



असम ऑयल डिवीजन
Assam Oil Division

इंडियन ऑयल कॉर्पोरेशन लिमिटेड
एओडि - डिगबोई रिफाइनरी
पो.ओ. डिगबोई, पिन-786171, असम

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AOD - Digboi Refinery
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Ref: HSE: 02 -714/23

Dated: 07.12.2023

To,

**The Regional Officer,
Integrated Regional Office, Guwahati,
Ministry of Environment, Forest and Climate Change,
4th Floor, Housefed Building, G.S. Road, Rukminigaon,
Guwahati - 781022**

**Sub: Submission of the Half-Yearly Compliance Report for the period (1st Apr'23 to 30th Sep'23)
on Environmental Stipulations pertaining to various units of Digboi Refinery.**

Dear Sir,

Please find enclosed herewith the six monthly compliance status of Digboi Refinery on the Environmental Clearance Stipulations of the Environmental Clearance letters referred to above for the period **(April 2023-September 2023)**.

Thanking you,

Yours sincerely,
For Indian Oil Corporation (AOD)

D. K. Barua
General Manager (TS & HSE)

Copy To:

1. The Member Secretary, Pollution Control Board, Assam, Guwahati-21.
2. The Environmental Engineer, North Eastern Zonal Office, CPCB, Shillong-14
3. The Regional Executive Engineer, PCBA Dibrugarh-786001

**HALF YEARLY COMPLIANCE REPORT
OF ENVIRONMENTAL CLEARANCE
DIGBOI REFINERY
(1st April 2023 – 30th Sep 2023)**



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Latest compliance status of the CREP	Annexure-7

**ENVIRONMENTAL CLEARANCE (J-11011/12/87-1A, dated –
19-10-1987) FOR DIGBOI
REFINERY MODERNISATION PROJECT**

SL. NO	STIPULATIONS	COMPLIANCE STATUS AS ON 06.12.2023
1.0	The concentration levels of all the parameters of the effluent (gaseous & liquids) discharged must comply with MINAS and in the light of MINAS, the Assam oil, Digboi must review the entire effluent generation, routing, treatment and disposal system.	<p>The concentration levels of all the parameters of effluent after treatment at ETP meets the MINAS specification.</p> <p>As per revised CPCB guideline, Digboi Refinery meets the stipulations for all 21 parameters of effluent.</p> <p>Six monthly compliance Report on Quantum Limit (Kg/1000 MT Crude processed) is attached in Annexure-3.</p> <p>Online effluent monitoring & connectivity to CPCB server was commissioned on 28th December 2015. WebSite: Online Emission and Effluent Monitoring System (cpcb.gov.in)</p>
2.0	Monitoring with respect to physical, chemical and biological parameters must be carried out for effluent discharged as well as for the samples of river waters where effluents are discharged.	<p>These tests are carried out regularly and reports submitted to Pollution Control Board, Assam.</p> <p>Monitoring of receiving water bodies is also carried out every month.</p> <p>Six monthly 21 MINAS parameter ETP effluent Reports (Polishing Pond outlet) by External Agency (M/S Mitra S.K. Private Limited) is enclosed as Annexure-1</p> <p>Six monthly nearby river water body sample by AOD QC Laboratories is enclosed as Annexure-2.</p>
3.0	The sludge drains must be properly covered to avoid land and water pollution during incessant rains.	All OWS systems at DRMP are completely covered.
4.0	The sludge dumping area should be made impervious so that ground water is not affected due to leaching and seepage of associated water containing pollutants.	<p>One HDPE lining concrete oily sludge storage tank of 400m³ capacity was constructed in 2014 to prevent leaching and seepage of oil to ground water.</p> <p>Another storage pit bottom is made up of concrete to avoid leaching.</p>
5.0	The ambient air around Refinery should be monitored at least at four monitoring stations for SPM, SO _x , NO _x ,	Four nos. of Ambient Air quality monitoring stations have been installed around Digboi Refinery-(I) Bazar Gate (II) Wax Sector Cooling Tower (III) New Tank Farm (IV) Effluent

	Hydrocarbons and H ₂ S.	<p>treatment Plant.</p> <p>Ambient air quality monitoring is being carried out on monthly basis by external agency.</p> <p>One no. of Continuous Ambient Air Quality Monitoring Station installed and commissioned in September 2012 at Welfare centre which is connected with CPCB and PCBA server.</p> <p>Six month Ambient Air Quality Monitoring Report by External Agency (M/S Mitra S.K. Private Limited) is attached as Annexure-5</p>
6.0	The stack emission from processes, power generating units and Boilers must be regularly monitored and proper type of stack monitoring/instruments must be procured and installed.	<p>Monitoring of stack emissions is carried out with the help of portable monitoring kit.</p> <p>Fixed on-line analyzers are also installed in AVU, DCU, CPP HRSG's, CRU, SDU, HDT, HGU and MSQU and monitoring through RTDBMS.</p> <p>Online connectivity established with CPCB Server and PCBA for Furnaces having heat capacity of more than 10mkcl/hr (HGU & HRSG's Stacks).</p> <p>Apart from own monitoring, external agencies (M/S Mitra S.K. Private Limited) is also employed to conduct stack emission analysis on regular basis.</p> <p>Six month Stack emission Report by External Agency (M/S Mitra S.K. Private Limited) is enclosed as Annexure-4</p>
7.0	Fugitive emissions arising during handling and storage of low boiling petroleum fractions and from effluent treatment plant, leakage through valves and flanges must also be monitored regularly.	<p>Regular monitoring of Hydrocarbons is done with GMI Gas surveyor and as well as with VOC detector in plant & offsite areas by an external CPCB approved agency.</p> <p>Leak detection and repair (LDAR) report for the Quarter 1 of FY 2023-24 is attached as Annexure-6.</p>
8.0	Land filling, if any, must be done with fill material only from within battery limits of the Refinery.	It is being followed accordingly.
9.0	The Assam Oil Division must take up development of green belt as proposed.	<p>Digboi Refinery is surrounded by the Upper Dehing Reserve Forest on south and south west side, which acts as a natural Green Belt.</p> <p>Green belt is developed with regular tree plantation around Refinery premises and township area.</p> <p>Since 2002, Digboi Refinery has planted around 1,74,799 trees till September'2023 in and around Digboi Refinery achieving a green belt coverage of 52.8% of the total IOCL area.</p>

**ENVIRONMENTAL CLEARANCE (J-13011/3/1987-1A dated -
18-06-1987) FOR
CAPTIVE POWER PLANT**

SL. NO	STIPULATIONS	COMPLIANCE STATUS AS ON 06.12.2023
1.0	Only sweet natural gas will be used as feed stock.	Digboi Refinery uses only sweet Natural Gas.
2.0	Under the envisaged modernization programme for the refinery, Sulphur recovery units to be provided to reduce emission of SO ₂ . Efforts should also be made to reduce the emissions of NO _x . The existing sulphuric acid plant should be scrapped.	Digboi Refinery processes only indigenous sweet Assam crude with Sulphur content less than 0.25 wt%. A Sulphur Recovery Unit (SRU) has been installed and commissioned in 2004 as a part of Hydrotreater Project. Since the refinery is using natural gas, formation of NO _x is very low and always remains within the prescribed limit. Further, low NO _x burners are also fitted in all the new units viz. Solvent De-waxing Unit, Hydro-treater Unit, Delayed Coking Unit and MSQ Unit.
3.0	The liquid effluent emanating from the captive power plant and the existing refinery should be treated as per the standards prescribed by the State Pollution Control Board.	Liquid effluent generated from the power plant is negligible which is also routed to ETP for further treatment.
4.0	The height of the stack should not be less than 50 meters.	Complied.
5.0	Green belt around the power plant should be raised.	Digboi Refinery is surrounded by the Upper Dihing Reserve Forest on south and south west side, which acts as a natural Green Belt. Green belt is developed with regular tree plantation around Refinery premises and township area. Since 2002, Digboi Refinery has planted around 1,74,799 trees till September'2023 in and around Digboi Refinery achieving a green belt coverage of 52.8% of the total IOCL area.
6.0	Adequate precautionary measures for preventing and controlling fire and explosion hazards should be taken up specially in the gas storage area.	Natural gas used in the plants is transported through pipeline ex M/s OIL India Ltd. There is no storage of natural gas in the Refinery. Fire fighting facilities are provided at CPP, all process plants and tank farm area for controlling fire and explosion hazards.

ENVIRONMENTAL CLEARANCE (J-11011/8/89-1A dated 26-07-1989) FOR CATALYTIC REFORMER UNIT

SL. NO	STIPULATIONS	COMPLIANCE STATUS AS ON 06.12.2023															
1.0	The project authority must strictly adhere to the stipulations made by State govt. and the State Pollution Control Board.	The stipulations made by the State Govt. and the State Pollution Control Board are strictly followed with regard to effluent and emission norms. The existing CTO has been renewed till 31 st March 2028. Digboi Refinery meets all parameters of effluent as per revised CPCB guideline.															
2.0	The project authority will not increase the throughput capacity of the refinery from the existing level.	Crude processing capacity of Digboi Refinery was based on neat Assam crude. The actual crude throughput is based on Govt MoU maintaining all the environmental parameters within the stipulated norm.															
3.0	The project authority must submit a rapid EIA report within a month and a comprehensive EIA report within 15 months to the Ministry for review.	Complied.															
4.0	Gaseous emissions of SO ₂ , Hydrocarbons and oxides of Nitrogen should not exceed the prescribed standard stipulated by Central/State Pollution Control Board. At no time the emission level should be beyond the stipulated standard. In the event of failure of any pollution control system adopted by the unit, the respective unit should be put out of operation immediately and should not be restarted until the control systems are rectified to achieve the desired efficiency.	Complied. The reported gaseous emission of SO _x and NO _x by External Agency (M/S Mitra S.K. Private Limited) are :- <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>CRU-HDT(SO_x) mg/Nm³</th> <th>CRU-HDT(NO_x) mg/Nm³</th> <th>CRU-OBSG(SO_x) mg/Nm³</th> <th>CRU-OBSG(NO_x) mg/Nm³</th> </tr> </thead> <tbody> <tr> <td>May'23</td> <td>26.1</td> <td>71.3</td> <td>37.5</td> <td>73.9</td> </tr> <tr> <td>Aug'23</td> <td>26.5</td> <td>72.9</td> <td>38.3</td> <td>75.1</td> </tr> </tbody> </table>		CRU-HDT(SO _x) mg/Nm ³	CRU-HDT(NO _x) mg/Nm ³	CRU-OBSG(SO _x) mg/Nm ³	CRU-OBSG(NO _x) mg/Nm ³	May'23	26.1	71.3	37.5	73.9	Aug'23	26.5	72.9	38.3	75.1
	CRU-HDT(SO _x) mg/Nm ³	CRU-HDT(NO _x) mg/Nm ³	CRU-OBSG(SO _x) mg/Nm ³	CRU-OBSG(NO _x) mg/Nm ³													
May'23	26.1	71.3	37.5	73.9													
Aug'23	26.5	72.9	38.3	75.1													
5.0	The project authority must explore the possibility of maximum recycling of effluent either as process water or for afforestation.	Treated effluent from ETP is recycled to refinery as make up for Fire water tank, Coke Cutting water at delayed coking unit, Wax Sector Cooling Tower, cleaning and gardening purposes. During Apr'23 - Sep'23, 100 % of treated effluent was reused.															
6.0	The entire quantity of liquid effluent coming out of the complex should strictly confirm to MINAS both in terms of quantity and quality before discharge in to the drainage system. The process plant effluent should be discharged through pipeline/closed channel.	Effluent is meeting MINAS specification both in quality and quantity before being discharged. Six monthly compliance Report on Quantum Limit (Kg/1000 MT Crude processed) is attached in Annexure-3 .															

7.0	<p>The project authorities must set up minimum of four air quality monitoring stations at different location of the plant and in the nearby areas. The air quality will be monitored as per standard procedure. The monitoring of gaseous emissions should also include oxides of nitrogen and hydrocarbons. All the stacks of the plant must be provided with continuous automatic air quality monitoring equipment and stacks emission levels must be recorded. Reports should be submitted to Pollution Control Board once in three months and to this Ministry once in six months.</p>	<p>4 (Four) numbers of Ambient Air quality monitoring stations have been installed around Digboi Refinery-(i)Bazar Gate (ii)Wax Sector Cooling Tower (iii)New Tank Farm (iv) Effluent treatment Plant. Ambient air quality monitoring is being carried out on monthly basis.</p> <p>1(One) number of Continuous Ambient Air Quality Monitoring Station installed and commissioned in September 2012 at Welfare centre.</p> <p>Online CAAQMS parameters are being monitored regularly d through https://aicpl.glensserver.com/#/login</p> <p>Six month Ambient Air quality Monitoring Report by External Agency (M/S Mitra S.K. Private Limited)is attached as Annexure-5</p> <p>Fixed on-line analyzers are also installed in AVU, DCU, CPP HRSG's, CRU, SDU, HDT, HGU and MSQU and being monitored regularly through RTDBMS.</p> <p>Online connectivity established with CPCB Server and PCBA server for Furnaces having heat capacity of more than 10mkcl/hr (HGU & HRSG's Stacks).</p> <p>Apart from own monitoring, external agencies are also employed to conduct stack emission analysis on regular basis. Online stack monitoring regularly done through Website http://www.envsaindia.com/cpcb/login.php</p>
8.0	<p>The liquid effluent quality must be ensured on daily basis. At least five water quality monitoring stations must be set up in consultation with the State Pollution Control Board. This should include the monitoring of oil content in the river. If the effluent quality exceeds the standard prescribed at any time, the corresponding units of the plant which are contributing to the excessive pollutant load shall be immediately stopped from operation till the quality of effluent discharged from the units are brought down to the required level.</p>	<p>Water quality monitoring stations were set up:- one near ETP, three at Digboi Nullah and one at oily sludge area. Liquid effluent quality from ETP outlet is monitored regularly on daily basis.</p> <ol style="list-style-type: none"> 1. 8(eight) parameters daily basis by QC (AOD) 2. 21(twenty-one) parameters on monthly basis tested by SPCB approved outside agency. 3. In addition to above four parameters, BOD, COD, TSS & pH being monitored through online analyzers connected with CPCB Server, 4. Sample from Digboi River and Dihing River is being collected and analyzed by QC (AOD) on monthly basis.
9.0	<p>The project authority must monitor the aquatic life (like fish, tortoise etc.) and report should be submitted to the Ministry once in six months.</p>	<p>Digboi Refinery has carried out study on "Bio-monitoring of aquatic life in lotic and lentic water bodies in and around Digboi Refinery" by M/S A.B.N Scientific Services, Guwahati on May '23. The report was submitted to the office of IRO-Guwahati, MoEF & CC on 1st July'2023 along with the half yearly EC compliance Report.</p>

10.	The project must start construction only after the approval of the Chief Controller of Explosives and a copy of the consent letter should be made available to this Ministry.	Complied. Present PESO License P/HQ/AS/15/880 is valid till 31.12.2026.
11.	The project authority must provide oil separator in the nullah and the effluents should be discharged through covered drains.	At present oil separator is being provided and the effluents are discharged through covered drain.
12.	No change of stack should be made without the prior approval of the State Pollution Control Board. Alternate pollution control system and/or proper design (steam injection system) of the stacks should be made to minimize hydrocarbon emission due to failure in the flare system in the plant.	Complied.
13.	The project authority must submit the Disaster Management Plan incorporating worst accident scenario and its probable consequence duly approved by the nodal agency of the State Govt. within 3 months.	<p>Disaster Management Plan duly certified by PNGRB empanelled party. Copy of plan submitted to CIF Guwahati & DC, Tinsukia.</p> <p>Offsite drills are carried out regularly, once in a year, along with District Administration, Mutual Aid Partners & NGOs.</p> <p>Onsite Disaster Mock drills are carried out once in a quarter with different scenarios.</p> <p>Emergency response & Disaster Management Plan (ERDMP) of Digboi refinery as per guidelines of PNGRB has been drawn up and certified by M/S Sanmarg Engineering Validation and Assessment Private Ltd.</p> <p>Last Offsite Disaster drill was carried out on 22nd November, 2022 on scenario of "Shear and rupture of 18" NG line between Kharsang Off-Take point to Refinery Fuel Gas Header inside and outside Refinery's East side boundary leading to profuse leakage of NG and resulting in unconfined vapour cloud explosion and fire".</p> <p>Last Odd hours onsite Disaster drill was carried out on 25th March, 2023 on scenario of "Heavy Naphtha leakage from 01-VV-002 bottom 6" vessel body flange joint of Reflux Pump suction line causing Vapour Cloud in the area and leading to Fire"</p>

14.	The Project authority must ensure that the effluent plant fully operational within the next 3 months.	ETP is fully operational since its inception in 1989.
15.	The project authority must set up laboratory facilities in the existing premises for testing and analyzing gaseous emissions and water quality.	Digboi Refinery has set up its own state of art Quality Control Laboratories inside the Refinery premises with NABL Accreditation ISO/IEC 17025:2017 which is valid till 31.12.2023.
16.	The project authority must provide necessary infrastructural facilities to the construction workers during construction.	Complied. Provided as per requirement.
17.	The project must submit a revised green belt design for the plant and township to this Ministry within three months for approval. The green belt should have minimum tree density of 1000 trees per acres.	Digboi Refinery is surrounded by the Upper Dihing Reserve Forest on south and south west side, which acts as a natural Green Belt. Green belt is developed with regular tree plantation around Refinery premises and township area. Since 2002, Digboi Refinery has planted around 1,74,799 trees till September'2023 in and around Digboi Refinery achieving a green belt coverage of 52.8% of the total IOCL area.
18.	Additional area under the control of project which is not being used for the plant utilities should be afforested and fund for this should be suitably provided.	It is followed as part of IOCL's green belt development.
19.	A separate environmental management cell with suitably qualified people to carry out various functions related to environmental management should be set up under the control of a senior technical person who will directly report to the head of the organization.	Digboi Refinery has a full-fledged Health, Safety and Environment (HSE) unit functioning under Chief General Manager with direct reporting to Head of Organization.HSE Department team consists of General Manager, Chief Manager and Assistant Managers. The HSE team regularly monitors and review the effectiveness of the EMP implementation.

20.	Adequate fund provision (capital and recurring expenditure) so provided for environmental control measure should not be diverted to any other purpose. The implementation schedule for environmental measure must be strictly adhered to.	The HSE department is supported with budgetary Allocation. The allocation for the last three years are as follows: <ul style="list-style-type: none">➤ 2020-21: Rs 7.74 Cr.➤ 2021-22: Rs 7.78 Cr.➤ 2022-23: Rs 8.83 Cr.
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**ENVIRONMENTAL CLEARANCE (J-11011/41/97-1A.II(I) dated
-05-3-1998)
FOR SOLVENT DEWAXING UNIT**

SL. NO	STIPULATIONS	COMPLIANCE STATUS AS ON 06.12.2023
1.0	The project authority should submit a Risk Analysis Report within a period of six months and submit the same to the Ministry.	Risk analysis has been carried out by M/s KLG-TNO in 1999 covering all the new units and report submitted to Ministry. A fresh round of Quantitative Risk Analysis (QRA) was carried out by M/s Alfa Project Services Pvt. Ltd, Vadodara in 2005. All the recommendations have already been implemented. Another Quantitative Risk Analysis study for all the units, including MSQU, completed in March, 2012 and various recommendations for further risk reduction are under study for implementation. A fresh Quantitative Risk Assessment for Wax Palletisation Unit completed on August 2013 by ZEEPINE SYSTEM INDIA Pvt. Ltd. Further Quantitative Risk Analysis (QRA) study for all the units of DR was carried out in 2019 by M/s Techniche Engineering Private Limited, Pune and final report received in February 2020. The QRA study report was submitted to the office of IRO-Guwahati, MoEF & CC during Dec'2022 EC Compliance inspection Monitoring.

**ENVIRONMENTAL CLEARANCE (J-11013/71/99-1A(II) dated -
13-05-1999)
FOR HYDROTREATER UNIT**

SL. NO	STIPULATIONS	COMPLIANCE STATUS AS ON 06.12.2023
1.0	The project authority should submit a Risk Analysis Report within a period of six months and submit the same to the Ministry.	<p>Risk analysis has been carried out by M/s KLG-TNO in 1999 covering all the new units and report submitted to Ministry. A fresh round of Quantitative Risk Analysis (QRA) was carried out by M/s Alfa Project Services Pvt. Ltd, Vadodara in 2005. All the recommendations already implemented. Another Quantitative Risk Analysis study for all the units, including MSQU, completed in March, 2012 and various recommendations for further risk reduction are under study for implementation.</p> <p>Further Quantitative Risk Analysis study for all the units of DR was carried out in 2019 by M/s Techniche Engineering Private Limited, Pune and final report received in February 2020. The QRA study report was submitted to the office of IRO-Guwahati, MoEF & CC during Dec'2022 EC Compliance inspection Monitoring.</p>

**ENVIRONMENTAL CLEARANCE (J-11011/482/2007-IA II (I),
DATED – 18-03-2008) FOR M S QUALITY IMPROVEMENT
PROJECT AT DIGBOI REFINERY.**

A	Specific Conditions	
SL. NO	STIPULATIONS	COMPLIANCE STATUS AS ON 06.12.2023
1	The company shall comply with new standards/norms that are being proposed by the CPCB for petrochemical plants and refineries.	Digboi Refinery strictly complies with all the norms and parameters of effluent and gaseous emission as per revised CPCB guideline.
2	The process emissions (SO ₂ , NO _x , HC, VOCs and Benzene) from various units shall conform to the standards prescribed by the Assam State Pollution Control Board from time to time. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	The various process Emissions are within the prescribed limits and meets the norms as prescribed by MoEF & CC and Assam State Pollution Control Board as mentioned in the CTO. The various Emission reports from Refinery are submitted to Assam State Pollution Control Board and MoEF & CC on regular basis.
3	Ambient air quality monitoring stations. [SPM, SO ₂ , NO _x and NMHC, Benzene] shall be set up in the Refinery complex in consultation with SPCB based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs Continuous on-line stack monitoring equipment should be installed for measurement of SO ₂ and NO _x .	5(Five) no's of Ambient Air Quality monitoring stations are already in operation in the Refinery premises as per direction of Pollution Control Board, Assam. Out of five stations one Continuous Ambient Air Quality Monitoring Station is connected with CPCB server. Furnaces having heat capacity of more than 10mkcl/hr (HGU & HRSG's Stacks) are continuously connected with CPCB Server and PCBA server. On line stack monitoring analyzers are already installed for monitoring stack emissions. Apart from own monitoring, external agencies are also employed to conduct stack emission analysis on regular basis as per CPCB guideline.

4	<p>Quarterly monitoring of fugitive emissions shall be carried out as per the guidelines of CPCB by fugitive emission detectors and reports shall be submitted to the Ministry's regional office at Shillong. For control of fugitive emission all unsaturated hydro carbon will be routed to the flare system and the flare system shall be designed for smoke less burning.</p>	<p>Quarterly monitoring of fugitive emission (VOC) is being carried out regularly by external agency. Report is submitted regularly to the office of MoEF & CC with six monthly compliance reports.</p> <p>For control of fugitive emissions, dual seal has been installed in all light oil pumps with provision of venting at Flare system.</p> <p>Leak detection and repair (LDAR) report for the Quarter 1 of FY 2023-24 is attached as Annexure-6.</p>
5	<p>Fugitive emissions of HC from product storage tank yards etc must be regularly monitored. Sensors for detecting HC leakage shall also be provided at strategic locations. The company shall use low sulphur fuel to minimize SO₂ emission.</p>	<p>Fugitive emissions of HC from product storage tank yards etc is being monitored quarterly by external agency.</p> <p>HC detectors are already provided at the strategic locations at plants and tank farm areas. HC detectors are maintained by the vendors on quarterly basis. HC detector also provided at MS Quality up gradation unit.</p> <p>Digboi Refinery is using sweet natural gas with average sulphur content of 2.48 ppm.</p>
6	<p>The company shall strictly follow all the recommendation mentioned In the charter on corporate responsibility for environmental protection (CREP).</p>	<p>The latest compliance status of the CREP is enclosed as Annexure -7</p> <p>Also, Digboi Refinery has carried out various CSR activities in and around Digboi with total CSR budget of Rs 31.1 Cr during last three fiscal years.</p> <p>The activities include the provision of Drinking water facility in schools, water supply to non IOCL consumers in and around Digboi and several other initiatives.</p>
7	<p>The Company shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. At place of ground flaring. The overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during flaring.</p>	<p>At Digboi Refinery, flaring is done at the height of 108 meters through flare stack. Knockout drums are provided in the flare system</p> <p>Further, modern fire fighting system and hydrant network system has been provided and it meets OISD - 116 standards. Fire fighting facility at MSQ project is as per OISD-116. Remote HVLR System has been commissioned in October 2013. Installation of Rim Seal Fire Protection System of Fire Water network commissioned for Tank nos. 001, 607, 560 & 452.</p>

8.	To prevent fire and explosion at oil & gas facility, potential ignition should be kept to a minimum and adequate separation distance between potential ignition sources and flammable materials shall be in place.	Separation distance between potential ignition sources and flammable materials are maintained as per OISD - STD-118.
9.	Occupational Health surveillance of worker shall be done on a regular basis and records maintained as per the Factory Act.	Occupational Health surveillance for employees is being carried out as per Factory Act and records maintained at Occupational Health Centre of AOD hospital.
10.	Green belt shall be developed to mitigate the effect of fugitive emission all around the plant in a minimum 30 % plant area in consultation with DFO and as per CPCB guidelines.	Digboi Refinery is surrounded by the Upper Dihing Reserve Forest on south and south west side, which acts as a natural Green Belt. Green belt is developed with regular tree plantation around Refinery premises and township area. Since 2002, Digboi Refinery has planted around 1,74,799 trees till September'2023 in and around Digboi Refinery achieving a green belt coverage of 52.8% of the total IOCL area.
B. General Conditions		
1	The project authorities must strictly adhere to the stipulations made by the concerned State Pollution Control Board (SPCB) and the State Government and any other statutory body.	The stipulations made by the State Govt. and the State Pollution Control Board are strictly followed with regard to effluent and emission norms. The existing CTO has been renewed till 31 st March 2028. Digboi Refinery meets all parameters of effluent as per revised CPCB guideline.

2	No further expansion or modification in the project shall be carried without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to the Ministry for clearance, a fresh reference shall be made to the Ministry.	Complied.
3	At no time, the emissions should go beyond the prescribed standards. In the event of failure of any pollution control system, the respective well site should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved. Provision of adequate height of stack attached to DG sets & flare is to be done.	Stack emission quality data of SOx and NOx are regularly monitored. Apart from own monitoring, external agencies are also employed to conduct stack emission analysis on regular basis as per CPCB guideline.
4	Wastewater shall be properly collected and treated so as to conform to the standards prescribed under EP Act & Rules and mentioned in the Consents provided by the relevant SPCB.	Digboi Refinery had installed Effluent Treatment Plant (ETP) in the year 1989, for the treatment of process wastewater generated from various units of the refinery. Digboi Refinery meets all MINAS parameters related to effluent discharge as per revised CPCB guideline and CTO.
5	The overall noise levels in and around the premises shall be limited within the prescribed standards (75 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Acoustic hoods are available all over the refinery and silencers exist in all sensitive parts of the plant where noise is a major concern. Moreover, all vehicle/trucks speed is limited to 20 km/hr inside the refinery, which is also less than 75 DB. Quarterly Noise survey is also being carried out by Occupational Health Centre of AOD hospital.

6	<p>The project authorities must strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 as amended in 2000 for handling of hazardous chemicals etc. Necessary approvals from Chief Controller of Explosives must be obtained before commission of the expansion project, if required, Requisite On-site and Off-site Disaster Management Plans will be prepared and implemented.</p>	<p>Digboi Refinery strictly follows the provisions made in the Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 as amended in 2000 and later for handling of hazardous chemicals.</p> <p>Present PESO License P/HQ/AS/15/880 is valid till 31.12.2026.</p> <p>Disaster Management Plan duly certified by PNGRB empanelled party. Copy of plan submitted to CIF Guwahati & DC, Tinsukia.</p> <p>Offsite drills are carried out regularly, once in a year, along with District Administration, Mutual Aid Partners & NGOs. Onsite Disaster Mock drills are carried out once in a quarter with different scenarios.</p> <p>Emergency response & Disaster Management Plan (ERDMP) of Digboi refinery as per guidelines of PNGRB has been drawn up and certified by M/S Sanmarg Engineering Validation and Assessment Private Ltd</p>
7	<p>Disposal of hazardous wastes shall be as per the Hazardous Wastes. (Management and Handling) Rules, 2003 Authorization from the State Pollution Control Board must be obtained for collections / treatment /storage/disposal of hazardous wastes.</p>	<p>Digboi Refinery has been granted of Hazardous Waste Authorization WB/T-311/21-22/115/101 and is valid till 31-Mar-2027.</p> <p>Digboi Refinery annually files Hazardous Wastes Return to PCBA. Last Annual Hazardous Wastes Return for FY 2022-23 has been duly submitted to Pollution Control Board, Assam on 20.07.2023.</p>
8	<p>The project authorities will provide adequate funds as nonrecurring and recurring expenditure to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.</p>	<p>The HSE department is supported with budgetary Allocation. The allocation for the last three years are as follows:</p> <ul style="list-style-type: none"> ➤ 2020-21: Rs 7.74 Cr. ➤ 2021-22: Rs 7.78 Cr. ➤ 2022-23: Rs 8.83 Cr.

9	The company shall develop rain water harvesting structures to harvest the runoff water for recharge of ground water.	Storage Cum Percolation Pond (SCP) was commissioned in 2018 utilizing run-off water of 9 interlinked natural catchment areas around Digboi, first of its type in eastern Asia. The usage of rainwater has proven a very cost effective and environment friendly to increase the water table in Digboi area. At present this harvested rain water is meeting 57% the Industrial water requirement of Refinery as feed in Cooling Tower Make up, DM plant, Service water and fire water make up (as back-up in case of requirement)
10	The stipulated conditions will be monitored by the concerned Regional Office of this Ministry /Central Pollution Control Board/State Pollution Control Board. A six monthly compliance report and the monitored data should be submitted to them regularly. It will also be displayed on the Website of the Company	Six-monthly EC compliance reports are duly submitted to IRO Guwahati. Last Report Submitted on 1 st July 2023. Previous EC compliance reports of Digboi Refinery are uploaded on Indian Oil website. Link to the website is below. https://iocl.com/statutory-notice
11	The Project Proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/ Committee and may also be seen at Website of the Ministry of Environment and Forests at http://www.envfor.nic.in This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the concerned Regional office of this Ministry	The advertisement in local newspapers was published.
12	A separate environment management cell with full fledged laboratory facilities to carry out various management and monitoring functions shall be set up under the control of a Senior Executive.	Digboi Refinery has a full-fledged Health, Safety and Environment (HSE) unit functioning under Chief General Manager with direct reporting to Head of Organization.HSE Department team consists of General Manager, Chief Manager and Assistant Managers. The HSE team regularly monitors and review the effectiveness of the EMP implementation.

13	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.	All the formalities for closure of project have been completed and project capitalized on 28.12.2010
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TEST REPORT

Name & Address of the Customer "Indian Oil Corporation Limited Digboi" Assam Oil Division, PO.- Digboi Assam 786171	Report No.	: MSK/GHY/2023-24/0030
	Report Date	: 18.05.2023
	Nature of Sample	: Effluent Water
	Sample Mark	: ETP PP OUTLET
	Sample Drawn On	: 25.04.2023
	Sample Number	: MSKGL/ED/2023-24/04/01340
Reference No. & Date: 27371982 Dated : 19/11/2021		

CHEMICAL ANALYSIS RESULT

Sl. No.	Parameter	Unit	Limit	Result	Test Method
1.	pH value	None	6.0-8.5	6.87 at 25 Deg C	APHA(23rd Edition) 4500-H-B
2.	Oil & Grease	mg/l	5.0	4.9	APHA (23 rd Edition) 5520B,2017
3.	Total Suspended Solids (as TSS)	mg/l	20.0	12	APHA (23 rd Edition) 2540 D
4.	Biochemical Oxygen Demand (as BOD)	mg/l	15.0	16	APHA (23 rd Edition) 5210B,2017
5.	Chemical Oxygen Demand (as COD)	mg/l	125.0	64	APHA (23 rd Edition) 5220B,2017
6.	Ammoniacal Nitrogen	mg/l	15.0	<0.1	APHA (23rd Edition) 4500-NH3-F 2017
7.	Benzene	mg/l	0.1	<0.05	APHA (23rd Edition)6200_(O)
8.	Benzo(a)Pyrene	mg/l	0.2	<0.0002	APHA 23rd Edtn -2012 6440C_(O)
9.	Copper (as Cu)	mg/l	1.0	<0.02	APHA (23rd Edition) 3120 B : 2017
10.	Cyanide (as CN)	mg/l	0.20	<0.02	APHA (23rd Edition) 4500 -CN- F: 2017
11.	Hexavalent Chromium (as Cr+6)	mg/l	0.1	<0.01	APHA (23rd Edition) 3500 Cr B : 2017
12.	Lead (as Pb)	mg/l	0.1	<0.005	APHA (23rd Edition) 3120 B : 2017

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Reference No.& Date: 27371982Dated : 19/11/2021


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Sl. No.	Parameter	Unit	Limit	Result	Test Method
13.	Mercury (as Hg)	mg/l	0.01	<0.001	IS 3025 (Part 48): 1994
14.	Nickel (as Ni)	mg/l	1.0	<0.02	APHA (23rd Edition) 3120 B : 2017
15.	Phenolic Compounds (as C6H5OH)	mg/l	0.35	<0.001	APHA (23rd Edition) 5530C : 2017
16.	Phosphorus (as P)	mg/l	3.0	0.45	APHA (23rd Edition) 4500 -P D, 2017
17.	Sulphide (as S)	mg/l	0.5	<0.1	APHA (23rd Edition) 4500 -S2- D: 2017
18.	Total Chromium (as Cr)	mg/l	2.0	<0.01	APHA (23rd Edition) 3120 B : 2017
19.	Total Kjeldahl Nitrogen	mg/l	40.0	<0.3	APHA (23rd Edition) 2017 4500 -Norg B: 2017
20.	Vanadium (as V)	mg/l	0.2	<0.2	APHA (23rd Edition) 3120B: 2017
21.	Zinc (as Zn)	mg/l	5.0	<0.02	APHA (23rd Edition) 3120 B : 2017

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TEST REPORT

Name & Address of the Customer “Indian Oil Corporation Limited Digboi” Assam Oil Division, PO.- Digboi Assam 786171	Report No.	: MSK/GHY/2023-24/0119
	Report Date	: 16.06.2023
	Nature of Sample	: Effluent Water
	Sample Mark	: ETP PP OUTLET
	Sample Drawn On	: 20.05.2023
	Sample Number	: MSKGL/ED/2023-24/05/01475
Reference No. & Date: 27371982 Dated : 19/11/2021		

CHEMICAL ANALYSIS RESULT

Sl. No.	Parameter	Unit	Limit	Result	Test Method
1.	pH value	None	6.0-8.5	6.83 at 25 Deg C	APHA(23rd Edition) 4500-H-B
2.	Oil & Grease	mg/l	5.0	4.8	APHA (23 rd Edition) 5520B,2017
3.	Total Suspended Solids (as TSS)	mg/l	20.0	13	APHA (23 rd Edition) 2540 D
4.	Biochemical Oxygen Demand (as BOD)	mg/l	15.0	15	APHA (23 rd Edition) 5210B,2017
5.	Chemical Oxygen Demand (as COD)	mg/l	125.0	60	APHA (23 rd Edition) 5220B,2017
6.	Ammoniacal Nitrogen	mg/l	15.0	<0.1	APHA (23rd Edition) 4500-NH3-F 2017
7.	Benzene	mg/l	0.1	<0.05	APHA (23rd Edition)6200_(O)
8.	Benzo(a)Pyrene	mg/l	0.2	<0.0002	APHA 23rd Edtn -2012 6440C_(O)
9.	Copper (as Cu)	mg/l	1.0	<0.02	APHA (23rd Edition) 3120 B : 2017
10.	Cyanide (as CN)	mg/l	0.20	<0.02	APHA (23rd Edition) 4500 -CN- F; 2017
11.	Hexavalent Chromium (as Cr+6)	mg/l	0.1	<0.01	APHA (23rd Edition) 3500 Cr B : 2017
12.	Lead (as Pb)	mg/l	0.1	<0.005	APHA (23rd Edition) 3120 B : 2017

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Reference No.& Date: 27371982 Dated : 19/11/2021

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Sl. No.	Parameter	Unit	Limit	Result	Test Method
13.	Mercury (as Hg)	mg/l	0.01	<0.001	IS 3025 (Part 48): 1994
14.	Nickel (as Ni)	mg/l	1.0	<0.02	APHA (23rd Edition) 3120 B : 2017
15.	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	0.35	<0.001	APHA (23rd Edition) 5530C : 2017
16.	Phosphorus (as P)	mg/l	3.0	0.43	APHA (23rd Edition) 4500 -P D, 2017
17.	Sulphide (as S)	mg/l	0.5	<0.1	APHA (23rd Edition) 4500 -S2- D: 2017
18.	Total Chromium (as Cr)	mg/l	2.0	<0.01	APHA (23rd Edition) 3120 B : 2017
19.	Total Kjeldahl Nitrogen	mg/l	40.0	2.4	APHA (23rd Edition) 2017 4500 -Norg B: 2017
20.	Vanadium (as V)	mg/l	0.2	<0.2	APHA (23rd Edition) 3120B: 2017
21.	Zinc (as Zn)	mg/l	5.0	<0.02	APHA (23rd Edition) 3120 B : 2017

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TEST REPORT

Name & Address of the Customer “Indian Oil Corporation Limited Digboi” Assam Oil Division, PO.- Digboi Assam 786171	Report No.	: MSK/GHY/2023-24/0211
	Report Date	: 27.07.2023
	Nature of Sample	: Effluent Water
	Sample Mark	: ETP PP OUTLET
	Sample Drawn On	: 21.06.2023
Sample Number		: MSKGL/ED/2023-24/06/01013
Reference No. & Date: 27371982 Dated : 19/11/2021		

CHEMICAL ANALYSIS RESULT

Sl. No.	Parameter	Unit	Limit	Result	Test Method
1.	pH value	None	6.0-8.5	6.87 at 25 Deg C	APHA(23rd Edition) 4500-H-B
2.	Oil & Grease	mg/l	5.0	4.9	APHA (23 rd Edition) 5520B,2017
3.	Total Suspended Solids (as TSS)	mg/l	20.0	15	APHA (23 rd Edition) 2540 D
4.	Biochemical Oxygen Demand (as BOD)	mg/l	15.0	14	APHA (23 rd Edition) 5210B,2017
5.	Chemical Oxygen Demand (as COD)	mg/l	125.0	56	APHA (23 rd Edition) 5220B,2017
6.	Ammoniacal Nitrogen	mg/l	15.0	<0.1	APHA (23rd Edition) 4500-NH3-F 2017
7.	Benzene	mg/l	0.1	<0.05	APHA (23rd Edition)6200_(O)
8.	Benzo(a)Pyrene	mg/l	0.2	<0.0002	APHA 23rd Edtn -2012 6440C_(O)
9.	Copper (as Cu)	mg/l	1.0	<0.02	APHA (23rd Edition) 3120 B : 2017
10.	Cyanide (as CN)	mg/l	0.20	<0.02	APHA (23rd Edition) 4500 -CN- F: 2017
11.	Hexavalent Chromium (as Cr+6)	mg/l	0.1	<0.01	APHA (23rd Edition) 3500 Cr B : 2017
12.	Lead (as Pb)	mg/l	0.1	<0.005	APHA (23rd Edition) 3120 B : 2017

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Sl. No.	Parameter	Unit	Limit	Result	Test Method
13.	Mercury (as Hg)	mg/l	0.01	<0.001	IS 3025 (Part 48): 1994
14.	Nickel (as Ni)	mg/l	1.0	<0.02	APHA (23rd Edition) 3120 B : 2017
15.	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	0.35	<0.001	APHA (23rd Edition) 5530C : 2017
16.	Phosphorus (as P)	mg/l	3.0	0.46	APHA (23rd Edition) 4500 -P D, 2017
17.	Sulphide (as S)	mg/l	0.5	<0.1	APHA (23rd Edition) 4500 -S2- D: 2017
18.	Total Chromium (as Cr)	mg/l	2.0	<0.01	APHA (23rd Edition) 3120 B : 2017
19.	Total Kjeldahl Nitrogen	mg/l	40.0	<0.3	APHA (23rd Edition) 2017 4500 -Norg B: 2017
20.	Vanadium (as V)	mg/l	0.2	<0.2	APHA (23rd Edition) 3120B: 2017
21.	Zinc (as Zn)	mg/l	5.0	<0.02	APHA (23rd Edition) 3120 B : 2017

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TEST REPORT

Name & Address of the Customer “Indian Oil Corporation Limited Digboi” Assam Oil Division, PO.- Digboi Assam 786171	Report No.	: MSK/GHY/2023-24/0269
	Report Date	: 16.08.2023
	Nature of Sample	: Effluent Water
	Sample Mark	: ETP PP OUTLET
	Sample Drawn On	: 28.07.2023
	Sample Number	: MSKGL/ED/2023-24/08/00194
Reference No. & Date: 27371982 Dated : 19/11/2021		

CHEMICAL ANALYSIS RESULT

Sl. No.	Parameter	Unit	Limit	Result	Test Method
1.	pH value	None	6.0-8.5	6.82 at 25 Deg C	APHA(23rd Edition) 4500-H-B
2.	Oil & Grease	mg/l	5.0	4.8	APHA (23 rd Edition) 5520B,2017
3.	Total Suspended Solids (as TSS)	mg/l	20.0	14	APHA (23 rd Edition) 2540 D
4.	Biochemical Oxygen Demand (as BOD)	mg/l	15.0	12	APHA (23 rd Edition) 5210B,2017
5.	Chemical Oxygen Demand (as COD)	mg/l	125.0	42	APHA (23 rd Edition) 5220B,2017
6.	Ammoniacal Nitrogen	mg/l	15.0	<0.1	APHA (23rd Edition) 4500-NH3-F 2017
7.	Benzene	mg/l	0.1	<0.05	APHA (23rd Edition) 6200_(O)
8.	Benzo(a)Pyrene	mg/l	0.2	<0.05	APHA 23rd Edtn -2012 6440C_(O)
9.	Copper (as Cu)	mg/l	1.0	<0.02	APHA (23rd Edition) 3120 B : 2017
10.	Cyanide (as CN)	mg/l	0.20	<0.02	APHA (23rd Edition) 4500 -CN- F: 2017
11.	Hexavalent Chromium (as Cr+6)	mg/l	0.1	<0.01	APHA (23rd Edition) 3500 Cr B : 2017
12.	Lead (as Pb)	mg/l	0.1	<0.005	APHA (23rd Edition) 3120 B : 2017

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Reference No.& Date: 27371982Dated : 19/11/2021

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Sl. No.	Parameter	Unit	Limit	Result	Test Method
13.	Mercury (as Hg)	mg/l	0.01	<0.001	IS 3025 (Part 48): 1994
14.	Nickel (as Ni)	mg/l	1.0	<0.02	APHA (23rd Edition) 3120 B : 2017
15.	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	0.35	<0.001	APHA (23rd Edition) 5530C : 2017
16.	Phosphorus (as P)	mg/l	3.0	0.44	APHA (23rd Edition) 4500 -P D, 2017
17.	Sulphide (as S)	mg/l	0.5	<0.1	APHA (23rd Edition) 4500 -S2- D: 2017
18.	Total Chromium (as Cr)	mg/l	2.0	<0.01	APHA (23rd Edition) 3120 B : 2017
19.	Total Kjeldahl Nitrogen	mg/l	40.0	<0.3	APHA (23rd Edition) 2017 4500 -Norg B: 2017
20.	Vanadium (as V)	mg/l	0.2	<0.2	APHA (23rd Edition) 3120B: 2017
21.	Zinc (as Zn)	mg/l	5.0	<0.02	APHA (23rd Edition) 3120 B : 2017

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TEST REPORT

Name & Address of the Customer	Report No.	: MSK/GHY/2023-24/0383
“Indian Oil Corporation Limited Digboi” Assam Oil Division, PO.- Digboi Assam 786171	Report Date	: 26.09.2023
	Nature of Sample	: Effluent Water
	Sample Mark	: ETP PP OUTLET
	Sample Drawn On	: 30.08.2023
	Sample Number	: MSKGL/ED/2023-24/08/00194
Reference No. & Date: 27371982Dated : 19/11/2021		

CHEMICAL ANALYSIS RESULT

Sl. No.	Parameter	Unit	Limit	Result	Test Method
1.	pH value	None	6.0-8.5	6.87 at 25 Deg C	APHA(23rd Edition) 4500-H-B
2.	Oil & Grease	mg/l	5.0	4.9	APHA (23 rd Edition) 5520B,2017
3.	Total Suspended Solids (as TSS)	mg/l	20.0	15	APHA (23 rd Edition) 2540 D
4.	Biochemical Oxygen Demand (as BOD)	mg/l	15.0	11	APHA (23 rd Edition) 5210B,2017
5.	Chemical Oxygen Demand (as COD)	mg/l	125.0	41	APHA (23 rd Edition) 5220B,2017
6.	Ammoniacal Nitrogen	mg/l	15.0	<0.1	APHA (23rd Edition) 4500-NH3-F 2017
7.	Benzene	mg/l	0.1	<0.05	APHA (23rd Edition)6200_(O)
8.	Benzo(a)Pyrene	mg/l	0.2	<0.05	APHA 23rd Edtn -2012 6440C_(O)
9.	Copper (as Cu)	mg/l	1.0	<0.02	APHA (23rd Edition) 3120 B : 2017
10.	Cyanide (as CN)	mg/l	0.20	<0.02	APHA (23rd Edition) 4500 -CN- F: 2017
11.	Hexavalent Chromium (as Cr+6)	mg/l	0.1	<0.01	APHA (23rd Edition) 3500 Cr B : 2017
12.	Lead (as Pb)	mg/l	0.1	<0.005	APHA (23rd Edition) 3120 B : 2017

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Sl. No.	Parameter	Unit	Limit	Result	Test Method
13.	Mercury (as Hg)	mg/l	0.01	<0.001	IS 3025 (Part 48): 1994
14.	Nickel (as Ni)	mg/l	1.0	<0.02	APHA (23rd Edition) 3120 B : 2017
15.	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	0.38	<0.001	APHA (23rd Edition) 5530C : 2017
16.	Phosphorus (as P)	mg/l	3.0	0.45	APHA (23rd Edition) 4500 -P D, 2017
17.	Sulphide (as S)	mg/l	0.7	<0.1	APHA (23rd Edition) 4500 -S2- D: 2017
18.	Total Chromium (as Cr)	mg/l	2.0	<0.01	APHA (23rd Edition) 3120 B : 2017
19.	Total Kjeldahl Nitrogen	mg/l	42.0	<0.3	APHA (23rd Edition) 2017 4500 -Norg B: 2017
20.	Vanadium (as V)	mg/l	0.5	<0.2	APHA (23rd Edition) 3120B: 2017
21.	Zinc (as Zn)	mg/l	6.0	<0.02	APHA (23rd Edition) 3120 B : 2017

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Email : info@mitrask.com. Website: www.mitrask.com

TEST REPORT

Name & Address of the Customer	Report No.	: MSK/GHY/2023-24/0499
"Indian Oil Corporation Limited Digboi" Assam Oil Division, PO.- Digboi Assam 786171	Report Date	: 30.10.2023
	Nature of Sample	: Effluent Water
	Sample Mark	: ETP PP OUTLET
	Sample Drawn On	: 29.09.2023
	Sample Number	: MSKGL/ED/2023-24/10/00344
Reference No. & Date: 27371982 Dated : 19/11/2021		

CHEMICAL ANALYSIS RESULT

Sl. No.	Parameter	Unit	Limit	Result	Test Method
1.	pH value	None	6.0-8.5	6.82 at 25 Deg C	APHA(23rd Edition) 4500-H-B
2.	Oil & Grease	mg/l	5.0	4.8	APHA (23 rd Edition) 5520B,2017
3.	Total Suspended Solids (as TSS)	mg/l	20.0	13	APHA (23 rd Edition) 2540 D
4.	Biochemical Oxygen Demand (as BOD)	mg/l	15.0	9.6	APHA (23 rd Edition) 5210B,2017
5.	Chemical Oxygen Demand (as COD)	mg/l	125.0	39	APHA (23 rd Edition) 5220B,2017
6.	Ammoniacal Nitrogen	mg/l	15.0	<0.1	APHA (23rd Edition) 4500-NH3-F 2017
7.	Benzene	mg/l	0.1	<0.05	APHA (23rd Edition)6200_(O)
8.	Benzo(a)Pyrene	mg/l	0.2	<0.05	APHA 23rd Edtn -2012 6440C_(O)
9.	Copper (as Cu)	mg/l	1.0	<0.02	APHA (23rd Edition) 3120 B : 2017
10.	Cyanide (as CN)	mg/l	0.20	<0.02	APHA (23rd Edition) 4500 -CN- F: 2017
11.	Hexavalent Chromium (as Cr+6)	mg/l	0.1	<0.01	APHA (23rd Edition) 3500 Cr B : 2017
12.	Lead (as Pb)	mg/l	0.1	<0.005	APHA (23rd Edition) 3120 B : 2017

Count to Page-2

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Reference No.& Date: 27371982 Dated : 19/11/2021


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Sl. No.	Parameter	Unit	Limit	Result	Test Method
13.	Mercury (as Hg)	mg/l	0.01	<0.001	IS 3025 (Part 48): 1994
14.	Nickel (as Ni)	mg/l	1.0	<0.02	APHA (23rd Edition) 3120 B : 2017
15.	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	0.38	<0.001	APHA (23rd Edition) 5530C : 2017
16.	Phosphorus (as P)	mg/l	3.0	0.43	APHA (23rd Edition) 4500 -P D, 2017
17.	Sulphide (as S)	mg/l	0.7	<0.1	APHA (23rd Edition) 4500 -S2- D: 2017
18.	Total Chromium (as Cr)	mg/l	2.0	<0.01	APHA (23rd Edition) 3120 B : 2017
19.	Total Kjeldahl Nitrogen	mg/l	42.0	<0.3	APHA (23rd Edition) 2017 4500 -Norg B: 2017
20.	Vanadium (as V)	mg/l	0.5	<0.2	APHA (23rd Edition) 3120B: 2017
21.	Zinc (as Zn)	mg/l	6.0	<0.02	APHA (23rd Edition) 3120 B : 2017

Report Prepared By:



for Mitra S. K. Private Limited



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गुणवत्ता नियंत्रण विभाग (QUALITY CONTROL DEPARTMENT)
 इंडियन ऑयल कॉर्पोरेशन लिमिटेड (INDIAN OIL CORPORATION LIMITED)
 (असम ऑयल डिवीजन (ASSAM OIL DIVISION)
 डिगबोई रिफाइनरी, असम (DIGBOI REFINERY, ASSAM)



Analysis Lab Report of Dihing and Digboi Rivers

Source: Dihing and Digboi Rivers

रिपोर्ट संख्या/ Report No.: DR/QC/April-2023

Dated 30.04.2023

Dated of sample Collection :- 11.04.2022

PARAMETER	pH	Oil & Grease	Phenol	Sulphide	COD	BOD (3 Days) @ 27°C	
Test Method	APHA-4500H*B	APHA-5520-B	APHA-5530-D	APHA-4500-B	APHA-5220-B	IS-3025 PART-44	
Unit		mg/l	mg/l	mg/l	mg/l	mg/l	
Requirements as per MINAS norms (Minimum National Standards)	6.0-8.5	Max 5.0 mg/l	Max 0.35 mg/l	Max 0.5 mg/l	Max 125 mg/l	Max 15.0 mg/l	
S.No	Sample Details	Test Results					
1	Digboi River Water in Kenduguri Area	6.5	2.5	0.14	0.1	54	9
2	Digboi River Water (15 km away from Digboi Refinery on Digboi)	6.6	2.1	0.11	BDL	37	8
3	Digboi River Water (26 km away from Digboi Refinery on Digboi)	6.4	1.5	0.11	BDL	31	7
4	Dihing River water before confluence with Digboi river	7.2	0.7	0.07	BDL	29	6
5	Dihing River water after confluence with Digboi river	7.2	0.6	0.05	BDL	28	6

***BDL = Below Detection Limit

Tested & Report by :-
 Dipankar Rajkhowa (JQCA)
 Inter Com Water Lab No:-3592

Approved & Reviewed By :-
 Dr. Gopal Maurya (QCM)
 Inter Com No:-3593



गुणवत्ता नियंत्रण विभाग (QUALITY CONTROL DEPARTMENT)
इंडियन ऑयल कॉर्पोरेशन लिमिटेड (INDIAN OIL CORPORATION LIMITED)
(असम ऑयल डिवीजन (ASSAM OIL DIVISION)
डिगबोई रिफाइनरी, असम (DIGBOI REFINERY, ASSAM)



Analysis Lab Report of Dihing and Digboi Rivers

Source: Dihing and Digboi Rivers

रिपोर्ट संख्या/ Report No.: DR/QC/126/31

Dated 12.05.2023

Dated of sample Collection :- 11.05.2022

PARAMETER	pH	Oil & Grease	Phenol	Sulphide	COD	BOD (3 Days) @ 27°C	
Test Method	APHA-4500H*B	APHA-5520-B	APHA-5530-D	APHA-4500-B	APHA-5220-B	IS-3025 PART-44	
Unit		mg/l	mg/l	mg/l	mg/l	mg/l	
Requirements as per MINAS noems (Minimum National Standards)	6.0-8.5	Max 5.0 mg/l	Max 0.35 mg/l	Max 0.5 mg/l	Max 125 mg/l	Max 15.0 mg/l	
S.No	Sample Details	Test Results					
1	Digboi River Water in Kenduguri Area	6.6	2.6	0.15	0.1	56	9
2	Digboi River Water (15 km away from Digboi Refinery on Digboi)	6.5	2.1	0.11	BDL	38	7
3	Digboi River Water (26 km away from Digboi Refinery on Digboi)	6.3	1.6	0.12	BDL	32	7
4	Dihing River water before confluence with Digboi river	7.3	0.7	0.07	BDL	30	6
5	Dihing River water after confluence with Digboi river	7.3	0.7	0.05	BDL	30	6

***BDL = Below Detection Limit

Tested & Report by :-
Dipankar Rajkhowa (JQCA)
Inter Com Water Lab No:-3592


Approved & Reviewed By :-
Dr. Gopal Maurya (QCM)
Inter Com No:-3593



गुणवत्ता नियंत्रण विभाग (QUALITY CONTROL DEPARTMENT)
इंडियन ऑयल कॉर्पोरेशन लिमिटेड (INDIAN OIL CORPORATION LIMITED)
(असम ऑयल डिवीजन (ASSAM OIL DIVISION)
डिगबोई रिफाइनरी, असम (DIGBOI REFINERY, ASSAM)



Analysis Lab Report of Dihing and Digboi Rivers

Source: Dihing and Digboi Rivers

रिपोर्ट संख्या/ Report No.: DR/QC/126/32

Dated 19.06.2023

Dated of sample Collection :- 15.06.2023

PARAMETER	pH	Oil & Grease	Phenol	Sulphide	COD	BOD (3 Days) @ 27°C	
Test Method	APHA-4500H*B	APHA-5520-B	APHA-5530-D	APHA-4500-B	APHA-5220-B	IS-3025 PART-44	
Unit		mg/l	mg/l	mg/l	mg/l	mg/l	
Requirements as per MINAS norms (Minimum National Standards)	6.0-8.5	Max 5.0 mg/l	Max 0.35 mg/l	Max 0.5 mg/l	Max 125 mg/l	Max 15.0 mg/l	
S.No	Sample Details	Test Results					
1	Digboi River Water in Kenduguri Area	6.7	3.9	0.19	0.11	66	10
2	Digboi River Water (15 km away from Digboi Refinery on Digboi)	6.9	4.1	0.14	BDL	44	8
3	Digboi River Water (26 km away from Digboi Refinery on Digboi)	6.9	3.3	0.12	BDL	38	9
4	Dihing River water before confluence with Digboi river	7.2	2.6	0.06	BDL	48	8
5	Dihing River water after confluence with Digboi river	7.2	1.1	0.07	BDL	42	6

***BDL = Below Detection Limit

Tested & Report by :-
B CHAKRABORTY (JQCA)
Inter Com Water Lab No:-3592


Test Report Released By :-
Dr. Gopal Maurya (QCM)
Inter Com No:-3593



गुणवत्ता नियंत्रण विभाग (QUALITY CONTROL DEPARTMENT)
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डिगबोई रिफाइनरी, असम (DIGBOI REFINERY, ASSAM)



Analysis Lab Report of Dihing and Digboi Rivers

Source: Dihing and Digboi Rivers

रिपोर्ट संख्या/ Report No.: DR/QC/July-2023

Dated 22.07.2023

Dated of sample Collection :- 17.07.2023

PARAMETER	pH	Oil & Grease	Phenol	Sulphide	COD	BOD (3 Days) @ 27°C	
Test Method	IS 3025 (Part 11)	APHA-5520-B	APHA-5530-D	IS 3025 (Part 29)	APHA-5220-B	IS-3025 PART-44	
Unit		mg/l	mg/l	mg/l	mg/l	mg/l	
Requirements as per MINAS norms (Minimum National Standards)	6.0-8.5	Max 5.0 mg/l	Max 0.35 mg/l	Max 0.5 mg/l	Max 125 mg/l	Max 15.0 mg/l	
S.No	Sample Details	Test Results					
1	Digboi River Water in Kenduguri Area	6.7	3.6	0.09	0.08	76	12.0
2	Digboi River Water (15 km away from Digboi Refinery on Digboi)	6.4	2.8	0.01	BDL	64	8.0
3	Digboi River Water (26 km away from Digboi Refinery on Digboi)	6.7	3.2	BDL	BDL	42	10.0
4	Dihing River water before confluence with Digboi river	6.9	1.4	BDL	BDL	56	8.0
5	Dihing River water after confluence with Digboi river	7.2	1	BDL	BDL	46	8.0

***BDL = Below Detection Limit

Tested & Report by: -
B CHAKRABORTY (JQCA)
Inter Com Water Lab No:-3592


Test Report Released By :-
Dr. Gopal Maurya (QCM)
Inter Com No:-3593



गुणवत्ता नियंत्रण विभाग (QUALITY CONTROL DEPARTMENT)
इंडियन ऑयल कॉर्पोरेशन लिमिटेड (INDIAN OIL CORPORATION LIMITED)
(असम ऑयल डिवीजन (ASSAM OIL DIVISION))
डिगबोई रिफाइनरी, असम (DIGBOI REFINERY, ASSAM)



Analysis Lab Report of Dihing and Digboi Rivers

Source: Dihing and Digboi Rivers

रिपोर्ट संख्या/ Report No.: DR/QC/AUST-2023

Dated 21.08.2023

Dated of sample Collection :- 18.08.2023

PARAMETER	pH	Oil & Grease	Phenol	Sulphide	COD	BOD (3 Days) @ 27°C	
Test Method	IS 3025 (Part 11)	APHA-5520-B	APHA-5530-D	IS 3025 (Part 29)	APHA-5220-B	IS-3025 PART-44	
Unit		mg/l	mg/l	mg/l	mg/l	mg/l	
Requirements as per MINAS noems (Minimum National Standards)	6.0-8.5	Max 5.0 mg/l	Max 0.35 mg/l	Max 0.5 mg/l	Max 125 mg/l	Max 15.0 mg/l	
S.No	Sample Details	Test Results					
1	Digboi River Water in Kenduguri Area	6.7	2.5	0.14	0.1	47	8.0
2	Digboi River Water (15 km away from Digboi Refinery on Digboi)	6.8	1.8	0.1	BDL	42	7.0
3	Digboi River Water (26 km away from Digboi Refinery on Digboi)	6.8	0.9	0.06	BDL	34	6.0
4	Dihing River water before confluence with Digboi river	7.2	0.4	0.02	BDL	25	4.0
5	Dihing River water after confluence with Digboi river	7.1	0.6	0.04	BDL	38	6.0

***BDL = Below Detection Limit

Tested & Report by :-
Dipankar Rajkhowa (JQCA)
Inter Com Water Lab No:-3592


Test Report Released By :-
Dr. Gopal Maurya (QCM)
Inter Com No:-3593



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(असम ऑयल डिवीजन (ASSAM OIL DIVISION)
डिगबोई रिफाइनरी, असम (DIGBOI REFINERY, ASSAM)



Analysis Lab Report of Dihing and Digboi Rivers

Source: Dihing and Digboi Rivers

रिपोर्ट संख्या/ Report No.: DR/QC/SEPT-2023

Dated 29.09.2023

Dated of sample Collection :- 13.09.2023

PARAMETER	pH	Oil & Grease	Phenol	Sulphide	COD	BOD (3 Days) @ 27°C	
Test Method	IS 3025 (Part 11)	APHA-5520-B	APHA-5530-D	IS 3025 (Part 29)	APHA-5220-B	IS-3025 PART-44	
Unit		mg/l	mg/l	mg/l	mg/l	mg/l	
Requirements as per MINAS noems (Minimum National Standards)	6.0-8.5	Max 5.0 mg/l	Max 0.35 mg/l	Max 0.5 mg/l	Max 125 mg/l	Max 15.0 mg/l	
S.No	Sample Details	Test Results					
1	Digboi River Water in Kenduguri Area	6.9	3	0.08	0.07	70	12.0
2	Digboi River Water (15 km away from Digboi Refinery on Digboi)	7	2.1	0.01	BDL	55	7.0
3	Digboi River Water (26 km away from Digboi Refinery on Digboi)	7	1.2	BDL	BDL	41	6.0
4	Dihing River water before confluence with Digboi river	7.1	1	BDL	BDL	38	5.0
5	Dihing River water after confluence with Digboi river	7.2	0.9	BDL	BDL	32	6.0

***BDL = Below Detection Limit

Tested & Report by: -
B CHAKRABORTY (JQCA)
Inter Com Water Lab No:-3592


Test Report Released By :-
Dr. Gopal Maurya (QCM)
Inter Com No:-3593

ANNEXURE-3**COMPLIANCE OF EFFLUENT STANDARDS (In Kg/TMT of Crude)**

From April, 2023 to September,2023(Source-External Agency)

Parameters	Limits	April	May	June	July	August	September	Average
pH	--	-	-	-	-	-	-	-
Oil & Grease	2.0	0.00	0.00	0.00	0.00	0.00	0.00	0.000
BOD	6.0	0.00	0.00	0.00	0.00	0.00	0.00	0.000
COD	50	0.00	0.00	0.00	0.00	0.00	0.00	0.000
TSS	8.0	0.00	0.00	0.00	0.00	0.00	0.00	0.000
Phenols	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.000
Sulphides	0.2	0.00	0.00	0.00	0.00	0.00	0.00	0.000
CN	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.000
Ammonia as N	6.0	0.00	0.00	0.00	0.00	0.00	0.00	0.000
TKN	16	0.00	0.00	0.00	0.00	0.00	0.00	0.000
P	1.2	0.00	0.00	0.00	0.00	0.00	0.00	0.000
Cr (Hexavalent)	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.000
Cr (Total)	0.8	0.00	0.00	0.00	0.00	0.00	0.00	0.000
Pb	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.000
Hg	0.004	0.00	0.00	0.00	0.00	0.00	0.00	0.000
Zn	2.0	0.00	0.00	0.00	0.00	0.00	0.00	0.000
Ni	0.4	0.00	0.00	0.00	0.00	0.00	0.00	0.000
Cu	0.4	0.00	0.00	0.00	0.00	0.00	0.00	0.000
V	0.8	0.00	0.00	0.00	0.00	0.00	0.00	0.000
Benzene	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.000
Benzo (a) -Pyrene	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.000

NB:- ND ; Not Done & BDL; Bellow Detection Level

Remarks No effluent Discharged outside ETP

Checked by:



Prepared by:



TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0138
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 16.06.2023
	Sample No. : MSKGL/ED/2023-24/05/02064
	Sample Description : Stack Emission
	Date of Sampling : 16.05.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1.	Stack connected to	:	CPP (HRSG-1)	
2.	Emission due to	:	Fuel Gas	
3.	Material of construction of Stack	:	Carbon Steel (CS)	
4.	Shape of Stack	:	Circular	
5.	Whether Stack is provided with permanent platform & ladder : Yes			
B. Physical characteristics of stack :				
1.	Height of the Stack from ground level	:	50.0 m	
2.	Diameter of the stack at sampling point	:	2.0 m	
3.	Area of Stack	:	3.14 m ²	
Analysis/Characteristic of stack:				
C.	Fuel Used : Gas			
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	145.0	....	IS 14988 (P-1) : 2001 (RA 2012)
2.	Barometric Pressure (mm of Hg)	750.0	....	USEPA Part-2, 25/09/1996
3.	Velocity of gas (m/sec.)	15.6	....	IS 14988 (P-1) : 2001 (RA 2012)
4.	Quantity of Gas Flow (Nm ³ /hr.)	123257	....	USEPA Part-2, 25/09/1996
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992 (RA 2014)
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	43.5	50 (mg/Nm ³)	USEPA Part-6, 25/09/1996
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	87.1	350 (mg/Nm ³)	USEPA Part-7, 12/03/1996
8.	Concentration of Particulate Matters (mg/Nm ³)	7.9	10 (mg/Nm ³)	USEPA Part-17, 16/08/1996
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (P-4) : 2006
E.	Pollution control device Pollution control device attached with the stack : Yes			
F.	Remarks:			

For Mitra S. K. Private Limited

Report Prepared By :




Authorised Signatory

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TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0139
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 16.06.2023
	Sample No. : MSKGL/ED/2023-24/05/02065
	Sample Description : Stack Emission
	Date of Sampling : 16.05.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1.	Stack connected to	: CPP (HRSG-4)		
2.	Emission due to	: Fuel Gas		
3.	Material of construction of Stack	: Carbon Steel (CS)		
4.	Shape of Stack	: Circular		
5.	Whether Stack is provided with permanent platform & ladder : Yes			
B. Physical characteristics of stack :				
1.	Height of the Stack from ground level	: 60.0 m		
2.	Diameter of the stack at sampling point	: 3.0 m		
3.	Area of Stack	: 7.065 m ²		
Analysis/Characteristic of stack:				
C.	Fuel Used : Gas			
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	131.0	....	IS 14988 (P-1) : 2001 (RA 2012)
2.	Barometric Pressure (mm of Hg)	750.0	....	USEPA Part-2, 25/09/1996
3.	Velocity of gas (m/sec.)	18.0	....	IS 14988 (P-1) : 2001 (RA 2012)
4.	Quantity of Gas Flow (Nm ³ /hr.)	332564	....	USEPA Part-2, 25/09/1996
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992 (RA 2014)
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	41.3	50 (mg/Nm ³)	USEPA Part-6, 25/09/1996
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	84.7	350 (mg/Nm ³)	USEPA Part-7, 12/03/1996
8.	Concentration of Particulate Matters (mg/Nm ³)	7.5	10 (mg/Nm ³)	USEPA Part-17, 16/08/1996
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (P-4) : 2006
E.	Pollution control device Pollution control device attached with the stack : Yes			
F.	Remarks:			

For Mitra S. K. Private Limited

Report Prepared By :




 Authorised Signatory

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 Email : info@mitrask.com. Website: www.mitrask.com

TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0140
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 16.06.2023
	Sample No. : MSKGL/ED/2023-24/05/02066
	Sample Description : Stack Emission
	Date of Sampling : 18.05.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A.	General information about stack :			
1.	Stack connected to	:	HGU	
2.	Emission due to	:	Fuel Gas	
3.	Material of construction of Stack	:	Carbon Steel (CS)	
4.	Shape of Stack	:	Circular	
5.	Whether Stack is provided with permanent platform & ladder : Yes			
B.	Physical characteristics of stack :			
1.	Height of the Stack from ground level	:	40.0 m	
2.	Diameter of the stack at sampling point	:	1.0 m	
3.	Area of Stack	:	0.785 m ²	
C.	Analysis/Characteristic of stack:			
	Fuel Used : Gas			
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	135.0	....	IS 14988 (P-1) : 2001 (RA 2012)
2.	Barometric Pressure (mm of Hg)	750.0	....	USEPA Part-2, 25/09/1996
3.	Velocity of gas (m/sec.)	13.7	....	IS 14988 (P-1) : 2001 (RA 2012)
4.	Quantity of Gas Flow (Nm ³ /hr.)	27702	....	USEPA Part-2, 25/09/1996
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992 (RA 2014)
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	29.1	50 (mg/Nm ³)	USEPA Part-6, 25/09/1996
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	75.0	350 (mg/Nm ³)	USEPA Part-7, 12/03/1996
8.	Concentration of Particulate Matters (mg/Nm ³)	5.3	10 (mg/Nm ³)	USEPA Part-17, 16/08/1996
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (P-4) : 2006
E.	Pollution control device			
	Pollution control device attached with the stack : Yes			
F.	Remarks:			

For Mitra S. K. Private Limited

Report Prepared By :



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TEST REPORT

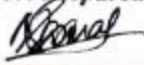
Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0141
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 16.06.2023
	Sample No. : MSKGL/ED/2023-24/05/02067
	Sample Description : Stack Emission
	Date of Sampling : 18.05.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1.	Stack connected to	:	HDTU	
2.	Emission due to	:	Fuel Gas	
3.	Material of construction of Stack	:	Carbon Steel (CS)	
4.	Shape of Stack	:	Circular	
5.	Whether Stack is provided with permanent platform & ladder : Yes			
B. Physical characteristics of stack :				
1.	Height of the Stack from ground level	:	40.0 m	
2.	Diameter of the stack at sampling point	:	1.16 m	
3.	Area of Stack	:	1.057 m ²	
Analysis/Characteristic of stack:				
C.	Fuel Used : Gas			
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	330.0	....	IS 14988 (P-1) : 2001 (RA 2012)_(O)
2.	Barometric Pressure (mm of Hg)	750.0	....	USEPA Part 2 - 25/09/1996_(O)
3.	Velocity of gas (m/sec.)	24.4	....	IS 11255 (Part III),2008RA 2018_(O)
4.	Quantity of Gas Flow (Nm ³ /hr.)	44848	....	USEPA Part 2 - 25/09/1996_(O)
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	32.7	50 (mg/Nm ³)	USEPA (Part 6) 25/09/1996_(O)
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	78.9	350 (mg/Nm ³)	USEPA (Part 7), Issue Dated,12/03/1996_(O)
8.	Concentration of Particulate Matters (mg/Nm ³)	5.7	10 (mg/Nm ³)	USEPA-17 16/08/1996_(O)
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (Part 4) : 2006
E.	Pollution control device Pollution control device attached with the stack : Yes			
F.	Remarks:			

For Mitra S. K. Private Limited

Report Prepared By :




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TEST REPORT

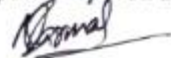

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0142
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 16.06.2023
	Sample No. : MSKGL/ED/2023-24/05/02068
	Sample Description : Stack Emission
	Date of Sampling : 18.05.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1.	Stack connected to	:	DCU	
2.	Emission due to	:	Fuel Gas	
3.	Material of construction of Stack	:	Carbon Steel (CS)	
4.	Shape of Stack	:	Circular	
5.	Whether Stack is provided with permanent platform & ladder : Yes			
B. Physical characteristics of stack :				
1.	Height of the Stack from ground level	:	58 m	
2.	Diameter of the stack at sampling point	:	1.686 m	
3.	Area of Stack	:	2.2335 m ²	
C. Analysis/Characteristic of stack:				
C.	Fuel Used : Gas			
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	190.0	....	IS 14988 (P-1) : 2001 (RA 2012)_(O)
2.	Barometric Pressure (mm of Hg)	750.0	....	USEPA Part 2 - 25/09/1996_(O)
3.	Velocity of gas (m/sec.)	21.3	....	IS 11255 (Part III),2008RA 2018_(O)
4.	Quantity of Gas Flow (Nm ³ /hr.)	107678	....	USEPA Part 2 - 25/09/1996_(O)
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	34.1	50 (mg/Nm ³)	USEPA (Part 6) 25/09/1996_(O)
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	85.0	350 (mg/Nm ³)	USEPA (Part 7), Issue Dated.12/03/1996_(O)
8.	Concentration of Particulate Matters (mg/Nm ³)	6.2	10 (mg/Nm ³)	USEPA-17 16/08/1996_(O)
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (Part 4) : 2006
E. Pollution control device				
Pollution control device attached with the stack : Yes				
F. Remarks:				

For Mitra S. K. Private Limited

Report Prepared By :



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TEST REPORT

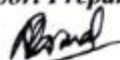
Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0143
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 16.06.2023
	Sample No. : MSKGL/ED/2023-24/05/02069
	Sample Description : Stack Emission
	Date of Sampling : 19.05.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1.	Stack connected to	:	MSQU	
2.	Emission due to	:	Fuel Gas	
3.	Material of construction of Stack	:	Carbon Steel (CS)	
4.	Shape of Stack	:	Circular	
5.	Whether Stack is provided with permanent platform & ladder : Yes			
B. Physical characteristics of stack :				
1.	Height of the Stack from ground level	:	40.0 m	
2.	Diameter of the stack at sampling point	:	1.10 m	
3.	Area of Stack	:	0.95 m ²	
C. Analysis/Characteristic of stack:				
C.	Fuel Used : Gas			
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	230.0	....	IS 14988 (P-1) : 2001 (RA 2012) (O)
2.	Barometric Pressure (mm of Hg)	750.0	....	USEPA Part 2 - 25/09/1996 (O)
3.	Velocity of gas (m/sec.)	21.9	....	IS 11255 (Part III),2008RA 2018 (O)
4.	Quantity of Gas Flow (Nm ³ /hr.)	43368	....	USEPA Part 2 - 25/09/1996 (O)
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	25.7	50 (mg/Nm ³)	USEPA (Part 6) 25/09/1996_(O)
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	68.5	350 (mg/Nm ³)	USEPA (Part 7), Issue Dated.12/03/1996 (O)
8.	Concentration of Particulate Matters (mg/Nm ³)	4.9	10 (mg/Nm ³)	USEPA-17 16/08/1996_(O)
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (Part 4) : 2006
E.	Pollution control device Pollution control device attached with the stack : Yes			
F.	Remarks:			

For Mitra S. K. Private Limited

Report Prepared By :




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TEST REPORT

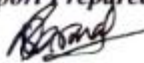
Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0144
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 16.06.2023
	Sample No. : MSKGL/ED/2023-24/05/02070
	Sample Description : Stack Emission
	Date of Sampling : 20.05.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	


ANALYSIS RESULT

A.	General information about stack :			
1.	Stack connected to	: OBSG (CRU)		
2.	Emission due to	: Fuel Gas & Natural Gas		
3.	Material of construction of Stack	: Carbon Steel (CS)		
4.	Shape of Stack	: Circular		
5.	Whether Stack is provided with permanent platform & ladder : Yes			
B.	Physical characteristics of stack :			
1.	Height of the Stack from ground level	: 45.0 m		
2.	Diameter of the stack at sampling point	: 1.750 m		
3.	Area of Stack	: 2.404 m ²		
C.	Analysis/Characteristic of stack:			
	Fuel Used : Gas			
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	160.0	....	IS 14988 (P-1) : 2001 (RA 2012) (O)
2.	Barometric Pressure (mm of Hg)	750.0	....	USEPA Part 2 - 25/09/1996 (O)
3.	Velocity of gas (m/sec.)	18.4	....	IS 11255 (Part III), 2008RA 2018 (O)
4.	Quantity of Gas Flow (Nm ³ /hr.)	107376	....	USEPA Part 2 - 25/09/1996 (O)
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	37.5	50 (mg/Nm ³)	USEPA (Part 6) 25/09/1996 (O)
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	73.9	350 (mg/Nm ³)	USEPA (Part 7), Issue Dated.12/03/1996 (O)
8.	Concentration of Particulate Matters (mg/Nm ³)	6.8	10 (mg/Nm ³)	USEPA-17 16/08/1996 (O)
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (Part 4) : 2006
E.	Pollution control device			
	Pollution control device attached with the stack : Yes			
F.	Remarks:			

For Mitra S. K. Private Limited

Report Prepared By :




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TEST REPORT

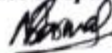
Name & Address of the Customer : 'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report No. : MSK/GHY/2023-24/0145
	Report Date : 16.06.2023
	Sample No. : MSKGI/ED/2023-24/05/02071
	Sample Description : Stack Emission
Date of Sampling : 20.05.2023	
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1.	Stack connected to	: CRU (HDT)		
2.	Emission due to	: Fuel Gas & Natural Gas		
3.	Material of construction of Stack	: Carbon Steel (CS)		
4.	Shape of Stack	: Circular		
5.	Whether Stack is provided with permanent platform & ladder : Yes			
B. Physical characteristics of stack :				
1.	Height of the Stack from ground level	: 40.0 m		
2.	Diameter of the stack at sampling point	: 1.10 m		
3.	Area of Stack	: 0.950 m ²		
C. Analysis/Characteristic of stack:				
1.	Fuel Used : Gas			
D.				
	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	212.0	....	IS 14988 (P-1) : 2001 (RA 2012) (O)
2.	Barometric Pressure (mm of Hg)	750.0	....	USEPA Part 2 - 25/09/1996 (O)
3.	Velocity of gas (m/sec.)	19.3	....	IS 11255 (Part III), 2008RA 2018 (O)
4.	Quantity of Gas Flow (Nm ³ /hr.)	39755	....	USEPA Part 2 - 25/09/1996 (O)
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	26.1	50 (mg/Nm ³)	USEPA (Part 6) 25/09/1996 (O)
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	71.3	350 (mg/Nm ³)	USEPA (Part 7), Issue Dated.12/03/1996 (O)
8.	Concentration of Particulate Matters (mg/Nm ³)	5.4	10 (mg/Nm ³)	USEPA-17 16/08/1996 (O)
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (Part 4) : 2006
E. Pollution control device				
Pollution control device attached with the stack : Yes				
F. Remarks:				

For Mitra S. K. Private Limited

Report Prepared By :




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TEST REPORT

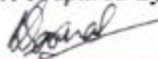
Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0146
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 16.06.2023
	Sample No. : MSKGL/ED/2023-24/05/02072
	Sample Description : Stack Emission
	Date of Sampling : 20.05.2023
Ref. No. & Date : DRE:2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1. Stack connected to	: SDU			
2. Emission due to	: Fuel Gas & Natural Gas			
3. Material of construction of Stack	: Carbon Steel (CS)			
4. Shape of Stack	: Circular			
5. Whether Stack is provided with permanent platform & ladder : Yes				
B. Physical characteristics of stack :				
1. Height of the Stack from ground level	: 46 m			
2. Diameter of the stack at sampling point	: 1.38 m			
3. Area of Stack	: 1.4963 m ²			
C. Analysis/Characteristic of stack:	Fuel Used : Gas			
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	180.0	....	IS 14988 (P-1) : 2001 (RA 2012) (O)
2.	Barometric Pressure (mm of Hg)	750.0	....	USEPA Part 2 - 25/09/1996 (O)
3.	Velocity of gas (m/sec.)	20.3	....	IS 11255 (Part III), 2008RA 2018 (O)
4.	Quantity of Gas Flow (Nm ³ /hr.)	70535	....	USEPA Part 2 - 25/09/1996 (O)
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	33.5	50 (mg/Nm ³)	USEPA (Part 6) 25/09/1996 (O)
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	81.6	350 (mg/Nm ³)	USEPA (Part 7), Issue Dated.12/03/1996 (O)
8.	Concentration of Particulate Matters (mg/Nm ³)	7.8	10 (mg/Nm ³)	USEPA-17 16/08/1996 (O)
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (Part 4) : 2006
E. Pollution control device	Pollution control device attached with the stack : Yes			
F. Remarks:				

For Mitra S. K. Private Limited

Report Prepared By :




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TEST REPORT

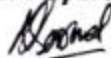
Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0147
'INDIAN OIL CORPORATION LIMITED'	Report Date : 16.06.2023
Assam Oil Division, Digboi,	Sample No. : MSKGI/ED/2023-24/05/02073
P.O.-Digboi, Assam-786171	Sample Description : Stack Emission
	Date of Sampling : 20.05.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1. Stack connected to	AVU (CDU/VDU)			
2. Emission due to	Fuel Gas			
3. Material of construction of Stack	Carbon Steel (CS)			
4. Shape of Stack	Circular			
5. Whether Stack is provided with permanent platform & ladder	Yes			
B. Physical characteristics of stack :				
1. Height of the Stack from ground level	: 46.5 m			
2. Diameter of the stack at sampling point	: 1.59 m			
3. Area of Stack	: 1.9864 m ²			
C. Analysis/Characteristic of stack:				
Fuel Used : Gas				
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	180.0	....	IS 14988 (P-1) : 2001 (RA 2012) (O)
2.	Barometric Pressure (mm of Hg)	750.0	....	USEPA Part 2 - 25/09/1996 (O)
3.	Velocity of gas (m/sec.)	20.3	....	IS 11255 (Part III), 2008RA 2018 (O)
4.	Quantity of Gas Flow (Nm ³ /hr.)	70535	....	USEPA Part 2 - 25/09/1996 (O)
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	33.5	50 (mg/Nm ³)	USEPA (Part 6) 25/09/1996 (O)
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	81.6	350 (mg/Nm ³)	USEPA (Part 7), Issue Dated, 12/03/1996 (O)
8.	Concentration of Particulate Matters (mg/Nm ³)	7.8	10 (mg/Nm ³)	USEPA-17 16/08/1996 (O)
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (Part 4) : 2006
E.	Pollution control device			
	Pollution control device attached with the stack	: Yes		
F.	Remarks:			

For Mitra S. K. Private Limited

Report Prepared By :




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TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0265
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 16.08.2023
	Sample No. : MSKGL/ED/2023-24/08/00298
	Sample Description : Stack Emission
	Date of Sampling : 28.07.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT


A. General information about stack :				
1.	Stack connected to	:	CPP (HRSG-4)	
2.	Emission due to	:	Fuel Gas	
3.	Material of construction of Stack	:	Carbon Steel (CS)	
4.	Shape of Stack	:	Circular	
5.	Whether Stack is provided with permanent platform & ladder : Yes			
6.	DG CAPACITY : NIL			
B. Physical characteristics of stack :				
1.	Height of the Stack from ground level	:	60.0 m	
2.	Diameter of the stack at sampling point	:	3.0 m	
3.	Area of Stack	:	7.065 m ²	
Analysis/Characteristic of stack:				
C. Fuel Used : Gas				
D.				
	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	130.0	....	IS 14988 (P-1) : 2001 (RA 2012)
2.	Barometric Pressure (mm of Hg)	754.0	....	USEPA Part-2, 25/09/1996
3.	Velocity of gas (m/sec.)	14.3	....	IS 14988 (P-1) : 2001 (RA 2012)
4.	Quantity of Gas Flow (Nm ³ /hr.)	263753	....	USEPA Part-2, 25/09/1996
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992 (RA 2014)
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	42.5	50 (mg/Nm ³)	USEPA Part-6, 25/09/1996
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	85.1	350 (mg/Nm ³)	USEPA Part-7, 12/03/1996
8.	Concentration of Particulate Matters (mg/Nm ³)	7.8	10 (mg/Nm ³)	USEPA Part-17, 16/08/1996
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (P-4) : 2006
E. Pollution control device				
Pollution control device attached with the stack : Yes				
F. Remarks:				

For Mitra S. K. Private Limited



Authorised Signatory

Report Prepared By :



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TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0266
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 16.08.2023
	Sample No. : MSKGL/ED/2023-24/08/00299
	Sample Description : Stack Emission
	Date of Sampling : 28.07.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1.	Stack connected to	: CPP (HRSG-3)		
2.	Emission due to	: Fuel Gas		
3.	Material of construction of Stack	: Carbon Steel (CS)		
4.	Shape of Stack	: Circular		
5.	Whether Stack is provided with permanent platform & ladder : Yes			
6.	DG CAPACITY : NIL			
B. Physical characteristics of stack :				
1.	Height of the Stack from ground level	: 50.0 m		
2.	Diameter of the stack at sampling point	: 2.0 m		
3.	Area of Stack	: 3.14 m ²		
Analysis/Characteristic of stack:				
C.	Fuel Used : Gas			
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	146.0	....	IS 14988 (P-1) : 2001 (RA 2012)
2.	Barometric Pressure (mm of Hg)	754.0	....	USEPA Part-2, 25/09/1996
3.	Velocity of gas (m/sec.)	13.7	....	IS 14988 (P-1) : 2001 (RA 2012)
4.	Quantity of Gas Flow (Nm ³ /hr.)	103861	....	USEPA Part-2, 25/09/1996
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992 (RA 2014)
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	43.8	50 (mg/Nm ³)	USEPA Part-6, 25/09/1996
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	89.2	350 (mg/Nm ³)	USEPA Part-7, 12/03/1996
8.	Concentration of Particulate Matters (mg/Nm ³)	8.1	10 (mg/Nm ³)	USEPA Part-17, 16/08/1996
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (P-4) : 2006
E.	Pollution control device Pollution control device attached with the stack : Yes			
F.	Remarks:			

For Mitra S. K. Private Limited

Report Prepared By :




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TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0267
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 16.08.2023
	Sample No. : MSKGL/ED/2023-24/08/00300
	Sample Description : Stack Emission
	Date of Sampling : 26.07.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1. Stack connected to	: HGU			
2. Emission due to	: Fuel Gas			
3. Material of construction of Stack	: Carbon Steel (CS)			
4. Shape of Stack	: Circular			
5. Whether Stack is provided with permanent platform & ladder	: Yes			
6. DG CAPACITY	: NIL			
B. Physical characteristics of stack :				
1. Height of the Stack from ground level	: 40.0 m			
2. Diameter of the stack at sampling point	: 1.0 m			
3. Area of Stack	: 0.785 m ²			
C. Analysis/Characteristic of stack:				
Fuel Used	: Gas			
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	137.0	....	IS 14988 (P-1) : 2001 (RA 2012)
2.	Barometric Pressure (mm of Hg)	754.0	....	USEPA Part-2, 25/09/1996
3.	Velocity of gas (m/sec.)	15.8	....	IS 14988 (P-1) : 2001 (RA 2012)
4.	Quantity of Gas Flow (Nm ³ /hr.)	31963	....	USEPA Part-2, 25/09/1996
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992 (RA 2014)
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	27.1	50 (mg/Nm ³)	USEPA Part-6, 25/09/1996
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	74.2	350 (mg/Nm ³)	USEPA Part-7, 12/03/1996
8.	Concentration of Particulate Matters (mg/Nm ³)	5.7	10 (mg/Nm ³)	USEPA Part-17, 16/08/1996
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (P-4) : 2006
E.	Pollution control device			
	Pollution control device attached with the stack : Yes			
F.	Remarks:			

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TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0371
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 26.09.2023
	Sample No. : MSKGL/ED/2023-24/09/00386
	Sample Description : Stack Emission
	Date of Sampling : 28.08.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :			
1.	Stack connected to	: CRU (HDT)	
2.	Emission due to	: Fuel Gas & Natural Gas	
3.	Material of construction of Stack	: Carbon Steel (CS)	
4.	Shape of Stack	: Circular	
5.	DG CAPACITY	: NIL	
6.	Whether Stack is provided with permanent platform & ladder : Yes		
B. Physical characteristics of stack :			
1.	Height of the Stack from ground level	: 40.0 m	
2.	Diameter of the stack at sampling point	: 1.10 m	
3.	Area of Stack	: 0.950 m ²	
Analysis/Characteristic of stack:			
C.	Fuel Used : Fuel Gas/Natural Gas		
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008
1.	Temperature of emission (°C)	212.0	....
2.	Barometric Pressure (mm of Hg)	754.0	....
3.	Velocity of gas (m/sec.)	18.7	....
4.	Quantity of Gas Flow (Nm ³ /hr.)	38418	....
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	26.5	50 (mg/Nm ³)
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	72.9	350 (mg/Nm ³)
8.	Concentration of Particulate Matters (mg/Nm ³)	5.7	10 (mg/Nm ³)
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)
E.	Pollution control device Pollution control device attached with the stack : Yes		
F.	Remarks:		

For Mitra S. K. Private Limited

Report Prepared By :




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Tel. : 91 33 40143000 / 22650006 / 22650007 Fax : 91 33 22650008
Email : info@mitrask.com. Website: www.mitrask.com

TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0372
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 26.09.2023
	Sample No. : MSKGL/ED/2023-24/09/00387
	Sample Description : Stack Emission
	Date of Sampling : 29.08.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1.	Stack connected to	:	HDTU	
2.	Emission due to	:	Fuel Gas	
3.	Material of construction of Stack	:	Carbon Steel (CS)	
4.	Shape of Stack	:	Circular	
5.	DG CAPACITY	:	NIL	
6.	Whether Stack is provided with permanent platform & ladder : Yes			
B. Physical characteristics of stack :				
1.	Height of the Stack from ground level	:	40.0 m	
2.	Diameter of the stack at sampling point	:	1.10 m	
3.	Area of Stack	:	0.95 m ²	
C. Analysis/Characteristic of stack:				
Fuel Used : Natural Gas/Fuel Gas				
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	330.0	....	IS 14988 (P-1) : 2001 (RA 2012) (O)
2.	Barometric Pressure (mm of Hg)	754.0	....	USEPA Part 2 - 25/09/1996 (O)
3.	Velocity of gas (m/sec.)	20.3	....	IS 11255 (Part III),2008RA 2018 (O)
4.	Quantity of Gas Flow (Nm ³ /hr.)	37605	....	USEPA Part 2 - 25/09/1996 (O)
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	31.9	50 (mg/Nm ³)	USEPA (Part 6) 25/09/1996 (O)
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	77.3	350 (mg/Nm ³)	USEPA (Part 7), Issue Dated.12/03/1996 (O)
8.	Concentration of Particulate Matters (mg/Nm ³)	5.3	10 (mg/Nm ³)	USEPA-17 16/08/1996 (O)
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (Part 4) : 2006
E. Pollution control device				
Pollution control device attached with the stack : Yes				
F. Remarks:				

For Mitra S. K. Private Limited

Report Prepared By :




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TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0373
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 26.09.2023
	Sample No. : MSKGL/ED/2023-24/09/00388
	Sample Description : Stack Emission
	Date of Sampling : 28.08.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1.	Stack connected to	: OBG (CRU)		
2.	Emission due to	: Fuel Gas & Natural Gas		
3.	Material of construction of Stack	: Carbon Steel (CS)		
4.	Shape of Stack	: Circular		
5.	DG CAPACITY	: NIL		
6.	Whether Stack is provided with permanent platform & ladder : Yes			
B. Physical characteristics of stack :				
1.	Height of the Stack from ground level	: 45.0 m		
2.	Diameter of the stack at sampling point	: 1.75 m		
3.	Area of Stack	: 2.404 m ²		
C. Analysis/Characteristic of stack: Fuel Used : Fuel Gas/Natural Gas				
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	160.0	....	IS 14988 (P-1) : 2001 (RA 2012) (O)
2.	Barometric Pressure (mm of Hg)	754.0	....	USEPA Part 2 - 25/09/1996 (O)
3.	Velocity of gas (m/sec.)	17.3	....	IS 11255 (Part III), 2008RA 2018 (O)
4.	Quantity of Gas Flow (Nm ³ /hr.)	101175	....	USEPA Part 2 - 25/09/1996 (O)
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	38.3	50 (mg/Nm ³)	USEPA (Part 6) 25/09/1996 (O)
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	75.1	350 (mg/Nm ³)	USEPA (Part 7), Issue Dated.12/03/1996 (O)
8.	Concentration of Particulate Matters (mg/Nm ³)	7.3	10 (mg/Nm ³)	USEPA-17 16/08/1996 (O)
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (Part 4) : 2006
E. Pollution control device Pollution control device attached with the stack : Yes				
F. Remarks:				

For Mitra S. K. Private Limited

Report Prepared By :




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 Email : info@mitrask.com. Website: www.mitrask.com

TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0374
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 26.09.2023
	Sample No. : MSKGL/ED/2023-24/09/00389
	Sample Description : Stack Emission
	Date of Sampling : 26.08.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1.	Stack connected to	: AVU (CDU/VDU)		
2.	Emission due to	: Fuel Gas		
3.	Material of construction of Stack	: Carbon Steel (CS)		
4.	Shape of Stack	: Circular		
5.	DG CAPACITY	: NIL		
6.	Whether Stack is provided with permanent platform & ladder : Yes			
B. Physical characteristics of stack :				
1.	Height of the Stack from ground level	: 46.5 m		
2.	Diameter of the stack at sampling point	: 1.59 m		
3.	Area of Stack	: 1.9864 m ²		
C. Analysis/Characteristic of stack: Fuel Used : Fuel Gas/Natural Gas				
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	127.0	....	IS 14988 (P-1) : 2001 (RA 2012) (O)
2.	Barometric Pressure (mm of Hg)	754.0	....	USEPA Part 2 - 25/09/1996 (O)
3.	Velocity of gas (m/sec.)	14.4	....	IS 11255 (Part III), 2008RA 2018 (O)
4.	Quantity of Gas Flow (Nm ³ /hr.)	75595	....	USEPA Part 2 - 25/09/1996 (O)
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	37.5	50 (mg/Nm ³)	USEPA (Part 6) 25/09/1996 (O)
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	76.1	350 (mg/Nm ³)	USEPA (Part 7), Issue Dated.12/03/1996 (O)
8.	Concentration of Particulate Matters (mg/Nm ³)	6.3	10 (mg/Nm ³)	USEPA-17 16/08/1996 (O)
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (Part 4) : 2006
E.	Pollution control device Pollution control device attached with the stack : Yes			
F.	Remarks:			

For Mitra S. K. Private Limited

Report Prepared By :




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TEST REPORT

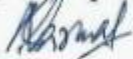
Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0375
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 26.09.2023
	Sample No. : MSKGL/ED/2023-24/09/00390
	Sample Description : Stack Emission
	Date of Sampling : 29.08.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1.	Stack connected to	:	MSQU	
2.	Emission due to	:	Fuel Gas	
3.	Material of construction of Stack	:	Carbon Steel (CS)	
4.	Shape of Stack	:	Circular	
5.	DG CAPACITY	:	NIL	
6.	Whether Stack is provided with permanent platform & ladder : Yes			
B. Physical characteristics of stack :				
1.	Height of the Stack from ground level	:	40.0 m	
2.	Diameter of the stack at sampling point	:	1.10 m	
3.	Area of Stack	:	0.95 m ²	
C. Analysis/Characteristic of stack; Fuel Used : Fuel Gas/Natural Gas				
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	230.0	....	IS 14988 (P-1) : 2001 (RA 2012) (O)
2.	Barometric Pressure (mm of Hg)	754.0	....	USEPA Part 2 - 25/09/1996 (O)
3.	Velocity of gas (m/sec.)	18.8	....	IS 11255 (Part III), 2008RA 2018 (O)
4.	Quantity of Gas Flow (Nm ³ /hr.)	36868	....	USEPA Part 2 - 25/09/1996 (O)
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	24.6	50 (mg/Nm ³)	USEPA (Part 6) 25/09/1996 (O)
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	67.2	350 (mg/Nm ³)	USEPA (Part 7), Issue Dated.12/03/1996 (O)
8.	Concentration of Particulate Matters (mg/Nm ³)	4.7	10 (mg/Nm ³)	USEPA-17 16/08/1996 (O)
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (Part 4) : 2006
E. Pollution control device Pollution control device attached with the stack : Yes				
F. Remarks:				

For Mitra S. K. Private Limited

Report Prepared By :




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TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0376
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 26.09.2023
	Sample No. : MSKGL/ED/2023-24/09/00391
	Sample Description : Stack Emission
	Date of Sampling : 28.08.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1.	Stack connected to	:	DCU	
2.	Emission due to	:	Fuel Gas	
3.	Material of construction of Stack	:	Carbon Steel (CS)	
4.	Shape of Stack	:	Circular	
5.	Whether Stack is provided with permanent platform & ladder : Yes			
B. Physical characteristics of stack :				
1.	Height of the Stack from ground level	:	58 m	
2.	Diameter of the stack at sampling point	:	1.686 m	
3.	Area of Stack	:	2.2335 m ²	
C. Analysis/Characteristic of stack: Fuel Used : Fuel Gas/Natural Gas				
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	189.0	....	IS 14988 (P-1) : 2001 (RA 2012) (O)
2.	Barometric Pressure (mm of Hg)	754.0	....	USEPA Part 2 - 25/09/1996 (O)
3.	Velocity of gas (m/sec.)	17.1	....	IS 11255 (Part III), 2008RA 2018 (O)
4.	Quantity of Gas Flow (Nm ³ /hr.)	87436	....	USEPA Part 2 - 25/09/1996 (O)
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	33.5	50 (mg/Nm ³)	USEPA (Part 6) 25/09/1996 (O)
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	84.1	350 (mg/Nm ³)	USEPA (Part 7), Issue Dated.12/03/1996 (O)
8.	Concentration of Particulate Matters (mg/Nm ³)	5.9	10 (mg/Nm ³)	USEPA-17 16/08/1996 (O)
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (Part 4) : 2006
E. Pollution control device Pollution control device attached with the stack : Yes				
F. Remarks:				

For Mitra S. K. Private Limited

Report Prepared By :

Raman



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TEST REPORT

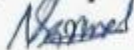
Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0377
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 26.09.2023
	Sample No. : MSKGL/ED/2023-24/09/00392
	Sample Description : Stack Emission
	Date of Sampling : 29.08.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1.	Stack connected to	:	SDU	
2.	Emission due to	:	Fuel Gas & Natural Gas	
3.	Material of construction of Stack	:	Carbon Steel (CS)	
4.	Shape of Stack	:	Circular	
5.	Whether Stack is provided with permanent platform & ladder : Yes			
B. Physical characteristics of stack :				
1.	Height of the Stack from ground level	:	46 m	
2.	Diameter of the stack at sampling point	:	1.38 m	
3.	Area of Stack	:	1.4963 m ²	
Analysis/Characteristic of stack:				
C. Fuel Used : Fuel Gas/Natural Gas				
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	182.0	....	IS 14988 (P-1) : 2001 (RA 2012)_(O)
2.	Barometric Pressure (mm of Hg)	754.0	....	USEPA Part 2 - 25/09/1996 (O)
3.	Velocity of gas (m/sec.)	17.8	....	IS 11255 (Part III),2008RA 2018 (O)
4.	Quantity of Gas Flow (Nm ³ /hr.)	59248	....	USEPA Part 2 - 25/09/1996 (O)
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	34.7	50 (mg/Nm ³)	USEPA (Part 6) 25/09/1996_(O)
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	82.5	350 (mg/Nm ³)	USEPA (Part 7), Issue Dated.12/03/1996 (O)
8.	Concentration of Particulate Matters (mg/Nm ³)	8.1	10 (mg/Nm ³)	USEPA-17 16/08/1996_(O)
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (Part 4) : 2006
E. Pollution control device				
Pollution control device attached with the stack : Yes				
F. Remarks:				

For Mitra S. K. Private Limited

Report Prepared By :




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TEST REPORT

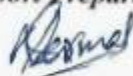
Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0378
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 26.09.2023
	Sample No. : MSKGL/ED/2023-24/09/00393
	Sample Description : Stack Emission
	Date of Sampling : 26.08.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1.	Stack connected to	: CPP (HRSG-4)		
2.	Emission due to	: Fuel Gas		
3.	Material of construction of Stack	: Carbon Steel (CS)		
4.	Shape of Stack	: Circular		
5.	DG CAPACITY	: NIL		
6.	Whether Stack is provided with permanent platform & ladder : Yes			
B. Physical characteristics of stack :				
1.	Height of the Stack from ground level	: 60.0 m		
2.	Diameter of the stack at sampling point	: 3.0 m		
3.	Area of Stack	: 7.065 m ²		
Analysis/Characteristic of stack:				
C.	Fuel Used : Natural Gas			
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	130.0	....	IS 14988 (P-1) : 2001 (RA 2012)
2.	Barometric Pressure (mm of Hg)	754.0	....	USEPA Part-2, 25/09/1996
3.	Velocity of gas (m/sec.)	19.7	....	IS 14988 (P-1) : 2001 (RA 2012)
4.	Quantity of Gas Flow (Nm ³ /hr.)	365021	....	USEPA Part-2, 25/09/1996
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992 (RA 2014)
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	43.5	50 (mg/Nm ³)	USEPA Part-6, 25/09/1996
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	86.2	350 (mg/Nm ³)	USEPA Part-7, 12/03/1996
8.	Concentration of Particulate Matters (mg/Nm ³)	8.1	10 (mg/Nm ³)	USEPA Part-17, 16/08/1996
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (P-4) : 2006
E.	Pollution control device Pollution control device attached with the stack : Yes			
F.	Remarks:			

For Mitra S. K. Private Limited

Report Prepared By :




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TEST REPORT

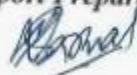
Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0379
'INDIAN OIL CORPORATION LIMITED' Assam Oil Division, Digboi, P.O.-Digboi, Assam-786171	Report Date : 26.09.2023
	Sample No. : MSKGL/ED/2023-24/09/00394
	Sample Description : Stack Emission
	Date of Sampling : 26.08.2023
Ref. No. & Date : DRE2184081/25834730, Dtd.-20/02/2019	

ANALYSIS RESULT

A. General information about stack :				
1.	Stack connected to	: CPP (HRSG-2)		
2.	Emission due to	: Fuel Gas		
3.	Material of construction of Stack	: Carbon Steel (CS)		
4.	Shape of Stack	: Circular		
5.	DG CAPACITY	: NIL		
6.	Whether Stack is provided with permanent platform & ladder : Yes			
B. Physical characteristics of stack :				
1.	Height of the Stack from ground level	: 50.0 m		
2.	Diameter of the stack at sampling point	: 2.0 m		
3.	Area of Stack	: 3.14 m ²		
Analysis/Characteristic of stack:				
C.	Fuel Used : Natural Gas			
D.	Test Parameters	Result	Perms. Limit as per MOEF notification, 2008	Method
1.	Temperature of emission (°C)	147.0	....	IS 14988 (P-1) : 2001 (RA 2012)
2.	Barometric Pressure (mm of Hg)	754.0	....	USEPA Part-2, 25/09/1996
3.	Velocity of gas (m/sec.)	19.1	....	IS 14988 (P-1) : 2001 (RA 2012)
4.	Quantity of Gas Flow (Nm ³ /hr.)	150636	....	USEPA Part-2, 25/09/1996
5.	Concentration of Carbon Monoxide (% v/v)	<0.2	....	IS 13270 : 1992 (RA 2014)
6.	Concentration of Sulphur Dioxide (mg/Nm ³)	42.9	50 (mg/Nm ³)	USEPA Part-6, 25/09/1996
7.	Concentration of Nitrogen Oxide (mg/Nm ³)	88.3	350 (mg/Nm ³)	USEPA Part-7, 12/03/1996
8.	Concentration of Particulate Matters (mg/Nm ³)	8.3	10 (mg/Nm ³)	USEPA Part-17, 16/08/1996
9.	Concentration of Hydrogen Sulphide (mg/Nm ³)	<5.0	150 (mg/Nm ³)	IS 11255 (P-4) : 2006
E.	Pollution control device Pollution control device attached with the stack : Yes			
F.	Remarks:			

For Mitra S. K. Private Limited

Report Prepared By :




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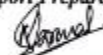
TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0025
"Indian Oil Corporation Limited Digboi"	Report Date : 18.05.23
Assam Oil Division,	Sample Description : Ambient Air
P.O.- Digboi, Assam - 786171	Sample Number : MSKGL/ED/2023-24/05/00039-00046
Reference No.& Date: 27371982 Dated : 19/11/2021	Sampling Location : EFFLUENT TREATMENT PLANT

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	03.04.2023	59	31	9.6	25	1.5	24	12	<0.01	<5.0	<1.0	<4.2	<0.5
2.	06.04.2023	64	36	10.7	28	1.7	27	14	<0.01	<5.0	<1.0	<4.2	<0.5
3.	10.04.2023	54	28	<6.0	14	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
4.	12.04.2023	57	27	8.6	21	1.4	20	10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	18.04.2023	51	27	<6.0	11	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
6.	21.04.2023	56	31	9.3	24	1.5	23	11	<0.01	<5.0	<1.0	<4.2	<0.5
7.	24.04.2023	48	25	<6.0	10	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
8.	27.04.2023	52	31	<6.0	15	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004
BDL VALUES : SO ₂ - <6.0, OZONE- <20.0, NH ₃ - <10.0, Pb-<0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5													

Report Prepared By :



For Mitra S.K. Pvt. Ltd.



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TEST REPORT

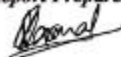
Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0026
"Indian Oil Corporation Limited Digboi" Assam Oil Division, P.O.- Digboi, Assam - 786171	Report Date : 18.05.23
	Sample Description : Ambient Air
	Sample Number : MSKGL/ED/2023-24/05/00047-00054
Reference No.& Date: 27371982 Dated : 19/11/2021	Sampling Location : BAZAAR GATE

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	03.04.2023	72	38	11.4	25	1.7	24	12	<0.01	<5.0	<1.0	<4.2	<0.5
2.	06.04.2023	56	31	<6.0	14	1.3	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
3.	10.04.2023	69	33	9.6	26	1.5	22	11	<0.01	<5.0	<1.0	<4.2	<0.5
4.	12.04.2023	54	28	8.3	22	1.2	20	10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	18.04.2023	60	33	10.2	29	1.7	26	13	<0.01	<5.0	<1.0	<4.2	<0.5
6.	21.04.2023	52	27	<6.0	13	1.3	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
7.	24.04.2023	55	31	<6.0	14	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
8	27.04.2023	68	40	9.1	21	1.4	24	12	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009, for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004

BDL VALUES : SO₂- <6.0, OZONE- <20.0, NH₃- <10.0, Pb- <0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5

Report Prepared By :



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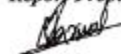
TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0027
"Indian Oil Corporation Limited Digboi" Assam Oil Division, P.O.- Digboi, Assam - 786171	Report Date : 18.05.23
	Sample Description : Ambient Air
	Sample Number : MSKGL/ED/2023-24/05/00055-00062
Reference No.& Date: 27371982 Dated : 19/11/2021	Sampling Location : NEW TANK FIRM

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	03.04.2023	70	39	11.3	27	1.8	25	13	<0.01	<5.0	<1.0	<4.2	<0.5
2.	08.04.2023	51	27	<6.0	11	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
3.	10.04.2023	58	34	8.3	22	1.3	21	11	<0.01	<5.0	<1.0	<4.2	<0.5
4.	12.04.2023	54	30	<6.0	14	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	18.04.2023	69	38	9.6	25	1.4	24	12	<0.01	<5.0	<1.0	<4.2	<0.5
6.	21.04.2023	62	30	8.7	23	1.3	22	11	<0.01	<5.0	<1.0	<4.2	<0.5
7.	24.04.2023	56	31	7.8	21	1.2	20	10	<0.01	<5.0	<1.0	<4.2	<0.5
8	27.04.2023	51	27	<6.0	12	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004
BDL VALUES : SO ₂ - <6.0, OZONE- <20.0, NH ₃ - <10.0, Pb- <0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5													

Report Prepared By :



For Mitra S.K. Pvt. Ltd.



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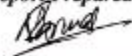
TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0028
"Indian Oil Corporation Limited Digboi"	Report Date : 18.05.23
Assam Oil Division,	Sample Description : Ambient Air
P.O.- Digboi, Assam - 786171	Sample Number : MSKGL/ED/2023-24/05/00063-00070
Reference No.& Date: 27371982 Dated : 19/11/2021	Sampling Location : COOLING TOWER-WAX SECTOR

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a)pyrene (ng/m ³)
1.	03.04.2023	54	28	8.3	23	1.2	22	11	<0.01	<5.0	<1.0	<4.2	<0.5
2.	06.04.2023	49	27	<6.0	11	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
3.	10.04.2023	59	28	9.6	25	1.5	24	12	<0.01	<5.0	<1.0	<4.2	<0.5
4.	12.04.2023	51	27	<6.0	12	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	18.04.2023	60	33	10.7	28	1.8	27	14	<0.01	<5.0	<1.0	<4.2	<0.5
6.	21.04.2023	55	29	8.3	24	1.3	23	11	<0.01	<5.0	<1.0	<4.2	<0.5
7.	24.04.2023	52	31	<6.0	12	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
8.	27.04.2023	67	35	12.1	29	1.9	30	15	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004
BDL VALUES : SO₂- <6.0, OZONE- <20.0, NH₃- <10.0, Pb-<0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5													

Report Prepared By :



For Mitra S.K. Pvt. Ltd.



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TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0206
"Indian Oil Corporation Limited Digboi" Assam Oil Division, P.O.- Digboi, Assam - 786171	Report Date : 27.07.23
	Sample Description : Ambient Air
Reference No. & Date: 27371982 Dated : 19/11/2021	Sample Number : MSKGL/ED/2023-24/07/00357-00361
	Sampling Location : BAZAAR GATE

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	13.06.2023	74	39	8.3	23	1.6	22	11	<0.01	<5.0	<1.0	<4.2	<0.5
2.	16.06.2023	59	33	<6.0	15	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
3.	19.06.2023	68	32	7.4	21	1.4	21	10	<0.01	<5.0	<1.0	<4.2	<0.5
4.	23.06.2023	52	27	<6.0	12	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	26.06.2023	63	35	6.9	19	1.3	20	10	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004
BDL VALUES : SO ₂ - <6.0, OZONE- <20.0, NH ₃ - <10.0, Pb-<0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5													

Report Prepared By :



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TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0207
"Indian Oil Corporation Limited Digboi" Assam Oil Division, P.O.- Digboi, Assam - 786171	Report Date : 27.07.23
	Sample Description : Ambient Air
	Sample Number : MSKGL/ED/2023-24/07/00362-00366
Reference No. & Date: 27371982 Dated : 19/11/2021	Sampling Location : NEW TANK FIRM

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	13.06.2023	53	29	<6.0	14	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
2.	16.06.2023	75	39	8.3	23	1.5	23	12	<0.01	<5.0	<1.0	<4.2	<0.5
3.	19.06.2023	60	35	6.5	18	1.3	20	10	<0.01	<5.0	<1.0	<4.2	<0.5
4.	23.06.2023	55	31	<6.0	15	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	26.06.2023	67	35	7.6	21	1.4	22	11	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004
BDL VALUES : SO ₂ - <6.0, OZONE- <20.0, NH ₃ - <10.0, Pb-<0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5													

Report Prepared By:



For Mitra S.K. Pvt. Ltd.



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TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0208
"Indian Oil Corporation Limited Digboi" Assam Oil Division, P.O.- Digboi, Assam - 786171	Report Date : 27.07.23
	Sample Description : Ambient Air
Reference No. & Date: 27371982 Dated : 19/11/2021	Sample Number : MSKGL/ED/2023-24/07/00367-00371
	Sampling Location : EFFLUENT TREATMENT PLANT

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	13.06.2023	57	30	<6.0	13	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
2.	16.06.2023	69	38	7.5	21	1.4	22	11	<0.01	<5.0	<1.0	<4.2	<0.5
3.	19.06.2023	55	29	<6.0	12	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
4.	23.06.2023	63	30	6.9	19	1.3	20	10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	26.06.2023	54	28	<6.0	11	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004
BDL VALUES : SO ₂ - <6.0, OZONE- <20.0, NH ₃ - <10.0, Pb-<0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5													

Report Prepared By :



For Mitra S.K. Pvt. Ltd.



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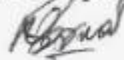
TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0209
"Indian Oil Corporation Limited Digboi" Assam Oil Division, P.O.- Digboi, Assam - 786171	Report Date : 27.07.23
	Sample Description : Ambient Air
Reference No. & Date: 27371982 Dated : 19/11/2021	Sample Number : MSKGL/ED/2023-24/07/00372-00376
	Sampling Location : COOLING TOWER-WAX SECTOR

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	13.06.2023	52	25	<6.0	13	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
2.	16.06.2023	48	27	<6.0	11	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
3.	19.06.2023	54	26	<6.0	16	1.3	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
4.	23.06.2023	59	31	6.3	19	1.4	21	10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	26.06.2023	62	34	6.7	21	1.5	22	11	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004
BDL VALUES : SO ₂ - <6.0, OZONE- <20.0, NH ₃ - <10.0, Pb-<0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5													

Report Prepared By :



For Mitra S.K. Pvt. Ltd.



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TEST REPORT

Name & Address of the Customer : "Indian Oil Corporation Limited Digboi" Assam Oil Division, P.O.- Digboi, Assam - 786171 <i>Reference No.& Date: 27371982 Dated : 19/11/2021</i>	Report No. : MSK/GHY/2023-24/0261
	Report Date : 16.08.2023
	Sample Description : Ambient Air
	Sample Number : MSKGL/ED/2023-24/08/00391-00399
	Sampling Location : BAZAAR GATE

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	03.07.2023	72	38	7.6	25	1.7	24	12	<0.01	<5.0	<1.0	<4.2	<0.5
2.	06.07.2023	57	32	<6.0	16	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
3.	10.07.2023	65	31	6.9	21	1.5	20	10	<0.01	<5.0	<1.0	<4.2	<0.5
4.	14.07.2023	53	28	<6.0	13	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	17.07.2023	69	38	7.4	23	1.4	22	11	<0.01	<5.0	<1.0	<4.2	<0.5
6.	20.07.2023	74	35	8.6	26	1.6	25	13	<0.01	<5.0	<1.0	<4.2	<0.5
7.	24.07.2023	62	36	6.5	20	1.4	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
8.	27.07.2023	58	31	<6.0	17	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
9.	31.07.2023	70	39	7.3	24	1.6	23	11	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004

BDL VALUES : SO₂- <6.0, OZONE- <20.0, NH₃- <10.0, Pb- <0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5

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For Mitra S.K. Pvt. Ltd.



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TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0262
"Indian Oil Corporation Limited Digboi"	Report Date : 16.08.2023
Assam Oil Division,	Sample Description : Ambient Air
P.O.- Digboi, Assam - 786171	Sample Number : MSKGL/ED/2023-24/08/00400-00408
Reference No. & Date: 27371982 Dated : 19/11/2021	Sampling Location : NEW TANK FIRM

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	03.07.2023	56	31	<6.0	15	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
2.	06.07.2023	78	41	8.6	25	1.6	24	12	<0.01	<5.0	<1.0	<4.2	<0.5
3.	10.07.2023	64	38	6.7	22	1.3	21	11	<0.01	<5.0	<1.0	<4.2	<0.5
4.	14.07.2023	59	33	<6.0	21	1.2	20	10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	17.07.2023	55	31	<6.0	17	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
6.	20.07.2023	72	34	7.8	25	1.5	24	12	<0.01	<5.0	<1.0	<4.2	<0.5
7.	24.07.2023	67	39	7.2	23	1.4	22	11	<0.01	<5.0	<1.0	<4.2	<0.5
8.	27.07.2023	75	36	8.1	24	1.5	23	12	<0.01	<5.0	<1.0	<4.2	<0.5
9.	31.07.2023	62	33	6.5	20	1.3	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004

BDL VALUES : SO₂- <6.0, OZONE- <20.0, NH₃- <10.0, Pb- <0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5

Report Prepared By :



For Mitra S.K. Pvt. Ltd.



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TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0263
"Indian Oil Corporation Limited Digboi"	Report Date : 16.08.2023
Assam Oil Division,	Sample Description : Ambient Air
P.O.- Digboi, Assam - 786171	Sample Number : MSKGL/ED/2023-24/08/00409-00417
Reference No. & Date: 27371982 Dated : 19/11/2021	Sampling Location : EFFLUENT TREATMENT PLANT

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	03.07.2023	62	33	6.5	17	1.4	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
2.	06.07.2023	72	40	7.8	22	1.6	21	11	<0.01	<5.0	<1.0	<4.2	<0.5
3.	10.07.2023	65	38	6.9	19	1.5	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
4.	14.07.2023	59	33	6.3	15	1.3	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	17.07.2023	55	31	<6.0	12	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
6.	20.07.2023	67	32	7.2	21	1.4	20	10	<0.01	<5.0	<1.0	<4.2	<0.5
7.	24.07.2023	74	39	7.9	25	1.6	24	12	<0.01	<5.0	<1.0	<4.2	<0.5
8.	27.07.2023	66	31	6.8	20	1.5	21	11	<0.01	<5.0	<1.0	<4.2	<0.5
9.	31.07.2023	59	31	<6.0	18	1.4	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009, for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004

BDL VALUES : SO₂- <6.0, OZONE- <20.0, NH₃- <10.0, Pb- <0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5

Report Prepared By:



For Mitra S.K. Pvt. Ltd.



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TEST REPORT

Name & Address of the Customer : "Indian Oil Corporation Limited Digboi" Assam Oil Division, P.O.- Digboi, Assam - 786171 <i>Reference No. & Date: 27371982 Dated : 19/11/2021</i>	Report No. : MSK/GHY/2023-24/0264 Report Date : 16.08.2023 Sample Description : Ambient Air Sample Number : MSKGL/ED/2023-24/08/00418-00426 Sampling Location : COOLING TOWER-WAX SECTOR
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ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a)pyrene (ng/m ³)
1.	03.07.2023	57	27	<6.0	14	1.3	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
2.	06.07.2023	62	34	6.5	16	1.5	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
3.	10.07.2023	73	38	7.9	22	1.7	21	11	<0.01	<5.0	<1.0	<4.2	<0.5
4.	14.07.2023	59	33	<6.0	12	1.4	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	17.07.2023	55	31	<6.0	11	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
6.	20.07.2023	63	35	6.7	19	1.5	20	10	<0.01	<5.0	<1.0	<4.2	<0.5
7.	24.07.2023	58	28	<6.0	11	1.4	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
8.	27.07.2023	60	32	6.2	15	1.3	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
9.	31.07.2023	69	38	7.3	21	1.6	20	10	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004

BDL VALUES : SO₂- <6.0, OZONE- <20.0, NH₃- <10.0, Pb-<0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5

Report Prepared By :



For Mitra S.K. Pvt. Ltd.



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TEST REPORT

Name & Address of the Customer : "Indian Oil Corporation Limited Digboi" Assam Oil Division, P.O.- Digboi, Assam - 786171	Report No. : MSK/GHY/2023-24/0368
Reference No. & Date: 27371982 Dated : 19/11/2021	Report Date : 26.09.2023
	Sample Description : Ambient Air
	Sample Number : MSKGL/ED/2023-24/09/00297-00305
	Sampling Location : BAZAAR GATE

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	03.08.2023	69	36	7.3	23	1.3	22	11	<0.01	<5.0	<1.0	<4.2	<0.5
2.	07.08.2023	72	40	8.1	25	1.4	24	12	<0.01	<5.0	<1.0	<4.2	<0.5
3.	10.08.2023	68	32	7.3	22	1.2	21	10	<0.01	<5.0	<1.0	<4.2	<0.5
4.	14.08.2023	57	30	<6.0	14	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	17.08.2023	64	36	6.9	19	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
6.	21.08.2023	73	35	8.4	26	1.5	25	12	<0.01	<5.0	<1.0	<4.2	<0.5
7.	24.08.2023	58	34	<6.0	15	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
8.	28.08.2023	63	33	6.7	17	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
9.	31.08.2023	75	42	8.9	27	1.7	26	13	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23)-2006	IS: 5182 (Part-24)-2019	IS: 5182 (Part-2)-2001	IS: 5182 (Part-6)-2006	IS 5182 : (Part-10):1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11):2006	IS 5182 : (Part 12) :2004

BDL VALUES : SO₂- <6.0, OZONE- <20.0, NH₃- <10.0, Pb- <0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5

Report Prepared By :



For Mitra S.K. Pvt. Ltd.



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Tel. : 91 33 40143000 / 22650006 / 22650007 Fax : 91 33 22650008

Email : info@mitrask.com. Website: www.mitrask.com

TEST REPORT

Name & Address of the Customer : "Indian Oil Corporation Limited Digboi" Assam Oil Division, P.O.- Digboi, Assam - 786171 Reference No.& Date: 27371982 Dated : 19/11/2021	Report No. : MSK/GHY/2023-24/0369
	Report Date : 26.09.2023
	Sample Description : Ambient Air
	Sample Number : MSKGL/ED/2023-24/09/00306-00314
	Sampling Location : NEW TANK FIRM

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	03.08.2023	59	33	<6.0	14	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
2.	07.08.2023	74	39	8.3	23	1.3	22	11	<0.01	<5.0	<1.0	<4.2	<0.5
3.	10.08.2023	67	39	7.2	21	1.2	20	10	<0.01	<5.0	<1.0	<4.2	<0.5
4.	14.08.2023	55	31	<6.0	12	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	17.08.2023	58	32	<6.0	16	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
6.	21.08.2023	75	36	8.5	24	1.6	23	12	<0.01	<5.0	<1.0	<4.2	<0.5
7.	24.08.2023	62	36	6.4	19	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
8.	28.08.2023	79	38	8.7	27	1.8	26	13	<0.01	<5.0	<1.0	<4.2	<0.5
9.	31.08.2023	64	34	6.9	18	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004

BDL VALUES : SO₂- <6.0, OZONE- <20.0, NH₃- <10.0, Pb-<0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5

Report Prepared By:



For Mitra S.K. Pvt. Ltd.



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Tel. : 91 33 40143000 / 22650006 / 22650007 Fax : 91 33 22650008

Email : info@mitrask.com. Website: www.mitrask.com

TEST REPORT

Name & Address of the Customer : "Indian Oil Corporation Limited Digboi" Assam Oil Division, P.O.- Digboi, Assam - 786171 Reference No.& Date: 27371982 Dated : 19/11/2021	Report No. : MSK/GHY/2023-24/0370
	Report Date : 26.09.2023
	Sample Description : Ambient Air
	Sample Number : MSKGL/ED/2023-24/09/00315-00323
	Sampling Location : EFFLUENT TREATMENT PLANT

ANALYSIS RESULT


SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	03.08.2023	65	34	6.7	17	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
2.	07.08.2023	76	42	7.9	25	1.5	24	12	<0.01	<5.0	<1.0	<4.2	<0.5
3.	10.08.2023	60	35	6.3	14	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
4.	14.08.2023	55	31	<6.0	12	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	17.08.2023	59	33	<6.0	13	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
6.	21.08.2023	64	30	6.5	15	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
7.	24.08.2023	78	41	8.3	26	1.6	25	12	<0.01	<5.0	<1.0	<4.2	<0.5
8.	28.08.2023	62	30	6.4	15	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
9.	31.08.2023	58	31	<6.0	11	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009, for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004

BDL VALUES : SO₂- <6.0, OZONE- <20.0, NH₃- <10.0, Pb-<0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5

Report Prepared By :



For Mitra S.K. Pvt. Ltd.



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TEST REPORT

Name & Address of the Customer : "Indian Oil Corporation Limited Digboi" Assam Oil Division, P.O.- Digboi, Assam - 786171	Report No. : MSK/GHY/2023-24/0372
	Report Date : 26.09.2023
Reference No.& Date: 27371982 Dated : 19/11/2021	Sample Description : Ambient Air
	Sample Number : MSKGL/ED/2023-24/09/00324-00332
	Sampling Location : COOLING TOWER-WAX SECTOR

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	03.08.2023	72	34	7.4	23	1.4	22	11	<0.01	<5.0	<1.0	<4.2	<0.5
2.	07.08.2023	65	36	6.8	20	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
3.	10.08.2023	55	29	<6.0	16	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
4.	14.08.2023	62	34	6.4	19	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	17.08.2023	74	41	7.9	25	1.5	24	12	<0.01	<5.0	<1.0	<4.2	<0.5
6.	21.08.2023	60	33	6.3	20	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
7.	24.08.2023	52	25	<6.0	13	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
8.	28.08.2023	59	31	6.1	15	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
9.	31.08.2023	70	39	7.4	22	1.3	21	10	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004

BDL VALUES : SO₂- <6.0, OZONE- <20.0, NH₃- <10.0, Pb-<0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5

Report Prepared By :



For Mitra S.K. Pvt. Ltd.



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TEST REPORT

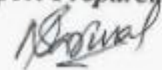
Name & Address of the Customer : "Indian Oil Corporation Limited Digboi" Assam Oil Division, P.O.- Digboi, Assam - 786171 Reference No. & Date: 27371982 Dated : 19/11/2021	Report No. : MSK/GHY/2023-24/0494
	Report Date : 30.10.2023
	Sample Description : Ambient Air
	Sample Number : MSKGL/ED/2023-24/10/00278-00286
	Sampling Location : BAZAAR GATE

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	04.09.2023	75	39	7.6	25	1.4	24	12	<0.01	<5.0	<1.0	<4.2	<0.5
2.	07.09.2023	69	38	7.2	23	1.2	22	11	<0.01	<5.0	<1.0	<4.2	<0.5
3.	11.09.2023	62	30	6.5	21	1.1	20	10	<0.01	<5.0	<1.0	<4.2	<0.5
4.	14.09.2023	54	28	<6.0	15	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	18.09.2023	67	37	6.9	18	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
6.	21.09.2023	74	35	7.5	24	1.3	23	11	<0.01	<5.0	<1.0	<4.2	<0.5
7.	25.09.2023	52	31	<6.0	12	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
8.	28.09.2023	64	34	6.3	16	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
9.	29.09.2023	78	43	8.1	27	1.6	26	13	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004

BDL VALUES : SO₂- <6.0, OZONE- <20.0, NH₃- <10.0, Pb-<0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5

Report Prepared By :



For Mitra S.K. Pvt. Ltd.



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TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0495
"Indian Oil Corporation Limited Digboi" Assam Oil Division, P.O.- Digboi, Assam - 786171	Report Date : 30.10.2023
	Sample Description : Ambient Air
Reference No. & Date: 27371982 Dated : 19/11/2021	Sample Number : MSKGL/ED/2023-24/10/00287-00295
	Sampling Location : NEW TANK FIRM

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	04.09.2023	63	35	6.5	17	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
2.	07.09.2023	72	38	7.4	24	1.3	23	11	<0.01	<5.0	<1.0	<4.2	<0.5
3.	11.09.2023	66	39	6.9	20	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
4.	14.09.2023	52	29	<6.0	13	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	18.09.2023	60	33	<6.0	15	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
6.	21.09.2023	76	36	7.9	25	1.5	24	12	<0.01	<5.0	<1.0	<4.2	<0.5
7.	25.09.2023	69	41	7.0	21	1.3	20	10	<0.01	<5.0	<1.0	<4.2	<0.5
8.	28.09.2023	78	37	8.2	26	1.6	25	13	<0.01	<5.0	<1.0	<4.2	<0.5
9.	29.09.2023	65	34	6.7	19	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004

BDL VALUES : SO₂- <6.0, OZONE- <20.0, NH₃- <10.0, Pb-<0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5

Report Prepared By :



For Mitra S.K. Pvt. Ltd.



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TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0496
"Indian Oil Corporation Limited Digboi" Assam Oil Division, P.O.- Digboi, Assam - 786171	Report Date : 30.10.2023
	Sample Description : Ambient Air
Reference No. & Date: 27371982 Dated : 19/11/2021	Sample Number : MSKGL/ED/2023-24/10/00296-00304
	Sampling Location : EFFLUENT TREATMENT PLANT

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	04.09.2023	62	33	6.4	15	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
2.	07.09.2023	74	41	7.6	24	1.4	23	12	<0.01	<5.0	<1.0	<4.2	<0.5
3.	11.09.2023	58	34	<6.0	12	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
4.	14.09.2023	52	29	<6.0	11	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	18.09.2023	69	38	7.2	21	1.2	20	10	<0.01	<5.0	<1.0	<4.2	<0.5
6.	21.09.2023	62	30	6.3	19	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
7.	25.09.2023	73	38	7.5	23	1.4	22	11	<0.01	<5.0	<1.0	<4.2	<0.5
8.	28.09.2023	65	31	6.7	22	1.3	21	10	<0.01	<5.0	<1.0	<4.2	<0.5
9.	29.09.2023	55	29	<6.0	14	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004

BDL VALUES : SO₂- <6.0, OZONE- <20.0, NH₃- <10.0, Pb-<0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5

Report Prepared By :



For Mitra S.K. Pvt. Ltd.



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TEST REPORT

Name & Address of the Customer :	Report No. : MSK/GHY/2023-24/0497
"Indian Oil Corporation Limited Digboi" Assam Oil Division, P.O.- Digboi, Assam - 786171	Report Date : 30.10.2023
	Sample Description : Ambient Air
Reference No. & Date: 27371982 Dated : 19/11/2021	Sample Number : MSKGL/ED/2023-24/10/00305-00313
	Sampling Location : COOLING TOWER-WAX SECTOR

ANALYSIS RESULT

SL. NO.	Date of Monitoring	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)	CO (mg/m ³)	O ₃ (µg/m ³)	NH ₃ (µg/m ³)	Pb (µg/m ³)	Ni (ng/m ³)	As (ng/m ³)	Benzene (µg/m ³)	Benzo(a) pyrene (ng/m ³)
1.	04.09.2023	75	36	7.7	24	1.5	23	12	<0.01	<5.0	<1.0	<4.2	<0.5
2.	07.09.2023	67	37	6.9	21	1.3	20	10	<0.01	<5.0	<1.0	<4.2	<0.5
3.	11.09.2023	52	27	<6.0	14	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
4.	14.09.2023	64	36	6.5	17	1.1	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
5.	18.09.2023	72	40	7.3	23	1.4	22	11	<0.01	<5.0	<1.0	<4.2	<0.5
6.	21.09.2023	58	32	<6.0	16	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
7.	25.09.2023	76	36	7.9	27	1.7	26	13	<0.01	<5.0	<1.0	<4.2	<0.5
8.	28.09.2023	62	33	6.3	15	1.2	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
9.	29.09.2023	51	28	<6.0	11	1.0	<20	<10	<0.01	<5.0	<1.0	<4.2	<0.5
Limit as per CPCB notification, New Delhi, 18th Nov, 2009. for Ambient air quality		100	60	80	80	2	180	400	1	20	6	5	1
Sampling and Analysis done according to		IS: 5182 (Part-23) -2006	IS: 5182 (Part-24) -2019	IS: 5182 (Part-2) -2001	IS: 5182 (Part-6) -2006	IS 5182 : (Part-10) :1999	Air Sampling, 3 rd Edn. By James P. Lodge (Method-417)	Air Sampling, 3 rd Edn. By James P. Lodge (Method-401)	USEPA IO-3.4	USEPA IO-3.4	USEPA IO-3.4	IS 5182 : (Part 11) :2006	IS 5182 : (Part 12) :2004

BDL VALUES : SO₂- <6.0, OZONE- <20.0, NH₃- <10.0, Pb- <0.01, Ni- <5.0, As- <1.0, BENZENE- <4.2, BENZO(a)PYRENE- <0.5

Report Prepared By :



For Mitra S.K. Pvt. Ltd.



Authorized Signatory

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Mitra S. K. Private Limited



LDAR PROGRAM at Digboi Refinery

SUMMARY SHEET _Q-1 (2023-2024)

Sl No.	Unit	Date of Monitoring/Rechecking	Points	Leak Points
1	HDTU	22.04.2023 TO 23.04.2023	120	0
2	HGU	21.04.2023	165	0
3	CRU	01.05.2023	262	0
4	O M & S (Crude Oil Pump House)	10.05.2023	10	0
5	O M & S (Production pump house)	10.05.2023	192	0
6	O M & S (Circulation pump house)	10.05.2023	98	0
7	O M & S (SDU off Side Pump House)	09.05.2023	133	0
8	O M & S (Liquid Transfer Pump House)	10.05.2023	26	0
9	O M & S (CRU Off Side Pump House)	01.05.2023	126	0
10	O M & S (New TANK Firm)	11.05.2023	778	0
11	DCU	04.05.2023 TO 05.05.2023	1043	0
12	MSQU	03.05.2023	970	0
13	AVU	08.05.2023	370	0
14	SDU	09.05.2023	328	0

Report Prepared By :

for Mitra S. K. Private Limited

Authorised Signatory

CREP - Present Status of Digboi Refinery

Sl No	Action Point	Present Status of Digboi Refinery
1.	Member Secretary, CPCB expressed serious concern on most of the Refineries not Monitoring all the New parameters (as per March, 2008 notification) in effluent and desired Refineries should develop capabilities to start monitoring each parameter and report the detail data to CPCB regularly. Further effluents discharged from the ETP outlet were found having high values of BOD and oil and grease indicating that effluent treatment facilities are not meeting standards and may require up-gradation. The effluent data to be sent CPCB on daily basis through the CPCB online air quality monitoring server	<p>For Effluent out of 21 parameters 9 Parameters i.e pH, oil and grease, BOD, COD, TSS, MLSS, Phenol, Sulphide & Cyanide are tested in Digboi Refinery on daily basis. Report of these test are submitted to PCB, Assam regularly. Remaining tests are done by the Third Party MITRA S.K. Pvt Ltd, Kolkata.</p> <p>Detailed up gradation study of ETP through M/s NEERI, Nagpur, was done in October 2014.</p> <p>Treated effluent from ETP is recycled to refinery as Fire water tank make up, cleaning and gardening purposes at ETP. Treated effluent is reused as make up for Coke Cutting water at delayed coking unit, Wax Sector Cooling Tower & Fire Water Network.</p> <p>During Apr'23 - Sep'23, 100% of treated effluent was reused.</p>
2.	2.1 The PM Emission from furnace, boilers and captive power plant is not compiled in some of the units and the reason stated are (10 & 100 mg/Nm ³ for FG and NG Respectively) too stringent and retrofitting like ESP or installation of filters for fuel is not feasible.	Emission of PM from furnace, boilers & Captive Power Plant is well within the prescribed limit. Due to the use of natural gas with very low sulphur content and sweetened refinery fuel gas as fuel.
	2.2 Installation of low Nox burner is yet to be completed. Refineries shall give the status and time target for the same and if installation is not possible, reason to be given, so that decision could be arrived.	As natural gas is the primary fuel used at Digboi Refinery, emissions of NO _x from process units and Captive Power Plant is below the limit. Since the refinery is using natural gas, formation of NO _x is very low and always remains within the prescribed limit. Further, low NO _x burners are also fitted in all the new units viz. Solvent De-waxing Unit, Hydro-treater Unit, Delayed Coking Unit and MSQ Unit

SANK

	<p>2.3 IOC Refineries expressed inability to meet PM stipulations on neat fuel gas firing in furnaces. Member Secretary advised to generated data for both cases i.e. neat fuel gas firing and mixed (oil and gas)firing to look into the issue of PM standards compliance. All the Refineries are advised to submit in detail fuel gas & Oil analysis and emission data every month to HSE , RHQ for taking up with MoEF & CC.</p>	<ul style="list-style-type: none"> • For firing, only fuel gas is used and no liquid fuels are in use. • Emission of PM from stacks at Digboi refinery is within specified norms.
	<p>2.4 PM in FCC regenerators is not achieved is some of the units. In some of the units it is proposed to be taken during revamp. Gujarat and Mathura Refineries to give detail action plan.</p>	<p>Not applicable for Digboi Refinery.</p>
<p>3</p>	<p>Member Secretary, CPCB expressed, although the units have started bioremediation of oily sludge, the disposal of bio-remediated material and storage will be a problem leading to space constraint and leachate problem on the nearby areas, He advised to find better avenues like Co-processing of oily sludge in cement plants or providing common remediation sites. Within 6 months.</p>	<ol style="list-style-type: none"> 1. Bioremediation of 4500MT Oily sludge is in progress through M/s Innotech Interventions Private Limited, Guwahati. 2. 1st batch of 3000 MT of oily sludge sold to M/S Star Petrochem Industries via MSTC e-auction on March'22 3. Another batch of 3000 MT of oily sludge sold to M/S Falk Industries Fuel Pvt. Ltd via MSTC e-auction on May'23
<p>4</p>	<p>Linking of CAAQMS & Stacks data to server. Target date June, 2013(to submit road map) and 7-8 months for Implementation. The pending Refineries shall submit activity-wise schedule within a month.</p>	<p>Online connectivity of Furnaces with heat capacity of 10mkcl/hr (HGU) established to CPCB Server.</p> <p>One no. of Continuous Ambient Air Quality Monitoring Station installed and commissioned in September 2012.</p>
<p>5</p>	<p>Member Secretary desired that all the parameters of treated effluent shall be Linked to CPCB server using online analyzer by taking advantage of the technological development. All the Refineries shall initiate necessary action for implementation of the same. Till such time, Refineries shall post the requisite data on CPCB server day-to-day basis (Target -July, 2013)</p>	<p>Online effluent monitoring & connectivity to CPCB server was commissioned on 28th December 2015.</p> <p>WebSite: <u>Online Emission and Effluent Monitoring System (cpcb.gov.in)</u></p>

6	Minimization of fugitive VOC emission from ETP 's- To meet the environmental standard, old Refineries shall take necessary action to cover effluent sump, API , TPI and other equipments exposed to atmosphere to reduce fugitive emission and also recovery facility.	<ol style="list-style-type: none"> 1. For reduction of fugitive VOC emission from ETP,VOC reduction facility has been commissioned inside ETP on 04.12.2022 2. The CSS (Central Static Sump) inside refinery has already been covered.
7	Member Secretary advised Refineries to follow LDAR programme in true spirit as per gazette notification of "Effluent & Emission Standards, 2008. Data shall be submitted in periodic intervals to CPCB	Quarterly LDAR surveys are being followed. LDAR reports are being sent to MoEF & CC Bi-annually along with EC compliance report.
8	Member Secretary expressed concern on non-reporting of incidents of fire, oil spills and pollution to CPCB. He advised all the Refineries to reporting of such incidents to CPCB of concerned area during such occurrence.	No major oil spill has occurred till 30/09/2023. Shall be ensured.

त्रिदिब साईकीया /TRIDIB SAIKIA
सी.एम. (एच एस ई) /C.M. (HSE)
आई.ओ.सी.एल.(एओडी), डिगबोई
I.O.C.L. (AOD), DIGBOI



Place: Digboi

Date: 06.12.23

Signature of the Authorized Person

Designation: CM(HSE)