

Date: 19<sup>th</sup> June, 2020  
Ref: HMEL-TS-40-ENV 744

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 Compliance Report (From Oct'2019 to Mar'2020) for Guru Gobind Singh Refinery at Phullokhari, Bathinda District, Punjab.

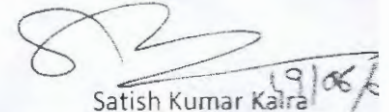
Ref: Environmental Clearance: F. No.: J-11011/275/2007 IA II (I) date 22nd June 2015 and  
Environmental Clearance: F. No. J-11011/386/2016-IA-II (I) dated 7th August 2018.

Dear Sir,

Please find enclosed six monthly compliance report (from Oct'2019 to Mar'2020) of Guru Gobind Singh Refinery (along with Annexures) on the environmental conditions stipulated by MoEF&CC.

Thanking you,

Very Truly Yours,

  
Satish Kumar Kaira  
(DGM-Technical Services)

Cc: Central Pollution Control Board, New Delhi and Punjab Pollution Control Board, Bathinda Punjab.  
Cc: Punjab Pollution Control Board, 3rd Floor, Room No: 406E, Regional Office, Bathinda.

Enclosures:

- Annexure-I : Soft copy of original test reports of manual monitoring in CD.  
Annexure-II : Ambient Air Quality Data (from Oct'2019 to Mar'2020).  
Annexure-III: CSR activities carried out for improving socio-economic conditions (from Oct'2019 to Mar'2020).  
Annexure-IV: CSR activities carried out for community welfare including eco-developmental measures in the surrounding areas (from Oct'2019 to Mar'2020).  
Annexure- V : Copy of the advertisement publishing the accordance of Environmental Clearance by MoEF&CC.  
Annexure- VI: Copy of mail to MoEF&CC for action plan of Corporate Environment Responsibility (CER).  
Annexure-VII: Copy of Air & Water Consent to Operate.  
Annexure-VIII: Acknowledgement copy of last submitted Six Monthly Compliance Report to MoEF&CC, Northern Regional Office, Chandigarh.

भारत सरकार / Govt. of India  
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय  
Min. of Environment, Forests & Climate Change  
बेज नं. 24-25, सेक्टर 31-ए  
Bays No.24-25, Sec- 31 A  
चण्डीगढ़/Chandigarh

29/06/20  
26/06/2020

Compliance Report for the conditions stipulated in Environmental Clearance for Expansion of Refinery from 9 MMTPA to 11.25 MMTPA by HMEL at Village Phullokhari, Tehsil Talwandi Saboo, Dist. Bhatinda, Punjab for the period of Oct'2019 to Mar'2020.

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

**A. Specific Conditions**

S. No.	Specific Conditions as per EC dated 22 <sup>nd</sup> June 2015	Compliance Status																																							
i	Compliance to all the environmental conditions stipulated in the environmental clearance letter no. J 11011/24/98-IA II dated 6 <sup>th</sup> November 1998 and J-11011/275/2007-IA II dated 16 <sup>th</sup> July 2007 shall be satisfactorily implemented and compliance reports submitted to the Ministry's regional office at Chandigarh.	<p>The compliance to all the environmental conditions stipulated in the environmental clearances granted in 1998 and 2007 has been certified by MoEF&amp;CC, Regional Office, Chandigarh vide the letter no. 4-81/2004-RO (NZ)/293-294 dated 14.07.2017. The summary status of the compliances as 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 <sup>th</sup> March 2008.	<p>All the standards/norms for oil refinery notified under the EP Rules 1986 vide G5R 186 E dated 18<sup>th</sup> March 2008 are being complied with. The summary of the treated effluent and emissions are summarized below:</p> <table border="1"> <thead> <tr> <th>Parameters</th> <th>Range Typical Values</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td colspan="3"><b>ETP treated Water</b></td> </tr> <tr> <td>pH</td> <td>7.21-7.72</td> <td>6.0-8.5</td> </tr> <tr> <td>COD</td> <td>78-94 mg/l</td> <td>125 mg/l</td> </tr> <tr> <td>BOD</td> <td>10 -14 mg/l</td> <td>15 mg/l</td> </tr> <tr> <td colspan="3"><b>Stack Emissions*</b></td> </tr> <tr> <th>Parameters</th> <th>Range Typical Values</th> <th>Limits</th> </tr> <tr> <td>SO<sub>x</sub></td> <td>22-128 mg/Nm<sup>3</sup></td> <td>500- 645 mg/Nm<sup>3</sup></td> </tr> <tr> <td>NO<sub>x</sub></td> <td>42-95 mg/Nm<sup>3</sup></td> <td>250 - 335 mg/Nm<sup>3</sup></td> </tr> <tr> <td>PM</td> <td>2 - 13 mg/Nm<sup>3</sup></td> <td>39 – 50 mg/Nm<sup>3</sup></td> </tr> <tr> <td>CO</td> <td>15 - 34 mg/Nm<sup>3</sup></td> <td>100 – 300 mg/Nm<sup>3</sup></td> </tr> <tr> <td colspan="3">* Stack emissions limits has been computed based on mixed firing.</td> </tr> <tr> <td colspan="3"><b>Sulphur Recovery Unit</b></td> </tr> </tbody> </table>	Parameters	Range Typical Values	Limits	<b>ETP treated Water</b>			pH	7.21-7.72	6.0-8.5	COD	78-94 mg/l	125 mg/l	BOD	10 -14 mg/l	15 mg/l	<b>Stack Emissions*</b>			Parameters	Range Typical Values	Limits	SO <sub>x</sub>	22-128 mg/Nm <sup>3</sup>	500- 645 mg/Nm <sup>3</sup>	NO <sub>x</sub>	42-95 mg/Nm <sup>3</sup>	250 - 335 mg/Nm <sup>3</sup>	PM	2 - 13 mg/Nm <sup>3</sup>	39 – 50 mg/Nm <sup>3</sup>	CO	15 - 34 mg/Nm <sup>3</sup>	100 – 300 mg/Nm <sup>3</sup>	* Stack emissions limits has been computed based on mixed firing.			<b>Sulphur Recovery Unit</b>		
Parameters	Range Typical Values	Limits																																							
<b>ETP treated Water</b>																																									
pH	7.21-7.72	6.0-8.5																																							
COD	78-94 mg/l	125 mg/l																																							
BOD	10 -14 mg/l	15 mg/l																																							
<b>Stack Emissions*</b>																																									
Parameters	Range Typical Values	Limits																																							
SO <sub>x</sub>	22-128 mg/Nm <sup>3</sup>	500- 645 mg/Nm <sup>3</sup>																																							
NO <sub>x</sub>	42-95 mg/Nm <sup>3</sup>	250 - 335 mg/Nm <sup>3</sup>																																							
PM	2 - 13 mg/Nm <sup>3</sup>	39 – 50 mg/Nm <sup>3</sup>																																							
CO	15 - 34 mg/Nm <sup>3</sup>	100 – 300 mg/Nm <sup>3</sup>																																							
* Stack emissions limits has been computed based on mixed firing.																																									
<b>Sulphur Recovery Unit</b>																																									

S. No.	Specific Conditions as per EC dated 22 <sup>nd</sup> June 2015	Compliance Status										
		Parameters	Range Typical Values	Limits								
		Sulphur Recovery (in %)	99.94 – 99.95	99.9								
		H <sub>2</sub> S (in mg/Nm <sup>3</sup> )	0-5	10								
		NO <sub>x</sub> (in mg/Nm <sup>3</sup> )	34-70	250								
		CO (in mg/Nm <sup>3</sup> )	19-50	100								
		<p>The stack emission data for the refinery and effluent analysis report for the treated effluent is attached as <b>Annexure-I</b>.</p> <p>Hence, this condition has been complied with.</p>										
iii	Continuous online stack monitoring of SO <sub>2</sub> , NO <sub>x</sub> & CO of all stacks shall be carried out. Low NO <sub>x</sub> burners shall be installed.	<p>Continuous online stack monitoring analyzers for SO<sub>2</sub>, NO<sub>x</sub>, CO and SPM have been installed in all stacks and the data is being transmitted online to CPCB servers. Low NO<sub>x</sub> burners have been installed in all the boilers and heaters.</p> <p>Hence, this condition has been complied with.</p>										
iv	ESP along within stack of adequate height shall be provided to pet coke/coal fired boiler. Limestone will be injected to pet coke/coal fired boiler to control SO <sub>2</sub> emission.	<p>ESPs and stacks of 130 meter height have been provided to petcoke/coal fired boilers. Limestone injection facility is installed in the pet coke/coal fired boilers to control SO<sub>2</sub> emission.</p> <p>Hence, this condition has been complied.</p>										
v	The process emissions SO <sub>2</sub> , NO <sub>x</sub> , 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.	<p>The continuous emission monitoring systems (CEMS) data on gaseous emissions and particulate matter from various units are being transmitted online to CPCB servers. Manual monitoring for gaseous emissions and particulate matter in stacks are also being monitored by third party (MoEF&amp;CC &amp; NABL approved laboratory), the data of which is enclosed as <b>Annexure – I</b>.</p> <p>There was no failure of any of the pollution control system during the period.</p> <p>Hence, this condition has been complied with.</p>										
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 e.t.c must be regularly monitored. Sensors for detecting HC leakage shall be provided at strategic locations.	<p>LDAR program for the refinery has been prepared and implemented for control of HC/VOC emissions. The program focuses on preventive maintenance of pumps, compressors, flanges and valves. During Oct'2019 to Mar'2020, total 42,000 nos. of points has been monitored under LDAR program and no major leak was found. Sensors for detecting HC leakage has been provided at strategic locations with ISBL area.</p> <table border="1"> <thead> <tr> <th>Type of Detector</th> <th>Numbers</th> </tr> </thead> <tbody> <tr> <td>Hydrocarbon (process area)</td> <td>742</td> </tr> <tr> <td>Hydrocarbon(analyzer shelter)</td> <td>74</td> </tr> <tr> <td>Toxic gases + Hydrogen</td> <td>285</td> </tr> </tbody> </table>			Type of Detector	Numbers	Hydrocarbon (process area)	742	Hydrocarbon(analyzer shelter)	74	Toxic gases + Hydrogen	285
Type of Detector	Numbers											
Hydrocarbon (process area)	742											
Hydrocarbon(analyzer shelter)	74											
Toxic gases + Hydrogen	285											
vii	SO <sub>2</sub> emissions after expansion from the plant shall no exceed 23.64 TPD and further efforts	<p>The total SO<sub>2</sub> emission from the Guru Gobind Singh Refinery has been modified to 23.8 TPD, vide</p>										

S. No.	Specific Conditions as per EC dated 22 <sup>nd</sup> June 2015	Compliance Status																					
	shall be made for reduction of SO <sub>2</sub> load through use of low sulphur fuel. Sulphur recovery units shall be installed for control of H <sub>2</sub> S emissions. The overall sulphur recovery efficiency of sulphur recovery unit with tail gas treating shall not be less than 99.9 %.	<p>MoEF&amp;CC letter no. J-11011/386/2016-IA-II (I) dated 07<sup>th</sup> August 2018, which includes emissions from the expansion projects. SO<sub>2</sub> emission from the existing refinery remained in the range of 12.4 TPD to 17.2 TPD against the limit of 23.64 TPD.</p> <p>The overall sulphur recovery efficiency of Sulphur Recovery Unit with tail gas treatment for the compliance period was 99.94% – 99.95%.</p>																					
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>The sulphur balance of the refinery is calculated considering the sulphur content in crude, atmospheric SO<sub>2</sub> emissions from various units, solid sulphur produced and the sulphur content in various products. The sulphur balance is regularly computed and the data maintained.</p> <p style="text-align: center;">\</p>																					
ix	Flare gas recovery system shall be installed.	<p>Flare recovery system is in operation.</p> <p>The month wise HC recovery (from Oct'2019 to Mar'2020) is given below:</p> <table border="1" data-bbox="900 920 1453 1249"> <thead> <tr> <th>Month</th> <th>HC Recovery (MT)</th> </tr> </thead> <tbody> <tr> <td>Oct'19</td> <td>373</td> </tr> <tr> <td>Nov'19</td> <td>351</td> </tr> <tr> <td>Dec'19</td> <td>452</td> </tr> <tr> <td>Jan'20</td> <td>458</td> </tr> <tr> <td>Feb'20</td> <td>397</td> </tr> <tr> <td>Mar'20</td> <td>621</td> </tr> <tr> <td><b>Average</b></td> <td><b>442</b></td> </tr> </tbody> </table>	Month	HC Recovery (MT)	Oct'19	373	Nov'19	351	Dec'19	452	Jan'20	458	Feb'20	397	Mar'20	621	<b>Average</b>	<b>442</b>					
Month	HC Recovery (MT)																						
Oct'19	373																						
Nov'19	351																						
Dec'19	452																						
Jan'20	458																						
Feb'20	397																						
Mar'20	621																						
<b>Average</b>	<b>442</b>																						
x	Ambient air quality monitoring stations, (PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , H <sub>2</sub> S, Mercaptans, non-methane-HC and Benzene) shall be set up in the complex in 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>The GLC's (min-max) for various parameters for the period of Oct'2019 to Mar'2020 are given below:</p> <table border="1" data-bbox="900 1352 1465 1749"> <thead> <tr> <th>Parameters</th> <th>Range</th> <th>CPCB Limit</th> </tr> </thead> <tbody> <tr> <td>PM<sub>10</sub> (µg/m<sup>3</sup>)</td> <td>30.61 – 106.26</td> <td>100</td> </tr> <tr> <td>PM<sub>2.5</sub> (µg/m<sup>3</sup>)</td> <td>16.47 – 58.75</td> <td>60</td> </tr> <tr> <td>SO<sub>2</sub> (µg/m<sup>3</sup>)</td> <td>11.14 - 25.89</td> <td>80</td> </tr> <tr> <td>NO<sub>2</sub> (µg/m<sup>3</sup>)</td> <td>16.96 – 21.35</td> <td>80</td> </tr> <tr> <td>Benzene (µg/m<sup>3</sup>)</td> <td>0.97 – 1.98</td> <td>05</td> </tr> <tr> <td>Non – Methane HC (µg/m<sup>3</sup>)</td> <td>0.608 – 0.754</td> <td>-</td> </tr> </tbody> </table> <p>The ambient air quality in and around the refinery for the period Oct'2019 to Mar'2020 is attached as Annexure – II.</p> <p>Hence, this condition has been complied with.</p>	Parameters	Range	CPCB Limit	PM <sub>10</sub> (µg/m <sup>3</sup> )	30.61 – 106.26	100	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	16.47 – 58.75	60	SO <sub>2</sub> (µg/m <sup>3</sup> )	11.14 - 25.89	80	NO <sub>2</sub> (µg/m <sup>3</sup> )	16.96 – 21.35	80	Benzene (µg/m <sup>3</sup> )	0.97 – 1.98	05	Non – Methane HC (µg/m <sup>3</sup> )	0.608 – 0.754	-
Parameters	Range	CPCB Limit																					
PM <sub>10</sub> (µg/m <sup>3</sup> )	30.61 – 106.26	100																					
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	16.47 – 58.75	60																					
SO <sub>2</sub> (µg/m <sup>3</sup> )	11.14 - 25.89	80																					
NO <sub>2</sub> (µg/m <sup>3</sup> )	16.96 – 21.35	80																					
Benzene (µg/m <sup>3</sup> )	0.97 – 1.98	05																					
Non – Methane HC (µg/m <sup>3</sup> )	0.608 – 0.754	-																					

S. No.	Specific Conditions as per EC dated 22 <sup>nd</sup> June 2015	Compliance Status																	
xi	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>In the existing refinery, one emergency DG set (for use in case of power failure) of capacity 6 MW has been installed near Main Control Room with stack height of 30 meter.</p> <p>Acoustic enclosure has been provided to the DG set to mitigate the noise pollution.</p> <p>No additional DG set is provided under this project.</p>																	
xii	Total water requirement from Kotla Canal after expansion shall not exceed 2,420 m <sup>3</sup> /hr and prior permission shall be obtained from the competent authority. Industrial effluent generation shall not exceed 720m <sup>3</sup> /h and treated in the effluent treatment plant. Out of which 376 m <sup>3</sup> /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/gardening. Domestic sewage shall be treated in sewage treatment plant (STP).	<p>The total water usage and industrial effluent generation/reuse quantities are well within the stipulated limits.</p> <p>Average consumption of raw water for the period Oct'2019 to Mar'2020 is 1,907 m<sup>3</sup>/hr, the data of which is given below:</p> <table border="1" data-bbox="890 801 1485 1160"> <thead> <tr> <th data-bbox="890 801 1209 869">Month</th> <th data-bbox="1209 801 1485 869">Raw water consumption (m<sup>3</sup>/hr.)</th> </tr> </thead> <tbody> <tr> <td data-bbox="890 869 1209 913">Oct'19</td> <td data-bbox="1209 869 1485 913">2046</td> </tr> <tr> <td data-bbox="890 913 1209 958">Nov'19</td> <td data-bbox="1209 913 1485 958">1988</td> </tr> <tr> <td data-bbox="890 958 1209 1003">Dec'19</td> <td data-bbox="1209 958 1485 1003">1838</td> </tr> <tr> <td data-bbox="890 1003 1209 1048">Jan'20</td> <td data-bbox="1209 1003 1485 1048">1804</td> </tr> <tr> <td data-bbox="890 1048 1209 1093">Feb'20</td> <td data-bbox="1209 1048 1485 1093">1955</td> </tr> <tr> <td data-bbox="890 1093 1209 1137">Mar'20</td> <td data-bbox="1209 1093 1485 1137">1811</td> </tr> <tr> <td data-bbox="890 1137 1209 1160"><b>Average</b></td> <td data-bbox="1209 1137 1485 1160"><b>1907</b></td> </tr> </tbody> </table> <p>The permission for drawl of water from Kotla canal is obtained vide letter no. 021/2014- (2) 1128-4426/1 dated 30.07.2018.</p> <p>The treated effluent generated is in the range of 395 – 425 m<sup>3</sup>/hr and boiler blow down/cooling tower blow down is in range of 225 – 250 m<sup>3</sup>/hr. Boiler blow down and cooling tower blow down are treated in RO/DM units and the permeate is recycled back into process. The RO rejects are evaporated in solar pond / evaporation plant.</p> <p>During Oct'2019 to Mar'2020, entire treated effluent from ETP was used for horticulture /green belt development.</p> <p>Average 60m<sup>3</sup>/day of sewage was treated in domestic sewage treatment plant.</p>		Month	Raw water consumption (m <sup>3</sup> /hr.)	Oct'19	2046	Nov'19	1988	Dec'19	1838	Jan'20	1804	Feb'20	1955	Mar'20	1811	<b>Average</b>	<b>1907</b>
Month	Raw water consumption (m <sup>3</sup> /hr.)																		
Oct'19	2046																		
Nov'19	1988																		
Dec'19	1838																		
Jan'20	1804																		
Feb'20	1955																		
Mar'20	1811																		
<b>Average</b>	<b>1907</b>																		

S. No.	Specific Conditions as per EC dated 22 <sup>nd</sup> June 2015	Compliance Status																		
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>All the effluent after treatment are routed to treated effluent tank. The online flow meter, pH, COD, BOD &amp; TSS analysers are installed at ETP outlet and data is transmitted to CPCB portal. The ETP outlet data is uploaded along with six monthly compliance report on company's website and also submitted to RO, MoEF&amp;CC, Chandigarh.</p> <p>The summary of the treated effluent quality for the period Oct'2019 to Mar'2020 is given below:</p> <table border="1" data-bbox="890 562 1458 763"> <thead> <tr> <th>Parameters</th> <th>Range</th> <th>Limits</th> </tr> </thead> <tbody> <tr> <td colspan="3"><b>ETP treated Water</b></td> </tr> <tr> <td>pH</td> <td>7.21-7.72</td> <td>6.0-8.5</td> </tr> <tr> <td>COD</td> <td>94-78 mg/l</td> <td>125 mg/l</td> </tr> <tr> <td>BOD</td> <td>10-14mg/l</td> <td>15 mg/l</td> </tr> <tr> <td>TSS</td> <td>14-22 mg/l</td> <td>20 mg/l</td> </tr> </tbody> </table>	Parameters	Range	Limits	<b>ETP treated Water</b>			pH	7.21-7.72	6.0-8.5	COD	94-78 mg/l	125 mg/l	BOD	10-14mg/l	15 mg/l	TSS	14-22 mg/l	20 mg/l
Parameters	Range	Limits																		
<b>ETP treated Water</b>																				
pH	7.21-7.72	6.0-8.5																		
COD	94-78 mg/l	125 mg/l																		
BOD	10-14mg/l	15 mg/l																		
TSS	14-22 mg/l	20 mg/l																		
xiv	Oil catchers / oil traps shall be provided at all possible locations in rain / storm water drainage system inside factory premises.	Presently 2 nos. of oil catchers are provided at upstream of storm water pond within 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>The oily sludge generated is disposed in Delayed Coker Unit (DCU) and balance oily sludge is disposed in Secured Landfill Facility within the refinery complex.</p> <p>The annual returns (Form-IV) of hazardous waste containing the data for oily sludge that is generated &amp; disposed for the period of 2019-20 was submitted vide letter no. HMEL-TS-40-ENV 473 on dated 1<sup>st</sup> June, 2020.</p> <p>During Oct'2019 to Mar'2020, 6621 MT oily and chemical sludge reprocessed in Delayed Coker Unit.</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>The rules and regulations specified under MSIHC Rules, 1989, have been incorporated in the design requirements of refinery and its associated facilities and accordingly implemented. The hazardous waste is handled, stored, transported and disposed as per the Hazardous Waste (Management, Handling &amp; Transboundary Movement) Rules, 2016 and the hazardous waste authorization issued by PPCB.</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 sent to treatment storage disposal facility (TSDF) for hazardous waste. Spent catalyst shall be sent to authorized recyclers /re-processors.	<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 are disposed in this SLF. Hence, membership for the common TSDF has not been taken.</p> <p>Spent catalyst from various units are disposed to SPCB authorized recyclers/reprocessors.</p> <p>Hence, this condition is complied with.</p>																		

S. No.	Specific Conditions as per EC dated 22 <sup>nd</sup> June 2015	Compliance Status																		
xviii	Proper oil spillage prevention management plan shall be prepared to avoid spillage/leakage of oil/petroleum products and ensure regular monitoring.	<p>The oil spillage/leakage prevention management plan is in place. HC and toxic gas detectors are installed in the process area, the details of which are given below:</p> <table border="1" data-bbox="890 331 1465 477"> <thead> <tr> <th>Type of Detector</th> <th>Numbers</th> </tr> </thead> <tbody> <tr> <td>Hydrocarbon (process area)</td> <td>742</td> </tr> <tr> <td>Hydrocarbon (analyzer shelter)</td> <td>74</td> </tr> <tr> <td>Toxic gases + Hydrogen</td> <td>285</td> </tr> </tbody> </table> <p>In addition to the above 80 nos. of visual camera are also installed in the process area for early detection of leak/fire.</p>	Type of Detector	Numbers	Hydrocarbon (process area)	742	Hydrocarbon (analyzer shelter)	74	Toxic gases + Hydrogen	285										
Type of Detector	Numbers																			
Hydrocarbon (process area)	742																			
Hydrocarbon (analyzer shelter)	74																			
Toxic gases + Hydrogen	285																			
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 under:</p> <table border="1" data-bbox="890 701 1465 2038"> <thead> <tr> <th>Sr No</th> <th>Requirement of CREP</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Installation of online monitoring system</td> <td>Completed. Continuous Emission/Effluent Monitoring System have been installed in stacks and ETP outlet. Continuous Ambient Air Quality Monitoring Stations (CAAQMS) are also installed. The CEMS and CAAQMS data is transmitted online data to CPCB servers since March 2016.</td> </tr> <tr> <td>2</td> <td>Zero Liquid Discharge</td> <td>Completed. GGSR is ZLD refinery. Entire treated water from ETP is used for greenbelt / horticulture development.</td> </tr> <tr> <td>3</td> <td>Oily Sludge management</td> <td>Oily sludge generated from ETP is processed in DCU or sold to offsite reprocessors or disposed in SLF.</td> </tr> <tr> <td>4</td> <td>Installation of VOC collection and treatment system in ETP.</td> <td>Completed. Since design stage VOC collection and treatment system is installed and operational in ETP.</td> </tr> <tr> <td>5</td> <td>Air Emission reduction measures adopted.</td> <td>a. Use of Low Sulphur Fuel Oil and Fuel Gas in Refinery (&lt;0.5 % sulphur in FO &amp; &lt; 150 mg/nm<sup>3</sup> sulphur in FG).</td> </tr> </tbody> </table>	Sr No	Requirement of CREP	Status	1	Installation of online monitoring system	Completed. Continuous Emission/Effluent Monitoring System have been installed in stacks and ETP outlet. Continuous Ambient Air Quality Monitoring Stations (CAAQMS) are also installed. The CEMS and CAAQMS data is transmitted online data to CPCB servers since March 2016.	2	Zero Liquid Discharge	Completed. GGSR is ZLD refinery. Entire treated water from ETP is used for greenbelt / horticulture development.	3	Oily Sludge management	Oily sludge generated from ETP is processed in DCU or sold to offsite reprocessors or disposed in SLF.	4	Installation of VOC collection and treatment system in ETP.	Completed. Since design stage VOC collection and treatment system is installed and operational in ETP.	5	Air Emission reduction measures adopted.	a. Use of Low Sulphur Fuel Oil and Fuel Gas in Refinery (<0.5 % sulphur in FO & < 150 mg/nm <sup>3</sup> sulphur in FG).
Sr No	Requirement of CREP	Status																		
1	Installation of online monitoring system	Completed. Continuous Emission/Effluent Monitoring System have been installed in stacks and ETP outlet. Continuous Ambient Air Quality Monitoring Stations (CAAQMS) are also installed. The CEMS and CAAQMS data is transmitted online data to CPCB servers since March 2016.																		
2	Zero Liquid Discharge	Completed. GGSR is ZLD refinery. Entire treated water from ETP is used for greenbelt / horticulture development.																		
3	Oily Sludge management	Oily sludge generated from ETP is processed in DCU or sold to offsite reprocessors or disposed in SLF.																		
4	Installation of VOC collection and treatment system in ETP.	Completed. Since design stage VOC collection and treatment system is installed and operational in ETP.																		
5	Air Emission reduction measures adopted.	a. Use of Low Sulphur Fuel Oil and Fuel Gas in Refinery (<0.5 % sulphur in FO & < 150 mg/nm <sup>3</sup> sulphur in FG).																		

S. No.	Specific Conditions as per EC dated 22 <sup>nd</sup> June 2015	Compliance Status	
			<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 minimum stack height criteria as per CPCB Standards</p> <p>d. Installation of Third Stage Separator (TSS) and Fourth Stage Separator (FSS) in 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> <p>g. Closed Blow down System to minimize hydrocarbon emissions.</p> <p>h. LDAR program implemented.</p>
xx	Occupational Health Surveillance of the workers should be done on regular basis and records maintained as per Factories Act.	Health check is done once in six (6) months for workers working in operation area and yearly once for workers working in non-operational area. The health checkup records are being maintained as per Factories Act. The condition is complied with.	
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.	Green belt has been developed in consultation with Forest Department, Bathinda and as per the CPCB guidelines. Approx. 3,41,000 saplings have been planted in about 391 acre. Greenbelt of 125 meters wide has been developed in predominant wind directions i.e. East, South East, South, South West & West direction and 70 meters wide in the remaining directions i.e. North West, North, and North East directions.	
xxii	Company shall prepare project specific environmental manual and a copy shall be made available at the project site for the compliance.	Project Environmental Requirements was furnished to the Design and Engineering Contractor and the Projects Team for incorporating the environmental specifications/requirements during the design engineering phase of the project so as to ensure compliance to the regulatory requirements.	



S. No.	Specific Conditions as per EC dated 22 <sup>nd</sup> June 2015	Compliance Status
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.	All the recommendations mentioned in the Rapid Risk Assessment report, disaster management plan & safety guidelines has been implemented.
xxiv	All commitment made regarding issues raised during the public hearing/consultation meeting held on 14 <sup>th</sup> October, shall be satisfactorily implemented. Accordingly provision of budget to be kept.	Total 13 queries were raised during Public Hearing for the expansion project. 12 queries has been completed. 1 query was related to 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.	The details of Enterprise Social Responsibility are enclosed as <b>Annexure-III</b> .  The time bound action plan of which has been submitted to RO, MoEF&CC, Chandigarh  Hence, the condition is complied with.
xxvi	Company shall adopt Corporate Environment Policy as per the Ministry's O.M No. J-11013/41/2006-IA II (I) dated 26 <sup>th</sup> April 2011 and implemented.	We have already adopted & implemented 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.	The project was completed in the year of 2017. During the project, canteen facility, toilet facility, RO drinking water & medical health care facility etc. was provided.  Hence, this condition is complied with.

#### B. General Conditions

S. No.	General Conditions as per EC dated 22 <sup>nd</sup> June 2015	Compliance
i	The project authorities shall strictly adhere to the stipulations made by the State Government & Punjab Pollution Control Board.	All the stipulations made by the State Government and 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, 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.	Pursuant to obtaining this clearance, prior Environmental Clearance (EC) has been obtained from MoEF&CC before implementing the BS VI project vide EC letter no. letter no. F.No. J-11011/386/2016-IA-II (I) dated 7 <sup>th</sup> August 2018.  There have been no deviations or alterations made in the project proposal from those submitted to MoEF&CC.  Hence, this condition is complied with.

S. No.	General Conditions as per EC dated 22 <sup>nd</sup> June 2015	Compliance
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.	Five (5) nos. of Continuous Ambient Air Quality Monitoring stations have been installed in consultation with PPCB in upwind & down wind direction of the existing 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).	The overall noise levels in and around the plant areas are well within the standards. Various noise control measures such as acoustic hoods, enclosures etc. have been provided for reducing noise impact from high noise generating equipment. The day time and night time noise level for the period Oct'2019 to Mar'2020 was in the range of 66-74 dBA and 61-66 dBA respectively. Please refer Annexure-I 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.	Total 6 nos. of rain water harvesting & ground water charging pits are installed inside the refinery premises. In refinery, storm water pond is provided to harvest rain water. Collected storm water is being utilized for firefighting and 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 2008 and its amendment time to time and prior permissions from PPCB shall be obtained for disposal of solid/hazardous waste including boiler ash.	The authorization for collection, storage & disposal of Hazardous waste is available for refinery and is valid till 30 July'2020.
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 be constructed.
viii	Usage of Personal Protection Equipment's by all employees/workers should be ensured.	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.	Each worker is imparted safety training before issuing gate pass and refresher training is done every 6 months. Periodic medical examination is done six monthly for workers working in operational area and yearly for workers working in non-operational area.  This condition is being complied with.
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.	This condition is complied with.

S. No.	General Conditions as per EC dated 22 <sup>nd</sup> June 2015	Compliance
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 for improving socio-economic conditions of the surrounding areas is attached as <b>Annexure-III</b> .
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 is enclosed as <b>Annexure-IV</b> .
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.	A dedicated Environment Management Cell headed by Deputy General Manager (Environment) looks after the Environmental Management and monitoring functions of the refinery. GGSR is also having state of the art laboratory with environment 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.
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 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 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.	This condition is being complied with. The six monthly compliance status reports of the stipulated Environmental Clearance conditions including results of the monitored data are being sent to regional offices of MoEF&CC, CPCB and PPCB.  The copy of Environment Clearance and six monthly compliance reports has been uploaded on the HMEL website in the link given below: <a href="http://www.hmel.in/corporate-sustainability-disclosures-report">http://www.hmel.in/corporate-sustainability-disclosures-report</a>
xvii	The environmental statement for each financial year ending 31 <sup>st</sup> 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 <sup>st</sup> March in Form-V is being submitted to PPCB and the copy of the same is uploaded on the HMEL website in the link given below:  <a href="http://www.hmel.in/corporate-sustainability-disclosures-report">http://www.hmel.in/corporate-sustainability-disclosures-report</a>

S. No.	General Conditions as per EC dated 22 <sup>nd</sup> June 2015	Compliance
xviii	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 <a href="http://envfor.nic.in">http://envfor.nic.in</a> . 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.	The accordance of Environmental Clearance for the project was advertised in two widely circulated local newspaper namely Tribune Bathinda (English) and Ajit (Punjabi) on 30 <sup>th</sup> June 2015. A copy of these advertisement was submitted the Regional Office, MoEF&CC, Chandigarh vide our letter no. 9112-000-TSHQ-009-2015-14 dated 7 <sup>th</sup> 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 projects milestones are as follows: 1. Date of final board approval is 21 <sup>st</sup> December, 2012. 2. Date of financial closure is 20 <sup>th</sup> March, 2013. 3. Date of start of project is 9 <sup>th</sup> September, 2015.

Six Monthly Compliance Report from Oct'2019 to Mar'2020 for Environment Clearance in respect of Fuel Quality Up-gradation Project at Guru Gobind Singh Refinery, Village Phulokhari, Bathinda District, Punjab.

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

10.0: Specific Conditions

S. No. (As per EC letter)	Specific Conditions	Compliance Status
(i)	The project proponent shall take stringent mitigating and other remedial measure to minimize the incremental concentration of air pollution (mainly PM <sub>10</sub> & PM <sub>2.5</sub> ) to extent possible.	The following measures have been implemented to minimize the emissions from the proposed project: <ol style="list-style-type: none"> <li>1. Regular Sprinkling of water on roads.</li> <li>2. Enhancing green cover by planting 35170 in the period of Oct'2019 to Mar'2020 trees within the premises.</li> <li>3. Widening and bitumen laying of roads.</li> <li>4. Bitumen carpeting in vehicle parking areas at refinery main gate.</li> <li>5. Discouraging of stubble burning by providing happy seeders to villagers.</li> </ol>
(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 <sup>th</sup> May'19.  Thus, this condition is being complied with.
(iii)	The incremental ground level concentration (GLCs) for PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> & NO <sub>x</sub> due to the increased vehicular and other allied/developmental activities, shall be analysed and reported for actual impact of the project.	The condition will be complied with after fully operational of project.
(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.	The Consent to Establish for the project has been obtained from PPCB vide letter no. 2940 dated 6 <sup>th</sup> May'19. Online application is applied on PPCB portal for obtaining Consent to Operate.  Hence, the condition is being complied with.
(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.	The existing refinery complex is a Zero Liquid Discharge (ZLD) refinery. The additional effluent that will be generated from the project will be treated in the existing ETP. Treated effluent is recycled and re-used for 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 is available for refinery and is valid till 30 <sup>th</sup> July, 2020.
(vii)	National Emission Standards for Petroleum Oil Refinery issued by the Ministry vide G.S.R. 186(E) dated 18 <sup>th</sup> 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.

S. No. (As per EC letter)	Specific Conditions	Compliance Status																
(viii)	Total SO <sub>2</sub> emission from the refinery shall not exceed 990 kg/hr.	This condition will be complied with. Exiting SO <sub>2</sub> emission: Average 516 to 716 kg/hr.																
(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.	The DHDT and HGU plants are designed to meet prescribed CPCB/PPCB norms for the refinery.  During emergency shutdown of these units, the gaseous emissions will be routed to the flare stack of height 140 m.																
(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.	The raw water consumption for the existing refinery for the period of Oct'2019 to Mar'2020 is given below: <table border="1" data-bbox="877 660 1476 1019"> <thead> <tr> <th>Month</th> <th>Raw water consumption (m<sup>3</sup>/hr.)</th> </tr> </thead> <tbody> <tr> <td>Oct'19</td> <td>2046</td> </tr> <tr> <td>Nov'19</td> <td>1988</td> </tr> <tr> <td>Dec'19</td> <td>1838</td> </tr> <tr> <td>Jan'20</td> <td>1804</td> </tr> <tr> <td>Feb'20</td> <td>1955</td> </tr> <tr> <td>Mar'20</td> <td>1811</td> </tr> <tr> <td><b>Average</b></td> <td><b>1907</b></td> </tr> </tbody> </table> The additional water required after the implementation of proposed project for which the EC has been granted will not exceed 5,952 m <sup>3</sup> /hr. Necessary permission from the concerned regulatory authority is already obtained. This condition will be complied with.	Month	Raw water consumption (m <sup>3</sup> /hr.)	Oct'19	2046	Nov'19	1988	Dec'19	1838	Jan'20	1804	Feb'20	1955	Mar'20	1811	<b>Average</b>	<b>1907</b>
Month	Raw water consumption (m <sup>3</sup> /hr.)																	
Oct'19	2046																	
Nov'19	1988																	
Dec'19	1838																	
Jan'20	1804																	
Feb'20	1955																	
Mar'20	1811																	
<b>Average</b>	<b>1907</b>																	
(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.	The process effluent from the proposed project will be routed to existing ETP for treatment through dedicated pipe network, whereas the storm water routed to separate network (open channels) to avoid mixing of process effluent with storm water. The same has been incorporated in the design engineering for the project.  The condition is being complied with.																
(xii)	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arrestors shall be provided on tank farm, and solvent transfer to be done through pumps.	All hydrocarbons are stored in tanks. No new tank is proposed to be installed in the project. Hydrocarbon transfer is done through pumps. This condition is complied with.																
(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.	Any additional ETP sludge generated will be recycled back in DCU. Fly ash generated from CFBC boilers is disposed to cement industries.																
(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.	As per the existing practice, this condition will be complied with.																

S. No. (As per EC letter)	Specific Conditions	Compliance Status
(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.	Fly ash generated from CFBC boilers is stored in 2 nos. of silos and is then sent to cement industries.  Thus condition is being complied with.
(xvi)	The company shall undertake waste minimization measures as below:- a. Metering and control of quantities of active ingredients to minimize waste b. Reuse of by-products from the process as raw materials or as raw 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	The condition will be complied with.  a. All feed stream flow will be measured & auto controlled. b. No by-products will be produced in BS-VI fuel quality up-gradation project. c. Raw material and products will be transferred through pipe lines. d. As the process flow will be continuous, batch reactors are not proposed. Hence, not applicable. e. Ventilation equipment will be connected to closed flare system in which flared hydrocarbons are recovered. f. Noted and will be complied with.
(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.	Green belt has been developed in consultation with Forest Department, Bathinda, as per the CPCB guidelines. At present approx. 3,41,000 saplings have been planted in about 391 acre of land.  A greenbelt of about 125 meters wide in predominant wind direction i.e East, South East, South, South West, & West direction and 70 meters wide green belt in the remaining directions i.e North West, North, and North East direction have been developed.  Selection of species for greenbelt development have been done based on the agro-climatic zone of Punjab prescribed by CPCB in its manual "Guidelines for Developing Greenbelts".  Hence, this condition is complied with.
(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.	INR: 275 lakhs i.e. about 0.25% of total project cost has been allocated for Corporate Environment Responsibility (CER) and the time bound action plan has been submitted to MoEF&CC. The copy of the mail to MoEF&CC is enclosed as Annexure-VI.  A 250 KLD wastewater treatment plant has been installed and made operational by the Company in Phulokhari village under Corporate Environmental Responsibility (CER). Till date, the Company has incurred an expenditure of INR: 66 lakhs.

S. No. (As per EC letter)	Specific Conditions	Compliance Status
(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.	One D.G. set of 1010 kVA has been installed for emergency power for the fuel quality up-gradation project. The emission limits and the stack height will be in conformity with the CPCB guidelines. Acoustic enclosures has been provided as noise control measures.
(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.	Firefighting system in manufacturing process and material handling areas are already installed as per OISD standards.
(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	Online SO <sub>2</sub> , NO <sub>x</sub> , CO and SPM analysers for the existing refinery have been installed and the online data is being transmitted to CPCB 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. For stack in the proposed project, CEMS for SO <sub>x</sub> , NO <sub>x</sub> , CO and PM have been installed & the online data will be transmitted to CPCB/PPCB after the commissioning of the project.
(xxii)	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Complied. Occupation health surveillance is done once in six (6) months for employees working in operational area and yearly once for employees working in non-operational area, and records maintained as per the Factories Act.  This condition is being complied with.

#### 10.1: Generic Conditions

S. No. (As per EC letter)	General 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.	All the conditions stipulated by the MoEF&CC, CPCB and PPCB are being strictly adhered to.
(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.	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 the at least one station each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	Five (5) nos. of Continuous Ambient Air Quality Monitoring Stations (CAAQMS) have been installed at the periphery of the refinery in consultation with Punjab Pollution Control Board (PPCB).  Hence, this condition is complied with.



(iv)	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R No 826(E) dated 16 <sup>th</sup> November, 2009 shall be followed.	The National Ambient Air Quality Emission Standards issued by MoEF&CC vide G.S.R. No 826 (E) dated 16 <sup>th</sup> November 2009 is being monitored and the data of which is being transmitted online to CPCB 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).	<p>The overall noise levels in and around the plant areas are well within the standards. Various noise control measures such as acoustic hoods, enclosures etc. have been provided for reducing noise impact from high noise generating equipment. The day time and night time noise level for the period Oct'2019 to Mar'2020 was in the range of 66-74 dBA and 61-66 dBA respectively.</p> <p>The detailed monitoring reports for the period of Oct'2019 to Mar'2020 is given in <b>Annexure-I</b>.</p> <p>Hence, this condition has been complied with.</p>
(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	Total 6 nos. of rain water harvesting & ground water charging pits are installed inside the refinery premises. In refinery, storm water pond is provided to harvest rain water. 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.	<p>Each worker is imparted safety training before issuing gate pass and refresher training is done every 6 months.</p> <p>Pre-employment and periodic medical examinations are done six monthly for workers working in operational area and yearly once for workers working in non-operational area.</p> <p>This condition is being complied with.</p>
(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 mitigation measures relating to the project shall be implemented.	This condition is being complied with.
(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 for improving socio-economic conditions of the surrounding areas is attached as <b>Annexure-III</b> .
(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 is enclosed as <b>Annexure-IV</b> .
(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.	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 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.	The company did not received any suggestions/representations while processing the proposal.  This condition has been complied with.
(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 has been noted and is being complied with.  Last six monthly compliance report was submitted to Regional Office of MoEF&CC, the respective Zonal office of CPCB and SPCB vide letter no. HMEL-TS-40-ENV 653, dated 6 <sup>th</sup> Dec, 2019.  The copy of Environment Clearance and six monthly compliance report has been uploaded on the HMEL website in the link given below: <a href="http://www.hmel.in/corporate-sustainability-disclosures-report">http://www.hmel.in/corporate-sustainability-disclosures-report</a>
(xiv)	The environment statement for each financial year ending 31 <sup>st</sup> 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.	The environment statement for each financial year ending 31 <sup>st</sup> March in Form-V is being submitted to PPCB for the existing refinery project.  Similarly, for the proposed project the environmental statement in Form-V as mandated will be submitted to PPCB.
(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 <a href="http://moef.nic.in">http://moef.nic.in</a> . 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	The copy of the advertisement publishing the accordance of Environmental Clearance by MoEF&CC in the two local widely circulated newspaper is attached as Annexure-V.  Hence, this condition has been complied with.
(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.	This condition will be complied with.  The requested projects milestones are as follows: 1. Final board approval of the Project: 30 <sup>th</sup> December, 2016. 2. Financial closure of the Project: Financial closure is pending 3. Start of the Project: 6 <sup>th</sup> May, 2019.

**Guru Gobind Singh Refinery, Bathinda**

**Scanned copy of original Manual Environmental Monitoring Test reports from Oct'2019 to Mar'2020**

1. Ambient Air Quality Monitoring Reports
2. Noise Monitoring
3. Stack Monitoring
4. Ground water monitoring
5. VOC monitoring
6. ETP treated water results
7. STP treated water results

**Scanned copy of original Manual Environmental Monitoring Test  
reports Oct'2019**

### BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB TEST REPORT

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Job Booking No.: NL/100001490,1501,12,23,34,45,56,67  
Test Report Date: 07/11/2019

#### Sample Particulars

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : Ambient Air Quality Monitoring Station (AAQMS)-1  
Purpose of Monitoring : To Check the Pollution Load  
Method of Sampling : IS 5182 (Part 14)  
Monitoring Conducted By : Mr. AnimeshJha  
Sampling Duration (Hrs.) : 24 Hrs.

#### Analysis Report

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP*), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
03/10/2019	9:40	1.16	4.912	BDL	BDL	BDL
07/10/2019	9:25	1.08	4.108	BDL	BDL	BDL
10/10/2019	9:20	1.16	4.412	BDL	BDL	BDL
14/10/2019	9:15	1.09	4.236	BDL	BDL	BDL
17/10/2019	9:35	1.12	4.899	BDL	BDL	BDL
21/10/2019	9:30	1.16	3.992	BDL	BDL	BDL
24/10/2019	9:10	1.13	3.791	BDL	BDL	BDL
30/10/2019	9:15	1.08	4.334	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS - National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3b)], [Part-II-sec.-3(i)] 16.11.2009. BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0] Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable



**(AUTHORISED SIGNATORY)**

**(RAVINDER MITTAL)**

**NOTE:** The laboratory accepts the responsibility for content of report, the results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORY

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: NL/100001491, 1502, 13, 24, 35, 46, 57, 68  
Test Report Date: 07/11/2019

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-2**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP*), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
03/10/2019	10:10	1.15	4.516	BDL	BDL	BDL
07/10/2019	9:55	1.14	3.998	BDL	BDL	BDL
10/10/2019	9:50	1.08	3.822	BDL	BDL	BDL
14/10/2019	9:45	1.21	4.628	BDL	BDL	BDL
17/10/2019	10:05	1.11	4.112	BDL	BDL	BDL
21/10/2019	10:00	1.15	4.202	BDL	BDL	BDL
24/10/2019	9:40	1.20	4.429	BDL	BDL	BDL
30/10/2019	9:45	1.13	4.966	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(ii)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0] Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable



**(AUTHORISED SIGNATORY)**

**(RAVINDER MITTAL)**

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time. \* Not in NABL Scope.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

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

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt.Bhatinda. Puniab. India

Job Booking No.: NL/100001492, 1503, 14, 25, 36, 47, 58, 69  
Test Report Date: 07/11/2019

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-3**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP*), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
03/10/2019	10:40	1.13	4.392	BDL	BDL	BDL
07/10/2019	10:25	1.15	4.446	BDL	BDL	BDL
10/10/2019	10:20	1.19	4.497	BDL	BDL	BDL
14/10/2019	10:15	1.20	4.189	BDL	BDL	BDL
17/10/2019	10:35	1.14	3.965	BDL	BDL	BDL
21/10/2019	10:30	1.22	4.582	BDL	BDL	BDL
24/10/2019	10:10	1.09	3.982	BDL	BDL	BDL
30/10/2019	10:15	1.21	4.972	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

NAAQMS - National Ambient Air Quality Standards; Schedule-VII, (Rule 3 (38)), (Part-II-sec.-3(i)) 16.11.2009. BDL-Below Detection Limit, Arsenic-BDL (LOQ- 6.0) BAP-BDL (LOQ- 1.0) Lead-BDL (LOQ- 1.0), N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable



**(AUTHORISED SIGNATORY)**

**(RAVINDER MITTAL)**

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited Invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not In NABL Scope.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Job Booking No.: NL/100001493, 1504, 15, 26, 37, 48, 59, 70  
Test Report Date 07/11/2019

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : Ambient Air Quality Monitoring Station (AAQMS)-4  
Purpose of Monitoring : To Check the Pollution Load  
Method of Sampling : IS 5182 (Part 14)  
Monitoring Conducted By : Mr. AnimeshJha  
Sampling Duration (Hrs.) : 24 Hrs.

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP'), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
03/10/2019	11:10	1.09	4.321	BDL	BDL	BDL
07/10/2019	10:55	1.18	3.662	BDL	BDL	BDL
10/10/2019	10:50	1.09	3.721	BDL	BDL	BDL
14/10/2019	10:45	1.12	3.822	BDL	BDL	BDL
17/10/2019	11:05	1.12	4.622	BDL	BDL	BDL
21/10/2019	11:00	1.14	4.701	BDL	BDL	BDL
24/10/2019	10:40	1.13	3.886	BDL	BDL	BDL
30/10/2019	10:45	1.22	3.524	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

NAAQS - National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0] Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable



**(AUTHORISED SIGNATORY)**

**(RAVINDER MITTAL)**

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt.Bhatinda. Punjab. India

Job Booking No.: NL/100001494, 1505,16, 27, 38, 49, 60, 71  
Test Report Date: 07/11/2019

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : Ambient Air Quality Monitoring Station (AAQMS)-5  
Purpose of Monitoring : To Check the Pollution Load  
Method of Sampling : IS 5182 (Part 14)  
Monitoring Conducted By : Mr. Animesh Jha  
Sampling Duration (Hrs.) : 24 Hrs.

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP*), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
03/10/2019	11:40	1.19	4.262	BDL	BDL	BDL
07/10/2019	11:25	1.22	4.488	BDL	BDL	BDL
10/10/2019	11:20	1.12	4.521	BDL	BDL	BDL
14/10/2019	11:15	1.13	3.697	BDL	BDL	BDL
17/10/2019	11:35	1.14	4.625	BDL	BDL	BDL
21/10/2019	11:30	1.12	3.828	BDL	BDL	BDL
24/10/2019	11:10	1.20	4.348	BDL	BDL	BDL
30/10/2019	11:15	1.18	4.867	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0] Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable

  
(AUTHORISED SIGNATORY)  
(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullakhari, Taluka Talwandi Sabo  
Distt.Bhatinda. Punjab. India

Job Booking No.: NL/100001495, 96, 1506, 07, 17, 18, 28, 29,  
39, 40, 50, 51, 61, 62, 72, 73  
Test Report Date: 07/11/2019

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : Air Quality Monitoring Station (AAQMS)-6  
Purpose of Monitoring : To Check the Pollution Load  
Method of Sampling : IS 5182 (Part 14)  
Monitoring Conducted By : Mr. Animesh Jha  
Sampling Duration (Hrs.): : 24 Hrs.

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/m)	Parameter								
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP*), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>	Particulate matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup>	Particulate matter (PM <sub>10</sub> ), µg/m <sup>3</sup>	Sulphur Dioxide (asSO <sub>2</sub> ), µg/m <sup>3</sup>	Nitrogen Dioxide (asNO <sub>2</sub> ), µg/m <sup>3</sup>	Carbon Monoxide (as CO), mg/m <sup>3</sup>
03/10/2019	12:10	1.22	4.029	BDL	BDL	BDL	48.1	98.6	30.8	40.2	0.692
07/10/2019	11:55	1.12	3.960	BDL	BDL	BDL	54.4	92.6	26.2	39.6	0.682
10/10/2019	11:50	1.16	4.126	BDL	BDL	BDL	54.6	97.2	27.8	39.8	0.689
14/10/2019	11:45	1.18	4.792	BDL	BDL	BDL	49.2	101.2	32.8	42.6	0.698
17/10/2019	12:05	1.13	4.926	BDL	BDL	BDL	59.8	99.4	34.2	44.8	0.674
21/10/2019	12:00	1.18	4.664	BDL	BDL	BDL	56.4	97.7	31.9	41.2	0.646
24/10/2019	11:40	1.14	4.415	BDL	BDL	BDL	58.6	93.1	29.5	39.8	0.609
30/10/2019	11:45	1.08	4.322	BDL	BDL	BDL	60.5	98.8	32.6	42.9	0.596
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>	<b>60</b>	<b>100</b>	<b>80</b>	<b>80</b>	<b>04</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>	<b>IS:5182 (P-23)</b>	<b>IS:5182 (P-2)</b>	<b>IS:5182 (P-6)</b>	<b>NDIR Method</b>	<b>IS:5182 (P-23)</b>

Remark: NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 16.11.2009. BDL-Below Detection Limit, Arsenic-BDL [LOG- 6.0] BAP-BDL [LOG- 1.0] Lead-BDL [LOG- 1.0], N.A.-Not Applicable. AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

Plot No. 11B, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, TalukaTalwandi Sabo  
Distt.Bhatinda, Punjab, India

Job Booking No.: NL/100001594  
Test Report Date: 07/11/2019

**Sample Particulars:**

Nature of the Sample : **Ambient Noise**  
Date of Monitoring : 31/10/2019  
Purpose of Monitoring : To Check the Pollution Load  
Place of Monitoring : HMEI Refinery  
Monitoring Conducted By : Mr. AnimeshJha  
Protocol Used : IS:9989

**Analysis Report**

Sr. No.	Location	Test Result dB(A) Day Time	Test Result dB(A) Night Time
<b>Permissible Limit in *dB(A) Leq For Industrial Area</b>		<b>75 dB(A)</b>	<b>70 dB(A)</b>
1	Near Refinery Main Gate	70.2	63.2
2	Near Fire Water Reservoir	70.6	63.2
3	Near Road-Crude Oil Tanks	72.4	62.3
4	Near ETP and Flare	71.2	61.2
5	Near Storm Water Pond East Side	73.8	65.2
6	Near Sulphur Yard South East Side	73.4	64.2
7	Near Rail Loading Dispatch South East Side	70.2	65.4
8	Near CPP North East Side	72.8	62.6
9	Near Poly Propylene Dispatch Area	71.5	64.4
10	Near Ecological Pond Area	70.4	63.4

\*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	Limits dB (A) Leq	
		Day Time (6AM - 10PM)	Night Time (10PM - 06AM)
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time. \* Not in NABL Scope.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-8492928179

**CORPORATE OFFICE & CENTRAL LABORATORY**

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Taiwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100001600  
Test Report No. : 201910220112  
Test Report Date: 29/10/2019

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 22/10/2019  
Time of Sampling : 12:46  
Test Started on : 24/10/2019  
Test Completed On : 29/10/2019  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : Naphtha Heater  
Sampling method : IS-11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 30  
Diameter of the stack(m) : 1.5  
Sampling duration (min) : 38

**Observations:**

Flue Gas Temperature °C : 209  
Ambient Air Temperature °C : 30  
Flue Gas Velocity (m/s) : 10.12

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits mg/Nm <sup>3</sup>		Test Method
			For Gas	For Liquid	
1	Particulate Matters (as PM)	1.5	5	50	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	8.4	50	850	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	21.2	250	350	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	36.1	100	150	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	0	5	USEPA Method 29 By AAS

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested, Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited Invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100001599  
Test Report No. : 201910220111  
Test Report Date: 29/10/2019

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 22/10/2019  
Time of Sampling : 11:50  
Test Started on : 24/10/2019  
Test Completed On : 28/10/2019  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : HGU-2  
Sampling method : IS-11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 65  
Diameter of the stack(m) : 2.0  
Sampling duration (min) : 37  
**Observations:**  
Flue Gas Temperature °C : 185  
Ambient Air Temperature °C : 28  
Flue Gas Velocity (m/s) : 9.68

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits mg/Nm <sup>3</sup>		Test Method
			For Gas	For Liquid	
1	Particulate Matters (as PM)	1.13	5	50	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	7.8	50	850	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	84.29	250	350	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	9.1	100	150	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	0	5	USEPA Method 29 By AAS

Remark: Below Detection Limit



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited Invoiced amount only, Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: NL/100001598  
Test Report No. : 201910220110  
Test Report Date: 29/10/2019

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 22/10/2019  
Time of Sampling : 10:40  
Test Started on : 24/10/2019  
Test Completed On : 28/10/2019  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : HGU-1  
Sampling method : IS-11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 65  
Diameter of the stack (m) : 2.0  
Sampling duration (min) : 33

**Observations:**

Flue Gas Temperature °C : 180  
Ambient Air Temperature °C : 29  
Flue Gas Velocity (m/s) : 10.77

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits mg/Nm <sup>3</sup>		Test Method
			For Gas	For Liquid	
1	Particulate Matters (as PM)	3.19	5	50	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	6.3	50	850	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	98.37	250	350	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	8.1	100	150	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	0	5	USEPA Method 29 By AAS

Remark: Below Detection Limit



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not In NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100001601  
Test Report No. :201910230110  
Test Report Date: 31/10/2019

**Sample Particulars:**

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 23/10/2019
Time of Sampling	: 11:45
Test Started on	: 25/10/2019
Test Completed On	: 30/10/2019
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: CCR Heater
Sampling method	: IS-11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 68
Diameter of the stack(m)	: 2.65
Sampling duration (min)	: 40

**Observations:**

Flue Gas Temperature °C	: 162
Ambient Air Temperature °C	: 28
Flue Gas Velocity (m/s)	: 8.38

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits mg/Nm <sup>3</sup>		Test Method
			For Gas	For Liquid	
1	Particulate Matters (as PM)	1.92	5	50	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	10.1	50	850	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	46.7	250	350	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	18.3	100	150	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	0	5	USEPA Method 29 By AAS

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited involved amount only. Results subject to the movement of vehicles at that particular time.\* Not In MABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100001603  
Test Report No. :201910230111  
Test Report Date: 31/10/2019

**Sample Particulars:**

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 23/10/2019
Time of Sampling	: 11:45
Test Started on	: 24/10/2019
Test Completed On	: 29/10/2019
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: NHT
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 50
Diameter of the stack(m)	: 1.5
Sampling duration (min)	: 31
<b>Observations:</b>	
Flue Gas Temperature °C	: 189
Ambient Air Temperature °C	: 29
Flue Gas Velocity (m/s)	: 11.76

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits mg/Nm <sup>3</sup>		Test Method
			For Gas	For Liquid	
1	Particulate Matters (as PM)	4.2	5	50	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	138.4	50	850	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	32.3	250	350	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	18.5	100	150	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	0	5	USEPA Method 29 By AAS

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complain/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100001602  
Test Report No. :201910230112  
Test Report Date: 31/10/2019

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 23/10/2019  
Time of Sampling : 12:30  
Test Started on : 25/10/2019  
Test Completed On : 30/10/2019  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : CDU/VDU  
Sampling method : IS:11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 85  
Diameter of the stack(m) : 4.3  
Sampling duration (min) : 37

**Observations:**

Flue Gas Temperature °C : 185  
Ambient Air Temperature °C : 29  
Flue Gas Velocity (m/s) : 9.39

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits mg/Nm <sup>3</sup>		Test Method
			For Gas	For Liquid	
1	Particulate Matters (as PM)	3.18	5	50	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	50.4	50	850	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	12.7	250	350	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	8.1	100	150	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	0	5	USEPA Method 29 By AAS

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited involved amount only. Results subject to the movement of vehicles at that particular time. \* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100001604  
Test Report No. : 201910240112  
Test Report Date: 01/11/2019

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 24/10/2019  
Time of Sampling : 13:20  
Test Started on : 26/10/2019  
Test Completed On : 31/10/2019  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : DHDT  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 75  
Diameter of the stack(m) : 2.5  
Sampling duration (min) : 32

**Observations:**

Flue Gas Temperature °C : 185  
Ambient Air Temperature °C : 26  
Flue Gas Velocity (m/s) : 10.42

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits mg/Nm <sup>3</sup>		Test Method
			For Gas	For Liquid	
1	Particulate Matters (as PM)	1.92	5	50	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	7.61	50	850	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	18.9	250	350	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	50.3	100	150	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	0	5	USEPA Method 29 By AAS

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100001606  
Test Report No. : 201910240110  
Test Report Date: 01/11/2019

**Sample Particulars:**

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 24/10/2019
Time of Sampling	: 11:45
Test Started on	: 27/10/2019
Test Completed On	: 31/10/2019
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: FCCU Regenerator
Sampling method	: IS: 11255 (P-7)
Normal Operating Schedule	: As per requirement
Type of Stack /Duct	: Mild Steel
Stack height from Ground Level (m)	: 42
Diameter of the Stack(m)	: 2.0
Sampling Duration (min)	: 35

**Observations:**

Flue Gas Temperature °C	: 200
Ambient Air Temperature °C	: 29
Flue Gas Velocity (m/s)	: 11.17

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits mg/Nm <sup>3</sup>		Test Method
			For Gas	For Liquid	
1	Particulate Matters (as PM)	13.8	5	50	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	6.2	50	850	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	8.5	250	350	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	41.2	100	150	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	0	5	USEPA Method 29 By AAS

Remark: Not Detected



**(AUTHORISED SIGNATORY)**

**(RAVINDER MITTAL)**

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoked amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100001605  
Test Report No. : 201910240111  
Test Report Date: 01/11/2019

**Sample Particulars:**

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 24/10/2019
Time of Sampling	: 11:00
Test Started on	: 27/10/2019
Test Completed On	: 31/10/2019
Purpose of Monitoring	: To Check the Pollution Load
Sampling Location	: FCCU Heater
Sampling method	: IS:11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 42
Diameter of the Stack(m)	: 2.0
Sampling Duration (min)	: 35

**Observations:**

Flue Gas Temperature °C	: 212
Ambient Air Temperature °C	: 27
Flue Gas Velocity (m/s)	: 10.88

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits mg/Nm <sup>3</sup>		Test Method
			For Gas	For Liquid	
1	Particulate Matters (as PM)	1.6	5	50	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	8.3	50	850	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	23.1	250	350	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	6.3	100	150	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	0	5	USEPA Method 29 By AAS

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhotinda, Punjab, India

Job Booking No.: 100001610  
Test Report No. : 201910250110  
Test Report Date: 01/11/2019

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 25/10/2019  
Time of Sampling : 13:10  
Test Started on : 26/10/2019  
Test Completed On : 30/10/2019  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : DCU  
Sampling method : IS-11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 65  
Diameter of the stack(m) : 4.4  
Sampling duration (min) : 34

**Observations:**

Flue Gas Temperature °C : 158  
Ambient Air Temperature °C : 29  
Flue Gas Velocity (m/s) : 10.0

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits mg/Nm <sup>3</sup>		Test Method
			For Gas	For Liquid	
1	Particulate Matters (as PM)	1.8	5	50	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	6.9	50	850	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	71	250	350	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	21	100	150	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	0	5	USEPA Method 29 By AAS

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### TEST REPORT

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Taiwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100001608  
Test Report No. : 201910250111  
Test Report Date: 01/11/2019

#### Sample Particulars:

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 25/10/2019
Time of Sampling	: 11:15
Test Started on	: 28/10/2019
Test Completed On	: 31/10/2019
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: SRU 524
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 100
Diameter of the stack(m)	: 2.0
Sampling duration (min)	: 27

#### Observations:

Flue Gas Temperature °C	: 186
Ambient Air Temperature °C	: 28
Flue Gas Velocity (m/s)	: 13.17

#### Analysis Report

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits mg/Nm <sup>3</sup>	Test Method
1	Oxide of Nitrogen (as NO <sub>x</sub> )	38.5	250	IS-11255(P-7)
2	Carbon Monoxide (as CO)	17.2	100	IS-13270
3	Oxides of Sulphur (as SO <sub>x</sub> )	152.3	NA	IS-11255 (P-2)
4	Hydrogen Sulphide (as H <sub>2</sub> S)	BDL(LOQ-0.1)	10	IS:11255 (P-4)

Remark: Not Detected

  
(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORY

PLOT NO. 11B, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100001609  
Test Report No. : 201910250112  
Test Report Date: 01/11/2019

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 25/10/2019  
Time of Sampling : 12:10  
Test Started on : 28/10/2019  
Test Completed On : 31/10/2019  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : SRU 525  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 100  
Diameter of the stack(m) : 2.0  
Sampling duration (min) : 29

**Observations:**

Flue Gas Temperature °C : 190  
Ambient Air Temperature °C : 27  
Flue Gas Velacity (m/s) : 12.45

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits mg/Nm <sup>3</sup>	Test Method
1	Oxide of Nitrogen (as NO <sub>x</sub> )	31.1	250	IS-11255(P-7)
2	Carbon Monoxide (as CO)	22.6	100	IS-13270
3	Oxides of Sulphur (as SO <sub>x</sub> )	146.5	NA	IS-11255 (P-2)
4	Hydrogen Sulphide (as H <sub>2</sub> S)	BDL(LOQ-0.1)	10	IS:11255 (P-4)

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**

Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100001607

Test Report No. : 201910260112

Test Report Date: 03/11/2019

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 26/10/2019  
Time of Sampling : 12:15  
Test Started on : 28/10/2019  
Test Completed On : 03/11/2019  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : VGO Heater  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 65  
Diameter of the stack(m) : 2.25  
Sampling duration (min) : 37

**Observations:**

Flue Gas Temperature °C : 151  
Ambient Air Temperature °C : 28  
Flue Gas Velocity (m/s) : 9.00

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits mg/Nm <sup>3</sup>		Test Method
			For Gas	For Liquid	
1	Particulate Matters (as PM)	2.9	5	50	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	6.7	50	850	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	24.3	250	350	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	39.6	100	150	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	0	5	USEPA Method 29 By AAS

Remark: Not Detected

**(AUTHORISED SIGNATORY)**

**(RAVINDER MITTAL)**

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited involved amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**

Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100001613

Test Report No. : 201910290110

Test Report Date: 06/11/2019

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 29/10/2019  
Time of Sampling : 12:20  
Test Started on : 31/10/2019  
Test Completed On : 05/11/2019  
Purpose of monitoring : To Check the Pallution Load  
Sampling Location : UB-3  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 100  
Diameter of the stack(m) : 3.0  
Sampling duration (min) : 25

**Observations:**

Flue Gas Temperature °C : 126  
Ambient Air Temperature °C : 30  
Flue Gas Velocity (m/s) : 13.0

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits mg/Nm <sup>3</sup>		Test Method
			For Gas	For Liquid	
1	Particulate Matters (as PM)	2.93	5	50	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	5.9	50	850	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	89.2	250	350	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	1.1	100	150	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	0	5	USEPA Method 29 By AAS

Remark: Not Detected



**(RAVINDER MITTAL)**

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited involved amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100001614  
Test Report No. : 201910290111  
Test Report Date: 06/11/2019

**Sample Particulars:**

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 29/10/2019
Time of Sampling	: 10:40
Test Started on	: 31/10/2019
Test Completed On	: 05/11/2019
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: HRSG-I
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 35
Diameter of the stack(m)	: 2.0
Sampling duration (min)	: 40
<b>Observations:</b>	
Flue Gas Temperature °C	: 155
Ambient Air Temperature °C	: 29
Flue Gas Velocity (m/s)	: 7.89

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits mg/Nm <sup>3</sup>		Test Method
			For Gas	For Liquid	
1	Particulate Matters (as PM)	1.29	5	50	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	3.6	50	850	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	171	250	350	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	7.9	100	150	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	0	5	USEPA Method 29 By AAS

Remark: Not Detected



**(AUTHORISED SIGNATORY)**

**(RAVINDER MITTAL)**

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited involved amount only. Results subject to the movement of vehicles at that particular time.\* Not In NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100001615  
Test Report No. : 201910290112  
Test Report Date: 06/11/2019

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 29/10/2019  
Time of Sampling : 11:45  
Test Started on : 31/10/2019  
Test Completed On : 05/11/2019  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : HRSG-2  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 35  
Diameter of the stack(m) : 2.0  
Sampling duration (min) : 40

**Observations:**

Flue Gas Temperature °C : 152  
Ambient Air Temperature °C : 29  
Flue Gas Velocity (m/s) : 8.28

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits mg/Nm <sup>3</sup>		Test Method
			For Gas	For Liquid	
1	Particulate Matters (as PM)	0.81	5	50	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	3.5	50	850	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	139.3	250	350	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	8.3	100	150	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	0	5	USEPA Method 29 By AAS

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited involved amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

fabsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt.Bhatinda. Puniab. India

Job Booking No.: NL/100001578-1588  
Test Report Date: 07/11/2019

**Sample Particulars:**

Nature of the Sample & No. of Samples : **Ground Water & Eleven Samples**  
Sample Quantity & Packaging : 2.0 Lifer, Pet Bottle  
Test Started on : 01/11/2019  
Test Completed : 06/11/2019  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 31/10/2019  
Sampling Conducted By : Mr. Manmohan Singh

**Analysis Report**

Parameter	pH	Odour	Color	Taste	Temperature	Turbidity	TDS	Alkalinity as (CaCO <sub>3</sub> )
GW1	7.82	Agreeable	<5	Agreeable	27.6	<1	602	224
GW2	7.66	Agreeable	<5	Agreeable	27.3	<1	724	248
GW3	7.22	Agreeable	<5	Agreeable	28.1	<1	620	218
GW4	7.67	Agreeable	<5	Agreeable	27.9	<1	708	232
GW5	7.96	Agreeable	<5	Agreeable	27.5	<1	612	214
GW6	7.67	Agreeable	<5	Agreeable	28.2	<1	692	220
GW7	7.49	Agreeable	<5	Agreeable	27.8	<1	588	192
GW8	7.61	Agreeable	<5	Agreeable	27.4	<1	590	198
GW9	7.68	Agreeable	<5	Agreeable	27.2	<1	670	24
GW10	7.72	Agreeable	<5	Agreeable	27.8	<1	560	228
GW11	7.86	Agreeable	<5	Agreeable	28.2	<1	640	256
Requirement as per IS 10500	6.5-8.5	Agreeable	5	Agreeable	-	1	500	200
	6.5-8.5	Agreeable	15	Agreeable	-	5	2000	600
Protocol	IS:3025 (P-11)	IS:3025 (P-5)	IS:3025 (P-4)	IS:3025 (P-7)	IS:3025 (P-9)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-16)	IS:3025 (P-23)

**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: Secure Landfill Area West Side, GW10: Secured Landfill Area South Side, GW11: Near ETP South Side

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection, testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhar, Taluka Talwandi Sabo  
Distt.Bhatinda, Puniab, India

Job Booking No.: NL/100001578-1588  
Test Report Date: 07/11/2019

**Analysis Report**

Parameter	Total Hardness as (CaCO <sub>3</sub> )	Chlorides	Fluorides	Calcium as Ca	Magnesium as Mg	Sulphate	Nitrates	Phenolic Compounds
GW1	252	224.6	0.84	44.88	34.03	114.3	14.3	BDL
GW2	264	252.9	0.89	41.68	38.89	102.5	12.6	BDL
GW3	256	188.9	0.72	46.49	34.03	116.4	10.6	BDL
GW4	220	236.8	0.86	49.69	25.28	112.9	12.9	BDL
GW5	212	202.8	0.79	51.30	20.42	104.6	14.8	BDL
GW6	236	168.9	0.72	40.08	33.06	118.4	10.5	BDL
GW7	256	202.9	0.81	46.49	37.92	106.9	11.9	BDL
GW8	216	186.8	0.74	44.88	25.28	110.9	13.6	BDL
GW9	322	156.2	0.92	48.09	49.10	118.8	13.9	BDL
GW10	368	196.9	0.76	51.30	58.34	120.2	15.8	BDL
GW11	268	156.9	0.85	41.68	39.86	115.8	14.6	BDL
Requirement as per IS:10500	200	250	1.0	75	30	200	45	0.001
	600	1000	1.5	200	100	400	No Relaxation	0.002
Protocol	IS: 3025 (P-21)	IS:3025 (P-21)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-40)	IS:3025 (P-46)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-34)	IS:3025 (P-43)

**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, BDL-LOQ-0.001-Phenolic Compound

  
**(AUTHORISED SIGNATORY)**  
**(RAVINDER MITTAL)**

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of last certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited Invoiced amount only. \* Not In NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email of info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

Plot No. 11B, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Job Booking No.: NL/100001578-1588  
Test Report Date: 07/11/2019

**Analysis Report**

Parameter	Iron (as Fe)	Mercury (as Hg)	Zinc (as Zn)	Cadmium (as Cd)	Chromium (as Cr)	Arsenic (as As)	Lead (as Pb)	Boron (as B)
GW1	0.32	BDL	1.5	BDL	BDL	BDL	BDL	0.31
GW2	0.3	BDL	0.81	BDL	BDL	BDL	BDL	0.32
GW3	0.28	BDL	BDL	BDL	BDL	BDL	BDL	0.34
GW4	0.24	BDL	BDL	BDL	BDL	BDL	BDL	0.33
GW5	0.29	BDL	BDL	BDL	BDL	BDL	BDL	0.39
GW6	0.25	BDL	BDL	BDL	BDL	BDL	BDL	0.45
GW7	0.28	BDL	BDL	BDL	BDL	BDL	BDL	0.34
GW8	0.26	BDL	BDL	BDL	BDL	BDL	BDL	0.47
GW9	0.29	BDL	BDL	BDL	BDL	BDL	BDL	0.38
GW10	0.36	BDL	BDL	BDL	BDL	BDL	BDL	0.42
GW11	0.32	BDL	BDL	BDL	BDL	BDL	BDL	0.33
Requireme nt as per IS:10500	1	0.001	5	0.003	0.05	0.01	0.01	0.5
	No Relaxation	No Relaxation	15	No Relaxation	No Relaxation	0.05	No Relaxation	1.0
Protocol	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> 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, BDL-LOQ-0.001-Mercury  
BDL-LOQ-0.003-Cadmium, BDL-LOQ-0.05-Chromium, BDL-LOQ-0.01-Arsenic, BDL-LOQ-0.01-Arsenic, BDL-LOQ-0.01-Lead

  
(AUTHORISED SIGNATORY)  
(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email of info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Taiwandi Sabo  
Distt.Bhatinda, Punjab, India.

Job Booking No.: NL/100001578-1588  
Test Report Date: 07/11/2019

**Analysis Report**

Parameter	Cyanide (as CN <sup>-</sup> )	Selenium (as Se <sup>-</sup> )	RFC	Polycyclic Aromatic Hydrocarbons (PAH <sup>-</sup> )	Mineral Oil*	Anionic Detergent	Aluminium (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
Requirement as per IS:10500	0.05	0.01	0.2	0.0001	0.5	0.2	0.03	Absent
	No	No	1.0	No	No	1.0	0.2	Absent
Protocol	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	IS: 1622

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, BDL-LOG-0.05-Cyanide, BDL-LOG-0.01-Selenium, BDL-LOG-0.2-RFC, BDL-LOG-0.0001-PAH, BDL-LOG-0.5-Mineral Oil, BDL-LOG-0.2-Anionic Detergent, BDL-LOG-0.03-Aluminium

  
(AUTHORISED SIGNATORY)  
(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about the report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* Not In NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, TalukaTatwandi Sabo  
Distt.Bhatinda, Punjab, India

Job Booking No.: NL/100001596

Test Report Date: 07/11/2019

**Sample Particulars:**

Nature of the Sample : **Volatile Organic Carbon**  
Date of Monitoring : 31/10/2019  
Purpose of Monitoring : To Check the Pollution Load  
Place of Monitoring : HMEL Refinery  
Monitoring Conducted By : Mr. Animesh Jha  
Protocol Used : IS: 5182(Part-11)

**Analysis Report**

Sr. No.	Locations	Test Results (PPM)
1	Near ETP	0.23
2	Near Rail Gantry	BDL[LOQ-0.1]
3	Near Road Gantry	BDL[LOQ-0.1]
4	Battery limits of CDU/VDU	BDL[LOQ-0.1]
5	Battery limits of FCCU	BDL[LOQ-0.1]
6	Battery limits of DHDT	BDL[LOQ-0.1]
7	Battery limits of VGO-HDT	BDL[LOQ-0.1]
8	Battery limits of MS Block	BDL[LOQ-0.1]
9	Battery limits of DCU	BDL[LOQ-0.1]
10	Product Intermediate Storage Tanks Down Wind Direction	BDL[LOQ-0.1]
11	Product Intermediate Storage Tank UP Wind Direction	BDL[LOQ-0.1]
12	Near HPCL Product Dispatch Pumps	0.25
13	Battery limits of PPU	BDL[LOQ-0.1]
14	Near Crude Oil storage Tanks	0.27
15	Battery Limits of SRU Block	BDL[LOQ-0.1]

  
(AUTHORISED SIGNATORY)  
(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\*  
Not in NABL Scope.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, TalukaTalandi Sabo  
Distt.Bhatinda, Punjab, India

Job Booking No.: NL/100001589  
Test Report Date: 07/11/2019

**Sample Particulars:**

Nature of the Sample : **ETP Outlet**  
Sample Quantity & Packaging : 2.0 Liter, Pet Bottle  
Test Started on : 01/11/2019  
Test Completed : 06/11/2019  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 31/10/2019  
Sampling Conducted By : Mr. Manmohan Singh  
Place of Sampling : W-1: ETP Outlet, Inside GGSR

**Test Result**

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
			W-1		
1	pH	...	7.64	6.0-8.5	IS-3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	4.5	20.0	IS-3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	82.2	125.0	IS-3025 (P-58)
4	Bio-Chemical Oxygen Demand (3 days)(BOD)	mg/L	12	15.0	IS-3025 (P-44)
5	Oil & Grease (O&G)	mg/L	BDL	5.0	IS-3025 (P-39)
6	Phenolic Compounds(C6H5OH)	mg/L	0.21	0.35	IS-3025 (P-43)
7	Sulphide (S)	mg/L	0.2	0.5	IS-3025 (P-29)
8	Ammonia(N)	mg/L	7.21	15.0	IS-3025 (P-34)
9	Total Kjeldahl Nitrogen (NH3)	mg/L	16.2	40	IS-3025 (P-34)
10	Phosphate	mg/L	0.76	3.0	IS-3025 (P-31)
11	Cyanide (CN <sup>-</sup> )	mg/L	BDL	0.20	APHA-23 <sup>rd</sup> Ed.
12	Total Chromium	mg/L	BDL	2.0	IS-3025 (P-52)
13	Chromium Hexavalent (Cr <sup>+6</sup> )	mg/L	BDL	0.1	IS-3025 (P-52)
14	Copper (Cu)	mg/L	BDL	1.0	APHA-23 <sup>rd</sup> Ed.
15	Lead (Pb)	mg/L	BDL	0.1	APHA-23 <sup>rd</sup> Ed.
16	Mercury (Hg)	mg/L	BDL	0.01	APHA-23 <sup>rd</sup> Ed.
17	Zinc (Zn)	mg/L	BDL	5.0	APHA-23 <sup>rd</sup> Ed.
18	Nickel (Ni)	mg/L	BDL	1.0	APHA-23 <sup>rd</sup> Ed.
19	Vanadium (V)	mg/L	BDL	0.2	APHA-23 <sup>rd</sup> Ed.
20	Benzene	mg/L	BDL	0.1	APHA-23 <sup>rd</sup> Ed.
21	Benzo (a)-Pyreen	mg/L	BDL	0.2	APHA-23 <sup>rd</sup> Ed.

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: NL/100001590

Test Report Date: 07/11/2019

**Sample Particulars:**

Nature of the Sample : **STP Outlet Refinery**  
Sample Quantity & Packaging : 2.0 Liter, Pet Bottle  
Test Started on : 01/11/2019  
Test Completed : 06/11/2019  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 31/10/2019  
Sampling Conducted By : Mr. Manmohan Singh  
Place of Sampling : W-2: STP Outlet, Inside GGSR

**Analysis Report**

Sr. No.	Parameters	Unit	Test Results	Standards	Protocol
			W2		
1	pH	-	7.42	6.5 to 9.0	IS-3025 (P-11)
2	Temperature	°C	29.6	-	IS-3025 (P-9)
3	TSS	mg/l	8	≤10mg/l	IS-3025 (P-17)
4	COD	mg/l	47	≤50mg/l	IS-3025 (P-58)
5	BOD	mg/l	8	≤10mg/l	IS-3025 (P-44)
6	O & G	mg/l	ND	≤5mg/l	IS-3025 (P-39)
7	Ammonical Nitrogen as N	mg/l	2.09	≤5mg/l	IS:3025 (P-34)
8	N-total	mg/l	5.9	≤10mg/l	IS:3025 (P-34)
9	PO4-P	mg/l	0.46	≤2mg/l	IS:3025 (P-31)
10	Total coliform Count	MPN/100ml	98	≤230/100mg/l	IS: 1622

  
(AUTHORISED SIGNATORY)  
(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email of info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, TalukoTalwandi Sabo  
Distt.Bhatinda, Punjab, India

Job Booking No.: NL/100001593  
Test Report Date: 07/11/2019

**Sample Particulars:**

Nature of the Sample : **ETP Outlet**  
Sample Quantity & Packaging : 5.0 Liter, Pet Bottle  
Test Started on : 01/11/2019  
Test Completed : 06/11/2019  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 31/10/2019  
Sampling Conducted By : Mr. Manmohan Singh  
Place of Sampling : W-5: ETP Outlet, Inside GSR

Sr. No.	Parameters	Unit	Test Result	Protocol
			W5	
1	Bioassay Toxic Test	%	98 % survival of fish after 96 hours in 100 % effluent	IS:6582 (P-1)

  
(AUTHORISED SIGNATORY)  
**(RAVINDER MITTAL)**

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited involved amount only. \* Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Scanned copy of original Manual Environmental Monitoring Test  
reports Nov'2019**

**BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB  
TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Taiwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100001679,90,1701,12,23,34,45,56  
Test Report Date: 11/12/2019

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-1**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
04/11/2019	9:30	1.07	4.520	BDL	BDL	BDL
08/11/2019	9:20	1.15	4.112	BDL	BDL	BDL
11/11/2019	9:40	1.11	3.812	BDL	BDL	BDL
15/11/2019	9:15	1.12	3.921	BDL	BDL	BDL
18/11/2019	9:35	1.14	4.321	BDL	BDL	BDL
22/11/2019	9:30	1.16	3.998	BDL	BDL	BDL
25/11/2019	9:20	1.09	3.426	BDL	BDL	BDL
29/11/2019	9:40	1.15	4.011	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS - National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 16.11.2009. BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable. Sample Analysed within Three days after Receipt.

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Ref. No.: NL/100001680,91,1702,13,24,35,46,57  
Test Report Date: 11/12/2019

**Sample Particulars**

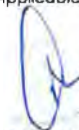
Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : Ambient Air Quality Monitoring Station (AAQMS)-2  
Purpose of Monitoring : To Check the Pollution Load  
Method of Sampling : IS 5182 (Part 14)  
Monitoring Conducted By : Mr. Animesh Jha  
Sampling Duration (Hrs.) : 24 Hrs.

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
04/11/2019	10:00	1.18	4.426	BDL	BDL	BDL
08/11/2019	09:50	1.12	3.826	BDL	BDL	BDL
11/11/2019	10:10	1.13	3.422	BDL	BDL	BDL
15/11/2019	09:45	1.12	4.527	BDL	BDL	BDL
18/11/2019	10:05	1.03	3.968	BDL	BDL	BDL
22/11/2019	10:00	1.09	3.976	BDL	BDL	BDL
25/11/2019	9:50	1.14	4.436	BDL	BDL	BDL
29/11/2019	10:10	1.12	4.529	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS - National Ambient Air Quality Standards; Schedule-VII, (Rule 3 (3B)), (Part-II-sec.-3(i)) 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within three days after Receipt.



**(AUTHORISED SIGNATORY)**

**(RAVINDER MITTAL)**

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**BUILDING & ROAD, MATERIAL, SOIL, ENVIRONMENTAL & CALIBRATION TESTING LAB**  
**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluko Talwandi Sabo  
Distt.Bhatinda. Puniab. India

Ref. No.: NL/100001681,92,1703,14,25,36,47,58

Test Report Date: 11/12/2019

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-3**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
04/11/2019	10:30	1.12	4.229	BDL	BDL	BDL
08/11/2019	10:20	1.16	4.516	BDL	BDL	BDL
11/11/2019	10:40	1.14	4.289	BDL	BDL	BDL
15/11/2019	10:15	1.12	3.828	BDL	BDL	BDL
18/11/2019	10:35	1.16	4.919	BDL	BDL	BDL
22/11/2019	10:30	1.20	4.326	BDL	BDL	BDL
25/11/2019	10:20	1.15	3.998	BDL	BDL	BDL
29/11/2019	10:40	1.18	4.529	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.



**(AUTHORISED SIGNATORY)**

**(RAVINDER MITTAL)**

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-987324093

**CORPORATE OFFICE & CENTRAL LABORATORY**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Issued to: HPCL-Mittal Energy Limited**

Village Phullokhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Ref. No.: NL/100001682,93,1704,15,26,37,48,59

Test Report Date: 11/12/2019

**Sample Particulars**

Nature of the Sample	: Ambient Air Quality Monitoring
Sampling Location	: Ambient Air Quality Monitoring Station (AAQMS)-4
Purpose of Monitoring	: To Check the Pollution Load
Method of Sampling	: IS 5182 (Part 14)
Monitoring Conducted By	: Mr. Animesh Jha
Sampling Duration (Hrs.)	: 24 Hrs.

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m <sup>3</sup> /min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
04/11/2019	11:00	1.09	4.126	BDL	BDL	BDL
08/11/2019	10:50	1.18	3.815	BDL	BDL	BDL
11/11/2019	11:10	1.11	4.142	BDL	BDL	BDL
15/11/2019	10:45	1.14	4.024	BDL	BDL	BDL
18/11/2019	11:05	1.20	4.326	BDL	BDL	BDL
22/11/2019	11:00	1.16	4.314	BDL	BDL	BDL
25/11/2019	10:50	1.12	3.867	BDL	BDL	BDL
29/11/2019	11:10	1.10	3.668	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (38)], [Part-II-sec.-3(i)] 16.11.2009. BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within three days after Receipt.



**(AUTHORISED SIGNATORY)**

**(RAVINDER MITTAL)**

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total Liability of Nitya Laboratories is limited invoiced amount only.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email of info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100001683,94,1705,16,27,38,49,60  
Test Report Date: 11/12/2019

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-5**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. AnimeshJha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
04/11/2019	11:30	1.20	3.926	BDL	BDL	BDL
08/11/2019	11:20	1.16	4.264	BDL	BDL	BDL
11/11/2019	11:40	1.15	4.668	BDL	BDL	BDL
15/11/2019	11:15	1.16	4.128	BDL	BDL	BDL
18/11/2019	11:35	1.18	3.928	BDL	BDL	BDL
22/11/2019	11:30	1.14	3.998	BDL	BDL	BDL
25/11/2019	11:20	1.19	4.316	BDL	BDL	BDL
29/11/2019	11:40	1.15	4.556	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 16.11.2009. BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0] Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed Within three days after Receipt.

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to invoiced amount only.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Ref. No.: NL/100001684,85,95,96,1706,07,17,18,28,29,  
39,40,50, 51,61,62  
Test Report Date: 11/12/2019

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-6**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jho**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter								
			Ni ng/m <sup>3</sup>	As ng/m <sup>3</sup>	BAP, ng/m <sup>3</sup>	Pb µg/ m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO mg/m <sup>3</sup>
04/11/2019	12:00	1.16	3.998	BDL	BDL	BDL	64.2	118.6	28.6	42.6	0.676
08/11/2019	11:50	1.18	3.717	BDL	BDL	BDL	65.8	122.8	30.4	39.	0.669
11/11/2019	12:10	1.16	3.842	BDL	BDL	BDL	63.4	122.6	26.5	38.2	0.898
15/11/2019	11:45	1.12	4.467	BDL	BDL	BDL	66.8	122.8	32.4	40.8	0.699
18/11/2019	12:05	1.15	4.768	BDL	BDL	BDL	63.6	122.4	26.6	42.8	0.698
22/11/2019	12:00	1.12	4.546	BDL	BDL	BDL	64.2	122.8	26.5	39.6	0.668
25/11/2019	11:50	1.14	4.597	BDL	BDL	BDL	63.4	120.6	32.4	36.6	0.652
29/11/2019	12:10	1.18	4.398	BDL	BDL	BDL	67.6	116.4	28.6	40.6	0.614
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>	<b>60</b>	<b>100</b>	<b>80</b>	<b>80</b>	<b>04</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>	<b>IS:5182 (P-23)</b>	<b>IS:5182 (P-2)</b>	<b>IS:5182 (P-6)</b>	<b>NDIR Method</b>	<b>IS:5182 (P-23)</b>

**Remark:**

\*NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (38)], [Part-II-sec.-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0] Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.

  
**(AUTHORISED SIGNATORY)**  
**(RAVINDER MITTAL)**

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to invoiced amount only.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email of [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100001783  
Test Report Date: 11/12/2019

**Sample Particulars:**

Nature of the Sample : **Ambient Noise**  
Date of Monitoring : 30/11/2019  
Purpose of Monitoring : To Check the Pollution Load  
Place of Monitoring : HMEI Refinery  
Monitoring Conducted By : Mr. Animesh Jho  
Protocol Used : IS:9989

**Analysis Report**

Sr. No.	Location	Test Result dB(A) Day Time	Test Result dB(A) Night Time
<b>Permissible Limit in *dB(A) Leq For Industrial Area</b>		<b>75 dB(A)</b>	<b>70 dB(A)</b>
1	Near Refinery Main Gate	71.2	63.8
2	Near Fire Water Reservoir	67.6	64.9
3	Near Road Crude Oil Tanks	73.9	64.2
4	Near ETP and Flare	71.2	63.6
5	Near Storm Water Pond East Side	72.8	62.2
6	Near Sulphur Yard South East Side	72.1	65.4
7	Near Rail Loading Dispatch South East Side	72.9	66.2
8	Near CPP North East Side	72.2	63.1
9	Near Poly Propylene Dispatch Area	73.3	64.6
10	Near Ecological Pond Area	71.2	63.2

\*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	Limits dB (A) Leq	
		Day Time (6AM – 10PM)	Night Time (10PM – 06AM)
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: NL/100001787  
Test Report Date: 24/11/2019

**Sample Particulars:**

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 18/11/2019
Time of Sampling	: 13:10
Test Started on	: 19/11/2019
Test Completed On	: 23/11/2019
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: SRU 524
Sampling method	: IS 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 100
Diameter of the Stack(m)	: 2.0
Sampling duration (min)	: 30
<b>Observations:</b>	
Flue Gas Temperature °C	: 179
Ambient Air Temperature °C	: 24
Flue Gas Velocity (m/s)	: 13.14

**Analysis Report**

Sr. No.	Parameters	Unit	Test Results	Limits mg/Nm <sup>3</sup>	Test Method
1	Oxide of Nitrogen (as NO <sub>x</sub> )	mg/Nm <sup>3</sup>	45.87	250	IS-11255(P-7)
2	Carbon Monoxide (as CO)	mg/Nm <sup>3</sup>	20.76	100	IS-13270
3	Oxides of Sulphur as SO <sub>x</sub>	mg/Nm <sup>3</sup>	152.39	NA	IS-11255 (P-2)
4	Hydrogen Sulphide (as H <sub>2</sub> S)	mg/Nm <sup>3</sup>	BDL(LOQ-0.1)	10	IS:11255 (P-4)

Remark: BDL-Below Detection Limit

  
(AUTHORISED SIGNATORY)  
  
(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

📍 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

☎ +91-129-2241021

☎ +91-9013591021, +91-9013552273

✉ labsnitya@gmail.com

🌐 www.nityalab.com

### TEST REPORT

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: NL/100001788

Test Report Date: 24/11/2019

#### Sample Particulars:

Nature of the sample	: Stack Gas Emission
Date of Sampling	: 18/11/2019
Time of Sampling	: 14:15
Test Started on	: 19/11/2019
Test Completed On	: 23/11/2019
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: SRU 525
Sampling method	: IS11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 100
Diameter of the Stack(m)	: 2.0
Sampling duration (min)	: 30
<b>Observations:</b>	
Flue Gas Temperature °C	: 175
Ambient Air Temperature °C	: 26
Flue Gas Velocity (m/s)	: 12.88

#### Analysis Report

Sr. No.	Parameters	Unit	Test Results	Limits mg/Nm <sup>3</sup>	Test Method
1	Oxide of Nitrogen (as NO <sub>x</sub> )	mg/Nm <sup>3</sup>	39.87	250	IS:11255(P-7)
2	Carbon Monoxide (as CO)	mg/Nm <sup>3</sup>	23.17	100	IS:13270
3	Oxides of Sulphur as SO <sub>x</sub>	mg/Nm <sup>3</sup>	143.21	NA	IS:11255 (P-2)
4	Hydrogen Sulphide (as H <sub>2</sub> S)	mg/Nm <sup>3</sup>	BDL(LOQ-0.1)	10	IS:11255 (P-4)

Remark: BDL-Below Detection Limit

  
(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not In NABL Scope.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100001767-177  
Test Report Date: 11/12/2019

**Sample Particulars:**

Nature of the Sample & No. of Samples : **Ground Water & Eleven Samples**  
Sample Quantity & Packaging : 2.0 Liter, Pet Bottle  
Test Started on : 02/12/2019  
Test Completed : 10/12/2019  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 29/11/2019  
Sampling Conducted By : Mr. Manmohan Singh  
**Analysis Report**

Parameter	pH	Odour	Color	Taste	Temperature	Turbidity	TDS	Alkalinity as (CaCO <sub>3</sub> )	Total Hardness as (CaCO <sub>3</sub> )	Chlorides	Fluorides	
<b>Location</b>												
<b>GW1</b>	7.38	Agreeable	<5	Agreeable	30.2	<1	623	174	252	185.2	0.78	
<b>GW2</b>	7.81	Agreeable	<5	Agreeable	30.1	<1	616	236	240	218.2	0.79	
<b>GW3</b>	7.32	Agreeable	<5	Agreeable	30.2	<1	539	208	244	145.6	0.68	
<b>GW4</b>	7.59	Agreeable	<5	Agreeable	30.3	<1	618	224	258	223.6	0.84	
<b>GW5</b>	7.61	Agreeable	<5	Agreeable	30.4	<1	554	172	216	107.6	0.82	
<b>GW6</b>	7.78	Agreeable	<5	Agreeable	30.1	<1	600	218	228	126.8	0.71	
<b>GW7</b>	7.68	Agreeable	<5	Agreeable	30.2	<1	484	190	226	157.4	0.86	
<b>GW8</b>	7.76	Agreeable	<5	Agreeable	30.3	<1	435	202	202	160.4	0.75	
<b>GW9</b>	7.62	Agreeable	<5	Agreeable	30.1	<1	524	158	298	148.6	0.86	
<b>GW10</b>	7.42	Agreeable	<5	Agreeable	30.4	<1	440	220	320	176.6	0.86	
<b>GW11</b>	7.74	Agreeable	<5	Agreeable	30.1	<1	518	206	252	137.4	0.91	
10 50 0	Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1	500	200	200	250	1.0
	Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5	2000	600	600	1000	1.5
<b>Protocol</b>	<b>IS:3025 (P-11)</b>	<b>IS:3025 (P-5)</b>	<b>IS:3025 (P-4)</b>	<b>IS:3025 (P-7)</b>	<b>IS:3025 (P-9)</b>	<b>APHA 23<sup>rd</sup> Ed.</b>	<b>IS:3025 (P-16)</b>	<b>IS:3025 (P-23)</b>	<b>IS:3025 (P-21)</b>	<b>IS:3025 (P-21)</b>	<b>APHA 23<sup>rd</sup> Ed.</b>	

**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

(AUTHORISED SIGNATORY)  
**(RAVINDER MITTAL)**

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \*Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda. Punjab. India

Ref. No.: NL/100001767-177  
Test Report Date: 11/12/2019

**Sample Particulars:**

Nature of the Sample & No. of Samples : **Ground Water & Eleven Samples**  
Sample Quantity & Packaging : 2.0 Liter, Pet Bottle  
Test Started on : 02/12/2019  
Test Completed : 10/12/2019  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 29/11/2019  
Sampling Conducted By : Mr. Manmohan Singh  
**Analysis Report**

Parameter	pH	Odour	Color	Taste	Temperature	Turbidity	TDS	Alkalinity as (CaCO <sub>3</sub> )	Total Hardness as (CaCO <sub>3</sub> )	Chlorides	Fluorides	
<b>Location</b>												
GW1	7.38	Agreeable	<5	Agreeable	30.2	<1	623	174	252	185.2	0.78	
GW2	7.81	Agreeable	<5	Agreeable	30.1	<1	616	236	240	218.2	0.79	
GW3	7.32	Agreeable	<5	Agreeable	30.2	<1	539	208	244	145.6	0.68	
GW4	7.59	Agreeable	<5	Agreeable	30.3	<1	618	224	258	223.6	0.84	
GW5	7.61	Agreeable	<5	Agreeable	30.4	<1	554	172	216	107.6	0.82	
GW6	7.78	Agreeable	<5	Agreeable	30.1	<1	600	218	228	126.8	0.71	
GW7	7.68	Agreeable	<5	Agreeable	30.2	<1	484	190	226	157.4	0.86	
GW8	7.76	Agreeable	<5	Agreeable	30.3	<1	435	202	202	160.4	0.75	
GW9	7.62	Agreeable	<5	Agreeable	30.1	<1	524	158	298	148.6	0.86	
GW10	7.42	Agreeable	<5	Agreeable	30.4	<1	440	220	320	176.6	0.86	
GW11	7.74	Agreeable	<5	Agreeable	30.1	<1	518	206	252	137.4	0.91	
10 50 0	Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1	500	200	200	250	1.0
	Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5	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)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-16)	IS:3025 (P-23)	IS:3025 (P-21)	IS:3025 (P-21)	APHA 23 <sup>rd</sup> 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



**(AUTHORISED SIGNATORY)**

**(RAVINDER MITTAL)**

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only. \*Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email of info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

Issued to: **HPCL-Mittal Energy Limited**

Village Phullokhari, Taluka Tolwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100001767-1777

Test Report Date: 11/12/2019

**Analysis 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	42.31	36.00	110.1	11.8	BDL	0.28	BDL	1.12	BDL	BDL	BDL
GW2	38.28	36.18	104.2	11.9	BDL	0.33	BDL	0.83	BDL	BDL	BDL
GW3	42.16	31.12	103.2	9.9	BDL	0.32	BDL	BDL	BDL	BDL	BDL
GW4	35.86	38.42	101.4	12.8	BDL	0.24	BDL	BDL	BDL	BDL	BDL
GW5	38.29	25.16	104.2	12.4	BDL	0.25	BDL	BDL	BDL	BDL	BDL
GW6	46.08	23.42	110.2	11.2	BDL	0.26	BDL	BDL	BDL	BDL	BDL
GW7	48.26	6.78	101.2	12.9	BDL	0.31	BDL	BDL	BDL	BDL	BDL
GW8	40.98	25.48	98.2	12.8	BDL	0.27	BDL	BDL	BDL	BDL	BDL
GW9	47.28	39.62	108.4	11.1	BDL	0.28	BDL	BDL	BDL	BDL	BDL
GW10	44.18	39.81	103.8	12.2	BDL	0.31	BDL	BDL	BDL	BDL	BDL
GW11	46.12	36.01	101.8	11.6	BDL	0.29	BDL	BDL	BDL	BDL	BDL
Requirement as per IS:10500:2012	75	30	200	45	0.001	1	0.001	5	0.003	0.05	0.01
	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)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-34)	IS:3025 (P-43)	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> 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

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \*Not In NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityyalab.com](mailto:info@nityyalab.com) and call of +91-191-2465597, +91-9873724073

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityyalab.com



**TEST REPORT**

Issued to: **HPCL-Mittal Energy Limited**

Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda. Puniab. India

Ref. No.: NL/100001767-1777

Test Report Date: 11/12/2019

**Analysis Report**

Parameter	Lead (as Pb)	Boron (as B)	Cyanide* (as CN)	Selenium* (as Se)	RFC	Polycyclic Aromatic Hydrocarbons* (PAH)	Mineral Oil*	Anionic Detergent	Aluminum (as Al)	Total Coliform
GW1	BDL	0.26	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW2	BDL	0.29	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW3	BDL	0.26	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW4	BDL	0.28	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW5	BDL	0.30	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW6	BDL	0.35	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW7	BDL	0.29	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW8	BDL	0.31	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW9	BDL	0.26	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW10	BDL	0.29	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW11	BDL	0.28	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
Requirement as per IS:10500:2012	0.01	0.5	0.05	0.01	0.2	0.0001	0.5	0.2	0.03	Absent
	No Relaxation	1.0	No	No	1.0	No	No	1.0	0.2	Absent
Protocol	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	IS: 1622

**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

  
(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to stated amount only. \*Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100001785  
Test Report Date: 11/12/2019

**Sample Particulars:**

Nature of the Sample : **Volatile Organic Carbon**  
Date of Monitoring : 30/11/2019  
Purpose of Monitoring : To Check the Pollution Load  
Place of Monitoring : HMEL Refinery  
Monitoring Conducted By : Mr. Animesh Jha  
Protocol Used : Portable PID Based Gos Detector for VOC's – Honeywell RAE

**Analysis Report**

Sr. No.	Locations	Test Results (PPM)
1	Near ETP	0.26
2	Near Rail Gantry	BDL
3	Near Road Gantry	BDL
4	Battery limits of CDU/VDU	BDL
5	Battery limits of FCCU	BDL
6	Battery limits of DHDT	BDL
7	Battery limits of VGO-HDT	BDL
8	Battery limits of MS Block	BDL
9	Battery limits of DCU	BDL
10	Product Intermediate Storage Tanks Down Wind Direction	BDL
11	Product Intermediate Storage Tank UP Wind Direction	BDL
12	Near HPCL Product Dispatch Pumps	0.22
13	Battery limits of PPU	BDL
14	Near Crude Oil storage Tanks	0.27
15	Battery Limits of SRU Block	BDL

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**

Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100001778

Test Report Date: 11/12/2019

**Sample Particulars:**

Nature of the Sample : **ETP Outlet**  
Sample Quantity & Packaging : 2.0 Liter, Pet Bottle  
Test Started on : 02/12/2019  
Test Completed : 10/12/2019  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 29/11/2019  
Sampling Conducted By : Mr. Manmahan Singh  
Place of Sampling : W-1; ETP Outlet, Inside GGSR

**Test Result**

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
			W-1		
1	pH	...	7.31	6.0-8.5	IS-3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	18.22	20.0	IS-3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	82.4	125.0	IS-3025 (P-58)
4	Bio-Chemical Oxygen Demand (BOD)	mg/L	12	15.0	IS-3025 (P-44)
5	Oil & Grease (O&G)	mg/L	BDL	5.0	IS-3025 (P-39)
6	Phenolic Compounds(C6H5OH)	mg/L	0.22	0.35	IS-3025 (P-43)
7	Sulphide (S)	mg/L	0.18	0.5	IS-3025 (P-29)
8	Ammonia (N)	mg/L	6.86	15.0	IS-3025 (P-34)
9	Total Kjeldahl Nitrogen (NH3)	mg/L	16.4	40	IS-3025 (P-34)
10	Phosphate	mg/L	0.28	3.0	IS-3025 (P-31)
11	Cyanide* (CN)	mg/L	BDL	0.20	APHA-23 <sup>rd</sup> Ed.
12	Total Chromium	mg/L	BDL	2.0	IS-3025 (P-52)
13	Chromium Hexavalent (Cr <sup>6</sup> )	mg/L	BDL	0.1	IS-3025 (P-52)
14	Copper (Cu)	mg/L	BDL	1.0	APHA -23 <sup>rd</sup> Ed.
15	Lead (Pb)	mg/L	BDL	0.1	APHA-23 <sup>rd</sup> Ed.
16	Mercury (Hg)	mg/L	BDL	0.01	APHA-23 <sup>rd</sup> Ed.
17	Zinc (Zn)	mg/L	BDL	5.0	APHA-23 <sup>rd</sup> Ed.
18	Nickel (Ni)	mg/L	BDL	1.0	APHA-23 <sup>rd</sup> Ed.
19	Vanadium* (V)	mg/L	BDL	0.2	APHA-23 <sup>rd</sup> Ed.
20	Benzene*	mg/L	BDL	0.1	APHA-23 <sup>rd</sup> Ed.
21	Benzo (a)-Pyreen*	mg/L	BDL	0.2	APHA-23 <sup>rd</sup> Ed.

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only. \*Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, TalukaTalandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100001779  
Test Report Date: 11/12/2019

**Sample Particulars:**

Nature of the Sample : **STP Outlet Refinery**  
Sample Quantity & Packaging : 2.0.Liter, Pet Bottle  
Test Started on : 02/12/2019  
Test Completed : 10/12/2019  
Method of Sampling : SOP/8/D-3  
Date of Sampling : 29/11/2019  
Sampling Conducted By : Mr. Manmohan Singh  
Place of Sampling : W-2 STP Outlet Inside GGSR

**Analysis Report**

Sr. No.	Parameters	Unit	Test Results	Standards	Protocol
			W2		
1	pH	-	7.39	6.5 to 9.0	IS-3025 (P-11)
2	Temperature	°C	32.1	-	IS-3025 (P-9)
3	TSS	mg/l	7.6	≤10mg/l	IS-3025 (P-17)
4	COD	mg/l	38	≤50mg/l	IS-3025 (P-58)
5	BOD	mg/l	6	≤10mg/l	IS-3025 (P-44)
6	O & G	mg/l	ND	≤5mg/l	IS-3025 (P-39)
7	Ammonical Nitrogen as N	mg/l	1.64	≤5mg/l	IS:3025 (P-34)
8	N-total	mg/l	4.22	≤10mg/l	IS:3025 (P-34)
9	PO4-P	mg/l	0.28	≤2mg/l	IS:3025 (P-31)
10	Total coliform Count	MPN/100ml	97	≤230/100mg/l	IS: 1622



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \*Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, TalukaTalandi Sabo  
Distt.Bhatinda. Puniab. India

Ref. No.: NL/100001782  
Test Report Date: 11/12/2019

**Sample Particulars:**

Nature of the Sample : **ETP Outlet**  
Sample Quantity & Packaging : 5.0 Liter, Pet Bottle  
Test Started on : 02/12/2019  
Test Completed : 10/12/2019  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 29/11/2019  
Sampling Conducted By : Mr. Manmohan Singh  
Place of Sampling : W-5: ETP Outlet, Inside GGSR

Sr. No.	Parameters	Unit	Test Result	Protocol
			W5	
1	Bioassay Toxic Test	%	97 % survival of fish after 96 hours in 100 % effluent	IS:6582 (P-1)



(AUTHORISED SIGNATORY)  
(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \*Not In NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email of [info@nityalab.com](mailto:info@nityalab.com) and call of +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORY**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA.

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Scanned copy of original Manual Environmental Monitoring Test  
reports Dec'2019**

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100001804,33, 57,1938,92, 2062, 2092, 2103  
Test Report Date: 06/01/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-1**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP*), ng/m <sup>3</sup>	Lead (as Pb), µg/ m <sup>3</sup>
02/12/2019	9:20	1.02	4.652	BDL	BDL	BDL
06/12/2019	9:25	1.12	4.214	BDL	BDL	BDL
09/12/2019	9:35	1.1	3.221	BDL	BDL	BDL
13/12/2019	9:40	1.09	3.541	BDL	BDL	BDL
16/12/2019	9:41	1.11	4.325	BDL	BDL	BDL
20/12/2019	9:35	1.2	3.984	BDL	BDL	BDL
23/12/2019	9:25	1.12	3.621	BDL	BDL	BDL
27/12/2019	9:50	1.1	4.214	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (38)], [Part-II-sec.-3(i)] 16.11.2009. BDL-Below Detection Limit, Arsenic-BDL (LOQ- 6.0] BAP-BDL (LOQ- 1.0], Lead-BDL (LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.



(AUTHORISED SIGNATORY)  
(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924073

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

📍 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

☎ +91-129-2241021

📠 +91-9013591021, +91-9013552273

✉ labsnitya@gmail.com

🌐 www.nityalab.com

### Test Report

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Ref. No.: NL/100001805, 34, 58,1939, 93, 2063,93, 2104  
Test Report Date: 06/01/2020

#### Sample Particulars

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-2**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

### Analysis Report

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
02/12/2019	10:10	1.3	4.381	BDL	BDL	BDL
06/12/2019	09:35	1.2	3.254	BDL	BDL	BDL
09/12/2019	10:10	1.1	3.627	BDL	BDL	BDL
13/12/2019	09:50	1.05	4.162	BDL	BDL	BDL
16/12/2019	10:35	1.01	3.824	BDL	BDL	BDL
20/12/2019	10:20	1.08	3.624	BDL	BDL	BDL
23/12/2019	9:55	1.14	4.214	BDL	BDL	BDL
27/12/2019	10:20	1.1	4.228	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

Remark:

\*NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL (LOQ- 6.0) BAP-BDL (LOQ- 1.0) Lead-BDL (LOQ- 1.0), N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

43, PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt.Bhatinda. Puniab. India

Ref. No.: NL/100001806.35,59,1940,94,2083,94,2105  
Test Report Date: 06/01/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-3**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
02/12/2019	10:40	1.16	4.214	BDL	BDL	BDL
06/12/2019	10:25	1.12	4.651	BDL	BDL	BDL
09/12/2019	10:50	1.15	4.287	BDL	BDL	BDL
13/12/2019	10:20	1.1	3.641	BDL	BDL	BDL
16/12/2019	10:45	1.21	4.914	BDL	BDL	BDL
20/12/2019	10:35	1.1	4.264	BDL	BDL	BDL
23/12/2019	10:25	1.21	3.348	BDL	BDL	BDL
27/12/2019	10:45	1.21	4.629	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS - National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within three days after Receipt.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt.Bhatinda. Puniab. India

Ref. No.: NL/100001807,36, 60,1941,95, 2084,95,2106  
Test Report Date: 06/01/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-4**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
02/12/2019	11:30	1.02	4.579	BDL	BDL	BDL
06/12/2019	11:50	1.02	3.964	BDL	BDL	BDL
09/12/2019	11:45	1.1	4.189	BDL	BDL	BDL
13/12/2019	10:40	1.12	4.751	BDL	BDL	BDL
16/12/2019	11:36	1.14	4.687	BDL	BDL	BDL
20/12/2019	11:20	1.11	4.241	BDL	BDL	BDL
23/12/2019	10:40	1.09	3.914	BDL	BDL	BDL
27/12/2019	11:20	1.02	3.641	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS - National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec-3(i)] 16,11.2009. BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount of the invoice only.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

43, PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt.Bhatinda. Punjab. India

Ref. No.: NL/100001808,37,61,1942,96,2085,96,2107  
Test Report Date: 06/01/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-5**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m <sup>3</sup> /min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
02/12/2019	11:50	1.12	3.628	BDL	BDL	BDL
06/12/2019	11:50	1.08	4.348	BDL	BDL	BDL
09/12/2019	11:30	1.02	4.154	BDL	BDL	BDL
13/12/2019	11:45	1.21	4.168	BDL	BDL	BDL
16/12/2019	11:40	1.09	3.297	BDL	BDL	BDL
20/12/2019	11:35	1.11	3.614	BDL	BDL	BDL
23/12/2019	11:25	1.12	4.335	BDL	BDL	BDL
27/12/2019	11:30	1.14	4.247	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQMS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(f)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email of info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Ref. No.: NL/100001809,10, 38, 39,62,63,1943,44,97,98,  
2086,87,97,98,2108,09

Test Report Date: 06/01/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-6**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter								
			NI ng/m <sup>3</sup>	As ng/m <sup>3</sup>	BAP, ng/m <sup>3</sup>	Pb µg/ m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO mg/m <sup>3</sup>
02/12/2019	12:20	1.09	3.681	BDL	BDL	BDL	66.4	96.3	19.4	46.5	0.451
06/12/2019	11:55	1.12	3.662	BDL	BDL	BDL	68.9	91.4	15.4	42.6	0.652
09/12/2019	12:30	1.06	3.941	BDL	BDL	BDL	62.6	93.2	13.2	44.6	0.694
13/12/2019	11:50	1.2	4.541	BDL	BDL	BDL	62.8	91.0	16.7	41.7	0.561
16/12/2019	12:20	1.1	4.624	BDL	BDL	BDL	66.3	92.4	17.3	43.1	0.634
20/12/2019	12:30	1.02	4.669	BDL	BDL	BDL	62.6	90.1	17.6	36.5	0.784
23/12/2019	11:55	1.04	4.278	BDL	BDL	BDL	66.4	92.2	19.8	32.4	0.624
27/12/2019	12:20	1.12	4.694	BDL	BDL	BDL	62.6	95.5	17.6	38.6	0.662
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>	<b>60</b>	<b>100</b>	<b>80</b>	<b>80</b>	<b>04</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>	<b>Gravimetric</b>	<b>IS:5182 (P-23)</b>	<b>IS:5182 (P-2)</b>	<b>IS:5182 (P-6)</b>	<b>NDIR Method</b>

**Remark:**

\*NAAQS – National Ambient Air Quality Standards; Schedule-VII, (Rule 3 (3B)), [Part-II-sec-3(i)] 16.11.2009. BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0] Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.

  
**(AUTHORISED SIGNATORY)**  
**(RAVINDER MITTAL)**

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only.  
If you have any complaint/feedback regarding the sample collection/losing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhori, TalukaTatwandi Sabo  
Distt.Bhatinda, Punjab, India

Ref. No.: NL/100002131  
Test Report Date: 06/01/2020

#### Sample Particulars:

Nature of the Sample : Ambient Noise  
Date of Monitoring : 30/12/2019  
Purpose of Monitoring : To Check the Pollution Load  
Place of Monitoring : HMEL Refinery  
Monitoring Conducted By : Mr. Animesh Jha  
Protocol Used : IS: 9989

### Analysis Report

Sr. No.	Location	Test Result dB(A) Day Time	Test Result dB(A) Night Time
Permissible Limit in *dB(A) Leq For Industrial Area		75 dB(A)	70 dB(A)
1	Near Refinery Main Gate	73.5	64.2
2	Near Fire Water Reservoir	65.2	66.7
3	Near RoadCrude Oil Tanks	74.1	62.1
4	Near ETP and Flare	72.5	64.1
5	Near Storm Water Pond East Side	71.6	63.9
6	Near Sulphur Yard South East Side	74.3	66.8
7	Near Rail Loading Dispatch South East Side	71.1	61.8
8	Near CPP North East Side	74.1	64.1
9	Near Poly PropyleneDispatch Area	72.1	62.5
10	Near Ecological Pond Area	70.3	64.7

\*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	Limits dB (A) Leq	
		Day Time (6AM – 10PM)	Night Time (10PM – 06AM)
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

  
(AUTHORISED SIGNATORY)  
(RAVINDER MITTAL)

NOTE: This laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited Invalced amount only. Results subject to the movement of vehicles of that particular time.\* Not in NABL Scope.

For any queries, complaints/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES**  
PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100002161  
Test Report No. : 201912200111  
Test Report Date: 28/12/2019

**Sample Particulars:**

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 20/12/2019
Time of Sampling	: 11:40
Test Started on	: 23/12/2019
Test Completed On	: 27/12/2019
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: SRU 525
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 100
Diameter of the stack(m)	: 2.0
Sampling duration (min)	: 28
<b>Observations:</b>	
Flue Gas Temperature °C	: 182
Ambient Air Temperature °C	: 16
Flue Gas Velocity (m/s)	: 12.487

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits 100 % Fuel Gas (mg/Nm <sup>3</sup> )	Test Method
1	Oxide of Nitrogen (as NO <sub>x</sub> )	34.3	250	IS-11255(P-7)
2	Carbon Monoxide (as CO)	23.6	100	IS-13270
3	Oxides of Sulphur (as SO <sub>x</sub> )	149.9	NA	IS-11255 (P-2)
4	Hydrogen Sulphide (as H <sub>2</sub> S)	BDL(LOQ-0.1)	10	IS:11255 (P-4)

Remark: Not Detected

  
(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection, testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### TEST REPORT

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100002160  
Test Report No. : 201912200110  
Test Report Date: 28/12/2019

#### Sample Particulars:

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 20/12/2019
Time of Sampling	: 10:30
Test Started on	: 23/12/2019
Test Completed On	: 27/12/2019
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: SRU 524
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 100
Diameter of the stack(m)	: 2.0
Sampling duration (min)	: 28

#### Observations:

Flue Gas Temperature °C	: 180
Ambient Air Temperature °C	: 15
Flue Gas Velocity (m/s)	: 12.80

### Analysis Report

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	100 % Fuel Gas (mg/Nm <sup>3</sup> )	Test Method
1	Oxide of Nitrogen (as NO <sub>x</sub> )	40.6	250	IS-11255(P-7)
2	Carbon Monoxide (as CO)	18.9	100	IS-13270
3	Oxides of Sulphur (as SO <sub>x</sub> )	149.2	N.A.	IS-11255 (P-2)
4	Hydrogen Sulphide (as H <sub>2</sub> S)	BDL(LOQ-0.1)	10	IS:11255 (P-4)

Remark: Not Detected

  
**(AUTHORISED SIGNATORY)**  
**(RAVINDER MITTAL)**

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### TEST REPORT

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: NL/100002167

Test Report No. : 201912210112

Test Report Date: 28/12/2019

#### Sample Particulars:

Date of Sampling : 21/12/2019  
Time of Sampling : 10:45  
Test Started on : 22/12/2019  
Test Completed On : 27/12/2019  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : CDU/VDU  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 85  
Diameter of the stack(m) : 4.3  
Sampling duration (min) : 34

#### Observations:

Flue Gas Temperature °C : 156  
Ambient Air Temperature °C : 17  
Flue Gas Velocity (m/s) : 9.90

#### Analysis Report

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	3.98	40	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	54.3	659	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	13.1	326	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	8.7	138	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not In NABL Scope

If you have any complaint/feedback regarding the samples collection/testing/test report, please send an email of [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: NL/100002166  
Test Report No. : 201912210112  
Test Report Date: 28/12/2019

**Sample Particulars:**

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 21/12/2019
Time of Sampling	: 13:40
Test Started on	: 23/12/2019
Test Completed On	: 29/12/2019
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: Naphtha Heater
Sampling method	: IS-11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 30
Diameter of the stack(m)	: 1.2
Sampling duration (min)	: 37

**Observations:**

Flue Gas Temperature °C	: 192
Ambient Air Temperature °C	: 16
Flue Gas Velocity (m/s)	: 10.12

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Limits mg/Nm <sup>3</sup>	Test Method
1	Particulate Matters (as PM)	1.9	41	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	8.9	679	IS-11255 (P-2)
3	Oxides of Nitrogen, (as NO <sub>x</sub> )	20.6	329	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	35.4	139	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected

(AUTHORISED SIGNATORY)  
  
(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount of invoice. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9872924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda. Punjab, India

Job Booking No.: NL/100002162  
Test Report No. : 201912210110  
Test Report Date: 28/12/2019

**Sample Particulars:**

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 21/12/2019
Time of Sampling	: 11:50
Test Started on	: 22/12/2019
Test Completed On	: 27/12/2019
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: HGU-1
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 70
Diameter of the stack (m)	: 2.6
Sampling duration (min)	: 29

**Observations:**

Flue Gas Temperature °C	: 172
Ambient Air Temperature °C	: 15
Flue Gas Velocity (m/s)	: 11.91

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Limits mg/Nm <sup>3</sup>	Test Method
1	Particulate Matters (as PM)	4.01	42	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	7.8	593	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	95.21	330	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	8.8	140	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Below Detection Limit

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/instrument report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: NL/100002166  
Test Report No. : 201912210111  
Test Report Date: 28/12/2019

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 21/12/2019  
Time of Sampling : 12:25  
Test Started on : 22/12/2019  
Test Completed On : 27/12/2019  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : HGU-2  
Sampling method : IS-11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 70  
Diameter of the stack(m) : 2.6  
Sampling duration (min) : 28  
**Observations:**  
Flue Gas Temperature °C : 175  
Ambient Air Temperature °C : 16  
Flue Gas Velocity (m/s) : 9.3

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Limits mg/Nm <sup>3</sup>	Test Method
1	Particulate Matters (as PM)	1.62	38	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	8.2	636	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	93.27	323	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	9.8	137	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Below Detection Limit

  
**(AUTHORISED SIGNATORY)**  
**(RAVINDER MITTAL)**

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to charged amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email of [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: NL/100002166  
Test Report No. : 201912230110  
Test Report Date: 01/01/2020

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 23/12/2019  
Time of Sampling : 15:42  
Test Started on : 25/12/2019  
Test Completed On : 30/12/2019  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : DCU  
Sampling method : IS-11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 65  
Diameter of the stack (m) : 3.14  
Sampling duration (min) : 37

**Observations:**

Flue Gas Temperature °C : 154  
Ambient Air Temperature °C : 17  
Flue Gas Velocity (m/s) : 9.35

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Limits mg/Nm <sup>3</sup>	Test Method
1	Particulate Matters (as PM)	2.5	43	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	85.1	719	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	72.4	334	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	29	142	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected

  
(AUTHORISED SIGNATORY)  
(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only, results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection, testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: NL/100002170  
Test Report No. : 201912230111  
Test Report Date: 01/01/2020

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 23/12/2019  
Time of Sampling : 10:10  
Test Started on : 25/12/2019  
Test Completed On : 30/12/2019  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : VGO Heater  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 65  
Diameter of the stack(m) : 2.25  
Sampling duration (min) : 34

**Observations:**

Flue Gas Temperature °C : 152  
Ambient Air Temperature °C : 15  
Flue Gas Velocity (m/s) : 9.93

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	3.3	41	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	7.4	676	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	28.7	328	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	43.5	139	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9073924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullakhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: NL/100002169  
Test Report No. : 201912230112  
Test Report Date: 01/01/2020

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 23/12/2019  
Time of Sampling : 11:10  
Test Started on : 25/12/2019  
Test Completed On : 30/12/2019  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : DHDT  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 75  
Diameter of the stack (m) : 2.25  
Sampling duration (min) : 30

**Observations:**

Flue Gas Temperature °C : 159  
Ambient Air Temperature °C : 16  
Flue Gas Velocity (m/s) : 10.27

**Analysis Report**

Sr. No.	Parameters	Results (ng/Nm <sup>3</sup> )	Mixed Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	2.18	40	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	8.32	666	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	21.1	327	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	54.3	138	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected

  
(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873724093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100002174  
Test Report No. :201912240111  
Test Report Date: 01/01/2020

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 24/12/2019  
Time of Sampling : 16:10  
Test Started on : 26/12/2019  
Test Completed On : 30/12/2019  
Purpase of manitaring : To Check the Pollution Load  
Sampling Location : CCR Heater  
Sampling method : IS-11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 68  
Diameter of the stack(m) : 2.5  
Sampling duration (min) : 33

**Observations:**

Flue Gas Temperature °C : 180  
Ambient Air Temperature °C : 14  
Flue Gas Velocity (m/s) : 10.93

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Limits mg/Nm <sup>3</sup>	Test Method
1	Particulate Matters (as PM)	1.92	40	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	10.1	659	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	46.7	326	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	18.3	138	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected

  
(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only. Results subject to the movement of vehicles at that particular time.\* Not In NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100002173  
Test Report No. : 2019122401110  
Test Report Date: 01/01/2020

**Sample Particulars:**

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 24/12/2019
Time of Sampling	: 15:20
Test Started on	: 26/12/2019
Test Completed On	: 30/12/2019
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: NHT
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 50
Diameter of the stack(m)	: 1.2
Sampling duration (min)	: 30
<b>Observations:</b>	
Flue Gas Temperature °C	: 212
Ambient Air Temperature °C	: 15
Flue Gas Velocity (m/s)	: 11.94

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Limits mg/Nm <sup>3</sup>	Test Method
1	Particulate Matters (as PM)	4.9	39	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	124.3	645	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	35.4	324	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	19.1	137	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected

  
**(AUTHORISED SIGNATORY)**  
**(RAVINDER MITTAL)**

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873424023

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100002171  
Test Report No. : 2019122401114  
Test Report Date: 01/01/2020

**Sample Particulars:**

Nature of the sample	: Stack Gas Emission
Date of Sampling	: 24/12/2019
Time of Sampling	: 12:10
Test Started on	: 26/12/2019
Test Completed On	: 31/12/2019
Purpose of Monitoring	: To Check the Pollution Load
Sampling Location	: FCCU Heater
Sampling method	: IS:11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 80
Diameter of the Stack(m)	: 1.75
Sampling Duration (min)	: 32
<b>Observations:</b>	
Flue Gas Temperature °C	: 180
Ambient Air Temperature °C	: 18
Flue Gas Velocity (m/s)	: 11.00

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	1.9	41	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	9.3	678	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	25.3	328	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	6.7	139	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL.(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not In NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/this report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100002175  
Test Report No. : 201912260116  
Test Report Date: 03/01/2020

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 26/12/2019  
Time of Sampling : 12:15  
Test Started on : 28/12/2019  
Test Completed On : 02/01/2020  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : UB-1  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 100  
Diameter of the stack(m) : 3.0  
Sampling duration (min) : 25

**Observations:**

Flue Gas Temperature °C : 128  
Ambient Air Temperature °C : 22  
Flue Gas Velocity (m/s) : 12.9

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	2.71	44	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	6.3	730	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	91.2	335	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	1.3	143	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited Invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NA&L Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### TEST REPORT

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100002176  
Test Report No. : 201912270110  
Test Report Date: 04/01/2020

#### Sample Particulars:

Nature of the sample	: Stack Gas Emission
Date of Sampling	: 27/12/2019
Time of Sampling	: 10:00
Test Started on	: 30/12/2019
Test Completed On	: 03/01/2020
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: HRSG-I
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 35
Diameter of the stack(m)	: 3.5
Sampling duration (min)	: 33
<b>Observations:</b>	
Flue Gas Temperature °C	: 148
Ambient Air Temperature °C	: 15
Flue Gas Velocity (m/s)	: 9.97

#### Analysis Report

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	2.01	44	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	3.9	730	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	180	335	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	8.1	143	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ=0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time. \* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924043

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Job Booking No.: 100002177  
Test Report No. : 201912270111  
Test Report Date: 04/01/2020

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 27/12/2019  
Time of Sampling : 11:15  
Test Started on : 30/12/2019  
Test Completed On : 03/01/2020  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : HRSG-2  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 35  
Diameter of the stack (m) : 3.5  
Sampling duration (min) : 35

**Observations:**

Flue Gas Temperature °C : 145  
Ambient Air Temperature °C : 16  
Flue Gas Velocity (m/s) : 9.16

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	1.16	44	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	3.1	730	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	142.3	335	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	8.9	143	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected

  
(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited involved amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt.Bhalinda, Punjab, India

Ref. No.: NL/100002114-24  
Test Report Date: 06/01/2020

**Sample Particulars:**

Nature of the Sample & No. of Samples : **Ground Water&Eleven Samples**  
Sample Quantity & Packaging : 2.0 Liter, Pet Bottle  
Test Started on : 29/12/2019  
Test Completed : 05/01/2020  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 27/12/2019  
Sampling Conducted By : Mr. Manmohan Singh

**Analysis Report**

Parameter	pH	Odour	Color	Taste	Temperature	Turbidity	TDS	Alkalinity-as (CaCO <sub>3</sub> )	Total Hardness as (CaCO <sub>3</sub> )	Chlorides	Fluorides
<b>Location</b>											
GW1	7.61	Agreeable	<5	Agreeable	30.0	<1	642	171	255	182.1	0.81
GW2	7.51	Agreeable	<5	Agreeable	30.1	<1	620	231	226	216.8	0.83
GW3	7.37	Agreeable	<5	Agreeable	30.2	<1	544	202	224	146.9	0.67
GW4	7.42	Agreeable	<5	Agreeable	30.1	<1	624	216	221	228.9	0.91
GW5	7.29	Agreeable	<5	Agreeable	30.1	<1	561	166	206	115.4	0.61
GW6	7.54	Agreeable	<5	Agreeable	30.1	<1	608	212	212	127.5	0.65
GW7	7.61	Agreeable	<5	Agreeable	30.2	<1	442	198	215	156.9	0.84
GW8	7.32	Agreeable	<5	Agreeable	30.3	<1	464	216	219	168.4	0.68
GW9	7.42	Agreeable	<5	Agreeable	30.1	<1	528	160	226	141.4	0.94
GW10	7.61	Agreeable	<5	Agreeable	30.2	<1	428	224	328	172.9	0.86
GW11	7.48	Agreeable	<5	Agreeable	30.1	<1	524	214	258	136.4	0.82
IS 10500	Desirable 6.5-8.5	Agreeable	5	Agreeable	-	1	500	200	200	250	1.0
	Permissible 6.5-8.5	Agreeable	15	Agreeable	-	5	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)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-16)	IS:3025 (P-23)	IS: 3025 (P-21)	IS:3025 (P-21)	APHA 23 <sup>rd</sup> 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



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to agreed amount only, \* not in HABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

43, PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**

Village Phullakhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Ref. No.: NL/100002114-24

Test Report Date: 06/01/2020

**Analysis 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	45.3	25.46	142.6	12.6	BDL	0.21	BDL	1.82	BDL	BDL	BDL
GW2	28.6	12.41	104.2	15.4	BDL	0.28	BDL	0.43	BDL	BDL	BDL
GW3	44.6	26.71	106.8	11.6	BDL	0.31	BDL	BDL	BDL	BDL	BDL
GW4	38.4	31.71	121.3	14.2	BDL	0.26	BDL	BDL	BDL	BDL	BDL
GW5	32.81	22.28	112.4	14.8	BDL	0.28	BDL	BDL	BDL	BDL	BDL
GW6	42.91	21.54	121.6	10.6	BDL	0.21	BDL	BDL	BDL	BDL	BDL
GW7	44.24	16.51	116.7	16.8	BDL	0.24	BDL	BDL	BDL	BDL	BDL
GW8	43.6	23.22	108.2	14.3	BDL	0.26	BDL	BDL	BDL	BDL	BDL
GW9	48.41	34.51	101.2	16.9	BDL	0.21	BDL	BDL	BDL	BDL	BDL
GW10	46.91	31.71	118.5	10.2	BDL	0.38	BDL	BDL	BDL	BDL	BDL
GW11	47.46	31.01	120.6	14.8	BDL	0.25	BDL	BDL	BDL	BDL	BDL
Requirement as per IS:10500:2012	75	30	200	45	0.001	1	0.001	5	0.003	0.05	0.01
	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)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-34)	IS:3025 (P-43)	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> 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

  
(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

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

#### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100002114-2124

Test Report Date: 06/01/2020

#### Analysis Report

Parameter	Lead (as Pb)	Boron (as B)	Cyanide (as CN*)	Selenium (as Se*)	RFC	Polycyclic Aromatic Hydrocarbons (PAH*)	Mineral Oil*	Anionic Detergent*	Aluminum (as Al)	Total Coliform
GW1	BDL	0.20	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW2	BDL	0.21	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW3	BDL	0.22	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW4	BDL	0.21	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW5	BDL	0.24	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW6	BDL	0.31	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW7	BDL	0.25	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW8	BDL	0.26	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW9	BDL	0.22	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW10	BDL	0.21	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW11	BDL	0.24	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
Requirement as per IS:10500:2012	0.01	0.5	0.05	0.01	0.2	0.0001	0.5	0.2	0.03	Absent
	No Relaxation	1.0	Na	No	1.0	No	No	1.0	0.2	Absent
Protocol	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	IS: 1622

**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

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924073

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100002130  
Test Report Date: 05/01/2020

**Sample Particulars:**

Nature of the Sample : **Volatile Organic Carbon**  
Date of Monitoring : 30/12/2019  
Purpose of Monitoring : To Check the Pollution Load  
Place of Monitoring : HMEI Refinery  
Monitoring Conducted By : Mr. Animesh Jha  
Protocol Used : Portable PID Based Gas Detector for VOC's - Honeywell RAE

**Analysis Report**

Sr. No.	Locations	Test Results (PPM)
1	Near ETP	0.3
2	Near Rail Gantry	BDL
3	Near Road Gantry	BDL
4	Battery limits of CDU/VDU	BDL
5	Battery limits of FCCU	BDL
6	Battery limits of DHDT	BDL
7	Battery limits of VGO-HDT	BDL
8	Battery limits of MS Block	BDL
9	Battery limits of DCU	BDL
10	Product Intermediate Storage Tanks Down Wind Direction	BDL
11	Product Intermediate Storage Tank UP Wind Direction	BDL
12	Near HPCL Product Dispatch Pumps	0.2
13	Battery limits of PPU	BDL
14	Near Crude Oil storage Tanks	0.4
15	Battery Limits of SRU Block	BDL

**Remark:**

BDL-Below Detection Limit (LOQ-0.1)

  
(AUTHORISED SIGNATORY)  
**(RAVINDER MITTAL)**

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of the organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, TalukaTalwandi Sabo  
Distt.Bhatinda, Punjab, India

Ref. No.: NL/100002125  
Test Report Date: 06/01/2020

**Sample Particulars:**

Nature of the Sample : **ETP Outlet**  
Sample Quantity & Packaging : **2.0 Liter, Pet Bottle**  
Test Started on : **29/12/2019**  
Test Completed : **05/01/2020**  
Method of Sampling : **SOP/B/D-3**  
Date of Sampling : **27/12/2019**  
Sampling Conducted By : **Mr. Manmohan Singh**  
Place of Sampling : **W-1: ETP Outlet, Inside GGSR**

**TEST RESULT**

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
			W-1		
1	pH	...	7.41	6.0-8.5	IS:3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	14.6	20.0	IS:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	86.4	125.0	IS:3025 (P-58)
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	10	15.0	IS:3025 (P-44)
5	Oil & Grease (O&G)	mg/L	BDL	5.0	IS:3025 (P-39)
6	Phenolic Compounds(C <sub>6</sub> H <sub>5</sub> OH)	mg/L	0.16	0.35	IS:3025 (P-43)
7	Sulphide (S)	mg/L	0.12	0.5	IS:3025 (P-29)
8	Ammonia (N)	mg/L	5.42	15.0	IS:3025 (P-34)
9	Total Kjeldahl Nitrogen (NH <sub>3</sub> )	mg/L	14.8	40	IS:3025 (P-34)
10	Phosphate	mg/L	0.18	3.0	IS:3025 (P-31)
11	Cyanide (CN*)	mg/L	BDL	0.20	APHA-23 <sup>rd</sup> Ed.
12	Total Chromium	mg/L	BDL	2.0	IS:3025 (P-52)
13	Chromium Hexavalent (Cr <sup>+6</sup> )	mg/L	BDL	0.1	IS:3025 (P-52)
14	Copper (Cu)	mg/L	BDL	1.0	APHA -23 <sup>rd</sup> Ed.
15	Lead (Pb)	mg/L	BDL	0.1	APHA-23 <sup>rd</sup> Ed.
16	Mercury (Hg)	mg/L	BDL	0.01	APHA-23 <sup>rd</sup> Ed.
17	Zinc (Zn)	mg/L	BDL	5.0	APHA-23 <sup>rd</sup> Ed.
18	Nickel (Ni)	mg/L	BDL	1.0	APHA-23 <sup>rd</sup> Ed.
19	Vanadium (V*)	mg/L	BDL	0.2	APHA-23 <sup>rd</sup> Ed.
20	Benzene*	mg/L	BDL	0.1	APHA-23 <sup>rd</sup> Ed.
21	Benzo* (a)-Pyreen	mg/L	BDL	0.2	APHA-23 <sup>rd</sup> Ed.

(AUTHORISED SIGNATORY)

(RAVINDER MITAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in IABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9879246723

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, TalukaTalwandi Saba  
Distt.Bhatinda, Punjab, India

Ref. No.: NL/100002126  
Test Report Date: 06/01/2020

**Sample Particulars:**

Nature of the Sample : **STP Outlet Refinery**  
Sample Quantity & Packaging : **2.0 Liter, Pet Bottle**  
Started on : **29/12/2019**  
Test Completed : **05/01/2020**  
Method of Sampling : **SOP/B/D-3**  
Date of Sampling : **27/12/2019**  
Sampling Conducted By : **Mr. Manmohan Singh**  
Place of Sampling : **W-2: STP Outlet, Inside GGSR**

**Analysis Report**

Sr. No.	Parameters	Unit	Test Results	Standards	Protocol
			W2		
1	pH	-	6.94	6.5 to 9.0	IS:3025 (P-11)
2	Temperature	°C	28.6	-	IS:3025 (P-9)
3	TSS	mg/l	8.2	≤10mg/l	IS:3025 (P-17)
4	COD	mg/l	40	≤50mg/l	IS:3025 (P-58)
5	BOD	mg/l	4.8	≤10mg/l	IS:3025 (P-44)
6	O & G	mg/l	ND	≤5mg/l	IS:3025 (P-39)
7	Ammonical Nitrogen as N*	mg/l	1.24	≤5mg/l	IS:3025 (P-34)
8	N-total*	mg/l	3.82	≤10mg/l	IS:3025 (P-34)
9	PO4-P*	mg/l	0.18	≤2mg/l	IS:3025 (P-31)
10	Total Coliform Count	MPN/100ml	98	≤230/100mg/l	IS: 1622

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only, \* not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

4 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

Issued to: **HPCL-Mittal Energy Limited**

Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100002129

Test Report Date: 06/01/2020

#### Sample Particulars:

Nature of the Sample : **ETP Outlet**  
Sample Quantity & Packaging : **5.0 Liter, Pet Bottle**  
Test Started on : **29/12/2019**  
Test Completed : **05/01/2020**  
Method of Sampling : **SOP/B/D-3**  
Date of Sampling : **27/12/2019**  
Sampling Conducted By : **Mr. Manmohan Singh**  
Place of Sampling : **W-5: ETP Outlet, Inside GGSR**

Sr. No.	Parameters	Unit	Test Result	Protocol
			W5	
1	Bioassay Toxic Test	%	98 % survival of fish after 96 hours in 100 % effluent	IS:6582 (P-1)



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to invoiced amount only. \* not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Ref. No.: NL/100002145-54  
Test Report Date: 06/01/2020

#### Sample Particulars:

Nature of the Sample & No. of Samples : **Outside Ground Water & Eleven Samples**  
Sample Quantity & Packaging : **2.0 Liter, Pet Bottle**  
Test Started on : **29/12/2019**  
Test Completed : **05/01/2020**  
Method of Sampling : **SOP/B/D-3**  
Date of Sampling : **27/12/2019**  
Sample Conducted By : **Mr. Manmohan Singh**

### Analysis Report

Parameter	pH	Odour	Color	Taste	Temperature	Turbidity	TDS	Alkalinity as (CaCO <sub>3</sub> )	Total Hardness as (CaCO <sub>3</sub> )	Chlorides	Fluorides
Location											
GW1	7.28	Agreeable	<5	Agreeable	20	<1	470	175	223	228	0.97
GW2	7.41	Agreeable	<5	Agreeable	20	<1	365	144	190	139	0.69
GW3	7.5	Agreeable	<5	Agreeable	20	<1	429	190	318	141.3	0.62
GW4	7.43	Agreeable	<5	Agreeable	20	<1	431	198	351	182.1	0.59
GW5	7.61	Agreeable	<5	Agreeable	20	<1	672	256	480	349.4	0.76
GW6	7.52	Agreeable	<5	Agreeable	20	<1	893	342	561	387.2	0.87
GW7	7.42	Agreeable	<5	Agreeable	20	<1	447	233	326	168.3	0.52
GW8	7.57	Agreeable	<5	Agreeable	20	<1	527	280	310	174.2	0.71
GW9	7.39	Agreeable	<5	Agreeable	20	<1	390	174	238	225.3	0.39
GW10	7.41	Agreeable	<5	Agreeable	20	<1	351	166	176	165.1	0.42
GW11	7.28	Agreeable	<5	Agreeable	20	<1	451	180	214	210	0.74
Requirement as per IS:10500	6.5-8.5	Agreeable	5	Agreeable	-	1	500	200	200	250	1.0
	6.5-8.5	Agreeable	15	Agreeable	-	5	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)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-16)	IS:3025 (P-23)	IS:3025 (P-21)	IS:3025 (P-21)	APHA 23 <sup>rd</sup> Ed.

#### Remark:

GW1: Phulokhari, GW2: Jagmalwari, GW3: Ramsara, GW4: Raman Mandi, GW5: Teno Pujaram, GW6: Pipli, GW7: Naurang, GW8: Khokhar  
GW9: Bangi Roughu, GW10: Takhanwala, GW11: Sekho

  
(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only. \* not in HABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

Issued to: HPCL-Mittal Energy Limited  
Village Phulokhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Ref. No.: NI/100002145-54  
Test Report Date: 06/01/2020

### Analysis 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	53.4	21.8	101.2	29.7	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW2	43.5	19.8	98.4	23.1	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW3	51.1	46.3	112.3	30.4	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW4	56.3	51.2	124.6	34.2	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW5	100.4	55.8	187.1	18.6	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW6	87.7	83.2	223.4	24.3	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW7	65.0	39.8	145.1	29.1	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW8	31.3	56.4	153.5	39.7	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW9	62.7	19.8	98.2	12.1	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW10	22.1	29.4	75.8	4.2	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW11	38.8	28.5	123.3	4.9	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
Requirement as per IS:10500	75	30	200	45	0.001	1	0.001	5	0.003	0.05	0.01
	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)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-34)	IS:3025 (P-43)	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.

**Remark:**

GW1: Phulokari, GW2: Jagmalwali, GW3: Ramsara, GW4: Raman Mandi, GW5: Teno Pujaram, GW6: Pipli, GW7: Naurang, GW8: Khokhar  
GW9: Bangi Roughu, GW10: Takhanwala, GW11: Sekho



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email of info@nityalab.com and call of +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100002145-54

Test Report Date: 06/01/2020

### Analysis Report

Parameter	Lead (as Pb)	Boron (as B)	Cyanide (as CN*)	Selenium (as Se*)	RFC	Polycyclic Aromatic Hydrocarbons (PAH*)	Mineral Oil*	Anionic Detergent*	Aluminum (as Al)	Total Coliforms
GW1	BDL [LOQ-0.01]	0.24	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW2	BDL [LOQ-0.01]	0.2	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW3	BDL [LOQ-0.01]	0.38	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW4	BDL [LOQ-0.01]	0.27	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW5	BDL [LOQ-0.01]	0.19	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW6	BDL [LOQ-0.01]	0.29	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW7	BDL [LOQ-0.01]	0.46	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW8	BDL [LOQ-0.01]	0.42	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW9	BDL [LOQ-0.01]	0.41	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW10	BDL [LOQ-0.01]	0.34	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW11	BDL [LOQ-0.01]	0.29	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
Requirement as per IS:10500	0.01	0.5	0.05	0.01	0.2	0.0001	0.5	0.2	0.03	Absent
	No Relaxation	1.0	No	No	1.0	No	No	1.0	0.2	Absent
Protocol	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	IS: 1622

**Remark:**

GW1: Phulokhari, GW2: Jagmalwali, GW3: Ramsara, GW4: Raman Mandi, GW5: Teno Pujaram, GW6: Pipli, GW7: Naurang, GW8: Khokhar  
GW9: Bangi Roughu, GW10: Takhanwala, GW11: Sekho

  
 (AUTHORISED SIGNATORY)  
 (RAVINDER MITAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about the report should be communicated in writing within 7 days of issue of the report. Total liability of Nitya Laboratories is limited to the amount of invoice only. \* not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call of +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

43, PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Ref. No.: NL/100002155-62  
Test Report Date: 06/01/2020

**Sample Particulars:**

Nature of the Sample & No. of Samples : **Outside Ground Water & Eight Samples**  
Sample Quantity & Packaging : **2.0 Liter, Pet Bottle**  
Test Started on : **29/12/2019**  
Test Completed : **05/01/2020**  
Method of Sampling : **SOP/B/D-3**  
Date of Sampling : **27/12/2019**  
Sampling Conducted By : **Mr. Manmohan Singh**

**Analysis Report**

Parameter	pH	Odour	Color	Taste	Temperature	Turbidity	TDS	Alkalinity as (CaCO <sub>3</sub> )	Total Hardness as (CaCO <sub>3</sub> )	Chlorides	Fluorides
<b>Location</b>											
GW12	7.35	Agreeable	<5	Agreeable	20	<1	439	192	192	198.3	0.52
GW13	7.37	Agreeable	<5	Agreeable	20	<1	421	182	230	98.7	0.67
GW14	7.56	Agreeable	<5	Agreeable	20	<1	437	159	206	107.2	0.43
GW15	7.49	Agreeable	<5	Agreeable	20	<1	348	176	230	140.2	0.49
GW16	7.36	Agreeable	<5	Agreeable	20	<1	295	158	128	97.3	0.41
GW17	7.54	Agreeable	<5	Agreeable	20	<1	420	145	241	126.7	0.29
GW18	7.41	Agreeable	<5	Agreeable	20	<1	440	182	256	165.1	0.64
GW19	7.38	Agreeable	<5	Agreeable	20	<1	419	160	287	156.2	0.59
Requirements as per IS:10500	6.5-8.5	Agreeable	5	Agreeable	-	1	500	200	200	250	1.0
	6.5-8.5	Agreeable	15	Agreeable	-	5	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)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-16)	IS:3025 (P-23)	IS:3025 (P-21)	IS:3025 (P-21)	APHA 23 <sup>rd</sup> Ed.

**Remark:**

GW12: Desu, GW13: Hassu, GW14: Bangi Deepa, GW15: Bathinda Railway Station, GW16: Bhakra (OS), GW17: Bathinda  
GW18: Kota Branch Near Jodhpur Village, GW19: Township

  
(AUTHORISED SIGNATORY)  
(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited Invoiced amount only. \* not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: HPCL-Mittal Energy Limited  
Village Phullokhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Ref. No.: NL/100002155-62  
Test Report Date: 06/01/2020

**Analysis 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)
GW12	40.5	22.1	138.7	3.7	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW13	35.8	34.2	113.2	8.1	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW14	37.4	27.4	96.3	5.6	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW15	60.5	19.2	123.2	13.5	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW16	25.3	15.8	65.3	3.1	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW17	59.8	22.3	92.6	11.2	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW18	24.1	47.6	118.2	15.6	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
GW19	62.11	32.1	120.2	14.2	BDL [LOQ-0.001]	BDL [LOQ-0.3]	BDL [LOQ-0.001]	BDL [LOQ-5]	BDL [LOQ-0.003]	BDL [LOQ-0.05]	BDL [LOQ-0.01]
Requirements as per IS:10500	75	30	200	45	0.001	1	0.001	5	0.003	0.05	0.01
	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)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-34)	IS:3025 (P-43)	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.

Remark:

GW12: Desu, GW13: Hassu, GW14: Bangi Deepa, GW15: Bathinda Railway Station, GW16: Bhakra (D5), GW17: Bathinda  
GW18: Kota Branch Near Jodhpur Village, GW19: Township

  
(AUTHORISED SIGNATORY)  
  
(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of the organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about the report should be communicated in writing within 7 days of issue of the report. Total liability of Nitya Laboratories is limited to the invoiced amount only. \* not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**Test Report**

Issued to: HPCL-Mittal Energy Limited  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100002155-62  
Test Report Date: 06/01/2020

**Analysis Report**

Parameter	Lead (as Pb)	Boron (as B)	Cyanide (as CN*)	Selenium (as Se*)	RFC	Polycyclic Aromatic Hydrocarbons (PAH*)	Mineral Oil*	Anionic Detergent*	Aluminum (as Al)	Total Coliform
GW12	BDL [LOQ-0.01]	0.31	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW13	BDL [LOQ-0.01]	0.31	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW14	BDL [LOQ-0.01]	0.39	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW15	BDL [LOQ-0.01]	0.16	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW16	BDL [LOQ-0.01]	0.23	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW17	BDL [LOQ-0.01]	0.28	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW18	BDL [LOQ-0.01]	0.21	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
GW19	BDL [LOQ-0.01]	0.19	BDL [LOQ-0.05]	BDL [LOQ-0.01]	BDL [LOQ-0.2]	BDL [LOQ-0.0001]	BDL [LOQ-0.5]	BDL [LOQ-0.2]	BDL [LOQ-0.03]	Absent
Requirement as per IS:10500	0.01	0.5	0.05	0.01	0.2	0.0001	0.5	0.2	0.03	Absent
	No Relaxation	1.0	No	No	1.0	No	No	1.0	0.2	Absent
Protocol	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	IS: 1622

**Remark:**

GW12: Desu, GW13: Hassu, GW14: Bangi Deepa, GW15: Bathinda Railway Station, GW16: Dhakra (DS), GW17: Bathinda  
GW18: Kota Branch Near Jodhpur Village, GW19: Township



(AUTHORISED SIGNATORY)

(PAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only. \* not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email to [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

Scanned copy of original Manual Environmental Monitoring Test  
reports Jan'2020

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100002256, 2273, 2301, 2326, 2363, 2428, 2462, 2495  
Test Report Date: 08/02/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-1**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP*), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
03/01/2020	09:40	1.00	5.032	BDL	BDL	BDL
06/01/2020	09:55	1.11	4.327	BDL	BDL	BDL
09/01/2020	09:30	1.10	4.032	BDL	BDL	BDL
13/01/2020	09:46	1.11	2.937	BDL	BDL	BDL
16/01/2020	09:50	1.11	3.926	BDL	BDL	BDL
20/01/2020	09:40	1.21	4.102	BDL	BDL	BDL
23/01/2020	10:10	1.20	3.921	BDL	BDL	BDL
28/01/2020	10:20	1.12	5.937	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL (LOQ- 6.0) BAP-BDL (LOQ- 1.0), Lead-BDL (LOQ- 1.0), N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.

  
(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhar, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Ref. No.: NL/100002257, 2274, 2302, 2327, 2364, 2429,2463, 2500  
Test Report Date: 08/02/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-2**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
03/01/2020	09:55	1.15	4.391	BDL	BDL	BDL
06/01/2020	10:10	1.20	3.129	BDL	BDL	BDL
09/01/2020	09:45	1.14	5.927	BDL	BDL	BDL
13/01/2020	09:58	1.10	3.287	BDL	BDL	BDL
16/01/2020	10:10	1.13	4.192	BDL	BDL	BDL
20/01/2020	09:55	1.04	4.980	BDL	BDL	BDL
23/01/2020	10:25	1.20	3.192	BDL	BDL	BDL
28/01/2020	10:35	1.11	4.019	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

Remark:

\*NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (38)], [Part-II-sec-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0],Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.

  
(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhori, Taluka Talwandi Sabo  
Distt. Bhatinda, Puniab, India

Ref. No.: NL/100002258, 2275, 2303, 2328, 2365, 2430, 2464, 25C  
Test Report Date: 08/02/2020

#### Sample Particulars

Nature of the Sample	: Ambient Air Quality Monitoring
Sampling Location	: Ambient Air Quality Monitoring Station (AAQMS)-3
Purpose of Monitoring	: To Check the Pollution Load
Method of Sampling	: IS 5182 (Part 14)
Monitoring Conducted By	: Mr. Animesh Jha
Sampling Duration (Hrs.)	: 24 Hrs.

### Analysis Report

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP*), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
03/01/2020	10:15	1.10	4.102	BDL	BDL	BDL
06/01/2020	10:25	1.10	3.028	BDL	BDL	BDL
09/01/2020	10:00	1.11	5.017	BDL	BDL	BDL
13/01/2020	10:15	1.12	4.121	BDL	BDL	BDL
16/01/2020	10:25	1.20	4.927	BDL	BDL	BDL
20/01/2020	10:10	1.14	3.018	BDL	BDL	BDL
23/01/2020	10:40	1.20	4.291	BDL	BDL	BDL
28/01/2020	10:50	1.11	5.012	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS - National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt.Bhainda. Puniab. India

Ref. No.: NL/100002259, 2276, 2304, 2329, 2366, 2431, 2465, 250;  
Test Report Date: 08/02/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-4**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP*), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
03/01/2020	10:30	1.11	4.192	BDL	BDL	BDL
06/01/2020	10:40	1.14	5.920	BDL	BDL	BDL
09/01/2020	10:15	1.10	3.102	BDL	BDL	BDL
13/01/2020	10:30	1.14	4.136	BDL	BDL	BDL
16/01/2020	10:40	1.11	5.821	BDL	BDL	BDL
20/01/2020	10:25	1.14	4.125	BDL	BDL	BDL
23/01/2020	10:55	1.20	5.821	BDL	BDL	BDL
28/01/2020	11:10	1.11	3.624	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt.Bhatinda. Punjab, India

Ref. No.: NL/100002260, 2277, 2305, 2330, 2367,2432, 2466, 2503  
Test Report Date: 08/02/2020

#### Sample Particulars

Nature of the Sample	: Ambient Air Quality Monitoring
Sampling Location	: Ambient Air Quality Monitoring Station (AAQMS)-5
Purpose of Monitoring	: To Check the Pollution Load
Method of Sampling	: IS 5182 (Part 14)
Monitoring Conducted By	: Mr. AnimeshJha
Sampling Duration (Hrs.)	: 24 Hrs.

#### Analysis Report

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP <sup>a</sup> ), ng/m <sup>3</sup>	Lead (as Pb), µg/ m <sup>3</sup>
03/01/2020	10:40	1.10	3.928	BDL	BDL	BDL
06/01/2020	10:55	1.21	4.193	BDL	BDL	BDL
09/01/2020	10:30	1.21	5.016	BDL	BDL	BDL
13/01/2020	10:45	1.02	4.283	BDL	BDL	BDL
16/01/2020	10:55	1.10	5.281	BDL	BDL	BDL
20/01/2020	10:40	1.10	3.826	BDL	BDL	BDL
23/01/2020	11:10	1.12	4.324	BDL	BDL	BDL
28/01/2020	11:25	1.14	4.154	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (38)], [Part-II-sec.-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 (days of issue of this report, Total liability of Nitya Laboratories is limited invoiced amount) only.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email of info@nityalab.com and call of +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhar, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Ref. No.: NL/100002261, 2278, 2306, 2331, 2368, 2433, 2467, 2504  
Test Report Date: 08/02/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-6**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m <sup>3</sup> /min)	Parameter								
			Ni ng/m <sup>3</sup>	As ng/m <sup>3</sup>	BAP*, ng/m <sup>3</sup>	Pb µg/m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>
03/01/2020	10:55	11:20	3.182	BDL	BDL	BDL	67.3	118.4	29.8	49.7	0.726
06/01/2020	11:10	11:25	4.321	BDL	BDL	BDL	65.5	123.4	28.6	43.3	0.213
09/01/2020	10:45	11:01	2.381	BDL	BDL	BDL	67.9	126.7	32.9	47.7	0.546
13/01/2020	10:58	11:25	5.576	BDL	BDL	BDL	65.8	120.6	25.6	43.3	0.532
16/01/2020	11:10	11:30	3.612	BDL	BDL	BDL	70.1	119.8	31.2	39.7	0.631
20/01/2020	10:55	11:10	2.632	BDL	BDL	BDL	63.4	128.7	29.5	31.2	0.798
23/01/2020	11:20	11:35	4.192	BDL	BDL	BDL	67.3	121.1	38.4	34.3	0.612
28/01/2020	11:35	11:45	5.256	BDL	BDL	BDL	65.5	113.2	32.1	37.6	0.661
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>6</b>	<b>01</b>	<b>01</b>	<b>60</b>	<b>100</b>	<b>80</b>	<b>80</b>	<b>04</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>	<b>Gravimetric</b>	<b>IS:5182 (P-23)</b>	<b>IS:5182 (P-2)</b>	<b>IS:5182 (P-6)</b>	<b>NDIR Method</b>

**Remark:**

\*NAAQS - National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL (LOG- 6.0) BAP-BDL (LOG- 1.0) Lead-BDL (LOG- 1.0), N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within three days after Receipt.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9673924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**Test Report**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100002550  
Test Report Date: 08/02/2020

**Sample Particulars:**

Nature of the Sample : **Ambient Noise**  
Date of Monitoring : 30/01/2020  
Purpose of Monitoring : To Check the Pollution Load  
Place of Monitoring : HMEI Refinery  
Monitoring Conducted By : Mr. Animesh Jha  
Protocol Used : IS: 9989

**Analysis Report**

Sr. No.	Location	Test Result dB(A) Day Time	Test Result dB(A) Night Time
<b>Permissible Limit in *dB(A) Leq For Industrial Area</b>		<b>75 dB(A)</b>	<b>70 dB(A)</b>
1	Near Refinery Main Gate	74.1	68.6
2	Near Fire Water Reservoir	68.3	68.7
3	Near Road Crude Oil Tanks	72.1	63.3
4	Near ETP and Flare	73.2	65.1
5	Near Storm Water Pond East Side	70.8	61.2
6	Near Sulphur Yard South East Side	72.1	62.3
7	Near Rail Loading Dispatch South East Side	72.9	60.8
8	Near CPP North East Side	71.1	65.1
9	Near Poly Propylene Dispatch Area	72.4	62.3
10	Near Ecological Pond Area	71.1	62.3

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

CPCB = Central Pollution Control Board

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

Area Code	Category of Area	Limits dB (A) Leq	
		Day Time (6AM - 10PM)	Night Time (10PM - 06AM)
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [nite@nityalab.com](mailto:nite@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Tatwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No. : NL/100002593  
Test Report No. : 202001230110  
Test Report Date: 29/01/2020

#### Sample Particulars:

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 23/01/2020
Time of Sampling	: 11:00
Test Started on	: 25/01/2020
Test Completed On	: 28/01/2020
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: SRU 524
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 100
Diameter of the stock(m)	: 2.0
Sampling duration (min)	: 30
<b>Observations:</b>	
Flue Gas Temperature °C	: 179
Ambient Air Temperature °C	: 14
Flue Gas Velocity (m/s)	: 13.04

### Analysis Report

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	100 % Fuel Gas (mg/Nm <sup>3</sup> )	Test Method
1	Oxide of Nitrogen (as NO <sub>x</sub> )	43.9	250	IS-11255(P-7)
2	Carbon Monoxide (as CO)	21.3	100	IS-13270
3	Oxides of Sulphur (as SO <sub>x</sub> )	143.5	N.A.	IS-11255 (P-2)
4	Hydrogen Sulphide (as H <sub>2</sub> S)	BDL(LOQ-0.1)	10	IS:11255 (P-4)

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited Invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send a: email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

📍 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

☎ +91-129-2241021

☎ +91-9013591021, +91-9013552273

✉ labsnitya@gmail.com

🌐 www.nityalab.com

**Test Report**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No. : NL/100002594  
Test Report No. : 202001230111  
Test Report Date: 29/01/2020

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 23/01/2020  
Time of Sampling : 12:30  
Test Started on : 25/01/2020  
Test Completed On : 28/01/2020  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : SRU 525  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 100  
Diameter of the stack(m) : 2.0  
Sampling duration (min) : 30  
**Observations:**  
Flue Gas Temperature °C : 177  
Ambient Air Temperature °C : 14  
Flue Gas Velocity (m/s) : 12.81

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits 100 % Fuel Gas (mg/Nm <sup>3</sup> )	Test Method
1	Oxide of Nitrogen (as NO <sub>x</sub> )	38.7	250	IS-11255(P-7)
2	Carbon Monoxide (as CO)	26.4	100	IS-13270
3	Oxides of Sulphur (as SO <sub>x</sub> )	152.1	NA	IS-11255 (P-2)
4	Hydrogen Sulphide (as H <sub>2</sub> S)	BDL(LOQ-0.1)	10	IS:11255 (P-4)

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not In NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100002553-2563  
Test Report Date: 08/02/2020

**Sample Particulars:**

Nature of the Sample & No. of Samples : **Ground Water & Eleven Samples**  
Sample Quantity & Packaging : **2.0 Liter, Pet Bottle**  
Test Started on : **30/01/2020**  
Test Completed : **07/02/2020**  
Method of Sampling : **SOP/B/D-3**  
Date of Sampling : **29/01/2020**  
Sampling Conducted By : **Mr. Manmohan Singh**

**Analysis Report**

Parameter	pH	Odour	Color	Taste	Temperature	Turbidity	TDS	Alkalinity as (CaCO <sub>3</sub> )	Total Hardness as (CaCO <sub>3</sub> )	Chlorides	Fluorides	
<b>Location</b>												
GW1	7.32	Agreeable	<5	Agreeable	27.7	<1	562	145	267	189.3	0.98	
GW2	7.431	Agreeable	<5	Agreeable	27.5	<1	482	201	219	225.4	0.81	
GW3	7.24	Agreeable	<5	Agreeable	27.1	<1	501	189	218	167.5	0.76	
GW4	7.38	Agreeable	<5	Agreeable	27.4	<1	621	203	223	278.9	0.89	
GW5	7.39	Agreeable	<5	Agreeable	27.8	<1	457	181	245	120.3	0.69	
GW6	7.40	Agreeable	<5	Agreeable	27.3	<1	564	231	301	131.1	0.63	
GW7	7.45	Agreeable	<5	Agreeable	27.9	<1	431	178	198	165.1	0.81	
GW8	7.29	Agreeable	<5	Agreeable	27.1	<1	401	201	190	179.8	0.87	
GW9	7.43	Agreeable	<5	Agreeable	27.2	<1	524	155	217	150.6	0.79	
GW10	7.53	Agreeable	<5	Agreeable	27.5	<1	441	221	297	189.2	0.81	
GW11	7.40	Agreeable	<5	Agreeable	27.7	<1	512	273	276	141.1	0.76	
IS TO 500	Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1	500	200	200	250	1.0
	Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5	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)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-16)	IS:3025 (P-23)	IS:3025 (P-21)	IS:3025 (P-21)	APHA 23 <sup>rd</sup> 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

  
**(AUTHORISED SIGNATORY)**  
**(RAVINDER MITTAL)**

**NOTE:** The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of its organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in IABT Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100002553-2563  
Test Report Date: 08/02/2020

### Analysis 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	47.61	31.92	142.6	14.3	BDL	0.31	BDL	1.82	BDL	BDL	BDL
GW2	34.22	14.39	104.2	13.1	BDL	0.21	BDL	0.43	BDL	BDL	BDL
GW3	49.63	23.10	106.8	12.9	BDL	0.22	BDL	BDL	BDL	BDL	BDL
GW4	42.16	29.30	121.3	15.6	BDL	0.28	BDL	BDL	BDL	BDL	BDL
GW5	33.57	25.47	112.4	18.3	BDL	0.21	BDL	BDL	BDL	BDL	BDL
GW6	43.12	22.18	121.6	13.1	BDL	0.27	BDL	BDL	BDL	BDL	BDL
GW7	49.89	19.29	116.7	12.1	BDL	0.29	BDL	BDL	BDL	BDL	BDL
GW8	43.31	29.19	108.2	13.9	BDL	0.21	BDL	BDL	BDL	BDL	BDL
GW9	48.41	31.19	104.9	15.7	BDL	0.18	BDL	BDL	BDL	BDL	BDL
GW10	50.29	34.29	121.4	11.1	BDL	0.26	BDL	BDL	BDL	BDL	BDL
GW11	48.87	29.16	129.4	15.1	BDL	0.29	BDL	BDL	BDL	BDL	BDL
Requirement as per IS:10500	75	30	200	45	0.001	1	0.001	5	0.003	0.05	0.01
	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)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-34)	IS:3025 (P-43)	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> 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

  
(AUTHORISED SIGNATORY)  
(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call of +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

● PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

☎ +91-129-2241021

☎ +91-9013591021, +91-9013552273

✉ [labsnitya@gmail.com](mailto:labsnitya@gmail.com)

🌐 [www.nityalab.com](http://www.nityalab.com)

### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100002553-2563  
Test Report Date: 08/02/2020

### Analysis Report

Parameter	Lead (as Pb)	Boron (as B)	Cyanide (as CN*)	Selenium (as Se*)	RFC	Polycyclic Aromatic Hydrocarbons (PAH*)	Mineral Oil*	Anionic Detergent*	Aluminum (as Al)	Total Coliform
GW1	BDL	0.23	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW2	BDL	0.19	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW3	BDL	0.20	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW4	BDL	0.25	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW5	BDL	0.29	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW6	BDL	0.35	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW7	BDL	0.20	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW8	BDL	0.29	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW9	BDL	0.21	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW10	BDL	0.25	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
GW11	BDL	0.28	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent
Requirement as per IS:10500	0.01	0.5	0.05	0.01	0.2	0.0001	0.5	0.2	0.03	Absent
	No Relaxation	1.0	No	No	1.0	No	No	1.0	0.2	Absent
Protocol	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	IS: 1622

**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

  
(AUTHORISED SIGNATORY)  
(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report, the results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report, Total Liability of Nitya Laboratories is limited invoiced amount only. \* not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100002552  
Test Report Date: 08/02/2020

**Sample Particulars:**

Nature of the Sample : Volatile Organic Carbon  
Date of Monitoring : 30/01/2020  
Purpose of Monitoring : To Check the Pollution Load  
Place of Monitoring : HMEL Refinery  
Monitoring Conducted By : Mr. Animesh Jha  
Protocol Used : Portable PID Based Gas Detector for VOC's – Honeywell RAE

**Analysis Report**

Sr. No.	Locations	Test Results (PPM)
1	Near ETP	0.4
2	Near Rail Gantry	BDL
3	Near Road Gantry	BDL
4	Battery limits of CDU/VDU	BDL
5	Battery limits of FCCU	BDL
6	Battery limits of DHDT	BDL
7	Battery limits of VGO-HDT	BDL
8	Battery limits of MS Block	BDL
9	Battery limits of DCU	BDL
10	Product Intermediate Storage Tanks Down Wind Direction	BDL
11	Product Intermediate Storage Tank UP Wind Direction	BDL
12	Near HPCL Product Dispatch Pumps	0.3
13	Battery limits of PPU	BDL
14	Near Crude Oil storage Tanks	0.1
15	Battery Limits of SRU Block	BDL

**Remark:**

BDL-Below Detection Limit (LOQ-0.1)



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call of +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Dist. Bhatinda, Punjab, India

Ref. No.: NL/100002564  
Test Report Date: 08/02/2020

#### Sample Particulars:

Sample Quantity & Packaging : 2.0 Liter, Pet Bottle  
Test Started on : 30/01/2020  
Test Completed : 07/02/2020  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 29/01/2020  
Sampling Conducted By : Mr. Manmahan Singh  
Place of Sampling : W-1: ETP Outlet, Inside GGSR

### Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
			W-1		
1	pH	...	7.35	6.0-8.5	IS:3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	15.8	20.0	IS:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	83.1	125.0	IS:3025 (P-58)
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	11.2	15.0	IS:3025 (P-44)
5	Oil & Grease (O&G)	mg/L	BDL	5.0	IS:3025 (P-39)
6	Phenolic Compounds (C <sub>6</sub> H <sub>5</sub> OH)	mg/L	0.21	0.35	IS:3025 (P-43)
7	Sulphide (S)	mg/L	0.18	0.5	IS:3025 (P-29)
8	Ammonia (N)	mg/L	6.81	15.0	IS:3025 (P-34)
9	Total Kjeldahl Nitrogen (NH <sub>3</sub> )	mg/L	15.2	40	IS:3025 (P-34)
10	Phosphate	mg/L	0.43	3.0	IS:3025 (P-31)
11	Cyanide (CN*)	mg/L	BDL	0.20	APHA-23 <sup>rd</sup> Ed.
12	Total Chromium	mg/L	BDL	2.0	IS:3025 (P-52)
13	Chromium Hexavalent (Cr <sup>6+</sup> )	mg/L	BDL	0.1	IS:3025 (P-52)
14	Copper (Cu)	mg/L	BDL	1.0	APHA-23 <sup>rd</sup> Ed.
15	Lead (Pb)	mg/L	BDL	0.1	APHA-23 <sup>rd</sup> Ed.
16	Mercury (Hg)	mg/L	BDL	0.01	APHA-23 <sup>rd</sup> Ed.
17	Zinc (Zn)	mg/L	BDL	5.0	APHA-23 <sup>rd</sup> Ed.
18	Nickel (Ni)	mg/L	BDL	1.0	APHA-23 <sup>rd</sup> Ed.
19	Vanadium (V*)	mg/L	BDL	0.2	APHA-23 <sup>rd</sup> Ed.
20	Benzene*	mg/L	BDL	0.1	APHA-23 <sup>rd</sup> Ed.
21	Benzo* (a)-Pyreen	mg/L	BDL	0.2	APHA-23 <sup>rd</sup> Ed.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability at Nitya Laboratories is limited invoiced amount only. \* not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873724093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**Test Report**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, TalukaTatwandi Saba  
Distt.Bhatinda, Punjab, India

Ref. No.: NL/100002565  
Test Report Date: 08/02/2020

**Sample Particulars:**

Nature of the Sample : **STP Outlet Refinery**  
Sample Quantity & Packaging : 2.0 Liter, Pet Bottle  
Test Started on : 30/01/2020  
Test Completed : 07/02/2020  
Method of Sampling : SOP/D/D-3  
Date of Sampling : 29/01/2020  
Sampling Conducted By : Mr. Manmohan Singh  
Place of Sampling : W-2: STP Outlet, Inside GGSR

**Analysis Report**

Sr. No.	Parameters	Unit	Test Results	Standards	Protocol
			W2		
1	pH	-	7.91	6.5 to 9.0	IS:3025 (P-11)
2	Temperature	°C	25.6	-	IS:3025 (P-9)
3	TSS	mg/l	7.9	≤10mg/l	IS:3025 (P-17)
4	COD	mg/l	34.5	≤50mg/l	IS:3025 (P-58)
5	BOD	mg/l	4.1	≤10mg/l	IS:3025 (P-44)
6	O & G	mg/l	BDL	≤5mg/l	IS:3025 (P-39)
7	Ammonical Nitrogen as N*	mg/l	1.56	≤5mg/l	IS:3025 (P-34)
8	N-total*	mg/l	4.19	≤10mg/l	IS:3025 (P-34)
9	PO4-P*	mg/l	0.19	≤2mg/l	IS:3025 (P-31)
10	Total Coliform Count	MPN/100ml	99	≤230/100mg/l	IS: 1622



(AUTHORISED SIGNATORY)  
(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report, the results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100002568  
Test Report Date: 08/02/2020

#### Sample Particulars:

Nature of the Sample : **ETP Outlet**  
Sample Quantity & Packaging : **5.0 Liter, Pet Bottle**  
Test Started on : **30/01/2020**  
Test Completed : **07/02/2020**  
Method of Sampling : **SOP/B/D-3**  
Date of Sampling : **29/01/2020**  
Sampling Conducted By : **Mr. Manmohan Singh**  
Place of Sampling : **W-5: ETP Outlet, Inside GGSR**

### Analysis Report

Sr. No.	Parameters	Unit	Test Result	Protocol
			W5	
1	Bioassay Toxic Test	%	98 % survival of fish after 96 hours in 100 % effluent	IS:6582 (P-1)

  
(AUTHORISED SIGNATORY)  
(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report, the results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement, this report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to invoiced amount only. \* not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Scanned copy of original Manual Environmental Monitoring Test  
reports Feb'2020**

**Test Report**

Issued to: HPCL-Mittal Energy Limited  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100002715,2734,2773,2818,2849,2891,2926,2943  
Test Report Date: 09/03/2020

**Sample Particulars**

Nature of the Sample : Ambient Air Quality Monitoring  
Sampling Location : Ambient Air Quality Monitoring Station (AAQMS)-1  
Purpose of Monitoring : To Check the Pollution Load  
Method of Sampling : IS 5182 (Part 14)  
Monitoring Conducted By : Mr. Animesh Jha  
Sampling Duration (Hrs.) : 24 Hrs.

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
03/02/2020	09:50	0.99	5.927	BDL	BDL	BDL
07/02/2020	10:05	1.12	4.091	BDL	BDL	BDL
10/02/2020	09:45	1.15	4.291	BDL	BDL	BDL
14/02/2020	10:00	1.10	4.019	BDL	BDL	BDL
17/02/2020	10:05	1.00	3.716	BDL	BDL	BDL
21/02/2020	09:55	1.12	5.019	BDL	BDL	BDL
24/02/2020	10:25	1.21	4.917	BDL	BDL	BDL
27/02/2020	10:35	1.14	5.017	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>06</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAQS – National Ambient Air Quality Standards; Schedule-VII, (Rule 3 (3B)), (Part-II-sec.-3(i)) 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL (LOQ- 6.0) BAP-BDL (LOQ- 1.0), Lead-BDL (LOQ- 1.0), N.A.-Not Applicable. AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within three days after Receipt.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. All above parameters are not in NABL scope. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

♦ PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

☎ +91-129-2241021

☎ +91-9013591021, +91-9013552273

✉ labsnitya@gmail.com

🌐 www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100002716,2735,2774,2819,2850,2892,2926,2944  
Test Report Date: 09/03/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-2**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
03/02/2020	10:04	1.16	5.039	BDL	BDL	BDL
07/02/2020	10:20	1.10	2.102	BDL	BDL	BDL
10/02/2020	09:58	1.00	3.0192	BDL	BDL	BDL
14/02/2020	10:14	0.99	4.625	BDL	BDL	BDL
17/02/2020	10:19	1.21	5.172	BDL	BDL	BDL
21/02/2020	10:05	1.11	4.029	BDL	BDL	BDL
24/02/2020	10:35	1.12	4.724	BDL	BDL	BDL
27/02/2020	10:58	1.14	5.725	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>06</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS - National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.

  
(AUTHORISED SIGNATORY)  
**(RAVINDER MITAL)**

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. All above parameters are not in NABL scope. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Taiwandi Sabo  
Distt. Bhatinda, Puniab, India

Report No.: NL/100002717,2736,2775,2820,2851,2893,2927,2945  
Test Report Date: 09/03/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-3**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m <sup>3</sup> /min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
03/02/2020	10:15	1.21	3.019	BDL	BDL	BDL
07/02/2020	10:34	1.11	3.028	BDL	BDL	BDL
10/02/2020	10:04	1.10	4.918	BDL	BDL	BDL
14/02/2020	10:27	1.11	5.018	BDL	BDL	BDL
17/02/2020	10:32	1.12	4.827	BDL	BDL	BDL
21/02/2020	10:20	1.15	3.827	BDL	BDL	BDL
24/02/2020	10:40	1.21	5.018	BDL	BDL	BDL
27/02/2020	11:15	1.00	5.132	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>06</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS - National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. All above parameters are not in NABL scope. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

♦ PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt.Bhafinda, Puniab, India

Report No.: NL/100002718,2737,2776,2821,2852,2894,2928,2946  
Test Report Date: 09/03/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-4**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
03/02/2020	10:30	1.12	5.018	BDL	BDL	BDL
07/02/2020	10:46	1.11	4.761	BDL	BDL	BDL
10/02/2020	10:17	1.21	4.817	BDL	BDL	BDL
14/02/2020	10:42	1.10	4.526	BDL	BDL	BDL
17/02/2020	10:48	1.00	3.918	BDL	BDL	BDL
21/02/2020	10:35	1.11	6.029	BDL	BDL	BDL
24/02/2020	10:55	1.14	4.192	BDL	BDL	BDL
27/02/2020	11:38	1.10	2.019	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>06</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (38)], [Part-II Sec. 3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. All above parameters are not in NABL scope. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9073924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt.Bhatinda. Puniab. India

Report No.: NL/100002719,2738,2777,2822,2853,2895,2929,2947  
Test Report Date: 09/03/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-5**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
03/02/2020	10:47	1.11	4.019	BDL	BDL	BDL
07/02/2020	10:58	1.00	5.019	BDL	BDL	BDL
10/02/2020	10:31	1.12	4.921	BDL	BDL	BDL
14/02/2020	10:53	1.12	4.283	BDL	BDL	BDL
17/02/2020	10:58	1.14	3.928	BDL	BDL	BDL
21/02/2020	10:50	1.00	3.029	BDL	BDL	BDL
24/02/2020	11:02	1.11	5.019	BDL	BDL	BDL
27/02/2020	11:50	1.12	4.324	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>06</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec-3(ii)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 60] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. All above parameters are not in HABL scope. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited Invoiced amount only. If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullakhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Report No.: NL/100002720,2739,2778,2823,2854,2896,2930,2948  
Test Report Date: 09/03/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-6**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. AnimeshJha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR for RDS (m3/min)	Parameter								
			Ni ng/m <sup>3</sup>	As ng/m <sup>3</sup>	BAP*, ng/m <sup>3</sup>	Pb µg/ m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>
03/02/2020	11:20	1.12	4.019	BDL	BDL	BDL	67.3	118.4	29.8	49.7	0.726
07/02/2020	11:25	1.00	3.918	BDL	BDL	BDL	65.5	123.4	28.6	43.3	0.213
10/02/2020	11:01	1.21	3.921	BDL	BDL	BDL	67.9	126.7	32.9	47.7	0.546
14/02/2020	11:25	1.20	4.820	BDL	BDL	BDL	65.8	120.6	25.6	43.3	0.532
17/02/2020	11:30	1.11	4.462	BDL	BDL	BDL	70.1	119.8	31.2	39.7	0.631
21/02/2020	11:10	1.00	4.019	BDL	BDL	BDL	63.4	128.7	29.5	31.2	0.798
24/02/2020	11:35	1.23	5.801	BDL	BDL	BDL	67.3	121.1	38.4	34.3	0.612
27/02/2020	11:45	1.00	5.213	BDL	BDL	BDL	65.5	113.2	32.1	37.6	0.661
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>06</b>	<b>01</b>	<b>01</b>	<b>60</b>	<b>100</b>	<b>80</b>	<b>80</b>	<b>04</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>	<b>Gravimetric</b>	<b>IS:5182 (P-23)</b>	<b>IS:5182 (P-2)</b>	<b>IS:5182 (P-6)</b>	<b>NDIR Method</b>

Remark: \*NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec-3(i)] 16.11.2009. BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0] Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in the test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. All above parameters are not in NABL scope. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003008  
Test Report Date: 09/03/2020

**Sample Particulars:**

Nature of the Sample : **Ambient Noise**  
Date of Monitoring : 29/02/2020  
Purpose of Monitoring : To Check the Pollution Load  
Place of Monitoring : HMEL Refinery  
Monitoring Conducted By : Mr. Animesh Jha  
Protocol Used : IS: 9989

**Analysis Report**

Sr. No.	Location	Test Result dB(A) Day Time	Test Result dB(A) Night Time
<b>Permissible Limit in *dB(A) Leq For Industrial Area</b>		<b>75 dB(A)</b>	<b>70 dB(A)</b>
1	Near Refinery Main Gate	73.9	68.6
2	Near Fire Water Reservoir	70.1	68.7
3	Near Road Crude Oil Tanks	71.2	63.3
4	Near ETP and Flare	72.1	65.1
5	Near Storm Water Pond East Side	71.2	61.2
6	Near Sulphur Yard South East Side	73.5	62.3
7	Near Rail Loading Dispatch South East Side	71.2	60.8
8	Near CPP North East Side	72.11	65.1
9	Near Poly Propylene Dispatch Area	73.2	62.3
10	Near Ecological Pond Area	69.1	62.3

\*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	Limits dB (A) Leq	
		Day Time (6AM – 10PM)	Night Time (10PM – 06AM)
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time. Not in NABL Scope.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100002586  
Test Report Date: 24/01/2020

#### Sample Particulars:

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 17/01/2020  
Time of Sampling : 12:00  
Test Started on : 20/01/2020  
Test Completed On : 23/01/2020  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : HGU-1  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 70  
Diameter of the stack (m) : 2.6  
Sampling duration (min) : 35  
**Observations:**  
Flue Gas Temperature °C : 169  
Ambient Air Temperature °C : 14  
Flue Gas Velocity (m/s) : 11.03

### Analysis Report

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Fuel Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	4.92	42	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	9.3	693	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	98.37	330	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	8.2	140	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Below Detection Limit



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report, the results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only. Results subject to the movement of vehicles at that particular time. \*Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100002587  
Test Report Date: 27/01/2020

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 20/01/2020  
Time of Sampling : 15:15  
Test Started on : 22/01/2020  
Test Completed On : 25/01/2020  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : HGU-2  
Sampling method : IS-11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 70  
Diameter of the stack(m) : 2.6  
Sampling duration (min) : 30  
**Observations:**  
Flue Gas Temperature °C : 165  
Ambient Air Temperature °C : 12  
Flue Gas Velocity (m/s) : 11.58

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Fuel Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	1.98	38	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	9.42	636	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	97.39	323	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	11.4	137	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL (LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Below Detection Limit

  
(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time. Not in NABL Scope  
If you have any complain/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873224093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: HPCL-Mittal Energy Limited  
Village Phullokharī, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003024  
Test Report Date: 18/02/2020

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 12/02/2020  
Time of Sampling : 10:00  
Test Started on : 14/02/2020  
Test Completed On : 17/02/2020  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : DCU  
Sampling method : IS-11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 65  
Diameter of the stack (m) : 3.14  
Sampling duration (min) : 34  
**Observations:**  
Flue Gas Temperature °C : 152  
Ambient Air Temperature °C : 21  
Flue Gas Velocity (m/s) : 9.86

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Fuel Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	2.9	43	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	79.5	719	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	67.5	334	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	31	142	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only. Results subject to the movement of vehicles at that particular time.\* Not in HABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100002589  
Test Report Date: 28/01/2020

**Sample Particulars:**

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 21/01/2020
Time of Sampling	: 13:30
Test Started on	: 23/01/2020
Test Completed On	: 27/01/2020
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: Naphtha Heater
Sampling method	: IS-11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 30
Diameter of the stack(m)	: 1.2
Sampling duration (min)	: 58
<b>Observations:</b>	
Flue Gas Temperature °C	: 285
Ambient Air Temperature °C	: 14
Flue Gas Velocity (m/s)	: 7.35

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Fuel Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	2.7	41	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	9.8	679	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	23.4	329	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	38.9	139	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003029  
Test Report Date: 21/02/2020

**Sample Particulars:**

Nature of the sample	: Stack Gas Emission
Date of Sampling	: 15/02/2020
Time of Sampling	: 12:30
Test Started on	: 17/02/2020
Test Completed On	: 20/02/2020
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: CCR Heater
Sampling method	: IS-11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 68
Diameter of the stack(m)	: 2.5
Sampling duration (min)	: 37
<b>Observations:</b>	
Flue Gas Temperature °C	: 137
Ambient Air Temperature °C	: 22
Flue Gas Velocity (m/s)	: 9.81

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Fuel Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	1.99	40	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	12.3	659	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	42.1	326	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	16.9	138	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call of +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: HPCL-Mittal Energy Limited  
Village Phullokhari, Taluka Talwandi Sobo  
Distt. Bhalinda, Punjab, India

Report No.: NL/100003028  
Test Report Date: 21/02/2020

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 15/02/2020  
Time of Sampling : 10:00  
Test Started on : 17/02/2020  
Test Completed On : 20/02/2020  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : NHT  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 50  
Diameter of the stack(m) : 1.2  
Sampling duration (min) : 35

**Observations:**

Flue Gas Temperature °C : 228  
Ambient Air Temperature °C : 21  
Flue Gas Velocity (m/s) : 11.06

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Fuel Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	4.1	39	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	129.4	645	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	37.6	324	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	16.7	137	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount of fee. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call of +91-191-2465597, +91-9873324093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



### Test Report

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100002585  
Test Report Date: 23/01/2020

#### Sample Particulars:

Nature of the sample	: Stack Gas Emission
Date of Sampling	: 15/01/2020
Time of Sampling	: 14:30
Test Started on	: 17/01/2020
Test Completed On	: 22/01/2020
Purpose of Monitoring	: To Check the Pollution Load
Sampling Location	: FCCU Heater
Sampling method	: IS:11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 80
Diameter of the Stack(m)	: 1.75
Sampling Duration (min)	: 55

#### Observations:

Flue Gas Temperature °C	: 224
Ambient Air Temperature °C	: 19
Flue Gas Velocity (m/s)	: 6.94

### Analysis Report

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Fuel Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	2.5	41	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	9.9	678	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	21.8	328	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	7.9	139	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003022  
Test Report Date: 19/02/2020

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 11/02/2020  
Time of Sampling : 11:00  
Test Started on : 13/02/2020  
Test Completed On : 18/02/2020  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : SRU 524  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 100  
Diameter of the stack(m) : 2.0  
Sampling duration (min) : 30  
**Observations:**  
Flue Gas Temperature °C : 180  
Ambient Air Temperature °C : 19  
Flue Gas Velocity (m/s) : 13.05

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	100 % Fuel Gas (mg/Nm <sup>3</sup> )	Test Method
1	Oxide of Nitrogen (as NO <sub>x</sub> )	43.2	250	IS-11255(P-7)
2	Carbon Monoxide (as CO)	19.3	100	IS-13270
3	Oxides of Sulphur (as SO <sub>x</sub> )	143.2	N.A.	IS-11255 (P-2)
4	Hydrogen Sulphide (as H <sub>2</sub> S)	BDL(LOQ-0.1)	10	IS:11255 (P-4)

Remark: Not Detected

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited Invoiced amount only. Results subject to the movement of vehicles at that particular time. Not in NABL Scope. If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call of +91-191-2465597, +91-9673924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullakhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003023  
Test Report Date: 19/02/2020

#### Sample Particulars:

Nature of the sample	: Stack Gas Emission
Date of Sampling	: 11/02/2020
Time of Sampling	: 12:30
Test Started on	: 13/02/2020
Test Completed On	: 18/02/2020
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: SRU 525
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 100
Diameter of the stack(m)	: 2.0
Sampling duration (min)	: 30
<b>Observations:</b>	
Flue Gas Temperature °C	: 183
Ambient Air Temperature °C	: 19
Flue Gas Velocity (m/s)	: 12.60

### Analysis Report

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits 100 % Fuel Gas (mg/Nm <sup>3</sup> )	Test Method
1	Oxide of Nitrogen (as NO <sub>x</sub> )	39.5	250	IS-11255(P-7)
2	Carbon Monoxide (as CO)	21.4	100	IS-13270
3	Oxides of Sulphur (as SO <sub>x</sub> )	151.5	NA	IS-11255 (P-2)
4	Hydrogen Sulphide (as H <sub>2</sub> S)	BDL(LOQ-0.1)	10	IS:11255 (P-4)

Remark: Nil Detected

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email of info@nityalab.com and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

📍 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

☎ +91-129-2241021

☎ +91-9013591021, +91-9013552273

✉ labsnitya@gmail.com

🌐 www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003025  
Test Report Date: 20/02/2020

**Sample Particulars:**

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 13/02/2020
Time of Sampling	: 11:30
Test Started on	: 15/02/2020
Test Completed On	: 19/02/2020
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: CDU/VDU
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 85
Diameter of the stack(m)	: 4.3
Sampling duration (min)	: 34

**Observations:**

Flue Gas Temperature °C	: 154
Ambient Air Temperature °C	: 22
Flue Gas Velocity (m/s)	: 10.00

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Fuel Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	4.87	40	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	52.1	659	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	14.4	326	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	9.1	138	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited Invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in HABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

📍 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

☎ +91-129-2241021

📠 +91-9013591021, +91-9013552273

✉ [labsnitya@gmail.com](mailto:labsnitya@gmail.com)

🌐 [www.nityalab.com](http://www.nityalab.com)

**Test Report**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003032  
Test Report Date: 28/02/2020

**Sample Particulars:**

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 22/02/2020
Time of Sampling	: 10:30
Test Started on	: 24/02/2020
Test Completed On	: 27/02/2020
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: HRSG-I
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 35
Diameter of the stack(m)	: 3.5
Sampling duration (min)	: 37
<b>Observations:</b>	
Flue Gas Temperature °C	: 143
Ambient Air Temperature °C	: 24
Flue Gas Velocity (m/s)	: 8.89

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Fuel Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	2.87	44	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	3.4	730	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	173	335	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	7.6	143	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited Invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

♦ PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

☎ +91-129-2241021

☎ +91-9013591021, +91-9013552273

✉ labsnitya@gmail.com

🌐 www.nityalab.com

**Test Report**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003033  
Test Report Date: 28/02/2020

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 22/02/2020  
Time of Sampling : 12:20  
Test Started on : 24/02/2020  
Test Completed On : 27/02/2020  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : HRSG-2  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 35  
Diameter of the stack (m) : 3.5  
Sampling duration (min) : 38  
**Observations:**  
Flue Gas Temperature °C : 145  
Ambient Air Temperature °C : 24  
Flue Gas Velocity (m/s) : 8.73

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Fuel Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	2.87	44	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	3.9	730	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	139.4	335	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	8.9	143	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924073

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

📍 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

☎ +91-129-2241021

☎ +91-9013591021, +91-9013552273

✉ labsnitya@gmail.com

🌐 www.nityalab.com

**Test Report**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003026  
Test Report Date: 28/02/2020

**Sample Particulars:**

Nature of the sample	: <b>Stack Gas Emission</b>
Date of Sampling	: 14/02/2020
Time of Sampling	: 11:00
Test Started on	: 24/02/2020
Test Completed On	: 27/02/2020
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: VGO Heater
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 65
Diameter of the stack(m)	: 2.25
Sampling duration (min)	: 37

**Observations:**

Flue Gas Temperature °C	: 158
Ambient Air Temperature °C	: 21
Flue Gas Velocity (m/s)	: 9.23

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Fuel Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	3.7	41	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	7.9	676	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	31.2	328	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	45.5	139	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total Liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time. \* Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

📍 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

☎ +91-129-2241021

☎ +91-9013591021, +91-9013552273

✉ labsnitya@gmail.com

🌐 www.nityalab.com

**Test Report**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003027  
Test Report Date: 28/02/2020

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 14/02/2020  
Time of Sampling : 12:40  
Test Started on : 24/02/2020  
Test Completed On : 27/02/2020  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : DHDT-1  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 75  
Diameter of the stack (m) : 2.25  
Sampling duration (min) : 38

**Observations:**

Flue Gas Temperature °C : 155  
Ambient Air Temperature °C : 22  
Flue Gas Velocity (m/s) : 9.20

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Fuel Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	2.78	40	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	8.93	666	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	23.3	327	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	56.7	138	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**Test Report**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003034  
Test Report Date: 02/03/2020

**Sample Particulars:**

Nature of the sample	: Stack Gas Emission
Date of Sampling	: 24/02/2020
Time of Sampling	: 11:30
Test Started on	: 26/02/2020
Test Completed On	: 29/02/2020
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: UB-5
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 130
Diameter of the stack(m)	: 3.25
Sampling duration (min)	: 26
<b>Observations:</b>	
Flue Gas Temperature °C	: 131
Ambient Air Temperature °C	: 26
Flue Gas Velocity (m/s)	: 12.64

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Pet Coke Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	48.7	150	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	281.2	400	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	179.8	300	IS-11255 (P-7)

Remark: Not Detected

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited Invoiced amount only. Results subject to the movement of vehicles at that particular time. Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email of info@nityalab.com and call of +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullakhari, Taluka Talwandi Sabo  
Distt. Bhalinda, Punjab, India

Report No.: NL/100003035  
Test Report Date: 02/03/2020

#### Sample Particulars:

Nature of the sample	: Stack Gas Emission
Date of Sampling	: 24/02/2020
Time of Sampling	: 12:20
Test Started on	: 26/02/2020
Test Completed On	: 29/02/2020
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: UB-6
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 130
Diameter of the stack(m)	: 3.25
Sampling duration (min)	: 25
<b>Observations:</b>	
Flue Gas Temperature °C	: 130
Ambient Air Temperature °C	: 25
Flue Gas Velocity (m/s)	: 12.81

### Analysis Report

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Pet Coke Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	42.1	150	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	189.4	400	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	137.8	300	IS-11255 (P-7)



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount of invoice only. Results subject to the movement of vehicles at that particular time.\* Not in HABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Taiwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003036  
Test Report Date: 02/03/2020

#### Sample Particulars:

Nature of the sample	: Stack Gas Emission
Date of Sampling	: 25/02/2020
Time of Sampling	: 11:00
Test Started on	: 26/02/2020
Test Completed On	: 29/02/2020
Purpose of monitoring	: To Check the Pollution Load
Sampling Location	: UB-3
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 100
Diameter of the stack(m)	: 3.0
Sampling duration (min)	: 26

#### Observations:

Flue Gas Temperature °C	: 128
Ambient Air Temperature °C	: 26
Flue Gas Velocity (m/s)	: 12.28

### Analysis Report

#### Analysis Report

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Fuel Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	3.02	44	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	5.8	730	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	89.7	335	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	1.4	143	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	5	USEPA Method 29 By AAS



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. Results subject to the movement of vehicles at that particular time.\* Not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email of [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

**Issued to: HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003030  
Test Report Date: 25/02/2020

#### Sample Particulars:

Nature of the sample	: Stack Gas Emission
Date of Sampling	: 18/02/2020
Time of Sampling	: 11:00
Test Started on	: 21/02/2020
Test Completed On	: 24/02/2020
Purpose of monitoring	: To Check the Pallution Load
Sampling Location	: BBU
Sampling method	: IS: 11255 (P-7)
Normal operating schedule	: As per requirement
Type of stack /duct	: Mild Steel
Stack height from Ground Level (m)	: 60
Diameter of the stack(m)	: 2.0
Sampling duration (min)	: 30
<b>Observations:</b>	
Flue Gas Temperature °C	: 132
Ambient Air Temperature °C	: 23
Flue Gas Velocity (m/s)	: 10.56

#### Analysis Report

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Mixed Fuel Limits (mg/Nm <sup>3</sup> )	Test Method
1	Particulate Matters (as PM)	4.2	5	IS-11255 (P-1)
2	Oxides of Sulphur (as SO <sub>x</sub> )	42.5	50	IS-11255 (P-2)
3	Oxides of Nitrogen (as NO <sub>x</sub> )	119.6	250	IS-11255 (P-7)
4	Carbon Monoxide (as CO)	37.8	150	IS-13270
5	Nickel & Vanadium (as Ni & V)*	BDL(LOQ-0.5)	N.A.	USEPA Method 29 By AAS

Remark: Not Detected



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The Laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited involved amount only. Results subject to the movement of vehicles at that particular time.\* Not in HABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873934093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003011-3021  
Test Report Date: 09/03/2020

#### Sample Particulars:

Nature of the Sample & No. of Samples : **Ground Water & Eleven Samples**  
Sample Quantity & Packaging : 2.0 Liter, Pet Bottle  
Test Started on : 02/03/2020  
Test Completed : 07/03/2020  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 29/02/2020  
Sampling Conducted By : Mr. Manmohan Singh

### Analysis Report

Parameter	pH	Odour	Color	Taste	Temperature	Turbidity	TDS	Alkalinity as (CaCO <sub>3</sub> )	Total Hardness as (CaCO <sub>3</sub> )	Chlorides	Fluorides	
Location												
GW1	7.32	Agreeable	<5	Agreeable	25.4	<1	621	138	287	193.2	0.76	
GW2	7.43	Agreeable	<5	Agreeable	26.3	<1	562	231	190	201.5	0.34	
GW3	7.24	Agreeable	<5	Agreeable	24.5	<1	498	197	231	189.1	0.81	
GW4	7.38	Agreeable	<5	Agreeable	25.1	<1	590	215	236	265.0	0.56	
GW5	7.39	Agreeable	<5	Agreeable	26.8	<1	410	190	278	124.8	0.76	
GW6	7.40	Agreeable	<5	Agreeable	26.7	<1	621	265	325	149.7	0.62	
GW7	7.45	Agreeable	<5	Agreeable	27.1	<1	478	190	214	176.3	0.84	
GW8	7.29	Agreeable	<5	Agreeable	27.5	<1	490	231	186	189.2	0.81	
GW9	7.43	Agreeable	<5	Agreeable	27.2	<1	501	179	223	136.7	0.78	
GW10	7.53	Agreeable	<5	Agreeable	27.1	<1	465	231	321	201.1	0.85	
GW11	7.40	Agreeable	<5	Agreeable	25.5	<1	498	269	345	154.3	0.89	
IS 5050	Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1	500	200	200	250	1.0
	Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5	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)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-16)	IS:3025 (P-23)	IS:3025 (P-21)	IS:3025 (P-21)	APHA 23 <sup>rd</sup> 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  
Near Secured Landfill Area North Side, GW9: Secured Landfill Area West Side, GW10: Secured Landfill Area South Side, GW11: Near ETP South Side



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924693

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullakhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003011-3021  
Test Report Date: 09/03/2020

### Analysis 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	50.29	32.48	150.2	17.2	BDL	0.35	BDL	BDL	BDL	BDL	BDL	
GW2	38.18	15.19	104.3	12.9	BDL	0.27	BDL	BDL	BDL	BDL	BDL	
GW3	43.21	25.29	111.3	15.6	BDL	0.22	BDL	BDL	BDL	BDL	BDL	
GW4	44.28	30.19	116.2	18.7	BDL	0.43	BDL	BDL	BDL	BDL	BDL	
GW5	34.54	27.49	109.6	19.2	BDL	0.41	BDL	BDL	BDL	BDL	BDL	
GW6	49.18	24.23	132.6	14.3	BDL	0.29	BDL	BDL	BDL	BDL	BDL	
GW7	50.29	20.18	104.1	15.7	BDL	0.32	BDL	BDL	BDL	BDL	BDL	
GW8	41.21	32.19	111.2	12.5	BDL	0.43	BDL	BDL	BDL	BDL	BDL	
GW9	47.61	33.92	108.1	17.8	BDL	0.23	BDL	BDL	BDL	BDL	BDL	
GW10	49.16	35.58	112.1	13.2	BDL	0.31	BDL	BDL	BDL	BDL	BDL	
GW11	45.46	30.28	130.1	19.3	BDL	0.24	BDL	BDL	BDL	BDL	BDL	
IS 10500	Desirable	75	30	200	45	0.001	1	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)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-34)	IS:3025 (P-43)	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> 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 /  
GW8: Near Secured Landfill Area North Side, GW9: Secured Landfill Area West Side, GW10: Secured Landfill Area South Side, GW11: Near ETP South Side



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report, the results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited/involved amount only. \* not in HABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924073

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

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

#### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003011-3021

Test Report Date: 09/03/2020

#### Analysis Report

Parameter	Lead (as Pb)	Boron (as B)	Cyanide (as CN*)	Selenium (as Se*)	RFC	Polycyclic Aromatic Hydrocarbons (PAH*)	Mineral Oil*	Anionic Detergent*	Aluminum (as Al)	Total Coliform	
GW1	BDL	0.43	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent	
GW2	BDL	0.25	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent	
GW3	BDL	0.28	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent	
GW4	BDL	0.34	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent	
GW5	BDL	0.16	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent	
GW6	BDL	0.23	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent	
GW7	BDL	0.25	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent	
GW8	BDL	0.25	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent	
GW9	BDL	0.27	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent	
GW10	BDL	0.32	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent	
GW11	BDL	0.31	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Absent	
IS 10500	Desirable	0.01	0.5	0.05	0.01	0.2	0.0001	0.5	0.2	0.03	Absent
	Permissible	No Relaxation	1.0	No	No	1.0	No	No	1.0	0.2	Absent
Protocol	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	IS: 1622	

**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  
Near Secured Landfill Area North Side, GW9: Secured Landfill Area West Side, GW10: Secured Landfill Area South Side, GW11: Near ETP South Side



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the samples tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in HABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003010  
Test Report Date: 09/03/2020

#### Sample Particulars:

Nature of the Sample : Volatile Organic Carbon  
Date of Monitoring : 29/02/2020  
Purpose of Monitoring : To Check the Pollution Load  
Place of Monitoring : HMEL Refinery  
Monitoring Conducted By : Mr. Animesh Jha  
Protocol Used : Portable PID Based Gas Detector for VOC's – Honeywell RAE

### Analysis Report

Sr. No.	Locations	Test Results (PPM)
1	Near ETP	0.3
2	Near Rail Gantry	BDL
3	Near Road Gantry	BDL
4	Battery limits of CDU/VDU	BDL
5	Battery limits of FCCU	BDL
6	Battery limits of DHDT	BDL
7	Battery limits of VGO-HDT	BDL
8	Battery limits of MS Block	BDL
9	Battery limits of DCU	BDL
10	Product Intermediate Storage Tanks Down Wind Direction	BDL
11	Product Intermediate Storage Tank UP Wind Direction	BDL
12	Near HPCL Product Dispatch Pumps	0.6
13	Battery limits of PPU	BDL
14	Near Crude Oil storage Tanks	0.2
15	Battery Limits of SRU Block	BDL

#### Remark:

BDL-Below Detection Limit (LOQ-0.1)

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited involved amount only.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, TalukaTalwandi Sabo  
Distt.Bhatinda, Punjab, India

Report No.: NL/100003022  
Test Report Date: 09/03/2020

#### Sample Particulars:

Sample Quantity & Packaging : 2.0 Liter, Pet Bottle  
Test Started on : 02/03/2020  
Test Completed : 07/03/2020  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 29/02/2020  
Sampling Conducted By : Mr. Manmohan Singh  
Place of Sampling : W-1: ETP Outlet, Inside GGSR

### Test Report

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
			W-1		
1	pH	...	7.21	6.0-8.5	IS:3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	16.4	20.0	IS:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	78.2	125.0	IS:3025 (P-58)
4	Bio-Chemical Oxygen Demand (BOD)	mg/L	12.3	15.0	IS:3025 (P-44)
5	Oil & Grease (O&G)	mg/L	BDL	5.0	IS:3025 (P-39)
6	Phenolic Compounds(C <sub>6</sub> H <sub>5</sub> OH)	mg/L	0.20	0.35	IS:3025 (P-43)
7	Sulphide (S)	mg/L	0.16	0.5	IS:3025 (P-29)
8	Ammonia (N)	mg/L	7.01	15.0	IS:3025 (P-34)
9	Total Kjeldahl Nitrogen (NH <sub>3</sub> )	mg/L	14.8	40	IS:3025 (P-34)
10	Phosphate	mg/L	0.39	3.0	IS:3025 (P-31)
11	Cyanide (CN*)	mg/L	BDL	0.20	APHA-23 <sup>rd</sup> Ed.
12	Total Chromium	mg/L	BDL	2.0	IS:3025 (P-52)
13	Chromium Hexavalent (Cr <sup>6+</sup> )	mg/L	BDL	0.1	IS:3025 (P-52)
14	Copper (Cu)	mg/L	BDL	1.0	APHA-23 <sup>rd</sup> Ed.
15	Lead (Pb)	mg/L	BDL	0.1	APHA-23 <sup>rd</sup> Ed.
16	Mercury (Hg)	mg/L	BDL	0.01	APHA-23 <sup>rd</sup> Ed.
17	Zinc (Zn)	mg/L	BDL	5.0	APHA-23 <sup>rd</sup> Ed.
18	Nickel (Ni)	mg/L	BDL	1.0	APHA-23 <sup>rd</sup> Ed.
19	Vanadium (V*)	mg/L	BDL	0.2	APHA-23 <sup>rd</sup> Ed.
20	Benzene*	mg/L	BDL	0.1	APHA-23 <sup>rd</sup> Ed.
21	Benzo* (a)-Pyreen	mg/L	BDL	0.2	APHA-23 <sup>rd</sup> Ed.

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, TalukaTalwandi Sabo  
Distt.Bhatinda, Punjab, India

Report No.: NL/100003023  
Test Report Date: 09/03/2020

**Sample Particulars:**

Nature of the Sample : STP Outlet Refinery  
Sample Quantity & Packaging : 1.0 Liter, Pet Bottle  
Test Started on : 02/03/2020  
Test Completed : 07/03/2020  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 29/02/2020  
Sampling Conducted By : Mr. Manmohan Singh  
Place of Sampling : W-2: STP Outlet, Inside GGSR

**Analysis Report**

Sr. No.	Parameters	Unit	Test Results	Standards	Protocol
			W2		
1	pH	-	7.31	6.5 to 9.0	IS:3025 (P-11)
2	Temperature	°C	24.3	-	IS:3025 (P-9)
3	TSS	mg/l	8.2	≤10mg/l	IS:3025 (P-17)
4	COD	mg/l	33.2	≤50mg/l	IS:3025 (P-58)
5	BOD	mg/l	4.5	≤10mg/l	IS:3025 (P-44)
6	O & G	mg/l	BDL	≤5mg/l	IS:3025 (P-39)
7	Ammonical Nitrogen as N*	mg/l	1.82	≤5mg/l	IS:3025 (P-34)
8	N-total*	mg/l	4.82	≤10mg/l	IS:3025 (P-34)
9	PO4-P*	mg/l	0.14	≤2mg/l	IS:3025 (P-31)
10	Total Coliform Count	MPN/100ml	100	≤230/100mg/l	IS: 1622



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in HABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

📍 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

☎ +91-129-2241021

☎ +91-9013591021, +91-9013552273

✉ labsnitya@gmail.com

🌐 www.nityalab.com

### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokharī, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003026  
Test Report Date: 09/03/2020

#### Sample Particulars:

Nature of the Sample : ETP Outlet  
Sample Quantity & Packaging : 5.0 Liter, Pet Bottle  
Started on : 02/03/2020  
Test Completed : 07/03/2020  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 29/02/2020  
Sampling Conducted By : Mr. Manmohan Singh  
Place of Sampling : W-5: ETP Outlet, Inside GGSR

Sr. No.	Parameters	Unit	Test Result	Protocol
			W5	
1	Bioassay Toxic Test	%	98 % survival of fish after 96 hours in 100 % effluent	IS:6582 (P-1)



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

Scanned copy of original Manual Environmental Monitoring Test  
reports Mar'2020

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003345, 3391, 3414, 3462, 3487, 3544, 3569, 3631  
Test Report Date: 14/05/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-I**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR of RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP*), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
02/03/2020	10:00	1.00	4.928	BDL	BDL	BDL
06/03/2020	09:40	1.20	4.192	BDL	BDL	BDL
09/03/2020	09:55	1.10	3.982	BDL	BDL	BDL
13/03/2020	10:06	1.12	2.652	BDL	BDL	BDL
16/03/2020	09:40	1.10	3.762	BDL	BDL	BDL
20/03/2020	09:50	1.16	4.019	BDL	BDL	BDL
26/03/2020	10:10	1.18	3.827	BDL	BDL	BDL
31/03/2020	10:00	1.10	5.019	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>06</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS - National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Report No.: NL/100003346, 3392, 3415, 3463, 3488, 3545, 3570, 3632  
Test Report Date: 14/05/2020

**Sample Particulars**

Nature of the Sample	: Ambient Air Quality Monitoring
Sampling Location	: Ambient Air Quality Monitoring Station (AAQMS)-2
Purpose of Monitoring	: To Check the Pollution Load
Method of Sampling	: IS 5182 (Part 14)
Monitoring Conducted By	: Mr. Animesh Jha
Sampling Duration (Hrs.)	: 24 Hrs.

**Analysis Report**

Date of Sampling	Time	AFR of RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP*), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
02/03/2020	10:15	1.10	3.827	BDL	BDL	BDL
06/03/2020	09:55	1.20	2.982	BDL	BDL	BDL
09/03/2020	10:05	1.16	4.018	BDL	BDL	BDL
13/03/2020	10:20	1.12	4.126	BDL	BDL	BDL
16/03/2020	09:57	1.10	5.018	BDL	BDL	BDL
20/03/2020	10:10	1.16	4.725	BDL	BDL	BDL
26/03/2020	10:25	1.12	3.733	BDL	BDL	BDL
31/03/2020	10:30	1.20	4.928	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>06</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS - National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Report No.: NL/100003347, 3393, 3416, 3464, 3489, 3546, 3571, 360  
Test Report Date: 14/05/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-3**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR of RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP*), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
02/03/2020	10:30	1.10	4.928	BDL	BDL	BDL
06/03/2020	10:05	1.11	3.827	BDL	BDL	BDL
09/03/2020	10:20	1.12	4.018	BDL	BDL	BDL
13/03/2020	10:35	1.16	4.019	BDL	BDL	BDL
16/03/2020	10:18	1.20	4.625	BDL	BDL	BDL
20/03/2020	10:25	1.14	3.827	BDL	BDL	BDL
26/03/2020	10:40	1.22	4.162	BDL	BDL	BDL
31/03/2020	10:45	1.11	4.928	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>06</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec-3(i)] 16.11.2009. BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BAP-BDL [LOQ- 1.0], Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within three days after Receipt.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to invoice amount only.

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullakhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Report No.: NL/100003348, 3394, 3417, 3465, 3490, 3547, 3572, 3634  
Test Report Date: 14/05/2020

#### Sample Particulars

Nature of the Sample	: Ambient Air Quality Monitoring
Sampling Location	: Ambient Air Quality Monitoring Station (AAQMS)-4
Purpose of Monitoring	: To Check the Pollution Load
Method of Sampling	: IS 5182 (Part 14)
Monitoring Conducted By	: Mr. Animesh Jha
Sampling Duration (Hrs.)	: 24 Hrs.

### Analysis Report

Date of Sampling	Time	AFR of RDS (m <sup>3</sup> /min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP*), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
02/03/2020	10:40	1.12	4.019	BDL	BDL	BDL
06/03/2020	10:15	1.10	3.928	BDL	BDL	BDL
09/03/2020	10:30	1.00	3.827	BDL	BDL	BDL
13/03/2020	10:50	1.14	2.872	BDL	BDL	BDL
16/03/2020	10:29	1.10	4.018	BDL	BDL	BDL
20/03/2020	10:37	1.14	3.928	BDL	BDL	BDL
26/03/2020	10:54	1.12	4.827	BDL	BDL	BDL
31/03/2020	10:58	1.12	3.019	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>06</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS - National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL (LOQ- 6.0) BAP-BDL (LOQ- 1.0), Lead-BDL (LOQ- 1.0), N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, (N.A.-Not Applicable, Sample Analysed within three days after Receipt).



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9823924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Report No.: NL/100003349, 3395, 3418, 3466, 3491, 3548, 3573, 3635  
Test Report Date: 14/05/2020

**Sample Particulars**

Nature of the Sample : **Ambient Air Quality Monitoring**  
Sampling Location : **Ambient Air Quality Monitoring Station (AAQMS)-5**  
Purpose of Monitoring : **To Check the Pollution Load**  
Method of Sampling : **IS 5182 (Part 14)**  
Monitoring Conducted By : **Mr. Animesh Jha**  
Sampling Duration (Hrs.) : **24 Hrs.**

**Analysis Report**

Date of Sampling	Time	AFR of RDS (m3/min)	Parameter			
			Nickel (as Ni), ng/m <sup>3</sup>	Arsenic (as As), ng/m <sup>3</sup>	Benzo(a)pyrene (as BAP*), ng/m <sup>3</sup>	Lead (as Pb), µg/m <sup>3</sup>
02/03/2020	10:50	1.12	3.029	BDL	BDL	BDL
06/03/2020	10:26	1.00	3.928	BDL	BDL	BDL
09/03/2020	10:45	1.10	4.192	BDL	BDL	BDL
13/03/2020	11:03	1.02	4.431	BDL	BDL	BDL
16/03/2020	10:40	1.11	3.917	BDL	BDL	BDL
20/03/2020	10:45	1.12	3.192	BDL	BDL	BDL
26/03/2020	11:05	1.14	4.121	BDL	BDL	BDL
31/03/2020	11:10	1.12	4.321	BDL	BDL	BDL
<b>National Ambient Air Quality Monitoring Standards (2009)</b>			<b>20</b>	<b>06</b>	<b>01</b>	<b>01</b>
<b>Test Method</b>			<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:5182 (P-12)</b>	<b>IS:5182 (P-22)</b>

**Remark:**

\*NAAQS – National Ambient Air Quality Standards: Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(ii)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LQ- 6.0] BAP-BDL [LQ- 1.0], Lead-BDL [LQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS Ambient Air Quality Monitoring Station, N.A.-Not Applicable, Sample Analysed within Three days after Receipt.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited involved amount only.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt.Bhatinda, Punjab, India

Report No.: NL/100003350, 3396, 3419, 3467, 3492, 3549, 3574, 3636  
Test Report Date: 14/05/2020

#### Sample Particulars

Nature of the Sample	: Ambient Air Quality Monitoring
Sampling Location	: Ambient Air Quality Monitoring Station (AAQMS)-6
Purpose of Monitoring	: To Check the Pollution Load
Method of Sampling	: IS 5182 (Part 14)
Monitoring Conducted By	: Mr. Animesh Jha
Sampling Duration (Hrs.)	: 24 Hrs.

### Analysis Report

Date of Sampling	Time	AFR of RDS (m3/min)	AFR of FPS (m3/hr)	Parameter								
				Ni ng/m <sup>3</sup>	As ng/m <sup>3</sup>	BaP*, ng/m <sup>3</sup>	Pb µg/ m <sup>3</sup>	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	CO* mg/m <sup>3</sup>
02/03/2020	11:10	1.12	0.98	2.837	BDL	BDL	BDL	78.1	109.2	27.3	45.2	0.726
06/03/2020	10:40	1.00	1.00	3.928	BDL	BDL	BDL	69.2	102.1	23.1	40.1	0.871
09/03/2020	10:53	1.10	0.99	2.918	BDL	BDL	BDL	63.4	103.2	26.5	35.6	0.162
13/03/2020	11:14	1.02	0.98	4.271	BDL	BDL	BDL	64.8	112.1	23.2	48.9	0.423
16/03/2020	10:52	1.11	1.00	3.726	BDL	BDL	BDL	65.2	113.4	26.7	31.2	0.531
20/03/2020	10:56	1.12	1.04	2.837	BDL	BDL	BDL	70.5	120.3	27.6	29.3	0.687
26/03/2020	11:15	1.14	0.98	3.927	BDL	BDL	BDL	65.1	119.2	32.1	30.2	0.643
31/03/2020	11:25	1.12	0.97	4.172	BDL	BDL	BDL	61.2	110.9	30.4	34.5	0.691
<b>National Ambient Air Quality Monitoring Standards (2009)</b>				<b>20</b>	<b>06</b>	<b>01</b>	<b>01</b>	<b>60</b>	<b>100</b>	<b>80</b>	<b>80</b>	<b>04</b>
<b>Test Method</b>				<b>AAS Method</b>	<b>AAS Method</b>	<b>IS:518 2 (P-12)</b>	<b>IS:518 2 (P-22)</b>	<b>Gravimetric</b>	<b>IS:518 2 (P-23)</b>	<b>IS:518 2 (P-2)</b>	<b>IS:518 2 (P-6)</b>	<b>NDIR Method</b>

Remark:  
\*NAAQS – National Ambient Air Quality Standards; Schedule-VII, [Rule 3 (3B)], [Part-II-sec.-3(i)] 16.11.2009, BDL-Below Detection Limit, Arsenic-BDL [LOQ- 6.0] BaP-BDL [LOQ- 1.0] Lead-BDL [LOQ- 1.0], N.A.-Not Applicable, AFR-Average Flow Rate, AAQMS-Ambient Air Quality Monitoring Station, H.A.-Not Applicable, Sample Analysed within Three days after Receipt.

  
(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the samples tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### Test Report

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/107002639  
Test Report Date: 14/05/2020

#### Sample Particulars:

Nature of the Sample	: Ambient Noise
Date of Monitoring	: 30/03/2020
Purpose of Monitoring	: To Check the Pollution Load
Place of Monitoring	: HMEI Refinery
Monitoring Conducted By	: Mr. Animesh Jha
Protocol Used	: IS: 9989

### Analysis Report

Sr. No.	Location	Test Result dB(A) Day Time	Test Result dB(A) Night Time
<b>Permissible Limit in *dB(A) Leq For Industrial Area</b>		<b>75 dB(A)</b>	<b>70 dB(A)</b>
1	Near Refinery Main Gate	73.2	65.2
2	Near Fire Water Reservoir	69.3	63.2
3	Near Road Crude Oil Tanks	71.2	60.3
4	Near ETP and Flare	70.1	61.2
5	Near Storm Water Pond East Side	63.2	59.8
6	Near Sulphur Yard South East Side	65.4	60.1
7	Near Rail Loading Dispatch South East Side	70.2	59.8
8	Near CPP North East Side	72.1	61.2
9	Near Poly Propylene Dispatch Area	71.2	62.4
10	Near Ecological Pond Area	70.2	61.5

\*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	Limits dB (A) Leq	
		Day Time (6AM - 10PM)	Night time (10PM - 06AM)
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. The report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount only. Results subject to the movement of vehicles at that particular time. Not in H&MEL Scope.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9973924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

43, PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**TEST REPORT**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No. : NL/100003672  
Test Report Date : 14/05/2020

**Sample Particulars:**

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 27/03/2020  
Time of Sampling : 11:00  
Test Started on : 07/05/2020  
Test Completed On : 13/05/2020  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : SRU 524  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 100  
Diameter of the stack(m) : 2.0  
Sampling duration (min) : 30  
**Observations:**  
Flue Gas Temperature °C : 168  
Ambient Air Temperature °C : 25  
Flue Gas Velocity (m/s) : 13.21

**Analysis Report**

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits for 100 % Fuel Gas (mg/Nm <sup>3</sup> )	Test Method
1	Oxide of Nitrogen (as NO <sub>x</sub> )	97.87	250	IS-11255(P-7)
2	Carbon Monoxide (as CO)	64.87	100	IS-13270
3	Oxides of Sulphur (as SO <sub>x</sub> )	151.98	N.A.	IS-11255 (P-2)
4	Hydrogen Sulphide (as H <sub>2</sub> S)	BDL(LOQ-0.1)	10	IS:11255 (P-4)

Remark: Not Detected

\*LOQ-Limit of Quantification, the lowest concentration of a substance that can be accurately measured under specified experimental conditions.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited to the amount of the invoice. Results subject to the movement of vehicles at that particular time.\* Not in HABL scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabhgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

### TEST REPORT

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhar, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No. : NL/100003673  
Test Report Date : 14/05/2020

#### Sample Particulars:

Nature of the sample : **Stack Gas Emission**  
Date of Sampling : 27/03/2020  
Time of Sampling : 12:30  
Test Started on : 07/05/2020  
Test Completed On : 13/05/2020  
Purpose of monitoring : To Check the Pollution Load  
Sampling Location : SRU 525  
Sampling method : IS: 11255 (P-7)  
Normal operating schedule : As per requirement  
Type of stack /duct : Mild Steel  
Stack height from Ground Level (m) : 100  
Diameter of the stack(m) : 2.0  
Sampling duration (min) : 30  
**Observations:**  
Flue Gas Temperature °C : 171  
Ambient Air Temperature °C : 25  
Flue Gas Velocity (m/s) : 12.92

#### Analysis Report

Sr. No.	Parameters	Results (mg/Nm <sup>3</sup> )	Limits for 100 % Fuel Gas (mg/Nm <sup>3</sup> )	Test Method
1	Oxide of Nitrogen (as NO <sub>x</sub> )	43.29	250	IS-11255(P-7)
2	Carbon Monoxide (as CO)	36.87	100	IS-13270
3	Oxides of Sulphur (as SO <sub>x</sub> )	161.29	NA	IS-11255 (P-2)
4	Hydrogen Sulphide (as H <sub>2</sub> S)	BDL(LOQ-0.1)	10	IS:11255 (P-4)

Remark: Not Detected

\*LOQ-Limit of Quantification, the lowest concentration of a substance that can be accurately measured under specified experimental conditions.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample limited. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invalued amount only. Results subject to the movement of vehicles at that particular time.\* Not In HABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call of +91-191-2465597, +91-9873924093

#### CORPORATE OFFICE & CENTRAL LABORATORIES :-

📍 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

☎ +91-129-2241021

📞 +91-9013591021, +91-9013552273

✉ labsnitya@gmail.com

🌐 www.nityalab.com

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

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003656-3666  
Test Report Date: 14/05/2020

**Sample Particulars:**

Nature of the Sample & No. of Samples : **Ground Water & Eleven Samples**  
Sample Quantity & Packaging : 2.0 Liter, Pet Bottle  
Test Started on : 07/05/2020  
Test Completed : 13/05/2020  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 31/03/2020  
Sampling Conducted By : Mr. Manmohan Singh

**Analysis Report**

Parameter	pH	Odour	Color	Taste	Temperature	Turbidity	TDS	Alkalinity as (CaCO <sub>3</sub> )	Total Hardness as (CaCO <sub>3</sub> )	Chlorides	Fluorides	
<b>Location</b>												
GW1	7.21	Agreeable	<5	Agreeable	25.6	<1	652	156	289	191.1	0.87	
GW2	7.43	Agreeable	<5	Agreeable	26.4	<1	582	194	234	246.3	0.83	
GW3	7.18	Agreeable	<5	Agreeable	25.6	<1	592	291	273	187.1	0.81	
GW4	7.25	Agreeable	<5	Agreeable	25.6	<1	681	245	247	287.2	0.93	
GW5	7.40	Agreeable	<5	Agreeable	26.7	<1	531	219	274	143.5	0.72	
GW6	7.36	Agreeable	<5	Agreeable	27.6	<1	582	256	324	142.2	0.69	
GW7	7.26	Agreeable	<5	Agreeable	26.5	<1	481	210	215	178.9	0.89	
GW8	7.20	Agreeable	<5	Agreeable	27.0	<1	435	231	231	187.0	0.83	
GW9	7.16	Agreeable	<5	Agreeable	27.4	<1	532	198	243	167.7	0.81	
GW10	7.36	Agreeable	<5	Agreeable	27.2	<1	526	201	315	193.2	0.49	
GW11	7.17	Agreeable	<5	Agreeable	27.1	<1	528	287	311	152.1	0.79	
IS 10500	Desirable	6.5-8.5	Agreeable	5	Agreeable	-	1	500	200	200	250	1.0
	Permissible	6.5-8.5	Agreeable	15	Agreeable	-	5	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)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-16)	IS:3025 (P-23)	IS:3025 (P-21)	IS:3025 (P-21)	APHA 23 <sup>rd</sup> 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

(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in HABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email of info@nityalab.com and call of +91-191-2465597, +91-9013591021

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: HPCL-Mittal Energy Limited  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhalinda, Punjab, India

Report No.: NL/100003656-3666  
Test Report Date: 14/05/2020

**Analysis 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	56.29	35.48	150.18	17.8	BDL	0.32	BDL	BDL	BDL	BDL	BDL
GW2	43.18	18.29	120.4	16.8	BDL	0.39	BDL	BDL	BDL	BDL	BDL
GW3	56.19	32.48	123.19	17.2	BDL	0.41	BDL	BDL	BDL	BDL	BDL
GW4	50.18	34.18	134.2	16.8	BDL	0.54	BDL	BDL	BDL	BDL	BDL
GW5	40.16	29.19	128.8	21.4	BDL	0.43	BDL	BDL	BDL	BDL	BDL
GW6	50.18	31.29	134.2	19.7	BDL	0.37	BDL	BDL	BDL	BDL	BDL
GW7	56.48	23.19	129.7	20.1	BDL	0.39	BDL	BDL	BDL	BDL	BDL
GW8	46.19	36.49	120.1	23.4	BDL	0.41	BDL	BDL	BDL	BDL	BDL
GW9	52.19	35.39	118.9	21.3	BDL	0.27	BDL	BDL	BDL	BDL	BDL
GW10	60.18	40.17	134.7	22.5	BDL	0.34	BDL	BDL	BDL	BDL	BDL
GW11	50.18	32.18	139.6	19.8	BDL	0.31	BDL	BDL	BDL	BDL	BDL
IS 10500	Desirable	75	30	200	45	0.001	1	0.001	5	0.003	0.05
	Permissible	200	100	400	No Relaxation	0.002	No Relaxation	No Relaxation	15	No Relaxation	No Relaxation
Protocol	IS:3025 (P-40)	IS:3025 (P-46)	APHA 23 <sup>rd</sup> Ed.	IS:3025 (P-34)	IS:3025 (P-43)	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> 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



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report, the results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited in value amount only. \* not in HABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9073924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/100003656-3666  
Test Report Date: 14/05/2020

**Analysis Report**

Parameter	Lead (as Pb)	Boron (as B)	Cyanide (as CN*)	Selenium (as Se*)	RFC	Polycyclic Aromatic Hydrocarbons (PAH*)	Mineral Oil*	Anionic Detergent*	Aluminum (as Al)	
GW1	BDL	0.43	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
GW2	BDL	0.28	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
GW3	BDL	0.32	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
GW4	BDL	0.29	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
GW5	BDL	0.32	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
GW6	BDL	0.45	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
GW7	BDL	0.26	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
GW8	BDL	0.32	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
GW9	BDL	0.38	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
GW10	BDL	0.31	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
GW11	BDL	0.43	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
IS 10500	Desirable	0.01	0.5	0.05	0.01	0.2	0.0001	0.5	0.2	0.03
	Permissible	No Relaxation	1.0	No	No	1.0	No	No	1.0	0.2
Protocol	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> Ed.	APHA 23 <sup>rd</sup> 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



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in NABL Scope

If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com



**Test Report**

**Issued to: HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Tatwandi Sabo  
Distt. Bhatinda, Punjab, India

Ref. No.: NL/100003641-3655  
Test Report Date: 14/05/2020

**Sample Particulars:**

Nature of the Sample : **Volatile Organic Carbon**  
Date of Monitoring : 30/03/2020  
Purpose of Monitoring : To Check the Pollution Load  
Place of Monitoring : HMEI Refinery  
Monitoring Conducted By : Mr. Animesh Jha  
Protocol Used : Portable PID Based Gas Detector for VOC's – Honeywell RAE

**Analysis Report**

Sr. No.	Locations	Test Results (PPM)
1	Near ETP	0.3
2	Near Rail Gantry	BDL
3	Near Road Gantry	BDL
4	Battery limits of CDU/VDU	BDL
5	Battery limits of FCCU	BDL
6	Battery limits of DHDT	BDL
7	Battery limits of VGO-HDT	BDL
8	Battery limits of MS Block	BDL
9	Battery limits of DCU	BDL
10	Product Intermediate Storage Tanks Down Wind Direction	BDL
11	Product Intermediate Storage Tank UP Wind Direction	BDL
12	Near HPCL Product Dispatch Pumps	0.4
13	Battery limits of PPU	BDL
14	Near Crude Oil storage Tanks	0.2
15	Battery Limits of SRU Block	BDL

**Remark:**

BDL-Below Detection Limit (LOQ-0.1)



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only.  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at info@nityalab.com and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/10003667  
Test Report Date: 14/05/2020

**Sample Particulars:**

Sample Quantity & Packaging : 2.0 Liter, Pet Bottle  
Test Test Started on : 07/05/2020  
Test Completed : 13/05/2020  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 31/03/2020  
Sampling Conducted By : Mr. Monmohan Singh  
Place of Sampling : W-1: ETP Outlet, Inside GGSR

**Test Report**

Sr. No.	Parameter	Unit	Result	Permissible Limits	Protocol
			W-1		
1	pH	...	7.72	6.0-8.5	IS:3025 (P-11)
2	Total Suspended Solids (TSS)	mg/L	19.3	20.0	IS:3025 (P-17)
3	Chemical Oxygen Demand (COD)	mg/L	94.29	125.0	IS:3025 (P-58)
4	Bio-Chemical Oxygen Demand (3 days at 27°C) (BOD)	mg/L	13.87	15.0	IS:3025 (P-44)
5	Oil & Grease (O&G)	mg/L	BDL	5.0	IS:3025 (P-39)
6	Phenolic Compounds(C <sub>6</sub> H <sub>5</sub> OH)	mg/L	0.31	0.35	IS:3025 (P-43)
7	Sulphide (S)	mg/L	0.42	0.5	IS:3025 (P-29)
8	Ammonia (N)	mg/L	8.29	15.0	IS:3025 (P-34)
9	Total Kjeldahl Nitrogen (NH <sub>3</sub> )	mg/L	19.4	40	IS:3025 (P-34)
10	Phosphate	mg/L	1.2	3.0	IS:3025 (P-31)
11	Cyanide (CN*)	mg/L	BDL	0.20	APHA-23 <sup>rd</sup> Ed.
12	Total Chromium	mg/L	BDL	2.0	IS:3025 (P-52)
13	Chromium Hexavalent (Cr <sup>6+</sup> )	mg/L	BDL	0.1	IS:3025 (P-52)
14	Copper (Cu)	mg/L	BDL	1.0	APHA-23 <sup>rd</sup> Ed.
15	Lead (Pb)	mg/L	BDL	0.1	APHA-23 <sup>rd</sup> Ed.
16	Mercury (Hg)	mg/L	BDL	0.01	APHA-23 <sup>rd</sup> Ed.
17	Zinc (Zn)	mg/L	BDL	5.0	APHA-23 <sup>rd</sup> Ed.
18	Nickel (Ni)	mg/L	BDL	1.0	APHA-23 <sup>rd</sup> Ed.
19	Vanadium (V*)	mg/L	BDL	0.2	APHA-23 <sup>rd</sup> Ed.
20	Benzene*	mg/L	BDL	0.1	APHA-23 <sup>rd</sup> Ed.
21	Benzo* (a)-Pyreen	mg/L	BDL	0.2	APHA-23 <sup>rd</sup> Ed.



(AUTHORISED SIGNATORY)

(RAVINDER MITTAL)

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-**

Plot No. 118, Church Road, Behind Kausik Vatika, Bhagat Singh Colony, Ballabgarh, Faridabad - 121004, Haryana, India

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phulokhari, TalukaTalwandi Sabo  
Distt.Bhatinda, Punjab, India

Report No.: NL/10003668  
Test Report Date: 14/05/2020

**Sample Particulars:**

Nature of the Sample : **STP Outlet Refinery**  
Sample Quantity & Packaging : **2.0 Liter, Pet Bottle**  
Test Test Started on : **07/05/2020**  
Test Completed : **13/05/2020**  
Method of Sampling : **SOP/B/D-3**  
Date of Sampling : **31/03/2020**  
Sampling Conducted By : **Mr. Manmohan Singh**  
Place of Sampling : **W-2: STP Outlet, Inside GGSR**

**Analysis Report**

Sr. No.	Parameters	Unit	Test Results	Standards	Protocol
			W2		
1	pH	-	7.82	6.5 to 9.0	IS:3025 (P-11)
2	Temperature	°C	26.8	-	IS:3025 (P-9)
3	TSS	mg/l	8.9	≤10mg/l	IS:3025 (P-17)
4	COD	mg/l	41.3	≤50mg/l	IS:3025 (P-58)
5	BOD	mg/l	7.2	≤10mg/l	IS:3025 (P-44)
6	O & G	mg/l	BDL	≤5mg/l	IS:3025 (P-39)
7	Ammonical Nitrogen as N*	mg/l	4.76	≤5mg/l	IS:3025 (P-34)
8	N-total*	mg/l	7.54	≤10mg/l	IS:3025 (P-34)
9	PO4-P*	mg/l	1.76	≤2mg/l	IS:3025 (P-31)

**(AUTHORISED SIGNATORY)****(RAVINDER MITTAL)**

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in HABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-****9 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA**

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

**Test Report**

Issued to: **HPCL-Mittal Energy Limited**  
Village Phullokhari, Taluka Talwandi Sabo  
Distt. Bhatinda, Punjab, India

Report No.: NL/10003671  
Test Report Date: 14/05/2020

**Sample Particulars:**

Nature of the Sample : ETP Outlet  
Sample Quantity & Packaging : 5.0 Liter, Pet Bottle  
Test Started on : 07/05/2020  
Test Completed : 13/05/2020  
Method of Sampling : SOP/B/D-3  
Date of Sampling : 31/03/2020  
Sampling Conducted By : Mr. Manmohan Singh  
Place of Sampling : W-5: ETP Outlet, Inside GGSR

**Analysis Report**

Sr. No.	Parameters	Unit	Test Result	Protocol
			W5	
1	Bioassay Toxic Test	%	98 % survival of fish after 96 hours in 100 % effluent	IS:6582 (P-1)

**(AUTHORISED SIGNATORY)****(RAVINDER MITTAL)**

NOTE: The laboratory accepts the responsibility for content of report. The results contained in this test report related only to the sample tested. Test report shall not be reproduced except in full, without written approval of the laboratory. This report is intended only for your guidance and not for legal purpose or for advertisement. This report shall not be reproduced except in full without the written approval of this organization. Samples will be destroyed after 30 days from the date of issue of test certificate unless otherwise specified. Any complaints about this report should be communicated in writing within 7 days of issue of this report. Total liability of Nitya Laboratories is limited invoiced amount only. \* not in NABL Scope  
If you have any complaint/feedback regarding the sample collection/testing/test report, please send an email at [info@nityalab.com](mailto:info@nityalab.com) and call at +91-191-2465597, +91-9873924093

**CORPORATE OFFICE & CENTRAL LABORATORIES :-****43 PLOT NO. 118, CHURCH ROAD, BEHIND KAUSIK VATIKA, BHAGAT SINGH COLONY, BALLABHGARH, FARIDABAD - 121004, HARYANA, INDIA**

+91-129-2241021

+91-9013591021, +91-9013552273

labsnitya@gmail.com

www.nityalab.com

## Annexure-II

Ambient Air Quality Data from Oct'2019 to March'2020									
Monthly Average Values Oct,'2019 to March'2020									
Parameter		SO <sub>2</sub>	NO <sub>2</sub>	CO	O <sub>3</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	NH <sub>3</sub>	BENZENE
Station No.	Month	µg/m <sup>3</sup>	µg/m <sup>3</sup>	mg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>
AAQMS 1	Oct-19	7.33	27.05	0.69	40.14	85.41	48.59	21.51	0.55
AAQMS 2		16.97	22.80	1.26	52.15	89.54	52.57	22.84	0.84
AAQMS 3		25.89	20.55	1.01	36.55	70.81	40.70	22.81	1.00
AAQMS 4		6.49	23.49	0.52	40.60	80.85	50.85	21.06	1.03
AAQMS 5		11.54	20.43	1.40	47.38	91.24	48.95	21.93	0.33
Min		6.49	20.43	0.52	36.55	70.81	40.70	21.06	0.33
Max		25.89	27.05	1.40	52.15	91.24	52.57	22.84	1.03
Avg		13.64	22.86	0.98	43.36	83.57	48.33	22.03	0.75
CPCB limit		80	80	2	100	100	60	400	5
AAQMS 1	Nov-19	7.66	28.30	0.80	37.03	180.38	129.70	19.66	0.66
AAQMS 2		15.61	23.06	1.12	44.53	172.33	98.90	21.66	0.95
AAQMS 3		19.20	20.24	1.01	36.94	106.26	58.75	22.83	0.98
AAQMS 4		10.13	23.73	0.57	57.65	115.16	88.29	21.18	1.13
AAQMS 5		5.94	20.32	1.39	27.42	148.42	102.28	22.69	0.32
Min		5.94	20.24	0.57	27.42	106.26	58.75	19.66	0.32
Max		19.20	28.30	1.39	57.65	180.38	129.70	22.83	1.13
Avg		11.71	23.13	0.98	40.71	144.51	95.58	21.60	0.81
CPCB limit		80	80	2	100	100	60	400	5
AAQMS 1	Dec-19	7.28	28.80	1.02	29.11	105.75	80.43	19.40	1.64
AAQMS 2		10.59	22.25	1.37	41.92	107.35	62.61	19.92	2.13
AAQMS 3		11.14	21.35	1.01	36.76	71.95	37.63	21.53	1.15
AAQMS 4		10.60	17.49	0.58	42.15	76.94	36.78	25.42	1.09
AAQMS 5		5.87	20.16	1.39	26.10	90.35	65.34	22.85	0.51
Min		5.87	17.49	0.58	26.10	71.95	36.78	19.40	0.51
Max		11.14	28.80	1.39	42.15	107.35	80.43	25.42	2.13
Avg		9.10	22.01	1.07	35.21	90.47	56.56	21.82	1.30
CPCB limit		80	80	2	100	100	60	400	5
AAQMS 1	Jan-20	7.48	28.97	0.82	28.98	79.26	52.52	19.19	1.79
AAQMS 2		9.61	19.60	1.47	48.02	63.34	43.16	21.92	1.96
AAQMS 3		11.94	19.48	1.02	37.59	43.37	31.29	20.20	1.36
AAQMS 4		9.86	19.02	0.49	35.56	42.89	29.80	25.33	1.52
AAQMS 5		6.47	20.25	1.71	26.62	67.56	44.85	22.61	0.83
Min		6.47	19.02	0.49	26.62	42.89	29.80	19.19	0.83
Max		11.94	28.97	1.71	48.02	79.26	52.52	25.33	1.96
Avg		9.07	21.46	1.10	35.36	59.28	40.32	21.85	1.49
CPCB limit		80	80	2	100	100	60	400	5
AAQMS 1	Feb-20	7.55	24.32	0.54	29.52	81.46	49.11	18.38	1.81
AAQMS 2		9.34	20.44	1.13	35.24	71.47	41.92	24.79	1.41
AAQMS 3		11.16	16.96	1.01	40.92	51.96	30.37	20.26	1.67
AAQMS 4		8.99	19.03	0.41	43.19	56.33	22.11	23.85	1.95
AAQMS 5		6.61	21.88	1.34	30.72	57.03	35.90	23.99	0.71
Min		6.61	16.96	0.41	29.52	51.96	22.11	18.38	0.71
Max		11.16	24.32	1.34	43.19	81.46	49.11	24.79	1.95
Avg		8.73	20.53	0.89	35.92	63.65	35.88	22.25	1.51
CPCB limit		80	80	2	100	100	60	400	5
AAQMS 1	Mar-20	6.75	19.29	0.65	29.84	50.06	17.81	12.84	1.84
AAQMS 2		8.98	16.90	0.87	42.66	40.70	25.33	20.69	1.06
AAQMS 3		11.60	21.32	0.98	43.83	30.43	16.44	26.35	1.98
AAQMS 4		9.19	20.40	0.43	35.05	47.04	25.31	24.68	1.76
AAQMS 5		5.48	20.81	1.24	31.05	50.40	23.11	23.09	0.78
Min		5.48	16.90	0.43	29.84	30.43	16.44	12.84	0.78
Max		11.60	21.32	1.24	43.83	50.40	25.33	26.35	1.98
Avg		8.40	19.74	0.83	36.48	43.73	21.60	21.53	1.48
CPCB limit		80	80	2	100	100	60	400	5

## NOTE :

Particulate Matter (PM<sub>10</sub>) is already higher in ambient air quality baseline data even before the start of the refinery operation. Its value varies from 252.5 µg/m<sup>3</sup> to 325.7 µg/m<sup>3</sup> as per baseline data for year 2010.

Particulate Matter (PM<sub>2.5</sub>) is already higher in ambient air quality baseline data even before the start of the refinery operation. Its value varies from 101.8 µg/m<sup>3</sup> to 194 µg/m<sup>3</sup> as per baseline data for year 2010.

## Annexure-III

<b>Activities undertaken for improving socio-economic condition in the surrounding areas from Oct'2019 to Mar'2020</b>		
<b>CSR Pillars</b>	<b>Beneficiaries</b>	<b>Remarks</b>
Skill Development	828	Spoken English Course, LMV & LTV training to vicinity youth and NSDC implemented Training programs
Community Healthcare & Hygiene	18353	General Health Checkup Camp; Eye Checkup Camp; Gynecology Checkup Camp; Orthopedic checkup camp; Medical Equipment's to Govt. Hospitals; Support to "Vanaprastha Ashram", Provide Hearing Aid & Tricycles for Specially abled People; Construction of Toilets under Swatchh Bharat mission; Drinking water arrangement by installation of RO Plant & water Coolers at community , religious places; Fitness Talent hunt; Organized Health Camps through Ladli Foundation; Street Vendor Training on Hygiene; Support to District administration & Religious places to address COVID-19 Pandemic
Livelihood and Sustainable Development	16238	Women Entrepreneurship Development; Women Empowerment initiatives through HIH; Animal Health Checkup Camps; Organized Livestock breed competition to promote Dairy Farming; Training - Sewing Machine Operator; Training - Beauty Therapist; Training - Dairy Farming; Support of Liquid Nitrogen Containers to Animal Husbandry department; Training- Organic Farming
<b>Total</b>	<b>35419</b>	

Photographs for activities undertaken for improving socio-economic condition in the surrounding areas from Oct'2019 to Mar'2019

**Community Healthcare & Hygiene  
(Health Check Up Camp)**



**Livelihood & Sustainable Development  
Dairy Development  
(Training - Dairy Farming)**



**Livelihood & Sustainable Development  
Dairy Development  
(Animal Health Check Camp)**



**Skill Development  
(LMV & LTV Training)**



**Livelihood and Sustainable Development  
(Women Empowerment initiatives)**



**Skill Development  
(NSDC implemented programs)**



**Skill Development  
(Spoken English)**



**Community Healthcare & Hygiene  
(Health Camps through Ladli Foundation)**



**Community Healthcare & Hygiene  
(Distribution of Hearing Aid & Tricycles for  
Specially abled People)**





**Annexure-IV**

<b>Activities undertaken for community welfare including eco-developmental measures in the surrounding areas from Oct'2019' to Mar'2020</b>		
<b>CSR Pillars</b>	<b>Beneficiaries</b>	<b>Remarks</b>
Community infrastructure & Environment	9341	Construction, Repair & maintenance of common/community places of villages; Supply of concrete benches, Provide Tree Guards; Furniture and Fixtures to Community etc.; Providing 5 Happy Seeder Machines with Tractor Trolley to avoid stubble burning; Support to HPCL- Mittal Foundation for Hospital Project & Other CSR Activities
Education Development	10150	Construction, Repair and Maintenance of School Building and Toilets for Schools; Support of Fixture and Furniture to Govt. Schools; Safe Drinking Water Arrangement in Govt. Schools; Support for Library Books to Govt. Schools; Distribution of Bicycles to Girls of Govt. School; Distribution of school uniform and stationery; Health and Safety awareness program for school teachers and students; Scholarship to Meritorious Students of Govt. Schools; Support of Sewing Machines to Girls College; Support to Bharat Scouts & Guides Punjab; Support to Military Literature Festival Chandigarh
<b>Total</b>	<b>19491</b>	

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

**Community Infrastructure and Environment  
(Construction of streets)**



**Community Infrastructure and Environment  
(Tree Guards & Concrete Benches)**



**Education Development  
(Distribution of school uniform and stationery)**



**Education Development  
(Distribution of Bicycles)**



**Education Development  
(Construction of Mid-day meal shed in Govt. Schools)**



**Education Development  
(Health and Safety awareness program)**



**Education Development**  
**(Support of Fixture and Furniture to Govt. Schools)**



**Community Infrastructure and Environment**  
**(Distribution of Happy Seeder & Tractor)**



**Community Infrastructure and Environment**  
**(Tree Plantation)**



**Community Infrastructure and Environment**  
**(Happy Seeder)**



# The Tribune

BATHINDA | THURSDAY | 9 AUGUST 2018

<p><b>HPCL-Mittal Energy Limited (HMEL)</b>                  (A JV between HPCL and MEI Pte. Ltd.)                  Village Phullokari, Taluka - Talwandi Sabo                  District - Bathinda - 151301, PUNJAB                  Website : www.hmel.in</p>	
<b>PUBLIC NOTICE</b>	
<p>HPCL-Mittal Energy Limited hereby brings to the notice of the general public that Ministry of Environment, Forest and Climate Change (MOEF&amp;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 7<sup>th</sup> August, 2018.</p> <p>Copies of clearance letter are available with Punjab Pollution Control Board and may be seen on website of Ministry at <a href="http://moef.nic.in">http://moef.nic.in</a></p> <p style="text-align: right;"><b>Authorized Signatory</b>                  HPCL-Mittal Energy Limited</p>	

## Punjab News Paper Ajit, dated 9<sup>th</sup> Aug'18

<p><b>ਐਚ ਪੀ ਸੀ ਐਲ-ਮਿੱਤਲ ਐਨਰਜੀ ਲਿਮਿਟਿਡ (ਐਚ ਐਮ ਈ ਐਲ)</b>                  (ਐਚ ਪੀ ਸੀ ਐਲ ਅਤੇ ਐਮ ਈ ਐਲ ਪੀ ਟੀ ਈ ਲਿਮਿਟਿਡ ਦਰਮਿਆਨ ਇਕ ਜੇ ਵੀ)                  ਪਿੰਡ ਫੁੱਲਕਾਰੀ, ਤਾਲੁਕਾ-ਤਲਵੰਡੀ ਸਾਬੋ                  ਜ਼ਿਲ੍ਹਾ ਬਠਿੰਡਾ-151301, ਪੰਜਾਬ                  ਵੈੱਬਸਾਈਟ : www.hmel.in</p>	
<b>ਜਨਤਕ ਸੂਚਨਾ</b>	
<p>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 ਐਫ ਐੱਚ ਐੱਚ ਪੀ ਸੀ), ਨਵੀਂ ਦਿੱਲੀ ਨੇ ਪੱਤਰ ਨੰਬਰ : ਜੇ-11011/386/2016-1 ਏ-11 (I) ਮਿਤੀ 7 ਅਗਸਤ, 2018 ਦੁਆਰਾ ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ ਰੀਫਾਇਨਰੀ, ਪਿੰਡ ਫੁੱਲਕਾਰੀ, ਤਾਲੁਕਾ-ਤਲਵੰਡੀ ਸਾਬੋ, ਜ਼ਿਲ੍ਹਾ ਬਠਿੰਡਾ (ਪੰਜਾਬ) ਵਿਖੇ ਫਿਊਲ ਕੁਆਲਟੀ ਅਪਗ੍ਰੇਡੇਸ਼ਨ ਪ੍ਰਾਜੈਕਟ ਲਈ ਵਾਤਾਵਰਨਿਕ ਕਲੀਅਰੈਂਸ ਪ੍ਰਦਾਨ ਕੀਤੀ ਹੈ।</p> <p>ਕਲੀਅਰੈਂਸ ਪੱਤਰ ਦੀਆਂ ਕਾਪੀਆਂ ਪੰਜਾਬ ਪ੍ਰਦੂਸ਼ਣ ਰੋਕਥਾਮ ਬੋਰਡ ਕੋਲ ਉਪਲਬਧ ਹਨ ਅਤੇ ਮੰਤਰਾਲੇ ਦੀ ਵੈੱਬਸਾਈਟ <a href="http://moef.nic.in">http://moef.nic.in</a> 'ਤੇ ਦੇਖੀਆਂ ਜਾ ਸਕਦੀਆਂ ਹਨ।</p> <p style="text-align: right;">— ਅਧਿਕਾਰਤ ਸਿਗਨੇਟਰੀ</p> <p style="text-align: center;">ਐਚ ਪੀ ਸੀ ਐਲ-ਮਿੱਤਲ ਐਨਰਜੀ ਲਿਮਿਟਿਡ</p>	

## **Annexure-VI**

Copy of mail to MoEF&CC for action plan of CER

Jatinder Kumar1

**From:** Satish Kumar Kalra  
**Sent:** Thursday, May 16, 2019 2:56 PM  
**To:** Sanket Thapar  
**Cc:** Ravi Deshwal; Jatinder Kumar1; Mainak Ray  
**Subject:** FW: BS-VI Fuel Quality Upgradation Project at Guru Gobind Singh Refinery, Village Phulo Khari, Tehsil Talwandi Sabo, District Bathinda (Punjab) by M/s HPCL-Mittal Energy Limited (HMEL) - Environmental Clearance- reg.  
**Attachments:** CER plan BSVI project.docx

**From:** Satish Kumar Kalra  
**Sent:** 06 July 2018 17:07  
**To:** nobi.ep@nic.in  
**Cc:** srivastava <sk.smree66@nic.in>; KS Sitaraman <ks.sitaraman@hmel.in>; Tapash Pramanik (tapash.pramanik@hmel.in) <tapash.pramanik@hmel.in>  
**Subject:** RE: BS-VI Fuel Quality Upgradation Project at Guru Gobind Singh Refinery, Village Phulo Khari, Tehsil Talwandi Sabo, District Bathinda (Punjab) by M/s HPCL-Mittal Energy Limited (HMEL) - Environmental Clearance- reg.

Dear sir,

Please refer trailing mail. As desired please find enclosed year wise Corporate Environment Responsibility (CER) plan for BS-VI Fuel Quality Up gradation Project at Guru Gobind Singh Refinery by M/s HPCL-Mittal Energy Limited (HMEL) .

With regards



**HMEL**

Satish Kumar Kalra  
 DGM - Technical Services  
**HPCL-Mittal Energy Ltd.**  
 Village- Phulokhari | Taluka- Talwandi Saboo  
 Bathinda - 151301, Punjab (India)  
 Phone: +91 1655 272905  
 Mobile: +91 9988865653  
 Email: [satish.kalra@hmel.in](mailto:satish.kalra@hmel.in)

**From:** [nobi.ep@nic.in](mailto:nobi.ep@nic.in) [<mailto:nobi.ep@nic.in>]  
**Sent:** Thursday, July 5, 2018 2:53 PM  
**To:** Satish Kumar Kalra; Tapash Pramanik; KS Sitaraman  
**Cc:** srivastava  
**Subject:** BS-VI Fuel Quality Upgradation Project at Guru Gobind Singh Refinery, Village Phulo Khari, Tehsil Talwandi Sabo, District Bathinda (Punjab) by M/s HPCL-Mittal Energy Limited (HMEL) - Environmental Clearance- reg.

Sir,

This has reference to your proposal No. IA/PB/IND2/61343/2016 dated 2<sup>nd</sup> February, 2018 for environmental clearance to the BS-VI Fuel Quality upgradation project at Guru Gobind Singh

## **Annexure-VII**

Copy of Air & Water Consent



### PUNJAB POLLUTION CONTROL BOARD

Regional Office, Bathinda (DISTRICT ADMINISTRATIVE COMPLEX, ROOM NO. 401 E - 403 E,  
406 E & 418 E, 3RD FLOOR)

Website:- www.ppcb.gov.in

Office Dispatch No :

Registered/Speed Post

Date:

Industry Registration ID: R12BT144706

Application No : 9511030

To,

Krishan Tuteja  
Hpcl-mittal Energy Limited, guru Gobind Singh Refinery Project, village Phullokari, taluka Talwandi Saboo,  
District Bathinda.  
Bathinda, Bathinda-151301

Subject: Renewal of 'Consent to Operate' u/s 21 of Air (Prevention & Control of Pollution) Act, 1981 for discharge of emissions arising out of premises.

With reference to your application for obtaining Renewal of 'Consent to Operate' u/s 21 of Air (Prevention & Control of Pollution) Act, 1981, you are hereby, authorized to operate an industrial unit for discharge of the emission(s) arising out of your premises subject to the Terms and Conditions as mentioned in this Certificate.

#### 1. Particulars of Consent to Operate under Air Act, 1981 granted to the industry

Consent to Operate Certificate No.	CTOA/Renewal/BTI/2019/9511030
Date of issue :	29/07/2019
Date of expiry :	31/03/2022
Certificate Type :	Renewal
Previous CTO No. & Validity :	CTOA/Varied/BTI/2018/6990175 From:04/07/2018 To:31/03/2019

#### 2. Particulars of the Industry

Name & Designation of the Applicant	Krishan Tuteja, (Vice President- Operation)
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	1334411.8 lakhs
Category of Industry	Red
Type of Industry	Oil Refinery
Scale of the Industry	Large
Office District	Bathinda
Consent Fee Details	Rs. 8838635/- vide UTR No. SBINR52019030700120533 dated 07.03.2019
Raw Materials (Name with Quantity per day)	Crude oil @ 11.25 MMTPA

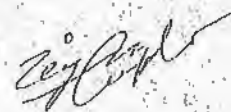
"This is computer generated document from OCMMS by PPCB"

Hpcl-mittal Energy Limited (guru Gobind Singh Refinery), Village Phullokari, taluka Talwandi Saboo, Talwandi Saboo, Bathinda, 151301

Page 1



Products (Name with Quantity per day)	LPG @ 2889 TPD, Naphtha @ 2615 TPD, Gasoline (R) @ Bharat IV - 3919 TPD, Gasoline (P) @ Bharat IV - 75 TPD, ATF @ 1500 TPD, Kerosene @ 600 TPD, Diesel @ Bharat IV-14527.8 TPD, Sulphur @ 622 TPD, Coke @ 2974 TPD, Hexane @ 15 TPD, Motor Turpentine Oil @ 75 TPD, Poly Propylene @ 1500 TPD, Bitumen @ 1560 TPD
By-products, if any, (Name with Quantity per day)	--
Details of the machinery and process	Refinery for processing of Crude Oil
Quantity of fuel required (in TPD) and capacity of boilers/ Furnace/Thermo heater etc.	Fuel Oil for 4 no. boilers of capacity 240 TPH each Pet coke / coal for 2 no. boilers of capacity 300 TPH each HSD in 2 no. DG sets of capacity 8250 KVA & 3520 KVA Fuel oil/gas for furnaces / Units/ Bitumen blowing unit
Type of Air Pollution Control Devices to be installed	Low Nox burner with 4 no boilers of capacity 240 TPH each. Separate ESP for boiler of capacity 300 TPH each. Canopy with DG sets of capacity 8250 KVA & 3520 KVA Low Nox burners have been installed as APCDs with all the furnaces/Units Alkali Scrubber with bitumen blowing unit
Stack height provided with each boiler/thermo heater/Furnace etc.	Stack of 100 meters height above GL with 4 no.boilers of capacity 240 TPH each. Stack of 130 meters height above GL with 2 no.boilers of capacity 300 TPH each. Stack of 37 meters height above GL with DG set of capacity 8250 KVA & 3520 KVA each. Stacks of adequate heights above GL with furnaces / Units Stack of 30 meter height above GL with Bitumen blowing unit.
Sources of emissions and type of pollutants	4 no.boilers of capacity 240 TPH each. 2 no.boilers of capacity 300 TPH each. DG set of capacity 8250 KVA & 3520 KVA each.v Furnaces / Units Bitumen Blowing Unit
Standards to be achieved under Air(Prevention & Control of Pollution) Act, 1981	As prescribed by the PPCB/CPCB/MOEF.



30/07/2019

(Vijay Gupta)  
Environmental Engineer

For & on behalf

of

(Punjab Pollution Control Board)

Endst. No.:

Dated:

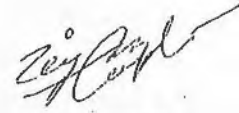
A copy of the above is forwarded to the following for information and necessary action please:

The Senior Environmental Engineer, PPCB, Zonal Office, Bathinda and this consent is issued as per directions of SEE, ZO, Bathinda to generate certificate at RO level.

"This is computer generated document from OCMMS by PPCB"

Hpcl-mittal Energy Limited (guru Gobind Singh Refinery), Village Phullokari, Taluka Talwandi Saboo, Talwandi Sabo, Bathinda, 151301

Page 2



30/07/2019

**(Vijay Gupta)**  
**Environmental Engineer**

*For & on behalf*  
*of*

**(Punjab Pollution Control Board)**



*"This is computer generated document from OCMMS by PPCB"*

*Hpcl-mittal Energy Limited (guru Gobind Singh Refinery), Village Phullokari, taluka Talwandi Saboo, Talwandi Sabo, Bathinda, 151301*

*Page 3*

## TERMS AND CONDITIONS

### A. GENERAL CONDITIONS

1. This consent is not valid for getting power load from the Punjab State Power Corporation Ltd. or for getting loan from the financial institutions.
2. The industry shall apply for renewal /extension of consent at least two months before expiry of the consent.
3. The industry shall not violate any of the norms prescribed under the Air (Prevention & Control of Pollution) Act, 1981, failing which, the consent shall be cancelled / revoked.
4. The achievement of adequacy and efficiency of the air pollution control devices installed shall be the entire responsibility of the industry
5. The authorized fuel being used shall not be changed without the prior written permission of the Board.
6. The industry shall not discharge any fugitive emissions. All gases shall be emitted through a stack of suitable height, as per the norms fixed by the Board from time to time.
7. The industry shall provide port-holes, platforms and/or other necessary facilities as may be required for collecting samples of emissions from any chimney, flue or duct or any other outlets.

Specifications of the port-holes shall be as under:-

- i) The sampling ports shall be provided atleast 8 times chimney diameter downstream and 2 times upstream from the flow disturbance. For a rectangular cross section the equivalent diameter (De) shall be calculated from the following equation to determine upstream, downstream distance:-  

$$De = 2 LW / (L+W)$$

Where L= length in mts, W= Width in mts.
  - ii) The sampling port shall be 7 to 10 cm in diameter
8. The industry shall put display Board indicating environmental data in the prescribed format at the main entrance gate.
  9. The industry shall discharge all gases through a stack of minimum height as specified in the following standards laid down by the Board.

#### (i) Stack height for boiler plants

S.NO.	Boiler with Steam Generating Capacity	Stack heights
1.	Less than 2 ton/hr.	9 meters or 2.5 times the height of neighboring building whichever is more
2.	More than 2 ton/hr. to 5 ton/hr.	12 meters
3.	More than 5 ton/hr. to 10 ton/hr.	15 meters
4.	More than 10 ton/hr. to 15 ton/hr.	18 meters
5.	More than 15 ton/hr. to 20 ton/hr.	21 meters
6.	More than 20 ton/hr. to 25 ton/hr.	24 meters
7.	More than 25 ton/hr. to 30 ton/hr.	27 meters
8.	More than 30 ton/hr.	30 meters or using the formula $H = 14 Q_g^{0.3}$ or $H = 74 (Q_p)^{0.24}$ Where $Q_g$ = Quantity of SO <sub>2</sub> in Kg/hr. $Q_p$ = Quantity of particulate matter in Ton/day.

Note : Minimum Stack height in all cases shall be 9.0 mtr. or as calculated from relevant formula whichever is more.

(ii) For industrial furnaces and kilns, the criteria for selection of stack height would be based on fuel used for the corresponding steam generation.

(iii) Stack height for diesel generating sets:

"This is computer generated document from OCMMS by PPCB"

Hycl-mittal Energy Limited (guru Gobind Singh Refinery), Village Phullokari, taluka Talwandi Saboo, Talwandi Sabo, Bathinda, 151301

Page 4

Capacity of diesel generating set	Height of the Stack	
0-50 KVA	Height of the building	+ 1.5 mt.
50-100 KVA	-do-	+ 2.0 mt.
100-150 KVA	-do-	+ 2.5 mt.
150-200 KVA	-do-	+ 3.0 mt.
200-250 KVA	-do-	+ 3.5 mt.
250-300 KVA	-do-	+ 3.5 mt.

For higher KVA rating stack height H (in meter) shall be worked out according to the formula:

$$H = h + 0.2 (KVA)^{0.5}$$

where h = height of the building in meters where the generator set is installed.

10. The pollution control devices shall be interlocked with the manufacturing process of the industry to ensure its regular operation.
11. The existing pollution control equipment shall be altered or replaced in accordance with the directions of the Board, and no pollution control equipment or chimney shall be altered or as the case may be erected or re-erected except with the prior approval of the Board.
12. The industry will provide canopy and adequate stack with the D.G sets so as to comply with the provision of notification No GSR-371 E dated 17-5-2002(amended from time to time) issued by MOEF under Environment (Protection) Act, 1986.
13. The Govt. of Punjab, Department of Science, Technology & Environment vide its notification no.4/46/92-3ST/2839 dt. 29/12/1993 has put prohibition on the use of rice husk as fuel after 1.4.1995 except the following:-  
 1/2 In the form of briquettes and use of rice husk in fluidized bed combustion. So the industry shall make the necessary arrangement to comply with the above notification. 1/2
14. The industry shall submit balance sheet of every financial year to the concerned Regional Office by 30th June of every year
15. That the industry shall submit a yearly certificate to the effect that no addition / up-gradation/ modification/ modernization has been carried out during the previous year otherwise the industry shall apply for the varied consent.
16.
  - a) The industry shall ensure that at any time the emission do not exceed the prescribed emissions standards laid down by the Board from time to time for such type of industry /emissions.
  - b) The industry shall ensure that the emissions from each stack shall conform to the following emission standards laid down by the Board in respect of the Industrial Boilers.

Steam Generating capacity A.	Required particulate matter B.	
<i>Area upto 5 Km from Other than 'A' class Other than the periphery of I and Class-II town</i>		
Less than 2 ton/hr.	800 mg/NM <sup>3</sup>	1200 mg/NM <sup>3</sup>
2 ton to 10 ton/hr.	500 mg/NM <sup>3</sup>	1000 mg/NM <sup>3</sup>
Above 10 ton to 15 ton/hr.	350 mg/NM <sup>3</sup>	500 mg/NM <sup>3</sup>
Above 15 ton/hr	150 mg/NM <sup>3</sup>	150 mg/NM <sup>3</sup>

All emissions normalized to 12% carbon dioxide.

17. The industry shall ensure that the Hazardous Wastes generated from the premises are handled as per the provisions of the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008, without any adverse effect on the environment, in any manner.
18. The air pollution control equipments shall be kept at all time in good running condition and;

"This is computer generated document from OCMMS by PPCB"

Hpcl-mittal Energy Limited (guru Gobind Singh Refinery), Village Phullokari, taluka Talwandi Saboo, Talwandi Sabo, Bathinda, 151301

- (i) All failures of control equipments.
  - (ii) The emissions of any air pollutant into the atmosphere in excess of the standards lay down by the Board occurring or being apprehended to occur due to accident or other unforeseen act or event. 'Shall be intimated through fax to the concerned Regional Office as well as to the Director of Factories, Punjab, Chandigarh as required under rule 10 of the Punjab State Board for the Prevention and Control of Air Pollution Rules, 1983'.
19. The industry shall plant minimum of three suitable varieties of trees at the density of not less than 1000 trees per hectare all along the boundary of the industrial premises.
  20. The industry shall submit a site emergency plan approved by the Chief Inspector of Factories, Punjab as applicable.
  21. The industry shall comply with the conditions imposed by the SEIAA/MOEF in the Environmental Clearance granted to it as required under EIA notification dated 14/9/06, if applicable.
  22. The industry shall make necessary arrangements for the monitoring of stack emissions and shall get its emissions analyzed from lab approved / authorized by the Board:-
    - (i) Once in Year for Small Scale Industries.
    - (ii) Twice/thrice/four time in a Year for Large/Medium Scale Industries.
  23. The industry shall maintain the following record to the satisfaction of the Board :-
    - (i) Log books for running of air pollution control devices or pumps/motors used for it.
    - (ii) Register showing the result of various tests conducted by the industry for monitoring of stack emissions and ambient air.
    - (iii) Register showing the stock of absorbents and other chemicals to be used for scrubbers.
  24. The industry will install the separate energy meter for running pollution control devices and shall maintain record with respect to operation of air pollution control device so as to satisfy the Board regarding the regular operation of air pollution control device and monthly reading / record may be sent to the Board by the fifth of the following month.
  25. The industry shall provide online monitoring system as applicable, for in stack emission and shall maintain the record of the same for inspection of the Board Officers.
  26. The Board reserves the right to revoke the consent granted to the industry at any time, in case the industry is found violating the provisions of Air (Prevention & Control of Pollution) Act, 1981 as amended from time to time.
  27. The industry shall comply with any other conditions laid down or directions issued in due course by the Board under the provisions of the Air (Prevention & Control of Pollution) Act, 1981.
  28. Nothing in this consent shall be deemed to neither preclude the institution of any legal action nor relieve the applicant from any responsibilities, liabilities or penalties to which the applicant is or may be subjected to under this or any other Act.
  29. Any amendments/revisions made by the Board/CPCB/MOEF in the emission/stack height standards shall be applicable to the industry from the date of such amendments/revisions.
  30. The industry shall dispose off its solid waste generated by the burning of fuel in an Environmentally Sound Manner within the premises/outside as approved by the Board, to avoid public nuisance and air pollution problem in the area.
  31. The industry shall ensure that no air pollution problem or public nuisance is created in the area due to the discharge of emissions from the industry.
  32. The industry shall provide adequate arrangement for fighting the accidental leakage/discharge of any air pollutant/gas/ liquids from the vessels, mechanical equipment's etc, which are likely to cause environmental pollution.
  33. The industry shall not change or alter the manufacturing process(es) and fuel so as to change the quality/quantity of emissions generated without the prior permission of the Board.
  34. The industry shall earmark a land within their premises for disposal of boiler ash in an environmentally sound manner, and / or the industry shall make necessary arrangements for proper disposal of fuel ash in a scientific manner and shall maintain proper record for the same, if applicable.
  35. The industry shall obtain and submit Insurance cover under the Public Liability Insurance Act, 1991.
  36. The industry shall provide proper and adequate air pollution control arrangements for control emission from its fuel handling area, if applicable.

"This is computer generated document from OCMMS by PPCB"

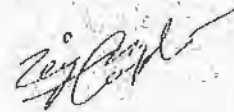
Hpcl-mittal Energy Limited (Guru Gobind Singh Refinery), Village Phullokari, Taluka Talwandi Sahab, Talwandi Sabo, Bathinda, 151301

Page 6

37. The industry shall comply with the code of practice as notified by the Government/Board for the type of industries where the siting guidelines / Code of Practice have been notified.
38. The industry shall not cause any nuisance/traffic hazard in vicinity of the area
39. The industry shall ensure that the noise & air emission from D.G. sets do not exceed the standards prescribed for D.G. sets by the Ministry of Environment & Forests, New Delhi.
40. The industry shall ensure that there will not be significant visible dust emissions beyond the property line
41. The industry shall provide adequate and appropriate air pollution control devices to contain emissions from handling, transportation and processing of raw material & product of the industry.
42. The Industry shall ensure that its production capacity does not exceed the capacity mentioned in the consent and shall not carry out any expansion without the prior permission / NOC of the Board.

#### B. SPECIAL CONDITIONS

1. The industry will get a study conducted in the circumference around the refinery upward & downward in pre-monsoon and post monsoon by engaging Sh. Dinesh of Punjab Agriculture University, Ludhiana in the next season.
2. The industry shall ensure that no treated / untreated domestic / trade effluent is discharged into soakage pits / bore wells to avoid contamination of ground water.
3. The industry will not use the newly acquired land measuring 175.41 acres for industrial activities without obtaining site clearance / Environmental Clearance as well as prior permission of the Board.
4. The industry shall comply with the conditions imposed in all the Environmental Clearances granted to the industry from time to time.
5. The industry will develop 33% of total project area under plantation as per the conditions of Environmental Clearance within three years in phasewise manner and shall submit the quarterly report to the Regional Office.
6. The industry will take all necessary measures to manage and to dispose off the solid waste generated in its premises scientifically at its own level, within three months.
7. The industry will ensure the implementation of dynamic emission limit within time for dual fuel stacks, within a period of one month.
8. The industry shall provide stack monitoring facility as per Emission Regulation Part-3(ERP-3) norms for all stacks attached with boilers.
9. The industry will ensure that the port hole and ladder facility is safe to carry out monitoring. In place of monkey ladder, spiral type/scaffold ladder shall be provided to ensure safety of monitoring personnel.
10. The industrial shall abide by the specific conditions and general conditions imposed in Environmental Clearance issued by Govt. of India, Ministry of Environment, Forest and Climate Change, New Delhi.
11. The industry shall install/operate online continuous effluent & stack emission monitoring systems and shall ensure the connectivity of the same with the server of PPCB & CPCB as per the directions issued by CPCB, New Delhi.
12. The industry will properly maintain / operate online continuous monitoring system and will ensure connection with the website of PPCB / CPCB for data transmission.
13. The industry shall display the stack monitoring data online.
14. The industry shall operate & maintain the ambient air stations installed by the industry & shall submit the record to the Board.



30/01/2019

(Vijay Gupta)  
Environmental Engineer

For & on behalf

of

(Punjab Pollution Control Board)

"This is computer generated document from OCMMS by PPCB"

Hpcl-mittal Energy Limited (guru Gobind Singh Refinery), Village Phullakar, Taluka Talwandi Sabo, Talwandi Sabo, Bathinda, 151301

Page 7



## PUNJAB POLLUTION CONTROL BOARD

Regional Office, Bathinda (DISTRICT ADMINISTRATIVE COMPLEX, ROOM NO. 401 E - 403 E,  
406 E & 418 E, 3RD FLOOR)

Website:- www.ppcb.gov.in

Office Dispatch No :

Registered/Speed Post

Date:

Industry Registration ID: R12BT144706

Application No : 9511579

To,

Prabh Das  
Hpcl-mittal Energy Limited, guru Gobind Singh Refinery Project, village Phullokari, taluka Talwandi Saboo,  
District Bathinda,  
Bathinda, Bathinda-151301

Subject: Renewal of 'Consent to Operate' an outlet u/s 25/26 of Water (Prevention & Control of Pollution) Act, 1974 for discharge of effluent.

With reference to your application for obtaining Renewal of  $1/2$  Consent to Operate  $1/2$  an outlet for discharge of the effluent u/s 25/26 of Water (Prevention & Control of Pollution) Act, 1974, you are, hereby, authorized to operate an industrial unit for discharge of the effluent(s) arising out of your premises subject to the Terms and Conditions as mentioned in this Certificate.

### 1. Particulars of Consent to Operate under Water Act, 1974 granted to the industry

Consent to Operate Certificate No.	CTOW/Renewal/BTI/2019/9511579
Date of issue :	29/07/2019
Date of expiry :	31/03/2022
Certificate Type :	Renewal
Previous CTO No. & Validity :	CTOW/Varied/BTI/2018/6992482 From: 04/07/2018 To: 31/03/2019

### 2. Particulars of the Industry

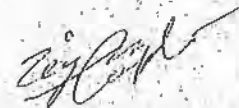
Name & Designation of the Applicant	Krishan Tuteja, (Vice President- Operation)
Address of Industrial premises	Hpcl-mittal Energy Limited (guru Gobind Singh Refinery), Village Phullokari, taluka Talwandi Saboo,, Talwandi Sabo, Bathinda-151301
Capital Investment of the Industry	1334411.8 lakhs
Category of Industry	Red
Type of Industry	Oil Refinery
Scale of the Industry	Large
Office District	Bathinda
Consent Fee Details	Rs. 8838635/- vide UTR No. SBINR52018011000065383 dated 07.03.2019
Raw Materials (Name with quantity per day)	Crude oil @ 11.25 MMTPA

"This is computer generated document from OCMMS by PPCB"

Hpcl-mittal Energy Limited (guru Gobind Singh Refinery), Village Phullokari, taluka Talwandi Saboo,, Talwandi Sabo, Bathinda, 151301

Page 1

Products (Name with quantity per day)	LPG @ 2889 TPD, Naphtha @ 2615 TPD, Gasoline (R) @ Bharat IV - 3919 TPD, Gasoline (P) @ Bharat IV - 75 TPD, ATF @ 1500 TPD, Kerosene @ 600 TPD, Diesel @ Bharat IV-14527.8 TPD, Sulphur @ 622 TPD, Coke @ 2974 TPD, Hexane @ 15 TPD, Motor Turpentine Oil @ 75 TPD, Poly Propylene @ 1500 TPD, Bitumen @ 1560 TPD
By-Products, if any, (Name with quantity per day)	--
Details of the machinery and processes	Refinery for processing of Crude Oil
Details of the Effluent Treatment Plant	The industry has installed an ETP of capacity 500 KLD for treatment of process effluent streams of oily water stream, Stripped sour water and Desalter effluent are treated in the following ways : i) Primary treatment section (for oil & TSS removal) consists of the following processes:- • American Petroleum institute (API) separators, • Tilted Plate interceptor (TPI) separator, • Diffused/Dissolved Air Floatation (DAF) system (having flash mixing tank, flocculation tank, DAF tank and associated facilities). ii) Secondary treatment section (for BOD & COD reduction) : Two stage biological section consisting of the following processes :- • Sequential Batch Reactor (SBR) • Membrane Bio Reactor (MBR)
Mode of Disposal	Trade effluent @ 475 Kl/hour - Partly onto land for plantation and partly recycled back into the process after treatment in ETP. Domestic effluent @ 600 Kl/day - After treatment in STP the treated water is either sent to the ecological ponds from where the water is used for irrigation or sent to SBR section in the ETP.
Standards to be achieved under Water (Prevention & Control of Pollution) Act, 1974	As prescribed by the PPCB/CPCB/MOEF.



30/07/2019

(Vijay Gupta)  
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:

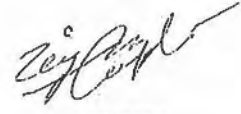
The Senior Environmental Engineer, PPCB, Zonal Office, Bathinda and this consent is issued as per directions of SEE, ZO, Bathinda to generate certificate at RO level

"This is computer generated document from OCMMS by PPCB"

Hpci-mittal Energy Limited (guru Gobind Singh Refinery), Village Phullokari, Taluka Talwandi Saboo, Talwandi Sabo, Bathinda, 151301

Page 2





30/07/2019

**(Vijay Gupta)**  
**Environmental Engineer**

*For & on behalf*  
*of*

**(Punjab Pollution Control Board)**

*"This is computer generated document from OCMMS by PPCB"*

*Hpcl-mittal Energy Limited (guru Gobind Singh Refinery), Village Phullokari, taluka Talwandi Saboo, Talwandi Sabo, Bathinda, 151301*

*Page 3*

## TERMS AND CONDITIONS

### A. GENERAL CONDITIONS

1. This consent is not valid for getting power load from the Punjab State Power Corporation Limited or for getting loan from the financial institutions.
2. The industry shall apply for renewal/further extension in validity of consent atleast two months before expiry of the consent.
3. The industry shall ensure that the effluent discharging through the authorized outlet shall confirm to the prescribed standards as applicable from time to time.
4. The industry shall plant minimum of three suitable varieties of trees at the density of not less than 1000 trees per hectare all along the boundary of the industrial premises.
5. The achievement of the adequacy and efficiency of the effluent treatment plant/pollution control devices/re-circulation system installed shall be the entire responsibility of the industry.
6. The industry shall ensure that the Hazardous Wastes generated from the premises are handled as per the provisions of the Hazardous Wastes (Management, Handling and Trans boundary Movement) Rules, 2008 as amended time to time , without any adverse effect on the environment, in any manner
7. The responsibility to monitor the effluent discharged from the authorized outlet and to maintain a record of the same rests with the industry. The Board shall only test check the accuracy of these reports for which the industry shall deposit the samples collection and testing fee with the Board as and when required.
8. The industry shall submit balance sheet of every financial year to the concerned Regional Office by 30th June of every year.
9. The industry shall submit a yearly certificate to the effect that no addition/np-gradation/ modification/modernization has been carried out during the previous year otherwise the industry shall apply for the varied consent.
10. During the period beginning from the date of issuance and the date of expiration of this consent, the applicant shall not discharge floating solids or visible foam.
11. Any amendments/revisions made by the Board in the tolerance limits for discharges shall be applicable to the industry from the date of such amendments/revisions.
12. The industry shall not change or alter the manufacturing process(es) so as to change the quality and/or quantity of the effluents generated without the written permission of the Board.
13. Any upset conditions in the plant/plants of the factory, which is likely to result in increased effluent and/or result in violation of the standards lay down by the Board shall be reported to the Environmental Engineer, Punjab Pollution Control Board of concerned Regional Office immediately failing which any stoppage and upset conditions that come to the notice of the Board/its officers, will be deemed to be intentional violation of the conditions of consent.
14. The industry shall provide terminal manhole(s) at the end of each collection system and a manhole upstream of final outlet (s) out of the premises of the industry for measurement of flow and for taking samples.
15. The industry shall for the purpose of measuring and recording the quantity of water consumed and effluent discharged, affix meters of such standards and at such places as approved by the Environmental Engineer, Punjab Pollution Control Board of the concerned Regional Office.
16. The industry shall maintain record regarding the operation of effluent treatment plant i.e. record of quantity of chemicals and energy utilized for treatment and sludge generated from treatment so as to satisfy the Board regarding regular and proper operation of pollution control equipment.
17. The industry shall provide online monitoring equipment 1/2s for the parameters as decided by concerned Regional Office with the effluent treatment plant/air pollution control devices installed, if applicable.
18. The pollution control devices shall be interlocked with the manufacturing process of the industry.
19. The authorized outlet and mode of disposal shall not be changed without the prior written permission of the Board.
20. The industry shall comply with the conditions imposed by the SEIAA / MOEF in the environmental clearance granted to it as required under EIA notification dated 14/9/06, if applicable.
21. The industry shall obtain and submit Insurance cover as required under the Public Liability Insurance Act, 1991.
22. The industry shall not use any unauthorized out-let(s) for discharging effluents from its premises. All unauthorized outlets, if any, shall be connected to the authorized outlet within one month from the date of issue of this consent.

*"This is computer generated document from OCMMS by PPCB"*

*Hpcl-mittal Energy Limited (guru Gobind Singh Refinery), Village Phullokari, taluka Talwandi Saboo,, Talwandi Sabo, Bathinda, 151301*

*Page 4*

23. The industry shall make necessary arrangements for the monitoring of effluent being discharged by the industry and shall monitor its effluents:-
  - (i) Once in Year for Small Scale Industries.
  - (ii) Four in a Year for Large/Medium Scale Industries.
  - (iii) The industry will submit monthly reading/ data of the separate energy meter installed for running of effluent treatment plant/re-circulation system to the concerned Regional Office of the Board by the 5th of the following month.
24. The industry shall provide electromagnetic flow meters at the source of water supply, at inlet/outlet of effluent treatment plant within one month and shall maintain the record of the daily reading and submit the same to the concerned Regional Office by the 5th of the following month.
25. The Board reserves the right to revoke this consent at any time in case the industry is found violating any of the conditions of this consent and/or the provisions of Water (Prevention & Control of Pollution) Act, 1974 as amended from time to time.
26. The issuance of this consent does not convey any property right in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State or Local Laws or Regulations.
27. The consent does not authorize or approve the construction of any physical structures or facilities for undertaking of any work in any natural watercourse.
28. Nothing in this consent shall be deemed to neither preclude the institution of any legal action nor relieve the applicant from any responsibilities, liabilities or penalties to which the applicant is or may be subjected under this or any other Act.
29. The industry shall make necessary and adequate arrangements to hold back the effluent in case of failure of septic tank.
30. The diversion or bye pass of any discharge from facilities utilized by the applicant to maintain compliance with the terms and conditions of this consent is prohibited except.
  - (i) Where unavoidable to prevent loss of life or some property damage or
  - (ii) Where excessive storm drainage or run off would damage facilities necessary for compliance with terms and conditions of this consent. The applicant shall immediately notify the consent issuing authority in writing of each such diversion or bye-pass.
31. The industry shall ensure that no water pollution problem is created in the area due to discharge of effluents from its industrial premises.
32. The industry shall comply with the code of practice as notified by the Government/ Board for the type of industries where the siting guidelines/ code of practice have been notified.
33. Solids, sludge, filter backwash or other pollutant removed from or resulting from treatment or control of waste waters shall be disposed off in such a manner to prevent any pollutants from such materials from entering into natural water.
34. The industry shall re-circulate the entire cooling water and shall also re-circulate/reuse to the maximum extent the treated effluent in processes
35. The industry shall make necessary and adequate arrangements to hold back the effluent in case of failure of re-circulation system/ effluent treatment plant.
36. The industry shall make proper disposal of the effluent so as to ensure that no stagnation occurs inside and outside the industrial premises during rainy season and no demand period.
37. Where excessive storm water drainage or run off, would damage facilities necessary for compliance with terms and conditions of this consent, the applicant shall immediately notify the consent issuing authority in writing of each such diversion or bye-pass.
38. The industry shall submit a detailed plan showing therein the distribution system for conveying waste-water for application on land for irrigation along with the crop pattern for the year.
39. The industry shall ensure that the effluent discharged by it is toxicity free.
40. The industry shall not irrigate the vegetable crops with the treated effluents which are used/ consumed as raw.
41. Drains causing oil & grease contamination shall will be segregated. Oil & grease trap shall be provided to recover oil & grease from the effluent.

"This is computer generated document from OCMMS by PPCB"

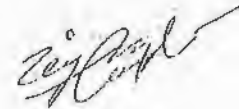
Hpcl-mittal Energy Limited (guru Gobind Singh Refinery), Village Phullokari, taluka Tahwandi Saboo, Tahwandi Saboo, Bathinda, 151301

Page 5

42. The industry shall establish sufficient number of piezometer wells in consultation with the concerned Regional Office, of the Board to monitor the impact on the Ground Water Quantity due to the industrial operations, and the monitoring shall be submitted to the Environmental Engineer of the concerned Regional Office by the 5th of every month.
43. The industry shall ensure that its production capacity & quantity of trade effluent do not exceed the quantity mentioned in the consent and shall not carry out any expansion without the prior permission/NOC of the Board.

**B. SPECIAL CONDITIONS**

1. The industry will get a study conducted in the circumference around the refinery upward & download in pre-monsoon and post monsoon by engaging Sh. Dinesh of Punjab Agriculture University, Ludhiana in the next season.
2. The industry shall ensure that no treated / untreated domestic / trade effluent is discharged into soakage pits / bore wells to avoid contamination of ground water.
3. The industry will not use the newly acquired land measuring 175.41 acres for industrial activities without obtaining site clearance / Environmental Clearance as well as prior permission of the Board.
4. The industry shall comply with the conditions imposed in all the Environmental Clearances granted to the industry from time to time.
5. The industry will develop 33% of total project area under plantation as per the conditions of Environmental Clearance within three years in phasewise manner and shall submit the quarterly report to the Regional Office.
6. The industry will take all necessary measures to manage and to dispose off the solid waste generated in its premises scientifically at its own level, within three months.
7. The industry will ensure the implementation of dynamic emission limit within time for dual fuel stacks, within a period of one month.
8. The industry will maintain proper record regarding consumption of raw water and submit the same on monthly basis in Regional Office.
9. The industrial shall abide by the specific conditions and general conditions imposed in Environmental Clearance issued by Govt. of India, Ministry of Environment, Forest and Climate Change, New Delhi.
10. The industry shall install/operate online continuous effluent & stack emission monitoring systems and shall ensure the connectivity of the same with the server of PPCB & CPCB as per the directions issued by CPCB, New Delhi.
11. The industry will properly maintain / operate online continuous monitoring system and will ensure connection with the website of PPCB / CPCB for data transmission.
12. The industry will ensure regular maintenance & operation of the continuous online monitoring system with temper proof mechanisms having facilities for online calibration.
13. All the pipes provided for the recharging system should be visible and properly coloured with light blue colour.
14. The industry will discharge its entire treated trade effluent for plantation / green belt with proper irrigation / plantation network and shall not store its treated trade effluent into the storm water storage tank under any circumstances.
15. The industry will ensure proper arrangements / lay pipeline network for discharge of its treated trade effluent in green belt / plantation area scientifically.
16. The industry shall make necessary and adequate arrangements to hold back the effluent in case of failure of re-circulation system / effluent treatment plant and during no demand period.
17. The industry shall install separate energy meter for running of effluent treatment plant / re-circulation system and monthly report be sent to the Board by the fifth of the following month.
18. The industry shall obtain permission from the Central Ground Water Authority for the abstraction of ground water.



30/07/2019

(Vijay Gupta)  
Environmental Engineer

For & on behalf

of

(Punjab Pollution Control Board)

"This is computer generated document from OCMMS by PPCB"

Hpel-mittal Energy Limited (Guru Gobind Singh Refinery), Village Phullokari, Taluka Talwandi Saboo, Talwandi Sabo, Bathinda, 151301

Page 6

Received (CD only)  
16/12/19

भारत सरकार / Govt. of India  
मंत्रालय, पर्यावरण, वन एवं जलवायु परिवर्तन  
Ministry of Environment, Forests & Climate Change  
ब्लॉक नं. 24-25, सेक्टर 31-ए  
बays No. 24-25, Sec-31 A  
चण्डीगढ़ / Chandigarh

HME<sup>®</sup>Date: 6<sup>th</sup> Dec'19

Ref: HMEL-TS-40-ENV 653

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 Compliance Report (From Apr'19 to Sep'19) for Guru Gobind Singh Refinery at Phulokhari, Bathinda District, Punjab.

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

Dear Sir,

This is with reference to the Environmental Clearance letter No. J-11011/386/2016-IA-II (I) dated August 7, 2018 on the above subject.

Please find enclosed six monthly compliance report (from Apr'19 to Sep'19) of Guru Gobind Singh Refinery (along with Annexures) on the environmental conditions stipulated by MoEF&CC.

Thanking you,

Very Truly Yours,

Satish Kumar Kalra  
(DGM-Technical Services)

Cc: Central Pollution Control Board, New Delhi and Punjab Pollution Control Board, Bathinda Punjab.  
Cc: Punjab Pollution Control Board, 3rd Floor, Room No: 406E, Regional Office, Bathinda.

Enclosures:

- Annexure-I : Soft copy of original test reports of manual monitoring in CD.
- Annexure-II : Ambient Air Quality Data (from Apr'19 to Sep'19).
- Annexure-III: CSR activities carried out for improving socio-economic conditions (from Apr'19 to Sep'19).
- Annexure-IV: CSR activities carried out for community welfare including eco-developmental measures in the surrounding areas (from Apr'19 to Sep'19).
- Annexure- V : Copy of the advertisement publishing the accordance of Environmental Clearance by MoEF&CC.
- Annexure- VI: Copy of mail to MoEF&CC for action plan of Corporate Environment Responsibility (CER).
- Annexure-VII: Copy of Air & Water Consent.

Annexure-VIII : Acknowledgement copy submitted <sup>last</sup> Six Monthly Compliance Report to MoEF&CC, Chandigarh.

HPCL-Mittal Energy Limited