



**OFFICE OF BASIN MANAGER
KG-PG BASIN, ONGC**

4th Floor, Diligent Building, Opposite ONGC Base Complex
Rajahmundry, Andhra Pradesh, India-533106
Phone: 0883-2494780, Email: bm_kg@ongc.co.in

No: ONGC/KG-PG/EC-COMPL-ONSHORE/2025-26/H1

Date: 28.11.2025

To:

Shri Balaji Kari IFS
Asst Inspector General of Forests
Ministry of Environment, Forest and Climate Change,
Sub-Office Vijayawada Green House,
Gopala Reddy Road, Vijayawada – 520010, Andhra Pradesh

Sub: Half yearly compliance report for the period 01.04.2025 to 30.09.2025

Dear Sir,

Please find enclosed herewith the six-monthly EC compliance report for the exploratory wells drilled in KG Basin during the period from 01.04.2025 to 30.09.2025, Andhra Pradesh. Following are the details of the exploratory wells drilled in onland KG-PG Basin:

Sl. No	BLOCK NAME	WELL NAME	EC No.
1	West Godavari PML	MSAE	J-11011/68/2011-IAII(I) dt.23.03.2015
2	Godavari onland PML	PSAV, MDAX, GMAH and MDAY	EC22B002AP162571 dt.06.12.2022

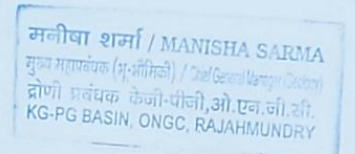
With Regards,

Manisha Sarma

for **Basin Manager
KG-PG Basin**

Enclosures:

1. EC Condition Compliance Report
2. Copies of the Environmental clearances
3. Environment Monitoring Reports.
4. Final Report on 'Land subsidence' studies of KG-PG Basin



Half Yearly Compliance Report**2025****01 Dec(01 Apr - 30 Sep)****Acknowledgement**

Proposal Name		ADDITIONAL EXPLORATION OF 50 WELLS IN GODAVARI ON-LAND PML BLOCK OF KG BASIN IN EAST AND WEST GODAVARI DISTRICTS OF ANDHRA PRADESH. EC ID NO:EC22B002AP162571 DATED 06.12.2022																	
Name of Entity / Corporate Office		ONGC LTD																	
Village(s)		N/A																	
District		EAST GODAVARI																	
<table><tr><td>Proposal No.</td><td>SIA/AP/IND2/193538/2021</td></tr><tr><td>Plot / Survey / Khasra No.</td><td>N/A</td></tr><tr><td>State</td><td>ANDHRA PRADESH</td></tr><tr><td>MoEF File No.</td><td>AP IND EG 7 2022 4472</td></tr></table>		Proposal No.	SIA/AP/IND2/193538/2021	Plot / Survey / Khasra No.	N/A	State	ANDHRA PRADESH	MoEF File No.	AP IND EG 7 2022 4472	<table><tr><td>Category</td><td>Industrial Projects - 2</td></tr><tr><td>Sub-District</td><td>N/A</td></tr><tr><td>Entity's PAN</td><td>*****1598A</td></tr><tr><td>Entity name as per PAN</td><td>OIL AND NATURAL GAS CORPORATION LIMITED</td></tr></table>		Category	Industrial Projects - 2	Sub-District	N/A	Entity's PAN	*****1598A	Entity name as per PAN	OIL AND NATURAL GAS CORPORATION LIMITED
Proposal No.	SIA/AP/IND2/193538/2021																		
Plot / Survey / Khasra No.	N/A																		
State	ANDHRA PRADESH																		
MoEF File No.	AP IND EG 7 2022 4472																		
Category	Industrial Projects - 2																		
Sub-District	N/A																		
Entity's PAN	*****1598A																		
Entity name as per PAN	OIL AND NATURAL GAS CORPORATION LIMITED																		

Compliance Reporting Details

Reporting Year	2025
Remarks (if any)	Four exploratory wells PSAV, MDAX, MDAY and GMAH drilled during the period from 1st April 2025 to 30th September 2025 Environment Monitoring reports of exploratory wells PSAV, MDAX, MDAY and GMAH attached.
Reporting Period	01 Dec(01 Apr - 30 Sep)

Details of Production and Project Area

Name of Entity / Corporate Office	ONGC LTD	
	Project Area as per EC Granted	Actual Project Area in Possession
Private	288925	288925
Revenue Land	0	0
Forest	0	0
Others	0	0
Total	288925	288925

Production Capacity

Sr. no	Product Name	units	Valid Upto	Capacity	Production last year	Capacity as per CTO
Conditions						
Specific Conditions						
Sr.No.	Condition Type	Condition Details				
1	Statutory compliance	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.				
PPs Submission: Complied Project proponent complies with stipulations made by the State Pollution Control Board and the State Government						Date: 27/11/2025
2	Statutory compliance	Part A: Special Conditions: Drilling shall be done with the consent of land owners only.				
PPs Submission: Complied Drilling activity is being done with the consent of landowners only.						Date: 27/11/2025
3	WASTE MANAGEMENT	The proponent should strictly comply with the E-Waste Management Rules, 2016, and report compliance.				
PPs Submission: Complied Complied with E-Waste Management Rules, 2016. ONGC routes e-waste through MSTC Ltd.						Date: 27/11/2025
4	Statutory compliance	Part A: Special Conditions: The proposal shall not attract the following Acts and Rules: a. Forest Act 1980, b. Wild Life (Protection) Act, 1972; c. CRZ Notification, 2011; d. The Eco sensitive areas as notified under Environment (Protection) Act, 1986; e. Critically polluted areas as notified by CPCB and also shall not harm live stocks and human beings and disturb their activities.				
PPs Submission: Complied Exploratory drilling locations do not attract the following Acts and Rules: a. Forest Act 1980, b. Wild Life (Protection) Act, 1972; c. CRZ Notification, 2011; d. The Eco sensitive areas as notified under Environment (Protection) Act, 1986; e. Shall not harm Critically polluted areas as notified by CPCB and also live stocks and human beings.						Date: 27/11/2025
5	Statutory compliance	Part A: Special Conditions: The project proponent shall not use any Synthetic based oils mud/chemicals.				
PPs Submission: Complied Only Water based mud is being used.						Date: 27/11/2025
6	Risk Mitigation and Disaster Management	Part A: Special Conditions: The project proponent shall implement disaster management system.				
PPs Submission: Complied ONGC DMP is in accordance with the guidelines of OISD, DGMS and Govt. of India.						Date: 27/11/2025
7	Statutory compliance	Part A: Special Conditions: The project proponent shall take consent from land owners before going to start proposed project.				

PPs Submission: Complied Consent from landowners is solicited before going to start proposed project.		Date: 27/11/2025
8	Statutory compliance	Part A: Special Conditions: The proponent shall have the liability to pay compensation to the farmers and Property holders in case of damages due to operation of wells
PPs Submission: Complied The proponent pays compensation to the farmers and property holders in case of damages due to drilling operations.		Date: 27/11/2025
9	WASTE MANAGEMENT	Part A: Special Conditions: The project proponent shall comply with the Bio-medical Waste Management Rules, 2016 and its amendments
PPs Submission: Complied Not applicable.		Date: 27/11/2025
10	AIR QUALITY MONITORING AND PRESERVATION	Adequate stack height shall be provided for D.G. Sets 3 x 1750-1430 KVA (1 x 1750- 1430 KVA standby) as per CPCB norms.
PPs Submission: Complied DG sets are provided with adequate stack heights as per CPCB norms.		Date: 27/11/2025
11	MISCELLANEOUS	Felling of tree shall not be permitted unless PP takes applicable permission from State Forest Department / Concerned authority, if felling of tree is inevitable for drilling operations.
PPs Submission: Complied Felling of trees will not be done without prior permission from State Forest Department / Concerned authority		Date: 27/11/2025
12	AIR QUALITY MONITORING AND PRESERVATION	During exploration, production, storage and handling, the fugitive emissions of methane, if any, shall be monitored using infra-red camera / appropriate technology.
PPs Submission: Complied Exploratory drilling activity is of short duration for 3 to 5 months at particular site.		Date: 27/11/2025
13	Human Health Environment	The project proponent also to ensure trapping / storing of the CO2 generated, if any, during the process and handling.
PPs Submission: Complied CO2 not generated during Exploratory drilling activity.		Date: 27/11/2025
14	MISCELLANEOUS	Approach road shall be made pucca to minimize generation of suspended dusty.
PPs Submission: Complied Pucca approach roads made to minimize generation of suspended dust.		Date: 27/11/2025
15	AIR QUALITY MONITORING AND PRESERVATION	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R, No.826(E)dated 16thNovember,2009 shall be complied with.

PPs Submission: Complied Ambient air quality is monitored through a third party as per NAAQ emission Standards issued by the Ministry vide G.S.R, No.826(E) dated 16th November,2009. Test reports of wells PSAV, MDAY, MDAX and GMAH are enclosed in additional attachments.		Date: 27/11/2025
16	AIR QUALITY MONITORING AND PRESERVATION	To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines
PPs Submission: Complied DG sets are housed on the deck with acoustic enclosures and have adequate stack heights as per norms. Pollution control devices like dust collectors and bag filters provided.		Date: 27/11/2025
17	AIR QUALITY MONITORING AND PRESERVATION	The locations of the ambient air quality monitoring stations shall be decided in consultation with the State pollution Control Board(SPCB) and it shall be ensured that at least one stations each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated
PPs Submission: Complied Ambient air quality is monitored through a third party as per NAAQ emission Standards issued by the Ministry vide G.S.R, No.826(E) dated 16th November,2009. One stations each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated. Environment monitoring reports attached at additional attachments		Date: 27/11/2025
18	AIR QUALITY MONITORING AND PRESERVATION	Ambient air quality shall be monitored at the nearest human settlements as per the National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R, No.826(E)dated 16thNovember,2009 for PM10, PM2.5,SO2, NOX, CO, CH4,HC, Non- Methane HC etc.,
PPs Submission: Complied Ambient air quality of the nearest village monitored through a third party as per NAAQ emission standards. Environment monitoring report attached at additional attachments		Date: 27/11/2025
19	Noise Monitoring & Prevention	The company shall make all arrangements for control of noise from the drilling activity. Acoustic enclosure shall be provided for the DG sets along with the adequate stack height as per CPCB guidelines.
PPs Submission: Complied DG sets are housed on the deck with acoustic enclosures and have adequate stack heights as per norms. People working in noise prone areas are provided with ear-muffs.		Date: 27/11/2025
20	Noise Monitoring & Prevention	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, silencersa, enclosures etc., on all sources of noise generation.
PPs Submission: Complied Acoustic enclosures are provided for the gen sets to minimize the noise levels within specified limits. Ear-muffs provided for the persons working near the gen sets.		Date: 27/11/2025
21	Noise Monitoring & Prevention	The ambient noise levels shall conform to the standards prescribed under Environment (Protection)Act,1986 Rules, 1989 viz. 75dBA(day time) and 70 dBA(night time).
PPs Submission: Complied The ambient noise levels are being monitored regularly. Environment monitoring report attached.		Date:

		27/11/2025
22	WATER QUALITY MONITORING AND PRESERVATION	As per records the source of water is hired tankers. Total water requirement for each well is 50 KLD (Fresh water is 40 KLD and Recycled water is 10 KLD). 10.0 KLD is used for Domestic purpose.
PPs Submission: Complied Total freshwater requirement is being met by hired tanker supply.		Date: 27/11/2025
23	WATER QUALITY MONITORING AND PRESERVATION	Waste water shall be treated by an effective onsite ETP coupled with RO so as to reduce fresh water foot print on daily basis. Size of the waste pit shall be kept minimum in such way so that it can only accommodate volume of discarded mud and volume of drill cuttings. Storm water shall not be allowed to reach waste water pit. Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.
PPs Submission: Complied Mobile ETP installed for recycle and reuse of effluent water to the maximum possible extent. Adequate size of waste pit is made to accommodate volume of discarded mud and drill cuttings. Zero liquid discharge is being ensured at all drilling rigs, and no wastewater is discharged outside the premises.		Date: 27/11/2025
24	WATER QUALITY MONITORING AND PRESERVATION	Total fresh water requirement shall not exceed 30 cum/day/well proposed to be met through tankers/ground water. Mobile ETP shall be installed coupled with RO to reuse the treated water in drilling system. Size of the waste shall not exceed from the whole volume of the well plus volume of drill cutting expected to be generated and volume of discarded mud if any. Two feet free board may be left to accommodate rain water. There shall be separate storm water channel and rain water shall not be allowed to mix with waste water. Alternatively, if possible pit less drilling be practiced instead of above.
PPs Submission: Complied Total fresh-water requirement is being met by hired tanker supply. Mobile ETP is used for recycling and reuse of effluent water generated at the site. Constructed the garland drains all around the drilling sites. Pilot project on pit less drilling done to ascertain the feasibility.		Date: 27/11/2025
25	WASTE MANAGEMENT	Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.
PPs Submission: Complied Zero liquid discharge is being ensured at all drilling operations, and no waste/untreated water is discharged outside the premises		Date: 27/11/2025
26	WASTE MANAGEMENT	The company shall construct the garland drain all around the drilling site to prevent runoff of any oil containing waste into the nearby water bodies. Separate drainage system shall be created for oil contaminated and non-oil contaminated. Effluent the shall be properly treated and treated waste water shall conform to CPCB standards.
PPs Submission: Complied Constructed the garland drains all around the drilling site. Effluent water is being re-used/re-cycled after treatment with mobile ETP.		Date: 27/11/2025
27	WASTE MANAGEMENT	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 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.
PPs Submission: Complied Drilling wastewater and drill cuttings wash water are collected in HDPE lined waste pit and left for solar drying. The disposal of drill cuttings and hazardous waste shall be routed through M/s. APEMCL to pre-processing as utilizable waste. Compliance details as per GSR 546(E) dated 30.08.2005 are attached.		Date: 27/11/2025
28	WATER QUALITY MONITORING AND PRESERVATION	The total waste water generation is 250 KLD. (5 KLD at each well site). The waste water shall be treated in ETP of capacity 50 KLD and after treatment shall be reused. No outside discharge.
PPs Submission: Complied Effluent water is being re-used/re-cycled after treatment with mobile ETP. No waste/untreated water is discharged outside.		Date: 27/11/2025
29	WASTE MANAGEMENT	Hazardous waste generated during the Rigs operations such as organic residue, waste oils, used oils etc., shall be disposed as per the Hazardous and other Wastes (Management and Tran boundary movement) Rules, 2016 and its amendments thereof
PPs Submission: Complied Spent oil is sent to authorized recyclers. The disposal of drill cuttings and hazardous waste shall be routed through M/s.APEMCL to pre-processing as utilizable waste / TSDF		Date: 27/11/2025
30	WASTE MANAGEMENT	The proponent shall comply with solid waste management rules 2016.
PPs Submission: Complied Complied with solid waste management rules 2016.		Date: 27/11/2025
31	WASTE MANAGEMENT	Oil spillage prevention and mitigation scheme shall be prepared. In case of Oil spillage/contamination, action plan shall be prepares to clean the site by adopting proven technology. The recyclable waste (oily sludge) and spent oil shall be disposed of the authorized recyclers
PPs Submission: Complied In case of any oil spillage/contamination, proven bio-remediation method will be adopted for clean-up of area. Spent oil will be disposed through the authorized recyclers. The disposal shall be routed through M/s. APEMCL to pre-processing as utilizable waste / TSDF.		Date: 27/11/2025
32	WASTE MANAGEMENT	Oil content in the drill cuttings shall be monitored by some Authorized agency and report shall be sent to the Ministrys Regional Office, Vijayawada.
PPs Submission: Complied Oil content in the drill cuttings is being analyzed by CPCB authorized agency. Report attached.		Date: 27/11/2025
33	MISCELLANEOUS	The Project Proponent shall ensure that the transportation activity of the unit should not cause any inconvenience to the public and comply with the local norms, if any;

PPs Submission: Complied Pucca approach road made to minimize generation of suspended dust.		Date: 27/11/2025
34	Risk Mitigation and Disaster Management	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management plan shall be implemented.
PPs Submission: Complied ERP is based on HIRA and DMP and are in accordance with the guidelines of OISD, DGMS and Govt. of India.		Date: 27/11/2025
35	Risk Mitigation and Disaster Management	Blow out preventer system shall be installed to prevent well blowouts during drilling operations. BOP measures during drilling shall focus on maintaining well bore hydrostatic pressure by proper pre-well planning and drilling fluid logging etc.,
PPs Submission: Complied Blow Out Preventer (BOP) system is mandatorily installed to prevent well blowouts during drilling operations. Hydrostatic pressure in the well bore is taken care during drilling, logging and other well operations by maintaining requisite mud weight.		Date: 27/11/2025
36	Human Health Environment	Company shall prepare operating manual in respect of all activities, which would cover all safety and environment related issues and 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.
PPs Submission: Complied SOPs for drilling operations covering safety and environmental aspects of operations and management thereof have been given to supervisors and concerned persons at all drilling rigs. Safe Work Practices is also made available at all rigs. Regular safety and environment training is being provided to the employees by our various in- house training institutes like IPSHEM Goa, IDT and ONGC Academy, Dehradun, etc. QHSE Management System procedures are in place with regular internal and external audits. Environmental monitoring reports are available at rig site.		Date: 27/11/2025
37	Human Health Environment	On completion of drilling, the company has to plug the drilled wells Safely and obtain certificate from environment safely angle from the concerned authority.
PPs Submission: Complied Wells once declared dry, are abandoned with plugs as per OMR-2017 and the sites are restored back to original condition before handing over to the owners.		Date: 27/11/2025
38	Human Health Environment	The company shall take measures after completion of drilling process by well plugging and secures enclosures, decommissioning of rig upon abandonment of the well and drilling site shall be restored the area in original condition. In the event that no economic quantity of hydrocarbon is found a full abandonment plan shall be implemented from the drilling site in accordance with the applicable Indian Petroleum Regulations
PPs Submission: Complied Abandonment is done as per OMR 2017/ OISD STD. Restoration and remediation of abandoned wells will be carried out as per ONGCs guidelines (SOP) issued by Corporate HSE, New Delhi. However, in case of any restoration of project site, report shall be conveyed to IRO, MoEFCC, Vijayawada.		Date: 27/11/2025

39	Human Health Environment	The company shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. Possibility of using ground flare shall be explored. At the place of place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during operation.
PPs Submission: Complied First aid, Firefighting equipment provided as per OISD-189. Flaring is done through flare stack during testing through test separator for a brief period of 1-2 days. Garland drain is provided.		Date: 27/11/2025
40	MISCELLANEOUS	Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis,. Training to all employees on handling of chemicals shall be imparted.
PPs Submission: Complied All persons working at the drill site including those of contractors are being imparted with various safety training including Mines Vocational Training (MVT) as per the guidelines of DGMS		Date: 27/11/2025
41	Human Health Environment	The company shall develop a contingency plan for H2S release including all necessary aspects from evacuation to resumption of normal operations. The workers shall be provided with personal H2S detectors in locations of high risk of exposure along with self containing breathing apparatus.
PPs Submission: Complied Emergency response plan for H2S release is available. Portable H2S detectors are available at drilling rigs. However, it is pertinent to mention that H2S is usually not encountered during drilling operations in oil fields of Rajahmundry Asset.		Date: 27/11/2025
42	Human Health Environment	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooling, mobile toilets, mbile STP, safe drinking water, medical health care, creche etc. the housing may be in the form of temporary structures to be removed after the completion of the project.
PPs Submission: Complied All construction of Temporary infrastructure and facilities within the site needed during drilling operation are removed after the completion of the project.		Date: 27/11/2025
43	Human Health Environment	Occupational health surveillance of the workers shall be done on a regular basis and records mainlined as per the Factories Act.
PPs Submission: Complied Periodic medical examination (PME) is done in authorized hospitals as per company policy and guidelines issued by DGMS		Date: 27/11/2025
44	Human Health Environment	The company shall carry out long term subsidence study collecting base line data before initiating drilling operation till the project lasts. The data so collected shall be submitted six monthly to the SEIAA and Regional Office, Vijayawada.
PPs Submission: Complied Land Subsidence study is undertaken by IIT, Chennai. Final report of 2024 is attached. NOA of Land subsidence study for 2025 is awarded to Andhra University, a copy of NOA is attached in additional attachments		Date: 27/11/2025
45	MISCELLANEOUS	The project authorities should advertise at least in two local

		newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and SEIAA, A.P.
PPs Submission: Complied Advertised in local daily Deccan Herald and Eenadu dated 11.12.2022 (Attached).		Date: 27/11/2025
46	MISCELLANEOUS	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies. Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
PPs Submission: Complied Submitted to the Heads local Bodies.		Date: 27/11/2025
47	Statutory compliance	The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
PPs Submission: Complied Six monthly reports on the status of the compliance of the stipulated environmental conditions including results of the monitored data in ONGC INDIA website.		Date: 27/11/2025
48	Statutory compliance	The project proponent shall submit Half-yearly 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 Ministry of Environment and Forests, its Regional Office, Vijayawada, SEIAA, A.P., Zonal Office of Central Pollution Control Board, Bangalore, and A.P. Pollution Control Board.
PPs Submission: Complied Submitted six monthly reports on the status of the compliance of the stipulated environmental conditions including results of the monitored data (e-mail) to the IRO, MoEFCC, Vijayawada, the respective zonal of APPCB.		Date: 27/11/2025
49	Statutory compliance	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
PPs Submission: Complied Exploratory drilling activity is of temporary and short duration process for 3 to 5 months at particular site. Environment Statement Form-V is being submitted to APPCB.		Date: 27/11/2025
50	MISCELLANEOUS	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
PPs Submission: Complied All the project details are provided to the statutory authorities.		Date: 27/11/2025
51	MISCELLANEOUS	Restoration of the project site shall be carried out satisfactorily and

		report shall be sent to the Ministry's Regional Office, Vijayawada.
PPs Submission: Complied Restoration of the project site will be carried out as per ONGCs guidelines (SOP) issued by Corporate HSE, New Delhi and report shall be sent to the IRO, Vijayawada. No work of restoration of site carried out during this period.		Date: 27/11/2025
52	MISCELLANEOUS	The project proponent shall abide by all the commitments and recommendations made in the EIA / EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
PPs Submission: Complied Project under B2 Category. Will abide by all the commitments and recommendations made in the EIA / EMP report, also that during their presentation to the Expert Appraisal Committee.		Date: 27/11/2025
53	MISCELLANEOUS	No further expansion of modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate change/ SEIAA, as applicable.
PPs Submission: Complied Drilling activities are conducted as per the approval received from SEIAA		Date: 27/11/2025
54	MISCELLANEOUS	The Regional Office of Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer(s) of the Regional Office by furnishing the requisite date / information / monitoring reports.
PPs Submission: Complied ONGC will furnish the requisite date / information / monitoring reports.		Date: 27/11/2025
55	MISCELLANEOUS	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local
PPs Submission: Complied Advertised in local daily Deccan Herald and Eenadu dated 11.12.2022.		Date: 27/11/2025
General Conditions		
Sr.No.	Condition Type	Condition Details
1	Statutory compliance	This order is valid for 7 years.
PPs Submission: Complied As per F.No1A3-22/28/2022-1A.111 E181584 dated 13 Dec 2022 EC is valid for 10 years.		Date: 27/11/2025
2	Statutory compliance	The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986. In case of the diversion of forest land for non forest purpose involved in the project.
PPs Submission: Complied Forest clearance not needed.		Date: 27/11/2025
3	Statutory compliance	The project proponent shall obtain and adhere to statutory clearance

		under the Coastal Regulation Zone Notification, 2019, as applicable.
PPs Submission: Complied Coastal Regulation Zone clearance not needed,		Date: 27/11/2025
4	MISCELLANEOUS	The project proponent shall submit the copies of the Environmental Clearance to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
PPs Submission: Complied Copies of EC Submitted to Heads of local bodies, Panchayats and Municipal Bodies		Date: 27/11/2025
5	Statutory compliance	The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and SEIAA, A.P.
PPs Submission: Complied Advertised in local daily Deccan Herald and Eenadu dated 11.12.2022		Date: 27/11/2025
6	MISCELLANEOUS	The Prior Environmental Clearance issued to this project along with the Approved Environmental Management Plan (EMP) and the Approved DPR should be uploaded in the projects web site and be made available in the public domain
PPs Submission: Complied The Prior Environmental Clearance issued to this project along with the Approved Environmental Management Plan (EMP) and the Approved DPR uploaded in the project's web site ongcindia.com for view in the public domain		Date: 27/11/2025
7	MISCELLANEOUS	The PEC main contents be displayed on permanent boards at the main entry of the premises and at other prominent places
PPs Submission: Complied PEC main contents be displayed at site.		Date: 27/11/2025
8	MISCELLANEOUS	The project proponent shall strictly adhere to its Environmental Policy approved by the SEIAA, and shall be made available in their web site.
PPs Submission: Complied Project proponent strictly adheres to its Environmental Policy and available in their web site.		Date: 27/11/2025
9	MISCELLANEOUS	A Separate Bank account need to be started for the budget allocated for the EMP and the amount committed should be deposited before the project obtains CFE/CFO as the case may be. The amounts allocated should not be diverted for any other purpose.
PPs Submission: Complied ONGC reserves allocated budget amount for EMP during financial planning.		Date: 27/11/2025
10	Statutory compliance	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the SEIAA and

		its Regional Office located at Vijayawada.
PPs Submission: Complied ONGC reserves sufficient funds earmarked towards environmental protection measures for this and upcoming financial year. It is ensured that earmarked funds are not diverted for any other purpose.		Date: 27/11/2025
11	Statutory compliance	The proponent before starting the operations shall obtain all other mandatory clearances from respective departments, including the CFE and CFO from the APPCB.
PPs Submission: Complied Mandatory clearances from respective departments, including the CFE and CFO from the APPCB are obtained.		Date: 27/11/2025
12	Statutory compliance	The project proponent shall meticulously follow the Form-1/2 of the application; and approved EMP, for the purpose of all compliances.
PPs Submission: Complied For the purpose of all compliances the project proponent follows Form-1/2 of the application and approved EMP.		Date: 27/11/2025
13	AIR QUALITY MONITORING AND PRESERVATION	Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.
PPs Submission: Complied Exploratory drilling activity is of temporary and short duration process for 3 to 5 months at particular site. Mobile Environment monitoring Unit is stationed for Ambient air monitoring during drilling activity. It is carried by MoEFCC accredited agency Hubert Enviro-Care Reports attached.		Date: 27/11/2025
14	AIR QUALITY MONITORING AND PRESERVATION	Data on ambient air quality should be regularly submitted to the Regional Office located at Vijayawada and the State Pollution Control Board/ Central Pollution Control Board once in six months.
PPs Submission: Complied Submitted six monthly reports on the status of the compliance of the stipulated environmental conditions including results of the monitored data (e-mail) to the IRO, MoEFCC, Vijayawada, the respective zonal of APPCB. Environment Monitoring report attached in additional attachments.		Date: 27/11/2025
15	Human Health Environment	Personnel working in the industry should be provided with protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.
PPs Submission: Complied Personnel working in the industry is provided with protective respiratory devices and adequate training and information on safety and health aspects.		Date: 27/11/2025
16	Human Health Environment	Occupational health check up program for the workers should be undertaken periodically. A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
PPs Submission: Complied Occupational health checkup is done in authorized hospitals as per company policy and guidelines		Date: 27/11/2025

issued by DGMS. Environmental management cell setup is functional in the company		
17	Statutory compliance	The project proponent shall submit Half-yearly 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 Ministry of Environment and Forests, its Regional Office, Vijayawada, SEIAA, A.P., Zonal Office of Central Pollution Control Board, Bangalore, and A.P. Pollution Control Board.
PPs Submission: Complied Submitted six monthly reports on the status of the compliance of the stipulated environmental conditions including results of the monitored data (e-mail) to the IRO, MoEFCC, Vijayawada, the respective zonal of APPCB.		Date: 27/11/2025
18	Statutory compliance	The proponent shall upload the status of compliance of the environmental clearance conditions including results of monitored data on their websites and shall update the same periodically.
PPs Submission: Complied Status of compliance of the environmental clearance conditions including results of monitored data are uploaded in ongcindia.com website.		Date: 27/11/2025
19	MISCELLANEOUS	Officials from the Regional Office of MoEF and CC, Vijayawada / The SEIAA, Andhra Pradesh through the Regional Offices of Andhra Pradesh Pollution Control Board, who would be monitoring the implementation of environmental safeguards, should be given full co-operation, facilities and documents/data by the project proponents during their inspection. A complete set of all the documents shall be submitted to the CCF, Regional Office to MoEF and CC, Vijayawada.
PPs Submission: Complied ONGC will furnish the requisite data / information / monitoring reports.		Date: 27/11/2025
20	MISCELLANEOUS	SEIAA reserves the right to cancel the EC issued at any time, if EC has been obtained by the proponent through suppression of any information or furnishing false information upon which the project is appraised.
PPs Submission: Complied Noted for compliance		Date: 27/11/2025
21	MISCELLANEOUS	Concealing the factual data in the compliance reports, or failure to comply with any conditions mentioned above may result in withdrawal of the EC and attract action under the provisions of Environment (Protection) Act, 1986.
PPs Submission: Complied Noted for compliance		Date: 27/11/2025
22	MISCELLANEOUS	The SEIAA reserves the right to alter/modify the above conditions or stipulate any further conditions from time to time, in the interest of environment protection.
PPs Submission: Complied Noted for compliance		Date: 27/11/2025

23	MISCELLANEOUS	Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
PPs Submission: Complied Noted for compliance		Date: 27/11/2025
24	Statutory compliance	The project authority must strictly adhere to the stipulations made by the Central Government as part of the international conventions and Merchant Shipping Act.
PPs Submission: Complied Project is an onland exploratory drilling activity.		Date: 27/11/2025
25	Statutory compliance	The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended on 3rd October 1994. Prior approvals from OISD, PESO, etc. should be obtained wherever applicable.
PPs Submission: Complied ONGC Complies with Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended on 3rd October 1994. Drilling operations are carried out as per DGMS OMR-2017 and OISD standards. Handling of explosives approval is obtained from Chief Controller of Explosives.		Date: 27/11/2025
26	Statutory compliance	The project authorities must comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous and Other Wastes (Management, Handling and Transboundary) Rules, 2016 wherever applicable.
PPs Submission: Complied Spent oil is sent to authorized recyclers. The disposal of drill cuttings and hazardous waste shall be routed through M/s.APEMCL to pre-processing as utilizable waste / TSDF		Date: 27/11/2025
27	Human Health Environment	A separate environment management cell to be set up to carry out the environment management and monitoring functions..
PPs Submission: Complied Environmental management cell setup is functional in the company to carry out management and monitoring functions.		Date: 27/11/2025
28	MISCELLANEOUS	The project authorities will provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the SEIAA, State Government along with the implementation schedule for all the conditions stipulated herein.
PPs Submission: Complied ONGC allocates adequate funds both recurring and non-recurring to implement the conditions stipulated by the SEIAA, State Government along with the implementation schedule for all the conditions stipulated herein.		Date: 27/11/2025
29	MISCELLANEOUS	The implementation of the project vis-a-vis environmental action plans will be monitored by Ministrys regional office, State Pollution Control Board and Central Pollution Control board. A six-monthly compliance status report should be submitted to the monitoring agencies.

PPs Submission: Complied Submitted six monthly reports on the status of the compliance of the stipulated environmental conditions including results of the monitored data (e-mail) to the IRO, MoEFCC, Vijayawada, the respective zonal of APPCB.		Date: 27/11/2025
30	Statutory compliance	i. No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendment, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate change/ SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to Ministry / SEIAA for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
PPs Submission: Complied Drilling activities are conducted as per the approval received from MoEFCC.		Date: 27/11/2025
31	ENERGY PRESERVATION MEASURES	ii. The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.
PPs Submission: Complied ONGC follows a policy for energy conservation and environment betterment.		Date: 27/11/2025
32	Noise Monitoring & Prevention	iii. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
PPs Submission: Complied The ambient noise levels are being monitored regularly. Test reports are enclosed in additional attachments.		Date: 27/11/2025
33	Human Health Environment	iv. The company shall undertake all relevant measures for improving the socio- economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare measures in the near coastal area villages for the overall improvement of the environment.
PPs Submission: Complied For socio-economic welfare in the nearby area sufficient measures are undertaken in CSR.		Date: 27/11/2025
34	Statutory compliance	v. The environmental statement for each financial year ending 31st March in Form-5 as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices.
PPs Submission: Complied Exploratory drilling activity is of temporary and short duration process for 3 to 5 months at particular site. Environment statement Form V is being submitted to APPCB.		Date: 27/11/2025

35	MISCELLANEOUS	vi. The project proponent shall inform the public that the project has been accorded environmental clearance by the SEIAA and copies of the clearance letter are available at Website of the SEIAA and at https://parivesh.nic.in/ . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.
PPs Submission: Complied Company policy and other relevant information being displayed in front of each location. Details of the environmental clearance are published in the local newspapers.		Date: 27/11/2025
36	MISCELLANEOUS	vii. The project authorities shall inform the Regional Office as well as the Ministry / SEIAA, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
PPs Submission: Complied All the project details are provided to the statutory authorities.		Date: 27/11/2025
37	MISCELLANEOUS	viii. This environmental clearance is granted without any prejudice to final outcome of Honorable Supreme Court of India, Honorable High court, Honorable NGT and any other Court of Law, if any, as may be applicable to this project.
PPs Submission: Complied Noted for compliance.		Date: 27/11/2025
38	Statutory compliance	The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016 and the public liability Insurance Act, 1991 read with subsequent amendments therein.
PPs Submission: Complied Noted for compliance		Date: 27/11/2025
Visit Remarks		
Last Site Visit Report Date:		N/A
Additional Remarks:		Four exploratory wells PSAV, MDAX, MDAY and GMAH drilled during the period from 1st April 2025 to 30th September 2025 Environment Monitoring reports of exploratory wells PSAV, MDAX, MDAY and GMAH and NOA for Land subsidence are attached.
Note: This acknowledgement is as per the details submitted by project proponent. In no way is this document to be considered as conclusion on any action on the compliance of the project. This is strictly for the project proponent's reference purpose.		

**Environmental Monitoring Report for
development drilling of well MDAX#90 in Mandapeta by
drilling rig John-31
Andhra Pradesh
(Period 09.07.2025 to 10.07.2025)
REPORT**



**Sponsor
Oil and Natural Gas Corporation Limited
Rajamundry Asset, Second Floor, Godavari
Bhavan, Base Complex, Rajamundry,
Andhrapradesh - 533106**

**HECS
Hubert Enviro Care Systems (P) Ltd**

**(An ISO 9001, 14001 & 45001 Company)
(Accredited by NABL, Recognized by MoEF)
A21, behind Lions Club School, 3rd Phase, Thiru Vi
Ka Industrial Estate, SIDCO Industrial Estate,
Guindy, Chennai, Tamil Nadu 600032.
Phone: (044) 43635555
Email – lab@hecs.in**

**Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in
Mandapeta**

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Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

FOREWORD

Oil and Natural Gas Corporation Limited desired to monitor environmental status at its Project site. The work of environmental quality monitoring was entrusted to **M/s. Hubert Enviro Care Systems (P) Ltd., Chennai**. Which is MoEF recognized and NABL accredited laboratory, vide ONGC work order No. **ONG/RA/HSE/Env/EQM/2024-25; Dated on:01.01.2025 (RJYASSET/SUPPORT/MM/20222ENVIRONM/926474/9010035115 dated on: 12/08/2022).**

A comprehensive environmental monitoring network had been planned to monitor data for the month of **July'2025**. The monitored data on Ambient Air Quality, Stack monitoring, Water Quality, Effluent Quality, Noise data are collected and presented in this report.

Our sincere thanks are due to Oil and Natural Gas Corporation Limited, Rajamundry for awarding this work and ONGC Ltd., **RIG: Drilling John – 31 ; Well MDAX#90 in Mandapeta,Andhra Pradesh** for their kind co-operation during the study period.

Date:

01/09/2025

Place: Chennai - 32.



Dr. Rajkumar Samuel

Director Technical



Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

1.0 INTRODUCTION

1.1 Background

The work of environmental quality monitoring was entrusted to **M/s. Hubert Enviro Care Systems (P) Ltd., Chennai**, which is MoEF recognized and NABL accredited laboratory; vide ONGC work order No. **ONG/RA/HSE/Env/EQM/2024-25;** Dated **on:01.01.2025** (**RJYASSET/SUPPORT/MM/20222ENVIRONM/926474/9010035115** dated on: **12/08/2022**).

A comprehensive environmental monitoring network had been planned to monitoring date o from **09.07.2025 to 10.07.2025**. The monitored data on Ambient Air Quality, Stack monitoring, Water Quality, Drilling Effluent Quality, Noise data are collected and presented in this report.

1.2 Project Setting

Oil and Natural Gas Corporation Limited is having development drilling of well MDAX#90 in Mandapeta by drilling Rig John-31 , **Andhra Pradesh**.

1.3 Environmental Management Plan

Being concerned towards Environmental Protection, Oil and Natural Gas Corporation Limited has prepared an extensive Environmental Management Plan for Site operations.

Oil and Natural Gas Corporation Limited, Rajamahendravaram has entrusted the Environmental data monitoring work to **M/s. Hubert Enviro Care Systems Pvt Ltd., Chennai**, vide your Work Order No. No. **ONG/RA/HSE/Env/EQM/2024-25;** Dated **on:01.01.2025** (**RJYASSET/SUPPORT/MM/20222ENVIRONM/926474/9010035115** dated on: **12/08/2022**).

The field monitoring studies were carried out from **09.07.2025 to 10.07.2025** for Ambient Air Quality, Stack monitoring, Water Quality, Drilling Effluent Quality and Noise levels are presented in this report.



Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

2.0 SCOPE AND METHODOLOGY

2.0 Scope & Methodology

The scope of the study and the present report covers the detailed characterization of the existing environmental status in the Project area for major environmental components viz. Ambient Air Quality, Stack monitoring, Micrometeorological Condition and Noise Quality.

2.1 Micrometeorology

As a part of this study, micrometeorology and microclimatic parameters were recorded by installing a meteorological station at the site. Data of wind velocity, wind direction, ambient temperature and relative humidity were recorded at 30 minutes intervals for 24 hours throughout the monitoring period.

Wind velocity, wind direction, ambient temperature, relative humidity, cloud cover and atmospheric pressure were recorded using Vantage Vue Wireless Weather Monitoring Kit (Model 6351).

2.2 Ambient Air Quality

Locations in the upwind and downwind for Ambient Air quality monitoring stations were identified on the basis of sectional scenario of the project site to be representative of the site. Parameters chosen for assessment of air quality were Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur dioxide (SO₂), Nitrogen dioxide (NO₂) and Carbon Monoxide (CO). Calibrated Respirable Dust Sampler (with an average flow of 1.2-1.4 m³/min) were used for monitoring of PM₁₀, a tapping provided in the hopper of the same sampler was utilized for sampling of SO₂ and NO₂ with proper flow controller (1l/m). Calibrated APM 550 Fine particle sampler was used for monitoring of PM_{2.5}.



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Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

2.2.1 PM₁₀

Calibrated RDS (Respirable Dust Sample) used for the determination of PM₁₀. PM₁₀ is a measure of particulate matter having size <10 microns. Air is sampled isokinetically through a cyclone where particles greater than 10 microns are separated and then it passes through a glass microfiber filter 10" x 8". The difference in weight before and after sampling is determined and divided by volume of air.

2.2.2 PM_{2.5}

PM_{2.5} is a measure of particulate matter having size < 2.5 microns. APM 550 Fine particles sampler is based on Wins Impactor design standardized by USEPA for ambient air quality monitoring. Calibrated APM 550 Fine particle sampler with PTFE 47mm diameter filter media was used for the determination of fine particulate matter PM_{2.5}.

2.2.3 SO₂: Modified West-Geake Spectrophotometric Method

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.

2.2.4 NO_x: Jacob and Hochheiser Modified Method

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) ethylamine dihydrochloride and nitrogen dioxide concentration is determined using digital spectrophotometer at a wavelength of 540 nm.

2.2.5 Carbon monoxide (CO)

Carbon monoxide is collected in a Teddler bag and CO was determined using Serinus 30 NDIR CO analyzer.



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Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

2.2.6 Particulate Lead

The exposed EPM 2000 filter papers were cut into small pieces put into a glass beaker, poured 100 ml distilled water 10 ml nitric acid were added and digested on a hot plate in simmering heat. The clear solutions obtained after digestion was filtered and made up to 25ml and were analyzed by AAS for lead and arsenic. Concentration of lead was calculated by taking the result obtained from the analysis and dividing it with the volume of air sampled.

2.2.7 Nickel

The Inductively coupled plasma mass spectrometry (ICP-MS) technique is used to assess the concentration of an analyte in the sample. The method is based on active sampling using RDS (Respirable Dust Sample) Sampler and then sample analysis is done by ICP-MS.

2.2.8 Benzene

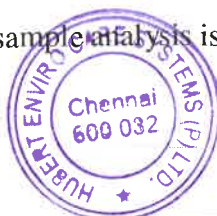
Ambient air is sucked through charcoal tube using low flow sampler. Benzene is adsorbed by activated charcoal in the charcoal tube. Desorption of the adsorbed Benzene is done using Carbon Disulphide. The substance desorbed in CS₂ is analyzed by capillary Gas Chromatography using a flame ionization Detector.

2.2.9 Benzo (a) pyrene

Particulate phase Poly Aromatic Hydrocarbons in ambient air and fugitive emission is collected by a RDS (Respirable Dust Sample) range (~1.2 m³/min) on a glass fiber filter and subsequent analysis by Gas Chromatograph using a Flame Ionisation Detector. It is capable of detecting sub nanogram concentration of PAH (Poly Aromatic Hydrocarbon) with a total sample of ~480 m³ of air over a period of 8 hrs.

2.2.10 Arsenic

The Inductively Coupled Plasma Mass Spectrometry (ICP-MS) technique is used to assess the concentration of an analyte in the sample. The method is based on active sampling using RDS (Respirable Dust Sample) Sampler and then sample analysis is done by ICP-MS.



Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

2.2.11 Ammonia

Ammonia is collected in dilute Sulphuric acid solution in midget impingers to form Ammonium Sulphate. The solution is treated with Nessler's reagent to produce a yellow brown complex. The Ammonia concentration is determined by reading the absorption of the complex at 440 nm and comparing with a standard curve.

2.2.12 Ozone

Micro-amounts of ozone and the oxidants liberate iodine when absorbed in a 1% solution of potassium Iodide buffered at pH 6.8 ± 0.2 . The iodine is determined spectrophotometrically by measuring the absorption of tri-iodide ion at 352 nm.

2.2.13 Mercury

The Inductively Coupled Plasma Mass Spectrometry (ICP-MS) technique is used to assess the concentration of an analysis in the sample. The method is based on active sampling using RDS (Respirable Dust Sample) Sampler and then sample analysis is done by ICP-MS.

2.2.14 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.

2.2.15 Hydrocarbons & Non Methane Hydrocarbons

Ambient air is collected in an inflatable toddler bag and is analyzed by gas chromatography using Flame Ionization Detector



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Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

2.3 Stack Monitoring

All the stacks are monitored using standard stack monitoring kit, Voyubhodhan VSS1. 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.

2.4 Water Quality

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

2.5 Noise Levels

Ambient Noise level measurements in four cardinal directions were carried out using an Extech sound level meter (Lutron Model SL4035 SD), with windscreen during daytime as well as night-time based on standard procedure given in CPCB guidelines.

In order to reduce the disturbances from standing waves, the noise levels measured were averaged over + 0.5 m each of at least three positions. The mean values were taken for reporting.



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Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

3.0 MICROMETEOROLOGICAL STATUS

3.1 Rationale behind Sampling

Meteorological parameters are important factors in the study of Air pollution. The transport and diffusion of the pollutants in the atmosphere are governed by meteorological factors. Factors like wind velocity; wind direction and atmospheric stability are known as primary/basic meteorological parameters since the dispersion and diffusion of pollutants depend mainly on these factors. Factors like ambient temperature, humidity, rainfall, atmospheric pressure, etc., are known as secondary meteorological parameters as these factors control the dispersion of the pollutants indirectly by affecting the primary factors. Thus, to assess the air pollution impact it becomes essential to collect the above-mentioned meteorological parameters in the project area.

Micrometeorological and microclimatic parameters were recorded by installing a meteorology station at site. During the study period, half hourly readings of wind velocity, wind direction, temperature, humidity, cloud cover, atmospheric pressure and rainfall data were recorded and reported.

3.2 Methodology & Procedure adopted for Analysis

Wind velocity, Wind direction, Ambient temperature, Relative humidity, Cloud cover and Atmospheric pressure were recorded using Vantage Vue Wireless Weather Monitoring Kit (Model 6351).

3.3 Data Presentation

Collected meteorological parameters for 1 day from are data is given in Table.
The seasonal wind roses are given.



Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

TEST REPORT

Sample Description : Micro Meteorology
 Sample Drawn by : Hubert Enviro Care Systems Private Limited
 Sampling Date : 09.07.2025 to 10.07.2025
 Sample Location : On top of the HSE office. John – 31 ; Well No.: MDAX#90 in Mandapeta
 Ambient Temperature : 29.6 °C

HOURS	WIND SPEED m/s	WIND SPEED mph	WIND DIRECTION	TEMPERATURE °C	CLOUD COVER	RELATIVE HUMIDITY %	PRESSURE mmHg
11:00 AM	6.33	14.15	E	32.3	Partly Cloudy	64.5	750
12:00 AM	4.81	10.75	ESE	28.9	Clear sky	72.8	751
13:00 PM	6.37	14.25	E	31.8	Clear sky	66.9	752
14:00 PM	4.96	11.10	ENE	30.4	Partly Cloudy	74.5	749
15:00 PM	5.10	11.41	NE	28.7	Partly Cloudy	76.4	751
16:00 PM	4.86	10.88	SE	29.4	Partly Cloudy	78.1	753
17:00 PM	6.49	14.53	SE	28.6	Partly Cloudy	82.6	752
18:00 PM	4.85	10.85	S	28.3	Partly Cloudy	77.6	751
19:00 PM	4.97	11.13	ESE	27.4	Partly Cloudy	75.2	751
20:00 PM	5.14	11.50	ENE	27.3	Partly Cloudy	76.5	749
21:00 PM	4.90	10.96	NE	26.6	Partly Cloudy	78.6	748
22:00 PM	6.54	14.63	E	25.9	Partly Cloudy	84.6	749
23:00 PM	5.04	11.27	E	26.5	Partly Cloudy	82.1	752
12:00 AM	6.34	14.18	NE	24.5	Partly Cloudy	80.7	751
1:00 AM	5.03	11.25	E	25.9	Partly Cloudy	79.8	751
2:00 AM	4.67	10.44	SE	26.4	Partly Cloudy	77.3	749
3:00 AM	6.51	14.56	SE	27.9	Partly Cloudy	76.4	748
4:00 AM	6.65	14.88	E	27.5	Partly Cloudy	73.9	749
5:00 AM	5.65	12.64	ESE	28.6	Partly Cloudy	71.4	752
6:00 AM	6.45	14.43	SE	27.7	Partly Cloudy	68.6	748
7:00 AM	4.92	11.00	NE	28.4	Partly Cloudy	66.7	752
8:00 AM	6.40	14.31	ENE	29.7	Partly Cloudy	58.8	748
9:00 AM	4.81	10.75	E	29.3	Partly Cloudy	56.9	747
10:00 AM	6.57	14.69	E	30.5	Partly Cloudy	57.3	746

*** End of Report ***



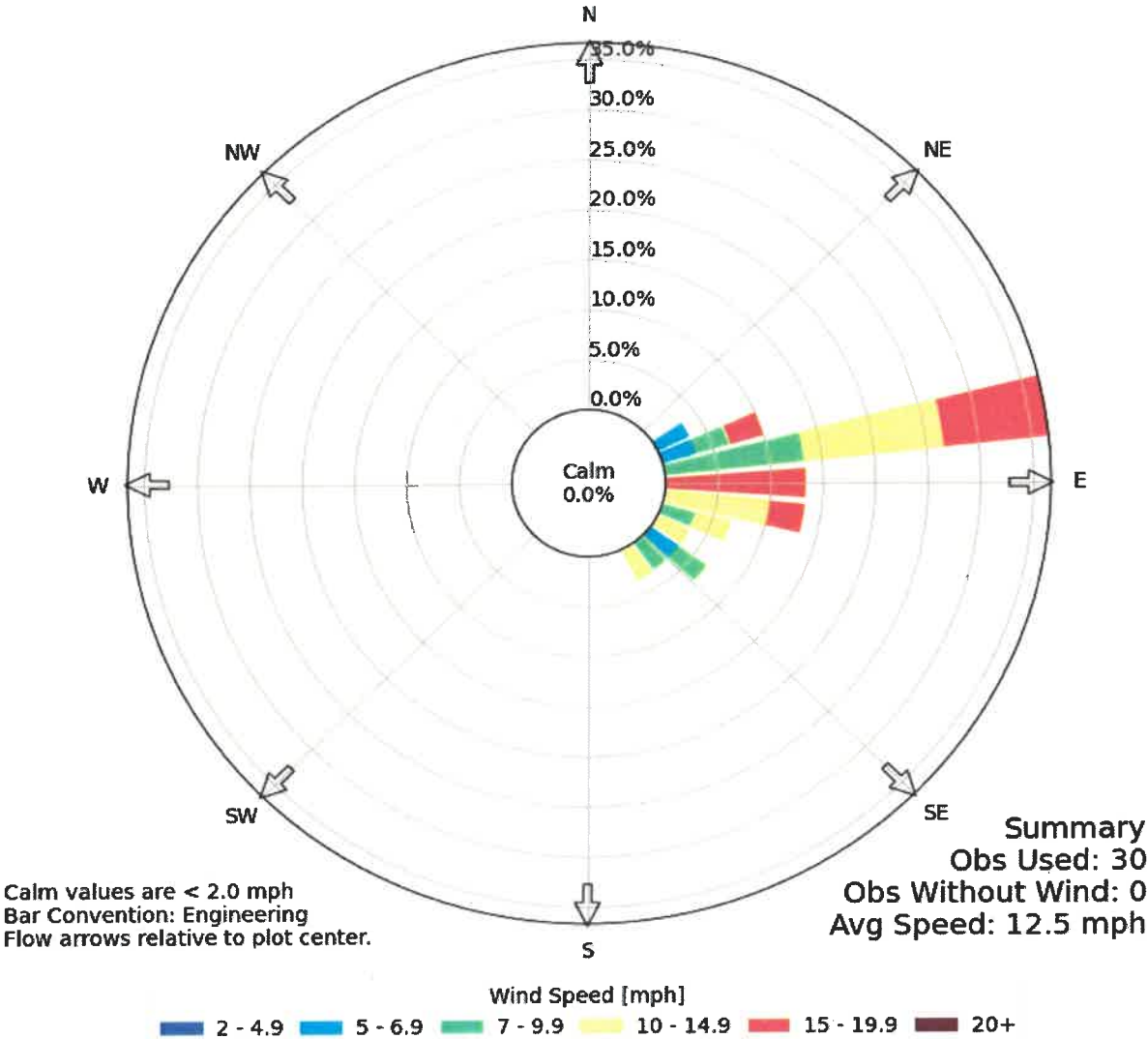

 Authorized Signatory

Hubert Enviro Care Systems (P) Ltd.

Sample Description : Wind Rose
Sample Drawn by : Hubert Enviro Care Systems Private Limited
Sampling Date : 09.07.2025 to 10.07.2025
Sample Location : On top of the HSE office -John – 31 ; Well No.: MDAX#90 in Mandapeta



Windrose Plot for [VORY] Rajahmundry
Obs Between: 09 Jul 2025 11:30 AM - 10 Jul 2025 10:30 PM Asia/Kolkata



Pic: 1 - Wind rose diagram



Hubert Enviro Care Systems (P) Ltd.

Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

4.0 AMBIENT AIR QUALITY STATUS

4.1 Preamble

The objective of the Ambient Air Quality monitoring is to assess the existing levels of air pollutants as well as the regional background concentration in the Project area. Air pollution forms an important and critical factor to study the environmental issues in the project areas. Air qualities have to be frequently monitored to know the extent of pollution due to mining and allied activities. Thus, ambient air quality monitoring was carried out at 2 locations. The ambient air quality monitoring stations are given.

AMBIENT AIR MONITORING STATIONS

SI.No.	Location Name	Location Code
1	Near Main gate - Upstream	AAQ-01
2	Near DG area – Down stream	AAQ-02

4.2 Data Presentation

The Ambient Air Quality data in terms of PM, PM₁₀, PM_{2.5}, SO₂, NO₂ and CO are given in Table.



A handwritten signature in blue ink.

Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

TEST REPORT

Name of the Client : M/s. Oil and Natural Gas Corporation Limited., Report No : HECS/AP/014/110725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 16.07.2025
Bhavan, Base-Complex, Rajamundry,
Andhrapradesh – 533106.

Sample Description : Ambient Air Quality – Drilling John – 31 ; Well No.: MDAX#90 in Mandapeta
Sampled Location : Near Main gate - Upstream
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
Sampling/Received Date : 09.07.2025 to 10.07.2025 / 11.07.2025
Analysis Commenced on : 11.07.2025 Completed on : 16.07.2025

S.No.	Parameters	Units	Results	NAAQ Standards: 2009	
1	Sulphur Dioxide	$\mu\text{g}/\text{m}^3$	11.59	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	23.53	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than $10\ \mu\text{m}$	$\mu\text{g}/\text{m}^3$	57.39	100(24 hours)	60 (Annual)
4	Particulate Matter Size Less than $2.5\ \mu\text{m}$	$\mu\text{g}/\text{m}^3$	25.49	60 (24 hours)	40 (Annual)
5	Carbon Monoxide	mg/m^3	BLQ(LOQ 0.05)	4(1 hours)	2 (8 hours)
6	Lead	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.002)	1(24 hours)	0.5 (Annual)
7	Ozone	$\mu\text{g}/\text{m}^3$	10.69	180(1 hours)	100 (8 hours)
8	Ammonia	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 5)	400(24 hours)	100 Annual)
9	Benzene	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.1)	5(Annual)	5 (Annual)
10	Benzo(a)pyrene	ng/m^3	BLQ(LOQ .1)	1(Annual)	1 (Annual)
11	Arsenic	ng/m^3	BLQ(LOQ 2)	6(Annual)	6 (Annual)
12	Nickel	ng/m^3	BLQ(LOQ 2)	20 (Annual)	20 (Annual)
13	Hydrocarbons	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 1)	NA	NA
14	Non Methane Hydrocarbons	mg/m^3	BLQ(LOQ 0.2)	NA	NA
15	Hydrogen Sulphide	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 6)	NA	NA
16	Mercury	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.002)	NA	NA

Note:-BLQ- Below the limit of Quantification, LOQ- Limits of Quantification, $\mu\text{g}/\text{m}^3$ - Micrograms per cubic meter, mg/m^3 - Milligrams per cubic meter, ng/m^3 - Nanograms per cubic meter, Parts per billion (ppb). Method of Testing -- As per IS: 5182; HECS/AIR/Ambient/SOP and NIOSH.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

*** End of Report ***

Authorized Signatory



Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

TEST REPORT

Name of the Client : M/s. Oil and Natural Gas Corporation Limited., Report No : HECS/AP/015/110725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 16.07.2025
Bhavan, Base-Complex, Rajamundry,
Andhrapradesh – 533106.

Sample Description : Ambient Air Quality -Drilling John – 31 ; Well No.: MDAX#90 in Mandapeta
Sampled Location : Near DG area - Downstream
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
Sampling/Received Date : 09.07.2025 to 10.07.2025 / 11.07.2025
Analysis Commenced on : 11.07.2025 Completed on : 16.07.2025

S.No.	Parameters	Units	Results	NAAQ Standards: 2009	
1	Sulphur Dioxide	$\mu\text{g}/\text{m}^3$	12.15	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	21.69	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than $10\ \mu\text{m}$	$\mu\text{g}/\text{m}^3$	52.89	100(24 hours)	60 (Annual)
4	Particulate Matter Size Less than $2.5\ \mu\text{m}$	$\mu\text{g}/\text{m}^3$	26.42	60 (24 hours)	40 (Annual)
5	Carbon Monoxide	mg/m^3	BLQ(LOQ 0.05)	4(1 hours)	2 (8 hours)
6	Lead	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.002)	1(24 hours)	0.5 (Annual)
7	Ozone	$\mu\text{g}/\text{m}^3$	12.15	180(1 hours)	100 (8 hours)
8	Ammonia	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 5)	400(24 hours)	100 Annual)
9	Benzene	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.1)	5(Annual)	5 (Annual)
10	Benzo(a)pyrene	ng/m^3	BLQ(LOQ 0.1)	1(Annual)	1 (Annual)
11	Arsenic	ng/m^3	BLQ(LOQ 2)	6(Annual)	6 (Annual)
12	Nickel	ng/m^3	BLQ(LOQ 2)	20 (Annual)	20 (Annual)
13	Hydrocarbons	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 1)	NA	NA
14	Non Methane Hydrocarbons	mg/m^3	BLQ(LOQ 0.2)	NA	NA
15	Hydrogen Sulphide	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 6)	NA	NA
16	Mercury	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.002)	NA	NA

Note:-BLQ- Below the limit of Quantification, LOQ- Limits of Quantification, $\mu\text{g}/\text{m}^3$ - Micrograms per cubic meter, mg/m^3 - Milligrams per cubic meter, ng/m^3 - Nanograms per cubic meter, Parts per billion (ppb). Method of Testing – As per IS: 5182; HECS/AIR/Ambient/SOP and NIOSH.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

*** End of Report ***

Authorized Signatory



Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

5.0 STACK EMISSION

All the stacks are monitored using standard stack monitoring kit, Voyubhodhan VSS1. The principle of operation is to take ISO KINETIC samples of the pollutants. Stack monitoring was carried out at 1 location. The Stack monitoring station is given below.

STACK MONITORING STATION

SI.No.	Location Name	Location Code
1	DG - IV - 1750 KVA	ST-01

5.1 Data Presentation

The Stack Emission data in terms of PM, SO₂, NO₂ and CO are given in Table.



A handwritten signature in blue ink.

Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

TEST REPORT

Name of the Client : M/s. Oil and Natural Gas Corporation Limited., Report No : HECS/AP/016/110725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 16.07.2025
Bhavan, Base-Complex, Rajamundry,
Andhrapradesh – 533106.

Sample Description : DG Stack Emission - Drilling John – 31 ; Well No.: MDAX#90 in Mandapeta
Sampled Location : DG -VI -1750 KVA
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd.
Sampling/Received Date : 10.07.2025 / 11.07.2025
Analysis Commenced on : 11.07.2025 Completed on : 16.07.2025

S.No.	Parameters	Units	Results	CPCB Standards
1	Stack Height	Meter	5.0	-
2	Stack Diameter	Meter	0.20	-
3	Temperature	°C	151.0	-
4	Velocity	m/sec	14.9	-
5	Flow rate	Nm ³ /hr	1075.0	-
6	Particulate Matter	mg/Nm ³	44.39	75
7	Sulphur Dioxide	mg/Nm ³	BLQ(LOQ 2)	-
8	Nitrogen DiOxides	ppmv	268.0	710
9	Carbon monoxide	mg/Nm ³	133.0	150
10	Carbon dioxide	%V/V	2.41	-
11	Total Volatile Organic Compound (TVOC)	ppm	1.3	-
12	Total Hydrocarbon	µg /Nm ³	BLQ(LOQ 0.1)	-
13	Moisture	%	0.41	-
14	Mercury	mg/Nm ³	BLQ(LOQ 0.1)	-
15	Ambient Temperature	° C	32.5	-

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/Nm³- Milligrams per Normal cubic meter. *- Parts per million by Volume, m/s- Meter per second, Nm³/hr - Normal cubic meter per hour,

NA - Not Applicable. Remarks :-Standards are given as per CPCB PCLS / 02/ 2010 Sixth Edition (Engine Rating more than 0.8 M W (800 KW); The Tested Parameters are found within acceptable Limit.

Method of Testing – *As per IS 11255;

1. CO and CO₂. as per PID Gas Detector - As per IS 13270 method
2. TVOC. as per NDIR technique –
3. Total Hydrocarbon. as per USEPA method 29 - Mercury.

*** End of Report ***



Authorized Signatory

Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

6.0 WATER QUALITY STATUS

6.1 Rationale behind Sampling

Any adverse impact or pollution water will have serious effect on the environment. Hence, it becomes important to monitor the water quality periodically in the project area.

In order to assess the quality of Waste Water in Project area samples were collected for testing chemical parameters as per IS: 3025. Waste water samples were collected at 2 locations. Locations are given below.

WATER QUALITY STATION

SI.No.	Sample Name	Sample Code
1	Ground Water	WT-01
2	Drilling Effluent Water(PIT)	WT-02

6.2 Data Presentation

The abstract of Water Quality data are given in Table.



A handwritten signature in blue ink.

Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

TEST REPORT

Name of the Client : M/s. Oil and Natural Gas Corporation Limited., Report No : HECS/WT/008/110725
 Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 16.07.2025
 Bhavan, Base-Complex, Rajamundry,
 Andhrapradesh – 533106.

Sample Description : Ground Water
 Sampled Location : Drilling John – 31 ; Well No.: MDAX#90 in
 Mandapeta
 Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
 Sampling/Received Date : 10.07.2025 / 11.07.2025
 Analysis Commenced on : 11.07.2025 Completed on : 16.07.2025

S.No.	Parameters	Units	Results	Test Method
1	Total suspended Solids	mg/l	BLQ(LOQ 2.0)	IS 3025 (Part 17) 1984
2	pH @ 25°C	-	7.66	IS 3025(Part 11) : 2022 (Electrometric method)
3	Total Dissolved Solids	mg/l	589.0	IS 3025 (Part 16) 1984
4	Temperature	°C	26.7	IS 3025 (Part 9):1983
5	Oil & Grease	mg/l	BLQ(LOQ 4.0)	IS 3025 (Part 39) 1991
6	Chemical Oxygen Demand as O ₂	mg/l	BLQ(LOQ 4.0)	IS 3025 (Part 58) 2006
7	Lead as Pb	mg/l	BLQ(LOQ 0.005)	IS:3025 (Part 47)1994
8	Chromium (Hexavalent) as Cr ⁶⁺	mg/l	BLQ(LOQ 0.01)	IS 3025 Part 52: 2003 (Diphenyl Carbazide method)
9	Total Chromium as Cr	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 : 1994
10	Copper as Cu	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 : 1994
11	Zinc as Zn	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 : 1994
12	Nickel as Ni	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 : 1994
13	Chloride as Cl	mg/l	197.95	IS 3025 (Part 32) 1988
14	Fluoride as F	mg/l	0.43	APHA 23rd edition (Method 4500F- B , D): 2017
15	Sulphate as SO ₄	mg/l	78.56	IS 3025 (Part 24) 1986
16	Sulphide as S ₂	mg/l	BLQ(LOQ 0.04)	IS:3025 (Part 29)1986
17	Mercury as Hg	mg/l	BLQ(LOQ 0.0005)	USEPA 200.8 : 1994
18	Cadmium as Cd	mg/l	BLQ(LOQ 0.001)	USEPA 200.8 : 1994
19	Cyanide as CN	mg/l	BLQ(LOQ 0.01)	IS:3025 (Part 27)1986
20	Sodium as Na	mg/l	105.0	IS 3025 (Part 45) :1993
21	Phenols as C ₆ H ₅ OH	mg/l	BLQ(LOQ 0.001)	IS 3025 (Part 43) :1992
22	Toxicity Factor	-	90.0	IS 6582 Part 2 : 2001
23	BOD, 3 days @ 27°C as O ₂	mg/l	BLQ(LOQ 2.0)	IS:3025 (Part 44)1993
24	Electric Conductivity@25°C	μS/cm	1052.0	IS 3025 (Part-14) 2013
25	Alumimium as Al	mg/l	BLQ(LOQ 0.02)	IS 3025(Part 55) 2003

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

*** End of Report ***



Authorized Signatory

Hubert Enviro Care Systems (P) Ltd.

Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

TEST REPORT

Name of the Client : M/s. Oil and Natural Gas Corporation Limited., Report No : HECS/WT/009/110725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 16.07.2025
Bhavan, Base-Complex, Rajamundry,
Andhrapradesh – 533106.

Sample Description : Drilling Effluent(PIT)
Sampled Location : Drilling John – 31 ; Well No.: MDAX#90 in
Mandapeta
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
Sampling/Received Date : 10.07.2025 / 11.07.2025
Analysis Commenced on : 11.07.2025 Completed on : 16.07.2025

S.No.	Parameters	Units	Results	Test Method
1	pH @ 25°C	-	7.64	IS 3025 (Part 11) Clause 2 2022
2	Temperature	°C	26.8	IS:3025 (Part 09) 1984
3	Oil & Grease	mg/l	8.0	IS : 3025 (Part 39) Clause 5 2021
4	Chemical Oxygen Demand as O2	mg/l	394.0	IS 3025 (Part 58) 2006
5	Lead as Pb	mg/l	BLQ(LOQ 0.1)	USEPA 200.8 Revision 5.4: 1994
6	Chromium (Hexavalent) as Cr6+	mg/l	BLQ(LOQ 0.05)	IS 3025 (Part 52) Clause 6 2003
7	Total Chromium as Cr	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 Revision 5.4: 1994
8	Copper as Cu	mg/l	BLQ(LOQ 0.1)	USEPA 200.8 Revision 5.4: 1994
9	Zinc as Zn	mg/l	BLQ(LOQ 0.1)	USEPA 200.8 Revision 5.4: 1994
10	Nickel as Ni	mg/l	BLQ(LOQ 0.1)	USEPA 200.8 Revision 5.4: 1994
11	Chloride as Cl	mg/l	792.36	IS 3025 (Part 32) Clause 2. 1988
12	Fluoride as F	mg/l	BLQ(LOQ 0.1)	APHA 23 rd Edn. 4500 D-F Spadns method: 2017
13	Sulphate as SO4	mg/l	108.56	IS:3025 (Part 24) Clause 4 1986
14	Sulphide as S2	mg/l	BLQ(LOQ 1.0)	IS 3025 (Part 29) Clause 2 1986
15	Mercury as Hg	mg/l	BLQ(LOQ 0.1)	USEPA 200.8 Revision 5.4: 1994
16	Cadmium as Cd	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 Revision 5.4: 1994
17	Cyanide as CN	mg/l	BLQ(LOQ 0.01)	IS : 3025 (Part 39) Clause 5 2021
18	Total Hardness as CaCO3	mg/l	220.0	IS 3025 (Part 21) Clause 5 2009
19	Sodium as Na	mg/l	662.0	IS: 3025 (Part 45) Clause 5 1993
20	Phenols as C6H5OH	mg/l	BLQ(LOQ 0.01)	IS 3025 (Part 43) Clause 5 1992
21	Bio assay	%	80.0	IS 6582 (Part 2) 2001
22	BOD, 3 days @ 27°C as O2	mg/l	86.0	IS 3025 (Part 44) 1993
23	Electric Conductivity@25°C	µS/cm	2412.0	IS 3025 (Part-14) 2013
24	Alumimium as Al	mg/l	BLQ(LOQ 0.1)	IS 3025 (Part 55) Clause 5 2003

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

*** End of Report ***



Authorized Signatory

Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

7.0 DRILL CUTTING STATUS

7.1 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 Zinc, Manganese, Lead, Cadmium, Copper, Iron, Mercury, Nickel, Oil & Grease, Alkalinity, Total Chromium, Hexavalent Chromium, Arsenic, Acidity, Vanadium, Cobalt, Inorganic Solids, Barium, Thallium and Selenium were measured.

WATER QUALITY STATION

Sl.No.	Sample Name	Sample Code
1	Drill Cutting (500 gms)	PE-01

7.2 Data Presentation

The abstract of Water Quality data are given in Table.



Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

TEST REPORT

Name of the Client : M/s. Oil and Natural Gas Corporation Limited., Report No : HECS/PE/001/110725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Bhavan, Base-Complex, Rajamundry, Andhrapradesh – 533106. Report Date : 16.07.2025

Sample Description : Drill Cutting(500 gm) – Depth-3135 to 3137
Sampled Location : John 31 Well- MDAX #90 in Mandapeta
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
Sampling/Received Date : 10.07.2025 / 11.07.2025
Analysis Commenced on : 11.07.2025 Completed on : 16.07.2025

S.No.	Parameters	Units	Results
1	Lead	mg/kg	BLQ(LOQ 0.1)
2	Cadmium	mg/kg	BLQ(LOQ 0.1)
3	Mercury	mg/kg	BLQ(LOQ 0.1)
4	Nickel	mg/kg	BLQ(LOQ 0.1)
5	Oil & Grease	mg/kg	BLQ(LOQ 4.0)
6	Alkalinity	mg/kg	1690.0
7	Total Chromium	mg/kg	BLQ(LOQ 0.1)
8	Arsenic	mg/kg	BLQ(LOQ 0.1)
9	Hexavalent Chromium	mg/kg	BLQ(LOQ 0.5)
10	Acidity	mg/kg	BLQ(LOQ 1.0)
11	Thallium as Tl	mg/kg	BLQ(LOQ 0.1)
12	Inorganic Solids	%	82.56
13	Zinc	mg/kg	BLQ(LOQ 0.1)
14	Manganese	mg/kg	BLQ(LOQ 0.1)
15	Copper as Cu	mg/kg	BLQ(LOQ 0.1)
16	Iron	mg/kg	BLQ(LOQ 0.02)
17	Electric Conductivity@25°C	µS/cm	1864.0
18	Alumimium as Al	mg/l	BLQ(LOQ 0.1)

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

*** End of Report ***



Authorized Signatory

Hubert Enviro Care Systems (P) Ltd.

**Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in
Mandapeta**

8.0 NOISE LEVEL STATUS

8.1 Rationale behind Sampling

As part of the occupational health and safety measures certain safeguards have been incorporated to mitigate noise pollution in working environments.

8.2 Data Presentation

The abstract of Noise level data are given in Table.



Environmental Monitoring Report for ONGC Ltd., Drilling John-31 ; Well MDAX#90 in Mandapeta

TEST REPORT

Name of the Client : M/s. Oil and Natural Gas Corporation Limited., Report No : HECS/AP/018/110725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 16.07.2025
Bhavan, Base-Complex, Rajamundry,
Andhrapradesh – 533106.

Sample Description : Ambient Noise Level
Sampled Location : Drilling John – 31 ; Well No.: MDAX#90 in
Mandapeta
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
Sampling/Received Date : 10.07.2025 / 11.07.2025
Analysis Commenced on : 11.07.2025 Completed on : 16.07.2025

S.No.	Location	Day Time Noise level in dB(A)	Night Time Noise level in dB(A)
1	Near Main gate	68.7	63.5
2	Near office area	72.9	69.4
3	Near HSE office	74.3	69.6
4	Near DG Area	74.1	69.2
5	Near HSD Tank	72.6	67.4
6	Mud Tanks	73.9	68.6
7	Mud Pumb	74.8	69.5
8	Rig Floor	73.8	68.7
9	Store	63.6	57.8
10	Welding Shop	71.2	67.4
11	Cat Walk Area	67.9	63.2
12	Celler Pit	71.6	66.9
13	Pibe Bin Area	73.7	68.7
14	Near Bop accumulator	74.0	69.5
15	Ground pit	71.2	66.7
16	Chemical Shed	70.3	65.8
17	Fire pumb	71.2	66.4
18	Hopper Area	74.9	70.0
19	Camp Dg	74.1	69.8
20	Living Area	69.5	64.3

Remarks: CPCB Limit for Noise Level

1. Industrial Area - 75 dB (A) day Time and 70 dB (A) Night Time.
2. Commercial Area - 65 dB (A) day Time and 55 dB (A) Night Time.

*** End of Report ***



Authorized Signatory

Hubert Enviro Care Systems (P) Ltd.

**Environmental Monitoring Report for
development drilling of well GMAH in Amalapuram by
Drilling Rig E-2000-1
Andhra Pradesh.**

**(Period 14.07.2025 to 15.07.2025)
REPORT**



**Sponsor
Oil and Natural Gas Corporation Limited
Rajamundry Asset, Second Floor, Godavari
Bhavan, Base Complex, Rajamundry,
Andhrapradesh-533106**

**HECS
Hubert Enviro Care Systems (P) Ltd**

**(An ISO 9001, 14001 & 45001 Company)
(Accredited by NABL, Recognized by MoEF)
A21, behind Lions Club School, 3rd Phase, Thiru Vi
Ka Industrial Estate, SIDCO Industrial Estate,
Guindy, Chennai, Tamil Nadu 600032.
Phone: (044) 43635555
Email: lab@hecs.in**

**Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in
Amalapuram**

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Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuram
FOREWORD

Oil and Natural Gas Corporation Limited desired to monitor environmental status at its Project site. The work of environmental quality monitoring was entrusted to **M/s. Hubert Enviro Care Systems (P) Ltd., Chennai**. Which is MoEF recognized and NABL accredited laboratory, vide ONGC work order No. **ONG/RA/HSE/Env/EQM/2024-25**; Dated on: **01.01.2025 (RJYASSET/SUPPORT/MM/20222ENVIRONM/926474/9010035115 dated on: 12/08/2022)**.

A comprehensive environmental monitoring network had been planned to monitor data for the month of **July'2025**. The monitored data on Ambient Air Quality, Stack monitoring, Water Quality, Effluent Quality, Noise data are collected and presented in this report.

Our sincere thanks are due to Oil and Natural Gas Corporation Limited, Rajamundry for awarding this work and ONGC Ltd., **RIG :E-2000-1 ; GMAH in Amalapuram, Andhra Pradesh** for their kind co-operation during the study period.

Date: **01/09/2025**
Place: Chennai-32.




Dr. Rajkumar Samuel
Director Technical

Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuram
1.0 INTRODUCTION

1.1 Background

The work of environmental quality monitoring was entrusted to **M/s. Hubert Enviro Care Systems (P) Ltd., Chennai**, which is MoEF recognized and NABL accredited laboratory; vide ONGC work order No. **ONG/RA/HSE/Env/EQM/2024-25; Dated on: 01.01.2025 (RJYASSET/SUPPORT/MM/20222ENVIRONM/926474/9010035115 dated on: 12/08/2022).**

The Environmental monitoring was carried from **14.07.2025 to 15.07.2025**. The monitored data on Ambient Air Quality, Stack monitoring, Noise data are collected and presented in this report.

1.2 Project Setting

Oil and Natural Gas Corporation Limited is having development drilling of well **GMAH in Amalapuram** by Drilling **Rig E-2000-1, Andhra Pradesh**

1.3 Environmental Management Plan

Being concerned towards Environmental Protection, Oil and Natural Gas Corporation Limited has prepared an extensive Environmental Management Plan for Site operations.

Oil and Natural Gas Corporation Limited, Rajamahendravaram as entrusted the Environmental data monitoring work to **M/s. Hubert Enviro Care Systems Pvt Ltd., Chennai**, vide your Work Order No. **No. ONG/RA/HSE/Env/EQM/2024-25; Dated on: 01.01.2025 (RJYASSET/SUPPORT/MM/20222ENVIRONM/926474/9010035115 dated on: 12/08/2022).**

The field monitoring studies were carried out from **14.07.2025 to 15.07.2025** for Ambient Air Quality, Stack monitoring, Water Quality, Effluent Quality, Drilling Effluent, Drill Cutting and Noise levels are presented in this report.



Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuram

2.0 SCOPE AND METHODOLOGY

2.0 Scope & Methodology

The scope of the study and the present report covers the detailed characterization of the existing environmental status in the Project area for major environmental components viz. Ambient Air Quality, Stack monitoring, Micrometeorological Condition and Noise Quality.

2.1 Micrometeorology

As a part of this study, micrometeorology and microclimatic parameters were recorded by installing a meteorological station at the site. Data of wind velocity, wind direction, ambient temperature and relative humidity were recorded at 30 minutes intervals for 24 hours throughout the monitoring period.

Wind velocity, wind direction, ambient temperature, relative humidity, cloud cover and atmospheric pressure were recorded using Vantage Vue Wireless Weather Monitoring Kit (Model 6351).

2.2 Ambient Air Quality

Locations in the upwind and downwind for Ambient Air quality monitoring stations were identified on the basis of sectional scenario of the project site to be representative of the site. Parameters chosen for assessment of air quality were Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur dioxide (SO₂), Nitrogen dioxide (NO₂) and Carbon Monoxide (CO). Calibrated Respirable Dust Sampler (with an average flow of 1.2-1.4 m³/min) were used for monitoring of PM₁₀, a tapping provided in the hopper of the same sampler was utilized for sampling of SO₂ and NO₂ with proper flow controller (1l/m). Calibrated APM 550 Fine particle sampler was used for monitoring of PM_{2.5}.



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Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuram

2.2.1 PM₁₀

Calibrated RDS (Respirable Dust Sample) used for the determination of PM₁₀. PM₁₀ is a measure of particulate matter having size <10 microns. Air is sampled isokinetically through a cyclone where particles greater than 10 microns are separated and then it passes through a glass microfiber filter 10" x 8". The difference in weight before and after sampling is determined and divided by volume of air.

2.2.2 PM_{2.5}

PM_{2.5} is a measure of particulate matter having size < 2.5 microns. APM 550 Fine particles sampler is based on Wins Impactor design standardized by USEPA for ambient air quality monitoring. Calibrated APM 550 Fine particle sampler with PTFE 47mm diameter filter media was used for the determination of fine particulate matter PM_{2.5}.

2.2.3 SO₂: Modified West-Geake Spectrophotometric Method

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.

2.2.4 NO_x: Jacob and Hochheiser Modified Method

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) ethylamine dihydrochloride and nitrogen dioxide concentration is determined using digital spectrophotometer at a wavelength of 540 nm.

2.2.5 Carbon monoxide (CO)

Carbon monoxide is collected in a Teddler bag and CO was determined using Serinus 30 NDIR CO analyzer.



Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuram

2.2.6 Particulate Lead

The exposed EPM 2000 filter papers were cut into small pieces put into a glass beaker, poured 100 ml distilled water 10 ml nitric acid were added and digested on a hot plate in simmering heat. The clear solutions obtained after digestion was filtered and made up to 25ml and were analyzed by AAS for lead and arsenic. Concentration of lead was calculated by taking the result obtained from the analysis and dividing it with the volume of air sampled.

2.2.7 Nickel

The Inductively coupled plasma mass spectrometry (ICP-MS) technique is used to assess the concentration of an analyte in the sample. The method is based on active sampling using RDS (Respirable Dust Sample) Sampler and then sample analysis is done by ICP-MS.

2.2.8 Benzene

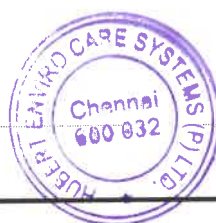
Ambient air is sucked through charcoal tube using low flow sampler. Benzene is adsorbed by activated charcoal in the charcoal tube. Desorption of the adsorbed Benzene is done using Carbon Disulphide. The substance desorbed in CS₂ is analyzed by capillary Gas Chromatography using a flame ionization Detector.

2.2.9 Benzo (a) pyrene

Particulate phase Poly Aromatic Hydrocarbons in ambient air and fugitive emission is collected by a RDS (Respirable Dust Sample) range (~1.2 m³/min) on a glass fiber filter and subsequent analysis by Gas Chromatograph using a Flame Ionisation Detector. It is capable of detecting sub nanogram concentration of PAH (Poly Aromatic Hydrocarbon) with a total sample of ~480 m³ of air over a period of 8 hrs.

2.2.10 Arsenic

The Inductively Coupled Plasma Mass Spectrometry (ICP-MS) technique is used to assess the concentration of an analyte in the sample. The method is based on active sampling using RDS (Respirable Dust Sample) Sampler and then sample analysis is done by ICP-MS-MS.



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Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuram

2.2.11 Ammonia

Ammonia is collected in dilute Sulphuric acid solution in midget impingers to form Ammonium Sulphate. The solution is treated with Nessler's reagent to produce a yellow brown complex. The Ammonia concentration is determined by reading the absorption of the complex at 440 nm and comparing with a standard curve.

2.2.12 Ozone

Micro-amounts of ozone and the oxidants liberate iodine when absorbed in a 1% solution of potassium Iodide buffered at pH 6.8 ± 0.2 . The iodine is determined spectrophotometrically by measuring the absorption of tri-iodide ion at 352 nm.

2.2.13 Mercury

The Inductively Coupled Plasma Mass Spectrometry (ICP-MS) technique is used to assess the concentration of an analysis in the sample. The method is based on active sampling using RDS (Respirable Dust Sample) Sampler and then sample analysis is done by ICP-MS.

2.2.14 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.

2.2.15 Hydrocarbons & Non Methane Hydrocarbons

Ambient air is collected in an inflatable toddler bag and is analyzed by gas chromatography using Flame Ionization Detector.



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Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuram

2.3 Stack Monitoring

All the stacks are monitored using standard stack monitoring kit, Voyubhodhan VSS1. 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.

2.4 Water Quality

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

2.5 Noise Levels

Ambient Noise level measurements in four cardinal directions were carried out using an Extech sound level meter (Lutron Model SL4035 SD), with windscreen during daytime as well as night-time based on standard procedure given in CPCB guidelines.

In order to reduce the disturbances from standing waves, the noise levels measured were averaged over + 0.5 m each of at least three positions. The mean values were taken for reporting.



3.0 MICROMETEOROLOGICAL STATUS

3.1 Rationale behind Sampling

Meteorological parameters are important factors in the study of Air pollution. The transport and diffusion of the pollutants in the atmosphere are governed by meteorological factors. Factors like wind velocity; wind direction and atmospheric stability are known as primary/basic meteorological parameters since the dispersion and diffusion of pollutants depend mainly on these factors. Factors like ambient temperature, humidity, rainfall, atmospheric pressure, etc., are known as secondary meteorological parameters as these factors control the dispersion of the pollutants indirectly by affecting the primary factors. Thus, to assess the air pollution impact it becomes essential to collect the above-mentioned meteorological parameters in the project area.

Micrometeorological and microclimatic parameters were recorded by installing a meteorology station at site. During the study period, half hourly readings of wind velocity, wind direction, temperature, humidity, cloud cover, atmospheric pressure and rainfall data were recorded and reported.

3.2 Methodology & Procedure adopted for Analysis

Wind velocity, Wind direction, Ambient temperature, Relative humidity, Cloud cover and Atmospheric pressure were recorded using Vantage Vue Wireless Weather Monitoring Kit (Model 6351).

3.3 Data Presentation

Collected meteorological parameters for 1 day from are data is given in Table.

The seasonal wind roses are given.



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Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuram

TEST REPORT

Sample Description : Micro Meteorology
 Sample Drawn by : Hubert Enviro Care Systems Private Limited
 Sampling Date : 14.07.2025 to 15.07.2025
 Sample Location : On top of the DIC Bunk -RIG.: E-2000-1 Well: GMAH in Amalapuram
 Ambient Temperature : 31.2 °C

HOURS	WIND SPEED m/s	WIND SPEED mph	WIND DIRECTION	TEMPERATRE °C	CLOUD COVER	RELATIVE HUMIDITY %	PRESSURE mmHg
11:00 AM	5.01	11.21	E	34.6	Partly Cloudy	56.2	752
12:00 AM	3.81	8.51	NE	34.8	Partly Cloudy	57.6	750
13:00 PM	5.05	11.29	ENE	33.4	Partly Cloudy	58.3	748
14:00 PM	3.93	8.79	N	32.9	Partly Cloudy	57.6	748
15:00 PM	4.04	9.04	NNE	31.7	Partly Cloudy	63.2	750
16:00 PM	3.85	8.61	E	30.9	Partly Cloudy	64.3	752
17:00 PM	5.14	11.50	ENE	29.7	Partly Cloudy	66.8	746
18:00 PM	3.84	8.59	SE	30.1	Partly Cloudy	72.2	748
19:00 PM	3.94	8.81	ESE	28.7	Partly Cloudy	74.6	749
20:00 PM	4.07	9.11	SE	27.6	Partly Cloudy	78.5	750
21:00 PM	3.88	8.68	E	28.5	Partly Cloudy	77.4	752
22:00 PM	5.18	11.58	N	27.6	Partly Cloudy	82.6	752
23:00 PM	3.99	8.92	NNE	26.9	Partly Cloudy	84.7	748
12:00 AM	5.02	11.23	NE	26.7	Partly Cloudy	86.9	748
1:00 AM	3.98	8.91	E	26.2	Partly Cloudy	88.3	752
2:00 AM	3.70	8.27	ENE	27.3	Partly Cloudy	77.6	750
3:00 AM	5.16	11.53	E	27.9	Partly Cloudy	76.6	750
4:00 AM	5.27	11.78	NE	28.1	Partly Cloudy	74.2	748
5:00 AM	4.49	10.04	SE	29.6	Partly Cloudy	70.3	750
6:00 AM	5.11	11.42	ESE	28.7	Partly Cloudy	67.5	748
7:00 AM	3.89	8.71	N	30.7	Partly Cloudy	63.7	746
8:00 AM	5.07	11.34	ENE	31.2	Partly Cloudy	60.8	747
9:00 AM	3.81	8.51	E	33.7	Partly Cloudy	57.9	749
10:00 AM	5.20	11.63	NE	34.1	Partly Cloudy	56.7	748

*** End of Report ***



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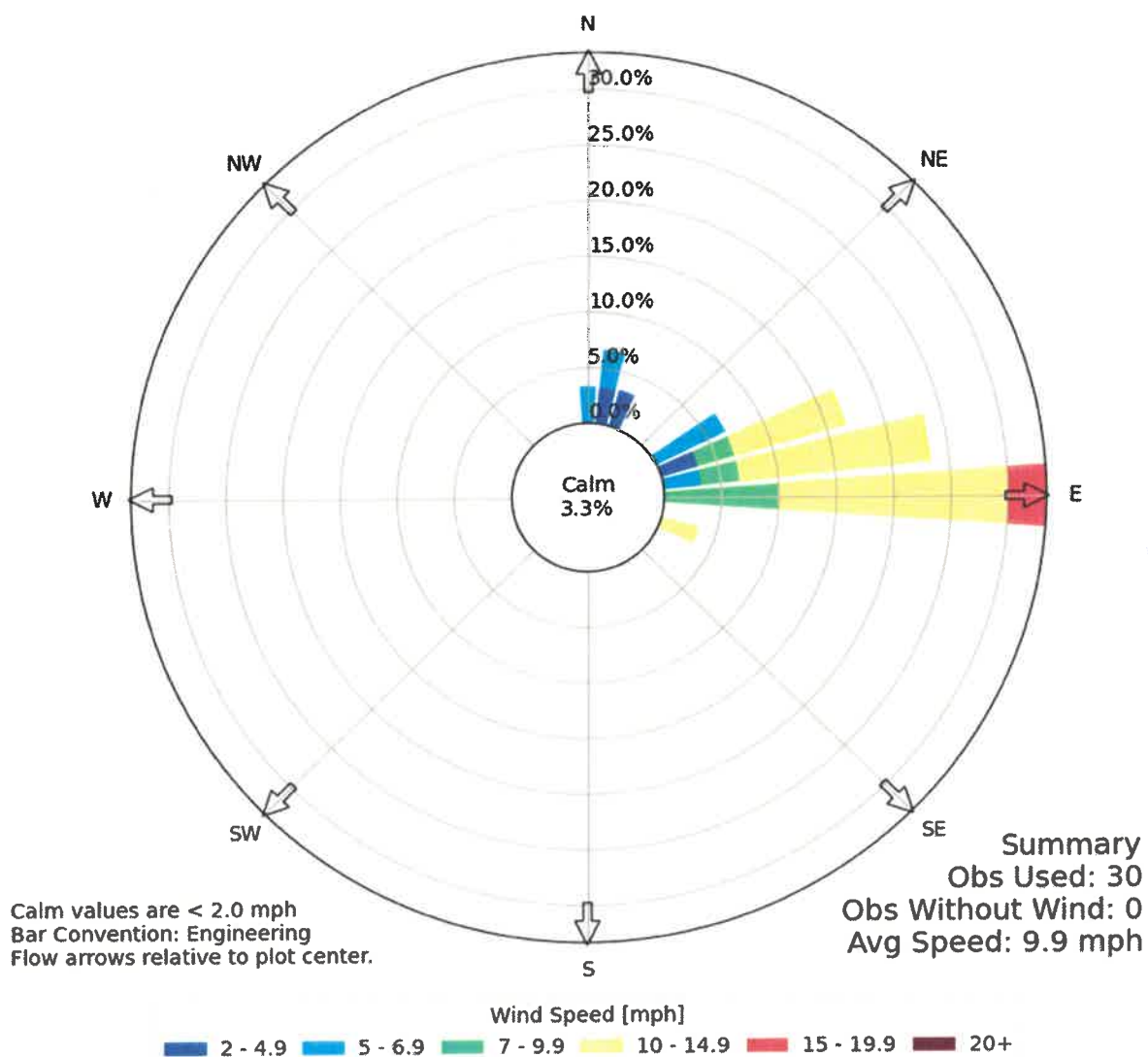
Hubert Enviro Care Systems (P) Ltd.

Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuran

Sample Description : Wind Rose
Sample Drawn by : Hubert Enviro Care Systems Private Limited
Sampling Date : 14.07.2025 to 15.07.2025
Sample Location : On top of the DIC Bunk -RIG.: E-2000-1; Well: GMAH in Amalapuran



Windrose Plot for [VORY] Rajahmundry
Obs Between: 14 Jul 2025 11:30 AM - 15 Jul 2025 10:30 PM Asia/Kolkata



Pic: 1 - Wind rose diagram



HubertEnviroCareSystems(P)Ltd.

Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuram

4.0 AMBIENT AIR QUALITY STATUS

4.1 Preamble

The objective of the Ambient Air Quality monitoring is to assess the existing levels of air pollutants as well as the regional background concentration in the Project area. Air pollution forms an important and critical factor to study the environmental issues in the project areas. Air qualities have to be frequently monitored to know the extent of pollution due to mining and allied activities. Thus, ambient air quality monitoring was carried out at 2 locations. The ambient air quality monitoring stations are given.

AMBIENT AIR MONITORING STATIONS

SI.No.	Location Name	Location Code
1	Near Main Gate- Upstream	AAQ-01
2	Near DG area – Downstream	AAQ-02

4.2 Data Presentation

The Ambient Air Quality data in terms of PM, PM₁₀, PM_{2.5}, SO₂, NO₂ and CO are given in Table.



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Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuram

TEST REPORT

Name of the Client : M/s. Oil and Natural Gas Corporation Limited., Report No : HECS/AP/012/160725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 22.07.2025
Bhavan, Base-Complex, Rajamundry,
Andhra Pradesh-533106.

Sample Description : Ambient Air Quality -RIG: E-2000-1; Well: GMAH in Amalapuram
Sampled Location : Near Main Gate - Upstream
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
Sampling/Received Date : 14.07.2025 to 15.07.2025 / 16.07.2025
Analysis Commenced on : 16.07.2025 Completed on : 22.07.2025

S.No.	Parameters	Units	Results	NAAQ Standards: 2009	
1	Sulphur Dioxide	$\mu\text{g}/\text{m}^3$	12.43	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	22.59	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than $10\ \mu\text{m}$	$\mu\text{g}/\text{m}^3$	53.89	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than $2.5\ \mu\text{m}$	$\mu\text{g}/\text{m}^3$	25.48	60 (24 hours)	40 (Annual)
5	Carbon Monoxide	mg/m^3	BLQ(LOQ 0.05)	4 (1 hours)	2 (8 hours)
6	Lead	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.002)	1 (24 hours)	0.5 (Annual)
7	Ozone	$\mu\text{g}/\text{m}^3$	12.91	180 (1 hours)	100 (8 hours)
8	Ammonia	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 5)	400 (24 hours)	100 (Annual)
9	Benzene	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.1)	5 (Annual)	5 (Annual)
10	Benzo(a)pyrene	ng/m^3	BLQ(LOQ 0.1)	1 (Annual)	1 (Annual)
11	Arsenic	ng/m^3	BLQ(LOQ 2)	6 (Annual)	6 (Annual)
12	Nickel	ng/m^3	BLQ(LOQ 2)	20 (Annual)	20 (Annual)
13	Hydrocarbons	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 1)	NA	NA
14	Non Methane Hydrocarbons	mg/m^3	BLQ(LOQ 0.2)	NA	NA
15	Hydrogen Sulphide	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 6)	NA	NA
16	Mercury	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.002)	NA	NA

Note:-BLQ- Below the limit of Quantification, LOQ- Limits of Quantification, $\mu\text{g}/\text{m}^3$ - Micrograms per cubic meter, mg/m^3 - Milligrams per cubic meter, ng/m^3 - Nanograms per cubic meter, Parts per billion (ppb). Method of Testing - As per IS: 5182; HECS/AIR/Ambient/SOP and NIOSH.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

*** End of Report ***

Authorized Signatory



Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuram

TEST REPORT

Name of the Client : M/s. Oil and Natural Gas Corporation Limited., Report No : HECS/AP/013/160725
 Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 22.07.2025
 Bhavan, Base-Complex, Rajamundry,
 Andhrapradesh-533106.

Sample Description : Ambient Air Quality – RIG: E-2000-1; Well: GMAH in Amalapuram
 Sampled Location : Near DG area-Downstream
 Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
 Sampling/Received Date : 14.07.2025 to 15.07.2025 / 16.07.2025
 Analysis Commenced on : 16.07.2025 Completed on : 22.07.2025

S.No.	Parameters	Units	Results	NAAQ Standards: 2009	
1	Sulphur Dioxide	$\mu\text{g}/\text{m}^3$	12.89	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	23.72	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than $10\ \mu\text{m}$	$\mu\text{g}/\text{m}^3$	56.79	100(24 hours)	60 (Annual)
4	Particulate Matter Size Less than $2.5\ \mu\text{m}$	$\mu\text{g}/\text{m}^3$	27.41	60 (24 hours)	40 (Annual)
5	Carbon Monoxide	mg/m^3	BLQ(LOQ 0.05)	4(1 hours)	2 (8 hours)
6	Lead	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.002)	1(24 hours)	0.5 (Annual)
7	Ozone	$\mu\text{g}/\text{m}^3$	13.15	180(1 hours)	100 (8 hours)
8	Ammonia	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 5)	400(24 hours)	100 Annual)
9	Benzene	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.1)	5(Annual)	5 (Annual)
10	Benzo(a)pyrene	ng/m^3	BLQ(LOQ 0.1)	1(Annual)	1 (Annual)
11	Arsenic	ng/m^3	BLQ(LOQ 2)	6(Annual)	6 (Annual)
12	Nickel	ng/m^3	BLQ(LOQ 2)	20 (Annual)	20 (Annual)
13	Hydrocarbons	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 1)	NA	NA
14	Non Methane Hydrocarbons	mg/m^3	BLQ(LOQ 0.2)	NA	NA
15	Hydrogen Sulphide	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 6)	NA	NA
16	Mercury	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.002)	NA	NA

Note:- BLQ- Below the limit of Quantification, LOQ- Limits of Quantification, $\mu\text{g}/\text{m}^3$ - Micrograms per cubic meter, mg/m^3 - Milligrams per cubic meter, ng/m^3 - Nanograms per cubic meter, Parts per billion (ppb). Method of Testing – As per IS: 5182; HECS/AIR/Ambient/SOP and NIOSH.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

*** End of Report ***



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Hubert Enviro Care Systems (P) Ltd.

Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuram

5.0 STACK EMISSION

All the stacks are monitored using standard stack monitoring kit, Voyubhodhan VSS1. The principle of operation is to take ISO KINETIC samples of the pollutants. Stack monitoring was carried out at 1 location. The Stack monitoring station is given below.

STACK MONITORING STATION

SI.No.	Location Name	Location Code
1	DG Set-1 - 1430 KVA	ST-01

5.1 Data Presentation

The Stack Emission data in terms of PM, SO₂, NO₂ and CO are given in Table.



Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuram

TEST REPORT

Name of the Client : M/s. Oil and Natural Gas Corporation Limited., Report No : HECS/AP/016/160725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 22.07.2025
Bhavan, Base-Complex, Rajamundry,
Andhra Pradesh-533106.

Sample Description : DG Stack Emission - RIG: E-2000-1; Well.: GMAH in Amalapuram
Sampled Location : DG Set-1- -1430 KVA (S.No : S2G00286)
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd.
Sampling/Received Date : 14.07.2025 / 16.07.2025
Analysis Commenced on : 16.07.2025 Completed on : 22.07.2025

S.No.	Parameters	Units	Results	CPCB Standards
1	Stack Height	Meter	5.0	-
2	Stack Diameter	Meter	0.30	-
3	Temperature	°C	148.0	-
4	Velocity	m/sec	16.2	-
5	Flow rate	Nm ³ /hr	1177.0	-
6	Particulate Matter	mg/Nm ³	42.15	75
7	Sulphur Dioxide	mg/Nm ³	BLQ(LOQ 2)	-
8	Oxides of Nitrogen	mg/Nm ³	242.0	710
9	Carbon monoxide	mg/Nm ³	BLQ(LOQ 0.2)	150
10	Carbon dioxide	%V/V	15.2	-
11	Total Volatile Organic Compound (TVOC)	ppm	0.75	-
12	Total Hydrocarbon	µg /Nm ³	BLQ(LOQ 0.1)	-
13	Moisture	%	0.34	-
14	Mercury	mg/Nm ³	BLQ(LOQ 0.1)	-
15	Ambient Temperature	°C	32.5	-

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/Nm³- Milligrams per Normal cubic meter. *- Parts per million by Volume, m/s- Meter per second, Nm³/hr - Normal cubic meter per hour,

NA - Not Applicable. Remarks :-Standards are given as per CPCB PCLS / 02/ 2010 Sixth Edition (Engine Rating more than 0.8 M W (800 KW); The Tested Parameters are found within acceptable Limit.

Method of Testing – *As per IS 11255;

1. CO and CO₂. as per PID Gas Detector - As per IS 13270 method
2. TVOC. as per NDIR technique –
3. Total Hydrocarbon. as per USEPA method 29 - Mercury.

*** End of Report ***



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Hubert Enviro Care Systems (P) Ltd.

Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuram

6.0 WATER QUALITY STATUS

6.1 Rationale behind Sampling

Any adverse impact or pollution water will have serious effect on the environment. Hence, it becomes important to monitor the water quality periodically in the project area.

In order to assess the quality of Waste Water in Project area samples were collected for testing chemical parameters as per IS: 3025. water samples were collected at 1 locations. Locations are given below.

WATER QUALITY STATION

Sl.No.	Sample Name	Sample Code
1	Ground Water	WT-01

6.2 Data Presentation

The abstract of Water Quality data are given in Table.



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Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuram

TEST REPORT

Name of the Client : M/s.Oil and Natural Gas Corporation Limited., Report No : HECS/WT/055/160725
 Address of the Client : Rajamundry Asset, Second Floor, Godavari Bhavan, Base-Complex, Rajamundry, Report Date : 22.07.2025
 Andhra Pradesh-533106.
 Sample Description : Ground Water
 Sampled Location : RIG: E-2000-1; Well: GMAH in Amalapuram
 Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
 Sampling/Received Date : 15.07.2025 / 16.07.2025
 Analysis Commenced on : 16.07.2025 Completed on : 22.07.2025

S.No.	Parameters	Units	Results	Test Method
1	Total suspended Solids	mg/l	BLQ(LOQ 2.0)	IS 3025 (Part 17) 1984
2	pH @ 25°C	-	7.26	IS 3025(Part 11) : 2022 (Electrometric method)
3	Total Dissolved Solids	mg/l	587.0	IS 3025 (Part 16) 1984
4	Temperature	°C	269	IS 3025 (Part 9):1983
5	Oil & Grease	mg/l	BLQ(LOQ 4.0)	IS 3025 (Part 39) 1991
6	Chemical Oxygen Demand as O2	mg/l	BLQ(LOQ 4.0)	IS 3025 (Part 58) 2006
7	Lead as Pb	mg/l	BLQ(LOQ 0.005)	IS:3025 (Part 47)1994
8	Chromium (Hexavalent) as Cr6+	mg/l	BLQ(LOQ 0.01)	IS 3025 Part 52: 2003 (Diphenyl Carbazide method)
9	Total Chromium as Cr	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 : 1994
10	Copper as Cu	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 : 1994
11	Zinc as Zn	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 : 1994
12	Nickel as Ni	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 : 1994
13	Chloride as Cl	mg/l	163.31	IS 3025 (Part 32) 1988
14	Fluoride as F	mg/l	0.46	APHA 23rd edition (Method 4500F- B , D): 2017
15	Sulphate as SO4	mg/l	78.26	IS 3025 (Part 24) 1986
16	Sulphide as S2	mg/l	BLQ(LOQ 0.04)	IS:3025 (Part 29)1986
17	Mercury as Hg	mg/l	BLQ(LOQ 0.0005)	USEPA 200.8 : 1994
18	Cadmium as Cd	mg/l	BLQ(LOQ 0.001)	USEPA 200.8 : 1994
19	Cyanide as CN	mg/l	BLQ(LOQ 0.01)	IS:3025 (Part 27)1986
20	Sodium as Na	mg/l	85.0	IS 3025 (Part 45) :1993
21	Phenols as C6H5OH	mg/l	BLQ(LOQ 0.001)	IS 3025 (Part 43) :1992
22	Toxicity Factor	-	95.0	IS 6582 Part 2 : 2001
23	BOD, 3 days @ 27°C as O2	mg/l	BLQ(LOQ 2.0)	IS:3025 (Part 44)1993
24	Electric Conductivity@25°C	µS/cm	1048.0	IS 3025 (Part-14) 2013
25	Alumimum as Al	mg/l	BLQ(LOQ 0.02)	IS 3025(Part 55) 2003

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

*** End of Report ***

Authorized Signatory



[Signature]

Hubert Enviro Care Systems(P)Ltd.

7.0 NOISE LEVEL STATUS

7.1 Rationale behind Sampling

As part of the occupational health and safety measures certain safe guards have been incorporated to mitigate noise pollution in working environments.

7.2 Data Presentation

The abstract of Noise level data are given in Table.



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Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-1 Well GMAH in Amalapuram

TEST REPORT

Name of the Client : M/s. Oil and Natural Gas Corporation Limited., Report No : HECS/N/086/160725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Bhavan, Base-Complex, Rajamundry, Andhrapradesh-533106. Report Date : 22.07.2025
Sample Description : Ambient Noise Level
Sampled Location : RIG: E-2000-1; Well: GMAH in Amalapuram
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
Sampling/Received Date : 14.07.2025 / 16.07.2025
Analysis Commenced on : 16.07.2025 Completed on : 22.07.2025

S.No.	Location	Day Time Noise level in dB(A)	Night Time Noise level in dB(A)
1	Near Main Office	66.3	61.3
2	Near Office Area	61.9	55.4
3	DG Area	74.2	68.1
4	Cement Silo Area	57.1	52.7
5	Mud Pumb	73.2	67.8
6	Mud Tanks	73.0	67.6
7	PCR	73.8	68.4
8	Draw Works	55.3	51.7
9	Chemical Shed	53.7	48.9
10	Compressor Area	71.4	66.6
11	BOP Accumulator	72.3	67.2
12	Derrick Floor	67.5	62.5
13	Shall Shaker	61.3	56.7
14	Cat Walk Area	62.9	57.1
15	DSA Area	65.4	61.3
16	Fire Water tank	61.3	56.7
17	Hopper Area	62.7	56.9
18	Ground pit	63.8	58.6
19	Near Well	54.6	49.2
20	Assembly Point	51.7	46.4

Remarks: CPCB Limit for Noise Level

1. Industrial Area- 75 dB (A) day Time and 70 dB (A) Night Time.
2. Commercial Area- 65 dB (A) day Time and 55 dB (A) Night Time.

*** End of Report ***

Authorized Signatory



**Environmental Monitoring Report for
ONGC-development drilling of well MDAY in
Mandapeta by drilling rig EV-2000-2
Andhra Pradesh**

**(Period 08.07.2025 to 09.07.2025)
REPORT**



**Sponsor
Oil and Natural Gas Corporation Limited
Rajamundry Asset, Second Floor, Godavari
Bhavan, Base Complex, Rajamundry,
Andhrapradesh-533106**

**HECS
Hubert Enviro Care Systems (P) Ltd**

**(AnISO9001,14001&45001Company)(Accreditedby
NABL,RecognizedbyMoEF)
A21, behind Lions Club School, 3rd Phase, Thiru Vi
Ka Industrial Estate, SIDCO Industrial Estate,
Guindy, Chennai,Tamil Nadu 600032.
Phone:(044)43635555
Email-lab@hecs.in**

Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

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Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

FOREWORD

Oil and Natural Gas Corporation Limited desired to monitor environmental status at its Projects site. The work of environmental quality monitoring was entrusted to **M/s. Hubert Enviro Care Systems(P)Ltd.,Chennai**. Which is MoEF recognized and NABL accredited laboratory, vide ONGC work order No. **ONG/RA/HSE/Env/EQM/2024-25; Dated on:01.01.2025 (RJYASSET/SUPPORT/MM/20222ENVIRONM/926474/9010035115 dated on: 12/08/2022)**.

A comprehensive environmental monitoring network had been planned to monitor data for the month of **July'2025**. The monitored data on Ambient Air Quality, Stack monitoring, Water Quality, Effluent Quality, Noise data are collected and presented in this report.

Our sincere thanks are due to Oil and Natural Gas Corporation Limited, Rajamundry for awarding this work and ONGC Ltd., **MDAY in mandapeta, Andhra Pradesh**, for their kind co-operation during the study period.

Date: 01/09/2025
Place: Chennai-32.


Dr. Rajkumar Samuel
Director Technical



Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

1.0 INTRODUCTION

1.1 Background

The work of environmental quality monitoring was entrusted to **M/s.Hubert Enviro Care Systems(P)Ltd.,Chennai**,which is MoEF recognized and NABL accredited laboratory;vide ONGC work order No.**ONG/RA/HSE/Env/EQM/2024-25; Dated on:01.01.2025 (RJYASSET/SUPPORT/MM/20222ENVIRONM/926474/9010035115 dated on: 12/08/2022).**

A comprehensive environmental monitoring network had been planned to monitoring date o from **08.07.2025 to 09.07.2025**.The monitored data on Ambient Air Quality, Stack monitoring, WaterQuality, Effluent Quality,Noise data are collected and presented in this report.

1.2 ProjectSetting

Oil and Natural Gas Corporation Limited is having development drilling of well MDAY in Mandapeta by drilling rig EV-2000-2.

1.3 Environmental Management Plan

Being concerned towards Environmental Protection,Oil and Natural Gas Corporation Limited has prepared an extensive Environmental Management Plan for Site operations.

Oil and Natural Gas Corporation Limited,Rajamahendravaram has entrusted the Environmental data monitoring work to **M/s.Hubert Enviro Care Systems Pvt Ltd.,Chennai**,vide your Work Order No. **ONG/RA/HSE/Env/EQM/2024-25;Datedon:01.01.2025 (RJYASSET/SUPPORT/MM/20222ENVIRONM/926474/9010035115 dated on: 12/08/2022).**

The field monitoring studies were carried out from **08.07.2025 to 09.07.2025**.for Ambient Air Quality,Stack monitoring,Water Quality, Effluent Quality,and Noise levels are presented in this report.



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Hubert Enviro Care Systems (P) Ltd

2.0 SCOPE AND METHODOLOGY

2.0 Scope & Methodology

The scope of the study and the present report covers the detailed characterization of the existing environmental status in the Project area for major environmental components viz. Ambient Air Quality, Stack monitoring, Micrometeorological Condition and Noise Quality.

2.1 Micrometeorology

As a part of this study, micrometeorology and microclimatic parameters were recorded by installing a meteorological station at the site. Data of wind velocity, wind direction, ambient temperature and relative humidity were recorded at 30 minutes intervals for 24 hours throughout the monitoring period.

Wind velocity, wind direction, ambient temperature, relative humidity, cloud cover and atmospheric pressure were recorded using Vantage Vue Wireless Weather Monitoring Kit (Model 6351).

2.2 Ambient Air Quality

Locations in the upwind and downwind for Ambient Air quality monitoring stations were identified on the basis of sectional scenario of the project site to be representative of the site. Parameters chosen for assessment of air quality were Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur dioxide (SO₂), Nitrogen dioxide (NO₂) and Carbon Monoxide (CO). Calibrated Respirable Dust Sampler (with an average flow of 1.2-1.4 m³/min) were used for monitoring of PM₁₀, a tapping provided in the hopper of the same sampler was utilized for sampling of SO₂ and NO₂ with proper flow controller (1l/m). Calibrated APM 550 Fine particle sampler was used for monitoring of PM_{2.5}.



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Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

2.2.1 PM₁₀

Calibrated RDS (Respirable Dust Sample) used for the determination of PM₁₀. PM₁₀ is a measure of particulate matter having size <10 microns. Air is sampled isokinetically through a cyclone where particles greater than 10 microns are separated and then it passes through a glass microfiber filter 10" x 8".The differentiate in weight before and after sampling is determine and divided by volume of air.

2.2.2 PM_{2.5}

PM_{2.5} is a measure of particulate matter having size < 2.5 microns. APM 550 Fine particles sampler is based on Wins Impactor design standardized by USEPA for ambient air quality monitoring. Calibrated APM 550 Fine particle sampler with PTFE 47mm diameter filter media was used for the determination of fine particulate matter PM_{2.5}.

2.2.3 SO₂: Modified West-Geake Spectrophotometric Method

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.

2.2.4 NO_x: Jacob and Hochheiser Modified Method

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) ethylamine dihydrochloride and nitrogen dioxide concentration is determined using digital spectrophotometer at a wavelength of 540 nm.

2.2.5 Carbon monoxide (CO)

Carbon monoxide is collected in a Teddler bag and CO was determined using Serinus 30 NDIR CO analyzer.



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Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

2.2.6 ParticulateLead

The exposed EPM 2000 filter papers were cut into small pieces put into a glassbeaker, poured 100 ml distilled water 10 ml nitric acid were added and digested on a hot plate in simmering heat. The clear solutions obtained after digestion was filtered and made up to 25ml and were analyzed by AAS for lead and arsenic. Concentration of lead was calculated by taking the result obtained from the analysis and dividing it with the volume of air sampled.

2.2.7 Nickel

The Inductively coupled plasma mass spectrometry (ICP-MS) technique is used to assess the concentration of an analyte in the sample. The method is based on active sampling using RDS (Respirable Dust Sample) Sampler and then sample analysis is done by ICP-MS.

2.2.8 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.

2.2.9 Benzo (a) pyrene

Particulate phase Poly Aromatic Hydrocarbons in ambient air and fugitive emission is collected by a RDS (Respirable Dust Sample) range (~1.2 m³/min) on a glass fiber filter and subsequent analysis by Gas Chromatograph using a Flame Ionisation Detector. It is capable of detecting sub nanogram concentration of PAH (Poly Aromatic Hydrocarbon) with a total sample of ~480 m³ of air over a period of 8 hrs.

2.2.10 Arsenic

The Inductively Coupled Plasma Mass Spectrometry (ICP-MS) technique is used to assess the concentration of an analyte in the sample. The method is based on active sampling using RDS (Respirable Dust Sample) Sampler and then sample analysis is done by ICP-MS.



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Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

2.2.11 Ammonia

Ammonia is collected in dilute Sulphuric acid solution in midget impingers to form Ammonium Sulphate. The solution is treated with Nessler's reagent to produce a yellow brown complex. The Ammonia concentration is determined by reading the absorption of the complex at 440 nm and comparing with a standard curve.

2.2.12 Ozone

Micro-amounts of ozone and the oxidants liberate iodine when absorbed in a 1% solution of potassium Iodide buffered at pH 6.8 ± 0.2 . The iodine is determined spectrophotometrically by measuring the absorption of tri-iodide ion at 352 nm.

2.2.13 Mercury

The Inductively Coupled Plasma Mass Spectrometry (ICP-MS) technique is used to assess the concentration of an analysis in the sample. The method is based on active sampling using RDS (Respirable Dust Sample) Sampler and then sample analysis is done by ICP-MS.

2.2.14 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.

2.2.15 Hydrocarbons & Non Methane Hydrocarbons

Ambient air is collected in an inflatable toddler bag and is analyzed by gas chromatography using Flame Ionization Detector.



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Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

2.3 Stack Monitoring

All the stacks are monitored using standard stack monitoring kit, Voyubhodhan VSS1. 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.

2.4 Water Quality

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

2.5 Noise Levels

Ambient Noise level measurements in four cardinal directions were carried out using an Extech sound level meter (Lutron Model SL4035 SD), with windscreen during daytime as well as night-time based on standard procedure given in CPCB guidelines.

In order to reduce the disturbances from standing waves, the noise levels measured were averaged over + 0.5 m each of at least three positions. The mean values were taken for reporting.



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Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

3.0 MICROMETEOROLOGICAL STATUS

3.1 Rationale behind Sampling

Meteorological parameters are important factors in the study of Air pollution. The transport and diffusion of the pollutants in the atmosphere are governed by meteorological factors. Factors like wind velocity; wind direction and atmospheric stability are known as primary/basic meteorological parameters since the dispersion and diffusion of pollutants depend mainly on these factors. Factors like ambient temperature, humidity, rainfall, atmospheric pressure, etc., are known as secondary meteorological parameters as these factors control the dispersion of the pollutants indirectly by affecting the primary factors. Thus, to assess the air pollution impact it becomes essential to collect the above-mentioned meteorological parameters in the project area.

Micrometeorological and microclimatic parameters were recorded by installing a meteorology station at site. During the study period, half hourly readings of wind velocity, wind direction, temperature, humidity, cloud cover, atmospheric pressure and rainfall data were recorded and reported.

3.2 Methodology & Procedure adopted for Analysis

Wind velocity, Wind direction, Ambient temperature, Relative humidity, Cloud cover and Atmospheric pressure were recorded using Vantage Vue Wireless Weather Monitoring Kit (Model 6351).

3.3 Data Presentation

Collected meteorological parameters for 1 day from are data is given in Table.

The seasonal wind roses are given.



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Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

TEST REPORT

Sample Description : Micro meteorology
Sample Drawn by : Hubert Enviro Care Systems Private Limited
Sampling Date : 08.07.2025 to 09.07.2025
Sample Location : On top of the DIC Office
Ambient Temperature : 31.5°C

HOURS	WIND SPEED (m/s)	WIND SPEED (mph)	WIND DIRECTION	TEMPERATRE °C	CLOUD COVER	RELATIVE HUMIDITY %	PRESSURE mmHg
11:00 AM	6.78	15.17	E	34.2	Partly Cloudy	62.3	752
12:00 PM	5.15	11.52	ESE	34.7	Partly Cloudy	59.4	750
13:00 PM	6.83	15.28	SE	32.4	Partly Cloudy	57.2	750
14:00 PM	5.32	11.90	E	33.9	Partly Cloudy	58.7	748
15:00 PM	5.47	12.23	E	30.1	Partly Cloudy	59.7	754
16:00 PM	5.21	11.66	ENE	28.6	Partly Cloudy	58.6	755
17:00 PM	6.96	15.57	NE	27.1	Partly Cloudy	56.7	751
18:00 PM	5.20	11.63	ENE	26.9	Partly Cloudy	57.9	750
19:00 PM	5.33	11.93	SE	26.4	Partly Cloudy	61.7	749
20:00 PM	5.51	12.33	SSE	26.3	Partly Cloudy	63.7	748
21:00 PM	5.25	11.75	SE	27.4	Partly Cloudy	74.6	754
22:00 PM	7.01	15.68	E	27.2	Partly Cloudy	77.3	751
23:00 PM	5.40	12.08	NNE	26.9	Partly Cloudy	77.9	750
12:00 AM	6.80	15.20	SE	27.1	Partly Cloudy	82.4	752
1:00 AM	5.39	12.06	E	26.8	Clear sky	84.9	749
2:00 AM	5.00	11.19	ENE	27.6	Clear sky	82.6	755
3:00 AM	6.98	15.61	SE	27.3	Clear sky	80.7	756
4:00 AM	7.13	15.95	ESE	28.1	Clear sky	75.2	750
5:00 AM	6.05	13.54	SE	28.6	Clear sky	73.8	754
6:00 AM	6.91	15.46	NE	29.7	Clear sky	72.8	752
7:00 AM	5.27	11.79	E	28.9	Clear sky	69.4	750
8:00 AM	6.86	15.34	ENE	30.2	Partly Cloudy	65.1	752
9:00 AM	5.15	11.52	NE	32.4	Partly Cloudy	60.8	748
10:00 AM	7.04	15.75	E	33.5	Partly Cloudy	59.4	749

*** End of Report ***




Authorized Signatory

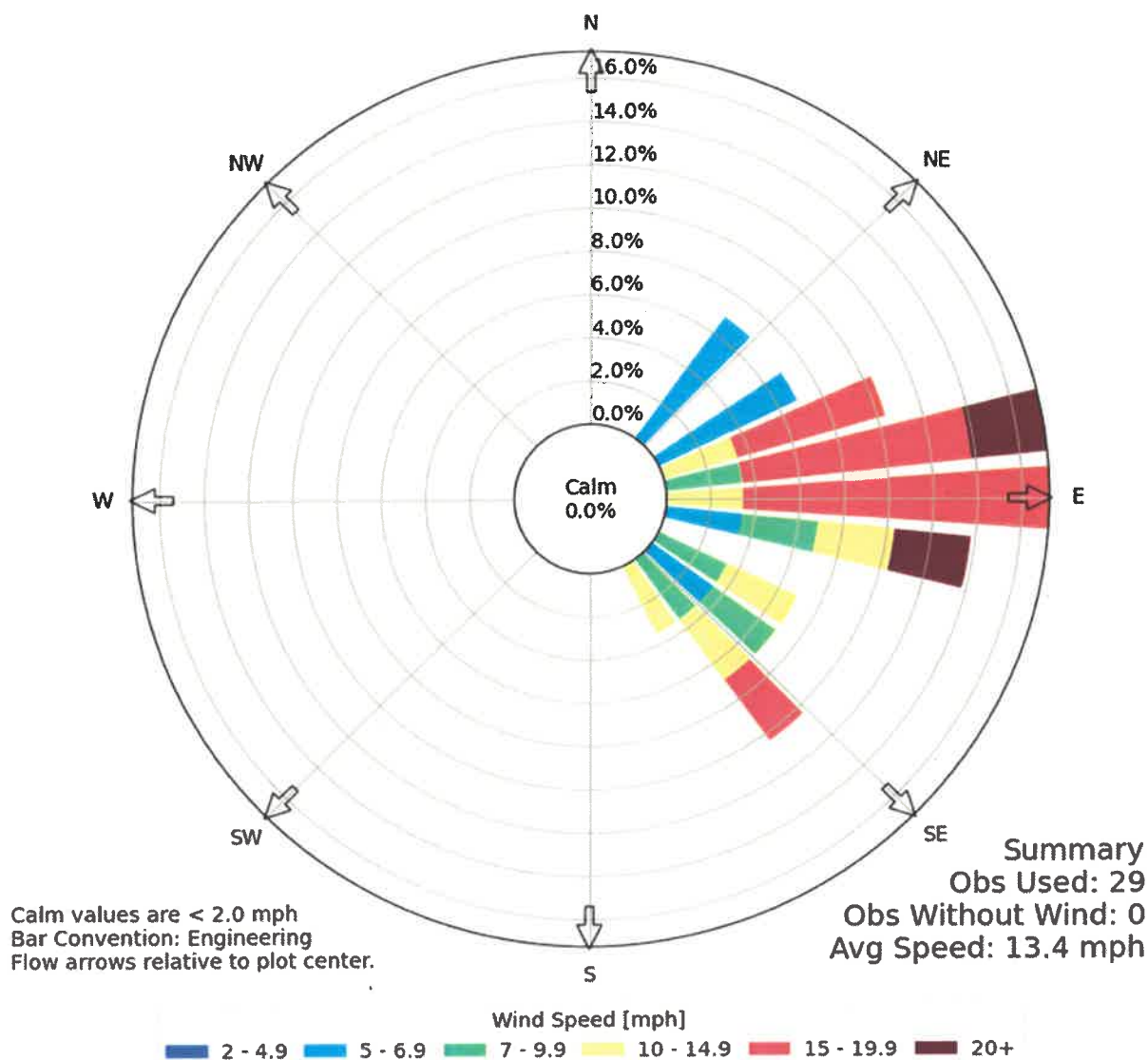
Hubert Enviro Care Systems (P) Ltd

Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

Sample Description : **WindRose**
Sample Drawn by : **Hubert Enviro Care Systems Private Limited**
SamplingDate : **08.07.2025 to 09.07.2025**
Sample Location : **On top of the DIC Office**



Windrose Plot for [VORY] Rajahmundry
Obs Between: 08 Jul 2025 11:30 AM - 09 Jul 2025 10:30 PM Asia/Kolkata



Pic: 1 - Wind rose diagram



Hubert Enviro Care Systems (P) Ltd

Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

4.0 AMBIENT AIR QUALITY STATUS

4.1 Preamble

The objective of the Ambient Air Quality monitoring is to assess the existing levels of air pollutants as well as the regional background concentration in the Project area. Air pollution forms an important and critical factor to study the environmental issues in the project areas. Air qualities have to be frequently monitored to know the extent of pollution due to mining and allied activities. Thus, ambient air quality monitoring was carried out at 2 locations. The ambient air quality monitoring stations are given.

AMBIENT AIR MONITORING STATIONS

SI.No.	Location Name	Location Code
1	Near Security gate - Up stream	AAQ-01
2	Near DG area– Down stream	AAQ-02

4.2 Data Presentation

The Ambient Air Quality data in terms of PM, PM₁₀, PM_{2.5}, SO₂, NO₂ and CO are given in Table.



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Hubert Enviro Care Systems (P) Ltd

Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

TESTREPORT

Name of the Client : M/s.Oil and Natural Gas Corporation Limited., Report No : HECS/AP/001/100725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 15.07.2025
Bhavan, Base-Complex, Rajamundry,
Andhra Pradesh-533106.
Sample Description : Ambient Air Quality – MDAY in mandapeta
Sampled Location : Near Security gate- Upstream
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
Sampling/Received Date : 08.07.2025 to 09.07.2025 / 10.07.2025
Analysis Commenced on : 10.07.2025 Completed on : 15.07.2025

S.No.	Parameters	Units	Results	NAAQ Standards: 2009	
1	Sulphur Dioxide	$\mu\text{g}/\text{m}^3$	8.10	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	22.74	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than $10\mu\text{m}$	$\mu\text{g}/\text{m}^3$	55.82	100(24 hours)	60 (Annual)
4	Particulate Matter Size Less than $2.5\mu\text{m}$	$\mu\text{g}/\text{m}^3$	24.05	60 (24 hours)	40 (Annual)
5	Carbon Monoxide	mg/m^3	BLQ(LOQ 0.05)	4(1 hours)	2 (8 hours)
6	Lead	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.002)	1(24 hours)	0.5 (Annual)
7	Ozone	$\mu\text{g}/\text{m}^3$	10.91	180(1 hours)	100 (8 hours)
8	Ammonia	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 5)	400(24 hours)	100 Annual)
9	Benzene	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.1)	5(Annual)	5 (Annual)
10	Benzo(a)pyrene	ng/m^3	BLQ(LOQ 0.1)	1(Annual)	1 (Annual)
11	Arsenic	ng/m^3	BLQ(LOQ 2)	6(Annual)	6 (Annual)
12	Nickel	ng/m^3	BLQ(LOQ 2)	20 (Annual)	20 (Annual)
13	Hydrocarbons	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 1)	NA	NA
14	Non Methane Hydrocarbons	mg/m^3	BLQ(LOQ 0.2)	NA	NA
15	Hydrogen Sulphide	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 6)	NA	NA
16	Mercury	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.002)	NA	NA

Note:-BLQ- Below the limit of Quantification, LOQ- Limits of Quantification, $\mu\text{g}/\text{m}^3$ - Micrograms per cubic meter, mg/m^3 - Milligrams per cubic meter, ng/m^3 - Nanograms per cubic meter, Parts per billion (ppb). Method of Testing – As per IS: 5182; HECS/AIR/Ambient/SOP and NIOSH.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

*** End of Report ***

Authorized Signatory



Hubert Enviro Care Systems (P) Ltd

Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

TESTREPORT

Name of the Client : M/s.Oil and Natural Gas Corporation Limited., Report No : HECS/AP/002/100725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 15.07.2025
Bhavan, Base-Complex, Rajamundry,
Andhrapradesh-533106.
Sample Description : Ambient Air Quality – MDAY in mandapeta
Sampled Location : Near DG area – Down stream
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
Sampling/Received Date : 08.07.2025 to 09.07.2025 / 10.07.2025
Analysis Commenced on : 10.07.2025 Completed on : 15.07.2025

S.No.	Parameters	Units	Results	NAAQ Standards: 2009	
1	Sulphur Dioxide	$\mu\text{g}/\text{m}^3$	10.81	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	21.05	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than $10\mu\text{m}$	$\mu\text{g}/\text{m}^3$	51.68	100(24 hours)	60 (Annual)
4	Particulate Matter Size Less than $2.5\mu\text{m}$	$\mu\text{g}/\text{m}^3$	20.77	60 (24 hours)	40 (Annual)
5	Carbon Monoxide	mg/m^3	BLQ(LOQ 0.05)	4(1 hours)	2 (8 hours)
6	Lead	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.002)	1(24 hours)	0.5 (Annual)
7	Ozone	$\mu\text{g}/\text{m}^3$	13.19	180(1 hours)	100 (8 hours)
8	Ammonia	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 5)	400(24 hours)	100 Annual)
9	Benzene	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.1)	5(Annual)	5 (Annual)
10	Benzo(a)pyrene	ng/m^3	BLQ(LOQ 0.1)	1(Annual)	1 (Annual)
11	Arsenic	ng/m^3	BLQ(LOQ 2)	6(Annual)	6 (Annual)
12	Nickel	ng/m^3	BLQ(LOQ 2)	20 (Annual)	20 (Annual)
13	Hydrocarbons	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 1)	NA	NA
14	Non Methane Hydrocarbons	mg/m^3	BLQ(LOQ 0.2)	NA	NA
15	Hydrogen Sulphide	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 6)	NA	NA
16	Mercury	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.002)	NA	NA

Note:-BLQ- Below the limit of Quantification, LOQ- Limits of Quantification, $\mu\text{g}/\text{m}^3$ - Micrograms per cubic meter, mg/m^3 - Milligrams per cubic meter, ng/m^3 - Nanograms per cubic meter, Parts per billion (ppb). Method of Testing – As per IS: 5182; HECS/AIR/Ambient/SOP and NIOSH.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

*** End of Report ***



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Hubert Enviro Care Systems (P) Ltd

Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

5.0 STACK EMISSION

All the stacks are monitored using standard stack monitoring kit, Voyubhodhan VSS1. The principle of operation is to take ISO KINETIC samples of the pollutants. Stack monitoring was carried out at 1 location. The Stack monitoring station is given below.

STACKMONITORINGSTATION

SI.No.	Location Name	Location Code
1	DG IV - 1430KVA	ST-01

5.1DataPresentation

The Stack Emission data in terms of PM,SO₂,NO₂ and CO are given inTable.



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Hubert Enviro Care Systems (P) Ltd

Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

TESTREPORT

Name of the Client : M/s.Oil and Natural Gas Corporation Limited., Report No : HECS/AP/005/100725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 15.07.2025
Bhavan, Base-Complex, Rajamundry,
Andhra Pradesh-533106.
Sample Description : DG Stack Emission-MDAY in mandapeta
Sampled Location : DG IV - 1430 KVA (Serial No : S2G00287)
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
Sampling/Received Date : 08.07.2025 / 10.07.2025
Analysis Commenced on : 10.07.2025 Completed on : 15.07.2025

S.No.	Parameters	Units	Results	CPCB Standards
1	Stack Height	Meter	3.0	-
2	Stack Diameter	Meter	0.07	-
3	Temperature	°C	115.0	-
4	Velocity	m/sec	14.9	-
5	Flow rate	Nm ³ /hr	144.0	-
6	Particulate Matter	mg/Nm ³	45.0	75
7	Sulphur Dioxide	mg/Nm ³	BLQ(LOQ 2)	-
8	Nitrogen Dioxide	ppmv	310.0	710
9	Carbon monoxide	mg/Nm ³	BLQ(LOQ 0.01)	150
10	Carbon dioxide	% V/V	4.8	-
11	Total Volatile Organic Compound (TVOC)	ppmv	0.26	-
12	Total Hydrocarbon	µg /Nm ³	BLQ(LOQ 0.1)	≤4.0(NO _x +HC)
13	Moisture	%	0.32	-
14	Mercury	mg/Nm ³	BLQ(LOQ 0.1)	-
15	Ambient Temperature	° C	32.4	-

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/Nm³- Milligrams per Normal cubic meter. *- Parts per million by Volume, m/s- Meter per second, Nm³/hr - Normal cubic meter per hour,

NA - Not Applicable. Remarks :-Standards are given as per CPCB PCLS / 02/ 2010 Sixth Edition (Engine Rating more than 0.8 M W (800 KW); The Tested Parameters are found within acceptable Limit.

Method of Testing – *As per IS 11255;

1. CO and CO₂. as per PID Gas Detector - As per IS 13270 method
2. TVOC. as per NDIR technique –
3. Total Hydrocarbon. as per USEPA method 29 - Mercury.

*** End of Report ***



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Hubert Enviro Care Systems (P) Ltd

Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

6.0 WATER QUALITY STATUS

6.1 Rationale behind Sampling

Any adverse impact or pollution water will have serious effect on the environment. Hence, it becomes important to monitor the water quality periodically in the project area.

WATER QUALITY STATION

Sl.No.	Sample Name	Sample Code
1	Ground Water	WT-01

6.2 Data Presentation

The abstract of Water Quality data are given in Table.



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Hubert Enviro Care Systems (P) Ltd

Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

TESTREPORT

Name of the Client : M/s.Oil and Natural Gas Corporation Limited., Report No : HECS/WT/001/100725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 15.07.2025
Bhavan, Base-Complex, Rajamundry,
Andhra Pradesh-533106.
Sample Description : Ground Water
Sampled Location : Rig-EV-2000-2 MDAY in mandapeta
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
Sampling/Received Date : 09.07.2025 / 10.07.2025
Analysis Commenced on : 10.07.2025 Completed on : 15.07.2025

S.No.	Parameters	Units	Results	Test Method
1	Total suspended Solids	mg/l	BLQ(LOQ 2.0)	IS 3025 (Part 17) 1984
2	pH @ 25°C	-	7.58	IS 3025(Part 11) : 2022 (Electrometric method)
3	Total Dissolved Solids	mg/l	612.0	IS 3025 (Part 16) 1984
4	Temperature	°C	26.7	IS 3025 (Part 9):1983
5	Oil & Grease	mg/l	BLQ(LOQ 4.0)	IS 3025 (Part 39) 1991
6	Chemical Oxygen Demand as O ₂	mg/l	BLQ(LOQ 4.0)	IS 3025 (Part 58) 2006
7	Lead as Pb	mg/l	BLQ(LOQ 0.005)	IS:3025 (Part 47)1994
8	Chromium (Hexavalent) as Cr ⁶⁺	mg/l	BLQ(LOQ 0.01)	IS 3025 Part 52: 2003 (Diphenyl Carbazide method)
9	Total Chromium as Cr	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 : 1994
10	Copper as Cu	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 : 1994
11	Zinc as Zn	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 : 1994
12	Nickel as Ni	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 : 1994
13	Chloride as Cl	mg/l	188.06	IS 3025 (Part 32) 1988
14	Fluoride as F	mg/l	0.43	APHA 23rd edition (Method 4500F- B , D): 2017
15	Sulphate as SO ₄	mg/l	74.26	IS 3025 (Part 24) 1986
16	Sulphide as S ₂	mg/l	BLQ(LOQ 0.04)	IS:3025 (Part 29)1986
17	Mercury as Hg	mg/l	BLQ(LOQ 0.0005)	USEPA 200.8 : 1994
18	Cadmium as Cd	mg/l	BLQ(LOQ 0.001)	USEPA 200.8 : 1994
19	Cyanide as CN	mg/l	BLQ(LOQ 0.01)	IS:3025 (Part 27)1986
20	Sodium as Na	mg/l	95.0	IS 3025 (Part 45) :1993
21	Phenols as C ₆ H ₅ OH	mg/l	BLQ(LOQ 0.001)	IS 3025 (Part 43) :1992
22	Toxicity Factor	-	95.0	IS 6582 Part 2 : 2001
23	BOD, 3 days @ 27°C as O ₂	mg/l	BLQ(LOQ 2.0)	IS:3025 (Part 44)1993
24	Electric Conductivity@25°C	µS/cm	1092.0	IS 3025 (Part-14) 2013
25	Aluminium as Al	mg/l	BLQ(LOQ 0.02)	IS 3025(Part 55) 2003

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

*** End of Report ***



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8.0 NOISE LEVEL STATUS

8.1 Rationale behind Sampling

As part of the occupational health and safety measures certain safeguards have been incorporated to mitigate noise pollution in working environments.

8.2 Data Presentation

The abstract of Noise level data are given in Table.



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Environmental Monitoring Report for ONGC Ltd.,Drilling Rig-EV-2000-2; Well: MDAY in Mandapeta

TEST REPORT

Name of the Client : M/s.Oil and Natural Gas Corporation Limited., Report No : HECS/AP/003/100725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 15.07.2025
Bhavan, Base-Complex, Rajamundry,
Andhrapradesh-533106.
Sample Description : Ambient Noise Level
Sampled Location : Rig-EV-2000-2 (MDAY)
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
Sampling/Received Date : 08.07.2025 / 10.07.2025
Analysis Commenced on : 10.07.2025 Completed on : 15.07.2025

S.No.	Location	Day Time Noise level in dB(A)	Night Time Noise level in dB(A)
1	Main Gate	57.2	52.3
2	DIC Office	62.7	57.1
3	MIC Office	52.8	49.7
4	Living Area	54.3	50.4
5	Compressor Area	64.2	59.2
6	Canteen	56.7	53.4
7	Rack Area	54.9	50.2
8	DG Area	64.8	60.3
9	RIG Back Side	67.4	63.5
10	Chemical Stores area	63.6	58.3
11	Shell shaker Area	64.8	60.4
12	AC-PCR Area	64.5	60.8
13	Mud Pump area	68.4	63.2
14	Mud Cleaning area	69.7	63.6
15	ML U Office	62.6	58.2
16	Geologist Room	62.0	57.3
17	Water Tank Area	69.2	64.1
18	Assembly Area	57.3	53.1
19	Foam RIG 100 M Radius	67.2	62.5
20	Foam RIG 200 M Radius	57.3	52.8

Remarks: CPCB Limit for Noise Level

1. Industrial Area- 75 dB (A) day Time and 70 dB (A) Night Time.
2. Commercial Area- 65 dB (A) day Time and 55 dB (A) Night Time.

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

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Hubert Enviro Care Systems (P) Ltd

**Environmental Monitoring Report for
development drilling of well PSAV in Pasarlapudi by Drilling
Rig E-2000-3
Andhra Pradesh.**

**(Period 20.07.2025 to 21.07.2025)
REPORT**



**Sponsor
Oil and Natural Gas Corporation Limited
Rajamundry Asset, Second Floor, Godavari
Bhavan, Base Complex, Rajamundry,
Andhrapradesh-533106**



Hubert Enviro Care Systems (P) Ltd

**(An ISO 9001, 14001 & 45001 Company) (Accredited by
NABL, Recognized by MoEF)
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Ka Industrial Estate, SIDCO Industrial Estate,
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Phone: (044) 43635555
Email: lab@hecs.in**

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FOREWORD

Oil and Natural Gas Corporation Limited desired to monitor environmental status at its Project site. The work of environmental quality monitoring was entrusted to **M/s. Hubert Enviro Care Systems (P) Ltd., Chennai**. Which is MoEF recognized and NABL accredited laboratory, vide ONGC work order No. **ONG/RA/HSE/Env/EQM/2024-25; Dated on: 01.01.2025 (RJYASSET/SUPPORT/MM/20222ENVIRONM/926474/9010035115 dated on: 12/08/2022).**

A comprehensive environmental monitoring network had been planned to monitor data for the month of **July'2025**. The monitored data on Ambient Air Quality, Stack monitoring, Water Quality, Effluent Quality, Noise data are collected and presented in this report.

Our sincere thanks are due to Oil and Natural Gas Corporation Limited, Rajamundry for forwarding this work and ONGC Ltd., **RIG : E-2000-3; Well PSAV in Pasarlapudi, Andhra Pradesh** for their kind co-operation during the study period.

Date: 01/09/2025
Place: Chennai-32.


Dr. Rajkumar Samuel
Director Technical



1.0 INTRODUCTION

1.1 Background

The work of environmental quality monitoring was entrusted to **M/s.Hubert Enviro Care Systems (P) Ltd.,Chennai**, which is MoEF recognized and NABL accredited laboratory; vide ONGC work order No. **ONG/RA/HSE/Env/EQM/2024-25; Dated on:01.01.2025 (RJYASSET/SUPPORT/MM/20222ENVIRONM/926474/9010035115 dated on: 12/08/2022).**

A comprehensive environmental monitoring network had been planned to monitoring date from **20.07.2025 to 21.07.2025**. The monitored data on Ambient Air Quality, Stack monitoring, Water Quality, Effluent Quality, Noise data are collected and presented in this report.

1.2 Project Setting

Oil and Natural Gas Corporation Limited is having development drilling of well PSAV in Pasarlapudi by Drilling Rig E-2000-3, **Andhra Pradesh**

1.3 Environmental Management Plan

Being concerned towards Environmental Protection, Oil and Natural Gas Corporation Limited has prepared an extensive Environmental Management Plan for Site operations.

Oil and Natural Gas Corporation Limited, Rajamahendravaram as entrusted the Environmental data monitoring work to **M/s.Hubert Enviro Care Systems Pvt Ltd.,Chennai**, vide your Work Order No. **No. ONG/RA/HSE/Env/EQM/2024-25; Dated on:01.01.2025 (RJYASSET/SUPPORT/MM/20222ENVIRONM/926474/9010035115 dated on: 12/08/2022).**

The field monitoring studies were carried out from **20.07.2025 to 21.07.2025** for Ambient Air Quality, Stack monitoring, Water Quality, Effluent Quality, Drilling Effluent, Drill Cutting and Noise levels are presented in this report.



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2.0 SCOPE AND METHODOLOGY

2.0 Scope & Methodology

The scope of the study and the present report covers the detailed characterization of the existing environmental status in the Project area for major environmental components viz. Ambient Air Quality, Stack monitoring, Micrometeorological Condition and Noise Quality.

2.1 Micrometeorology

As a part of this study, micrometeorology and microclimatic parameters were recorded by installing a meteorological station at the site. Data of wind velocity, wind direction, ambient temperature and relative humidity were recorded at 30 minutes intervals for 24 hours throughout the monitoring period.

Wind velocity, wind direction, ambient temperature, relative humidity, cloud cover and atmospheric pressure were recorded using Vantage Vue Wireless Weather Monitoring Kit (Model 6351).

2.2 Ambient Air Quality

Locations in the upwind and downwind for Ambient Air quality monitoring stations were identified on the basis of sectional scenario of the project site to be representative of the site. Parameters chosen for assessment of air quality were Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur dioxide (SO₂), Nitrogen dioxide (NO₂) and Carbon Monoxide (CO). Calibrated Respirable Dust Sampler (with an average flow of 1.2-1.4 m³/min) were used for monitoring of PM₁₀, a tapping provided in the hopper of the same sampler was utilized for sampling of SO₂ and NO₂ with proper flow controller (1l/m). Calibrated APM 550 Fine particle sampler was used for monitoring of PM_{2.5}.



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Hubert Enviro Care Systems (P) Ltd.

Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well PSA V in Pasarlapudi

2.2.1 PM₁₀

Calibrated RDS (Respirable Dust Sample) used for the determination of PM₁₀. PM₁₀ is a measure of particulate matter having size <10 microns. Air is sampled isokinetically through a cyclone where particles greater than 10 microns are separated and then it passes through a glass microfiber filter 10" x 8". The difference in weight before and after sampling is determined and divided by volume of air.

2.2.2 PM_{2.5}

PM_{2.5} is a measure of particulate matter having size < 2.5 microns. APM 550 Fine particles sampler is based on Wins Impactor design standardized by USEPA for ambient air quality monitoring. Calibrated APM 550 Fine particle sampler with PTFE 47mm diameter filter media was used for the determination of fine particulate matter PM_{2.5}.

2.2.3 SO₂: Modified West-Geake Spectrophotometric Method

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.

2.2.4 NO_x: Jacob and Hochheiser Modified Method

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) ethylamine dihydrochloride and nitrogen dioxide concentration is determined using digital spectrophotometer at a wavelength of 540 nm.

2.2.5 Carbon monoxide (CO)

Carbon monoxide is collected in a Teddler bag and CO was determined using Serinus 30 NDIR CO analyzer.



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Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well PSAV in Pasarlapudi

2.2.6 Particulate Lead

The exposed EPM 2000 filter papers were cut into small pieces put into a glass beaker, poured 100 ml distilled water 10 ml nitric acid were added and digested on a hot plate in simmering heat. The clear solutions obtained after digestion was filtered and made up to 25ml and were analyzed by AAS for lead and arsenic. Concentration of lead was calculated by taking the result obtained from the analysis and dividing it with the volume of air sampled.

2.2.7 Nickel

The Inductively coupled plasma mass spectrometry (ICP-MS) technique is used to assess the concentration of an analyte in the sample. The method is based on active sampling using RDS (Respirable Dust Sample) Sampler and then sample analysis is done by ICP-MS.

2.2.8 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.

2.2.9 Benzo (a) pyrene

Particulate phase Poly Aromatic Hydrocarbons in ambient air and fugitive emission is collected by a RDS (Respirable Dust Sample) range (~1.2 m³/min) on a glass fiber filter and subsequent analysis by Gas Chromatograph using a Flame Ionisation Detector. It is capable of detecting sub nanogram concentration of PAH (Poly Aromatic Hydrocarbon) with a total sample of ~480 m³ of air over a period of 8 hrs.

2.2.10 Arsenic

The Inductively Coupled Plasma Mass Spectrometry (ICP-MS) technique is used to assess the concentration of an analyte in the sample. The method is based on active sampling using RDS (Respirable Dust Sample) Sampler and then sample analysis is done by ICP-MS-MS.



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Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well PSAV in Pasarlapudi

2.2.11 Ammonia

Ammonia is collected in dilute Sulphuric acid solution in midjet impingers to form Ammonium Sulphate. The solution is treated with Nessler's reagent to produce a yellow brown complex. The Ammonia concentration is determined by reading the absorption of the complex at 440 nm and comparing with a standard curve.

2.2.12 Ozone

Micro-amounts of ozone and the oxidants liberate iodine when absorbed in a 1% solution of potassium Iodide buffered at pH 6.8 ± 0.2 . The iodine is determined spectrophotometrically by measuring the absorption of tri-iodide ion at 352 nm.

2.2.13 Mercury

The Inductively Coupled Plasma Mass Spectrometry (ICP-MS) technique is used to assess the concentration of an analysis in the sample. The method is based on active sampling using RDS (Respirable Dust Sample) Sampler and then sample analysis is done by ICP-MS.

2.2.14 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.

2.2.15 Hydrocarbons & Non Methane Hydrocarbons

Ambient air is collected in an inflatable toddler bag and is analyzed by gas chromatography using Flame Ionization Detector.



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Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well PSAV in Pasarlapudi

2.3 Stack Monitoring

All the stacks are monitored using standard stack monitoring kit, Voyubhodhan VSS1. 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.

2.4 Water Quality

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

2.5 Noise Levels

Ambient Noise level measurements in four cardinal directions were carried out using an Extech sound level meter (Lutron Model SL4035 SD), with windscreen during daytime as well as night-time based on standard procedure given in CPCB guidelines.

In order to reduce the disturbances from standing waves, the noise levels measured were averaged over + 0.5 m each of at least three positions. The mean values were taken for reporting.



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3.0 MICRO METEOROLOGICAL STATUS

3.1 Rationale behind Sampling

Meteorological parameters are important factors in the study of Air pollution. The transport and diffusion of the pollutants in the atmosphere are governed by meteorological factors. Factors like wind velocity; wind direction and atmospheric stability are known as primary/basic meteorological parameters since the dispersion and diffusion of pollutants depend mainly on these factors. Factors like ambient temperature, humidity, rainfall, atmospheric pressure, etc., are known as secondary meteorological parameters as these factors control the dispersion of the pollutants indirectly by affecting the primary factors. Thus, to assess the air pollution impact it becomes essential to collect the above-mentioned meteorological parameters in the project area.

Micrometeorological and microclimatic parameters were recorded by installing a meteorology station at site. During the study period, half hourly readings of wind velocity, wind direction, temperature, humidity, cloud cover, atmospheric pressure and rainfall data were recorded and reported.

3.2 Methodology & Procedure adopted for Analysis

Wind velocity, Wind direction, Ambient temperature, Relative humidity, Cloud cover and Atmospheric pressure were recorded using Vantage Vue Wireless Weather Monitoring Kit (Model 6351).

3.3 Data Presentation

Collected meteorological parameters for 1 day from are data is given in Table.

The seasonal wind roses are given.



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Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well PSAV in Pasarlapud

TEST REPORT

Sample Description : Micro Meteorology
Sample Drawn by : Hubert Enviro Care Systems Private Limited
Sampling Date : 20.07.2025 to 21.07.2025
Sample Location : On top of the MIC Office ,Rig E-2000-3 , Well # PSAV
Ambient Temperature : 29.7 °C

HOURS	WIND SPEED m/s	WIND SPEED mph	WIND DIRECTION	TEMPERATRE °C	CLOUD COVER	RELATIVE HUMIDITY %	PRESSURE mmHg
11:00 AM	5.21	11.66	NE	31.2	Partly Cloudy	63.4	746
12:00 PM	3.96	8.86	E	33.1	Partly Cloudy	64.7	746
13:00 PM	5.25	11.74	ENE	30.9	Partly Cloudy	63.5	748
14:00 PM	4.09	9.15	SE	29.5	Partly Cloudy	64.8	745
15:00 PM	4.20	9.40	NNE	29.8	Partly Cloudy	65.9	749
16:00 PM	4.01	8.96	W	28.6	Partly Cloudy	66.2	748
17:00 PM	5.35	11.97	SW	27.5	Partly Cloudy	72.8	746
18:00 PM	4.00	8.94	N	28.6	Partly Cloudy	70.6	747
19:00 PM	4.10	9.17	NE	28.3	Partly Cloudy	69.9	748
20:00 PM	4.24	9.48	E	27.6	Clear sky	72.3	747
21:00 PM	4.04	9.03	SE	26.5	Clear sky	74.5	746
22:00 PM	5.39	12.05	SSE	25.3	Clear sky	76.9	745
23:00 PM	4.15	9.28	E	26.9	Clear sky	77.2	740
12:00 AM	5.22	11.69	NE	26.4	Clear sky	80.3	742
1:00 AM	4.14	9.27	ENE	27.3	Partly Cloudy	84.6	746
2:00 AM	3.84	8.60	NNE	27.4	Partly Cloudy	80.2	748
3:00 AM	5.36	12.00	N	26.3	Partly Cloudy	75.9	750
4:00 AM	5.48	12.26	NE	27.3	Partly Cloudy	73.4	748
5:00 AM	4.66	10.44	E	28.6	Partly Cloudy	70.5	746
6:00 AM	5.31	11.89	SE	27.9	Partly Cloudy	67.8	747
7:00 AM	4.05	9.06	ESE	29.4	Partly Cloudy	66.9	746
8:00 AM	5.27	11.79	ENE	28.6	Partly Cloudy	65.7	748
9:00 AM	3.96	8.86	NE	30.3	Partly Cloudy	64.2	750
10:00 AM	5.41	12.10	E	31.0	Partly Cloudy	63.1	747

*** End of Report ***



Authorized Signatory

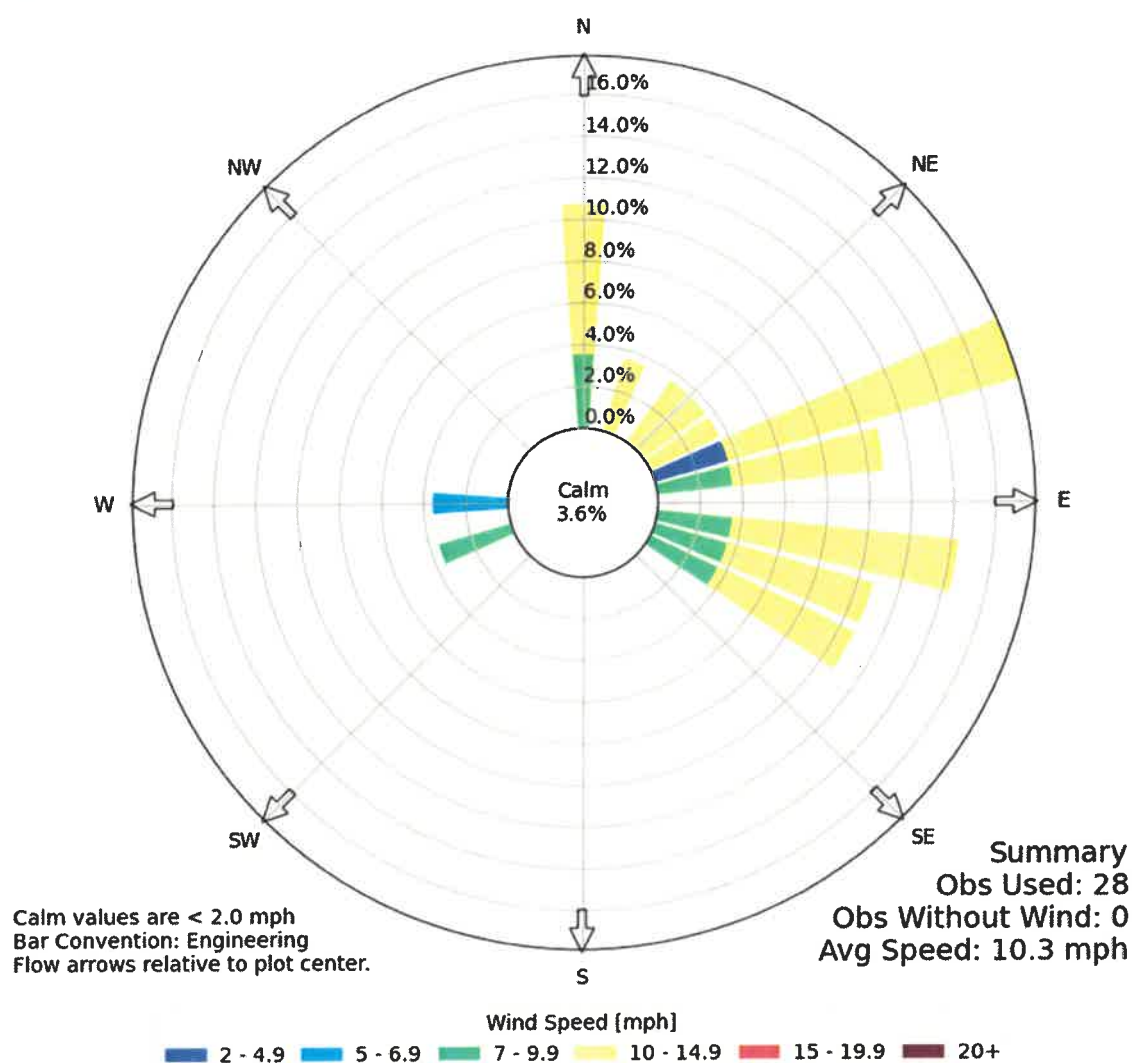
HubertEnviroCareSystems(P)Ltd.

Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well PSAV in Pasarlapu

Sample Description : WindRose
Sample Drawn by : Hubert Enviro Care Systems Private Limited
Sampling Date : 20.07.2025 to 21.07.2025
Sample Location : On top of the MIC Office , Rig E-2000-3 , Well # PSAV



Windrose Plot for [VORY] Rajahmundry
Obs Between: 20 Jul 2025 11:30 AM - 21 Jul 2025 09:30 PM Asia/Kolkata



Pic: 1 - Wind rose diagram



Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well; PSAV in Pasarlapudi

4.0 AMBIENT AIR QUALITY STATUS

4.1 Preamble

The objective of the Ambient Air Quality monitoring is to assess the existing levels of air pollutants as well as the regional background concentration in the Project area. Air pollution forms an important and critical factor to study the environmental issues in the project areas. Air qualities have to be frequently monitored to know the extent of pollution due to mining and allied activities. Thus, ambient air quality monitoring was carried out at 2 locations. The ambient air quality monitoring stations are given.

AMBIENT AIR MONITORING STATIONS

Sl.No.	Location Name	Location Code
1	Near Main Gate- Down stream	AAQ-01
2	Near DG area – Upstream	AAQ-02

4.2 Data Presentation

The Ambient Air Quality data in terms of PM, PM₁₀, PM_{2.5}, SO₂, NO₂ and CO are given in Table.



Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well; PSAV in Pasarlapudi

TEST REPORT

Name of the Client : M/s. Oil and Natural Gas Corporation Limited., Report No : HECS/AP/055/220725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 28.07.2025
Bhavan, Base-Complex, Rajamundry,
Andhra Pradesh-533106.

Sample Description : Ambient Air Quality - RIG: E-2000-3, Well ; PSAV in Pasarlapudi
Sampled Location : Near main gate - Downstream
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
Sampling/Received Date : 20.07.2025 to 21.07.2025 / 22.07.2025
Analysis Commenced on : 22.07.2025 Completed on : 28.07.2025

S.No.	Parameters	Units	Results	NAAQ Standards: 2009	
1	Sulphur Dioxide	$\mu\text{g}/\text{m}^3$	8.10	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	20.66	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than $10\mu\text{m}$	$\mu\text{g}/\text{m}^3$	55.78	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than $2.5\mu\text{m}$	$\mu\text{g}/\text{m}^3$	26.84	60 (24 hours)	40 (Annual)
5	Carbon Monoxide	mg/m^3	BLQ(LOQ 0.05)	4 (1 hours)	2 (8 hours)
6	Lead	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.002)	1 (24 hours)	0.5 (Annual)
7	Ozone	$\mu\text{g}/\text{m}^3$	10.91	180 (1 hours)	100 (8 hours)
8	Ammonia	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 5)	400 (24 hours)	100 (Annual)
9	Benzene	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.1)	5 (Annual)	5 (Annual)
10	Benzo(a)pyrene	ng/m^3	BLQ(LOQ 0.1)	1 (Annual)	1 (Annual)
11	Arsenic	ng/m^3	BLQ(LOQ 2)	6 (Annual)	6 (Annual)
12	Nickel	ng/m^3	BLQ(LOQ 2)	20 (Annual)	20 (Annual)
13	Hydrocarbons	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 1)	NA	NA
14	Non Methane Hydrocarbons	mg/m^3	BLQ(LOQ 0.2)	NA	NA
15	Hydrogen Sulphide	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 6)	NA	NA
16	Mercury	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.002)	NA	NA

Note:- BLQ- Below the limit of Quantification, LOQ- Limits of Quantification, $\mu\text{g}/\text{m}^3$ - Micrograms per cubic meter, mg/m^3 - Milligrams per cubic meter, ng/m^3 - Nanograms per cubic meter, Parts per billion (ppb). Method of Testing - As per IS: 5182; HECS/AIR/Ambient/SOP and NIOSH.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

*** End of Report ***

Authorized Signatory



Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well; PSAV in Pasarlapudi

TEST REPORT

Name of the Client : M/s.Oil and Natural Gas Corporation Limited., Report No : HECS/AP/056/220725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 28.07.2025
Bhavan, Base-Complex, Rajamundry,
Andhrapradesh-533106.

Sample Description : Ambient Air Quality – RIG: E-2000-3, Well ; PSAV in Pasarlapudi
Sampled Location : Near DG area- Up stream
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
Sampling/Received Date : 20.07.2025 to 21.07.2025 / 22.07.2025
Analysis Commenced on : 22.07.2025 Completed on : 28.07.2025

S.No.	Parameters	Units	Results	NAAQ Standards: 2009	
1	Sulphur Dioxide	$\mu\text{g}/\text{m}^3$	14.22	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	20.99	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than $10\ \mu\text{m}$	$\mu\text{g}/\text{m}^3$	51.69	100(24 hours)	60 (Annual)
4	Particulate Matter Size Less than $2.5\ \mu\text{m}$	$\mu\text{g}/\text{m}^3$	29.06	60 (24 hours)	40 (Annual)
5	Carbon Monoxide	mg/m^3	BLQ(LOQ 0.05)	4(1 hours)	2 (8 hours)
6	Lead	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.002)	1(24 hours)	0.5 (Annual)
7	Ozone	$\mu\text{g}/\text{m}^3$	12.34	180(1 hours)	100 (8 hours)
8	Ammonia	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 5)	400(24 hours)	100 Annual)
9	Benzene	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.1)	5(Annual)	5 (Annual)
10	Benzo(a)pyrene	ng/m^3	BLQ(LOQ 0.1)	1(Annual)	1 (Annual)
11	Arsenic	ng/m^3	BLQ(LOQ 2)	6(Annual)	6 (Annual)
12	Nickel	ng/m^3	BLQ(LOQ 2)	20 (Annual)	20 (Annual)
13	Hydrocarbons	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 1)	NA	NA
14	Non Methane Hydrocarbons	mg/m^3	BLQ(LOQ 0.2)	NA	NA
15	Hydrogen Sulphide	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 6)	NA	NA
16	Mercury	$\mu\text{g}/\text{m}^3$	BLQ(LOQ 0.002)	NA	NA

Note:-BLQ- Below the limit of Quantification, LOQ- Limits of Quantification, $\mu\text{g}/\text{m}^3$ - Micrograms per cubic meter, mg/m^3 - Milligrams per cubic meter, ng/m^3 - Nanograms per cubic meter, Parts per billion (ppb). Method of Testing – As per IS: 5182; HECS/AIR/Ambient/SOP and NIOSH.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

*** End of Report ***

Authorized Signatory



Hubert Enviro Care Systems (P) Ltd.

Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well; PSAV in Pasarlapudi

5.0 STACK EMISSION

All the stacks are monitored using standard stack monitoring kit, Voyubhodhan VSS1. The principle of operation is to take ISO KINETIC samples of the pollutants. Stack monitoring was carried out at 1 location. The Stack monitoring station is given below.

STACK MONITORING STATION

SI.No.	Location Name	Location Code
1	DG- IV - 1430 KVA	ST-01

5.1 Data Presentation

The Stack Emission data in terms of PM ,SO₂ ,NO₂ and CO are given in Table.



A handwritten signature in blue ink.

Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well; PSAV in
Pasarlapudi
TEST REPORT

Name of the Client : M/s. Oil and Natural Gas Corporation Limited., Report No : HECS/AP/058/220725
 Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 28.07.2025
 Bhavan, Base-Complex, Rajamundry,
 Andhra Pradesh-533106.

Sample Description : DG Stack Emission - RIG: E-2000-3; Well ; PSAV in Pasarlapudi
 Sampled Location : DG -IV -1430 KVA (S.No.S2G00119)
 Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd.
 Sampling/Received Date : 20.07.2025 / 22.07.2025
 Analysis Commenced on : 22.07.2025 Completed on : 28.07.2025

S.No.	Parameters	Units	Results	CPCB Standards
1	Stack Height	Meter	5.0	-
2	Stack Diameter	Meter	0.3	-
3	Temperature	°C	160.0	-
4	Velocity	m/sec	16.3	-
5	Flowrate	Nm ³ /hr	2590.0	-
6	Particulate Matter	mg/Nm ³	40.99	75
7	Sulphur Dioxide	mg/Nm ³	BLQ(LOQ 2)	-
8	Nitrogen Dioxide	ppmv	256.0	710
9	Carbon monoxide	mg/Nm ³	68.77	150
10	Carbon dioxide	%V/V	1.8	-
11	Total Volatile Organic Compound (TVOC)	ppm	BLQ(LOQ 0.1)	-
12	Total Hydrocarbon	µg /Nm ³	BLQ(LOQ 0.1)	-
13	Moisture	%	0.33	-
14	Mercury	mg/Nm ³	BLQ(LOQ 0.1)	-
15	Ambient Temperature	°C	32.0	-

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/Nm³- Milligrams per Normal cubic meter. *- Parts per million by Volume, m/s- Meter per second, Nm³/hr - Normal cubic meter per hour,

NA - Not Applicable. Remarks :-Standards are given as per CPCB PCLS / 02/ 2010 Sixth Edition (Engine Rating more than 0.8 M W (800 KW); The Tested Parameters are found within acceptable Limit.

Method of Testing – *As per IS 11255;

1. CO and CO₂. as per PID Gas Detector - As per IS 13270 method
2. TVOC. as per NDIR technique –
3. Total Hydrocarbon. as per USEPA method 29 - Mercury.

*** End of Report ***

Authorized Signatory



Hubert Enviro Care Systems (P) Ltd.

Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well; PSAV in Pasarlapudi

6.0 WATER QUALITY STATUS

6.1 Rationale behind Sampling

Any adverse impact or pollution water will have serious effect on the environment. Hence, it becomes important to monitor the water quality periodically in the project area.

In order to assess the quality of Waste Water in Project area samples were collected for testing chemical parameters as per IS: 3025. Waste water samples were collected at 2 locations. Locations are given below

WATER QUALITY STATION

Sl.No.	Sample Name	Sample Code
1	Ground Water	WT-01
2	Drilling Effluent(Pit Water)	WT-02

6.2 Data Presentation

The abstract of Water Quality data are given in Table.



Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well; PSAV in Pasarlapudi

TEST REPORT

Name of the Client : M/s.Oil and Natural Gas Corporation Limited., Report No : HECS/WT/014/220725
 Address of the Client : Rajamundry Asset, Second Floor, Godavari Bhavan, Base-Complex, Rajamundry, Andhrapradesh-533106. Report Date : 28.07.2025

Sample Description : Ground Water
 Sampled Location : RIG: E-2000-3; Well ; PSAV in Pasarlapudi
 Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
 Sampling/Received Date : 21.07.2025 / 22.07.2025
 Analysis Commenced on : 22.07.2025 Completed on : 28.07.2025

S.No.	Parameters	Units	Results	Test Method
1	Total suspended Solids	mg/l	BLQ(LOQ 2.0)	IS 3025 (Part 17) 1984
2	pH @ 25°C	-	7.63	IS 3025(Part 11) : 2022 (Electrometric method)
3	Total Dissolved Solids	mg/l	587.0	IS 3025 (Part 16) 1984
4	Temperature	°C	26.9	IS 3025 (Part 9):1983
5	Oil & Grease	mg/l	BLQ(LOQ 4.0)	IS 3025 (Part 39) 1991
6	Chemical Oxygen Demand as O ₂	mg/l	BLQ(LOQ 4.0)	IS 3025 (Part 58) 2006
7	Lead as Pb	mg/l	BLQ(LOQ 0.005)	IS:3025 (Part 47)1994
8	Chromium (Hexavalent) as Cr ⁶⁺	mg/l	BLQ(LOQ 0.01)	IS 3025 Part 52: 2003 (Diphenyl Carbazide method)
9	Total Chromium as Cr	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 : 1994
10	Copper as Cu	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 : 1994
11	Zinc as Zn	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 : 1994
12	Nickel as Ni	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 : 1994
13	Chloride as Cl	mg/l	158.36	IS 3025 (Part 32) 1988
14	Fluoride as F	mg/l	0.45	APHA 23rd edition (Method 4500F- B , D): 2017
15	Sulphate as SO ₄	mg/l	75.16	IS 3025 (Part 24) 1986
16	Sulphide as S ₂	mg/l	BLQ(LOQ 0.04)	IS:3025 (Part 29)1986
17	Mercury as Hg	mg/l	BLQ(LOQ 0.0005)	USEPA 200.8 : 1994
18	Cadmium as Cd	mg/l	BLQ(LOQ 0.001)	USEPA 200.8 : 1994
19	Cyanide as CN	mg/l	BLQ(LOQ 0.01)	IS:3025 (Part 27)1986
20	Sodium as Na	mg/l	81.0	IS 3025 (Part 45) :1993
21	Phenols as C ₆ H ₅ OH	mg/l	BLQ(LOQ 0.001)	IS 3025 (Part 43) :1992
22	Toxicity Factor	-	90.0	IS 6582 Part 2 : 2001
23	BOD, 3 days @ 27°C as O ₂	mg/l	BLQ(LOQ 2.0)	IS:3025 (Part 44)1993
24	Electric Conductivity@25°C	µS/cm	1046.0	IS 3025 (Part-14) 2013
25	Alumimium as Al	mg/l	BLQ(LOQ 0.02)	IS 3025(Part 55) 2003

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

*** End of Report ***



Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well; PSAV in Pasarlapudi

TEST REPORT

Name of the Client : M/s. Oil and Natural Gas Corporation Limited., Report No : HECS/WT/015/220725
 Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 28.07.2025
 Bhavan, Base-Complex, Rajamundry,
 Andhrapradesh – 533106.

Sample Description : Drilling Effluent (PIT Water)
 Sampled Location : RIG: E-2000-3; Well ; PSAV in Pasarlapudi
 Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
 Sampling/Received Date : 21.07.2025 / 22.07.2025
 Analysis Commenced on : 22.07.2025 Completed on : 28.07.2025

S.No.	Parameters	Units	Results	Test Method
1	pH @ 25°C	-	7.36	IS 3025 (Part 11) Clause 2 2022
2	Temperature	°C	27.6	IS:3025 (Part 09) 1984
3	Oil & Grease	mg/l	8.0	IS : 3025 (Part 39) Clause 5 2021
4	Chemical Oxygen Demand as O ₂	mg/l	488.0	IS 3025 (Part 58) 2006
5	Lead as Pb	mg/l	BLQ(LOQ 0.1)	USEPA 200.8 Revision 5.4: 1994
6	Chromium (Hexavalent) as Cr ⁶⁺	mg/l	BLQ(LOQ 0.05)	IS 3025 (Part 52) Clause 6 2003
7	Total Chromium as Cr	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 Revision 5.4: 1994
8	Copper as Cu	mg/l	BLQ(LOQ 0.1)	USEPA 200.8 Revision 5.4: 1994
9	Zinc as Zn	mg/l	BLQ(LOQ 0.1)	USEPA 200.8 Revision 5.4: 1994
10	Nickel as Ni	mg/l	BLQ(LOQ 0.1)	USEPA 200.8 Revision 5.4: 1994
11	Chloride as Cl	mg/l	396.7	IS 3025 (Part 32) Clause 2 1988
12	Fluoride as F	mg/l	BLQ(LOQ 0.1)	APHA 23 rd Edn. 4500 D-F Spadns method: 2017
13	Sulphate as SO ₄	mg/l	226.96	IS:3025 (Part 24) Clause 4 1986
14	Sulphide as S ₂	mg/l	BLQ(LOQ 1.0)	IS 3025 (Part 29) Clause 2 1986
15	Mercury as Hg	mg/l	BLQ(LOQ 0.1)	USEPA 200.8 Revision 5.4: 1994
16	Cadmium as Cd	mg/l	BLQ(LOQ 0.01)	USEPA 200.8 Revision 5.4: 1994
17	Cyanide as CN	mg/l	BLQ(LOQ 0.01)	IS : 3025 (Part 39) Clause 5 2021
18	Total Hardness as CaCO ₃	mg/l	350.0	IS 3025 (Part 21) Clause 5 2009
19	Sodium as Na	mg/l	340.0	IS: 3025 (Part 45) Clause 5 1993
20	Phenols as C ₆ H ₅ OH	mg/l	BLQ(LOQ 0.01)	IS 3025 (Part 43) Clause 5 1992
21	Bio assay	%	30.0	IS 6582 (Part 2) 2001
22	BOD, 3 days @ 27°C as O ₂	mg/l	86.0	IS 3025 (Part 44) 1993
23	Electric Conductivity @ 25°C	µS/cm	3460.0	IS 3025 (Part-14) 2013
24	Alumimium as Al	mg/l	BLQ(LOQ 0.1)	IS 3025 (Part 55) Clause 5 2003

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

*** End of Report ***

Authorized Signatory



Hubert Enviro Care Systems (P) Ltd.

Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well; PSAV in Pasarlapudi

7.0 DRILL CUTTING STATUS

7.1 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 Zinc, Manganese, Lead, Cadmium, Copper, Iron, Mercury, Nickel, Oil & Grease, Alkalinity, Total Chromium, Hexavalent Chromium, Arsenic, Acidity, Vanadium, Cobalt, Inorganic Solids, Barium, Thallium and Selenium were measured.

WATER QUALITY STATION

Sl.No.	Sample Name	Sample Code
1	Drill Cutting (500 gms)	PE-01

7.2 Data Presentation

The abstract of Water Quality data are given in Table



Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well; PSAV in Pasarlapudi

TEST REPORT

Name of the Client : M/s. Oil and Natural Gas Corporation Limited., Report No : HECS/PE/019/220725
Address of the Client : Rajamundry Asset, Second Floor, Godavari Report Date : 28.07.2025
Bhavan, Base-Complex, Rajamundry .
Andhrapradesh – 533106.

Sample Description : Drill Cutting(500 gm) – Depth-2390-2400
Sampled Location : RIG: E-2000-3, (Well ; PSAV in Pasarlapudi)
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
Sampling/Received Date : 21.07.2025 / 22.07.2025
Analysis Commenced on : 22.07.2025 Completed on : 28.07.2025

S.No.	Parameters	Units	Results
1	Lead	mg/kg	BLQ(LOQ 0.1)
2	Cadmium	mg/kg	BLQ(LOQ 0.1)
3	Mercury	mg/kg	BLQ(LOQ 0.1)
4	Nickel	mg/kg	BLQ(LOQ 0.1)
5	Oil & Grease	mg/kg	8.0
6	Alkalinity	mg/kg	1186.8
7	Total Chromium	mg/kg	BLQ(LOQ 0.1)
8	Arsenic	mg/kg	BLQ(LOQ 0.1)
9	Hexavalent Chromium	mg/kg	BLQ(LOQ 0.5)
10	Acidity	mg/kg	20.62
11	Thallium as Tl	mg/kg	BLQ(LOQ 0.1)
12	Inorganic Solids	%	98.6
13	Zinc	mg/kg	BLQ(LOQ 0.1)
14	Manganese	mg/kg	BLQ(LOQ 0.1)
15	Copper as Cu	mg/kg	BLQ(LOQ 0.1)
16	Iron	mg/kg	14.26
17	Electric Conductivity@25°C	µS/cm	1386.0
18	Alumimium as Al	mg/l	BLQ(LOQ 0.1)

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

*** End of Report ***

Authorized Signatory



HubertEnviroCareSystems(P)Ltd.

**Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well; PSAV in
Pasarlapudi**

8.0 NOISE LEVEL STATUS

8.1 Rationale behind Sampling

As part of the occupational health and safety measures certain safe guards have been incorporated to mitigate noise pollution in working environments.

8.2 Data Presentation

The abstract of Noise level data are given in Table.



A handwritten signature in blue ink, appearing to be 'S. S. S.' or similar, written over a horizontal line.

Environmental Monitoring Report for ONGCLtd., Rig Name: E-2000-3 Well; PSAV in Pasarlapudi

TEST REPORT

Name of the Client : M/s.Oil and Natural Gas Corporation Limited.,
Address of the Client : Rajamundry Asset, Second Floor, Godavari
Bhavan, Base-Complex, Rajamundry,
Andhrapradesh-533106.

Report No : HECS/AP/057/220725
Report Date : 28.07.2025

Sample Description : Ambient Noise Level
Sampled Location : RIG: E-2000-3, Well ; PSAV in Pasarlapudi
Sample Drawn By : Hubert Enviro Care Systems Pvt Ltd
Sampling/Received Date : 20.07.2025 / 22.07.2025
Analysis Commenced on : 22.07.2025

Completed on : 28.07.2025

S.No.	Location	Day Time Noise level in dB(A)	Night Time Noise level in dB(A)
1	Near Main Gate	57.4	53.7
2	Near DIC Office	54.2	49.3
3	Near MIC Office	64.7	59.4
4	Living Area	55.4	51.8
5	Canteen	52.6	48.6
6	Rack Area	55.7	50.7
7	DG Area	70.2	65.3
8	Chemical Store Area	60.3	55.7
9	Shell Shaker Area	64.5	58.9
10	AC PCR Area	65.7	60.7
11	Mud Pump Area	68.7	63.1
12	Mud Cleaner Area	68.9	63.5
13	MLU Area	62.7	57.6
14	Geologist Office	60.3	55.1
15	Water Tank Area	69.7	64.5
16	Assembly Area	57.3	52.5
17	Cement cilo Area	59.6	54.3
18	Water pit Area	61.4	56.8
19	Compressor Area	70.3	65.9
20	Near EIC Office	65.8	61.1

Remarks: CPCB Limit for Noise Level

1. Industrial Area- 75 dB (A) day Time and 70 dB (A) Night Time.
2. Commercial Area- 65 dB (A) day Time and 55 dB (A) Night Time.

*** End of Report ***



Authorized Signatory

Hubert Enviro Care Systems (P) Ltd.



Test Report No. INCHE25093081028114347

Report Issue Date: 28 Oct 2025

TEST REPORT

Report Issued To: Oil & Natural Gas Corporation Limited					
RGL, ONGC Base Complex, ONGC, Rajahmundry - 533106,					
Discipline :		Chemical		Group :	
BV Sample ID :		2582125		Sample receipt date :	
Sample Name** :		Barytes Powder		Date of registration :	
Physical Description :		Clear liquid		Date of commencing of testing :	
Sample quantity / Package** :		500g		Date of completion of testing :	
Sample Information:		Sampling Done by Laboratory			
Sampling procedure :		BV/SAR/F/SOP/001		Date of sampling / collection :	
Sampling location :		EV-2000-1 Chinnalanka (V) Ambajipet (M)		Sampling / Collection done by : Mr. P. Praveen Kumar	

No.	Test Parameters	Unit	Test Results	Test Method	LOQ
1	Mercury	mg/kg	BLQ	USEPA 3050B / 6010B : 1996	1
2	Cadmium	mg/kg	BLQ	USEPA 3050B / 6010B : 1996	1

Abbreviations: LOQ: Limit of Quantification, BLQ: Below limit of quantification

** Indicates information supplied by the customer for which the laboratory has no control

Note: SAMPLE TESTED AS RECEIVED

Authorized Signatory

M.Ramesh

Manager

DISCLAIMERS:

(1.) All services are rendered in accordance with Bureau Veritas General Terms and Conditions of Service available at General terms & Conditions - BVIL.
[https://www.bureauveritas.co.in/sites/g/files/zypfnx556/files/media/document/General Conditions of Service - June 2021-BVIL-revised.pdf](https://www.bureauveritas.co.in/sites/g/files/zypfnx556/files/media/document/General%20Conditions%20of%20Service%20-%20June%202021-BVIL-revised.pdf). (2.) The information marked with (**) customer provided information for which the laboratory has no control. (3.) The test report shall not be reproduced in full and/or in part or be used for any promotional and/or publicity purpose without the prior written approval of the issuing authority. The laboratory is not responsible for the authenticity of photocopied test report. (4.) The test result relate only to the item tested at the time and place of testing. (5.) Issuance of a test report of Analysis is NOT an indication that the item(s) is (are) fit for any specific purpose nor does it release any other party from their respective obligations. The maximum amount Bureau Veritas shall be liable for under any circumstance are the fees paid by the Client for the services provided under its contract with the Client for services delivered herein. (6.) The test item will not be retained for more than 15 days for non-perishable and 7 days for perishable samples from the date of issue of test report except in case as required by applicable regulation. (7.) Bureau Veritas owes no duty to any third party with respect to the results contained herein nor does Bureau Veritas accept any liability whatsoever with respect to the use by any third party of any information set out in this test report. Any third party relying on or using this report is responsible for exercising its own independent judgement with regard to the information contained herein and releases Bureau Veritas from any liability arising therefrom. (8.) The tests marked with (#) are subcontracted. (9.) This report is a computer-generated document with electronic signature, hence does not require manual signature. (10.) The statement of compliance / decision rule is based on 95% confidence level for the reported expanded uncertainty. (11.) The opinion and interpretations expressed in the report is based on the results obtained from the tested item. (12.) Sample on receipt to lab was "found to be fit" for analysis.

--- End of Report ---



ONGC LIMITED

RAJAHMUNDRY ASSET

SUPPLY CHAIN MANAGEMENT DEPARTMENT, FIRST FLOOR, C – WING,
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No. RJY/RJY-ASSET/MM/2025/MM/2623420/9010041375

Date: 07.11.2025

To:

M/s Andhra University

Delta Studies Institute.

Sivajipalem, Visakhapatnam-530 017.

Email : directordeltastudies@gmail.com

Kind Attention: Prof. K. Satyanarayana Reddy, The Director of Delta Studies Institute.

Subject: Award of Contract for Hiring of Services for the Study to Identify Areas of Subsidence (if any) Due to the Exploration and Exploitation of Hydrocarbons at the Established Monitoring Stations in the Deltaic Areas of KG-PBG Basin Using SAR Interferometry

References:

1. Tender No. GEM/2025/B/6537190 invited through GeM Portal
2. Your offer dtd: 28.08.2025 submitted through GeM portal and subsequent bid validity confirmation.
3. GeM Contract No. GEMC-511687736724709 dated 31.10.2025
4. Your letter dtd: 25.10.2025 for enhancement of contract value on account of revised GST.

Sir,

1.0 Contract Value and GST Revision: A GeM Contract (No. GEMC-511687736724709 dated 31.10.2025) was placed on you by Rajahmundry Asset at a total price of ₹1,05,18,452/- (Rupees One Crore Five Lakh Eighteen Thousand Four Hundred Fifty-Two only) inclusive of 12% GST as quoted by you.

However, the rate of GST has been revised w.e.f. 22.10.2025. As per Clause No. 8 of GeM GTC, any statutory variation in the rate of GST between the bid end date and the original/refixed delivery period shall be to the Buyer's account.

Vide your letter dated 25.10.2025, you have intimated that as per the revised GST notification of the Government of India, the applicable rate for the tendered services is 18%, and requested enhancement of the contract value accordingly.

Since there is no provision in GeM to amend the contract value directly, this order is hereby issued with a revised total contract value of ₹1,10,81,940.50 (Rupees One Crore Ten Lakh Eighty-One Thousand Nine Hundred Forty and Paise Fifty only) inclusive of 18% GST. All other terms and conditions of the GeM Contract remain unchanged.

2.0 Duration of Contract: The contract shall remain valid for a firm period of 61 months w.e.f. 07.11.2025 to 06.12.2030, in accordance with Clause No. 2 of the *Special Conditions of Contract* of the tender.

3.0 The system-generated ONGC SAP OLA/Contract Number for this contract is 9010041375. Please quote this number in all correspondence pertaining to this contract. The estimated contract value (target value) is ₹1,10,81,940.50, inclusive of 18% GST.

4.0 Applicability of Terms and Conditions

All the terms and conditions of this award shall be governed by the GeM Contract No. GEMC-511687736724709 dated 31.10.2025.

5.0 The detailed price breakup is enclosed as Annexure-I.

(Mohan Banooth)

SE(P)-SCM

ONGC, RAJAHMUNDRY ASSET

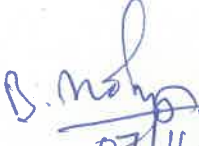
Annexure-I.

Schedule of Rates for Hiring of Services for the study to identify areas of subsidence if any due to the exploration and exploitation of hydrocarbons at the established Monitoring stations in the deltaic areas of KG-PBG basin using SAR interferom (OLA No. 9010041375).

S.No	Description of work	Lumpsum amount (₹)	Rate of GST in percentage	GST amount (₹)	Lumpsum amount including GST (₹)
		A	B	C	D= A+C
1	Total Lump Sum package price for 61 months of study entitled "To identify areas of subsidence if any due to exploration and exploitation of hydrocarbons at the established monitoring stations in the deltaic areas of KG-PG basin using SAR interferometry and KGPS field-based studies"	Rs.93,91,475.00	18%	Rs.16,90,465.5	Rs.1,10,81,940.5

Notes:

- The total rates mentioned above are inclusive of all taxes, GST, duties, levies, insurance, cess etc. including personal taxes and corporate taxes for the full scope of work.
- The contractor must make his own arrangements for their travel, stay, food, etc., within this lumpsum cost. Any downtime on account of equipment breakdown shall be to the contractor's account.
- The rates mentioned above remain firm for entire duration of contract.
- Bidder must comply with all the provisions under GST legislation.


07/11/2015

(Mohan Banooth)
SE(P)-SCM

ONGC, RAJAHMUNDRI ASSET

Compliance as per 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

Installations: Onshore

a	Drill Cuttings (DC) originating from on-shore or locations close to shore line and separated from Water Base Mud (WBM) should be properly washed and unusable drilling fluids (DF) such as WBM, Oil Base Mud (OBM), and Synthetic Base Mud (SBM) should be disposed off in a well-designed pit lined with impervious liner located off-site or on-site. The disposal pit should be provided additionally with leachate collection system. Design aspects of the impervious waste disposal pit; capping of disposal pit should be informed by the oil industry to State Pollution Control Board (SPCB) at the time of obtaining consent.	Water Based Mud is recycled and reused. Cuttings and un-used mud is washed and collected in impervious HDPE lined pit in the drill site designed as per specifications.
b	Use of diesel base mud is prohibited. Only WBM should be used for on-shore oil drilling operations.	Water based mud is used
c	In case of any problem due to geological formation for drilling, low toxicity OBM having aromatic content < 1% should be used. If the operators intend to use such OBM to mitigate specific hole problem/ SBM it should be intimated to Ministry of Environment and Forests/State Pollution Control Board.	Water based is being used. In case of specific down hole problem SOBM is being used with intimation to the MoEFCC.
d	The chemical additives used for the preparation of DF should have low toxicity i.e. 96 hr. LC ₅₀ > 30,000 mg/l as per mysid toxicity or toxicity test conducted on locally available sensitive sea species. The chemicals used (mainly organic constituents) should be biodegradable.	All additives used in the mud are having 96 hrs. LC ₅₀ value > 30000 mg/l.
e	DC separated from OBM after washing should have oil content at < 10 gm/kg for disposal into disposal pit.	Water based mud is used, DC's after washing have very low (<10gm/kg) oil content
f	The waste pit after it is filled up shall be covered with impervious liner, over which, a thick layer of native soil with proper top slope is provided.	After evaporation waste pit is covered with thick layer of native soil.
g	Low toxicity OBM should be made available at installation during drilling operation.	SOBM of LC ₅₀ value > 30000 mg/l. shall be used only in case of down hole problems
h	Drilling wastewater including DC wash water should be collected in the disposal pit evaporated or treated and should comply with the notified standards for on-shore disposal.	Waste pit lined with HDPE sheets to contain waste residual muds and drill cuttings for solar drying.
i	Barite used in preparation of DF shall not contain Hg > 1 mg/kg & Cd > 3mg/kg.	Barites used contains Cd < 3mg/l and Hg < 1mg/l (Copy of the test reports enclosed)
j	Total material acquired for preparation of drill site must be restored after completion of drilling operation leaving no waste material at site. SPCB should be informed about the restoration work.	After completion of drilling all the material is removed from the site and is restored back.
k	In case, environmentally acceptable methods for disposal of drill waste such as (a) injection to a formation through casing annulars, if conditions allow (b) land farming at suitable location (c) bio-remediation (d) incineration or (e) solidification can be considered, in such cases oil industry is required to submit proposal to Ministry of Environment and Forests/State Pollution Control Board (MoEF/SPCB) for approval.	Noted for compliance.



Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment
Authority(SEIAA), Andhra Pradesh)

To,

The GM PRODUCTION
HSE, KG BASIN, ONGC, CHENNAI
HSE DEPARTMENT, KG BASIN, ONGC, No 7, 10th Floor, East Wing
CMDA Tower-1, No 1 Gandhi Irwin Road, Egmore, Chennai 600008 -
600008

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/AP/IND2/193538/2021 dated 08 Jul 2022. The particulars of the environmental clearance granted to the project are as below.

1. EC Identification No.	EC22B002AP162571
2. File No.	AP IND EG 7 2022 4472
3. Project Type	New
4. Category	B2
5. Project/Activity including Schedule No.	1(b) Offshore and onshore oil and gas exploration, development & production
6. Name of Project	THE PROPOSED ONSHORE ADDITIONAL EXPLORATION OF 50 WELLS IN GODAVARI ON-LAND PML BLOCK OF KG BSIN IN EAST & WEST GODAVARI DISTRICTS OF ANDHRA PRADESH
7. Name of Company/Organization	HSE, KG BASIN, ONGC, CHENNAI
8. Location of Project	Andhra Pradesh
9. TOR Date	N/A

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 06/12/2022

(e-signed)
Dr. P. V. Chalapathi Rao
Member Secretary
SEIAA - (Andhra Pradesh)

Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH. Please quote identification number in all future correspondence.

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	<u>State Level Environment Impact Assessment Authority (SEIAA)</u>
	<u>Andhra Pradesh</u>
	<u>Ministry of Environment, Forests & Climate Change</u>
	<u>Government of India</u>
D.No.33-26-14 D/2, Near Sunrise Hospital, Pushpa Hotel Centre, Chalamavari Street, Kasturibaipet, Vijayawad-520010	

REGD.POST WITH ACK.DUE

Order No. SEIAA/AP/IND/EG/7/2022/4472/202.29/199.19

Sub: SEIAA, A.P. – Proposed Onshore drilling of 50 Exploratory Wells In Godavari On-Land PML Block of Kg Basin of M/s. Oil & Natural Gas Corporation Limited (ONGC) at East & West Godavari Districts, Andhra Pradesh - Environmental Clearance – Issued - Reg.

- I. This has reference to your EC application submitted through online on 08.07.2022 (SIA/AP/IND2/193538/2022), seeking Environmental Clearance for **Onshore drilling of 50 Exploratory Wells In Godavari On-Land Pml Block of Kg Basin in East & West Godavari Districts, Andhra Pradesh** in favour of **M/s. Oil & Natural Gas Corporation Limited (ONGC)**. The nearest human habitation viz. The existing area is 93.91 Sq Km. The capital cost of the project is Rs.2000 Crores. The details of the production capacities of the project is as follows:

Drilling of 50 exploratory Wells (Onshore) in Godavari On-Land PML Block of Kg Basin in East & West Godavari Districts of Andhra Pradesh

This proposal has been referred to SEAC, A.P along with all the documents submitted by the proponent for their appraisal and for their specific recommendations on EC aspect. The proposal has been examined and processed in accordance with EIA Notification, 2006 and its amendments thereof. The State Level Expert Appraisal Committee (SEAC) examined the application in its meetings held on **20.10.2022**. The proposed project is for exploration drilling of **50 WELLS IN GODAVARI ON-LAND PML BLOCK OF KG BASIN IN EAST & WEST GODAVARI DISTRICTS OF ANDHRA PRADESH**. The proposed project falls under Item No. 1(b) of the schedule of the EIA Notification 2006 and its amendments thereof - offshore and onshore oil and gas exploration development & Production. As per S.O.No 236 (E) dt 16.01.2020, all projects in respect of off shore and on shore oil and gas exploration are categorised as B2 projects. The project proponent and their consultant have attended the meeting.

The project of the proposed project is Rs.2000 Crs. (Approximately Rs.40 Crs for each well)
The committee noted that the present proposal is for drilling of 50 exploratory wells in **GODAVARI ON-LAND PML BLOCK OF KG BASIN IN EAST & WEST GODAVARI DISTRICTS OF ANDHRA PRADESH**. Water consumption for each well is 50KLD i.e., 40 KLD of Fresh water and 10 KLD of Recycled water and expected wastewater generated is 15 KLD. About 5 acres of land is required for each well. Proponent proposed mobile ETP for treating of process effluents and the treated water is proposed to be reused. These well stations will be operated by 1750 KVA generator sets. The proponent proposes to provide stack as per norms for controlling air pollution. For tackling blowouts, fire fighting systems and blowout controllers are proposed.

The Committee after examining the project proposals, presentations, MoEF&CC' Notifications & OMs and detailed deliberations, **recommended to issue Environmental Clearance with following additional conditions.**

1. The project proponent shall not use any Synthetic based oils mud/chemicals.
2. The project proponent shall implement disaster management system.
3. The project proponent shall take consent from land owners before going to start proposed project.
4. Drilling shall be done with the consent of land owners only.
5. The proponent shall have the liability to pay compensation to the farmers and Property holders in case of damages due to operation of wells.

The committee in the appraisal report clearly stated that they have approved the Form-I/II, PFR/DPR and EMP for compliance by the proponent. The State Level Environment Impact Assessment Authority (SEIAA), in its meeting held on **15.11.2022** examined the proposal and the recommendations of SEAC and decided to accept SEAC recommendations aforesaid for strict compliance by the proponent and to issue EC. The SEIAA, A.P **hereby accords Environmental Clearance to the project** as mentioned at Para No. I under the provisions of the EIA Notification 2006 and its subsequent amendments issued under Environment (Protection) Act, 1986 subject to implementation of the following specific and general conditions:

III. Part A: Special Conditions:

1. The proposal shall not attract the following Acts & Rules:
 - a. Forest Act 1980,
 - b. Wild Life (Protection) Act, 1972;
 - c. CRZ Notification, 2011;
 - d. The Eco sensitive areas as notified under Environment (Protection) Act, 1986;
 - e. Critically polluted areas as notified by CPCB and also shall not harm live stocks and human beings and disturb their activities.
2. The project proponent shall not use any Synthetic based oils mud/chemicals.
3. The project proponent shall implement disaster management system.
4. The project proponent shall take consent from land owners before going to start proposed project.
5. Drilling shall be done with the consent of land owners only.
6. The proponent shall have the liability to pay compensation to the farmers and Property holders in case of damages due to operation of wells
7. The project proponent shall comply with the Bio-medical Waste Management Rules, 2016 and its amendments

Part B: Specific Conditions:

Air & Noise Environment:

- | | |
|----|--|
| 1. | Adequate stack height shall be provided for D.G. Sets 3 x 1750-1430 KVA (1 x 1750-1430 KVA standby) as per CPCB norms. |
| 2. | Felling of tree shall not be permitted unless PP takes applicable permission from State Forest Department / Concerned authority, if felling of tree is inevitable for drilling operations. |
| 3. | During exploration, production, storage and handling, the fugitive emissions of methane, if any, shall be monitored using infra-red camera / appropriate technology. |

4.	The project proponent also to ensure trapping / storing of the CO ₂ generated, if any, during the process and handling.
5.	Approach road shall be made pucca to minimize generation of suspended dusty.
6.	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.
7.	To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.
8.	The locations of the ambient air quality monitoring stations shall be decided in consultation with the State pollution Control Board(SPCB) and it shall be ensured that at least one stations each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.
9.	Ambient air quality shall be monitored at the nearest human settlements as per the National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R, No.826(E)dated 16 th November,2009 for PM10, PM2.5,SO2, NOX, CO, CH4,HC, Non-Methane HC etc.,
10.	The company shall make all arrangements for control of noise from the drilling activity. Acoustic enclosure shall be provided for the DG sets along with the adequate stack height as per CPCB guidelines.
11.	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.
12.	The ambient noise levels shall conform to the standards prescribed under Environment (Protection)Act,1986 Rules, 1989 viz. 75dBA(day time) and 70 dBA(night time).
Water Environment:	
13.	As per records the source of water is hired tankers. Total water requirement for each well is 50 KLD (Fresh water is 40 KLD & Recycled water is 10 KLD). 10.0 KLD is used for Domestic purpose.
14.	Waste water shall be treated by an effective onsite ETP coupled with RO so as to reduce fresh water foot print on daily basis. Size of the waste pit shall be kept minimum in such way so that it can only accommodate volume of discarded mud and volume of drill cuttings. Storm water shall not be allowed to reach waste water pit. Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.
15.	Total fresh water requirement shall not exceed 30 cum/day/well proposed to be met through tankers/ground water. Mobile ETP shall be installed coupled with RO to reuse the treated water in drilling system. Size of the waste shall not exceed from the whole volume of the well + volume of drill cutting expected to be generated and volume of discarded mud if any. Two feet free board may be left to accommodate rain water. There shall be separate storm water channel and rain water shall not be allowed to mix with waste water.

	Alternatively, if possible pit less drilling be practiced instead of above.
16.	Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.
17.	The company shall construct the garland drain all around the drilling site to prevent runoff 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 waste water shall conform to CPCB standards.
18.	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 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 30 th August,2005.
Waste water generation:	
19.	The total waste water generation is 250 KLD. (5 KLD at each well site). The waste water shall be treated in ETP of capacity 50 KLD and after treatment shall be reused. No outside discharge.
Hazardous / Solid Wastes:	
20.	Hazardous waste generated during the Rigs operations such as organic residue, waste oils, used oils etc., shall be disposed as per the Hazardous and other Wastes (Management and Tran boundary movement) Rules, 2016 and its amendments thereof
21.	The proponent shall comply with solid waste management rules 2016.
22.	The proponent should strictly comply with the E-Waste Management Rules, 2016, and report compliance.
23.	Oil spillage prevention and mitigation scheme shall be prepared. In case of Oil spillage/contamination, action plan shall be prepares to clean the site by adopting proven technology. The recyclable waste (oily sludge) and spent oil shall be disposed of the authorized recyclers.
24.	Oil content in the drill cuttings shall be monitored by some Authorized agency and report shall be sent to the Ministry's Regional Office, Vijayawada.
Environment:	
25.	The Project Proponent shall ensure that the transportation activity of the unit should not cause any inconvenience to the public and comply with the local norms, if any;
Safety, Public hearing and Human health issues:	
i.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management plan shall be implemented.
ii.	Blow out preventer system shall be installed to prevent well blowouts during drilling operations. BOP measures during drilling shall focus on maintaining well bore hydrostatic

	pressure by proper pre-well planning and drilling fluid logging etc.,
iii.	Company shall prepare operating manual in respect of all activities, which would cover all safety & environment related issues and 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.
iv.	On completion of drilling, the company has to plug the drilled wells Safely and obtain certificate from environment safely angle from the concerned authority.
v.	The company shall take measures after completion of drilling process by well plugging and secures enclosures, decommissioning of rig upon abandonment of the well and drilling site shall be restored the area in original condition. In the event that no economic quantity of hydrocarbon is found a full abandonment plan shall be implemented fro the drilling site in accordance with the applicable Indian Petroleum Regulations.
vi.	The company shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. Possibility of using ground flare shall be explored. At the place of place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during operation.
vii.	Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis,. Training to all employees on handling of chemicals shall be imparted.
viii.	The company shall develop a contingency plan for H2S release including all necessary aspects from evacuation to resumption of normal operations. The workers shall be provided with personal H2S detectors in locations of high risk of exposure along with self containing breathing apparatus.
ix.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooling, mobile toilets, mbile STP, safe drinking water, medical health care, crèche etc. the housing may be in the form of temporary structures to be removed after the completion of the project.
x.	Occupational health surveillance of the workers shall be done on a regular basis and records mainlined as per the Factories Act.
xi.	The company shall carry out long term subsidence study collecting base line data before initiating drilling operation till the project lasts. The data so collected shall be submitted six monthly to the SEIAA and Regional Office, Vijayawada.
Miscellaneous:	
i.	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local

ii.	The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and SEIAA, A.P.
iii.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies. Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
iv.	The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
v.	The project proponent shall submit Half-yearly 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 Ministry of Environment & Forests, its Regional Office, Vijayawada, SEIAA, A.P., Zonal Office of Central Pollution Control Board, Bangalore, and A.P. Pollution Control Board.
vi.	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
vii.	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
viii.	Restoration of the project site shall be carried out satisfactorily and report shall be sent to the Ministry's Regional Office, Vijayawada.
ix.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
x.	The project proponent shall abide by all the commitments and recommendations made in the EIA / EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
xi.	No further expansion of modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate change/ SEIAA, as applicable.
xii.	The Regional Office of Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer(s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
<u>Part C: General Conditions:</u>	

1.	This order is valid for 7 years.
2.	The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986. In case of the diversion of forest land for non forest purpose involved in the project.
3.	The project proponent shall obtain and adhere to statutory clearance under the Coastal Regulation Zone Notification, 2019, as applicable.
4.	The project proponent shall submit the copies of the Environmental Clearance to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
5.	The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and SEIAA, A.P.
6.	The Prior Environmental Clearance issued to this project along with the Approved Environmental Management Plan (EMP) and the Approved DPR should be uploaded in the project's web site and be made available in the public domain.
7.	The PEC main contents be displayed on permanent boards at the main entry of the premises and at other prominent places.
8.	The project proponent shall strictly adhere to its Environmental Policy approved by the SEIAA, and shall be made available in their web site.
9.	A Separate Bank account need to be started for the budget allocated for the EMP and the amount committed should be deposited before the project obtains CFE/CFO as the case may be. The amounts allocated should not be diverted for any other purpose.
10.	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the SEIAA and its Regional Office located at Vijayawada.
11.	The proponent before starting the operations shall obtain all other mandatory clearances from respective departments, including the CFE and CFO from the APPCB.
12.	The project proponent shall meticulously follow the Form-1/2 of the application; and approved EMP, for the purpose of all compliances.
13.	Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.

14.	Data on ambient air quality should be regularly submitted to the Regional Office located at Vijayawada and the State Pollution Control Board/ Central Pollution Control Board once in six months.
15.	Personnel working in the industry should be provided with protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.
16.	Occupational health check up program for the workers should be undertaken periodically. A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
17.	The project proponent shall submit Half-yearly 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 Ministry of Environment & Forests, its Regional Office, Vijayawada, SEIAA, A.P., Zonal Office of Central Pollution Control Board, Bangalore, and A.P. Pollution Control Board.
18.	The proponent shall upload the status of compliance of the environmental clearance conditions including results of monitored data on their websites and shall update the same periodically.
19.	Officials from the Regional Office of MoEF&CC, Vijayawada / The SEIAA, Andhra Pradesh through the Regional Offices of Andhra Pradesh Pollution Control Board, who would be monitoring the implementation of environmental safeguards, should be given full co-operation, facilities and documents/data by the project proponents during their inspection. A complete set of all the documents shall be submitted to the CCF, Regional Office to MoEF&CC, Vijayawada.
20.	SEIAA reserves the right to cancel the EC issued at any time, if EC has been obtained by the proponent through suppression of any information or furnishing false information upon which the project is appraised.
21.	Concealing the factual data in the compliance reports, or failure to comply with any conditions mentioned above may result in withdrawal of the EC and attract action under the provisions of Environment (Protection) Act, 1986.
22.	The SEIAA reserves the right to alter/modify the above conditions or stipulate any further conditions from time to time, in the interest of environment protection.
23.	Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
24.	The project authority must strictly adhere to the stipulations made by the Central Government as part of the international conventions and Merchant Shipping Act.
25.	The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended on

	3 rd October 1994. Prior approvals from OISD, PESO, etc. should be obtained wherever applicable.
26.	The project authorities must comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous and Other Wastes (Management, Handling and Transboundary) Rules, 2016 wherever applicable.
27.	A separate environment management cell to be set up to carry out the environment management & monitoring functions.
28.	The project authorities will provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the SEIAA, State Government along with the implementation schedule for all the conditions stipulated herein.
29.	The implementation of the project vis-à-vis environmental action plans will be monitored by Ministry's regional office, State Pollution Control Board and Central Pollution Control board. A six-monthly compliance status report should be submitted to the monitoring agencies.
30.	i. No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendment, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate change/ SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to Ministry / SEIAA for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any. ii. The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment. iii. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time). iv. The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare measures in the near coastal area villages for the overall improvement of the environment. v. The environmental statement for each financial year ending 31st March in Form-5 as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices. vi. The project proponent shall inform the public that the project has been accorded environmental clearance by the SEIAA and copies of the clearance letter are available at Website of the SEIAA and at https://parivesh.nic.in/. This shall be advertised within seven days from the date of issue of the clearance letter, at least

	in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry. vii. The project authorities shall inform the Regional Office as well as the Ministry / SEIAA, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project. viii. This environmental clearance is granted without any prejudice to final outcome of Hon'ble Supreme Court of India, Hon'ble High court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.
31.	The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016 and the public liability Insurance Act, 1991 read with subsequent amendments therein.

MEMBER SECRETARY, SEIAA, A.P.	MEMBER, SEIAA, A.P.	CHAIRMAN, SEIAA, A.P.
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To
M/s. Oil & Natural Gas Corporation Limited (ONGC),
Sri Bernard Elango, GM, 07E, 10th Floor (E),
CMDA Tower – I, Gandhi Irwin Road,
Chennai – 600008. Ph.No. 9442593582

Copy to:

1. The Chairman, SEAC, A.P. for kind information.
2. The Member Secretary, APPCB for kind information.
3. The EE, RO: Kakinada, APPCB for information.
4. The Regional Officer, MoEF&CC, GOI, Vijayawada for kind information.
5. The Secretary, MoEF&CC, GOI New Delhi for kind information.
6. Monitoring cell, MoEF&CC, GOI, New Delhi for kind information.
7. The District Collector, East Godavari District, Andhra Pradesh for kind information.

Signature Not Verified

Digitally signed by D. P. V.
Chalapathi Rao
Member Secretary

Date: 12/6/2022 11:11:18 AM