : Laboratory
 Sample Description : Waste Water (ETP Outlet, Inside GGSB)
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 27/02/2026 To 06/03/2026

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH	...	7.34	6.0-8.5	IS:-3025 (P:-11)
2	Total Suspended Solids (TSS)	mg/L	10.8	20.0	APHA:-23 rd Ed.
3	Chemical Oxygen Demand (COD)	mg/L	58.4	125.0	APHA:-23 rd Ed.
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	BDL	15.0	IS:-3025 (P:-44)
5	Oil & Grease (O&G)	mg/L	1.2	5.0	APHA:-23 rd Ed.
6	Phenolic Compounds(C ₆ H ₅ OH)	mg/L	0.17	0.35	APHA:-5530:-C
7	Sulphide (S)	mg/L	0.2	0.5	APHA:-23 rd Ed.
8	Total Kjeldahl Nitrogen (NH ₃)	mg/L	0.49	40	APHA:-23 rd Ed.
9	Phosphate	mg/L	1.27	3.0	APHA:-23 rd Ed.
10	Chromium Hexavalent (Cr ⁶)	mg/L	BDL	0.1	APHA:-23 rd Ed.
11	Copper (Cu)	mg/L	BDL	1.0	APHA:-23 rd Ed.
12	Lead (Pb)	mg/L	BDL	0.1	APHA:-23 rd Ed.
13	Mercury (Hg)	mg/L	BDL	0.01	APHA:-23 rd Ed.
14	Zinc (Zn)	mg/L	BDL	5.0	APHA:-23 rd Ed.
15	Nickel (Ni)	mg/L	BDL	1.0	APHA:-23 rd Ed.

End of Report

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-060326-12	06/03/2026

**ISSUED TO:-M/s HPCL-Mittal Energy Limited,Village:-Phullokhari, Taluka:-
Talwandi Saboo, District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On	: 24/02/2026
Sample Collected By	: Laboratory
Sample Description	: Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail	: 2.0 lts
Weather Conditions	: Normal
Analysis Duration	: 27/02/2026 To 06/03/2026

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH	---	7.50	6.0-8.5	IS:-3025 (P:-11)
2	Total Suspended Solids (TSS)	mg/L	13.5	20.0	APHA:-23 rd Ed.
3	Chemical Oxygen Demand (COD)	mg/L	64.8	125.0	APHA:-23 rd Ed.
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	BDL	15.0	IS:-3025 (P:-44)
5	Oil & Grease (O&G)	mg/L	3.50	5.0	APHA:-23 rd Ed.
6	Phenolic Compounds(C6H5OH)	mg/L	0.22	0.35	APHA:-5530-C
7	Sulphide (S)	mg/L	0.1	0.5	APHA:-23 rd Ed.
8	Total Kjeldahl Nitrogen (NH3)	mg/L	0.50	40	APHA:-23 rd Ed.
9	Phosphate	mg/L	1.15	3.0	APHA:-23 rd Ed.
10	Chromium Hexavalent (Cr ⁶⁺)	mg/L	BDL	0.1	APHA:-23 rd Ed.
11	Copper (Cu)	mg/L	BDL	1.0	APHA:-23 rd Ed.
12	Lead (Pb)	mg/L	BDL	0.1	APHA:-23 rd Ed.
13	Mercury (Hg)	mg/L	BDL	0.01	APHA:-23 rd Ed.
14	Zinc (Zn)	mg/L	BDL	5.0	APHA:-23 rd Ed.
15	Nickel (Ni)	mg/L	BDL	1.0	APHA:-23 rd Ed.

End of Report

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TEST REPORT

Test Report of Waste Water	Report Code WW-060326-13	Date of Issue 06/03/2026
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ISSUED TO:-M/s HPCL-Mittal Energy Limited,Village:-Phullokhari, Taluka:-
Talwandi Saboo, District:-Bhatinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On	: 24/02/2026
Sample Collected By	: Laboratory
Sample Description	: Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail	: 2.0 lts
Weather Conditions	: Normal
Analysis Duration	: 27/02/2026 To 06/03/2026

Sr.No.	Parameter	Unit	Result	Permissible Limits	Protocol
16	Ammonia (N)	mg/L	7.40	15.0	APHA:-23 rd Ed.
17	Cyanide (CN)	mg/L	BDL	0.20	APHA:-23 rd Ed.
18	Total Chromium	mg/L	BDL	2.0	APHA:-23 rd Ed.
19	Vanadium (V)	mg/L	BDL	0.2	APHA:-23 rd Ed.
20	Benzene	mg/L	BDL	0.1	USEPA:-8260:-C
21	Benzo(a)-Pyrene	mg/L	BDL	0.2	USEPA:-8260:-C

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Waste Water	WW-060326-14	06/03/2026

**ISSUED TO:-M/s HPCL-Mittal Energy Limited,Village:-Phullokhari, Taluka:-
Talwandi Saboo, District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On	: 24/02/2026
Sample Collected By	: Laboratory
Sample Description	: Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail	: 2.0 lts
Weather Conditions	: Normal
Analysis Duration	: 27/02/2026 To 06/03/2026

Sr. No.	Parameters	Unit	Test Result	Protocol
1	Bioassay Toxic Test	%	95 % Survival of fish 96 hours in 100% effluent	IS:-6582

End of Report

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Waste Water	WW-070426-12	07/04/2026

**ISSUED TO:-M/s HPCL-Mittal Energy Limited,Village:-Phulokhari, Taluka:-
Talwandi Saboo, District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 18/03/2026
 Sample Collected By : Laboratory
 Sample Description : Waste Water (ETP Outlet, Petrochemical Plant)
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 21/03/2026 To 07/04/2026

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
1	pH	...	7.35	6.0-8.5	IS:-3025 (P:-11)
2	Total Suspended Solids (TSS)	mg/L	11.5	20.0	APHA:-23 rd Ed.
3	Chemical Oxygen Demand (COD)	mg/L	62.2	125.0	APHA:-23 rd Ed.
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	BDL	15.0	IS:-3025 (P:-44)
5	Oil & Grease (O&G)	mg/L	2.95	5.0	APHA:-23 rd Ed.
6	Phenolic Compounds(C6H5OH)	mg/L	0.17	0.35	APHA:-5530:-C
7	Sulphide (S)	mg/L	0.2	0.5	APHA:-23 rd Ed.
8	Total Kjeldahl Nitrogen (NH3)	mg/L	0.65	40	APHA:-23 rd Ed.
9	Phosphate	mg/L	1.25	3.0	APHA:-23 rd Ed.
10	Chromium Hexavalent (Cr ⁶)	mg/L	BDL	0.1	APHA:-23 rd Ed.
11	Copper (Cu)	mg/L	BDL	1.0	APHA:-23 rd Ed.
12	Lead (Pb)	mg/L	BDL	0.1	APHA:-23 rd Ed.
13	Mercury (Hg)	mg/L	BDL	0.01	APHA:-23 rd Ed.
14	Zinc (Zn)	mg/L	BDL	5.0	APHA:-23 rd Ed.
15	Nickel (Ni)	mg/L	BDL	1.0	APHA:-23 rd Ed.

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**TEST REPORT**

Test Report of Waste Water	Report Code WW-070426-13	Date of Issue 07/04/2026
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**ISSUED TO:-M/s HPCL-Mittal Energy Limited,Village:-Phullokhari, Taluka:-
Talwandi Saboo, District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 18/03/2026
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 21/03/2026 To 07/04/2026

Sr.No.	Parameter	Unit	Result	Permissible Limits	Protocol
16	Ammonia (N)	mg/L	7.55	15.0	APHA:-23 rd Ed.
17	Cyanide (CN)	mg/L	BDL	0.20	APHA:-23 rd Ed.
18	Total Chromium	mg/L	BDL	2.0	APHA:-23 rd Ed.
19	Vanadium (V)	mg/L	BDL	0.2	APHA:-23 rd Ed.
20	Benzene	mg/L	BDL	0.1	USEPA:-8260:-C
21	Benzo(a)-Pyreen	mg/L	BDL	0.2	USEPA:-8260:-C

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Waste Water	WW-070426-14	07/04/2026

**ISSUED TO:-M/s HPCL-Mittal Energy Limited,Village:-Phullokhari, Taluka:-
Talwandi Saboo, District:-Bhatinda (Punjab) India**

SAMPLING & ANALYSIS DATA

Sample Collected On : 18/03/2026
Sample Collected By : Laboratory
Sample Description : Waste Water (ETP Outlet, Petrochemical Plant)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 21/03/2026 To 07/04/2026

Sr. No.	Parameters	Unit	Test Result	Protocol
1	Bioassay Toxic Test	%	93 % Survival of fish 96 hours in 100% effluent	IS:-6582

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-070426-20	07/04/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 18/03/2026
Sample Collected By : Laboratory
Sample Description : Waste Water (STP Outlet, Inside GGSR)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 18/03/2026 To 07/04/2026

Sr. No.	Parameters	Unit	Test Results	Standar ds	Protocol
1	pH	-	7.51	6.5 to 9.0	APHA:-23 rd Ed.
2	Temperature	°C	26.8	-	APHA:-23 rd Ed.
3	TSS	mg/l	6.1	≤10mg/l	APHA:-23 rd Ed.
4	COD	mg/l	26.1	≤50mg/l	APHA:-23 rd Ed.
5	BOD	mg/l	6.08	≤10mg/l	IS:-3025 (P:-44)
6	O & G	mg/l	BDL	≤5mg/l	APHA:-23 rd Ed.
7	Ammonical Nitrogen as N ^o	mg/l	3.7	≤5mg/l	APHA:-23 rd Ed.
8	PO4-P ^o	mg/l	0.22	≤2mg/l	APHA:-23 rd Ed.
9	N-total*	mg/l	4.12	≤10mg/l	APHA:-23 rd Ed.

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Waste Water	WW-060326	06/03/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo, District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 25/02/2026
Sample Collected By : Laboratory
Sample Description : Waste Water (STP Outlet, Inside GGSR)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 27/02/2026 To 06/03/2026

Sr. No.	Parameters	Unit	Test Results	Standards	Protocol
1	pH	-	7.44	6.5 to 9.0	APHA:-23 rd Ed.
2	Temperature	°C	26.1	-	APHA:-23 rd Ed.
3	TSS	mg/l	5.6	≤10mg/l	APHA:-23 rd Ed.
4	COD	mg/l	24.2	≤50mg/l	APHA:-23 rd Ed.
5	BOD	mg/l	5.24	≤10mg/l	IS:-3025 (P:-44)
6	O & G	mg/l	BDL	≤5mg/l	APHA:-23 rd Ed.
7	Ammonical Nitrogen as N*	mg/l	4.21	≤5mg/l	APHA:-23 rd Ed.
8	PO4-P*	mg/l	0.24	≤2mg/l	APHA:-23 rd Ed.
9	N-total*	mg/l	4.21	≤10mg/l	APHA:-23 rd Ed.

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-090226-20	09/02/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 22/01/2026
 Sample Collected By : Laboratory
 Sample Description : Waste Water (STP Outlet, Inside GGSR)
 Sample Quantity/Packing detail : 2.0 lts
 Weather Conditions : Normal
 Analysis Duration : 27/01/2026 To 09/02/2026

Sr. No.	Parameters	Unit	Test Results	Standards	Protocol
1	pH	-	7.38	6.5 to 9.0	APHA:-23 rd Ed.
2	Temperature	°C	26.1	-	APHA:-23 rd Ed.
3	TSS	mg/l	4.7	≤10mg/l	APHA:-23 rd Ed.
4	COD	mg/l	25.5	≤50mg/l	APHA:-23 rd Ed.
5	BOD	mg/l	8.07	≤10mg/l	IS:-3025 (P:-44)
6	O & G	mg/l	BDL	≤5mg/l	APHA:-23 rd Ed.
7	Ammonical Nitrogen as N*	mg/l	4.6	≤5mg/l	APHA:-23 rd Ed.
8	PO4-P*	mg/l	0.18	≤2mg/l	APHA:-23 rd Ed.
9	N-total*	mg/l	4.15	≤10mg/l	APHA:-23 rd Ed.

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TEST REPORT

Test Report of	Report Code	Date of Issue
Waste Water	WW-070126-20	07/01/2026

Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 15/12/2025
Sample Collected By : Laboratory
Sample Description : Waste Water (STP Outlet, Inside GGSR)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 18/12/2025 To 30/12/2025

Sr. No.	Parameters	Unit	Test Results	Standards	Protocol
1	pH	-	7.38	6.5 to 9.0	APHA:-23 rd Ed.
2	Temperature	°C	26.1	-	APHA:-23 rd Ed.
3	TSS	mg/l	4.7	≤10mg/l	APHA:-23 rd Ed.
4	COD	mg/l	25.5	≤50mg/l	APHA:-23 rd Ed.
5	BOD	mg/l	8.07	≤10mg/l	IS:-3025 (P:-44)
6	O & G	mg/l	BDL	≤5mg/l	APHA:-23 rd Ed.
7	Ammonical Nitrogen as N*	mg/l	4.2	≤5mg/l	APHA:-23 rd Ed.
8	PO4-P*	mg/l	0.18	≤2mg/l	APHA:-23 rd Ed.
9	N-total*	mg/l	4.15	≤10mg/l	APHA:-23 rd Ed.

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**TEST REPORT**

Test Report of	Report Code	Date of Issue
Waste Water	WW-051225-20	05/12/2025

Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 27/11/2025
Sample Collected By : Laboratory
Sample Description : Waste Water (STP Outlet, Inside GGSR)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 28/11/2025 To 05/12/2025

Sr. No.	Parameters	Unit	Test Results	Standards	Protocol
1	pH	-	7.40	6.5 to 9.0	APHA:-23 rd Ed.
2	Temperature	°C	25.1	-	APHA:-23 rd Ed.
3	TSS	mg/l	5.9	≤10mg/l	APHA:-23 rd Ed.
4	COD	mg/l	24.2	≤50mg/l	APHA:-23 rd Ed.
5	BOD	mg/l	7.5	≤10mg/l	IS:-3025 (P:-44)
6	O & G	mg/l	BDL	≤5mg/l	APHA:-23 rd Ed.
7	Ammonical Nitrogen as N*	mg/l	3.65	≤5mg/l	APHA:-23 rd Ed.
8	PO4-P*	mg/l	0.22	≤2mg/l	APHA:-23 rd Ed.
9	N-total*	mg/l	5.10	≤10mg/l	APHA:-23 rd Ed.

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**TEST REPORT**

Test Report of Waste Water	Report Code WW-061125-20	Date of Issue 06/11/2025
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Issued To:-M/s HPCL-Mittal Energy Limited, Village:-Phullokhari, Taluka:-Talwandi Saboo,
District:-Bathinda (Punjab) India

SAMPLING & ANALYSIS DATA

Sample Collected On : 28/10/2025
Sample Collected By : Laboratory
Sample Description : Waste Water (STP Outlet, Inside GGSR)
Sample Quantity/Packing detail : 2.0 lts
Weather Conditions : Normal
Analysis Duration : 30/10/2025 To 06/11/2025

Sr. No.	Parameters	Unit	Test Results	Standards	Protocol
1	pH	-	7.50	6.5 to 9.0	APHA:-23 rd Ed.
2	Temperature	°C	28.50	-	APHA:-23 rd Ed.
3	TSS	mg/l	6.3	≤10mg/l	APHA:-23 rd Ed.
4	COD	mg/l	25.7	≤50mg/l	APHA:-23 rd Ed.
5	BOD	mg/l	8.1	≤10mg/l	IS:-3025 (P:-44)
6	O & G	mg/l	BDL	≤5mg/l	APHA:-23 rd Ed.
7	Ammonical Nitrogen as N*	mg/l	4.01	≤5mg/l	APHA:-23 rd Ed.
8	PO ₄ -P**	mg/l	0.26	≤2mg/l	APHA:-23 rd Ed.
9	N-total*	mg/l	4.51	≤10mg/l	APHA:-23 rd Ed.


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ANNEXURE-VII

Duration=1 st Oct 25 to 31 st Mar 26					
Station= ETP (Refinery)					
October					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	17.07	37.84	27.26	125
2	BOD	2.5	4.88	3.69	15
3	TSS	1.63	9.77	4.60	20
4	PH	6.97	8.27	7.95	6-8.5
5	FLOW	222	297	263.5	N/A
November					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	15.22	42.4	28.10	125
2	BOD	2.31	5.52	3.82	15
3	TSS	2.37	9.25	4.82	20
4	PH	6.91	8.2	7.79	6-8.5
5	FLOW	121.8	296.4	123.76	N/A
December					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	28.79	52.36	42.86	125
2	BOD	4.05	6.5	5.8	15
3	TSS	2.26	10.97	4.9	20
4	PH	7.15	7.59	7.36	6-8.5
5	FLOW	0	264	75.15	N/A
January					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	7.8	26.03	18.77	125
2	BOD	0.78	3.92	3.0	15
3	TSS	2.14	10.46	18.88	20
4	PH	6.77	7.78	7.26	6-8.5
5	FLOW	202	324	274	N/A
February					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	2.55	34.82	20.34	125
2	BOD	1.04	4.68	3.0	15
3	TSS	0.59	11.9	4.9	20
4	PH	6.93	7.67	7.36	6-8.5
5	FLOW	235	318	282	N/A
March					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	16.64	37.02	25.19	125
2	BOD	2.45	4.92	3.4	15
3	TSS	1.89	9.8	5	20
4	PH	7.48	8.11	7.82	6-8.5
5	FLOW	214	291.1	249.8	N/A

Duration=1 st Oct 25 to 31 st Mar 26					
Station= ETP (Refinery)					
October					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	17.07	37.84	27.26	125
2	BOD	2.5	4.88	3.69	15
3	TSS	1.63	9.77	4.60	20
4	PH	6.97	8.27	7.95	6-8.5
5	FLOW	222	297	263.5	N/A
November					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	15.22	42.4	28.10	125
2	BOD	2.31	5.52	3.82	15
3	TSS	2.37	9.25	4.82	20
4	PH	6.91	8.2	7.79	6-8.5
5	FLOW	121.8	296.4	123.76	N/A
December					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	28.79	52.36	42.86	125
2	BOD	4.05	6.5	5.8	15
3	TSS	2.26	10.97	4.9	20
4	PH	7.15	7.59	7.36	6-8.5
5	FLOW	0	264	75.15	N/A
January					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	7.8	26.03	18.77	125
2	BOD	0.78	3.92	3.0	15
3	TSS	2.14	10.46	18.88	20
4	PH	6.77	7.78	7.26	6-8.5
5	FLOW	202	324	274	N/A
February					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	2.55	34.82	20.34	125
2	BOD	1.04	4.68	3.0	15
3	TSS	0.59	11.9	4.9	20
4	PH	6.93	7.67	7.36	6-8.5
5	FLOW	235	318	282	N/A
March					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	16.64	37.02	25.19	125
2	BOD	2.45	4.92	3.4	15
3	TSS	1.89	9.8	5	20
4	PH	7.48	8.11	7.82	6-8.5
5	FLOW	214	291.1	249.8	N/A







Duration=1 st Oct 25 to 31 st Mar 26					
Station= ETP_2 (GGSPAP)					
October					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	27.22	41.10	35.10	125
2	BOD	4.61	7.5	5.94	15
3	TSS	0.01	0.35	0.12	20
4	PH	6.46	7.49	6.81	6-8.5
5	FLOW	63	147	106.50	N/A
November					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	29.69	39.71	34.75	125
2	BOD	5.03	6.73	5.88	15
3	TSS	0.02	0.4	0.14	20
4	PH	6.35	7.29	6.77	6-8.5
5	FLOW	60	141.6	103.36	N/A
December					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	35.06	43.01	38.75	125
2	BOD	5.94	7.29	6.57	15
3	TSS	0.3	0.62	0.31	20
4	PH	6.7	7.09	6.84	6-8.5
5	FLOW	43.8	122.4	101.9	N/A
January					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	33.9	42.8	32.7	125
2	BOD	4.98	6.98	6.3	15
3	TSS	0.15	1.2	0.67	20
4	PH	6.6	7.9	7.4	6-8.5
5	FLOW	45.2	117.9	103.2	N/A
February					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	23.85	41.18	31.43	125
2	BOD	5.74	12.4	7.55	15
3	TSS	0.12	1.8	0.98	20
4	PH	7.4	7.56	7.3	6-8.5
5	FLOW	51	109.8	89.65	N/A
March					
SR.no	Parameter	Minimum	Maximum	Average	CPCB Std.
1	COD	29.2	44.1	30.41	125
2	BOD	4.2	9.2	4.70	15
3	TSS	0.05	2.39	0.13	20
4	PH	6.02	8.26	6.63	6-8.5
5	FLOW	56	130.2	89.9	N/A

ANNEXURE-VIII

**Activities undertaken for improving socio-economic conditions in the surrounding areas
from Oct'25 to Mar'2026**

CSR Pillars	Beneficiaries	Remarks
Community Healthcare & Hygiene	24211	Medical Camps; Promoting Sports among youth; Road cleaning and Housekeeping; Support of Fitness Equipment's; Support to Drug de addiction Centre and Bal Bhawan; Fogging & Spraying in vicinity villages; Humane Education Program; Support for flood relief measures in flood affected areas;
Livelihood and Sustainable Development	14785	Women Empowerment initiatives; Women Entrepreneurship Development (SHG); Animal Husbandry Camp; Skill Training program
Promoting Sport, Arts & Culture	7	Phulkari the Traditional Art (Embroidery); Sports promotion initiative
Total	39003	

Photographs of activities undertaken for improving socio-economic conditions in the surrounding areas from Oct'25 to Mar'2026







<p>Livelihood and Sustainable Development (Animal health checkup camp)</p>	<p>Livelihood and Sustainable Development (Women Entrepreneurship initiatives)</p>
	
<p>Community Healthcare & Hygiene (Support of Fitness Equipments)</p>	<p>Community Healthcare & Hygiene (Medical Camp)</p>
	
<p>Livelihood and Sustainable Development (Skill Training Program)</p>	<p>Promoting Sport, Arts & Culture (Phulkari Traditional Art Embroidery)</p>
	

ANNEXURE-IX

Activities undertaken for community welfare including eco-developmental measures in the surrounding areas from Oct'25 to Mar'2026

CSR Pillars	Beneficiaries	Remarks
Education Development	16719	Distribution of School Bags & Stationery items in Government schools; Support for Coaching classes for higher studies in Engineering; Scholarship & Other support to Meritorious students for 10th & 12th class students; School infrastructure Development work; Sports and Drawing Competition for Govt. Schools; Distribution of school uniforms in Government schools; Support to Red Cross society for providing education to special abled children; Infrastructure support to Education institutions;
Community infrastructure and Environment	73138	Community level rural development work; Tree Guards & Concrete Benches; Support to community Institutions; Construction of Sewerage System; Winter Relief support through Red Cross Society; Support for Heath infrastructure development; Sports Infrastructure development; Renovation of Pond & Water Works in vicinity villages;
Total	89587	

Photographs of activities undertaken for community welfare including eco-developmental measures

<p align="center">Education Development (Bicycle for Girls Students)</p>	<p align="center">Education Development (School Bag & Stationery distribution)</p>
	
<p align="center">Education Development (Support for Coaching classes for higher studies in Engineering)</p>	<p align="center">Education Development (Scholarship Distribution)</p>
	
<p align="center">Community infrastructure and Environment (Supply of Concrete Benches)</p>	<p align="center">Community infrastructure and Environment (Renovation of Pond)</p>
	

ANNEXURE-X



PUNJAB POLLUTION CONTROL BOARD
Zonal Office, Bathinda at Firozpur Road, Near Grain Market, Faridkot.
Website:- www.ppcb.gov.in



Office Dispatch No :
OCMMS/CTO(Air)/2026/000912

Registered/Speed Post

Date:

Industry Registration ID: R12BT144706

Application No : 28057490

To,

Sanket Thapar
Hpcl-mittal Energy Limited, guru Gobind Singh Refinery Project, village Phullokari, taluka Talwandi Saboo,
District Bathinda.
Bathinda, Bathinda-151301

Subject: Extension in the validity of consent to operate u/s 21 of Air (Prevention & Control of Pollution) Act, 1981 for discharge of emissions arising out of premises.

1. Particulars of Consent to Operate under Air Act, 1981 granted to the industry

Consent to Operate Certificate No.	CTOA/Renewal/BTI/2026/28057490
Date of issue :	03/02/2026
Date of expiry :	02/08/2026
Certificate Type :	Renewal
Previous CTO No. & Validity :	CTOA/Renewal/BTI/2025/28045566 From: 21/03/2025 To: 30/09/2025

2. Particulars of the Industry

Name & Designation of the Applicant	Sanket Thapar, (Deputy General Manager)
Address of Industrial premises	Hpcl-mittal Energy Limited (guru Gobind Singh Refinery), Village Phullokari, taluka Talwandi Saboo, Talwandi Saboo, Bathinda-151301
Capital Investment of the Industry	4245260.0 lakhs
Category of Industry	Red
Type of Industry	Oil Refinery
Scale of the Industry	Large
Office District	Bathinda


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Hpcl-mittal Energy Limited (guru Gobind Singh Refinery), Village Phullokari, taluka Talwandi Saboo, Talwandi Saboo, Bathinda, 151301

Page 1

In continuation to the previous 'consent to operate' granted to the industry under the provisions of Air Act, 1981 vide no. CTOA/Renewal/BTI/2025/28045566 dated 21.03.2025 valid upto 30.09.2025, the consent to operate under the said Act, is hereby further extended upto 02.08.2026, subject to the same conditions as mentioned in the original consent along-with additional condition that that the industry shall comply with the decisions of personal hearing held before Chairperson of the Board on 21.01.2026, within stipulated time period.

This letter be remain appended with the consent to operate granted to the industry under the Air Act, 1981 vide no. CTOA/Renewal/BTI/2025/28045566 dated 21.03.2025 valid upto 30.09.2025.



03/02/2026

(Vicky Bansal)
Environmental Engineer

For & on behalf

of

(Punjab Pollution Control Board)


PUNJAB

Endst. No.:

Dated:

A copy of the above is forwarded to the following for information and necessary action please:

Environmental Engineer, Punjab Pollution Control Board, Regional Office, Bathinda.



03/02/2026

(Vicky Bansal)
Environmental Engineer

For & on behalf

of

(Punjab Pollution Control Board)

"This is computer generated document from OCMIS by PPCB"

Hpcl-mittal Energy Limited (Guru Gobind Singh Refinery), Village Phullokari, Taluka Talwandi Sabo, Talwandi Sabo, Bathinda, 151301

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PUNJAB POLLUTION CONTROL BOARD
Zonal Office, Bathinda at Firozpur Road, Near Grain Market, Faridkot.
Website:- www.ppcb.gov.in



Office Dispatch No :
OCMMS/CTO(Water)/2026/000753

Registered/Speed Post

Date:

Industry Registration ID:

R12BT144706

Application No :

28052089

To,

Sanket Thapar
Hpcl-mittal Energy Limited, guru Gobind Singh Refinery Project, village Phullokari, taluka Talwandi Saboo,
District Bathinda.
Bathinda, Bathinda-151301

Subject: Extension in the validity of consent to operate an outlet w/s 25/26 of Water (Prevention & Control of Pollution) Act, 1974 for discharge of effluent.

1. Particulars of Consent to Operate under Water Act, 1974 granted to the industry

Consent to Operate Certificate No.	CTOW/Renewal/BT1/2026-28052089
Date of issue :	29/01/2026
Date of expiry :	31/12/2026
Certificate Type :	Renewal
Previous CTO No. & Validity :	CTOW/Renewal/BT1/2025-28052066 From:21/03/2025 To:30/09/2025

2. Particulars of the Industry

Name & Designation of the Applicant	Sanket Thapar, (Deputy General Manager)
Address of Industrial premises	Hpcl-mittal Energy Limited (guru Gobind Singh Refinery), Village Phullokari, taluka Talwandi Saboo,, Talwandi Saboo, Bathinda-151301
Capital Investment of the Industry	4245260.0 lakhs
Category of Industry	Red
Type of Industry	Oil Refinery
Scale of the Industry	Large
Office District	Bathinda.

"This is computer generated document from OCMMS by PPCB"

Hpcl-mittal Energy Limited (guru Gobind Singh Refinery), Village Phullokari, taluka Talwandi Saboo, Talwandi Saboo, Bathinda, 151301

Page 1

In continuation to the previous 'consent to operate' granted to the industry under the provisions of Water Act, 1974 vide no. CTOW/Renewal/BTI/2025/28052066 dt. 21.03.2025, which is valid upto 30.09.2025, the consent to operate under the said Act is hereby further extended upto 31.12.2026, subject to the same conditions as mentioned in the original consent along-with the following specific conditions that:-

1. The industry shall operate the pollution control devices regularly & efficiently so as to achieve the prescribed standards.
2. The industry shall develop the plantation area as per Karnal technology and ensure uniform distribution of treated effluent in the plantation area by providing permanent pipe network.
3. The industry shall ensure that there is no contamination of process areas like sulphur manufacturing unit, pet coke manufacturing unit etc. in the open storm water channel.
4. The industry shall ensure that there is no pollution / nuisance in the vicinity due to the operation of unit.
5. The industry shall ensure that there is no ground water contamination / environment damage with the operation of unit.

This letter be remain appended with the consent to operate granted to the industry under the Water Act, 1974 vide no. CTOW/Renewal/BTI/2025/28052066 dt. 21.03.2025.



29/01/2026

(Vicky Bansal)
Environmental Engineer

For & on behalf

of

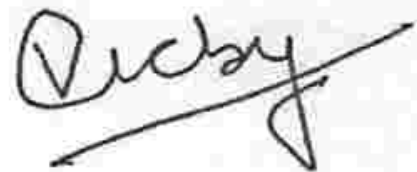
(Punjab Pollution Control Board)

Endst. No.:

Dated:

A copy of the above is forwarded to the following for information and necessary action please:

Environmental Engineer, Punjab Pollution Control Board, Regional Office, Bathinda.



29/01/2026

(Vicky Bansal)
Environmental Engineer

For & on behalf

of

(Punjab Pollution Control Board)

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Hpec-natal Energy Limited (guru Gobind Singh Refinery), Village Puthlokari, taluka Talwandi Saboo, Talwandi Saboo, Bathinda, 151301

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ANNEXURE-XI

ANNEXURE-XII

The Tribune

BATHINDA | THURSDAY | 9 AUGUST 2018

HPCL-Mittal Energy Limited (HMEL)

(A JV between HPCL and MEI Pte. Ltd.)

Village Phullokari, Taluka - Talwandi Sabo

District - Bathinda - 151301, PUNJAB

Website : www.hmel.in



PUBLIC NOTICE

HPCL-Mittal Energy Limited hereby brings to the notice of the general public that Ministry of Environment, Forest and Climate Change (MOEF&CC), New Delhi has granted Environmental Clearance for Fuel Quality Upgradation Project at Guru Gobind Singh Refinery, Village - Phullokari, Taluka - Talwandi Sabo, District - Bathinda (Punjab) vide letter no J-11011/386/2016-IA-II(I) dated 7th August, 2018.

Copies of clearance letter are available with Punjab Pollution Control Board and may be seen on website of Ministry at <http://moef.nic.in>

Authorized Signatory
HPCL-Mittal Energy Limited

Punjabi Newspaper Ajit, dated 19th August, 2018

ਐਚ ਪੀ ਸੀ ਐਲ-ਮਿੱਤਲ ਐਨਰਜੀ ਲਿਮਿਟਿਡ (ਐਚ ਐਮ ਈ ਐਲ)

(ਐਚ ਪੀ ਸੀ ਐਲ ਅਤੇ ਐਮ ਈ ਆਈ ਪੀ ਟੀ ਈ ਲਿਮਿਟਿਡ ਦਰਮਿਆਨ ਇਕ ਜੋ ਵੀ)

ਪਿੰਡ ਫੁੱਲਕਾਰੀ, ਤਾਲੁਕਾ-ਤਲਵੰਡੀ ਸਾਬੋ

ਜ਼ਿਲ੍ਹਾ ਬਠਿੰਡਾ-151301, ਪੰਜਾਬ

ਵੈੱਬਸਾਈਟ : www.hmel.in



ਜਲਤਕ ਸੂਚਨਾ

ਐਚ ਪੀ ਸੀ ਐਲ-ਮਿੱਤਲ ਐਨਰਜੀ ਲਿਮਿਟਿਡ ਦੁਆਰਾ ਆਮ ਜਨਤਾ ਦੇ ਧਿਆਨ ਵਿਚ ਲਿਆਂਦਾ ਜਾਂਦਾ ਹੈ ਕਿ ਵਾਤਾਵਰਨ, ਜੰਗਲਾਤ ਅਤੇ ਜਲਵਾਯੂ ਤਬਦੀਲੀ ਮੰਤਰਾਲਾ (ਐਮ ਓ ਈ ਐਫ ਐੱਡ ਸੀ ਸੀ), ਨਵੀਂ ਦਿੱਲੀ ਨੇ ਪੱਤਰ ਨੰਬਰ : ਜੇ-11011/386/2016-1 ਏ-11 (I) ਮਿਤੀ 7 ਅਗਸਤ, 2018 ਦੁਆਰਾ ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ ਰੀਵਾਇਨਰੀ, ਪਿੰਡ ਫੁੱਲਕਾਰੀ, ਤਾਲੁਕਾ-ਤਲਵੰਡੀ ਸਾਬੋ, ਜ਼ਿਲ੍ਹਾ ਬਠਿੰਡਾ (ਪੰਜਾਬ) ਵਿਖੇ ਰਿਊਲ ਕੁਆਲਟੀ ਅਪਰੋਡੇਸ਼ਨ ਪ੍ਰਾਜੈਕਟ ਲਈ ਵਾਤਾਵਰਨਿਕ ਕਲੀਅਰੈਂਸ ਪ੍ਰਦਾਨ ਕੀਤੀ ਹੈ।

ਕਲੀਅਰੈਂਸ ਪੱਤਰ ਦੀਆਂ ਕਾਪੀਆਂ ਪੰਜਾਬ ਪ੍ਰਦੂਸ਼ਣ ਰੋਕਥਾਮ ਬੋਰਡ ਕੋਲ ਉਪਲਬਧ ਹਨ ਅਤੇ ਮੰਤਰਾਲੇ ਦੀ ਵੈੱਬਸਾਈਟ <http://moef.nic.in> 'ਤੇ ਦੇਖੀਆਂ ਜਾ ਸਕਦੀਆਂ ਹਨ।

— ਅਧਿਕਾਰਤ ਸਿਗਨੇਚਰੀ

ਐਚ ਪੀ ਸੀ ਐਲ-ਮਿੱਤਲ ਐਨਰਜੀ ਲਿਮਿਟਿਡ