

COMPLIANCE REPORT OF FOLLOWING EC OF EXPLORATORY WELLS OF TRIPURA ASSET.

S.No.	EC No.	EC details	Status of wells
1.	Drilling and exploratory location ADAS falling under Agartala Dome Extn-II PML at Kanchanmala, Tehsil, Bikramnagar, West Tripura	F.8(25)/TSPCB/SEA C/2019/ONGC/411-17 dtd. 13.10.2020	Drilled. Abandoned.
2.	Drilling and exploratory location GOAO falling under Gojalia PML at Rajapur Tehsil, Paikhola, South Tripura	F.8(25)/TSPCB/SEA C/2019/ONGC/532-38 dated 08.03.2021.	Drilled. Abandoned.
3.	Drilling and exploratory location BMST falling under Baramura Extn-VI PML at Killa Tehsil, Uttar Baramura-Debtamura R.F, Gomati.	F.8(25)/TSPCB/SEA C/2019/ONGC/539-45 dated 08.03.2021.	Drilled. Abandoned.
4.	Drilling and exploratory location BMSD falling under Baramura Extn-VI PML at Patni Tehsil, Harbhanga, West Tripura.	F.8(25)/TSPCB/SEA C/2019/ONGC/546-52 dated 08.03.2021.	Drilled; yet to be tested.
5.	Drilling and exploratory location GOAI falling under Gojalia PML at Srinagar Tehsil, Tekka Tulsi RF, South Tripura	F.8(25)/TSPCB/SEA C/2019/ONGC/553-59 dated 08.03.2021.	Drilled; HC Bearing.
6.	Drilling and exploratory location BRMAJ falling under West Tripura PML at Baikunthapur Tehsil, Subal Singh, West Tripura.	F.8(25)/TSPCB/SEA C/2019/ONGC/560-66 dated 08.03.2021.	Yet to be drilled.
7.	Drilling and exploratory location BRMAE falling under West Tripura PML at Baikunthapur Tehsil, Dakshin Dasgharia, West Tripura.	F.8(25)/TSPCB/SEA C/2019/ONGC/567-73 dated 08.03.2021.	Under drilling.
8.	Drilling and exploratory location BRMAD falling under West Tripura PML at Chandpur Tehsil, Domrakaridak, West Tripura.	F.8(25)/TSPCB/SEA C/2019/ONGC/574-80 dated 08.03.2021.	Drilled; yet to be tested.
9.	Drilling and exploratory location AMAA falling under West Tripura PML at Champahaur Tehsil, Sukiabari, Khowai.	F.8(25)/TSPCB/SEA C/2019/ONGC/581-77 dated 08.03.2021.	Drilled; HC Bearing.
10.	Drilling and exploratory location ROBL falls in Manikyanagar-Sonamura Ext-I PML at Veluarchar Tehsil, Veluarchar, Sepahijala District.	F.8(25)/TSPCB/SEA C/2019/ONGC/802 dated 04.09.2021.	Drilled; HC Bearing.
11.	Drilling and exploratory location TIAG falling in Tichna PML at Jagatrapur, Kathalia Tehsil, Sonamura Sub-Division, Sepahijala District.	F.8(25)/TSPCB/SEA C/2019/ONGC/801 dated 04.09.2021..	Drilled; HC Bearing.
12.	Drilling and exploratory location BREB falling in Baramura Extension-IV PML at Birganj Tehsil, Baramura-Debtamura R.F, Gomati district	F.8(25)/TSPCB/SEA C/2019/ONGC/855-61 dated 09.11.2021.	Yet to be drilled.
13.	Drilling and exploratory location ROBP	F.8(25)/TSPCB/SEA	Drilled; yet to be

	falling in Konaban Field PML at Konaban, Debipur Tehsil, Sepahijala District.	C/2019/ONGC/862-68 dated 09.11.2021.	tested.
14.	Drilling and exploratory location BMSU falling in West Tripura PML at Lailakbari, Killa Tehsil, Gomati District	F.8(25)/TSPCB/SEA C/2022/ONGC/968 dated 31.10.2022	Yet to be drilled.
15.	Drilling and exploratory location BRMAL falling in West Tripura PML near Pitra Village, Gomati District	F.8(25)/TSPCB/SEA C/2022/ONGC/967 dated 31.10.2022	Yet to be drilled.
16.	Drilling and exploratory location SDAH falling in Tichna PML at Chandul, Kamrangatali Tehsil, Sepahijala District.	F.8(25)/TSPCB/SEA C/2022/ONGC/966 dated 31.10.2022	Drilled; yet to be tested.
17.	Drilling and exploratory location SDAT falling in Tichna PML at Shilghati, Kakrabin Tehsil, Gomati District.	F.8(25)/TSPCB/SEA C/2022/ONGC/965 dated 31.10.2022	Drilled; Under testing.
18.	Drilling and exploratory location ADAV falling in mouja-Gakulnagar, Tehsil- South Champamura, Bishalgarh, Dist-sepahijala	F.8(25)/TSPCB/SEA C/2022/ONGC dated 06.01.2023	Drilled. Abandoned.
19.	Drilling and exploratory location KUAM falling in Laxmilunga, Debendrachandra Nagar, Mohanpur Tehsil, West Tripura District	F.8(25)/TSPCB/SEA C/2022/ONGC/ dated 06.01.2023	Under drilling.
20.	Drilling and exploratory location ROBM falling in Bijohnagar no. 11, Tehsil- Matinagar, Revenue Circle - Sonamura, Sepahijala District.	F.8(25)/TSPCB/SEA C/2022/ONGC/ dated 06.01.2023	Drilled. Abandoned.
21.	Drilling and exploratory location SDAU falling in Sundalbari-Agartala Dome PML at Gomati District	F.8(25)/TSPCB/SEA C/2022/ONGC/1197 dtd. 04.08.2023	Under drilling.
22.	Drilling and exploratory location ADAW (Cluster location) falling in Madhuban, Tehsil – Suryamani Nagar, revenue circle – Dukli, sub division – Sadar, District – West Tripura. (Agartala Dome Extn – II PML)	F.8(25)/TSPCB/SEA C/2022/ONGC/1284 -1290 dtd. 12.10.2023	Yet to be drilled.
23.	Drilling and exploratory location BRMAK falling in village: Hawaibari, Tehsil- Hawaibari, Sub Division – Teliamura, Dist – Khowai and West Tripura District, Tripura	F.8(25)/TSPCB/SEA C/2022/ONGC/1298 -1304 dtd. 12.10.2023	Yet to be drilled.
24.	Drilling and exploratory location GOAN falling in village: Dakshin Soanichhari under Tekka Reserved forest, Belonia Sub-division, South Tripura District, Tripura.	F.8(25)/TSPCB/SEA C/2022/ONGC/1291 -1297 dtd. 12.10.2023	Yet to be drilled.
25.	Drilling and exploratory location KHBQ_Z at village uptakhali, Mouja- Uttar Padmabil, Tehsil – Ramnagar, Revenue circle- Panisagar, Sub Division- Panisagar, District- North Tripura (NELP- III Block AA-ONN-2001/1).	F.8(25)/TSPCB/SEA C/2022/ONGC/1277 -1283 dtd. 12.10.2023	Yet to be drilled.
26.	Drilling and exploratory location KHBS falling in AA-ONN-2001/1, NELP Block at Purba, Andharchhara, Tehsil-Pecharthal, Sub Division – Kumarghat, dist – Unakoti, Tripura	F.8(25)/TSPCB/SEA C/2022/ONGC/1270 -1276 dtd. 12.10.2023	Yet to be drilled.
27.	Drilling and exploratory location DRAA	F.8(25)/TSPCB/SEA	Drilled; HC

	falling in AA-ONN-2001/1 (NELP) Block at Vill- North Hurua, Tehsil- Hurua, sub Division- Dharmanagar, Dist North Tripura.	C/2022/ONGC/1263 -1269 dtd. 12.10.2023	Bearing.
28.	Drilling and exploratory location SDAW falling in Mouja- Rani, Tehsil- Kakraban, Sub Division – Udaipur, District – Gomati (Tichna PML).	F.8(25)/TSPCB/SEA C/2023/ONGC/1401 -08 dtd. 30.12.2023	Yet to be drilled.
29.	Drilling and exploratory location KUAN falling in Mouja- Singarbil, Tehsil- Lankamura, Revenue Circle- Barjala, Sub-Division- Sadar, District – West Tripura.	F.8(25)/TSPCB/SEA C/2023/ONGC/1374 -80 dtd. 30.12.2023	Yet to be drilled.
30.	Drilling and exploratory location GOAQ falling in Mouja- Uttar Bharathchandra Nagar, Tehsil- DakshinBharathcgnadra Nagar, Revenue Circle- Belonia, Sub-Division – Belonia, District – South Tripura	F.8(25)/TSPCB/SEA C/2023/ONGC/1395 -1401 dtd. 30.12.2023	Yet to be drilled.
31.	Drilling and exploratory location GOAP falling in Mouja- Uttar Sonaichari, Tehsil- Sarsima, Revenue Circle- Belonia, Sub-Division – Belonia, District – South Tripura	F.8(25)/TSPCB/SEA C/2023/ONGC/1416 -1422 dtd. 30.12.2023	Yet to be drilled.
32.	Drilling and exploratory location GOAR falling in Mouja: Madhya Bharathchandra nagar, Tehsil – Chittamara, Revnue Circle- Belonia, Sub-Division – Belonia, District – South Tripura	F.8(25)/TSPCB/SEA C/2023/ONGC/1388 -1394 dtd. 30.12.2023	Yet to be drilled.
33.	Drilling and exploratory location KUAO falling in Mouja- Radhakishore nagar, Tehsil- khayerpur, Revenue circle- Jirania, Sub Division – Jirania, District – West Tripura.	F.8(25)/TSPCB/SEA C/2023/ONGC/1381 -87 dtd. 30.12.2023	Yet to be drilled.
34.	Drilling and exploratory location SDAX falling in Mouja- Jitendranagar, Tehsil- Mirza, Revenue Circle- Kakraban, Sub-Division- Udaipur, Distrcit- Gomati.	F.8(25)/TSPCB/SEA C/2023/ONGC/1409 -15 dtd. 30.12.2023	Yet to be drilled.

SPECIFIC CONDITIONS

S. No.	Specific Condition	Remarks
1	Consent to Establish/Operate for the project shall be obtained from the Tripura state Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.	Complied. CTE/CTO certificates for sites carrying out drilling activities are being obtained.
2	As proposed by the project proponent, zero liquid discharge shall be ensured and no waste/ treated water shall be discharged to any surface water body, sea and/or land. Domestic sewage shall be disposed off through septic tank/ soak pit.	Mobile ETPs are used for waste water treatment. Drill cuttings are disposed off as per MoEF&CC guidelines. Properly washed drill cuttings are sent to HDPE lined waste pit. Water based mud is used which is non-hazardous in nature.

S. No.	Specific Condition	Remarks
3	To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB guidelines.	Not Applicable
4	The power requirement of the drilling rig will be met by using the diesel generator sets. The D.G sets shall be provided with acoustic enclosures and adequate stack height and design as per CPCB norms. The fuel used for the diesel generator sets should be low sulphur diesel and should conform to relevant Rules prescribed for air and noise emission standards.	Complied. Noise from drilling activity & DG sets is controlled by providing DG sets with acoustic enclosure & maintaining good engineering practices. Occupational hazards due to noise are also minimized by minimum exposure time of employees through Administrative control and use of PPE. Latest noise monitoring was done in May – June 2024.
5	Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.	Noted for compliance.
6	National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21st July, 2010 and amended from time to time shall be followed.	Not Applicable
7	Ambient air quality shall be monitored at the nearest human settlements as per the National Ambient Air Quality Emission Standards issued by the Ministry G.S.R.No. 826(E) dated 16 th November, 2009 for PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , CO, CH ₄ , HC, Non-methane HC etc.	Ambient air quality monitoring is being carried out by MoEF&CC/TSPCB approved and NABL accredited agency on half yearly basis & all the parameters are found under permissible limits. Latest monitoring was done in May – June 2024.
8	The water requirement per well location is estimated to be 25 cum /day proposed to be met mostly through tankers and/ or nearby existing source of water. Waste water generated would be 15 cum/day during drilling operations, out of which 10 cum/ day is proposed to be recycled after treatment to the desired extent. Remaining of about 5 cum/day shall be discharged to HDPE lined evaporation pit, available at site and then solar dried.	Complied. Water consumption declaration is being attached with CTE/CTO application submitted to TSPCB.
9	The company shall construct the garland drain all around the drilling site to prevent run off of any oil containing waste into the nearby water bodies. Separate drainage system shall be created for oil contaminated and non-oil contaminated. Effluent shall be properly treated and treated wastewater shall conform to CPCB standards.	Drains are constructed through which drill cutting as well as other wastes are finally collected in the waste pits which are HDPE lined to prevent run-off waste to nearby water bodies. Mobile ETPs are used for treating the waste water. Waste water/Effluent is collected in disposal pit lined with HDPE lining. The Treated water is tested/ analysed to ascertain the quality. All the parameters are found to be within permissible limits.

S. No.	Specific Condition	Remarks
10	Drill cuttings separated from drilling fluid shall be adequately washed and disposed in HDPE lined pit. Waste mud shall be tested for hazardous contaminants and disposed according to Hazardous Waste Management & Handling (HWMH) Rules, 2016. No effluent/drilling mud/drill cutting shall be discharged/disposed off into nearby surface water bodies. The company shall comply with the guidelines for disposal of solid waste, drill cutting and drilling fluids for onshore drilling operation notified vide GSR.546(E) dated 30th August, 2005.	Drill cutting is collected in disposal pit well covered with HDPE impervious lining which does not allow any seepage. Water based Mud is being used which is non-hazardous in nature. Further, waste water after treating through mobile ETP is tested/ analysed through NABL accredited & MoEFCC recognized agency to ascertain the quality. All the parameters are found to be within permissible limits. ONGC is following the guidelines for disposal of solid waste, drill cutting and drilling fluids for onshore drilling operation notified vide GSR 546(E) dated August, 2005.
11	Oil spillage prevention and mitigation scheme shall be prepared. In case of oil spillage/contamination, action plan shall be prepared to clean the site by adopting proven technology. The recyclable waste (oily sludge) and spent oil shall be disposed of to the authorized recyclers.	Not Applicable as it is Gas well.
12.	The company shall take measures after completion of drilling process by well plugging and secured enclosures, decommissioning of rig upon abandonment of the well and drilling site shall be stored the area in original condition. In the event that no economic quantity of hydrocarbon is found a full abandonment plan shall be implemented for the drilling site in accordance with the applicable Indian Petroleum regulations.	Noted for compliance.
13	Oil content in the drill cuttings shall be monitored by some Authorized agency and report shall be sent to Tripura State Pollution Control Board on monthly basis.	Not Applicable. These are only Gas bearing wells and no oil production is expected. Further, oil based mud is not used in drilling of wells.
14	At least 2% of the total Cost of the project shall be earmarked towards the Enterprise Social Commitment (ESC) and used for installation of RO plant for drinking water supply and solar panels in nearby villages. Implementation of such program shall be ensured accordingly in a time bound manner.	Focus Area wise CSR expenditure of last 04 years is attached at Annexure-I.
15	Company shall prepare operating manual in respect of all activities. It shall cover all safety & environment related issues and system. Measures to be taken for protection. One set of environmental manual shall be made available at the drilling site/ project site. Awareness shall be created at each level of the management. All the schedules and results of environmental monitoring shall be available at the project site office. Remote monitoring of site should be done.	Standard operating procedures for drilling operations have been given to supervisors and concerned persons at all drilling rigs. Safe work practices are also made available at all rigs. Ambient/stack air quality report is available at rigs. Regular safety and environment training is being provided to the employees by our various in-house training institutes like IPSHEM Goa, IDT and KDMIPE Dehradun etc.

S. No.	Specific Condition	Remarks
16	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Occupational health surveillance of the workers is being carried out as per prevailing ONGC guidelines on the subject. Reports of PME of workers are maintained at local ONGC health centre database. PME in respect of all employees is carried out as and when it is due.
17	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.	Fixed fire fighting system and other type of fire extinguishers are in place in all Drilling rig locations to prevent any kind of fire hazard. During drilling operations, if any indications of Gas from well are observed, then flow will be diverted to Mud Gas Separator (MGS) for large volume of gas or through Vacuum degasser for small volume of gas. Separated Gas thereafter from drilling fluid is vented out at a safe distance as per SOP. During production testing operations, a ground flare is installed at a safe distance from well center. Gas being knocked out from the well during production testing operation is diverted through choke, separator and flared at a safe distance.
18.	The company shall develop a contingency plan for H ₂ S release including all necessary aspects from evacuation to resumption of normal operations. The workers shall be provided with personal H ₂ S detectors in locations of high risk.	As H ₂ S is not present. Condition is not applicable. However, Emergency response plan for H ₂ S exist.
19.	Embankment should be constructed wherever required in places where dumping of wastes/effluents adjacent to human habitat, water bodies, paddy field etc. and also the drinking water sources and ,marshy lands should not be disturbed	Complied. Embankment is constructed around waste pit and proper HDPW lining to prevent run-off waste to nearby bodies.
20.	Before starting of the civil work, site plan showing different component in the contour map must be submitted and also the entire execution plan should be submitted to SEAC, Tripura.	Complied

A. GENERAL CONDITIONS

S. No.	General Conditions	Remarks
1	The project authorities must strictly adhere to the stipulations made by the Tripura State Pollution Control Board, State Government and/ or any other statutory authority.	Complied.

S. No.	General Conditions	Remarks
2	No further expansion or modifications in the plant shall be carried out without prior approval of the SEIAA, Tripura. In case of expansion or alterations in the project activities, a proposal shall be made to the SEAC, Tripura to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Noted.
3	During Drilling process inspection will be conducted by SEAC.	Noted
4	The locations of ambient air quality monitoring stations shall be decided in Consultation with the Tripura State Pollution Control Board.	Ambient air quality monitoring is being carried out by MoEF&CC/TSPCB approved and NABL accredited agency on half yearly basis. Last monitoring was done in May – June 2024.
5	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S..R. No. 826(E) dated 16 th November, 2009 shall be complied with.	Being complied.
6	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures Including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 viz. 75 dBA (day time) and 70 dBA (night time).	The overall noise levels in and around the rig area is well within the standards. The ambient noise levels also conform to the standards prescribed under EPA Act 1986 & EPA Rules, 1989. Latest monitoring was done in May – June 2024.
7	The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial operation, within the plant.	Not applicable.
8	Training shall be imparted to all employees on safety and health aspects or chemicals handling. Pre-employment and periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	Workers in good health (ensuring through PME) are being deputed inside the drilling mine. Also, the workers are given safety orientation and MVT training at base office before their deployment at Drilling mine. Reports of PME of workers are maintained at local ONGC Health Centre database. PME in respect of all employees is carried out as and when it is due.
9	The company shall undertake all measures for improving socio-economic conditions or the surrounding area. CSR activities shall be undertaken by involving local villagers, administration and other stake holders. Also eco-developmental measures shall be undertaken for overall improvement of the environment.	Focus Area wise CSR expenditure of last 04 years is attached at Annexure-I.

S. No.	General Conditions	Remarks
10	A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out Environmental Management and Monitoring functions.	Environment management cell exists both at Asset and Corporate levels where qualified environmental engineers are posted. For environment monitoring i.e. ambient air quality/stack emission monitoring/drill cutting analysis, NABL accredited and MoEF&CC/TSPCB approved consultant is hired and sampling/analysis is being done by them on half-yearly basis.
11	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management / pollution control measures shall not be diverted for any other purpose.	All necessary activities for implementation for environmental conditions both recurring and non-recurring i.e Solid/ Hazardous Waste Handling and Disposal (Waste pit construction, HDPE liner), Water Pollution Control (Mobile ETP), Environment Monitoring (AAQ/Waste Water & Drill cutting analysis etc.) are being carried out and records are being maintained. Sufficient funds are earmarked for obtaining CTE/CTO from state pollution control board (SPCB) and are not diverted for any other purpose.
12	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parisad/ Municipal Corporation, Urban local Body and the local NGO. If any, from whom suggestions/ representations, if any, were received while processing the proposal.	Noted.
13	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Tripura State Pollution Control Board. A copy of Environmental Clearance and six monthly compliance status reports shall be posted on the website of the company.	Complied. Copy of Environmental clearance (EC) and six monthly compliance status report along with latest monitoring reports is also updated in public domain of ONGC website
14	The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the Tripura State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status or compliance of environment clearance conditions.	Complied. Environment statement for the period 2023-24 has been submitted to TSPCB on 30.09.2024. Further, it has also been uploaded in public domain of ONGC website.

S. No.	General Conditions	Remarks
15	The project proponent shall inform the public that the project has been accorded environmental clearance from the SEIAA, Tripura This shall be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Tripura State Pollution Control Board.	Complied
16	The SEIAA, Tripura may revoke or suspended the environmental clearance, if implementation of any of the above conditions is not satisfactory.	Noted
17	The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Waste Management, Handling and Trans-boundary Movement Rules, 2016 and the Public Liability Insurance Act, 1:991 along with their amendments and rules.	Noted
18	The SEIAA, Tripura reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.	Noted

Annexure-1 Focus Area wise expenditure for past 5 years.

CSR Expenditure (Focus Areawise) for Fy: 2020-21

Sl No.	Focus Area	Expenditure (in Rs)
1	Eradicating Hunger, Poverty & Malnutrition	1,07,76,489.88
2	Livelihood Enhancement Project	12,69,562.00
3	Promoting Education	4,06,45,021.42
4	Promoting Preventive Healthcare	84,17,686.62
5	Promotion of nationally recognized sports	1,30,000.00
6	Sanitation and making available safe drinking water (Swachhta)	38,04,274.08
7	SC/ST	26,15,985.00
	Total	6,76,59,019.00

CSR Expenditure (Focus Areawise) for Fy: 2021-22

Sl No.	Focus Area	Expenditure (in Rs)
1	Eradicating Poverty	46,79,328.00
2	Livelihood Enhancement Project	16,99,665.00
3	Promoting Education	5,47,50,823.60
4	Promoting Preventive Healthcare	13,71,042.00
5	Sanitation and making available safe drinking water (Swachhta)	44,06,413.00
6	measure for reducing inequalities faced by socially and economically backward groups (SC/ST Component Plan)	26,15,916.00
	Total	6,95,23,187.60

CSR Expenditure (Focus Areawise) for Fy: 2022-23

Sl No.	Focus Area	Expenditure (in Rs)
1	Livelihood Enhancement Project	69,38,310.00
2	Promoting Education	5,68,10,064.00
3	Promoting Preventive Healthcare	25,25,425.00
4	Ensuring Environment Sustainability	9,86,800.00
5	Swachhta - Drinking Water	20,56,652.00
6	Eradicating Poverty	49,46,175.00
7	measure for reducing inequalities faced by socially and economically backward groups (SC/ST Component Plan)	26,15,921.00
	Total	7,68,79,347.00

CSR Expenditure (Focus Areawise) for Fy: 2023-24		
Sl No.	Focus Area	Expenditure (in Rs)
1	Ensuring Environment Sustainability	90,30,000.00
2	Eradicating Poverty	29,90,000.00
3	Livelihood Enhancement Project	63,85,164.00
4	Promoting Education	5,57,04,927.00
5	Promoting Preventive Healthcare	9,67,600.00
6	Rural Development	8,49,605.00
7	Swachhta & Sanitation	42,88,837.00
8	measure for reducing inequalities faced by socially and economically backward groups (SC/ST Component Plan)	26,14,318.00
	Total	8,28,30,451.00

Focus Area wise expenditure for 2024-25 (Till 24.11.2024)

CSR Expenditure (Focus Areawise) for Fy: 2024-25 (Till 24.11.2024)		
Sl No.	Focus Area	Expenditure (in Rs)
1	Skill Development	11,09,635.00
2	Eradicating Hunger / Nutrition	7,44,000.00
3	Livelihood Enhancement Project	2,52,000.00
4	Promoting Education	3,33,42,098.00
5	Making available safe drinking water	1,25,400.00
6	Rural Development	9,00,008.00
7	Swachhta & Sanitation	11,43,494.00
8	Promoting Preventive Healthcare	7,27,500.00
	Total	3,83,44,135.00

ENVIRONMENTAL MONITORING REPORT

FOR



M/s Oil and Natural Gas Corporation Limited
Tripura Asset, Agartala

E-1400-14- (RO#15A) DD Rig

May, 2024

Prepared By



Netel (India) Limited

W-408, MIDC Rabale, TTC Industrial Area

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Environmental Monitoring Report for ONGC, Tripura Asset

Name of Client : M/s. Oil and Natural Gas Corporation Limited.
Material Management, Tripura Asset,
Bachghat Complex,
Agartala - 789 014

Name of Contractor : NETEL (INDIA) LIMITED
Environment Management Services
W-40B, Pipeline Road, MIDC Rabale
TTC Industrial Area, Navi Mumbai – 400 701

Work Reference : PO. No. AGT/TA/SUPPORT/MM/2021/786575/NOA/9010033806,
Dated: 27.10.2021

Nature of Job : Environmental Monitoring at Tripura Asset, Agartala

Installation : E-1400-14 (RO#15A) DD Rig

Monitoring Period : May, 2024

For NETEL (INDIA) LIMITED



SHRADDHA KERE
QUALITY MANAGER



INDEX

Sr. No.	Title	Page No.
1	Scope and Methodology	1
2	Ambient Air Quality Report	4
3	Water Quality Report	6
4	Noise Level Report	7
5	Stack Monitoring Report	8

1 Scope and Methodology

1.1 Ambient Air

The Principal objective of the ambient air quality monitoring is to assess environment status and to check the conformity to standards of ambient air quality in and around ONGC, Tripura Asset.

Sampling Period, Frequency and Parameters

On each sampling day during the period 25, May 2024, 1 set of 24-hour average samples were collected continuously. The following air pollution parameters were measured by sampling continuously during the sampling period.

1. Particulate Matter (PM₁₀)
2. Particulate Matter (PM_{2.5})
3. Sulphur Dioxide (SO₂)
4. Oxides of Nitrogen (NO_x)
5. Ozone (O₃)
6. Lead (Pb)
7. Carbon Monoxide (CO)
8. Benzene (C₆H₆)
9. Benzo-a-Pyrene (BaP)
10. Arsenic (As)
11. Nickel (Ni)
12. Ammonia (NH₃)
13. Mercury (Hg)
14. Hydrocarbon (Methane)
15. Hydrocarbon (Non-Methane)
16. Hydrogen Sulphide (H₂S)

Sampling and Analytical Procedure:

A brief description of the sampling and analytical procedures followed during the ambient air quality surveys is as follows:

• Particulate Matter

PM_{2.5}

Ambient air enters the NPM-FDS 2.5A with impactor through an inlet designed to provide a clean aerodynamic cut-point for particles greater than 10 microns. Particles in the air stream less than 10 microns proceed to a "WINS" impactor that has an aerodynamic cut point at 2.5 microns. The air sample and fine particulates exiting from the PM_{2.5} impactor is passed through a 47mm diameter filter membrane that retains the Fine Particulate Matter. The PM_{2.5} concentrations are evaluated gravimetrically and computed from the mass of PM_{2.5} collected on filter paper and total volume of air sampled.

PM₁₀

The sampling of ambient air for evaluating PM₁₀ levels were performed with a Fine Dust Sampler NPM-FDS 2.5 A without PM_{2.5} inlet. The PM₁₀ concentrations were evaluated gravimetrically and computed from the average air flow rate, sampling Period and the mass of particulate matter collected over the filter paper.

• Sulphur Dioxide

Sulphur dioxide was absorbed in a scrubbing solution of potassium tetrachloro-manganate and was allowed to react with HCHO and then with para-rosaniline hydrochloride. The absorbance of the product, red-violet dye was measured using Digital Spectrophotometer at a wavelength of 560 nm

• Oxides of Nitrogen

Nitrogen oxides as NO₂ (Nitrogen dioxide) were collected by bubbling air through sodium arsenate solution to form a stable solution of sodium nitrite. The nitrite ion produced during sampling is converted into a color complex and

by reacting the exposed absorbing reagent with phosphoric acid, sulfanilamide and N(1-naphthyl) ethyl amine dihydrochloride and nitrogen dioxide concentration is determined using digital spectrophotometer at a wavelength of 540 nm.

• **Ammonia**

Method: Indophenols Blue Method -- Ammonia in air is collected in Impinger with 1.0pm flow rate by using respirable dust sampler. Ammonia from air is absorbed in a dilute solution of sulphuric acid to form ammonium sulphate. Ammonium sulphate is made to react with phenol and alkaline sodium hypochlorite to form indophenol, a blue dye. The reaction is accelerated by the addition of sodium nitroprusside as a catalyst. The absorbance of the solution is measured by means of a suitable spectrophotometer

• **Ozone**

Method: Chemical Method -- Sample absorbed in an absorbing solution into the midjet Impinger by using assembly consist of Rotameter, midjet Impinger, needle valve or critical orifice and pump. Flow rate and sampling time should be adjusted to obtain a sufficiently large concentration of oxidant in the absorbing solution. Micro-amounts of ozone and the oxidants liberate iodine when absorbed in a 1% solution of potassium iodine buffered at pH 8.8 ± 0.2. The iodine is determined spectro-photometrically by measuring the absorption of triiodine ion at 352 nm.

• **Carbon Monoxide**

Rubber Bladder and Aspirators have been used to collect the samples for carbon monoxide. The CO levels were analyzed by NDIR Technology.

• **Benzo (a) Pyrene (BaP)**

Method: Solvent extraction followed by analysis on HPLC -- This method is designed to collect particulate phase Benzo (a) Pyrene (BaP) in ambient air. It is based on high volume (~1.2 m³/min) sampling method of air over a period of 24 hrs. It involves collection from air particulate on a fine particle (glass - fiber) filter using Respirable dust sampler for Respirable suspended particulate matter (RSPM or PM₁₀) and subsequent analysis involve Solvent extraction followed by HPLC analysis.

• **Benzene**

Ambient air is sucked through charcoal tube using low flow sampler. Benzene is adsorbed by activated charcoal in the charcoal tube. Desorption of the adsorbed Benzene is done using Carbon D Sulphide. The substance desorbed in CS₂ is analyzed by capillary Gas Chromatography using a flame ionization Detector.

• **Determination of Arsenic, Lead, Nickel and Mercury in Ambient Air**

Method: Acid Digestion followed by analysis on AAS -- This method is based on high volume (~1.2 m³/min) sampling method of air over a period of 24 hours. It involves collection from air particulate on a fine particle (glass - fiber) filter using Respirable dust sampler for Respirable suspended particulate matter (RSPM or PM₁₀) and subsequent analysis by Atomic absorption spectrophotometry for Arsenic, Lead, Nickel and Mercury.

• **Hydrogen Sulphide**

Ambient air is collected in 0.01 N Cadmium Sulphate in an impinger. Then it is reacted with sulphamic acid, N,N dimethyl-p-phenylene diamine Sulphate solution, Ferric Sulphate solution and is measured in a spectrophotometer at 670 nm.

1.2 Water Quality

Water samples were collected and analyzed as per procedures outlined in IS:3025/APHA. Sterilized bottles were used for collection of water sample for chemical analysis, stored in an ice box and transported to the laboratory for the analysis. Parameters like pH, Temperature, TDS, TSS, Total Hardness, Sulphate, Chloride, COD, Calcium, Oil & Grease, Sulphide, Phenols, Cyanide, Hexavalent Chromium, Total Chromium, Copper, Lead, Nickel, Zinc, Mercury, Cadmium, Fluoride, and Sodium were measured.

1.3 Stack Monitoring

All the stacks are monitored using standard stack monitoring kit, NIL-SMK. The principle of operation is to take ISO KINETIC samples of the pollutants. The scope of monitoring consist of determination of the following parameters in gaseous emission. Particulate matter is collected using probe by doing iso-kinetic sampling across the cross sectional area of the stack by gravimetric method. Sulphur dioxide is measure by barium thorin titration method by extracting the gas in the hydrogen peroxide in the impinger. Oxides of Nitrogen are measure calorimetrically by phenol disulphonic acid method by collecting the sample in dilute sulphuric acid and hydrogen peroxide method.

1.4 Drill Cutting

Drill Cutting samples were collected and analyzed as per procedures outlined in EPA /APHA. Collected samples are transported to the laboratory for the analysis. Parameters like pH, Manganese, Lead, Cadmium, Copper, Iron, Mercury, Nickel, Oil & Grease, Total Chromium, Hexavalent Chromium, Arsenic, Vanadium and Cobalt were measured.

2 Ambient Air Quality Report

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : NIL/NE/AA/05/24/C09		
Sample Type : Ambient Air			Sample Code : NIL/NE/AA/05/24/C09		
Sampling Method : NIL/AIR/SOP-12/13/14			Ambient Temp. : ---		
Sampling Date : 25.05.2024			Sample Receive : 27.05.2024		
Analysis Start Date : 27.05.2024			Analysis End Date : 30.05.2024		
Reporting Date : 31.05.2024			Sample Qty. & Pkg. : FP (2 nos), CT, Bld & PB 50m (4 nos)		
Sampling Location : Near Security Gate (E-1400-14) DD Rig			Sampling Done By : Nete! (India) Limited		
Sr. No.	Test Parameter	Results	Unit	NAAQS Limit	Method
1	Particulate Matter (PM ₁₀)	52.8	µg/m ³	100	IS-5182 (Part-23)
2	Particulate Matter (PM _{2.5})	22.3	µg/m ³	60	NIL/AIR/SOP/03*
3	Sulphur Dioxide (SO ₂)	15.4	µg/m ³	80	IS-5182 (Part-02)
4	Oxides of Nitrogen (NO _x)	20.8	µg/m ³	80	IS-5182 (Part-08)
5	Carbon Monoxide (CO)	0.58	mg/m ³	2	IS-5182 (Part-10)
6	Benzene (C ₆ H ₆)	BDL (MDL : 1.0)	µg/m ³	5	IS-5182 (Part-11)
7	Ammonia (NH ₃)	29.5	µg/m ³	400	ISC Part-II (Method-40')
8	Ozone (O ₃)	7.2	µg/m ³	100	IS-5182 (Part-09)
9	Benzo - a - Pyrene (BaP)	BDL (MDL : 0.5)	ng/m ³	1	IS-5182 (Part-12)
10	Lead (Pb)	BDL (MDL : 1.0)	µg/m ³	1	APHA - Ar 3 rd Edition (Method 822)
11	Arsenic (As)	BDL (MDL : 1.0)	ng/m ³	5	
12	Nickel (Ni)	BDL (MDL : 1.0)	ng/m ³	20	
13	Mercury (Hg)	BDL (MDL : 0.1)	ng/m ³	---	
14	Methane (CH ₄)	6.8	ppm	---	IS-5182 (Part-17)
15	Nonmethane HC (NMHC)	BDL (MDL : 0.5)	ppm	---	IS-5182 (Part-21)
16	Hydrogen Sulphide (H ₂ S)	BDL (MDL : 0.1)	µg/m ³	---	IS-5182 (Part-07)

Note: 1. * Laboratory SOP, based on: CPCB Guidelines Volumes I & II

2. BDL - Below Detection Limit, MDL - Method Detection Limit

3. This Test Report shall not be reproduced except in full, without written approval of the Laboratory.

4. This Test Report refers only to the sample tested.

5. The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:

Neelima Dalvi
Technical Manager



Issued by:

Shraddha Kere
Quality Manager

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : NIL/NE/AA/05/24/010		
Sample Type : Ambient Air			Sample Code : NIL/NE/AA/05/24/010		
Sampling Method : N(II)/AIR/SOP-12/3/14			Ambient Temp. : ---		
Sampling Date : 25.05.2024			Sample Receive : 27.05.2024		
Analysis Start Date : 27.05.2024			Analysis End Date : 30.05.2024		
Reporting Date : 31.05.2024			Sample Qty. & Pkg. : FP (2 nos), C ⁺ , 9lc & PB 50ml(4 nos)		
Sampling Location : Near DIC Office (E-1400-14) DD Rig			Sampling Done By : Nete (India) Limited		
Sr. No.	Test Parameter	Results	Unit	NAAQS Limit	Method
1	Particulate Matter (PM ₁₀)	58.4	µg/m ³	100	IS-5182 (Part-23)
2	Particulate Matter (PM _{2.5})	25.6	µg/m ³	60	NIL/AIR/SOP/03*
3	Sulphur Dioxide (SO ₂)	16.4	µg/m ³	80	IS-5182 (Part-C2)
4	Oxides of Nitrogen (NO ₂)	23.5	µg/m ³	80	IS-5182 (Part-C3)
5	Carbon Monoxide (CO)	0.62	mg/m ³	2	IS-5182 (Part-10)
6	Benzene (C ₆ H ₆)	1.9	µg/m ³	5	IS-5182 (Part-11)
7	Ammonia (NH ₃)	32.6	µg/m ³	400	ISC Part- I (Method-4C1)
8	Ozone (O ₃)	4.8	µg/m ³	100	IS-5182 (Part-09)
9	Benzo - a - Pyrene (BaP)	BDL (MDL : 0.5)	ng/m ³	-	IS-5182 (Part-12)
10	Lead (Pb)	BDL (MDL : 1.0)	µg/m ³	-	APHA - Air 3 rd Edition (Method 822)
11	Arsenic (As)	BDL (MDL : 1.0)	ng/m ³	6	
12	Nickel (Ni)	BDL (MDL : 1.0)	ng/m ³	20	
13	Mercury (Hg)	BDL (MDL : 0.1)	ng/m ³	---	
14	Methane (CH ₄)	6.5	ppm	---	IS-5182 (Part-7)
15	Nonmethane HC (NMHC)	BDL (MDL : 0.5)	ppm	---	IS-5182 (Part-21)
16	Hydrogen Sulphide (H ₂ S)	BDL (MDL : 0.1)	µg/m ³	---	IS-5182 (Part-07)

- Note: 1. * Laboratory SOP, based on CPCB Guidelines Volumes I & II
 2. BDL - Below Detection Limit, MDL - Method Detection Limit
 3. This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
 4. This Test Report refers only to the sample tested.
 5. The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:


 Neelima Dalvi
 Technical Manager



Issued by:


 Shraddha Kere
 Quality Manager

3 Water Quality Report

TEST REPORT

Discipline/Group : Chemical-Environment & Pollution		Test Report No. : NIL/NE/WT/05/24/C11			
Sample Type : Waste Water		Sample Code : NIL/NE/WT/05/24/C11			
Sampling Method : APHA 1060 (B & C)		Ambient Temp. : ---			
Sampling Date : 25.05.2024		Sample Receive : 27.05.2024			
Analysis Start Date : 27.05.2024		Analysis End Date : 30.05.2024			
Reporting Date : 31.05.2024		Sample Qty. & Pkg. : Plastic Can (2 Litres)			
Sampling Location : ETP Treated Water (E-1433-14) CD Rig		Sampling Done By : Netel (India) Limited			
Sr. No.	Test Parameter	Results	Unit	CPCB Limit	Method
1	Temperature	25.2	°C	40	S 3025 (Part 9)
2	pH	7.60	---	5.5 - 9.0	IS 3025 (Part 11)
3	Total Dissolved Solids	140	mg/lit	2100	IS 3025 (Part 16)
4	Total Suspended Solids	BDL (MDL : 5)	mg/lit	100	IS 3025 (Part 17)
5	Total Hardness	66.4	mg/lit	---	IS 3025 (Part 21)
6	COD	BDL (MDL : 10)	mg/lit	100	IS 3025 (Part 58)
7	Chloride	36.8	mg/lit	600	IS 3025 (Part 32)
8	Sulphate	6.2	mg/lit	1000	IS 3025 (Part 24)
9	Sulphide	BDL (MDL : 0.02)	mg/lit	2	IS 3025 (Part 28)
10	Fluoride	BDL (MDL : 0.2)	mg/lit	1.5	IS 3025 (Part 60)
11	Phenolic Compounds	BDL (MDL : 0.001)	mg/lit	1.2	IS 3025 (Part 43)
12	Cyanide	BDL (MDL : 0.01)	mg/lit	0.2	IS 3025 (Part 27)
13	Sodium	17.6	mg/lit	60	IS 3025 (Part 45)
14	Mercury	BDL (MDL : 0.001)	mg/lit	0.01	IS 3025 (Part 48)
15	Cadmium	BDL (MDL : 0.002)	mg/lit	---	IS 3025 (Part 41)
16	Lead	BDL (MDL : 0.01)	mg/lit	0.1	IS 3025 (Part 47)
17	Zinc	BDL (MDL : 0.05)	mg/lit	2	APHA 3111-B
18	Nickel	BDL (MDL : 0.01)	mg/lit	3	APHA 3111-B
19	Copper	BDL (MDL : 0.04)	mg/lit	0.2	APHA 3111-B
20	Total Chromium	BDL (MDL : 0.01)	mg/lit	1	APHA 3111-B
21	Hexavalent Chromium (Cr ⁶⁺)	BDL (MDL : 0.05)	mg/lit	0.1	APHA 3500-Cr-B
22	Oil & Grease	BDL (MDL : 2)	mg/lit	10	APHA 5520-B

- Note:**
- * Note* - Shal. not exceed 5°C above the receiving water temperature
 - This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
 - This Test Report refers only to the sample tested
 - The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

4 Noise Level Report

TEST REPORT

Sample Type : Noise		Sampling Done By : Netel (India) Limited			
Instrument Model : Lutron		Instrument Serial No. : Q699161			
Date of Calibration : 02.04.2024		Next Calibration Due : 01.04.2025			
Sr. No.	Location	Date of Monitoring	Noise Level (dBA)		Remark
			Nighttime	Daytime	
---	E-1400-14 (RO#15A) DD RIG				
1	Entrance Gate	25.05.2024	58.2	52.4	---
2	Near Office Area	25.05.2024	55.7	52.8	---
3	Near catwalk Area	25.05.2024	59.3	53.6	---
4	Mud Pump Area	25.05.2024	88.4	82.5	Use Ear Muff / Plug
5	Near Electrical Control Room	25.05.2024	78.6	72.8	Use Ear Muff / Plug
6	Near DG Set 1250 KVA	25.05.2024	90.5	84.7	Use Ear Muff / Plug
7	Near Chemical Shed	25.05.2024	68.4	62.5	---
8	Air Compressor	25.05.2024	86.5	83.1	Use Ear Muff / Plug

- Note: 1. This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
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 3. The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

5 Stack Monitoring Report

TEST REPORT

Discipline/Group : Atmospheric Pollution		Test Report No. : N.L/NE/ST/05/24/007			
Sample Type : Stack (D.G.)		Sample Code : N.L/NE/ST/05/24/007			
Stack Diameter : 0.305 meters		Stack Height : 7.00 meters			
Sampling Date : 25.05.2024		Sample Receive : 27.05.2024			
Analysis Start Date : 27.05.2024		Analysis End Date : 30.05.2024			
Reporting Date : 31.05.2024		Sample Qty. & Pkg. : Trimble,CT,Bld & PB 50ml (2 nos)			
Sampling Location : DG Set-3 (1430 KVA) E-1403-14-DD Rig		Sampling Done By : Netel (India) Limited			
Sr. No.	Parameter	Result	Unit	Limit*	Method
1	Temperature	132	°C	---	IS 11255 (Part 3)
2	Velocity of Gas	16.54	m/sec	---	IS 11255 (Part 3)
3	Volumetric Flow Rate	1375.3	Nm³/hr	---	IS 11255 (Part 3)
4	Particulate Matter	40.6	mg/Nm³	75	IS 11255 (Part 1)
5	Sulphur Dioxide	BDL (MDL : 3.0)	mg/Nm³	---	IS 11255 (Part 2)
6	Nitrogen Dioxide	39.7	ppmv	710	IS 11255 (Part 7)
7	Hydrocarbon	BDL (MDL : 0.1)	mg/Nm³	100	USEPA Method-18
8	Carbon Monoxide	8.8	mg/Nm³	150	USEPA Method-10
9	Carbon Dioxide	4.6	%v/v	---	USEPA Method-10

- Note :**
- * Rule 2 of the Environment Protection 3rd Amend. Rules, 2002 notified vide Notification G.S.R.489, dated 09.07.2002.
 - This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
 - This Test Report refers only to the sample tested.
 - The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : N/NE/ST/05/24/008		
Sample Type : Stack (D.G.)			Sample Code : Ni/NE/ST/05/24/008		
Stack Diameter : 0.305 meters			Stack Height : 7.00 meters		
Sampling Date : 25.05.2024			Sample Receive : 27.05.2024		
Analysis Start Date : 27.05.2024			Analysis End Date : 30.05.2024		
Reporting Date : 31.05.2024			Sample Qty. & Pkg. : Thimble, CT, Bd & PB 50ml (2 nos)		
Sampling Location : DG Ser-4 (1430 KVA) E-1400-14-DD Rg			Sampling Done By : Netel (India) Limited		
Sr. No.	Parameter	Result	Unit	Limit*	Method
1	Temperature	148	°C	---	IS 11255 (Part 3)
2	Velocity of Gas	15.97	m/sec	---	IS 11255 (Part 3)
3	Volumetric Flow Rate	1276.9	Nm ³ /hr	---	IS 11255 (Part 3)
4	Particulate Matter	43.2	mg/Nm ³	75	IS 11255 (Part 1)
5	Sulphur Dioxide	BDL (MDL : 3.0)	mg/Nm ³	---	IS 11255 (Part 2)
6	Nitrogen Dioxide	48.6	ppmv	710	IS 11255 (Part 7)
7	Hydrocarbon	BDL (MDL : 0.1)	mg/Nm ³	100	USEPA Method-18
8	Carbon Monoxide	10.2	mg/Nm ³	150	USEPA Method-10
9	Carbon Dioxide	6.4	%V/V	---	USEPA Method-10

- Note :**
- * Rule 2 of the Env.(Protection) 3rd Amnd. Rules, 2002 notified vide Notification G.S.R.488, dated 09.07.2002.
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End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

ENVIRONMENTAL MONITORING REPORT

FOR



**M/s Oil and Natural Gas Corporation Limited
Tripura Asset, Agartala**

E-1400-M-1,(KUDF) DD Rig

May, 2024

Prepared By



Netel (India) Limited

W-408, MIDC Rabale, TTC Industrial Area

Navi Mumbai – 400 701, Maharashtra

Phone : 022 27606016

email : ems@netel-india.com

Environmental Monitoring Report for ONGC, Tripura Asset

Name of Client : M/s. Oil and Natural Gas Corporation Limited.
Material Management, Tripura Asset,
Badhangha Complex,
Agartala - 799 014

Name of Contractor : NETEL (INDIA) LIMITED
Environment Management Services
W-408, Pipeline Road, MIDC Rabale
TTC Industrial Area, Navi Mumbai – 403 701

Work Reference : PO. No. AGT/TA/SUPPORT/MM/2021/786575/NOA/9010033806,
Dated: 27.10.2021

Nature of Job : Environmental Monitoring at Tripura Asset, Agartala

Installation : E-1403-M-1,(KUDF) DD Rig

Monitoring Period : May, 2024

For NETEL (INDIA) LIMITED

SHRADDHA KERE
QUALITY MANAGER



INDEX

Sr. No.	Title	Page No.
1	Scope and Methodology	1
2	Ambient Air Quality Report	4
3	Water Quality Report	6
4	Noise Level Report	7
5	Stack Monitoring Report	8

1 Scope and Methodology

1.1 Ambient Air

The Principal objective of the ambient air quality monitoring is to assess environment status and to check the conformity to standards of ambient air quality in and around ONGC, Tripura Asset.

Sampling Period, Frequency and Parameters

On each sampling day during the period 26, **May 2024**, 1 set of 24-hour average samples were collected continuously. The following air pollution parameters were measured by sampling continuously during the sampling period.

1. Particulate Matter (PM_{10})
2. Particulate Matter ($PM_{2.5}$)
3. Sulphur Dioxide (SO_2)
4. Oxides of Nitrogen (NO_x)
5. Ozone (O_3)
6. Lead (Pb)
7. Carbon Monoxide (CO)
8. Benzene (C_6H_6)
9. Benzo-a-Pyrene (BaP)
10. Arsenic (As)
11. Nickel (Ni)
12. Ammonia (NH_3)
13. Mercury (Hg)
14. Hydrocarbon (Methane)
15. Hydrocarbon (Non-Methane)
16. Hydrogen Sulphide (H_2S)

Sampling and Analytical Procedure:

A brief description of the sampling and analytical procedures followed during the ambient air quality survey is as follows:

• Particulate Matter

$PM_{2.5}$

Ambient air enters the NPM-FDS 2.5A with impactor through an inlet designed to provide a clean aerodynamic cut-point for particles greater than 10 microns. Particles in the air stream less than 10 microns proceed to a "WINS" impactor that has an aerodynamic cut point at 2.5 microns. The air sample and fine particulates exiting from the $PM_{2.5}$ impactor is passed through a 47mm diameter filter membrane that retains the Fine Particulate Matter. The $PM_{2.5}$ concentrations are evaluated gravimetrically and computed from the mass of $PM_{2.5}$ collected on filter paper and total volume of air sampled.

PM_{10}

The sampling of ambient air for evaluating PM_{10} levels were performed with a Fine Dust Sampler NPM-FDS 2.5 A without $PM_{2.5}$ filter. The PM_{10} concentrations were evaluated gravimetrically and computed from the average air flow rate, sampling Period and the mass of particulate matter collected over the filter paper.

• Sulphur Dioxide

Sulphur dioxide was absorbed in a scrubbing solution of potassium tetrachloro-mercurate and was allowed to react with HCHO and then with para-rosaniline hydrochloride. The absorbance of the product, red-violet dye was measured using Digital Spectrophotometer at a wavelength of 550 nm.

• Oxides of Nitrogen

Nitrogen oxides as NO_2 (Nitrogen dioxide) were collected by bubbling air through sodium arsenate solution to form a stable solution of sodium nitrite. The nitrite ion produced during sampling is converted into a color complex and

by reacting the exposed absorbing reagent with phosphoric acid, sulfanilic acid and N(1-naphthyl) ethyl amine dihydrochloride and nitrogen dioxide concentration is determined using digital spectrophotometer at a wavelength of 540 nm.

• **Ammonia**

Method: Indophenols Blue Method -- Ammonia in air is collected in Impinger with 10m flow rate by using respirable dust sampler. Ammonia from air is absorbed in a dilute solution of sulphuric acid to form ammonium sulphate. Ammonium sulphate is made to react with phenol and alkaline sodium hypochlorite to form indophenol, a blue dye. The reaction is accelerated by the addition of sodium nitroprusside as a catalyst. The absorbance of the solution is measured by means of a suitable spectrophotometer.

• **Ozone**

Method: Chemical Method -- Sample absorbed in an absorbing solution into the triplet Impinger by using assembly consist of Rotameter, triplet Impinger, needle valve or critical orifice and pump. Flow rate and sampling time should be adjusted to obtain a sufficiently large concentration of oxidant in the absorbing solution. Micro-amounts of ozone and the oxidants liberate iodine when absorbed in a 1% solution of potassium iodine buffered at pH 6.8 ± 0.2. The iodine is determined spectrophotometrically by measuring the absorption of triiodine ion at 352 nm.

• **Carbon Monoxide**

Rubber Bladder and Aspirators have been used to collect the samples for carbon monoxide. The CO levels were analyzed by NDIR Technology.

• **Benzo (a) Pyrene (BaP)**

Method: Solvent extraction followed by analysis on HPLC -- This method is designed to collect particulate phase Benzo (a) Pyrene (BaP) in ambient air. It is based on high volume (~1.2 m³/min) sampling method of air over a period of 24 hrs. It involves collection from air particulate on a fine particle (glass – fiber) filter using Respirable dust sampler for Respirable suspended particulate matter (RSPM or PM₁₀) and subsequent analysis involve Solvent extraction followed by HPLC analysis.

• **Benzene**

Ambient air is sucked through charcoal tube using low flow sampler. Benzene is adsorbed by activated charcoal in the charcoal tube. Desorption of the adsorbed Benzene is done using Carbon Disulphide. The substance desorbed in CS₂ is analyzed by capillary Gas Chromatography using a flame ionization Detector.

• **Determination of Arsenic, Lead, Nickel and Mercury in Ambient Air**

Method: Acid Digestion followed by analysis on AAS -- This method is based on high volume (~1.2 m³/min) sampling method of air over a period of 24 hours. It involves collection from air particulate on a fine particle (glass – fiber) filter using Respirable dust sampler for Respirable suspended particulate matter (RSPM or PM₁₀) and subsequent analysis by Atomic absorption spectrophotometry for Arsenic, Lead, Nickel and Mercury.

• **Hydrogen Sulphide**

Ambient air is collected in 0.01 N Cadmium Sulphate in an impinger. Then it is reacted with sulphamic acid, N N dimethyl-p-phenylene diamine Sulphate solution, Ferric Sulphate solution and is measured in a spectrophotometer at 670 nm.

1.2 Water Quality

Water samples were collected and analyzed as per procedures outlined in S:3025/AP-1A. Sterilized bottles were used for collection of water sample for chemical analysis, stored in an ice box and transported to the laboratory for the analysis. Parameters like pH, Temperature, TDS, TSS, Total Hardness, Sulphate Chloride, COD, Calcium, Oil & Grease, Sulphide, Phenols, Cyanide, Hexavalent Chromium, Total Chromium, Copper, Lead, Nickel, Zinc, Mercury, Cadmium, Fluoride, and Sodium were measured.

1.3 Stack Monitoring

All the stacks are monitored using standard stack monitoring kit, NIL-SMK. The principle of operation is to take ISO KINETIC samples of the pollutants. The scope of monitoring consist of determination of the following parameters in gaseous emission. Particulate matter is collected using probe by doing iso-kinetic sampling across the cross sectional area of the stack by gravimetric method. Sulphur dioxide is measure by barium thorin titration method by extracting the gas in the hydrogen peroxide in the impinger. Oxides of Nitrogen are measure calorimetrically by phenol disulphonic acid method by collecting the sample in dilute sulphuric acid and hydrogen peroxide method.

1.4 Drill Cutting

Drill Cutting samples were collected and analyzed as per procedures outlined in EPA /APHA. Collected samples are transported to the laboratory for the analysis. Parameters like pH, Manganese, Lead, Cadmium, Copper, Iron, Mercury, Nickel, Oil & Grease, Total Chromium, Hexavalent Chromium, Arsenic, Vanadium and Cobalt were measured.

2 Ambient Air Quality Report

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : NIL/NE/AA/05/24/013		
Sample Type : Ambient Air			Sample Code : NIL/NE/AA/05/24/013		
Sampling Method : NIL/AIR/SOP-12/13/14			Ambient Temp. : ---		
Sampling Date : 26.05.2024			Sample Receive : 28.05.2024		
Analysis Start Date : 28.05.2024			Analysis End Date : 31.05.2024		
Reporting Date : 01.06.2024			Sample Qty. & Pkg. : FP (2nos), C ⁺ , Bld & PB 50ml(4 nos)		
Sampling Location : Near Entrance Gate (B-MCC-M1, Departmental Drilling Rig)			Sampling Done By : Netel (India) Limited		
Sr. No.	Test Parameter	Results	Unit	NAAQS Limit	Method
1	Particulate Matter (PM ₁₀)	49.8	µg/m ³	100	IS-5182 (Part-23)
2	Particulate Matter (PM _{2.5})	22.6	µg/m ³	50	NIL/AIR/SOP/C3*
3	Sulphur Dioxide (SO ₂)	18.2	µg/m ³	80	IS-5182 (Part-02)
4	Oxides of Nitrogen (NO _x)	26.4	µg/m ³	80	IS-5182 (Part-06)
5	Carbon Monoxide (CO)	0.61	mg/m ³	2	IS-5182 (Part-10)
6	Benzene (C ₆ H ₆)	BDL (MDL : 1.0)	µg/m ³	5	IS-5182 (Part-11)
7	Ammonia (NH ₃)	22.8	µg/m ³	400	ISC Part-I (Method-401)
8	Ozone (O ₃)	5.6	µg/m ³	100	IS-5182 (Part-09)
9	Benzo - a - Pyrene (BaP)	BDL (MDL : 0.5)	ng/m ³	1	IS-5182 (Part-12)
10	Lead (Pb)	BDL (MDL : 1.0)	µg/m ³	1	APHA - Air 3 rd Edition (Method 822)
11	Arsenic (As)	BDL (MDL : 1.0)	ng/m ³	6	
12	Nickel (Ni)	BDL (MDL : 1.0)	ng/m ³	20	
13	Mercury (Hg)	BDL (MDL : 0.1)	ng/m ³	---	
14	Methane (CH ₄)	7.6	ppm	---	IS-5182 (Part-17)
15	Nonmethane HC (NMHC)	BDL (MDL : 0.5)	ppm	---	IS-5182 (Part-21)
16	Hydrogen Sulphide (H ₂ S)	BDL (MDL : 0.1)	µg/m ³	---	IS-5182 (Part-07)

- Note: 1. * Laboratory SOP, based on CPCB Guidelines Volumes I & II
 2. BDL - Below Detection Limit, MDL - Method Detection Limit
 3. This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
 4. This Test Report refers only to the sample tested.
 5. The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : NIL/NE/AA/05/24/C14		
Sample Type : Ambient Air			Sample Code : NIL/NE/AA/05/24/C14		
Sampling Method : NIL/AIR/SOP-12/13/14			Ambient Temp. : ---		
Sampling Date : 26.05.2024			Sample Receive : 26.05.2024		
Analysis Start Date : 28.05.2024			Analysis End Date : 31.05.2024		
Reporting Date : 01.06.2024			Sample Qty. & Pkg. : FP (2nos), CT, Bld & PB 50ml(4 nos)		
Sampling Location : Near Mechanical Office (E-MCO-M-1), Departmental Bldg, P.O.			Sampling Done By : Netel (India) Limited		
Sr. No.	Test Parameter	Results	Unit	NAAQS Limit	Method
1	Particulate Matter (PM ₁₀)	57.2	µg/m ³	100	IS-5182 (Part-23)
2	Particulate Matter (PM _{2.5})	25.8	µg/m ³	60	NIL/AIR/SOP/03*
3	Sulphur Dioxide (SO ₂)	14.9	µg/m ³	80	IS-5182 (Part-02)
4	Oxides of Nitrogen (NO _x)	21.5	µg/m ³	80	IS-5182 (Part-05)
5	Carbon Monoxide (CO)	0.59	mg/m ³	2	IS-5182 (Part-10)
6	Benzene (C ₆ H ₆)	1.6	µg/m ³	5	IS-5182 (Part-11)
7	Ammonia (NH ₃)	27.9	µg/m ³	400	ISC Part-II (Method-401)
8	Ozone (O ₃)	6.1	µg/m ³	100	IS-5182 (Part-09)
9	Benzene-a-Pyrene (BaP)	BDL (MDL : 0.5)	ng/m ³	1	IS-5182 (Part-12)
10	Lead (Pb)	BDL (MDL : 1.0)	µg/m ³	1	APHA - Air 3 rd Edition (Method 822)
11	Arsenic (As)	BDL (MDL : 1.0)	ng/m ³	6	
12	Nickel (Ni)	BDL (MDL : 1.0)	ng/m ³	20	
13	Mercury (Hg)	BDL (MDL : 0.1)	ng/m ³	---	
14	Methane (CH ₄)	5.9	ppm	---	IS-5182 (Part-17)
15	Nonmethane HC (NMHC)	BDL (MDL : 0.5)	ppm	---	IS-5182 (Part-21)
16	Hydrogen Sulphide (H ₂ S)	BDL (MDL : 0.1)	µg/m ³	---	IS-5182 (Part-07)

Note: 1. * Laboratory SOP, based on CPCB Guidelines Volumes I & II.

2. BDL - Below Detection Limit, MDL - Method Detection Limit

3. This Test Report shall not be reproduced except in full, without written approval of the Laboratory.

4. This Test Report refers only to the sample tested.

5. The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:

Neelima Dalvi
Technical Manager



Issued by:

Shraddha Kere
Quality Manager

3 Water Quality Report

TEST REPORT

Discipline/Group : Chemical / Water			Test Report No. : NIL/NE/WT/05/24/016		
Sample Type : Waste Water			Sample Code : NIL/NE/WT/05/24/016		
Sampling Method : APHA 1060 (B & C)			Ambient Temp. : ---		
Sampling Date : 26.05.2024			Sample Receive : 28.05.2024		
Analysis Start Date : 28.05.2024			Analysis End Date : 31.05.2024		
Reporting Date : 01.06.2024			Sample Qty. & Pkg. : Plastic Can (2 Litres)		
Sampling Location : ETP Treated Water (E-1400-M-1) DD Rig			Sampling Done By : Netel (India) Limited		
Sr. No.	Test Parameter	Results	Unit	CPCB	Method
1	Temperature	24.7	°C	40	IS 3025 (Part 9)
2	pH	7.50	---	5.5 - 9.0	IS 3025 (Part 11)
3	Total Dissolved Solids	252	mg/lit	2100	IS 3025 (Part 16)
4	Total Suspended Solids	BDL (MDL : 5)	mg/lit	100	IS 3025 (Part 17)
5	Total Hardness	48.6	mg/lit	---	IS 3025 (Part 21)
6	COD	BDL (MDL : 10)	mg/lit	100	IS 3025 (Part 58)
7	Chloride	BDL (MDL : 5)	mg/lit	600	IS 3025 (Part 32)
8	Sulphate	7.9	mg/lit	1000	IS 3025 (Part 24)
9	Sulphide	BDL (MDL : 0.02)	mg/lit	2	IS 3025 (Part 29)
10	Fluoride	BDL (MDL : 0.2)	mg/lit	1.5	IS 3025 (Part 60)
11	Phenolic Compounds	BDL (MDL : 0.001)	mg/lit	1.2	IS 3025 (Part 43)
12	Cyanide	BDL (MDL : 0.01)	mg/lit	0.2	IS 3025 (Part 27)
13	Sodium	32.5	mg/lit	60	IS 3025 (Part 45)
14	Mercury	BDL (MDL : 0.001)	mg/lit	0.01	IS 3025 (Part 48)
15	Cadmium	BDL (MDL : 0.002)	mg/lit	---	IS 3025 (Part 41)
16	Lead	BDL (MDL : 0.01)	mg/lit	0.1	IS 3025 (Part 47)
17	Zinc	BDL (MDL : 0.05)	mg/lit	2	APHA 3111-B
18	Nickel	BDL (MDL : 0.01)	mg/lit	3	APHA 3111-B
19	Copper	BDL (MDL : 0.04)	mg/lit	0.2	APHA 3111-B
20	Total Chromium	BDL (MDL : 0.01)	mg/lit	1	APHA 3111-B
21	Hexavalent Chromium (Cr ⁶⁺)	BDL (MDL : 0.05)	mg/lit	0.1	APHA 3500-Cr-B
22	Oil & Grease	BDL (MDL : 2)	mg/lit	10	APHA 5520-B

- Note: 1. This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
2. This Test Report refers only to the sample tested.
3. The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

4 Noise Level Report

TEST REPORT

Sample Type : Noise		Sampling Done By : Metel (India) Limited			
Instrument Model : Lutron		Instrument Serial No. : Q899151			
Date of Calibration : 02.04.2024		Next Calibration Due : 01.04.2025			
Sr. No.	Location	Date of Monitoring	Noise Level (dBA)		Remark
			Daytime	Nighttime	
---	E-1400-M-1,(KUDF) DD RIG				
1	Entrance Gate	26.05.2024	56.8	53.1	---
2	Near Office Area	26.05.2024	55.6	52.8	---
3	Near Security Accommodation	26.05.2024	57.2	53.2	---
4	Mud Pump Area	26.05.2024	84.6	81.5	Use Ear Muff / Plug
5	Near Rig Flours	26.05.2024	66.8	61.4	---
6	Near DG Set 1430 KVA	26.05.2024	85.7	80.5	Use Ear Muff / Plug
7	Near Shale Shaker	26.05.2024	68.4	63.7	---
8	Near Accommodation	26.05.2024	54.8	50.6	---

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End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

5 Stack Monitoring Report

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : NIL/NE/ST/05/24/011		
Sample Type : Stack (D.G.)			Sample Code : NIL/NE/ST/05/24/011		
Stack Diameter : 0.305 meters			Stack Height : 7.00 meters		
Sampling Date : 26.05.2024			Sample Receive : 28.05.2024		
Analysis Start Date : 28.05.2024			Analysis End Date : 31.05.2024		
Reporting Date : 01.06.2024			Sample Qty. & Pkg. : Thimble.CT.Bid & PB 50ml (2 nos)		
Sampling Location : DG Set-1 (1430 KVA) E-1400-M-1-DD Rig			Sampling Done By : Netel (India) Limited		
Sr. No.	Parameter	Result	Unit	Limit*	Method
1	Temperature	174	°C	---	IS 11255 (Part 3)
2	Velocity of Gas	17.60	m/sec	---	IS 11255 (Part 3)
3	Volumetric Flow Rate	1322.7	Nm ³ /hr	---	IS 11255 (Part 3)
4	Particulate Matter	46.5	mg/Nm ³	75	IS 11255 (Part 1)
5	Sulphur Dioxide	BDL (MDL : 3.0)	mg/Nm ³	---	IS 11255 (Part 2)
6	Nitrogen Dioxide	148.2	ppmv	710	IS 11255 (Part 7)
7	Hydrocarbon	BDL (MDL : 0.1)	mg/Nm ³	100	USEPA Method-18
8	Carbon Monoxide	28.5	mg/Nm ³	150	USEPA Method-10
9	Carbon Dioxide	14.2	%V/V	---	USEPA Method-10

- Note :
- * Rule 2 of the Env.(Protection) 3rd Amnd. Rules, 2002 notified vide Notification G.S.R.485, dated 09.07.2002.
 - This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
 - This Test Report refers only to the sample tested.
 - The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : NIL/NE/ST/05/24/012		
Sample Type : Stack (D.G.)			Sample Code : NIL/NE/ST/05/24/012		
Stack Diameter : 0.305 meters			Stack Height : 7.00 meters		
Sampling Date : 26.05.2024			Sample Receive : 28.05.2024		
Analysis Start Date : 28.05.2024			Analysis End Date : 31.05.2024		
Reporting Date : 01.06.2024			Sample Qty. & Pkg. : Thimble,CT,Bld & PB 50ml (2 nos)		
Sampling Location : DG Set-2 (1430 KVA) E-1400-M-1-DD Rig			Sampling Done By : Netel (India) Limited		
Sr. No.	Parameter	Result	Unit	Limit*	Method
1	Temperature	168	°C	---	IS 11255 (Part 3)
2	Velocity of Gas	16.80	m/sec	---	IS 11255 (Part 3)
3	Volumetric Flow Rate	1283	Nm³/hr	---	IS 11255 (Part 3)
4	Particulate Matter	41.5	mg/Nm³	75	IS 11255 (Part 1)
5	Sulphur Dioxide	BDL (MDL : 3.0)	mg/Nm³	---	IS 11255 (Part 2)
6	Nitrogen Dioxide	138.0	ppmv	710	IS 11255 (Part 7)
7	Hydrocarbon	BDL (MDL : 0.1)	mg/Nm³	100	USEPA Method-8
8	Carbon Monoxide	33.2	mg/Nm³	150	USEPA Method-10
9	Carbon Dioxide	11.9	%V/V	---	USEPA Method-10

- Note :
- * Rule 2 of the Env.(Protection) 3rd Amnd. Rules, 2002 notified vide Notification G.S.R.489, dated 09.07.2002.
 - This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
 - This Test Report refers only to the sample tested.
 - The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

ENVIRONMENTAL MONITORING REPORT

FOR



**M/s Oil and Natural Gas Corporation Limited
Tripura Asset, Agartala**

E-1400-M-2 (GODB) DD Rig

May, 2024

Prepared By



Netel (India) Limited

W-408, MIDC Rabale, TTC Industrial Area
Navi Mumbai – 400 701, Maharashtra
Phone : 022 27606016
email : ems@netel-india.com

Environmental Monitoring Report for ONGC, Tripura Asset

Name of Client : M/s. Oil and Natural Gas Corporation Limited,
Material Management, Tripura Asset,
Badharghat Complex,
Agartala - 799 014

Name of Contractor : NETEL (INDIA) LIMITED
Environment Management Services
W-408, Pipeline Road, MIDC Rabale
TTC Industrial Area, Navi Mumbai – 400 701

Work Reference : PO. No. AGT/TA/SUPPORT/MM/2021/786575/NOA/9010033906,
Dated: 27.10.2021

Nature of Job : Environmental Monitoring at Tripura Asset, Agartala

Installation : E-1400-M-2 (GODB) DD Rig

Monitoring Period : May, 2024

For NETEL (INDIA) LIMITED



SHRADDHA KERE
QUALITY MANAGER



INDEX

Sr. No.	Title	Page No.
1	Scope and Methodology	1
2	Ambient Air Quality Report	4
3	Water Quality Report	6
4	Noise Level Report	7
5	Stack Monitoring Report	8

1 Scope and Methodology

1.1 Ambient Air

The Principal objective of the ambient air quality monitoring is to assess environment status and to check the conformity to standards of ambient air quality in and around ONGC, Tripura Asset.

Sampling Period, Frequency and Parameters

On each sampling day during the period 28, **May 2024**, 1 set of 24-hour average samples were collected continuously. The following air pollution parameters were measured by sampling continuously during the sampling period.

1. Particulate Matter (PM_{10})
2. Particulate Matter ($PM_{2.5}$)
3. Sulphur Dioxide (SO_2)
4. Oxides of Nitrogen (NO_x)
5. Ozone (O_3)
6. Lead (Pb)
7. Carbon Monoxide (CO)
8. Benzene (C_6H_6)
9. Benzo-a-Pyrene (BaP)
10. Arsenic (As)
11. Nickel (Ni)
12. Ammonia (NH_3)
13. Mercury (Hg)
14. Hydrocarbon (Methane)
15. Hydrocarbon (Non-Methane)
16. Hydrogen Sulphide (H_2S)

Sampling and Analytical Procedure:

A brief description of the sampling and analytical procedures followed during the ambient air quality survey is as follows:

• Particulate Matter

$PM_{2.5}$

Ambient air enters the NPM-FDS 2.5A with impactor through an inlet designed to provide a clean aerodynamic cut-point for particles greater than 10 microns. Particles in the air stream less than 10 microns proceed to a "WINS" impactor that has an aerodynamic cut point at 2.5 microns. The air sample and fine particulates exiting from the $PM_{2.5}$ impactor is passed through a 47mm diameter filter membrane that retains the Fine Particulate Matter. The $PM_{2.5}$ concentrations are evaluated gravimetrically and computed from the mass of $PM_{2.5}$ collected on filter paper and total volume of air sampled.

PM_{10}

The sampling of ambient air for evaluating PM_{10} levels were performed with a Fine Dust Sampler NPM-FDS 2.5 A without $PM_{2.5}$ Inlet. The PM_{10} concentrations were evaluated gravimetrically and computed from the average air flow rate, sampling Period and the mass of particulate matter collected over the filter paper.

• Sulphur Dioxide

Sulphur dioxide was absorbed in a scrubbing solution of potassium tetrachloro-mercurate and was allowed to react with $HCHO$ and then with para-rosaniline hydrochloride. The absorbance of the product, red-violet dye was measured using Digital Spectrophotometer at a wavelength of 560 nm.

• Oxides of Nitrogen

Nitrogen oxides as NO_2 (Nitrogen dioxide) were collected by bubbling air through sodium arsenate solution to form a stable solution of sodium nitrite. The nitrite ion produced during sampling is converted into a color complex and

by reacting the exposed absorbing reagent with phosphoric acid, sulfanilamide and N(1-naphthyl) ethyl amine dihydrochloride and nitrogen dioxide concentration is determined using digital spectrophotometer at a wavelength of 540 nm.

• **Ammonia**

Method: Indophenols Blue Method -- Ammonia in air is collected in Impinger with 1lpm flow rate by using respirable dust sampler. Ammonia from air is absorbed in a dilute solution of sulphuric acid to form ammonium sulphate. Ammonium sulphate is made to react with phenol and alkaline sodium hypochlorite to form indophenol, a blue dye. The reaction is accelerated by the addition of sodium nitroprusside as a catalyst. The absorbance of the solution is measured by means of a suitable spectrophotometer.

• **Ozone**

Method: Chemical Method -- Sample absorbed in an absorbing solution into the midgel Impinger by using assembly consist of Rotameter, midgel Impinger, needle valve or critical orifice and pump. Flow rate and sampling time should be adjusted to obtain a sufficiently large concentration of oxidant in the absorbing solution. Micro-amounts of ozone and the oxidants liberate iodine when absorbed in a 1% solution of potassium iodine buffered at pH 6.8 ± 0.2. The iodine is determined spectro-photometrically by measuring the absorption of triiodine ion at 352 nm.

• **Carbon Monoxide**

Rubber Bladder and Aspirators have been used to collect the samples for carbon monoxide. The CO levels were analyzed by NDIR Technology.

• **Benzo (a) Pyrene (BaP)**

Method: Solvent extraction followed by analysis on HPLC -- This method is designed to collect particulate phase Benzo (a) Pyrene (BaP) in ambient air. It is based on high volume (~1.2 m³/min) sampling method of air over a period of 24 hrs. It involves collection from air particulate on a fine particle (glass - fiber) filter using Respirable dust sampler for Respirable suspended particulate matter (RSPM or PM₁₀) and subsequent analysis involve Solvent extract or followed by HPLC analysis.

• **Benzene**

Ambient air is sucked through charcoal tube using low flow sampler. Benzene is adsorbed by activated charcoal in the charcoal tube. Desorption of the adsorbed Benzene is done using Carbon Disulphide. The substance desorbed in CS₂ is analyzed by capillary Gas Chromatography using a flame ionization Detector.

• **Determination of Arsenic, Lead, Nickel and Mercury in Ambient Air**

Method: Acid Digestion followed by analysis on AAS -- This method is based on high volume (~1.2 m³/min) sampling method of air over a period of 24 hours. It involves collection from air particulate on a fine particle (glass - fiber) filter using Respirable dust sampler for Respirable suspended particulate matter (RSPM or PM₁₀) and subsequent analysis by Atomic absorption spectrophotometry for Arsenic, Lead, Nickel and Mercury.

• **Hydrogen Sulphide**

Ambient air is collected in 0.01 N Cadmium Sulphate in an impinger. Then it is reacted with sulphamic acid, N,N dimethyl-p-phenylene diamine Sulphate solution, Ferric Sulphate solution and is measured in a spectrophotometer at 670 nm.

1.2 Water Quality

Water samples were collected and analyzed as per procedures outlined in S:3025/APHA. Sterilized bottles were used for collection of water sample for chemical analysis, stored in an ice box and transported to the laboratory for the analysis. Parameters like pH, Temperature, TDS, TSS, Total Hardness, Sulphate, Chloride, COD, Calcium, Oil & Grease, Sulphide, Phenols, Cyanide, Hexavalent Chromium, Total Chromium, Copper, Lead, Nickel, Zinc, Mercury, Cadmium, Fluoride, and Sodium were measured.

1.3 Stack Monitoring

All the stacks are monitored using standard stack monitoring kit, NIL-SMK. The principle of operation is to take ISO KINETIC samples of the pollutants. The scope of monitoring consist of determination of the following parameters in gaseous emission. Particulate matter is collected using probe by doing iso-kinetic sampling across the cross sectional area of the stack by gravimetric method. Sulphur dioxide is measure by barium thion titration method by extracting the gas in the hydrogen peroxide in the impinger. Oxides of Nitrogen are measure calorimetrically by phenol disulphonic acid method by collecting the sample in dilute sulphuric acid and hydrogen peroxide method.

1.4 Drill Cutting

Drill Cutting samples were collected and analyzed as per procedures outlined in EPA /APHA. Collected samples are transported to the laboratory for the analysis. Parameters like pH, Manganese, Lead, Cadmium, Copper, Iron, Mercury, Nickel, Oil & Grease, Total Chromium, Hexavalent Chromium, Arsenic, Vanadium and Cobalt were measured.

2 Ambient Air Quality Report

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : NIL/NE/AA/05/24/017		
Sample Type : Ambient Air			Sample Code : NIL/NE/AA/05/24/017		
Sampling Method : NIL/JA.R/SOP-12/13/14			Ambient Temp. : ---		
Sampling Date : 28.05.2024			Sample Receive : 30.05.2024		
Analysis Start Date : 30.05.2024			Analysis End Date : 03.06.2024		
Reporting Date : 04.06.2024			Sample Qty. & Pkg. : FP (2nos), CT, Bd & PB 50ml(4 nos)		
Sampling Location : Near Mechanical Off.co. (E 1400 M 2, DD Reg)			Sampling Done By : Netel (India) Limited		
Sr. No.	Test Parameter	Results	Unit	NAAQS Limit	Method
1	Particulate Matter (PM ₁₀)	57.4	µg/m ³	100	IS-5182 (Part-23)
2	Particulate Matter (PM _{2.5})	22.8	µg/m ³	60	NIL/AIR/SOP/03 ¹
3	Sulphur Dioxide (SO ₂)	17.3	µg/m ³	80	IS-5182 (Part-02)
4	Oxides of Nitrogen (NO ₂)	29.5	µg/m ³	80	IS-5182 (Part-06)
5	Carbon Monoxide (CO)	0.51	mg/m ³	2	IS-5182 (Part-10)
6	Benzene (C ₆ H ₆)	2.8	µg/m ³	5	IS-5182 (Part-11)
7	Ammonia (NH ₃)	22.7	µg/m ³	400	ISC Part-II (Method-401)
8	Ozone (O ₃)	6.5	µg/m ³	100	IS-5182 (Part-09)
9	Benzo - a - Pyrene (BaP)	BDL (MDL : 0.5)	ng/m ³	1	IS-5182 (Part-12)
10	Lead (Pb)	BDL (MDL : 1.0)	µg/m ³	—	APHA - Air 3 rd Edition (Method 822)
11	Arsenic (As)	BDL (MDL : 1.0)	ng/m ³	6	
12	Nickel (Ni)	BDL (MDL : 1.0)	ng/m ³	20	
13	Mercury (Hg)	BDL (MDL : 0.1)	ng/m ³	—	
14	Methane (CH ₄)	6.8	ppm	—	IS-5182 (Part-17)
15	Nonmethane HC (NMHC)	BDL (MDL : 0.5)	ppm	—	IS-5182 (Part-21)
16	Hydrogen Sulphide (H ₂ S)	BDL (MDL : 0.1)	µg/m ³	—	IS-5182 (Part-07)

Note: 1. * Laboratory SOP, based on CPCB Guidelines Volumes I & II

2. BDL - Below Detection Limit, MDL - Method Detection Limit

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4. This Test Report refers only to the sample tested.

5. The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:

Neelima Dalvi
Technical Manager



Issued by:

Shraddha Kere
Quality Manager

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : NIL/NE/AA/05/24/018		
Sample Type : Ambient Air			Sample Code : NIL/NE/AA/05/24/018		
Sampling Method : NIL/AIR/SOP-12/13/14			Ambient Temp. : ---		
Sampling Date : 28.05.2024			Sample Receive : 30.05.2024		
Analysis Start Date : 30.05.2024			Analysis End Date : 03.06.2024		
Reporting Date : 04.06.2024			Sample Qty. & Pkg. : FP (2nos), CT, Bld & P3 50ml(4 nos)		
Sampling Location : Near Electrical Office (E-1400-M-2, DD Rig)			Sampling Done By : Netel (India) Limitec		
Sr. No.	Test Parameter	Results	Unit	NAAQS Limit	Method
1	Particulate Matter (PM ₁₀)	65.2	µg/m ³	100	IS-5182 (Part-23)
2	Particulate Matter (PM _{2.5})	27.5	µg/m ³	60	NIL/AIR/SOP/03*
3	Sulphur Dioxide (SO ₂)	20.4	µg/m ³	80	IS-5182 (Part-02)
4	Oxides of Nitrogen (NO _x)	32.6	µg/m ³	80	IS-5182 (Part-06)
5	Carbon Monoxide (CO)	0.68	mg/m ³	2	IS-5182 (Part-10)
6	Benzene (C ₆ H ₆)	2.4	µg/m ³	5	IS-5182 (Part-11)
7	Ammonia (NH ₃)	26.4	µg/m ³	400	ISC Part-II (Method-401)
8	Ozone (O ₃)	5.4	µg/m ³	100	IS-5182 (Part-09)
9	Benzene-a - Pyrene (BaP)	BDL (MDL : 0.5)	ng/m ³	-	IS-5182 (Part-12)
10	Lead (Pb)	BDL (MDL : 1.0)	µg/m ³	1	APHA - Air 3 rd Edition (Method 822)
11	Arsenic (As)	BDL (MDL : 1.0)	ng/m ³	3	
12	Nickel (Ni)	BDL (MDL : 1.0)	ng/m ³	20	
13	Mercury (Hg)	BDL (MDL : 0.1)	ng/m ³	---	
14	Methane (CH ₄)	5.9	ppm	---	IS-5182 (Part-17)
15	Nonmethane HC (NMHC)	BDL (MDL : 0.5)	ppm	---	IS-5182 (Part-21)
16	Hydrogen Sulphide (H ₂ S)	BDL (MDL : 0.1)	µg/m ³	---	IS-5182 (Part-07)

- Note: 1. * Laboratory SOP, based on CPCB Guidelines Volumes I & II
 2. BDL - Below Detection Limit, MDL - Method Detection Limit
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End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

3 Water Quality Report

TEST REPORT

Discipline/Group : Chemical / Water		Test Report No. : NLI/NE/WT/05/24/020			
Sample Type : Waste Water		Sample Code : NLI/NE/WT/05/24/020			
Sampling Method : APHA 1060 (B & C)		Ambient Temp. : ---			
Sampling Date : 28.05.2024		Sample Receive : 30.05.2024			
Analysis Start Date : 30.05.2024		Analysis End Date : 03.06.2024			
Reporting Date : 04.06.2024		Sample Qty. & Pkg. : Plastic Can (2 Litres)			
Sampling Location : ETP Treated Water (E-1400-M-2) DD Rig		Sampling Done By : Netel (India) Limited			
Sr. No.	Test Parameter	Results	Unit	CPCB	Method
1	Temperature	24.9	°C	40	IS 3025 (Part 9)
2	pH	7.50	---	5.5 - 9.0	IS 3025 (Part 11)
3	Total Dissolved Solids	824	mg/lit	2100	IS 3025 (Part 16)
4	Total Suspended Solids	85	mg/lit	100	IS 3025 (Part 17)
5	Total Hardness	172.4	mg/lit	---	IS 3025 (Part 21)
6	COD	17	mg/lit	100	IS 3025 (Part 58)
7	Chloride	162.4	mg/lit	800	IS 3025 (Part 32)
8	Sulphate	40.2	mg/lit	1000	IS 3025 (Part 24)
9	Sulphide	BDL (MDL : 0.02)	mg/lit	2	IS 3025 (Part 29)
10	Fluoride	BDL (MDL : 0.2)	mg/lit	1.5	IS 3025 (Part 60)
11	Phenolic Compounds	BDL (MDL : 0.001)	mg/lit	1.2	IS 3025 (Part 43)
12	Cyanide	BDL (MDL : 0.01)	mg/lit	0.2	IS 3025 (Part 27)
13	Sodium	22.8	mg/lit	60	IS 3025 (Part 45)
14	Mercury	BDL (MDL : 0.001)	mg/lit	0.01	IS 3025 (Part 48)
15	Cadmium	BDL (MDL : 0.002)	mg/lit	---	IS 3025 (Part 41)
16	Lead	BDL (MDL : 0.01)	mg/lit	0.1	IS 3025 (Part 47)
17	Zinc	BDL (MDL : 0.05)	mg/lit	2	APHA 3111-B
18	Nickel	BDL (MDL : 0.01)	mg/lit	3	APHA 3111-B
19	Copper	BDL (MDL : 0.04)	mg/lit	0.2	APHA 3111-B
20	Total Chromium	BDL (MDL : 0.01)	mg/lit	1	APHA 3111-B
21	Hexavalent Chromium (Cr ⁶⁺)	BDL (MDL : 0.05)	mg/lit	0.1	APHA 3500-Cr-B
22	Oil & Grease	2.0	mg/lit	10	APHA 5520-B

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End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

4 Noise Level Report

TEST REPORT

Sample Type : Noise		Sampling Done By : Neta. (India) Limited			
Instrument Model : Lutron		Instrument Serial No. : Q599161			
Date of Calibration : 02.04.2024		Next Calibration Due : 01.04.2025			
Sr. No.	Location	Date of Monitoring	Noise Level (dBA)		Remark
			Daytime	Nighttime	
---	E-1400-M-2 (GODB) DD RIG				
1	Entrance Gate	28.05.2024	57.6	53.4	---
2	Near Office Area	28.05.2024	54.8	51.6	---
3	Near Security Accommodation	28.05.2024	56.2	52.4	---
4	Mud Pump Area	28.05.2024	86.4	82.6	Use Ear Muff / Plug
5	Near Rig Floor	28.05.2024	64.5	60.4	---
6	Near Shale Shaker	28.05.2024	60.8	57.4	---
7	DG Set Area	28.05.2024	88.4	84.5	Use Ear Muff / Plug

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End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

5 Stack Monitoring Report

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : NIL/NE/ST/05/24/015		
Sample Type : Stack (D.G.)			Sample Code : NIL/NE/ST/05/24/015		
Stack Diameter : 0.305 meters			Stack Height : 7.00 meters		
Sampling Date : 28.05.2024			Sample Receive : 30.05.2024		
Analysis Start Date : 30.05.2024			Analysis End Date : 03.06.2024		
Reporting Date : 04.06.2024			Sample Qty. & Pkg. : Thimble, C ² , B d & PB 50ml (2 nos)		
Sampling Location : DG Set-3 (1430 KVA) E-1400-M-2-DD Rig			Sampling Done By : Netel (India) Limited		
Sr. No.	Parameter	Result	Unit	Limit*	Method
1	Temperature	126	°C	---	IS 11255 (Part 3)
2	Velocity of Gas	16.37	m/sec	---	IS 11255 (Part 3)
3	Volumetric Flow Rate	1382.4	Nm ³ /hr	---	IS 11255 (Part 3)
4	Particulate Matter	36.5	mg/Nm ³	75	IS 11255 (Part 1)
5	Sulphur Dioxide	BDL (MDL : 3.0)	mg/Nm ³	---	IS 11255 (Part 2)
6	Nitrogen Dioxide	142.0	ppmv	710	IS 11255 (Part 7)
7	Hydrocarbon	BDL (MDL : 0.1)	mg/Nm ³	100	USEPA Method-18
8	Carbon Monoxide	30.4	mg/Nm ³	150	USEPA Method-10
9	Carbon Dioxide	11.6	%V/V	---	USEPA Method-10

- Note :
- * Rule 2 of the Env.(Protection) 3rd Amnd. Rules, 2002 notified vide Notification G.S.R.489, dated 09.07.2002.
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 - This Test Report refers only to the sample tested.
 - The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:



Neelima Dalvi
Authorised Signatory



Issued by:



Shraddha Kere
Technical Manager

TEST REPORT

Discipline/Group : Atmosoheric Pollution			Test Report No. : NIL/NE/ST/05/24/016		
Sample Type : Stack (D.G.)			Sample Code : NIL/NE/ST/05/24/016		
Stack Diameter : 0.305 meters			Stack Height : 7.00 meters		
Sampling Date : 28.05.2024			Sample Receive : 30.05.2024		
Analysis Start Date : 30.05.2024			Analysis End Date : 03.06.2024		
Reporting Date : 04.06.2024			Sample Qty. & Pkg. : Thimble,CT,Bld & PB 50ml (2 nos)		
Sampling Location : DG Set-4 (1430 KVA) E-1430-M-2-DD Rig			Sampling Done By : Netel (India) Limited		
Sr. No.	Parameter	Result	Unit	Limit*	Method
1	Temperature	120	°C	---	IS 11255 (Part 3)
2	Velocity of Gas	15.81	m/sec	---	IS 11255 (Part 3)
3	Volumetric Flow Rate	1355.01	Nm ³ /hr	---	IS 11255 (Part 3)
4	Particulate Matter	42.6	mg/Nm ³	75	IS 11255 (Part 1)
5	Sulphur Dioxide	BDL (MDL : 3.0)	mg/Nm ³	---	IS 11255 (Part 2)
6	Nitrogen Dioxide	138.0	ppmv	710	IS 11255 (Part 7)
7	Hydrocarbon	BDL (MDL : 0.1)	mg/Nm ³	100	USEPA Method-18
8	Carbon Monoxide	33.4	mg/Nm ³	150	USEPA Method-10
9	Carbon Dioxide	12.4	%V/V	---	USEPA Method-10

- Note :**
1. * Rule 2 of the Env.(Protection) 3rd Amnd. Rules, 2002 notified vide Notification G.S.R.489, dated 08.07.2002.
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End of Report

Verified by:



Neelima Dalvi
Authorised Signatory



Issued by:



Shraddha Kere
Technical Manager

ENVIRONMENTAL MONITORING REPORT

FOR



**M/s Oil and Natural Gas Corporation Limited
Tripura Asset, Agartala**

NG-2000-1 -SDAU (DD Rig)

May, 2024

Prepared By



Netel (India) Limited

W-408, MIDC Rabale, TTC Industrial Area

Navi Mumbai – 400 701, Maharashtra

Phone : 022 27606016

email : ems@netel-india.com

Name of Client : M/s. Oil and Natural Gas Corporation Limited.
Material Management, Tripura Asset,
Badharghat Complex,
Agartala - 799 014

Name of Contractor : NETEL (INDIA) LIMITED
Environment Management Services
W-408, Pipeline Road, MIDC Rabale
7TC Industrial Area, Navi Mumbai – 400 701

Work Reference : PO. No. AGT/TA/SUPPORT/MM/2021/786575/NOA/9010033806,
Dated: 27.10.2021

Nature of Job : Environmental Monitoring at Tripura Asset, Agartala

Installation : NG-2000-1 -SDAU (DD Rig)

Monitoring Period : May, 2024

For NETEL (INDIA) LIMITED



SHRADDHA KERE
QUALITY MANAGER



INDEX

Sr. No.	Title	Page No.
1	Scope and Methodology	1
2	Ambient Air Quality Report	4
3	Water Quality Report	6
4	Noise Level Report	9
5	Stack Monitoring Report	10

1 Scope and Methodology

1.1 Ambient Air

The Principal objective of the ambient air quality monitoring is to assess environment status and to check the conformity to standards of ambient air quality in and around ONGC, Tripura Asset.

Sampling Period, Frequency and Parameters

On each sampling day during the period 24, **May 2024**, 1 set of 24-hour average samples were collected continuously. The following air pollution parameters were measured by sampling continuously during the sampling period.

1. Particulate Matter (PM_{10})
2. Particulate Matter ($PM_{2.5}$)
3. Sulphur Dioxide (SO_2)
4. Oxides of Nitrogen (NO_x)
5. Ozone (O_3)
6. Lead (Pb)
7. Carbon Monoxide (CO)
8. Benzene (C_6H_6)
9. Benzo-a-Pyrene (BaP)
10. Arsenic (As)
11. Nickel (Ni)
12. Ammonia (NH_3)
13. Mercury (Hg)
14. Hydrocarbon (Methane)
15. Hydrocarbon (Non-Methane)
16. Hydrogen Sulphide (H_2S)

Sampling and Analytical Procedure:

A brief description of the sampling and analytical procedures followed during the ambient air quality survey is as follows:

• Particulate Matter

$PM_{2.5}$

Ambient air enters the NPM-FDS 2.5A with impactor through an inlet designed to provide a clean aerodynamic cut-point for particles greater than 10 microns. Particles in the air stream less than 10 microns proceed to a "WIKS" impactor that has an aerodynamic cut point at 2.5 microns. The air sample and fine particulates exiting from the $PM_{2.5}$ impactor is passed through a 47-mm diameter filter membrane that retains the Fine Particulate Matter. The $PM_{2.5}$ concentrations are evaluated gravimetrically and computed from the mass of $PM_{2.5}$ collected on filter paper and total volume of air sampled.

PM_{10}

The sampling of ambient air for evaluating PM_{10} levels were performed with a Fine Dust Sampler NPM-FDS 2.5 A without $PM_{2.5}$ Inlet. The PM_{10} concentrations were evaluated gravimetrically and computed from the average air flow rate, sampling Period and the mass of particulate matter collected over the filter paper.

• Sulphur Dioxide

Sulphur dioxide was absorbed in a scrubbing solution of potassium tetrachloro-mercurate and was allowed to react with HCHO and then with para-tosanaline hydrochloride. The absorbance of the product, red-violet dye was measured using Digital Spectrophotometer at a wavelength of 560 nm.

• Oxides of Nitrogen

Nitrogen oxides as NO_2 (Nitrogen dioxide) were collected by bubbling air through sodium arsenate solution to form a stable solution of sodium nitrite. The nitrite ion produced during sampling is converted into a color complex and

by reacting the exposed absorbing reagent with phosphoric acid, sulfanilamide and N(1-naphthyl) ethy. amine dihydrochloride and nitrogen dioxide concentration is determined using digital spectrophotometer at a wavelength of 540 nm.

• **Ammonia**

Method: Indophenol Blue Method -- Ammonia in air is collected in Impinger with 1ipm flow rate by using respirable dust sampler. Ammonia from air is absorbed in a dilute solution of sulphuric acid to form ammonium sulphate. Ammonium sulphate is made to react with phenol and alkaline sodium hypochlorite to form indophenol, a blue dye. The reaction is accelerated by the addition of sodium nitroprusside as a catalyst. The absorbance of the solution is measured by means of a suitable spectrophotometer.

• **Ozone**

Method: Chemical Method -- Sample absorbed in an absorbing solution into the megnet Impinger by using assembly consist of Rotameter, megnet Impinger, needle valve or critical orifice and pump. Flow rate and sampling time should be adjusted to obtain a sufficiently large concentration of oxidant in the absorbing solution. Micro-amounts of ozone and the oxidants liberate iodine when absorbed in a 1% solution of potassium iodine buffered at pH 6.8 + 0.2. The iodine is determined spectro-photometrically by measuring the absorption of triiodine ion at 352 nm.

• **Carbon Monoxide**

Rubber Bladder and Aspirators have been used to collect the samples for carbon monoxide. The CO levels were analyzed by NDIR Technology.

• **Benzo (a) Pyrene (BaP)**

Method: Solvent extraction followed by analysis on HPLC -- This method is designed to collect particulate phase Benzo (a) Pyrene (BaP) in ambient air. It is based on high volume (~1.2 m³/min) sampling method of air over a period of 24 hrs. It involves collection from air particulate on a fine particle (glass -fiber) filter using Respirable dust sampler for Respirable suspended particulate matter (RSPM or PM₁₀) and subsequent analysis involve Solvent extraction followed by HPLC analysis.

• **Benzene**

Ambient air is sucked through charcoal tube using low flow sampler. Benzene is adsorbed by activated charcoal in the charcoal tube. Desorption of the adsorbed Benzene is done using Carbon Di Sulphide. The substance desorbed in CS₂ is analyzed by capillary Gas Chromatography using a flame ionization Detector.

• **Determination of Arsenic, Lead, Nickel and Mercury in Ambient Air**

Method: Acid Digestion followed by analysis on AAS -- This method is based on high volume (~1.2 m³/min) sampling method of air over a period of 24 hours. It involves collection from air particulate on a fine particle (glass - fiber) filter using Respirable dust sampler for Respirable suspended particulate matter (RSPM or PM₁₀) and subsequent analysis by Atomic absorption spectrophotometry for Arsenic, Lead, Nickel and Mercury.

• **Hydrogen Sulphide**

Ambient air is collected in 0.01 N Cadmium Sulphate in an impinger. Then it is reacted with sulphamic acid, N,N dimethyl-p-phenylene diamine Sulphate solution, Ferric Sulphate solution and is measured in a spectrophotometer at 670 nm.

1.2 Water Quality

Water samples were collected and analyzed as per procedures outlined in IS:3025/APHA. Sterilized bottles were used for collection of water sample for chemical analysis, stored in an ice box and transported to the laboratory for the analysis. Parameters like pH, Temperature, TDS, TSS, Total Hardness, Sulphate, Chloride, COD, Calcium, Oil & Grease, Sulphide, Pheno's, Cyanide, Hexavalent Chromium, Total Chromium, Copper, Lead, Nickel, Zinc, Mercury, Cadmium, Fluoride, and Sodium were measured.

1.3 Stack Monitoring

All the stacks are monitored using standard stack monitoring kit, NIL-SMK. The principle of operation is to take ISO KINETIC samples of the pollutants. The scope of monitoring consist of determination of the following parameters in gaseous emission. Particulate matter is collected using probe by doing iso-kinetic sampling across the cross sectional area of the stack by gravimetric method. Sulphur dioxide is measure by barium thorin titration method by extracting the gas in the hydrogen peroxide in the impinger. Oxides of Nitrogen are measure calorimetrically by phenol disulphonic acid method by collecting the sample in dilute sulphuric acid and hydrogen peroxide method.

1.4 Drill Cutting

Drill Cutting samples were collected and analyzed as per procedures outlined in EPA /APHA. Collected samples are transported to the laboratory for the analysis. Parameters like pH, Manganese, Lead, Cadmium, Copper, Iron, Mercury, Nickel, Oil & Grease, Total Chromium, Hexavalent Chromium, Arsenic, Vanadium and Cobalt were measured.

2 Ambient Air Quality Report

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : NIL/NE/AA/05/24/007		
Sample Type : Ambient Air			Sample Code : NIL/NE/AA/05/24/007		
Sampling Method : NIL/AIR/SOP-12/13/14			Ambient Temp. : ---		
Sampling Date : 24.05.2024			Sample Receive : 27.05.2024		
Analysis Start Date : 27.05.2024			Analysis End Date : 30.05.2024		
Reporting Date : 31.05.2024			Sample Qty. & Pkg. : FP (2nos), CT, Bld & PB 50ml(4 nos)		
Sampling Location : Near Electrical Room (NG-2000-1, 3D Rig)			Sampling Done By : Netel (India) Limited		
Sr. No.	Test Parameter	Results	Unit	NAAQS Limit	Method
1	Particulate Matter (PM_{10})	56.8	$\mu\text{g}/\text{m}^3$	100	IS-5182 (Part-23)
2	Particulate Matter ($PM_{2.5}$)	23.1	$\mu\text{g}/\text{m}^3$	60	NIL/AIR/SOP/03*
3	Sulphur Dioxide (SO_2)	17.2	$\mu\text{g}/\text{m}^3$	80	IS-5182 (Part-02)
4	Oxides of Nitrogen (NO_2)	25.3	$\mu\text{g}/\text{m}^3$	80	IS-5182 (Part-06)
5	Carbon Monoxide (CO)	0.56	mg/m^3	2	IS-5182 (Part-10)
6	Benzene (C_6H_6)	2.9	$\mu\text{g}/\text{m}^3$	5	IS-5182 (Part-11)
7	Ammonia (NH_3)	20.4	$\mu\text{g}/\text{m}^3$	400	ISC Part-1 (Method-401)
8	Ozone (O_3)	5.1	$\mu\text{g}/\text{m}^3$	100	IS-5182 (Part-09)
9	Benzo - a - Pyrene (BaP)	BDL (MDL : 0.5)	ng/m^3	1	IS-5182 (Part-12)
10	Lead (Pb)	BDL (MDL : 1.0)	$\mu\text{g}/\text{m}^3$	1	APHA - Air 3 rd Edition (Method 822)
11	Arsenic (As)	BDL (MDL : 1.0)	ng/m^3	6	
12	Nickel (Ni)	BDL (MDL : 1.0)	ng/m^3	20	
13	Mercury (Hg)	BDL (MDL : 0.1)	ng/m^3	---	
14	Methane (CH_4)	5.6	ppm	---	IS-5182 (Part-17)
15	Nonmethane HC (NMHC)	BDL (MDL : 0.5)	ppm	---	IS-5182 (Part-21)
16	Hydrogen Sulphide (H_2S)	BDL (MDL : 0.1)	$\mu\text{g}/\text{m}^3$	---	IS-5182 (Part-07)

- Note:** 1. * Laboratory SOP, based on CPCB Guidelines Volumes I & II
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End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : NIL/NE/AA/05/24/008		
Sample Type : Ambient Air			Sample Code : NIL/NE/AA/05/24/008		
Sampling Method : NIL/AIR/SOP-12/13/14			Ambient Temp. : ---		
Sampling Date : 24.05.2024			Sample Receive : 27.05.2024		
Analysis Start Date : 27.05.2024			Analysis End Date : 30.05.2024		
Reporting Date : 31.05.2024			Sample Qty. & Pkg. : FP (2nos), CT, Bld & PB 50ml(4 nos)		
Sampling Location : Near Mechanical Room (K/G-2000-1, DD Rig)			Sampling Done By : Netel (India) Limitec		
Sr. No.	Test Parameter	Results	Unit	NAAQS Limit	Method
1	Particulate Matter (PM ₁₀)	52.7	µg/m ³	100	IS-5182 (Part-23)
2	Particulate Matter (PM _{2.5})	25.7	µg/m ³	60	NIL/AIR/SOP/03*
3	Sulphur Dioxide (SO ₂)	14.6	µg/m ³	80	IS-5182 (Part-02)
4	Oxides of Nitrogen (NO _x)	20.6	µg/m ³	80	IS-5182 (Part-06)
5	Carbon Monoxide (CO)	0.46	mg/m ³	2	IS-5182 (Part-10)
6	Benzene (C ₆ H ₆)	3.1	µg/m ³	5	IS-5182 (Part-11)
7	Ammonia (NH ₃)	23.5	µg/m ³	400	ISC Part-I (Method-401)
8	Ozone (O ₃)	5.5	µg/m ³	100	IS-5182 (Part-09)
9	Benzo - a - Pyrene (BaP)	BDL (MDL : 0.5)	ng/m ³	1	IS-5182 (Part-12)
10	Lead (Pb)	BDL (MDL : 1.0)	µg/m ³	1	APHA - Air 3 rd Edition (Method 822)
11	Arsenic (As)	BDL (MDL : 1.0)	ng/m ³	6	
12	Nickel (Ni)	BDL (MDL : 1.0)	ng/m ³	20	
13	Mercury (Hg)	BDL (MDL : 0.1)	ng/m ³	---	
14	Methane (CH ₄)	4.8	ppm	---	IS-5182 (Part-17)
15	Nonmethane HC (NMHC)	BDL (MDL : 0.5)	ppm	---	IS-5182 (Part-21)
16	Hydrogen Sulphide (H ₂ S)	BDL (MDL : 0.1)	µg/m ³	---	IS-5182 (Part-07)

Note: 1. * Laboratory SOP, based on CPCB Guidelines Volumes I & II

2. BDL - Below Detection Limit, MDL - Method Detection Limit

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4. This Test Report refers only to the sample tested.

5. The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:

Neelima Dalvi
Technical Manager



Issued by:

Shraddha Kere
Quality Manager

3 Water Quality Report

TEST REPORT

Discipline/Group	: Chemical / Water	Test Report No.	: NIL/NE/WT/05/24/009
Sample Type	: Waste Water	Sample Code	: NIL/NE/WT/05/24/009
Sampling Method	: APHA 1060 (B & C)	Ambient Temp.	: ---
Sampling Date	: 24.05.2024	Sample Receive	: 27.05.2024
Analysis Start Date	: 27.05.2024	Analysis End Date	: 30.05.2024
Reporting Date	: 31.05.2024	Sample Qty. & Pkg.	: Plastic Can (2 Litres)
Sampling Location	: ETP Treated Water (NG-2003-1) DD Rig	Sampling Done By	: Netel (India) Limited

Sr. No.	Test Parameter	Results	Unit	CPCB	Method
1	Temperature	25.2	°C	40	IS 3025 (Part 9)
2	pH	7.50	---	5.5 - 9.0	IS 3025 (Part 11)
3	Total Dissolved Solids	380	mg/lit	2100	IS 3025 (Part 16)
4	Total Suspended Solids	75	mg/lit	100	IS 3025 (Part 17)
5	Total Hardness	168.0	mg/lit	---	IS 3025 (Part 21)
6	COD	20.8	mg/lit	100	IS 3025 (Part 58)
7	Chloride	156.4	mg/lit	600	IS 3025 (Part 32)
8	Sulphate	42.5	mg/lit	1000	IS 3025 (Part 24)
9	Sulphide	BDL (MDL : 0.02)	mg/lit	2	IS 3025 (Part 29)
10	Fluoride	BDL (MDL : 0.2)	mg/lit	1.5	IS 3025 (Part 60)
11	Phenolic Compounds	BDL (MDL : 0.001)	mg/lit	1.2	IS 3025 (Part 43)
12	Cyanide	BDL (MDL : 0.01)	mg/lit	0.2	IS 3025 (Part 27)
13	Sodium	40.6	mg/lit	60	IS 3025 (Part 45)
14	Mercury	BDL (MDL : 0.001)	mg/lit	0.01	IS 3025 (Part 48)
15	Cadmium	BDL (MDL : 0.002)	mg/lit	---	IS 3025 (Part 41)
16	Lead	BDL (MDL : 0.01)	mg/lit	0.1	IS 3025 (Part 47)
17	Zinc	BDL (MDL : 0.05)	mg/lit	2	APHA 3111-B
18	Nickel	BDL (MDL : 0.01)	mg/lit	3	APHA 3111-B
19	Copper	BDL (MDL : 0.04)	mg/lit	0.2	APHA 3111-B
20	Total Chromium	BDL (MDL : 0.01)	mg/lit	1	APHA 3111-B
21	Hexavalent Chromium (Cr ⁶⁺)	BDL (MDL : 0.05)	mg/lit	0.1	APHA 3500-Cr-B
22	Oil & Grease	2.0	mg/lit	10	APHA 5520-B

- Note: 1. This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
 2. This Test Report refers only to the sample tested.
 3. The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:



Neelima Daivi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

4 Noise Level Report

TEST REPORT

Sample Type : Noise		Sampling Done By : Netel (India) Limited			
Instrument Model : Lufren		Instrument Serial No. : Q699161			
Date of Calibration : 02.04.2024		Next Calibration Due : 01.04.2025			
Sr. No.	Location	Date of Monitoring	Noise Level (dBA)		Remark
			Daytime	Nighttime	
---	NG-2000-1 -SDAU (DD RIG)				
1	Entrance Gate	24.05.2024	54.2	50.4	---
2	Near Office Area	24.05.2024	56.7	48.7	---
3	Near Security Accommodation	24.05.2024	55.4	44.8	---
4	Mud Pump Area	24.05.2024	82.5	77.8	Use Ear Muff / Plug
5	Near Rig Floor	24.05.2024	68.4	62.5	---
6	Near Shale Shaker	24.05.2024	61.4	57.4	---
7	Near Accommodation	24.05.2024	56.8	45.8	---

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~~End of Report~~

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

5 Stack Monitoring Report

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : NIL/NE/ST/05/24/005		
Sample Type : Stack (D.G.)			Sample Code : NIL/NE/ST/05/24/005		
Stack Diameter : 0.305 meters			Stack Height : 7.50 meters		
Sampling Date : 24.05.2024			Sample Receive : 27.05.2024		
Analysis Start Date : 27.05.2024			Analysis End Date : 30.05.2024		
Reporting Date : 31.05.2024			Sample Qty. & Pkg. : Thimble, CT, Bld & PB 50ml (2 nos)		
Sampling Location : DG Ear-3 (1430 KVA) (NG-2000-1) LD Rig			Sampling Done By : Nete. (India) Limited		
Sr. No.	Parameter	Result	Unit	Limit*	Method
1	Temperature	135	°C	---	IS 11255 (Part 3)
2	Velocity of Gas	16.61	m/sec	---	IS 11255 (Part 3)
3	Volumetric Flow Rate	1371.4	Nm ³ /hr	---	IS 11255 (Part 3)
4	Particulate Matter	42.6	mg/Nm ³	75	IS 11255 (Part 1)
5	Sulphur Dioxide	BDL (MDL : 3.0)	mg/Nm ³	---	IS 11255 (Part 2)
6	Nitrogen Dioxide	134.0	ppmv	710	IS 11255 (Part 7)
7	Hydrocarbon	BDL (MDL : 0.1)	mg/Nm ³	100	USEPA Method-18
8	Carbon Monoxide	36.1	mg/Nm ³	150	USEPA Method-10
9	Carbon Dioxide	10.8	%V/V	---	USEPA Method-10

- Note :
- * Rule 2 of the Env.(Protection) 3rd Amnd. Rules, 2002 notified vide Notification G.S.R.489, dated 09.07.2002.
 - This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
 - This Test Report refers only to the sample tested.
 - The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : NIL/NE/ST/05/24/006		
Sample Type : Stack (D.G.)			Sample Code : NIL/NE/ST/05/24/006		
Stack Diameter : 0.305 meters			Stack Height : 7.60 meters		
Sampling Date : 24.05.2024			Sample Receive : 27.05.2024		
Analysis Start Date : 27.05.2024			Analysis End Date : 30.05.2024		
Reporting Date : 31.05.2024			Sample Qty. & Pkg. : Thimble, CT, 3ld & P3 50ml (2 nos)		
Sampling Location : DG Set-4 (1430 KVA) (NG-2003-1) DG-Rig			Sampling Done By : Netel (India) Limited		
Sr. No.	Parameter	Result	Unit	Limit*	Method
1	Temperature	144	°C	---	IS 11255 (Part 3)
2	Velocity of Gas	16.37	m/sec	---	IS 11255 (Part 3)
3	Volumetric Flow Rate	1322.7	Nm³/hr	---	IS 11255 (Part 3)
4	Particulate Matter	45.2	mg/Nm³	75	IS 11255 (Part 1)
5	Sulphur Dioxide	BDL (MDL : 3.0)	mg/Nm³	---	IS 11255 (Part 2)
6	Nitrogen Dioxide	141.3	ppmv	710	IS 11255 (Part 7)
7	Hydrocarbon	BDL (MDL : 0.1)	mg/Nm³	100	USEPA Method-8
8	Carbon Monoxide	39.7	mg/Nm³	150	USEPA Method-10
9	Carbon Dioxide	12.9	%V/V	---	USEPA Method-10

- Note :**
- * Rule 2 of the Env.(Protection) 3rd Amend. Rules, 2002 notified vide Notification G.S.R.489, dated 09.07.2002.
 - This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
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End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

ENVIRONMENTAL MONITORING REPORT

FOR



**M/s Oil and Natural Gas Corporation Limited
Tripura Asset, Agartala**

NG-2000-2 - (ROEL) DD Rig

May, 2024

Prepared By



Netel (India) Limited

W-408, MIDC Rabale, TTC Industrial Area

Navi Mumbai – 400 701, Maharashtra

Phone : 022 27606016

email : ems@netel-india.com

Environmental Monitoring Report for ONGC, Tripura Asset

Name of Client : M/s. Oil and Natural Gas Corporation Limited,
Material Management, Tripura Asset,
Badharghat Complex,
Agartala - 799 014

Name of Contractor : NETEL (INDIA) LIMITED
Environment Management Services
W-408, Pipeline Road, MIDC Rabale
TTC Industrial Area, Navi Mumbai - 400 701

Work Reference : PO. No. AGT/TA/SUPPORT/MM/2021/786575/NOA/9010033806,
Dated: 27.10.2021

Nature of Job : Environmental Monitoring at Tripura Asset, Agartala

Installation : NG-2000-2 - (ROEL) DD Rig

Monitoring Period : May, 2024

For NETEL (INDIA) LIMITED


CHETAN KADAM
MANAGER (EMS)



INDEX

Sr. No.	Title	Page No.
1	Scope and Methodology	1
2	Ambient Air Quality Report	4
3	Water Quality Report	6
4	Noise Level Report	7
5	Stack Monitoring Report	8

1 Scope and Methodology

1.1 Ambient Air

The Principal objective of the ambient air quality monitoring is to assess environment status and to check the conformity to standards of ambient air quality in and around ONGC, Tripura Asset.

Sampling Period, Frequency and Parameters

On each sampling day during the period 22, May 2024, 1 set of 24-hour average samples were collected continuously. The following air pollution parameters were measured by sampling continuously during the sampling period.

1. Particulate Matter (PM₁₀)
2. Particulate Matter (PM_{2.5})
3. Sulphur Dioxide (SO₂)
4. Oxides of Nitrogen (NO_x)
5. Ozone (O₃)
6. Lead (Pb)
7. Carbon Monoxide (CO)
8. Benzene (C₆H₆)
9. Benzo-a-Pyrene (BaP)
10. Arsenic (As)
11. Nickel (Ni)
12. Ammonia (NH₃)
13. Mercury (Hg)
14. Hydrocarbon (Methane)
15. Hydrocarbon (Non-Methane)
16. Hydrogen Sulphide (H₂S)

Sampling and Analytical Procedure:

A brief description of the sampling and analytical procedures followed during the ambient air quality survey is as follows:

• Particulate Matter

PM_{2.5}

Ambient air enters the NPM-FDS 2.5A with impactor through an inlet designed to provide a clean aerodynamic cut-point for particles greater than 10 microns. Particles in the air stream less than 10 microns proceed to a "WINS" impactor that has an aerodynamic cut point at 2.5 microns. The air sample and fine particulates exiting from the PM_{2.5} impactor is passed through a 47mm diameter filter membrane that retains the Fine Particulate Matter. The PM_{2.5} concentrations are evaluated gravimetrically and computed from the mass of PM_{2.5} collected on filter paper and total volume of air sampled.

PM₁₀

The sampling of ambient air for evaluating PM₁₀ levels were performed with a Fine Dust Sampler NPM-FDS 2.5 A without PM_{2.5} Inlet. The PM₁₀ concentrations were evaluated gravimetrically and computed from the average air flow rate, sampling Period and the mass of particulate matter collected over the filter paper.

• Sulphur Dioxide

Sulphur dioxide was absorbed in a scrubbing solution of potassium tetrachloro-mercurate and was allowed to react with HCHO and then with para-rosaniline hydrochloride. The absorbance of the product, red-violet dye was measured using Digital Spectrophotometer at a wavelength of 550 nm.

• Oxides of Nitrogen

Nitrogen oxides as NO₂ (Nitrogen dioxide) were collected by bubbling air through sodium arsenate solution to form a stable solution of sodium nitrite. The nitrite ion produced during sampling is converted into a color complex and

by reacting the exposed absorbing reagent with phosphoric acid, sulfanilamide and N(1-naphthyl) ethyl amine hydrochloride and nitrogen dioxide concentration is determined using digital spectrophotometer at a wavelength of 540 nm.

• **Ammonia**

Method: Indophenols Blue Method -- Ammonia in air is collected in Impinger with 1lpm flow rate by using respirable dust sampler. Ammonia from air is absorbed in a dilute solution of sulphuric acid to form ammonium sulphate. Ammonium sulphate is made to react with phenol and alkaline sodium hypochlorite to form indophenol, a blue dye. The reaction is accelerated by the addition of sodium nitroprusside as a catalyst. The absorbance of the solution is measured by means of a suitable spectrophotometer.

• **Ozone**

Method: Chemical Method -- Sample absorbed in an absorbing solution into the midget Impinger by using assembly consist of Rotameter, midget Impinger, needle valve or critical orifice and pump. Flow rate and sampling time should be adjusted to obtain a sufficiently large concentration of oxidant in the absorbing solution. Micro-amounts of ozone and the oxidants liberate iodine when absorbed in a 1% solution of potassium iodine buffered at pH 6.8 – 0.2. The iodine is determined spectro-photometrically by measuring the absorption of triiodine ion at 352 nm.

• **Carbon Monoxide**

Rubber Bladder and Aspirators have been used to collect the samples for carbon monoxide. The CO levels were analyzed by NDIR Technology.

• **Benzo (a) Pyrene (BaP)**

Method: Solvent extraction followed by analysis on HPLC -- This method is designed to collect particulate phase Benzo (a) Pyrene (BaP) in ambient air. It is based on high volume (~1.2 m³/min) sampling method of air over a period of 24 hrs. It involves collection from air particulate on a fine particle (glass – fiber) filter using Respirable dust sampler for Respirable suspended particulate matter (RSPM or PM₁₀) and subsequent analysis involve Solvent extraction followed by HPLC analysis.

• **Benzene**

Ambient air is sucked through charcoal tube using low flow sampler. Benzene is adsorbed by activated charcoal in the charcoal tube. Desorption of the adsorbed Benzene is done using Carbon Disulphide. The substance desorbed in CS₂ is analyzed by capillary Gas Chromatography using a flame ionization Detector.

• **Determination of Arsenic, Lead, Nickel and Mercury in Ambient Air**

Method: Acid Digestion followed by analysis on AAS -- This method is based on high volume (~1.2 m³/min) sampling method of air over a period of 24 hours. It involves collection from air particulate on a fine particle (glass – fiber) filter using Respirable dust sampler for Respirable suspended particulate matter (RSPM or PM₁₀) and subsequent analysis by Atomic absorption spectrophotometry for Arsenic, Lead, Nickel and Mercury.

• **Hydrogen Sulphide**

Ambient air is collected in 0.01 N Cadmium Sulphate in an impinger. Then it is reacted with sulphamic acid, N,N dimethyl-p-phenylene diamine Sulphate solution, Ferric Sulphate solution and is measured in a spectrophotometer at 670 nm.

1.2 Water Quality

Water samples were collected and analyzed as per procedures outlined in S:3025/APHA. Sterilized bottles were used for collection of water sample for chemical analysis, stored in an ice box and transported to the laboratory for the analysis. Parameters like pH, Temperature, TDS, TSS, Total Hardness, Sulphate, Chloride, COD, Calcium, Oil & Grease, Sulphide, Phenols, Cyanide, Hexavalent Chromium, Total Chromium, Copper, Lead, Nickel, Zinc, Mercury, Cadmium, Fluoride and Sodium were measured.

1.3 Stack Monitoring

All the stacks are monitored using standard stack monitoring kit, NIL-SMK. The principle of operation is to take ISO KINETIC samples of the pollutants. The scope of monitoring consist of determination of the following parameters in gaseous emission. Particulate matter is collected using probe by doing iso-kinetic sampling across the cross sectional area of the stack by gravimetric method. Sulphur dioxide is measure by barium thorin titration method by extracting the gas in the hydrogen peroxide in the impinger. Oxides of Nitrogen are measure calorimetrically by phenol disulphonic acid method by collecting the sample in dilute sulphuric acid and hydrogen peroxide method.

1.4 Drill Cutting

Drill Cutting samples were collected and analyzed as per procedures outlined in EPA /APHA. Collected samples are transported to the laboratory for the analysis. Parameters like pH, Manganese, Lead, Cadmium, Copper, Iron, Mercury, Nickel, Oil & Grease, Total Chromium, Hexavalent Chromium, Arsenic, Vanadium and Cobalt were measured.

2 Ambient Air Quality Report

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : NIL/NE/AA/05/24/001		
Sample Type : Ambient Air			Sample Code : NIL/NE/AA/05/24/001		
Sampling Method : NIL/AIR/SOP-12/13/14			Ambient Temp. : ---		
Sampling Date : 22.05.2024			Sample Receive : 24.05.2024		
Analysis Start Date : 24.05.2024			Analysis End Date : 27.05.2024		
Reporting Date : 28.05.2024			Sample Qty. & Pkg. : FP (2nos), CT, 3ld & PB 50ml(4 nos)		
Sampling Location : Near Mechanical rest cabin, (NG-2500 2, DD Rtg)			Sampling Done By : Netel (India) Limited		
Sr. No.	Test Parameter	Results	Unit	NAAQS Limit	Method
1	Particulate Matter (PM ₁₀)	58.7	µg/m ³	100	IS-5182 (Part-23)
2	Particulate Matter (PM _{2.5})	24.6	µg/m ³	60	NIL/AIR/SOP/G3*
3	Sulphur Dioxide (SO ₂)	14.6	µg/m ³	80	IS-5182 (Part-02)
4	Oxides of Nitrogen (NO _x)	23.7	µg/m ³	80	IS-5182 (Part-06)
5	Carbon Monoxide (CO)	0.61	mg/m ³	2	IS-5182 (Part-10)
6	Benzene (C ₆ H ₆)	2.6	µg/m ³	5	IS-5182 (Part-11)
7	Ammonia (NH ₃)	21.8	µg/m ³	400	ISC Part-I (Method-401)
8	Ozone (O ₃)	4.2	µg/m ³	100	IS-5182 (Part-09)
9	Benzo - a - Pyrene (BaP)	BDL (MDL : 0.5)	ng/m ³	1	IS-5182 (Part-12)
10	Lead (Pb)	BDL (MDL : 1.0)	µg/m ³	1	APHA - Air 3 rd Edition (Method 822)
11	Arsenic (As)	BDL (MDL : 1.0)	ng/m ³	6	
12	Nickel (Ni)	BDL (MDL : 1.0)	ng/m ³	20	
13	Mercury (Hg)	BDL (MDL : 0.1)	ng/m ³	---	
14	Methane (CH ₄)	5.6	ppm	---	IS-5182 (Part-17)
15	Nonmethane HC (NMHC)	BDL (MDL : 0.5)	ppm	---	IS-5182 (Part-21)
16	Hydrogen Sulphide (H ₂ S)	BDL (MDL : 0.1)	µg/m ³	---	IS-5182 (Part-07)

Note: 1. * Laboratory SOP, based on CPCB Guidelines Volumes I & II

2. BDL - Below Detection Limit, MDL - Method Detection Limit

3. This Test Report shall not be reproduced except in full, without written approval of the Laboratory.

4. This Test Report refers only to the sample tested.

5. The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

TEST REPORT

Discipline/Group : Atmospheric Pollution		Test Report No. : NIL/NE/AA/05/24/002			
Sample Type : Ambient Air		Sample Code : NIL/NE/AA/05/24/002			
Sampling Method : NIL/AIR/SOP-12/13/14		Ambient Temp. : ---			
Sampling Date : 22.05.2024		Sample Receive : 24.05.2024			
Analysis Start Date : 24.05.2024		Analysis End Date : 27.05.2024			
Reporting Date : 28.05.2024		Sample Qty. & Pkg. : FP (2nos), C ⁺ , Bld & PB 50ml(4 nos)			
Sampling Location : Near Geology Cabin, (NG-2000-2, DD Rig)		Sampling Done By : Netel (India) Limited			
Sr. No.	Test Parameter	Results	Unit	NAAQS Limit	Method
1	Particulate Matter (PM ₁₀)	54.6	µg/m ³	100	IS-5182 (Part-23)
2	Particulate Matter (PM _{2.5})	26.8	µg/m ³	60	NIL/A.R/SOP/03*
3	Sulphur Dioxide (SO ₂)	16.4	µg/m ³	80	IS-5182 (Part-02)
4	Oxides of Nitrogen (NO _x)	26.8	µg/m ³	80	IS-5182 (Part-06)
5	Carbon Monoxide (CO)	0.52	mg/m ³	2	IS-5182 (Part-10)
6	Benzene (C ₆ H ₆)	2.8	µg/m ³	5	IS-5182 (Part-11)
7	Ammonia (NH ₃)	24.8	µg/m ³	400	ISC Part-I: (Method-401)
8	Ozone (O ₃)	5.6	µg/m ³	100	IS-5182 (Part-09)
9	Benzo - a - Pyrene (BaP)	BDL (MDL : 0.5)	ng/m ³	1	IS-5182 (Part-12)
10	Lead (Pb)	BDL (MDL : 1.0)	µg/m ³	1	APHA - Air 3 rd Edition (Method 822)
11	Arsenic (As)	BDL (MDL : 1.0)	ng/m ³	6	
12	Nickel (Ni)	BDL (MDL : 1.0)	ng/m ³	20	
13	Mercury (Hg)	BDL (MDL : 0.1)	ng/m ³	---	
14	Methane (CH ₄)	4.8	ppm	---	IS-5182 (Part-17)
15	Nonmethane HC (NMHC)	BDL (MDL : 0.5)	ppm	---	IS-5182 (Part-21)
16	Hydrogen Sulphide (H ₂ S)	BDL (MDL : 0.1)	µg/m ³	---	IS-5182 (Part-07)

Note: 1. * Laboratory SOP, based on CPCB Guidelines Volumes I & II

2. BDL - Below Detection Limit, MDL - Method Detection Limit

3. This Test Report shall not be reproduced except in full, without written approval of the Laboratory.

4. This Test Report refers only to the sample tested.

5. The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

~End of Report~

Verified by:


Neelima Dalvi
Technical Manager



Issued by:


Shraddha Kere
Quality Manager

3 Water Quality Report

TEST REPORT

Discipline/Group : Chemical-Environment & Pollution			Test Report No. : NL/NE/WT/05/24/004		
Sample Type : Waste Water			Sample Code : NL/NE/WT/05/24/004		
Sampling Method : APHA 1060 (B & C)			Ambient Temp. : ---		
Sampling Date : 22.05.2024			Sample Receive : 24.05.2024		
Analysis Start Date : 24.05.2024			Analysis End Date : 27.05.2024		
Reporting Date : 26.05.2024			Sample Qty. & Pkg. : Plastic Can (2 Litres)		
Sampling Location : ETP Treated Water (NG-2000-2) DO Rig			Sampling Done By : Netel (India) Limited		
Sr. No.	Test Parameter	Results	Unit	CPCB Limit	Method
1	Temperature	25.1	°C	40	IS 3025 (Part 9)
2	pH	7.60	---	5.5 - 9.0	IS 3025 (Part 11)
3	Total Dissolved Solids	430	mg/lit	2100	IS 3025 (Part 16)
4	Total Suspended Solids	78	mg/lit	100	IS 3025 (Part 17)
5	Total Hardness	168.0	mg/lit	---	IS 3025 (Part 21)
6	COD	22.6	mg/lit	100	IS 3025 (Part 58)
7	Chloride	168.0	mg/lit	600	IS 3025 (Part 32)
8	Sulphate	40.8	mg/lit	1000	IS 3025 (Part 24)
9	Sulphide	0.2	mg/lit	2	IS 3025 (Part 29)
10	Fluoride	BDL (MDL : 0.2)	mg/lit	1.5	IS 3025 (Part 60)
11	Phenolic Compounds	BDL (MDL : 0.001)	mg/lit	1.2	IS 3025 (Part 43)
12	Cyanide	BDL (MDL : 0.01)	mg/lit	0.2	IS 3025 (Part 27)
13	Sodium	23.5	mg/lit	60	IS 3025 (Part 45)
14	Mercury	BDL (MDL : 0.001)	mg/lit	0.01	IS 3025 (Part 48)
15	Cadmium	BDL (MDL : 0.002)	mg/lit	---	IS 3025 (Part 41)
16	Lead	BDL (MDL : 0.01)	mg/lit	0.1	IS 3025 (Part 47)
17	Zinc	BDL (MDL : 0.05)	mg/lit	2	APHA 3111-B
18	Nickel	BDL (MDL : 0.01)	mg/lit	3	APHA 3111-B
19	Copper	BDL (MDL : 0.04)	mg/lit	0.2	APHA 3111-B
20	Total Chromium	BDL (MDL : 0.01)	mg/lit	1	APHA 3111-B
21	Hexavalent Chromium (Cr ⁶⁺)	BDL (MDL : 0.05)	mg/lit	0.1	APHA 3500-Cr-B
22	Oil & Grease	2.0	mg/lit	10	APHA 5520-B

- Note: 1. Note* - Shall not exceed 5°C above the receiving water temperature
 2. This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
 3. This Test Report refers only to the sample tested.
 4. The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

4 Noise Level Report

TEST REPORT

Sample Type : Noise		Sampling Done By : Netel (India) Limited			
Instrument Model : Lutron		Instrument Serial No. : Q699161			
Date of Calibration : 02.04.2024		Next Calibration Due : 01.04.2025			
Sr. No.	Location	Date of Monitoring	Noise Level (dBA)		Remark
			Daytime	Nighttime	
---	NG-2000-2 - (ROEL) DD RIG				
1	Entrance Gate	22.05.2024	56.2	49.6	---
2	Near Office Area	22.05.2024	51.6	45.6	---
3	Near Security Accommodation	22.05.2024	53.2	44.5	---
4	Mud Pump Area	22.05.2024	79.4	70.6	Use Ear Muff / Plug
5	Near Rig Floor	22.05.2024	66.8	62.4	---
6	Near Share Shaker	22.05.2024	62.5	56.4	---
7	Near Accommodation	22.05.2024	56.2	52.8	---

- Note:** 1. This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
 2. This Test Report refers only to the sample tested.
 3. The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:



Noelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

5 Stack Monitoring Report

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : NIL/NE/ST/05/24/001		
Sample Type : Stack (D.G.)			Sample Code : NIL/NE/ST/05/24/001		
Stack Diameter : 0.305 meters			Stack Height : 7.60 meters		
Sampling Date : 22.05.2024			Sample Receive : 24.05.2024		
Analysis Start Date : 24.05.2024			Analysis End Date : 27.05.2024		
Reporting Date : 28.05.2024			Sample Qty. & Pkg. : Thimble, CT, Bld & PB 50ml (2 nos)		
Sampling Location : DG Set-3 (~430 KVA) (NG 2000 2) DD Rig			Sampling Done By : Nete (India) Limited		
Sr. No.	Parameter	Result	Unit	Limit*	Method
1	Temperature	130	°C	---	IS 11255 (Part 3)
2	Velocity of Gas	16.46	m/sec	---	IS 11255 (Part 3)
3	Volumetric Flow Rate	1375.5	Nm³/hr	---	IS 11255 (Part 3)
4	Particulate Matter	38.4	mg/Nm³	75	IS 11255 (Part 1)
5	Sulphur Dioxide	BDL (MDL : 3.0)	mg/Nm³	---	IS 11255 (Part 2)
6	Nitrogen Dioxide	134.0	ppmv	710	IS 11255 (Part 7)
7	Hydrocarbon	BDL (MDL : 0.1)	mg/Nm³	100	USEPA Method-18
8	Carbon Monoxide	30.6	mg/Nm³	150	USEPA Method-10
9	Carbon Dioxide	10.8	%V/V	---	USEPA Method-10

- Note :
- * Rule 2 of the Env.(Protection) 3rd Amnd. Rules, 2002 notified vide Notification G.S.R.489, dated 09.07.2002.
 - This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
 - This Test Report refers only to the sample tested.
 - The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

TEST REPORT

Discipline/Group : Atmospheric Pollution			Test Report No. : N.L/NE/ST/05/24/002		
Sample Type : Stack (D.G.)			Sample Code : N.L/NE/ST/05/24/002		
Stack Diameter : 0.305 meters			Stack Height : 7.60 meters		
Sampling Date : 22.05.2024			Sample Receive : 24.05.2024		
Analysis Start Date : 24.05.2024			Analysis End Date : 27.05.2024		
Reporting Date : 28.05.2024			Sample Qty. & Pkg. : Thimble, CT, Bid & PB 50ml (2 nos)		
Sampling Location : DG Set-1 (1435 KVA) (NG-2000-2) DD Rig			Sampling Done By : Netel (India) Limited		
Sr. No.	Parameter	Result	Unit	Limit*	Method
1	Temperature	126	°C	---	IS 11255 (Part 3)
2	Velocity of Gas	15.93	m/sec	---	IS 11255 (Part 3)
3	Volumetric Flow Rate	1344.8	Nm ³ /hr	---	IS 11255 (Part 3)
4	Particulate Matter	41.8	mg/Nm ³	75	IS 11255 (Part 1)
5	Sulphur Dioxide	BDL (MDL : 3.0)	mg/Nm ³	---	IS 11255 (Part 2)
6	Nitrogen Dioxide	138.0	ppmv	710	IS 11255 (Part 7)
7	Hydrocarbon	BDL (MDL : 0.1)	mg/Nm ³	100	USEPA Method-18
8	Carbon Monoxide	32.6	mg/Nm ³	150	USEPA Method-10
9	Carbon Dioxide	11.9	%V/V	---	USEPA Method-10

- Note :**
- * Rule 2 of the Env.(Protection) 3rd Amend. Rules, 2002 notified vide Notification G.S.R.489, dated 09.07.2002.
 - This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
 - This Test Report refers only to the sample tested
 - The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

End of Report

Verified by:



Neelima Dalvi
Technical Manager



Issued by:



Shraddha Kere
Quality Manager

[FORM – V]

(See rule 14)

Environmental Statement for the financial year ending the 31st March 2024**PART – A**

- (i) Name and address of the owner/occupier of the industry operation or process:
M/s ONGC Ltd., Tripura Asset, Badarghat Complex, Agartala - 799014
- (ii) Industry category Primary—(STC code) Secondary—(SIC Code): Red / Baramura GCS
- (iii) Production capacity: 0.75 MMSCMD Units: 1 No.
- (iv) Year of establishment: Commissioned- 1986 / Upgraded - 2008
- (v) Date of the last environmental statement submitted: –

PART – B**Water and River Material Consumption**(1) Water consumption m³/d:

Process - Nil

Cooling - Nil

Domestic – 9.0 (From Tanker)

River Water - 9.75 (Including Fire Fighting Facility & Flare Water Seal Drum)

Sl. No.	Name of Products	Process water consumption per unit of product output	
		During the previous financial year (2022-23)	During the Current financial year (2023-24)
		(1)	(2)
(1)	Natural Gas	Nil	Nil
(2)	Condensate	Nil	Nil

1. Substituted by Rule 2 (b) of the Environment (Protection) Amendment Rules, 1993 notified vide G.S.R 3'6 (E) dated 22.04.1993.

(ii) Raw material consumption

Sl. No.	*Name of raw materials	Name of Products	Consumption of raw material per Unit of output	
			During the previous financial year (2022-23)	During the Current financial year (2023-24)
(1)	Nil	Natural Gas	Nil	Nil
(2)	Nil	Condensate	Nil	Nil

*Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.

PART - C

Pollution discharged to environment/unit of output

(Parameter as specified in the consent issued)

Pollutants	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water	1. Surface Discharge -Nil 2. Sub-surface disposal -Nil (Produced water transported to ADB GCS for treatment in ETP)	1. NA 2. NA	All parameters are within the prescribed standards for sub-surface disposal at ADB GCS.
(b) Air	-	PM ₁₀ - 62.5 µg/m ³ PM _{2.5} - 32.6 µg/m ³ SO ₂ - 16.7 µg/m ³ NO ₂ - 26.8 µg/m ³ CO - 0.65 mg/m ³	All parameters are within the prescribed standards. (AAQ Report Enclosed)

PART – D
Hazardous Wastes

(as specified under Hazardous Waste Management and Handling Rules, 1989)

Sl. No.	Hazardous Waste	Total Quantity (Kg.)	
		During the previous financial year (2022-23)	During the Current financial year (2023-24)
		(1)	(2)
(a)	From process	Nil	Nil
(b)	From pollution control facilities	Nil	Nil
(c)	From Gas & Diesel Engine and C/R		
	i) Spent lube oil (Ltrs.)	243	Nil
	ii) Recyclable Lead acid battery (Nos.)	6	Nil

PART – E
Solid Wastes

Sl. No.	Solid Wastes	Total Quantity (Kg.)	
		During the previous financial year (2022-23)	During the Current financial year (2023-24)
		(1)	(2)
(a)	From process	Nil	Nil
(b)	From pollution control facilities	Nil	Nil
(c)	(1) Quantity recycled or re-utilized within the unit		
		Nil	Nil
	(2) Sold		
		Nil	Nil
	(3) Disposed		
		Nil	Nil

PART – F

Please specify the characterizations (in terms of composition of quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

- Spent oil is being returned back to ONGC Main Store for further selling to authorised recyclers.
- Lead acid batteries are being given back to supplier at the time new batteries procured through MM Section, Tripura Asset, Agartala.

PART – G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production.

- Tree plantation - 40 nos. saplings as a part of Green Field Development.
- Total 15 nos. of LED lights installed in process area & in High Mast Towers.
- Tata Power Solar System: 12.5 KW/D

PART – H

Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution.

Nil

PART – I

Any other particulars for improving the quality of the environment.

- Observed World Environment Day on 5th June, 2023.


 30/6/24
 Installation Manager, Baranura
 ONGC, Tripura Asset, Agartala.

[FORM – V]**(See rule 14)****Environmental Statement for the financial year ending the 31st March 2024****PART – A**

- (i) Name and address of the owner/occupier of the industry operation or process:
M/s ONGC Ltd., Tripura Asset, Badarghat Complex, Agartala - 799014
- (ii) Industry category Primary ----(STC code) Secondary----- (SIC Code): -----KON GCS
- (iii) Production capacity: 2.0 MMSCMD Units: 03 Nos.
- (iv) Year of establishment: March-1999
- (v) Date of the last environmental statement submitted: --

PART – B**Water and Raw Material Consumption**

(1) Water consumption m3/d:

Process - Nil

Cooling - Nil

Domestic – 3 (Including Fire Fighting Facility & Flare Water Seal Drum)

Sl. No.	Name of Products	Process water consumption per unit of product output	
		During the previous financial year (2022-23)	During the Current financial year (2023-24)
		(1)	(2)
(1)	Natural Gas	Nil	Nil
(2)	Condensate	Nil	Nil

1. Substituted by Rule 2 (b) of the Environment (Protection) Amendment Rules, 1993 notified vide G.S.R 3'6 (E) dated 22.04.1993.

(ii) Raw material consumption

Sl. No.	*Name of raw materials	Name of Products	Consumption of raw material per Unit of output	
			During the previous financial year (2022-23)	During the Current financial year (2023-24)
(1)	Nil	Natural Gas	Nil	Nil
(2)	Nil	Condensate	Nil	Nil

*Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.

PART - C

Pollution discharged to environment/unit of output

(Parameter as specified in the consent issued)

Pollutants	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water	1. Surface Discharge –Nil 2. Sub-surface disposal in Effluent Disposal(ED) well-60 m3/day	1. Oil and grease-NA TSS-NA 2. Oil and grease:<6 ppm TSS:<55ppm	All parameters are within the prescribed standards for sub-surface disposal.
(b) Air	-	PM ₁₀ - 52.4 µg/m ³ PM _{2.5} - 23.84 µg/m ³ SO ₂ - 14.6 µg/m ³ NO ₂ - 22.8 µg/m ³ CO – 0.62	All parameters are within the prescribed standards. (As per report on Ambient air quality dated 8.11.23 by M/S Netel (India) Ltd

PART – D
Hazardous Wastes

(as specified under Hazardous Waste Management and Handling Rules, 1989)

Sl. No.	Hazardous Waste	Total Quantity (Kg.)	
		During the previous financial year (2022-23)	During the Current financial year (2023-24)
		(1)	(2)
(a)	From process	Nil	Nil
(b)	From pollution control facilities	Nil	Nil
(c)	From Gas & Diesel Engine -		
	i) Spent lube oil (Ltrs.)	100	293
	ii) Recyclable Lead acid battery (Nos.)	NIL	24

PART – E
Solid Wastes

Sl. No.	Solid Wastes	Total Quantity (Kg.)	
		During the previous financial year (2022-23)	During the Current financial year (2022-23)
		(1)	(2)
(a)	From process	Nil	Nil
(b)	From pollution control facilities	Nil	Nil
(c)	(1) Quantity recycled or re-utilized within the unit		
		Nil	Nil
	(2) Sold		
		Nil	Nil
	(3) Disposed		
		Nil	Nil

PART – F

Please specify the characterizations (in terms of composition of quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

- Spent oil is being returned back to ONGC Main Store for further selling to authorised recyclers.
- Lead acid batteries are being given back to supplier at the time new batteries procured through MM Section, Tripura Asset, Agartala.

PART – G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production.

- Tree plantation - 80 nos. saplings planted in GCS and well site locations.
- Solar System of 61.4 kwp in operation, Total Solar Power Generated (FY 2023-24): 56523 kwh.

PART – H

Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution.

- NIL

PART – I

Any other particulars for improving the quality of the environment.

- Observed World Environment Day on 5th June, 2023.

रजनीश कुमार / RA / NISH KUMAR
 संचालक (उत्पत्ति) / GM (P)
 संस्थापक / Installation Manager
 कोनाबन जी.सी.एस. / Konaban GCS/Surface Team
 ओ.एन.जी.सी. त्रिपुरा परिसंपत्ति, अगर्तला
 ONGC, Tripura Asset, Agartala.

[FORM — V]

(See rule 14)

Environmental Statement for the financial year ending the 31st March 2024

PART - A

- (i) Name and address of the owner/occupier of the industry operation or process:
Shri Pankaj Kumar, Director (Production), M/s ONGC Ltd, Surface Team, ONGC Tripura Asset, Badarghat Complex, Agartala - 799014
- (ii) Industry category Primary — (STC code) Secondary----(SIC Code):Red/Gojalia GCS
- (iii) Production capacity: 0.5 MMSCMD Units: 1 No.
- (iv) Year of establishment: 31.07. 2021
- (v) Date of the last environmental statement submitted:

PART-B

Water and Raw Material Consumption

- (i) Water consumption m³/d

Process - Nil

Cooling - Nil

Domestic -12 (Including Fire Fighting Facility & Flare Water Seal Drum)

Sl. No.	Name of Products	Process water consumption per unit of product output	
		During the previous financial year (2022-23)	During the Current financial year (2023-24)
		(1)	(2)
(1)	Natural Gas	Nil	Nil
(2)	Condensate	Nil	Nil

1. Substituted by Rule 2 (b) of the Environment (Protection) Amendment Rules, 1993 notified vide G.S.R 3'6 (E) dated 22.04.1993.

- (ii) Raw material consumption

Sl. No.	Name of raw materials	Name of Products	Consumption of raw material per Unit of output	
			During the previous financial year (2022-23) M3	During the Current financial year (2023-24)M3
(1)	Nil	Natural Gas	Nil	Nil
(2)	Nil	Condensate	Nil	Nil

*If Industry may use codes if disclosing details of raw material would violate contractual obligations; otherwise all industries have to name the raw materials used.

PART- C

Pollution discharged to environment it of output

(Parameter as specified in the consent issued)

Pollutants	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water	1. Surface Discharge —Nil 2. Sub—surface disposal —Nil (Produced water transported to ADB & Sonamura GCS for treatment in ETP)	1. NA 2. NA	NA

Signature
9/9/2024

Senthil Thangaraju, CE(P)
Installation Manager, Gojalia GCS,
Tripura Asset, ONGC Ltd.

(b) Air	-	PM 10 – 58.5 $\mu\text{g}/\text{m}^3$ PM 2.5 – 25.6 $\mu\text{g}/\text{m}^3$ SO2 – 14.1 $\mu\text{g}/\text{m}^3$ NO2 – 19.7 $\mu\text{g}/\text{m}^3$ CO – 0.82 $\mu\text{g}/\text{m}^3$	All parameters are Within the prescribed standards.
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PART - D

Hazardous Wastes

(As specified under Hazardous Waste Management and Handling Rules, 1989)

Sl. No.	Hazardous Waste	Total Quantity (Kg.)	
		During the previous financial year (2022-23)	During the Current financial year (2023-24)
		(1)	(2)
(a)	From process	Nil	Nil
(b)	From pollution control facilities	Nil	Nil
(c)	From Gas & Diesel Engine -		
	i) Spent lube oil (Liters.)	255	400
	ii) Recyclable Lead acid battery (Nos.)	Nil	Nil

PART - E

Solid Wastes

Sl. No.	Solid Wastes	Total Quantity (Kg.)	
		During the previous financial year (2022-23)	During the Current financial year (2023-24)
		(1)	(2)
(a)	From process	Nil	Nil
(b)	From pollution control facilities	Nil	Nil
(c)	(1) Quantity recycled or reutilized within the unit		
		Nil	Nil
	(2) Sold		
		Nil	Nil
	(3) Disposed		
		Nil	Nil

PART-F

Please specify the characterizations (in terms of composition of quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

- Spent oil is being returned back to ONGC Main Store for further selling to authorized recyclers.
- Lead acid batteries are being given back to supplier at the time new batteries procured through MM Section, Tripura Asset, Agartala.


Senthil Thangaraju, CE(P)
 Installation Manager, Gojalia GCS,
 Tripura Asset, ONGC Ltd.

PART - G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production.

1. Tree plantations 100 nos. sapling as part of Green Belt Development

PART -H

Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution: Nil

PART - I

Any other particulars for improving the quality of the environment.

1. Observed World Environment day on 5th June 2023.
2. Swachhta Pakhwada 1-5th July 2023.

 9/9/2024.

Senthil Thangaraju, CE(P)
Installation Manager, Gojalia GCS,
Tripura Asset, ONGC Ltd.

[FORM – V]

(See rule 14)

Environmental Statement for the financial year ending the 31st March 2024**PART – A**

- (i) Name and address of the owner/occupier of the industry operation or process:
Name: Shri Pankaj Kumar, Director (Production), M/s ONGC Ltd.
Address: Surface Team, ONGC, Tripura Asset, Agartala - 799014
- (ii) Industry category Primary ----(STC code) Secondary----(SIC Code): Red / ROKHIA GCS
- (iii) Production capacity: 0.500 MMSCMD Units: 1 No.
- (iv) Year of establishment: March 07, 1990
- (v) Date of the last environmental statement submitted: --

PART – B**Water and River Material Consumption**

- (1) Water consumption m3/d:

Process - Nil

Cooling - Nil

Domestic – 13.69 (Including Fire Fighting Facility & Flare Water Seal Drum)

Sl. No.	Name of Products	Process water consumption per unit of product output	
		During the previous financial year (2022-23)	During the Current financial year (2023-24)
		(1)	(2)
(1)	Natural Gas	Nil	Nil
(2)	Condensate	Nil	Nil

1. Substituted by Rule 2 (b) of the Environment (Protection) Amendment Rules, 1993 notified vide G.S.R 3'6 (E) dated 22.04.1993.

- (ii) Raw material consumption

Sl. No.	*Name of raw materials	Name of Products	Consumption of raw material per Unit of output	
			During the previous financial year (2022-23) M3	During the Current financial year (2023-24) M3
(1)	Nil	Natural Gas	52526	117842
(2)	Nil	Condensate	Nil	Nil

*Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.

PART - C

Pollution discharged to environment/unit of output

(Parameter as specified in the consent issued)

Pollutants	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water	1. Surface Discharge –Nil 2. Sub-surface disposal in ED well below 1000 Mts. – NIL	1. (a) Oil & Grease – NA (b) TDS – NA 2. (a) Oil & Grease – BLQ(LOQ:4.0) (b) TSS – BLQ(LOQ:1.0)	All parameters are within the prescribed standards for sub-surface disposal.
(b) Air	-	PM ₁₀ - 48.6 µg/m ³ PM _{2.5} - 22.4 µg/m ³ SO ₂ - 14.2 µg/m ³ NO ₂ - 23.5 µg/m ³ CO - 0.67 mg/m ³	All parameters are within the prescribed standards.

PART – D
Hazardous Wastes

(as specified under Hazardous Waste Management and Handling Rules, 1989)

Sl. No.	Hazardous Waste	Total Quantity (Kg.)	
		During the previous financial year (2022-23)	During the Current financial year (2023-24)
		(1)	(2)
(a)	From process	Nil	Nil
(b)	From pollution control facilities	Nil	Nil

PART – E
Solid Wastes

Sl. No.	Solid Wastes	Total Quantity (Kg.)	
		During the previous financial year (2022-23)	During the Current financial year (2023-24)
		(1)	(2)
(a)	From process	Nil	Nil
(b)	From pollution control facilities	Nil	Nil
(c)	(1) Quantity recycled or re-utilized within the unit		
		Nil	Nil
	(2) Sold		
		Nil	Nil
	(3) Disposed		
	i) Spent lube oil (Ltrs)	58	58
	ii) Lead acid battery (Nos.)	02	10

PART – F

Please specify the characterizations (in terms of composition of quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

- Spent oil is being returned back to ONGC Main Store for further selling to authorised recyclers.
- Lead acid batteries are being given back to supplier at the time new batteries procured through MM Section, Tripura Asset, Agartala.

PART – G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production.

- Tree plantation - 120 nos. saplings as a part of Green Field Development.

PART – H

Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution.

PART – I

Any other particulars for improving the quality of the environment.

Observed World Environment day on 5th June, 2023.

B.K. Ray 08/09/2024

B.K. RAY
GM (P)
Installation Manager,
Rokhia GCS, Agartala-ST
ONGC, Tripura Asset, Agartala

[FORM – V]

(See rule 14)

Environmental Statement for the financial year ending the 31st March 2024**PART – A**

- (i) Name and address of the owner/occupier of the industry operation or process:
Name: Shri Pankaj Kumar, Director (Production), M/s ONGC Ltd.
Address: Surface Team, ONGC, Tripura Asset, Agartala - 799014
- (ii) Industry category Primary----- (STC code); Secondary----- (SIC Code): Red / ADB GCS
- (iii) Production capacity: 2.7 MMSCMD Units: 1 No.
- (iv) Year of establishment: 2008
- (v) Date of the last environmental statement submitted: – 15.09.2023

PART – B**Water and Raw Material Consumption**(i) Water consumption m³/d:

Process - Nil

Cooling - Nil

Domestic - 25.0 (Including Fire Fighting Facility & Flare Water Seal Drum)

Sl. No.	Name of Products	Process water consumption per unit of product output	
		During the previous financial year (2022-23)	During the Current financial year (2023-24)
		(1)	(2)
(1)	Natural Gas	Nil	Nil
(2)	Condensate	Nil	Nil

1. Substituted by Rule 2 (b) of the Environment (Protection) Amendment Rules, 1993 notified vide G.S.R 376 (E) dated 22.04.1993.

(ii) Raw material consumption:

Sl. No.	*Name of raw materials	Name of Products	Consumption of raw material per Unit of output	
			During the previous financial year (2022-23)	During the Current financial year (2023-24)
(1)	Nil	Natural Gas	Nil	Nil
(2)	Nil	Condensate	Nil	Nil

*Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.

PART - C

Pollution discharged to environment/unit of output

(Parameter as specified in the consent issued)

Pollutants	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water	1. Surface Discharge - Nil 2. Sub-surface disposal in ED well below 1000 Mts. 116.5 M3/day	1. (a) Oil & Grease - NA (b) TDS - NA 2. (a) Oil & Grease - 3.2ppm (Range < 10ppm) (b) TSS - 37ppm (Range < 100ppm)	All parameters are within the prescribed standards for sub-surface disposal.
(b) Air	-	PM ₁₀ - 52.6 µg/m ³ (Limit <100) PM _{2.5} - 20.4 µg/m ³ (Limit <60) SO ₂ - 17.5 µg/m ³ (Limit <80) NO ₂ - 25 µg/m ³ (Limit <80) CO - 0.25 mg/m ³ (Limit <2)	All parameters are within the prescribed standards. (As per Ambient Air Quality Report dated 17.11.2023 by M/s Netel (India) Limited.)


Rajan Das
संयोजक/अधीक्षक (उत्पादन)/CE (P)
स्थापना प्रबंधक/Installation Manager
एडीबी जीसीएस/ADB GCS
ONGC, Tripura Asset, Agartala.

PART – D**Hazardous Wastes**

(as specified under Hazardous Waste Management and Handling Rules, 1989)

Sl. No.	Hazardous Waste	Total Quantity (Kg.)	
		During the previous financial year (2022-23)	During the Current financial year (2023-24)
		(1)	(2)
(a)	From process	Nil	Nil
(b)	From pollution control facilities	1825	1737

PART – E**Solid Wastes**

Sl. No.	Solid Wastes	Total Quantity (Kg.)	
		During the previous financial year (2022-23)	During the Current financial year (2023-24)
		(1)	(2)
(a)	From process	Nil	Nil
(b)	From pollution control facilities	Nil	Nil
(c)	(1) Quantity recycled or re-utilized within the unit		
		Nil	Nil
	(2) Sold		
		Nil	Nil
	(3) Disposed		
	i) Spent lube oil (Lit)	105	Nil
	ii) Lead acid battery (Nos.)	Nil	Nil

PART – F

Please specify the characterizations (in terms of composition of quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

1. Hazardous waste is the sludge extracted out from the Effluent Treatment Plant and is safely being stored in dedicated Sludge Pit. The accumulated sludge is periodically sent for Bio-Remediation through the company ONGC Teri Biotech Limited.
2. Spent oil is being returned back to ONGC Main Store for further selling to authorised recyclers.
3. Lead acid batteries are being given back to supplier at the time new batteries procured through MM Section, Tripura Asset, Agartala.

PART – G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production.

1. Tree Plantation- 51 No's Saplings as a part of Green Field Development.
2. All lights inside GCS including 03 nos. of high mast towers and lights in process area are LED lights which resulted into total energy savings of ~3200.4 kWh/month.
3. Tata Power Solar System: 37.8 kW/d, Total Solar Power Generated (FY 2023-24): 23656.5 kWh
4. Permanent and Mobile Effluent treatment plants of capacity 100 m³/day and 200 m³/day respectively are operational.

PART – H

Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution.

1. Reduced the consumption of plastic inside the GCS premises.

PART – I

Any other particulars for improving the quality of the environment.

1. Observed World Environment Day on 5th June, 2023.


 03/09/2024
 रजित दास/RANJAN DAS
 मुख्य अभियन्ता (उत्पादन)/CE (P)
 स्थापना प्रबंधक/Installation Manager
 एडीबी जीसीएस/ADB GCS
 ONGC, Tripura Asset, Agartala.

FORM-V
(Under Rule 14)

Environmental statement for the financial year ending the 31st March-2024

PART-A

- (i) Name & Address of the owner/ occupier of the industry
operation or process: Shri. Pankaj Kumar, Director (Production), M/S ONGC Ltd.
- (ii) Production capacity: 0.8 MMSCMD. Units- 01 Nos
- (iii) Year of establishment : 2016
- (iv) Date of the last Environment Statement submitted :

PART B

- (i) **Water consumption M³/day (Industrial / Domestic) : -**

Process – Nil

Cooling – Nil

Domestic – 9.5 m³/d

	Name of the product	Process water consumption per unit of product output	
		During the previous financial year (2022-2023)	During the current financial year (2023-2024)
		(1)	(2)
1	Natural Gas	Nil	Nil
2	Condensate	Nil	Nil

- (ii) **Raw Material consumption**

	Name of Raw Material	Name of Products	Consumption of raw material per unit of out put
	Nil	NA	Nil
	Nil	NA	Nil

PART C

Pollution discharged to Environment/Unit of output.

(Parameter as specified in the consent issued)

(1)	Pollutant	Quantity of pollutants discharged (mass/day)	Concentration of pollutants discharges (mass/Volume)	Percentage of variation from prescribed standards with reason
(a)	Water	1. Surface disposal- Nil 2. Sub-surface disposal- ED well below 1000 mts -	1. (a) Oil & g=Grease : NA (b): TDS : NA 2. (a) Oil & g=Grease : < 4.0 mg/l	All parameters are within the standards for subsurface disposal at Sonamura GCS.

Mohammed Rizwan
Mohammed Rizwan
Installation Manager
Sonamura GCS
ONGC Ltd.

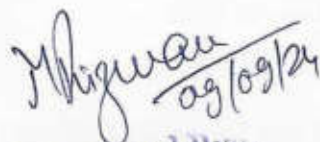
		70 m3/d	(b): TSS : 12.6 mg/l	
(b)	Air		PM 10 -56.4µg/m3 PM 2.5 – 24.5 µg/m3 SO2 - 14.8 µg/m3 NO2 - 23.7 µg/m3 CO - 0.61 mg/m3	All parameters are within the prescribed standards.

Note:

PART – D HAZARDOUS WASTES

(As specified under Hazardous waste (Management, Handling and Transboundary) Rule 2016

	Hazardous wastes	Total quantity (MT)	
		During the previous Financial Year (2022-2023)	During the Current Financial Year (2023-2024)
(a)	From Process	Nil	Nil
(b)	From Pollution control Facilities	Nil	Nil
(c)	For gas & diesel engine:		
	(i) Spent Lube Oil (Ltrs)	842	504
	(ii) Recyclable Lead Acid Batteries (Nos)	4	0


 09/09/24
Mohammed Rizvi
 Installation Manager
 Sonamura GCS
 ONGC Tripura Area

PART – E Solid Waste (Drilling Cutting)

		Total quantity (in kg)	
		During the previous Financial Year (2022-2023)	During the Current Financial Year (2023-2024)
		(1)	(2)
(a)	From Process	Nil	Nil
(b)	From Pollution Control facility	Nil	Nil
(c)	(1) Quantity recycled or re-utilized in the unit	Nil	Nil
	(2) Sold	Nil	Nil
	(3) Disposed	Nil	Nil

PART – F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid and indicate disposal practice adopted for both these categories of wastes.

1. Spent oil is being returned back to ONGC main store for further selling to authorized recyclers.
2. Lead acid batteries are being given back to supplier at the time of procuring new batteries through MM Section, Tripura Asset, Agartala.

PART- G

Impact of the pollution abatement measures taken on conservation of natural resource and on the cost of production :-

1. Tree plantation – 130 Nos saplings as part of Green Field Development
2. Operated Tata Power Solar system of capacity- 39.7 KW

Mohammed Rizwan
09/01/24
Mohammed Rizwan
Installation Manager
Sonamura'GCS
ONGC Tripura Asset

PART – H

Additional measures/investment proposal for Environment protection including abatement of pollution, prevention of pollution:-

PART – I

Any other particulars for improving the quality of the Environment:-

1. Observed World Environment day on 5th June 2023


08/09/24

Mohammed Rizwan
Installation Manager
Sonamura GCS
ONGC Tripura Asset

FORM V

(See rule 14)

Environment statement for the financial year ending on 31st march on or before 30th of September every year**PART A**

	Name of the Rig	E-1400-14
1	Name and address of the owner/occupier of the industry operation or process.	Mr. PANKAJ KUMAR Oil & Natural Gas Corporation Ltd. Deendayal Urja Bhavan, 5 Nelson Mandela Marg, Vasant kunj, New delhi South West Delhi Delhi-110070
2	Industry category Primary (STC code) secondary (STC Code)	Primary (STC)
3	Production capacity - units	
4	Year of establishment	05.10.1986
5	Date of the last environmental statement submitted.	15.09.2023

PART B

	Water and raw material consumption		
1	Water consumption m3/d		
a	Process	34	
B	Cooling	2	
c	Domestic	17	
	Name of products	Process water consumption per unit of product output	
		During the previous financial year	During the current financial year
2	Raw material consumption		
	Name of raw materials	Name of the product	Consumption of raw water per unit
			During the previous financial year
			During the current financial year

*Industry may use codes if disclosing details of raw materials would violate contractual obligation, otherwise all industries have to name the raw material used.

PART C

Pollution discharge to environment/unit of output.
(Parameters as specified in the consent issued)

Pollution	Quantity of pollutants Discharged (mass/day)	Concentration of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reason

Abhishek
03/09/24
A. SINGH
Installation Manager,
Drilling Mine Rig E1400 14
ONGC., Agartala.

(a) Water		Tem-25.2 *c PH-7.6 Dissolved solid-140 mg/lit Chloide-36.8 mg/lit Salphate-6.2 mg/lit	40 5.5-9.0 2100 600 1000
(b) Air		PM ₁₀ -58.4 ug/m ³ PM _{2.5} -25.6 ug/m ³ SO ₂ --16.6 ug/m ³ CO ₂ --0.62 ug/m ³ NH ₃ -32.6 ug/m ³	100 60 80 2 400

PART D
Hazardous Wastes

as specified under Hazardous wastes(management and handling) Rules,1989

Hazardous wastes		Total quantity (kg)	
		During the previous financial year	During the current financial year
a	From process		
b	From pollution control facilities.		

PART E
Solid wastes

	Solid wastes	Total quantity (kg)	
		During the previous financial year	During the current financial year April 2024- present
a	From process	CHEMICAL BAGS. 31000 nos EMPTY BARRELS - 20 Nos. HAND GLOVES & COTTONS- 720 kg Casing protectors- 1570 nos. Drill cuttings - 1820 M3	CHEMICAL BAGS. 6000 nos EMPTY BARRELS - Nos. HAND GLOVES & COTTONS- 300 kg Casing protectors- 547 nos. Drill cuttings -850 M3
b	From pollution control facilities.	NIL	
c	Quantity recycled or re-utilized within the unit.	NIL	
	Sold	NIL	
	Disposed	NIL	

PART F

(Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.)

All solid wastes are sending to disposal cell ONGC Agartala.

PART G

Pollution discharged to environment/unit of output

Drill cuttings and drilling fluid is dumped in waste pit at drill site

PART H

Additional measures/investment proposal for environmental protection abatement of pollution, prevention of pollution

PART I

Any other particulars for improving the quality of the environment.

Alighet
 03/09/24
 A. SINGH
 Installation Manager,
 Drilling Mine Rig E1400 14
 ONGC., Agartala.

FORM V (See rule 14) Environment statement for the financial year ending on 31 st march on or before 30 th of September every year			
PART A			
Rig Name		E-1400-M1	
1	Name and address of the owner/occupier of the industry operation or process.	Mr. PANKAJ KUMAR Oil & Natural Gas Corporation Ltd. Deendayal Urja Bhavan, 5 Nelson Mandela Marg, Vasant kunj, New delhi South West Delhi Delhi 110070	
2	Industry category Primary (STC code) secondary (STC Code)	Primary (STC-)	
3	Production capacity - units		
4	Year of establishment	09.07.2021	
5	Date of the last environmental statement submitted.	15.09.2023	
PART B			
Water and raw material consumption			
1	Water consumption m3/d		
a	Process	20M3	
B	Cooling	NIL	
c	Domestic	05M3	
	Name of products	Process water consumption per unit of product output	
		During the previous financial year	During the current financial year
2	Raw material consumption		
	Name of raw materials	Name of the product	Consumption of raw water per unit
			During the previous financial year
			During the current financial year
*Industry may use codes if disclosing details of raw materials would violate contractual obligation, otherwise all industries have to name the raw material used.			
PART C			
Pollution discharge to environment/unit of output. (Parameters as specified in the consent issued)			
Pollution	Quantity of pollutants Discharged (mass/day)	Concentration of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reason
(a) Water		Dissolved solids- 252mg/l Chloride-5mg/l Sulphate-7.9mg/l	

K. D. MEENA
SE (D) - DIC
RIG E-1400-M1
ONGC, TRIPURA ASSE

K. D. MEENA
SE (D) - DIC
RIG E-1400-M1
ONGC, TRIPURA ASSE

(b) Air		Oil & Grease-2mg/l PM10-49.8ug/m3 PM2.5-22.6ug/m3 SO2-18.2ug/m3 CO-0.61ug/m3 NH3-22.8ug/m3	
PART D Hazardous Wastes as specified under Hazardous wastes(management and handling) Rules,1989			
Hazardous wastes		Total quantity (kg)	
		During the previous financial year	During the current financial year
a	From process		
b	From pollution control facilities.		
PART E Solid wastes			
Solid wastes		Total quantity (kg)	
		During the previous financial year	During the current financial year
a	From process	CHEMICAL BAGS-1880kg EMPTY BARRELS- 91nos HAND GLOVES& COOnONS-1025kg Casing protectors- 1950 Drill cuttings -742.2 M3	Chemical BAGS -39000 nos EMPTY BARRELS - 30 Nos. HAND GLOVES & COTTONS- 840kg Casing protectors- 1750 kg Drill cuttings -1269 M3
b	From pollution control facilities.	NIL	
c	Quantity recycled or re-utilized within the unit.	NIL	
	Sold	NIL	
	Disposed	NIL	
PART F (Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.) All solid wastes are sending to disposal cell ONGC Agartala.			
PART G Pollution discharged to environment/unit of output			
Drill cuttings and drilling fluid is dumped in waste pit at drill site			
PART H Additional measures/investment proposal for environmental protection abatement of pollution, prevention of pollution			
PART I Any other particulars for improving the quality of the environment.			

[Signature] 05/06/24

K. D. MEENA
SE (D) - DIC
RIG E-1400-M1
ONGC, TRIPURA ASSE

K. D. MEENA
SE (D) - DIC
RIG E-1400-M1
ONGC, TRIPURA ASSE

FORM V (See rule 14) Environment statement for the financial year ending on 31 st March on or before 30 th of September every year			
PART A			
	RIG NAME	E 1400-M2	
1	Name and address of the owner/occupier of the industry operation or process.	Mr. PANKAJ KUMAR Oil & Natural Gas Corporation Ltd. Deendayal Urja Bhavan, 5 Nelson Mandela Marg, Vasant kunj, New Delhi South West Delhi Delhi 110070	
2	Industry category Primary (STC code) secondary (STC Code)	Primary (STC-)	
3	Production capacity - units		
4	Year of establishment	05.10.1986	
5	Date of the last environmental statement submitted.	15.09.2023	
PART B			
Water and raw material consumption			
1	Water consumption m3/d		
a	Process	24	
B	Cooling	2	
c	Domestic	10	
	Name of products	Process water consumption per unit of product output	
		During the previous financial year	During the current financial year
2	Raw material consumption		
	Name of raw materials	Name of the product	Consumption of raw water per unit
			During the previous financial year
			During the current financial year
*Industry may use codes if disclosing details of raw materials would violate contractual obligation, otherwise all industries have to name the raw material used.			
PART C			
Pollution discharge to environment/unit of output. (Parameters as specified in the consent issued)			


 SATINDER PAL SINGH
 DGM(D)
 RIC E-1400-M1 & M2
 ONGC.

Pollution	Quantity of pollutants Discharged (mass/day)	Concentration of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reason
(a) Water		DISSOLVED SOLIDS-824mg/lit CHLORIDE-162.4mg/lit SULPHATE-40.2mg/lit OIL&GREASE-2mg/lit	
(b) Air		PM(10)-65.2 PM-(2.5)- 27.5 SO2-20.4 CO-0.68 OZONE-5.4	

PART D
Hazardous Wastes
as specified under Hazardous wastes(management and handling) Rules,1989

Hazardous wastes		Total quantity (kg)	
		During the previous financial year	During the current financial year
a	From process		
b	From pollution control facilities.		

PART E
Solid wastes

Solid wastes		Total quantity (kg/nos)	
		During the previous financial year	During the current financial year
a	From process	Chemical Bags- 35200 nos. Barrels- 57 nos. Hand Gloves and Cotton- 850kg Casing Protectors- 592 nos. Drill Cuttings- 1020m ³	Chemical Bags- 23000 Barrels- 39 Hand Gloves and Cotton-296kg Casing Protectors- 260 nos. Drill Cuttings- 490m ³
b	From pollution control facilities.	NIL	NIL
c	Quantity recycled or re-utilized within the unit.	NIL	NIL
	Sold	NIL	NIL
	Disposed	NIL	NIL

PART F

(Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.)

All solid wastes are sending to disposal cell ONGC Agartala.


SATINDER PAL SINGH 5.9.24
DGM(D)
RIC E-1400-M1 & M2
ONGC.

PART G
Pollution discharged to environment/unit of output
Drill cuttings and drilling fluid is dumped in waste pit at drill site
PART H
Additional measures/investment proposal for environmental protection abatement of pollution, prevention of pollution
PART I
Any other particulars for improving the quality of the environment.


 SATINDER PAL SINGH 5.9.24
 DGM(D)
 RIC E-1400-M1 & M2
 ONGC.

FORM V

(See rule 14)

Environment statement for the financial year ending on 31st march on or before 30th of September every year

PART A

1	Name and address of the owner/occupier of the industry operation or process.	Mr. PANKAJ KUMAR NG-2000-1 Oil & Natural Gas Corporation Ltd. Deendayal Urja Bhavan, 5 Nelson Mandela Marg, Vasant kunj, New delhi South West Delhi Delhi 110070
2	Industry category Primary (STC code) secondary (STC Code)	Primary (STC-)
3	Production capacity - units	
4	Year of establishment	12.12.2022
5	Date of the last environmental statement submitted.	15.09.2023

PART B

Water and raw material consumption			
1	Water consumption m3/d		
a	Process	30 m3	
B	Cooling	NIL	
c	Domestic	27 m3	
	Name of products	Process water consumption per unit of product output	
		During the previous financial year	During the current financial year
2	Raw material consumption		
	Name of raw materials	Name of the product	Consumption of raw water per unit
			During the previous financial year
			During the current financial year

*Industry may use codes if disclosing details of raw materials would violate contractual obligation, otherwise all industries have to name the raw material used.

PART C

Pollution discharge to environment/unit of output.
(Parameters as specified in the consent issued)

Lakendra Sawayan
Raj G 2000-1
Tilakra Asset
Jantala

Pollution	Quantity of pollutants Discharged (mass/day)	Concentration of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reason
(a) Water		Oil & Grease: 2.0 mg/lit	
(b) Air		PM ₁₀ : 56.8 µg/M3 PM _{2.5} : 23.1 µg /M3 Benzene: 2.9 µg /M3 Ammonia: 20.4 µg /M3	
PART D Hazardous Wastes as specified under Hazardous wastes(management and handling) Rules,1989			
Hazardous wastes		Total quantity (kg)	
		During the previous financial year	During the current financial year
a	From process		
b	From pollution control facilities.		
PART E Solid wastes			
Solid wastes		Total quantity (kg)	
		During the previous financial year	During the current financial year
a	From process	Chemical Bags: 37100 Nos Empty Barrel: 44 No. Hand Gloves and cotton: 780 Kg Burnt Oil: 3900 lts Casing Protectors: 480 Kg Drill Cuttings: 730.79 m3	
b	From pollution control facilities.	NIL	
c	Quantity recycled or re-utilized within the unit.	NIL	
	Sold	NIL	
	Disposed	NIL	
PART F (Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.) All solid wastes are sending to disposal cell ONGC Agartala.			
PART G Pollution discharged to environment/unit of output			

Lalendra Samiyan
Rig NG 207
Tripura Asses
Agartala

Drill cuttings and drilling fluid is dumped in waste pit at drill site

PART H

Additional measures/investment proposal for environmental protection abatement of pollution, prevention of pollution

PART I

Any other particulars for improving the quality of the environment.

Lalendra Sanaiyan
Rig NG 2000-1
Tripura Asset,
Agartala.

FORM V (See rule 14) Environment statement for the financial year ending on 31 st march on or before 30 th of September every year			
PART A			
	Rig Name	NG-2000-2	
1	Name and address of the owner/occupier of the industry operation or process.	Mr. PANKAJ KUMAR Oil & Natural Gas Corporation Ltd. Deendayal Urja Bhavan, 5 Nelson Mandela Marg, Vasant kunj, New delhi South West Delhi Delhi 110070	
2	Industry category Primary (STC code) secondary (STC Code)	Primary (STC-)	
3	Production capacity - units		
4	Year of establishment	05.10.1986	
5	Date of the last environmental statement submitted.	15-09-2023	
PART B			
Water and raw material consumption			
1	Water consumption m3/d		
a	Process	24	
B	Cooling	2	
c	Domestic	10	
	Name of products	Process water consumption per unit of product output	
		During the previous financial year	During the current financial year
2	Raw material consumption		
	Name of raw materials	Name of the product	Consumption of raw water per unit
			During the previous financial year
			During the current financial year
*Industry may use codes if disclosing details of raw materials would violate contractual obligation, otherwise all industries have to name the raw material used.			
PART C			
Pollution discharge to environment/unit of output. (Parameters as specified in the consent issued)			

9/9/24

S.S. PUROHITA
उप महाप्रबन्धक (वेधन) / DGM (D)
RIC-NG 2000-02-RIG
ओ.एन.जी.सी. त्रिपुरा परिसंपत्ति, अगरतला
ONGC, Tripura Asset, Agartala.

Pollution	Quantity of pollutants Discharged (mass/day)	Concentration of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reason
(a) Water		PH-7.60 TDS-430 mg/lit COD-22.6 mg/lit Chloride-168 mg/lit Sulphate-40.8 mg/lit Sodium-23.5 mg/lit Oil & Grease-2 mg/lit	
(b) Air		PM ₁₀ -58.7 ug/m ³ PM _{2.5} -24.6 ug/ m ³ SO ₂ -14.6 ug/ m ³ NO ₂ -23.76 ug/ m ³ CO-0.61 6ug/ m ³ NH ₃ -21.8 6ug/ m ³	

PART D

Hazardous Wastes

as specified under Hazardous wastes(management and handling) Rules,1989

Hazardous wastes		Total quantity (kg)	
		During the previous financial year	During the current financial year
a	From process		
b	From pollution control facilities.		

PART E

Solid wastes

Solid wastes		Total quantity (kg/nos)	
		During the previous financial year	During the current financial year
a	From process	Chemical Bags- 41000 nos. Barrels- 103 nos. Hand Gloves and Cotton- 750kg Burnt Oil-1670 liters Casing Protectors- 640 nos. Drill Cuttings- 580m ³	Chemical Bags- 13000 Barrels- 73 no's Hand Gloves and Cotton-500kg Burnt oil-1000 liters Casing Protectors- 590 nos. Drill Cuttings- 422m ³
b	From pollution control facilities.	NIL	NIL
c	Quantity recycled or re-utilized within the unit.	NIL	NIL
	Sold	NIL	NIL
	Disposed	NIL	NIL


 Shashi Kumar
 उप महाप्रबन्धक (वेधन)/DGM (D)
 RIC-NG 2000-02-RIG
 ओ.एन.जी.सी. त्रिपुरा परिसंपत्ति, अगरताला
 ONGC, Tripura Asset, Agartala

PART F (Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.) All solid wastes are sending to disposal cell ONGC Agartala.
PART G Pollution discharged to environment/unit of output Drill cuttings and drilling fluid is dumped in waste pit at drill site
PART H Additional measures/investment proposal for environmental protection abatement of pollution, prevention of pollution
PART I Any other particulars for improving the quality of the environment.


 7/9/24

शाशांत शेखर पुरोहित/S.S. KHORHIT
 उप महाप्रबन्धक (वेधन)/UGM (D)
 RIC-NG 2000-02-RIG
 ओ.एन.जी.सी., त्रिपुरा परिसर, अगरतला
 ONGC, Tripura Asset, Agartala.

FORM-V
(Under Rule 14)

Environmental statement for the financial year ending the 31st March-2024

PART-A

- (i) Name & Address of the owner/
occupier of the industry
operation or process :

**HH-100-01, Workover Services,
Well Services.**

**Shri Pankaj Kumar,
Director (Production),
M/s ONGC Limited**
- (ii) Production capacity Units : **NA**
- (iii) Year of establishment: **2016**
- (iv) Date of the last Environment
Statement submitted: **15.09.2023**

PART B

- (i) **Water consumption M³/day (Industrial / Domestic) : -**

Name of the product	Process water consumption per unit of product output
	During the Current Financial Year
Water consumption: 2520 m3	

- (ii) **Raw Material consumption**

Name of Raw Material	Name of Products	Consumption of raw material per unit of out put
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Mud chemicals:

Common salt	113MT
Micronized calcium carbonate :	4 MT
XC polymer :	0.125MT

[Signature] 04/09/24
कुंदन नारायण देव/KUNDAN NARAYAN DEO
मुख्य अभियंता (उत्पादन), कूप सेवाएं
CE(P), Well Services
ONGC, Tripura Asset, Agartala
ओ.एन.जी.सी. त्रिपुरा परिसंपत्ति, अगरतला

Cmc-HVG :	0.140 MT
Cmc-LVG :	0.250 MT
Caustic soda :	0.650 MT,
Poly anionic cellulose (Regular) :	1 MT

PART C

Pollution discharged to Environment/Unit of output.

(Parameter as specified in the consent issued)

(1)	Pollutant	Quantity of pollutants discharge (mass/day)	Concentration of pollutants in discharged (mass/Volume)	Percentage of variation from prescribed standard reasons
-----	-----------	---	---	--

(a) Water : **NA**

(b) Air : **NA**

Note:

PART – D

HAZARDOUS WASTES

(As specified under Hazardous waste (Management, Handling and Transboundary) Rule 2016

Hazardous wastes	Total quantity (MT)
	During the Current Financial Year
(a) From Process: NIL	
(c) Spent oil (M ³): NIL	
(d) Oily Waste, MT: NIL	
(e) Discarded container (Nos): NIL	

PART – E

Solid Waste (Drilling Cutting)

Total quantity (M ³)
During the Current Financial Year

- (a) From Process: **NIL**
 (b) From Pollution Control facility: **NIL**

कुंदन नारायण देव / KUNDAN NARAYAN DEW
 मुख्य अभियंता (खनिकी) / Principal Engineer (Mining)
 CE(M), Well Services
 ONGC, Tripura Area, Agartala
 औद्योगिकी वी. त्रिपुरा परिसर, अगर्ताला
 04/09/24

- (c) Quality recycled or re-utilized/sold: **NIL**
(d) Disposed: **NIL**
-

PART – F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid and indicate disposal practice adopted for both these categories of wastes.

PART- G

Impact of the pollution abatement measures taken on conservation of natural resource and on the cost of production :-

PART – H

Additional measures/investment proposal for Environment protection including abatement of pollution, prevention of pollution:-

PART – I

Any other particulars for improving the quality of the Environment:-


04/09/24
कुंदन नारायण देव / KUNDAN NARAYAN DEO
मुख्य अभियंता (उत्पादन), कृषि सेवाएं
CE(M), Well Services
ONGC, Tripura Asset, Agartala
ओ.एन.जी.सी. त्रिपुरा परिसंपत्ति, अगरतला

FORM-V
(Under Rule 14)

Environmental statement for the financial year ending the 31st March-2024

PART-A

- (i) Name & Address of the owner/
occupier of the industry
operation or process Mr. Pankaj Kumar , Director
(Production), AHWR-150-01 ,
WORK OVER SERVICES , ONGC
, TRIPURA ASSET , AGARTALA.
- (ii) Production capacity Units : NIL
- (iii) Year of establishment: 01.04.2023
- (iv) Date of the last Environment
Statement submitted: 15.09.2023

PART B

(i)	Water consumption M³/day (Industrial / Domestic) : -	
	Name of the product	Process water consumption per unit of product output
		During the Current Financial Year
A) WATER		1430 M3

(ii) Raw Material consumption

	Name of Raw Material	Name of Products	Consumption of raw material per unit of out put
A) BARYTE			228MT
B) BENTONITE			13.75MT
C) CAUSTIC SODA			0.6 MT
D) XC POLYMER			0.375 MT
E) CAUSTIC LIGNITE			1 MT
F) CMC LVG			1
G) CMC HVG :4,7 MT			0.5 MT

Ramesh
के. रमेश चौहान K. RAMESH CHOUHAN
मुख्य अभियंता (उत्पादन) / CE (P)
कुप सेवाएँ/Well Services
IM-AHWR-150-01
ONGC, Tripura Asset, Agartala.

- H) CALCIUM CARBONATE:
2 MT
I) CFD: 0.25 MT
J) NaCl: 25 MT
K) POTASSIUM
HYDROXIDE: 0.3 MT

PART C

Pollution discharged to Environment/Unit of output. (Parameter as specified in the consent issued)

(1)	Pollutant	Quantity of pollutants discharge (mass/day)	Concentration of pollutants in discharged (mass/Volume)	Percentage of variation from prescribed standard reasons
(a)	Water		NIL	
(b)	Air		NIL	

Note:

PART - D HAZARDOUS WASTES

(As specified under Hazardous waste (Management, Handling and Transboundary) Rule 2016)

Hazardous wastes	Total quantity (MT)
	During the Current Financial Year
(a) From Process	NIL
(c) Spent oil (M ³)	NIL
(d) Oily Waste, MT	NIL
(e) Discarded container (Nos)	NIL

PART - E Solid Waste (Drilling Cutting)

	Total quantity (M ³)
	During the Current Financial Year
(a) From Process	NIL
(b) From Pollution Control	NIL

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क्षुब्ध सेवाएँ/Well Services
IM-AHWR-150-01
ONGC, Tripura Asset, Agartala.

	facility	
(c)	Quality recycled or re-utilized/sold	NIL
(d)	Disposed	NIL

PART – F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid and indicate disposal practice adopted for both these categories of wastes.

PART- G

Impact of the pollution abatement measures taken on conservation of natural resource and on the cost of production :-

PART – H

Additional measures/investment proposal for Environment protection including abatement of pollution, prevention of pollution:-

PART – I

Any other particulars for improving the quality of the Environment:-

Ramesh
 के. रमेश / RAMESH CHOUHAN
 मुख्य अभियंता (उत्पादन) / CE(P)
 कुप सेवाएँ / Well Services
 IM-AHWR-150-01
 ONGC, Tripura Asset, Agartala.

FORM-V
(Under Rule 14)

Environmental statement for the financial year ending the 31st March-2024

PART-A

- (i) Name & Address of the owner/
occupier of the industry
operation or process Mr.PANKAJ KUMAR,
SKP-135-V WOR(CH)
M/s ONGC LTD. TRIPURA
ASSET
- (ii) Production capacity Units
- (iii) Year of establishment 01.09.2023
- (iv) Date of the last Environment
Statement submitted

PART B

- (i) **Water consumption M³/day (Industrial / Domestic) : -**

Name of the product	Process water consumption per unit of product output
WATER	During the Current Financial Year 1744 M³

- (ii) **Raw Material consumption**

Name of Raw Material	Name of Products	Consumption of raw material per unit of out put
MUD CHEMICAL BARYTES		2670 BAGS
BENTONITE POWDER		319 BAGS
CAUSTIC SODA FLAKES (SODIUM HYDROXIDE)		6.2 BAGS
CARBOXYMETHYLCELLULOSE(LVG)		111 BAGS
CARBOXYMETHYLCELLULOSE(HVG)		
MICRONIZED CALCIUM CARBONATE		28 BAGS

smgubta
04/09/2024
Om K. Gupta
(K.P.)

CMC (HIGH VISCOSITY GRADE)

52 BAGS

PART C

Pollution discharged to Environment/Unit of output.

(Parameter as specified in the consent issued)

(1) Pollutant	Quantity of pollutants discharge (mass/day)	Concentration of pollutants in discharged (mass/Volume)	Percentage of variation from prescribed standard reasons
(a) Water	NIL		
(b) Air	NIL		

Note:

PART - D

HAZARDOUS WASTES

(As specified under Hazardous waste (Management, Handling and Transboundary) Rule 2016

Hazardous wastes	Total quantity (MT)
	During the Current Financial Year
(a) From Process	NIL
(c) Spent oil (M ³)	NIL
(d) Oily Waste, MT	NIL
(e) Discarded container (Nos)	NIL

PART - E

Solid Waste (Drilling Cutting)

	Total quantity (M ³)
	During the Current Financial Year
(a) From Process	NIL
(b) From Pollution Control facility	NIL
(c) Quality recycled or re-utilized/sold	NIL

Om Gupta
Om Kr. Gupta
CE(P), was

(d) Disposed

NIL

PART - F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid and indicate disposal practice adopted for both these categories of wastes.

PART- G

Impact of the pollution abatement measures taken on conservation of natural resource and on the cost of production :-

PART - H

Additional measures/investment proposal for Environment protection including abatement of pollution, prevention of pollution:-

PART - I

Any other particulars for improving the quality of the Environment:-

Om Gupta
04/09/2024
Om K. Gupta
CEP, Was