

संदर्भ सं./Ref. No.: S&E/E/43C-1/588

दिनांक/Date: 28.05.2024

<b>From</b>	:	Executive Director (HSE & ESG)
<b>To</b>	:	Deputy Director General of Forests (Central), Sub Office, Guwahati (under Regional Office, Shillong), 4th Floor, Housefed Building, Rukminigaon, Guwahati-781022. (Email : <a href="mailto:iro.guwahati-mefcc@gov.in">iro.guwahati-mefcc@gov.in</a> , <a href="mailto:iro.moefcc.ghy@gmail.com">iro.moefcc.ghy@gmail.com</a> )
<b>Subject</b>	:	Submission of Half-yearly (October 2023 to March 2024) compliance reports of the conditions stipulated in the Environment Clearance (EC) granted to Oil India Limited.

Sir,


Reference to above subject, please find enclosed herewith the Half-yearly (**October 2023 to March 2024**) compliance reports of the conditions stipulated in the Environment Clearance (EC) granted to Oil India Limited. List of the EC are tabulated below:

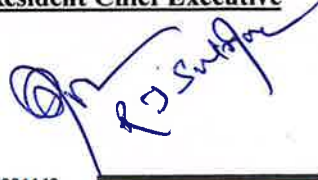
S.No	EC Identification No/File No.	Name of the EC proposal
1.	F. No. J-11011/413/2008-IA II (I) dated 24.01.2011	OCS Bhogpara.
2.	F. No. J-11011/1251/2007-IA II (I) dated 01.11.2011	Exploratory Drilling of 01 (One) well at Doomdooma-Pengry Area, District Tinsukia, Assam.
3.	F. No. J-11011/682/2008-IA II (I) dated 17.06.2013	Expansion of Gas field Development in Tengakhat-Naharkatia-Jorajan area and Doomdooma Pengry area, Assam by M/s Oil India Ltd.
4.	F. No. J-11011/116/2018-IA II (I) dated 07.01.2020	Onshore Oil & Gas Exploration & Development Drilling and Production in Ningru Oil & Gas Field in Districts Changlang and Namsai for Ningru PML Block (Arunachal Pradesh)
5.	F. No. J-11011/1260/2007-IA II (I) dated 09.04.2020	Onshore Oil & Gas Development Drilling and Production in Mechaki Area covering Mechaki, Mechaki Extension, Baghjan and Tinsukia Extension PMLs on District Tinsukia (Assam).
6.	F. No. J-11011/150/2016- IA II (I) dated 11.05.2020	Extension Drilling & Testing of Hydrocarbons at 7 (seven) Locations under Dibru-Saikhowa National Park Area, North-West of Baghjan PML, District Tinsukia, Assam.
7.	F. No. J-11011/1253/2007-IA II (I) dated 28.12.2020	Onshore Oil & Gas development drilling and production by M/S Oil India Ltd in Dibrugarh district under Dibrugarh, Chabua, Higrijan and Tinsukia PMLs. (Dibrugarh- Bhogpara)
8.	F. No. J-11011/375/2016-IA II (I) dated 28.12.2020	Onshore Oil & Gas Development Drilling and Production (179 wells and 9 Production

		Installations) in North Hapjan – Tinsukia – Dhola area under Tinsukia district, Assam.
9.	F. No. J-11011/35/2018-IA II (I) dated 26.02.2021	Onshore Oil & Gas development drilling and production by M/S Oil India Ltd. Located in Khagorijan Oil & Gas Field in Dibrugarh & Tinsukia District under Tinsukia PML, Tinsukia Extension PML and Chabua PML District: Dibrugarh, Assam
10.	F. No. J-11011/186/2016-IA II (I) dated 03.03.2021	Onshore Oil & Gas development drilling and production in Borhat-Titlagarh area, Dibrugarh, Sibsagar and Charaideo Districts under Sapkaintb, Borhat, Moran Extension and Doomdooma PMLs.
11.	EC22A002AS110311 F. No. J-11011/156/2017-IA II (I) dated 28.11.2022	Oil & Gas development drilling and production (16 exploratory, 73 developmental drilling wells and 9 Production Installations) in Moran Area under Dibrugarh, Sibsagar and Charaideo districts, Assam.
12.	EC23A002AS125690 F. No. J-11011/1254/2007-IA II (I) dated 13.01.2023	Oil & Gas development drilling and production (68 developmental drilling wells and 9 Production Installations) in Khowang Shalmari Area under Dibrugarh, Sibsagar districts, Assam.
13.	EC23A002AS188131 F.No J-11011/1257/2007- IA II (I) dated 17.04.2023	Onshore Oil & Gas development drilling and production (167 wells and 7 production Installations) in Tengakhat-Kathaloni-Dikom (TKD) under Dibrugarh district, Assam.
14.	EC23A002AS198872 F. No. J-11011/388/2016-IA II (I) dated 31.07.2023	Onshore Oil & Gas development drilling (67 wells) in Jorajan Area under Dibrugarh, Charaideo and Tinsukia districts, Assam.
15.	EC23A002AS146942 F.No. J-11011/546/2017-IA(I) dated 20.09.2023	Onshore Oil & Gas development drilling and production (294 wells and 2 Production Installations) in Naharkatiya-Deohal-Bogapani-Nagajan (NDBN) area under Dibrugarh & Tinsukia districts, Assam.

This is for your kind information please.

Thanking you.

  
(Rajendra Singh Garbyal)  
Executive Director (HSE & ESG)  
Nodal Officer (EC, FC, NBWL)  
For Resident Chief Executive





**HSE Department**  
Oil India Limited  
Duliajan, Dibrugarh, 786602, Assam  
Phone : 0374-2800542  
Email: [safety@oilindia.in](mailto:safety@oilindia.in)

Encl: As above

Copy:

1. Director, Monitoring Cell, MoEF, Paryavaran Bhawan, CGO Complex, Lodhi Road, New Delhi-110003.
2. Zonal Office, Central Pollution Control Board, "TUM-SIR", Lower Motinagar, Near Fire Brigade Headquarter, Shillong-793014.
3. Chairman, Assam Pollution Control Board, Bamunimaidan, Guwahati-781021, Assam.
4. Chairman, Arunachal Pradesh State Pollution Control Board, Office of the Principal Chief and Secretary (E&F) Conservator of Forests, Govt. of Arunachal Pradesh, Itanagar-791111, Arunachal Pradesh.

- **Name of the Project:** Onshore Oil & Gas development drilling and production in Borhat-Titlagarh area, Dibrugarh, Sibasagar and Charaideo Districts under Sapkainath, Borhat, Moran Extension and Doomduma PMLs by M/s Oil India Limited.
- **Clearance L.No and date:** J-11011/186/2016-IA-II(I) Dated 3rd March, 2021.
- **Period of Compliance Report:** October 2023 to March 2024.

Sl. No.	Specific condition	Compliance status
1	The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	<b>Complied</b> All the environmental protection measures proposed in the EIA – EMP are being implemented.
2	No pipelines or its part shall be laid in the Forestland/ Protected Area without prior permission/approval from the Competent Authority.	<b>Complied.</b> No pipeline is laid in the Forest land/ National Park without prior approval of Competent Authority.
3	The project proponent will treat and reuse the treated water within the factory and no waste or treated water shall be discharged outside the premises. Mobile ETP along with RO plant shall be installed to treat the wastewater.	<b>Complied.</b> Zero Liquid Discharge is maintained at the drilling locations. Mobile ETP coupled with RO is installed to treat the wastewater.
4	During Production, storage and handling, the fugitive emission of methane, if any, shall be monitored using Infra-red camera/ appropriate technology.	<b>Complied</b> Portable Multi- gas detector & Explosimeter are used to detect fugitive emissions of Methane (if any).
5	The project proponent also to ensure trapping/storing of the CO <sub>2</sub> generated, if any, during the process and handling.	<b>Will be complied</b> CO <sub>2</sub> generated (if any) will be trapped/stored.
6	Approach road shall be made pucca to minimize generation of suspended dust.	<b>Complied</b> Approach road to the drilling locations and Production Installations are made pucca to minimize generation of suspended dust.
7	The project proponent shall take all arrangements for control of noise from the drilling activity. Acoustic enclosure shall be provided for the DG sets along with the	<b>Complied</b> Regular maintenance of equipment/ machinery is carried out to minimize

	adequate stack height as per CPCB guidelines.	noise generation. DG sets are provided with acoustic enclosures and adequate Stack Height as per CPCB guidelines.
8	Total fresh water requirement shall not exceed 39 m <sup>3</sup> / day will be met from groundwater. Prior permission shall be obtained from the concerned regulatory authority. Mobile ETP coupled with RO shall be installed to reuse the treated water in drilling system. Size of the waste shall be equal to the hole volume+ volume of drill cutting 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.	<b>Complied</b>  Total freshwater water requirement is within the permitted limit. Mobile ETP coupled with RO is installed to treat effluent generated from drilling location. Storm water is not allowed to mix with wastewater. Test report of the ETP treated effluent from Loc. BI is enclosed as <b>Annexure – I</b> .
9	The company shall construct the garland drain 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.	<b>Complied</b>  Garland drains are constructed around the drilling location to prevent runoff any oil containing waste into the nearby water bodies. Separate drainage system is created for oil contaminated and non- oil contaminated.
10	Drill cuttings separate 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 shall be discharged/disposed off into nearby surface water bodies. The company shall comply with guidelines for disposal of solid waste, drill cutting and drilling fluids for onshore drilling operation notified vide GSR.546 (E) dated 30 <sup>th</sup> August, 2005.	<b>Complied</b>  Drill cuttings separated from drilling fluid are adequately washed and disposed in HDPE lined pit. No effluent/ drilling mud is discharged/disposed off into nearby surface water bodies. OIL has sent the drilling cuttings samples, drilling fluid samples to CSIR – NEIST, Jorhat for analysis. Once the reports are received, they will be submitted to Sub-RO (MoEF&CC), Guwahati. Records of the same are enclosed as <b>Annexure – II</b> .
11	Oil spillage prevention and mitigation scheme shall be prepared. In case of oil	<b>Complied</b>





	spillage/contamination, action plan shall be prepared to clean the site by adopting proven technology. The recyclable waste (oily sludge) and spent oil shall be disposed of to the authorized recyclers.	In case of Oil spillage/contamination, action will be taken as per the Oil spill contingency plan prepared by OIL. Recyclable waste (oily sludge) and spent oil is sent to Pollution Control Board, Assam authorized recyclers.
12	The project proponent shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. At fixed installations or plants use to ground flare shall be explored. At the place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during operation.	<b>Complied</b>  Fixed firefighting system is installed at drilling locations and in case of any oil spillage, necessary remediation actions will be taken as per the Oil Spill Contingency Plan.
13	The project proponent shall develop a contingency plan for H <sub>2</sub> S release including all necessary aspects from evacuation to resumption of normal operations. The workers shall be provided with personal H <sub>2</sub> S detectors in locations of high risk of exposure along with self-containing breathing apparatus.	<b>Will be Complied</b>  Contingency Plan for H <sub>2</sub> S release is in place. OIL never encountered H <sub>2</sub> S and no such evidence exists in our field of operation. However, multi-gas detector and Self Containing Breathing Apparatus (SCBA) will be kept available to meet the emergency situation, if any.
14	Blowout Preventer system shall be installed to prevent well blowouts during drilling operations.	<b>Complied</b>  Blow Out Preventer (BOP) system is installed to prevent blowouts during drilling operations.
15	On completion of the project, necessary measures shall be taken for safe plugging of wells with secure enclosures to restore the drilling site to the original condition. The same shall be confirmed by the concerned regulatory authority from environment safety angle. In case of hydrocarbon not found economically viable, a full abandonment plan shall be implemented for the drilling site in accordance with the applicable DGH/ Indian Petroleum Regulations.	<b>Will be complied</b>  On completion of the drilling activity, plugging of abandoned wells will be carried out as per the OIL's Well Abandonment, Site Restoration and Reclamation policy.
16	As per the Ministry's OM dated 30.09.2020 superseding the OM dated 01.05.2018 regarding the Corporate Environmental Responsibility, and as per the action plan proposed by the project proponent to address the socio-economic and environmental issue	<b>Being complied.</b>  Details of the CER expenditure incurred by OIL is enclosed as <b>Annexure – III.</b>

	in the study area, the project proponent, as committed, shall provide education funds in technical training centers/ support in nearby village's schools, support in health care facilities, drinking water supply and funds for miscellaneous activates like solar street lights, battery, solar panel etc., in the nearby villages. The action plan shall be completed within in the project/site.	
17	No lead acid batteries shall be utilized in the project/site.	<b>Will be Complied</b> No lead acid batteries are utilized at the drilling location.
18	Occupational health surveillance of the workers shall be carried out as per the prevailing Acts and Rules. All workers & employees shall be provided with required safety kits/mask for personal protection.	<b>Complied</b> Occupational Health Surveillance of workers engaged in drilling operation is being carried out on regular basis. All workers & employees engaged in drilling operation will be provided with Personal Protective Equipment (PPE). Records of the IME & PME are enclosed as <b>Annexure – IV</b> .
19	Oil content in the drill cuttings shall be monitored and report & shall sent to the Ministry's Regional Office.	<b>Will be complied.</b> OIL has sent the drilling cuttings samples to CSIR – NEIST, Jorhat for analysis. Once the reports are received, they will be submitted to Sub-RO (MoEF&CC). Guwahati.
20	The Project proponent 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 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.	<b>Complied</b> SOPs for all the operations covering safety and environment related issues are prepared. OIL has prepared Environmental manual which will be made available at the drilling location. Copy of the same is enclosed <b>Annexure – B</b> . Also, all the environmental monitoring reports related to ambient air quality, Stack Gas monitoring, ETP effluent, Noise level will be maintained at the drilling location

Sl. No.	General condition	Compliance status
1	No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of Ministry of Environment, Forest and Climate Change/ SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	<b>Complied.</b> No further expansion or modification other than mentioned in the EIA Notification, 2006 and its amendments, will be carried out without prior approval of the Ministry of Environment, Forest and Climate Change.
2	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.	<b>Complied.</b> LED lights are utilized for lighting purpose in drilling locations
3	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)	<b>Complied.</b> Noise level at the drilling locations is kept within the permissible limits by providing acoustic enclosures around the DG sets.
4	The company shall undertake all relevant measures for improving the socioeconomic 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 project area for the overall improvement of the environment.	<b>Being complied.</b>  Details of the CER expenditure incurred by OIL is enclosed as <b>Annexure – III.</b>
5	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for	<b>Complied</b> OIL has earmarked funds for environment management/ pollution control measures.



	environment management/ pollution control measures shall not be diverted for any other purpose.	
6	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/ Municipal Corporation, Urban local body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.	<b>Complied</b>
7	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status reports shall be posted on the website of the company.	<b>Complied</b>  EC compliance report for the period April 2023 to September 2023 was submitted to Sub-RO, Guwahati, Zonal Office CPCB, Shillong and, Chairman - Pollution Control Board Assam vide L.No. S&E/E/43C-1/52 dated 11.01.2024. Also, copy of the EC and Six-monthly compliance report are uploaded to OIL website under the link <a href="https://www.oil-india.com/Environmental.aspx">https://www.oil-india.com/Environmental.aspx</a>
8	The environmental statement for each financial year ending 31 <sup>st</sup> March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986. as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.	<b>Complied</b>  Environment Statement (Form – V) for the F.Y. 2022-23 was submitted to Pollution Control Board, Assam vide No. S&E/E/21(B)/940 dated 20.09.2023. Copy of the same is enclosed as <b>Annexure – C</b> .
9	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/ Committee and may also be seen at Website of the Ministry and at <a href="https://parivesh.nic.in/">https://parivesh.nic.in/</a> . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	<b>Complied</b>

10	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	<b>Will be complied.</b>
11	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT any other Court of Law, if any, as may be applicable to this project.	<b>Agreed.</b>





# Bhagwati Enviro Care Pvt. Ltd.

Annexure - I

MOEF Recognized Laboratory • Enlisted with GPCB • Environmental Consultants, Auditors & Analyst  
Specialized in REIA, EIA, EC, CPCB registration, WWTP, STP, APCM  
ISO:9001, ISO:14001, & OHSAS:18001 Certified Company

## TEST REPORT

Company Name and Address

M/s. CVS Multi Services Pvt. Ltd. 27, Siddharth Society, TB Hospital Road, B/h Upnagar Jain Derasar, Mehsana.	Report No: BECPL/LAB/R/2024040505 Issue Date: 05/04/2024 Sample No.: BECPL/LAB/S/2024032905 Customer's Reference : By Mail
--	---

Description of Sample	: RO Treated Water Sample of John Energy Limited (John - 30), Assam				
Date of Sampling	: 21/03/2024	Quantity/No. of Sample	: 5.0 Liter / One		
Sample Receipt Date	: 29/03/2024	Sampling Procedure	: -----		
Sample Submitted By	: Client	Date of Performance of Test	: 29/03/2024		
Packing / Seal	: Unseal	Date of Completion of Test	: 05/04/2024		

Sr. No.	Test Parameters	Results	Unit	Treated Effluent Norms	Test Method
1	Temperature	35	°C	< 40	APHA, 2550-A+B, 23 <sup>rd</sup> Ed., 2017
2	pH	6.9	--	6.5 - 8.5	IS 3025 (Part 11) 2017
3	Total Suspended Solids	71	mg/L	< 100	IS 3025 (Part 17) 2017
4	Total Dissolved Solids	452	mg/L	< 2100	IS 3025 (Part 16) 2017
5	Chemical Oxygen Demand	86.7	mg/L	< 100	IS 3025 (Part 58) 2017
6	BOD (27°C @ 3 Days)	21.4	mg/L	< 30	IS 3025 (Part 44) 2019
7	Oil & Grease	< 0.2	mg/L	< 10	IS 3025 (Part 39) 2021
8	Phenolic Compound	< 0.1	mg/L	< 1.0	IS 3025 (Part 43) 2019
9	Chloride	39	mg/L	< 600	IS 3025 (Part 32) 2019
10	Fluoride	0.268	mg/L	< 1.5	APHA, 4500-FD, 23 <sup>rd</sup> Ed., 2017
11	Sulphide	< 0.4	mg/L	≤ 2.0	APIIA, 4500-S, 23 <sup>rd</sup> Ed., 2017
12	Sulphate	18.1	mg/L	< 1000	IS 3025 (Part 24) 2019
13	Sodium	25	mg/L	< 60	IS 3025 (Part 45) 2019
14	Total Chromium	< 0.01	mg/L	< 1.0	APHA, 3111-B, 23 <sup>rd</sup> Ed., 2017
15	Hexavalent Chromium	< 0.01	mg/L	< 0.1	APHA, 3111-B, 23 <sup>rd</sup> Ed., 2017
16	Copper	< 0.01	mg/L	< 0.2	IS 3025 (Part 42) 2019
17	Lead	< 0.01	mg/L	< 0.1	APHA, 3111-B, 23 <sup>rd</sup> Ed., 2017
18	Nickel	0.19	mg/L	< 3.0	APHA, 3111-B, 23 <sup>rd</sup> Ed., 2017
19	Zinc	0.24	mg/L	< 2.0	APHA, 3111-B, 23 <sup>rd</sup> Ed., 2017
20	Mercury	< 0.001	mg/L	< 0.01	APHA, 3111-B, 23 <sup>rd</sup> Ed., 2017
21	Cyanides	< 0.001	mg/L	< 0.2	APHA, 4500-CN, 23 <sup>rd</sup> Ed., 2017

Reviewed By:

Nilesh Patel

Authorized By

Mahesh Oza  
(Quality Manager)  
Date: 05/04/2024

### -----END OF TEST REPORT-----

Recognized Environmental Laboratories under The Environment (Protection) Act, 1986 valid up to 26-10-2024

Note: This report is subject to terms & conditions mentioned overleaf

Page 1 of 1

Corporate Office:-

28, 29, 30, Parmeshwar Esatate-II, Phase-I, Opp. AMCO Bank, GIDC Estate, Vatva, Ahmedabad - 382445, Gujarat, India.

Tel: +91-79-40083051/52, 25834567, 29295043, 29295133, Fax: +91-79-40083053

www.bhagwatienviro.in Email: shailesh@bhagwatienviro.com, amar@bhagwatienviro.com

CIN No: U84199GJ2003PTC43198

Annexure - II

Format No. QSP/MR/20.F.01

CSIR-NORTH-EAST INSTITUTE OF SCIENCE & TECHNOLOGY  
JORHAT - 785 006, ASSAM

## TEST REPORT

Report No.: CSIR-NEIST-Jorh. II QSP/MR/20.A/C/TR-3588(A)/2023  
Date: 13/08/23

### MEMORANDUM

This report was prepared by the CSIR-North-East Institute of Science & Technology, Jorhat, Assam, for the purpose of submitting the test results to the CSIR, New Delhi.

The report contains the test results of the sample of the material, which should be reproduced in the CSIR report. The report should be approved by the CSIR-North-East Institute of Science & Technology, Jorhat.

The test results are to be used for the purpose of the CSIR report.

CSIR-NORTH-EAST INSTITUTE OF SCIENCE & TECHNOLOGY  
JORHAT - 785 006, ASSAM

Chemical Division  
Analytical Chemistry & QA/QC  
NIST

Report No.  
CSIR-NIST/JORHAT, QSP-MR-20/ANC-TR-3588/AY-2023

TEST REPORT OF Barite (2)

DATE  
24.12.2023

PAGE  
1 OF 2

# INDEX

## CONTENTS

- SCOPE  
Chemical Analysis of Barite Powder  
Supplied by:  
S. Goro  
GM-Chemical (HOD)  
OIL INDIA Ltd. Duliajan

REFERENCE  
Letterhead No. Chem: 02, 10th/801/2023  
Dated: 25/09/2023

- TEST RESULTS  
Photos of

- CONCLUSION

TEST CONDUCTED BY

TESTED BY

APPROVED BY

Signature  
23/12/23  
Dr. Skand Barman  
Sr. Tech. Officer

Signature  
23/12/23  
Dr. Anil Kumar Barman  
Sr. Tech. Officer

Signature  
23/12/23  
Dr. A. M. Das  
Chairman, Testing Report Committee

TESTED BY

TESTED BY

TESTED BY

TESTED BY

TESTED BY

TESTED BY

2



**CSIR-NORTH-EAST INSTITUTE OF SCIENCE & TECHNOLOGY**  
**JORHAT - 781006, ASSAM**

Name of the Division :  
 Analytical Chemistry Group, NISTT

Report No. :  
 CSIR-NISTT/JORHAT/ANAL/2023/001

**TEST REPORT OF Barite (2 nos.)**

**SCOPE**

- |  |  |
|--|--|
| 1. Serial No. Register No. & Date of Receipt | Serial No. : 2023-05-02-01                             |
| 2. Name & Address of the Agency              | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 3. Name of the Analyst                       | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 4. Name of the Institution                   | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 5. Name of the Institution                   | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 6. Name of the Institution                   | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 7. Name of the Institution                   | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 8. Name of the Institution                   | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 9. Name of the Institution                   | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 10. Name of the Institution                  | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 11. Name of the Institution                  | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 12. Name of the Institution                  | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 13. Name of the Institution                  | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 14. Name of the Institution                  | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 15. Name of the Institution                  | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 16. Name of the Institution                  | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 17. Name of the Institution                  | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 18. Name of the Institution                  | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 19. Name of the Institution                  | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |
| 20. Name of the Institution                  | Name :<br>Address :<br>City :<br>State :<br>Pin Code : |

TEST CONDUCTED BY :  
 ANALYTICAL CHEMISTRY GROUP, NISTT

Dr. [Signature]  
 23/11/23  
 Dr. [Signature]  
 23/11/23  
 Dr. [Signature]  
 23/11/23

CSIR-NORTH-EAST INSTITUTE OF SCIENCE & TECHNOLOGY  
JORHAT - 785 006, ASSAM

Name of the Division  
Analytical Chemistry Group, MS-20

Report No.  
CSIR-NEIST-Jorhat QSP-MR-20, ANCTR-3588(A) 2023

TEST REPORT OF Barite (2 nos.)	DATE	PAGE
	29.11.2023	3 of 3

2. RESULT

Sr.	Sample Name	Conc. (mg/gm)	Conc. (mg/gm)
1	MS Gumpel, Pvt. Ltd.	0.05	BDL
2	V's Agrochemicals	0.05	BDL

BDL: Bg Detection Limit,  $10^{-3}$  gm

ANALYSED BY

PREPARED BY

APPROVED BY

*[Signature]*  
29.11.23  
ANALYST

*[Signature]*  
29.11.23  
PREPARED BY

*[Signature]*  
29.11.23  
OFFICIAL USE  
Testing Report Committee

*[Handwritten mark]*

### Annexure - III

CER expenditure in Crores during F.Y. 2020-21 to F.Y. 2023-24							
District	Health Care	Education	Skill development of women	Industrial Training for students	Sports & Cultural events	Social Development/Infrast ructure (Drinking Water, Toilets, Road repair, Flood Protection/Erosion control etc.,)	Total
Dibrugarh (Assam)	13.24	16.33	7.51	3.63	2.71	33.98	77.40
Charaideo (Assam)	2.67	6.09	1.90	0.76	0.13	5.75	17.30

## Annexure - IV

Rig: John-30 (CH#07) Location: BI					
Employee Pre Medical examination record			Updated: 15.04.24		
S/NO	Name	Designation	Emp ID	PME done on	PME valid till
1	Jugeshwar Saikia	RigManager	204560	11-04-2023	11-04-2026
2	Deepak Ch Das	RigManager	205078	30-04-2022	29-04-2025
3	Parveen Kumar	Tool Pusher	204010	20-12-2022	20-12-2025
4	Sanjay Kumar	Tool Pusher	201104	16-10-2023	16-10-2028
5	Vikash Singh	NTP	200596	22-12-2022	22-12-2027
6	Manoj Kr Singh	NTP	202429	30-04-2022	29-04-2025
7	Sirumoni dutta	Ch. Electrician	202095	30-04-2022	29-04-2025
8	H. K Mishra	Ch. Electrician	204413	30-04-2022	29-04-2025
9	Nilesh Kadiya	Asst Electrician	202778	30-04-2022	29-04-2027
10	Sarat Bhuyan	Asst. Electrician	205224	30-09-2022	30-09-2027
11	Akshay Patel	AsstElectrician	204546	30-04-2022	29-04-2027
12	D S Rawat	AsstElectrician	204553	30-04-2022	29-04-2025
13	Pushpendra Kumar	Ch.Mechanic	202824	30-04-2022	29-04-2027
14	Khasmir Singh	Ch.Mechanic	205268	26-09-2022	25-09-2025
15	Himadri Sekhar mitra	HSEO	202893	30-04-2022	29-04-2025
16	Debodyuti Roy	HSEO	205013	30-04-2022	29-04-2027
17	Ritesh Hedau	Driller	200747	30-04-2022	29-04-2027
18	Mrinal Bordoloi	Driller	205087	20-05-2022	19-05-2027
19	Anil Kumar	Driller	202871	10-10-2023	10-10-2027
20	Abhishek Bharadwaj	Driller	500160	30-04-2022	29-04-2027
21	NIPENJYOTI KOLITA	Top Drive Operator	500146	29-04-2022	28-04-2027
22	Indrajit Gogoi	Top Drive Operator	202156	30-04-2022	29-04-2027
23	Jishujit Phukon	Top Drive Operator	205099	10-05-2022	09-05-2027
24	Montujit Saikia	Top Drive Operator	205121	10-05-2022	09-05-2027
25	Devabrata Gogoi	Telephone Attendant	VC 46	20-04-2022	19-04-2027
26	Joydeep Dey	Telephone Attendant	VC 61	27-04-2022	26-04-2027
27	Parag Jyoti Gogoi	Telephone Attendant	VC 63	27-04-2022	26-04-2027
28	Gogon Jyoti Sonowal	Telephone Attendant	VC 71	27-04-2022	26-04-2027
29	Utpal Gogoi	Mud Engineer	VC 62	29-04-2022	28-04-2027
30	Ranjeet Gogoi	Mud Engineer	VC 75	20-04-2022	19-04-2025
31	Pranjal borah	Mud Engineer	VC 65	29-04-2022	28-04-2027
32	Raju Saikia	Mud Engineer	vc 48	20-04-2022	19-04-2027
33	Dr. Shubhanshu Sharma	Rig Medic		16-06-2022	15-06-2027
34	Dr Devendra Bairwa	Rig Medic		17-10-2023	17-10-2028
35	Ajoy Borah	ASST DRILLER	VC 45	29-08-2023	29-08-2028
36	Tapan Saikia	ASST DRILLER	VC 67	20-05-2023	20-05-2028
37	Bokul Buragohain	ASST DRILLER	VC 70	20-10-2023	20-10-2028
38	Muktila Dawo	ASST DRILLER	VC 38	20-10-2023	20-10-2028
39	Putul Gogoi	Derrick Man	VC 06	28-04-2022	27-04-2025
40	Debajit Borah	Derrick Man	vc52	20-04-2022	19-04-2027
41	Santanu Saikia	Derrick Man	VC 59	28-04-2022	27-04-2027
42	Khageswar Dadhara	Derrick Man	VC 14	29-04-2022	28-04-2025
43	Jibanta Sonowal	Derrick Man	VC 15	29-04-2022	28-04-2027
44	Tulan Saikia	Derrick Man	VC 28	20-04-2022	19-04-2027
45	Naba Nath	Derrick Man	VC 32	20-04-2022	19-04-2027
46	Hemanta Phukan	Derrick Man	vc51	20-04-2022	19-04-2027
47	Chandan Das	Rig man	VC 58	28-04-2022	27-04-2027
48	Bharat Bhuiyan	Rig man	vc11	27-04-2022	26-04-2027
49	Shubham Debnath	Rig man	vc54	20-04-2022	19-04-2027
50	Mithu Phukan	Rig man	VC 07	27-04-2022	26-04-2027
51	Monoj Sonowal	Rig man	VC 08	28-04-2022	27-04-2027
52	Khirod Sonowal	Rig man	VC 09	27-04-2022	26-04-2025
53	Bhagya Chetia	Rig man	vc10	20-04-2022	19-04-2027
54	Pranab Jyoti Gohain	Rig man	VC 53	20-04-2022	19-04-2027
55	Pabitra Dhadumia	Rig man	VC 13	20-04-2022	19-04-2027
56	Promod Gogoi	Rig man	Vc 24	20-04-2022	19-04-2027
57	Muhin Phukon	Rig Man	VC 33	20-04-2022	19-04-2027
58	Bhima Mura	Rig Man	VC 37	28-04-2022	27-04-2027
59	Dulal Das	Rig Man	VC 35	30-04-2022	29-04-2027
60	Ajonto Moran	Rig Man	vc36	28-04-2022	27-04-2027
61	Pranab Gogoi	Rig Man	vc34	28-04-2022	27-04-2027
62	Gajendra Deoni	Rig Man	VC 60	19-10-2022	19-10-2027

*(Signature)*  
J. Saikia  
HSE

*(Signature)*  
HJEC

63	Pranab Jyoti Lukurakhan	Roustabout	VC 40	28-04-2022	27-04-2027
64	Mohim Sonowal	Roust About	VC 19	28-04-2022	27-04-2027
65	Gaurishankar Gogoi	Roust About	VC 68	08-01-2024	08-01-2029
66	Rintu Sonowal	Roust About	VC 22	20-04-2022	19-04-2027
67	Bidyadhar Chutia	Roust About	VC 74	21-12-2022	21-12-2027
68	Pranjal Dowerah	Roust About	VC 20	20-04-2022	19-04-2027
69	Priaym Gohain	Roust About	VC 69	21-09-2023	21-09-2028
70	Rintu Mohanty	Roust About	VC 18	20-04-2022	19-04-2027
71	Dhrubajyoti Phukan	Roust About	VC 76	22-06-2023	22-06-2028
72	Hirok Jyoti Dehingia	Roustabout	VC 77	08-01-2024	08-01-2029
73	Nishit Borauh	Roustabout	VC 43	20-04-2022	19-04-2027
74	Tarun Sonowal	Roustabout	VC 21	20-04-2022	19-04-2027
75	Sourav Phukon	Roustabout	VC 44	20-04-2022	19-04-2027
76	Shibanuj Sonowal	Roustabout	VC 42	20-04-2022	19-04-2027
77	Lon Pratim Borah	Roustabout	VC 55	20-04-2022	19-04-2027
78	Ratan Majhi	Roustabout	VC 41	20-04-2022	19-04-2027
79	Biju Rajkhowa	Mechanic	VC 49	29-08-2023	29-08-2028
80	Bitu Charingia Moran	Mechanic	VC 25	30-04-2022	29-04-2027
81	Tapan Gogoi	Mechanic	VC 47	30-04-2022	29-04-2027
82	Joy Chetia	Mechanic	VC 31	21-12-2022	21-12-2027
83	Amar Kurmi	Electrician	VC 26	20-04-2022	19-04-2027
84	Dipu Hazarika	Electrician	VC 54	20-12-2022	20-12-2027
85	Partha Pratim Phukan	Electrician	VC 80	13-03-2024	13-03-2029
86	Rajen Borghoain	Electrician	VC 30	30-04-2022	29-04-2025
87	Madhab Ch Gogoi	Welder	vc27	20-04-2022	19-04-2025
88	Jugananda Sonowal	Welder	vc29	30-04-2022	29-04-2025
89	Lakhi Baruah	Gas Logger	VC 73	27-04-2022	26-04-2025
90	Piku sharma	Gas Logger	VC 78	28-04-2022	27-04-2027
91	Abhinandan Kashyap	Gas Logger	VC 34	16-06-2023	16-06-2028
92	Bhaskar Jyoti Gogoi	Gas Logger	VC56	30-12-2022	30-12-2025
93	Bikash Kumar Das	ETP Supervisor	VCE 72	16-06-2022	16-06-2027
94	Nilim Dutta	ETP Supervisor	VCE 80	08-01-2024	08-01-2029
95	Plaban Chakraborty	ETP Supervisor	VCE 82	18-07-2023	18-07-2028
96	Triluson Sharmah	ETP Supervisor	VCE 76	12-07-2022	11-07-2027
97	Bhaskar Jyoti Saikia	ETP Lab Assistant	VCE 82	07-12-2022	07-12-2027
98	Siddhartha Konwar	ETP Lab Assistant	VCE 49	30-04-2022	29-04-2027
99	Kalyan Gogoi	ETP Lab Assistant	VCE 79	*12-07-2022	11-07-2027
100	Prasurya Borah	ETP Lab Assistant	VCE 50	25-01-2024	25-01-2029
101	Himanta Gogoi	Crane Operator		20-04-2022	19-04-2027
102	Hemanta Borah	Crane Operator		10-05-2022	09-05-2027

*(H-s Lohm)*  
HSE

*(J. Saikia)*  
D/S

*(Signature)*





**Common Environment Management Plan for Onshore Oil & Gas**  
**Drilling Activity**



## Contents

S.No	Content
1.0	<b>INTRODUCTION</b>
2.0	<b>Environmental Management Plan</b>
3.0	<b>IMPACT ASSESSMENT</b>
	<b>4.1 Air Quality</b>
	<b>4.2 Noise Quality</b>
	<b>4.3 Soil Quality</b>
	<b>4.4 Water Quality and Hydrogeology</b>
	<b>4.5 Biological Environment</b>
	<b>4.6 Socio-Economic Environment</b>
	<b>4.7 Impact on Community Health &amp; Safety</b>
4.0	<b>DETAIL ENVIRONMENTAL MANAGEMENT PLAN</b>
	<b>5.1 Air Quality Management Plan</b>
	<b>5.2 Noise Management Plan</b>
	<b>5.3 Soil Quality Management Plan</b>
	<b>5.4 Surface Water Quality Management Plan</b>
	<b>5.5 Ground Water Quality Management Plan</b>
	<b>5.6 Waste Management Plan</b>
	<b>5.7 Wildlife Management Plan</b>
	<b>5.8 Road Safety &amp; Traffic Management Plan</b>
	<b>5.9 Occupation Health &amp; Safety Management Plan</b>
	<b>5.10 Management of Social issues and concerns</b>
	<b>5.11 Emergency Response Plan</b>
5.0	<b>Environment Management Matrix</b>
6.0	<b>Summary and Conclusion</b>



## **1.0 INTRODUCTION:**

OIL INDIA LIMITED (OIL), a Government of India Maharatna Enterprise, is currently engaged in carrying out hydrocarbon exploration and production activities mostly in its operational areas in Upper Assam, Arunachal Pradesh and Mizoram in the North Eastern part of India. OIL is also undertaking hydrocarbon exploration activities in few Indian states and few overseas countries. Oil India Limited was incorporated on 18<sup>th</sup> February 1959 to expand and develop the newly discovered oil fields of Naharkatia and Moran in the Indian North East. In 1961, it became a joint venture company between the Indian Government and Burmah Oil Company Limited, UK. In 1981, OIL became a wholly owned Government of India enterprise. Today, OIL is a premier Indian National Oil Company engaged in the business of exploration, development and production of crude oil and natural gas, transportation of crude oil and production of LPG.

Govt. of India and Assam has awarded Petroleum Mining Leases (PML) to OIL for exploration and development of oil & gas at Dibrugarh, Chabua, Tinsukia, Hugrujan, Naharkatiya Extn, Dholiya and Dumduma areas including the adjoining areas in Dibrugarh, Tinsukia and Sibsagar Districts.

## **2.0 Environmental Management Plan**

This Environmental Management Plan and Monitoring Framework is a site-specific document for the drilling activities that have been developed to ensure that OIL can implement the project in an environmentally conscious manner and where all contractors, understand the potential environmental risks arising out of the proposed project and take appropriate actions to properly manage such risk.

This EMP will be an overview document that will guide environmental management of all aspects of OIL's activities i.e. construction and operation of drilling wells. This EMP will be backed up by more specific Environmental Action Plans, Procedures and Bridging Documents.

The EMP describes the actions to be adopted in terms of:

- National Policies and Regulations;
- Best Practices and guides; and
- Local Environmental and Social Sensitivities.

**The Environment Policy of OIL is presented below.**



### 3.0 IMPACT ASSESSMENT

The potential impacts arising due to the construction and operation of the drilling activities are given below:

**3.1 Air Quality:** The operation of DG/GG sets, movement of vehicles and machineries during construction and drilling at drill sites will result in the generation of air pollutants viz. PM, NO<sub>x</sub> and SO<sub>x</sub> that may affect the ambient air quality temporarily. Air pollutants like particulate matter, hydrocarbons and NO<sub>x</sub> will also be generated during drilling operations.

**3.2 Noise Quality:** Operation of heavy machinery/equipments and vehicular movement during site preparatory and road strengthening/construction activities may result in the generation of increased noise levels. Operational phase noise impacts are anticipated from the running of drilling rig and ancillary equipment viz. shale shakers, mud pumps and diesel generators, gas generators.

**3.3 Soil Quality:** Stripping of top soil will affect the soil fertility of the well sites temporarily. Potential adverse impacts on soil quality may also result from improper storage and handling of fuel, lubricants, drilling mud and drill cuttings.

**3.4 Water Quality and Hydrogeology:** All wastewater discharged from the drilling operations will be treated in the ETP and discharges will conform to CPCB standards. As the volume of water to be discharged is small, it is anticipated to cause minor increase in pollution load for specific parameters in receiving water bodies. Uncontrolled surface runoff from the drill sites may compose of waste fluids or storm water mixed with oil and grease and may pollute the surface water quality. However, the surface runoff will be treated with sedimentation tank and oil water separator at site.

#### **3.5 Biological Environment:**

The existing vegetation at the proposed drill sites, approach roads and RoU of the pipeline will be felled for site development. Noise generated from drilling operations and vehicular movement within the drill sites and approach roads may affect the reptiles, birds and mammals adversely and may result in their moving away from the project area for a temporary period. OIL will obtain Forest Clearance from MoEF&CC for drilling within the forestlands; all the conditions mentioned in the forest clearance would be complied. Surface runoff from the drill sites contaminated with sediment, may reach surface water channels and increase the suspended solids load of the channel water. Increase of suspended solid will increase the turbidity of river water that ultimately will adversely affect the DO level in the water. The turbid water and lower DO may affect the primary productivity of the impacted areas of the rivers. The process effluent will be adequately treated in the ETP to meet the industrial effluent discharge standards. The discharge of treated effluent is not expected to cause perceptible changes in the water quality of the receiving stream.

**3.6 Socio-Economic Environment:** Approximately 3 ha. land would be required for each well. Land will be purchased from local communities however; no physical displacement during land procurement is anticipated. Additionally, land will also be procured for construction of 100-200 m approach road to the drill site from existing roads. Anticipated number of families directly impacted would be limited to 2-5 nos. for each of the drill sites. The dependency of the landowner in case of generation of livelihood is limited as the land is classified as monocropped agricultural land.



OIL/its contractors would endeavour to provide maximum employment to the local people; however, certain percentage of semi-skilled and highly skilled migrant labour would be used by contractors for manning technical activities. It is anticipated that occasional conflicts would arise with the local community over the recruitment of migrant workers. Discomfort due to dust and noise to adjoining communities, influx of people are likely to occur.

The construction phase of the project is likely to generate both direct and indirect opportunities for employment. The estimated direct employment would be approximately 50 un-skilled workers during the peak construction phase that will primarily sourced from nearby areas. Indirect employment would be primarily in the supply chain as vendors, which are anticipated to be set up to support the construction.

**3.7 Impact on Community Health & Safety:** Community health and safety of inhabitants residing close to the proposed well sites stand to get affected from frequent heavy vehicular movements along village access roads and due to noise from drilling rig operations, movement of heavy vehicles during construction etc.

## **4.0 DETAIL ENVIRONMENTAL MANAGEMENT PLAN**

### **4.1 Air Quality Management Plan**

- Vehicles delivering raw materials like fine aggregates will be covered to prevent fugitive emissions.
- Sprinkling of water on earthworks, material haulage and transportation routes on a regular basis during construction and decommissioning phase of the wells.
- Flare stacks of adequate height would be provided.
- DG/GG set stacks would have adequate height, as per statutory requirements, to be able to adequately disperse exhaust gases
- Periodic monitoring of DG/GG set stack emission will be carried out in accordance with the Environmental Monitoring Plan to assess compliance with CPCB DG set exhaust standards.

### **4.2 Noise Management Plan**

- Selection and use of low noise generating equipment with in-built engineering controls viz. mufflers, silencers, etc.
- All DG/GG sets would be provided with acoustic enclosures.
- Appropriate PPEs (e.g. ear plugs) will be used for by workers while working near high noise generating equipment.
- All vehicles utilized in transportation of raw materials and personnel will have valid Pollution under Control Certificates (PUC).
- All high noise generating equipment will be identified and subjected to periodic preventive maintenance.
- No night time operation of vehicles and construction activities will be undertaken.

#### **4.3 Soil Quality Management Plan**

- Drip trays to be used during vehicular/equipment maintenance and during re-fuelling operations.
- Spill kits will be made available at all fuel and lubricant storage areas. All spills/leaks contained, reported and cleaned up immediately.
- Dedicated paved storage area will be identified for the drilling chemicals, fuel, lubricants and oils within the drill sites.
- 1.5 mm HDPE lined pits will be considered for the disposal of unusable drilling mud cuttings and drilling wastewater etc.

#### **4.4 Surface Water Quality Management Plan**

- Levelling and grading operations will be undertaken with minimal disturbance to the existing site contours thereby maintaining the general slope and topographical profile of the site.
- During site preparation and construction, surface water run-off will be channelized through appropriately designed drainage system.
- Sediment filters and oil-water separators will be installed to intercept run-off and remove sediment before it enters water courses.
- Domestic wastewater generated from drill sites will be treated through septic tank and soak pit system and then discharged.
- Process wastewater would be treated in Effluent Treatment Plant (ETP) at drill sites.

#### **4.5 Ground Water Quality Management Plan**

- Water based mud would be used as a drilling fluid for the proposed project.
- Eco-friendly synthetic based mud if required for deeper sections, will be used after providing intimation to the Pollution Control Board;
- The drill cutting along with spent mud will be stored in HDPE lined pit.

#### **4.6 Waste Management Plan**

- Use of low toxicity chemicals for the preparation of drilling fluid.
- Management of drill cuttings, waste drilling mud, waste oil and domestic waste, wastewater in accordance with Standards for Emission or Discharge of Environmental Pollutants from Oil Drilling and Gas Extraction Industry of CPCB as modified in 2005.
- The hazardous waste (waste and used oil) will be managed in accordance with Hazardous Waste (Management, Handling & Transboundary Movement) Rules, 2016.
- The kitchen waste will be disposed in nearest municipal/village dumping site on a daily basis through approved waste handling contractors.
- The sewage generated will be treated through septic tank and soak pit system.
- Used batteries will be recycled through the vendors supplying lead acid batteries as required under the Batteries (Management & Handling) Rules, 2001.
- The drilling cuttings pit will be bunded and kept covered using tarpaulin sheets during monsoon.

#### **4.7 Wildlife Management Plan**

- Movement of heavy vehicles will be restricted at night time, especially if access roads pass through forest areas, as most of the mammals movement occurs during night;
- Noise levels at the drill sites will be controlled through selection of low noise generating equipment and installation of sufficient engineering controls viz. mufflers, silencers etc.
- No temporary electric supply connection line from the grid will be laid for the proposed project activity. All electric requirements will be supplied from the internal DG sets.
- OIL will have to take Forest Clearance from MoEFCC for development of drill sites, access roads and laying of pipeline within forest areas.

#### **4.8 Road Safety & Traffic Management Plan**

- The condition of roads and bridges identified for movement of vehicles and drilling rig will be assessed and if required strengthened by OIL to ensure their safe movement.
- Precautions will be taken by the contractor to avoid damage to the public access routes including highways during vehicular movement.
- Traffic flows will be scheduled wherever practicable during period of increased commuter movement.

#### **4.9 Occupation Health & Safety Management Plan**

- All machines to be used in the construction will conform to the relevant Indian Standards (IS) codes, will be kept in good working order, will be regularly inspected and properly maintained as per IS provisions and to the satisfaction of the site Engineer.
- Hazardous and risky areas, installations, materials, safety measures, emergency exits, etc. shall be appropriately marked.

#### **4.10 Management of Social issues and concerns**

- People from adjoining areas especially given job preference through local contractors according to the skill sets possessed.
- Prior to the commencement of the proposed activity, a consultation program will be conducted by OIL with the target groups and local authorities. The primary objective of such consultation will be to share with the concerned villagers/stakeholders the objective of the proposed project associated impacts and their mitigation.
- OIL will give more emphasis and priority on periphery development, development of health facilities and provision for drinking water facility as per Corporate Social Responsibility (CSR) Plan.
- The drill sites would be fenced and gates would be constructed so that the children are refrained from straying into the site.



#### **4.11 Emergency Response Plan**

- Drilling rig and related equipment to be used for drilling will be conformed to international standards specified for such equipment.
- Blow-out preventers and related well control equipment shall be installed, operated, maintained and tested generally in accordance with internationally recognized standards.
- Appropriate gas and leak detection system will be made available at each of the drill sites.
- Adequate fire-fighting equipment shall be provided at each drilling site.

The environmental mitigation measures and plans are presented in form of a matrix according to the sequential flow of activities in the project life cycle. The matrix focuses on strategies to be adopted for safe guard of the environment from possible impacts resulting out of the project activities. The strategies have further been detailed out as management procedures and programmes in subsequent sections.

The EMP helps establish the linkage between the activities environmental impacts and mitigation measures and presents the monitoring framework i.e. the Environmental Performance Indicator (EPI) No. as well as the Environmental Quality Indicator (EQI).

## 5.0 Environment Management Matrix

S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
1.	Physical Presence of drill site, rig and other machinery.	1.1	Change in visual characteristics of the area due to installation of drilling setup	Temporary change in landscape	On completion of works (in phases) all temporary structures, surplus materials and wastes will be completely removed. Only structure required for safety purposes would be retained on the bare drill site.	Site Inspection	Construction & Drilling	OIL/Contractor	Waste Management Plan
		1.2	Increase of illumination at night time due to installation of drilling setup	Temporary disturbance of the nearby villagers	Appropriate shading of lights to prevent scattering	Grievance records/ Consultation with Villagers	Construction & Drilling	OIL/Contractor	Management of social issues & concerns
		1.3	Influx of man power & immigrant labour force to nearby villages	Possibility Cultural and behavioural conflict	Preference used of local labour forces to the extent possible	Grievance records	Construction & Drilling	OIL/Contractor	Management of social issues & concerns
2.	Storage & Handling of Materials & Spoils	2.1	Emission of fugitive dust from loading & unloading operation	Temporary impact on air quality especially SPM	All loading and unloading activities to be carried out as close as possible to the storage facilities.	Site Inspection	Construction & Drilling	OIL/Contractor	Air Quality Management
		2.2	Accidental spillage of oil & chemicals	Potential contamination of surface water body resulting impact on aquatic ecosystem	All spills to be reported and contained to prevent entry of spilled chemicals/fuels to any surface water body or drainage channel	Records of spills/Community Grievances	Construction & Drilling	OIL/Contractor	Surface water quality management plan, Wildlife Management Plan
				Potential impact on soil quality	All spills to be reported and remedial measures to be taken for clean-up of the spill.	Records of Spills/Site Inspection	Construction & Drilling	OIL/Contractor	Spill management plan



S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
3.	Transport of Materials, Spoils and Machinery	3.1	Emission of gaseous pollutants from vehicle during transportation of materials, spoils and machinery	Temporary deterioration on air quality along transport route	All diesel-powered equipment will be regularly maintained and idling time reduced to minimise emissions;  Vehicle / equipment air emissions will be controlled by good practice procedures (such as turning off equipment when not in use);  Vehicle / equipment exhausts observed emitting significant black smoke in their exhausts will be serviced/ replaced	Records and Site Inspection	Construction & Drilling	OIL/Contractor	Air Quality Management plan
		3.2	Noise emission during transport of materials, spoils and machinery	Temporary deterioration in ambient noise along the transportation route	Undertake preventive maintenance of vehicles and machinery to reduce noise levels.  Restriction on unnecessary use of horns by trucks and vehicle in settlement area	Site Inspection/Records of repairs	Construction & Drilling	OIL/Contractor	Noise Quality Management Plan
4.	Operation & maintenance of rig and associated machinery.	4.1	Emission of air pollutant from DG/GG sets	Temporary impact on air quality due to increase in concentration of gaseous pollutants e.g. NOx, HC	Preventive maintenance of DG sets to be undertaken as per manufacturers schedule	Site Inspection/Records of repairs	Drilling	OIL/Contractor	Air Quality Management plan
		4.2	Emission of Noise from DG/GG sets	Temporary increase of ambient as well as	All workers working near high noise generating equipment to be provided	Recording of Noise	Drilling	OIL/Contractor	Noise Quality Management Plan and

S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
				work place noise level	with Personal Protective equipment  Preventive maintenance of machinery to be undertaken as per manufacturers schedule  Install sufficient engineering control (mufflers) to reduce noise level at source				Occupational Health & Safety Management Plan
		4.3	Emission of noise from operation of the rig	Temporary increase of ambient as well as work place noise level	All workers working near high noise generating equipment to be provided with Personal Protective equipment  Preventive maintenance of machinery to be undertaken as per manufacturers schedule	Site Inspection	Drilling of Wells	OIL/Contractor	Noise Quality Management Plan and Occupational Health & Safety Management Plan
		4.4	Abstraction of ground water for project usage	Depletion of ground water resources	Optimize use of water during drilling operations	Record Keeping and Auditing	Construction & Drilling	OIL/Contractor	None
		4.5	Noise from mud pump during preparation of drilling mud	Temporary increase of ambient & work place noise level	Preventive maintenance of machinery to be undertaken as per manufacturers schedule	Recording of Noise	Drilling of Wells	OIL/Contractor	Noise Quality Management Plan and Occupational Health & Safety Management



S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
					All workers working near high noise generating equipment to be provided with Personal Protective equipment				Plan
		4.6	Accidental spillage of chemicals during preparation drill mud	Contamination of soil resulting loss of soil living organism	Manage spills of contaminants on soil	Records of spills	Drilling of Wells	OIL/Contractor	Spill Management plan
		4.7	Accidental spillage of chemicals during preparation drill mud	Potential impact on surface water quality and aquatic ecosystem	All spill to be contained so that it does not reach any surface water body or drainage channels	Records of spills	Drilling of Wells	OIL/Contractor	Surface water quality management plan
5.	Operation & maintenance of Vehicles	5.1	Emission of Noise from vehicles	Temporary Increase of noise level in areas abutting transport route	Preventive maintenance of vehicles to be undertaken as and when required	Maintenance Records	Construction & Drilling	OIL/Contractor	Noise quality management plan
		5.2	Emission of gaseous air pollutant from vehicles	Temporary deterioration air quality in areas abutting transport routes	Preventive maintenance of vehicles to be undertaken as and when required	Site Inspection/Records of repairs	Construction & Drilling	OIL/Contractor	Air quality management plan
		5.3	Spillage of fuels & lubricants from vehicles	Contamination of soil resulting loss of soil living organism	Adopt best practices e.g. use pumps and dispensing nozzle for transfer of fuel, use of drip trays. Etc.	Site Inspections/Audit	Construction & Drilling	OIL/Contractor	Spill Management plan
				Impact on surface water quality and	The drainage system on site to be provided with Sedimentation tank and Oil-	Site Inspection/Audits	Drilling	OIL/Contractor	Surface water quality management

S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
				aquatic ecosystem	water Separator to prevent contamination especially oil and grease from being carried off by runoff.				plan and Spill Management plan
6.	Casing & cementing of well	6.1	Noise from machinery during preparation of cement slurry	Temporary increase of ambient noise level	Install sufficient engineering control on equipment and machineries (like mufflers in DG sets) to reduce noise and vibration emission levels at source, carry out proper maintenance and subject them to rigid noise and vibration control procedures.	Site Inspection	Drilling of Wells	OIL/Contractor	Noise quality management plan
		6.2	Loss of drilling mud and cement slurry during casing of well	Potential contamination of ground water aquifer	Proper engineering controls during cementing operation to prevent migration of drilling mud and cement slurry into ground water aquifer	Site Inspection	Drilling of Wells	OIL/Contractor	Ground water quality management plan
7.	Temporary storage, handling & disposal of process waste	7.1	Accidental spillage of process waste (unused cement slurry, return mud & drill cuttings) at the temporary storage site	Potential for contamination of soil and ground water	Proper engineering controls for the drilling and cementing operations;	Drilling and Decommissioning Phases	Drilling and Decommissioning Phases	OIL/Contractor	Ground water quality management plan
		7.2	Surface runoff from temporary storage site of drill cuttings & unused mud into surface water bodies	Impact on surface water quality and aquatic ecosystem	All Temporary waste storage area will have proper bunds to prevent any escape of contaminated runoff  Ensure that any runoff from such temporary storage area	Site Inspection and Record keeping	Drilling and Decommissioning Phases	OIL/Contractor	Surface water quality management plan and Spill Management plan

S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
					are channelized into ETP				
		7.3	Accidental leakage/spillage of oils and lubricants and fuel from temporary storages	Contamination of soil resulting in loss of soil living organism	Dispose process waste and domestic waste as per regulation/ best practices  Dispose debris and waste in designated areas and as per plan to prevent degradation of land	Site Inspection	Construction &Drilling	OIL/Contractor	Waste Management Plan and Spill Management plan
		7.4	Accidental leakage/spillage of oils and lubricants from temporary storages	Contamination of surface water resulting in deterioration of surface water quality and adverse impact on aquatic ecosystem	All chemical and fuel storage areas will have proper bunds so that contaminated run-off cannot escape into the storm-water drainage system.  The waste pits (waste water and drill cuttings) will be bounded and covered by tarpaulin sheet to prevent mixing of runoff water with waste water and leachate from waste pit and also reduce the volume of waste water.	Site Inspection	Construction &Drilling	OIL/Contractor	Waste Management Plan and Spill Management plan
		7.5	Disposal/spillage of spent oils & lubricants into environmental media	Contamination of soil resulting loss of soil living organism  Contamination of surface water resulting deterioration of surface water quality and aquatic	Ensure recycling of spent oil & lubricant through authorized dealer	Site Inspection	Construction &Drilling	OIL/Contractor	Waste Management Plan and Spill Management plan

S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
				ecosystem					
		7.6	Disposal of used battery & spent filters in environmental media	Potential for contamination of soil, ground water and surface water body	Ensure recycling of waste through authorized waste recycler	Site Inspection and Record Keeping	Construction & Drilling	OIL/Contractor	Waste Management Plan and Spill Management plan
		7.7	Offsite disposal of metallic, packing, scrap	Localized visual impacts		Site Inspection and Record Keeping	Construction & Drilling	OIL/Contractor	Waste Management Plan
8.	Testing & Flaring of natural gas	8.1	Emission of air pollutants from flare stack at drill site	Temporary localized deterioration air quality (NOx, HC)	Proper engineering controls to ensure complete combustion of gas  Location of Flare stack to be chosen considering the sensitive receptors adjoining the site	Engineering Designs /Site inspections	Construction & Drilling	OIL S& E Team and Drilling team	Waste Management Plan
9.	Storage of materials (equipment, chemicals, fuel)	9.1	Accidental spillage during storage and handling of materials	Potential for contamination of soil & ground water	Impervious storage area, especially for fuel & lubricant, chemical, hazardous waste, etc.	Site Inspection	Construction & Drilling	OIL/Contractor	Spill Management plan
			Safety concerns for workers involved in handling of hazardous materials		Personal protective equipment to be provided to workers involving in handling of hazardous materials	Site Inspection	Construction & Drilling	OIL/Contractor	Health and Safety Plan



S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
10.	Technical Emergencies	10.1	Probability of accidental leakage of gas/ liquid hydro-carbons due to failure of safety devices	Potential adverse impact on personnel, environment & assets	<p>Proper engineering controls to prevent leakage of sour gases</p> <p>Obtain an early warning of emergency conditions so as to prevent a negative impact on personnel, the environment, and assets</p> <p>Safeguard personnel to prevent injuries or loss of life by either protecting personnel from the hazard and/or evacuating them from the facilities</p> <p>Minimize the impact of such an event on the environment and the facilities by mitigating the potential for escalation and, where possible, containing the release</p> <p>Develop evacuation procedures to handle emergency situations.</p>	Site Inspection	Drilling	OIL/Contractor	Emergency Response Plan
11.	Dismantling of rig & associated machinerles	11.1	Emission of noise during dismantling of rig	Temporary deterioration of ambient noise quality resulting in discomfort	All noise generating activities will be restricted during day time	Site Inspection	Well Decommissioning Phase	OIL/Contractor	Noise quality management plan
		11.2	Generation of waste during dismantling of rig	Temporary visual impacts	Storage of waste in designated areas only recyclable waste should be recycled through authorized	Site Inspection	Well Decommissioning Phase	OIL/Contractor	Waste Management Plan

S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
					water recycler				
		11.3	Disposal/spillage of spent oils & lubricants into environmental media	Contamination of soil resulting loss of soil living organism  Contamination of surface water resulting deterioration of surface water quality and aquatic ecosystem	Manage spills of contaminants on soil	Site Inspection and Record keeping	Well Decommissioning Phase	OIL/Contractor	Waste Management Plan
12.	Transportation of drilling facilities	12.1	Emission of gaseous air pollutant during transportation of drilling facilities	Temporary localized deterioration of air quality due to emission gaseous pollutants	Vehicle / equipment air emissions will be controlled by good practice procedures (such as turning off equipment when not in use); and  Vehicle / equipment exhausts observed emitting significant black smoke in their exhausts will be serviced/ replaced	Site Inspection and Record keeping	Well Decommissioning Phase	OIL/Contractor	Air quality management plan
		12.2	Fugitive emissions due to re-entrainment of dust during transport of drilling facilities	Temporary localized deterioration of air quality due to increase in SPM levels	Approach road to be sprinkled daily with water	Site Inspection	Well Decommissioning Phase	OIL/Contractor	Air quality management plan
		12.3	Emission of noise during transport of drilling facilities	Temporary deterioration of noise quality	Restrict all noise generating operations, except drilling, to daytime	Site Inspection	Well Decommissioning Phase	OIL/Contractor	Noise quality management plan

S No	Activity	Ref	Aspect	Impact	Mitigation Measures	Monitoring	Timing/ Frequency	Responsible Party	Related Plans
					Restriction on unnecessary use of horns by trucks and vehicle in settlement area				



## 6.0 Summary and Conclusion

The EMP has been made to assess the potential significant adverse environmental effects due to the proposed construction and drilling activities.

Mitigation measures have been proposed as part of EMP to minimize adverse environmental impacts, if any. Risk assessment includes Jet Fire and Vapour Cloud Explosion for blowout of wells. The existing Emergency Management Plan of OIL will be extended to this project, strengthened as necessary and implemented in the event of any emergency arising due to above mentioned risks.

The present impact assessment study indicates that the overall impact from the proposed project will be short to medium term, reversible, localised and are not expected to contribute significantly to the surrounding environment. Also, with the implementation of the pollution control and strengthen the existing environment management measures, these anticipated impacts due to proposed site preparation and drilling operation and decommissioning activities of the proposed project will be mitigated. Summary of impact significance without mitigation measures and with mitigation measures is presented at the table below.

### Summary of Impact Significance without and with Mitigation Measures

Impact	Impact significance without mitigation measures	Impact significance with mitigation measures
Aesthetic & visual	Moderate	Minor
Land Use	Negligible	-
Soil Quality	Moderate	Minor
Air Quality	Moderate	Minor
Noise Quality	Major	Moderate
Road & Traffic	Moderate	Minor
Surface Water Quality	Moderate	Moderate
Ground water resource	Minor	Minor
Ground Water Quality	Moderate	Minor
Terrestrial Ecology	Negligible	-
	Minor	Minor
	Major	Moderate
Aquatic Ecology	Moderate	Moderate
Livelihood & Income generation	Moderate	Moderate
Conflict with local people	Moderate	Moderate
Benefit to Local Enterprises	Positive	-
Employment Generation	Positive	-
Occupational health & safety	Moderate	Minor
Community health & safety	Moderate	Minor

OIL will also ensure that the environmental performances of all the activities are monitored throughout execution of the project during site preparation, drilling and decommissioning phases. Monitoring will be carried out for ambient air quality, stack emission, noise quality, quality of treated effluents, surface and groundwater qualities, waste generated and disposed etc. and verified that they meet the prescribed standards. OIL will continue to report environmental performance and submit monitoring reports regularly to statutory authorities.

The effective management system coupled with monitoring of environmental components and efforts for continual improvements will result in satisfactory environmental performance of the proposed oil and gas drilling and development project.

**THANKS YOU**



## Annexure - C



ऑयल इंडिया लिमिटेड  
( भारत सरकार का उद्यम )  
**Oil India Limited**  
(A Government of India Enterprise)

### Health Safety & Environment Department

P.O. DULIAJAN-786602,

ASSAM, INDIA

Phone : 0374-2800542

Fax : 0374-2801796

Email: [safety@oilindia.in](mailto:safety@oilindia.in)

Ref. No.: S&E/E/21(B)/940

Date: 20.09.2023

To  
**The Member Secretary,  
Pollution Control Board, Assam,  
Bamunimaidam, Guwahati- 781021.**

**Sub:** Submission of Environmental Statement (Form-V) under Environment (Protection) Rules, 1986.

Sir,

With reference to the above subject, we are submitting herewith the Environmental Statement (Form-V) for the financial year ending 31<sup>st</sup> March, 2023 pertaining to the operations of Oil India Limited in the districts of Dibrugarh, Tinsukia, Sivsagar and Charaideo in Assam.

Thanking You,

Yours faithfully  
OIL INDIA LIMITED

(Ajit Chandra Haloi)  
Executive Director (HSE)  
**For Resident Chief Executive**

Encl: As above.

### **Copy:**

1. Regional Executive Engineer,  
Pollution Control Board Assam,  
Back Side of ASTC Bus Station,  
Chowkidinghee, Dibrugarh,  
PIN: 786001.
2. Executive Engineer,  
Regional Laboratory cum Office,  
Pollution Control Board Assam,  
Melachakar, Sivsagar,  
PIN: 785640.



**FORM - V**  
**(See Rule 14)**  
**ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING THE**  
**31<sup>st</sup> MARCH, 2023**

**PART - A**

(i) **Name and address of the owner/occupier of the industry operation or process.**

OIL INDIA LIMITED  
P.O. DULIAJAN  
DIST. DIBRUGARH  
ASSAM -786602.

**Note:** Environmental Statement (Form - V) is pertaining to the operations of Oil India Limited in the districts of Dibrugarh, Tinsukia, Sivasagar and Charaideo in Assam.

(ii) **Industry category:** Red - Oil and gas extraction (on-shore extraction through drilling wells)

(iii) **Production capacity - Units**

OIL's production target is fixed as per the Memorandum of Understanding (MoU) with Ministry of Petroleum and Natural Gas, Govt. of India, which varies from year to year.

Production details during F.Y. 2022-23:

- **Crude Oil:** 3.114 MMT.
- **Natural Gas:** 2809.214 MMSCM
- **LPG:** 32,100 MT.

(iv) **Year of establishment:**

OIL INDIA LTD. was formed in 1961 as a joint venture with M/S. Burma Oil Company, UK and on 14<sup>th</sup> Oct. 1981, OIL became a fully owned Govt. of India Enterprise.

(v) **Date of last Environmental Statement submitted:** 20.09.2022.

**PART - B**

**WATER AND RAW MATERIAL CONSUMPTION**

(I) Water consumption m<sup>3</sup>/d:

S.No	Purpose	Water Consumption (m <sup>3</sup> / day)
1.	Process & Cooling	14473.7
2.	Domestic	16038.63
<b>TOTAL</b>		<b>30512.33</b>



Name of Products	Process water consumption per unit of product output	
	During F.Y. 2021-22	During F.Y. 2022-23
(1)	(2)	(3)
Hydrocarbon (Crude Oil, Natural Gas, LPG)	1.12 m <sup>3</sup> /MT (Approx.)	1 m <sup>3</sup> /MT (Approx.)

(II) Raw material consumption

*Name of raw materials	Name of products	Consumption of raw material per unit	
		During F.Y. 2021-22	During F.Y. 2022-23
No raw materials are used as Oil India Limited is engaged in Exploratory and development drilling activities & production of Crude Oil and Natural Gas. However, chemicals such as Bentonite are used for preparation of Water based drilling mud.			

**PART - C**

**POLLUTION DISCHARGED TO ENVIRONMENT/UNIT OF OUTPUT**

(Parameter as specified in the consent issued).

Pollutants	Quantity of Pollutants Discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water	<b>NIL.</b> There is no discharge of pollutants from drilling locations and Production Installations. <ul style="list-style-type: none"> <li>Wastewater generated from drilling locations is treated in Effluent Treatment Plant (ETP) and reused back in the drilling operation.</li> <li>The formation water generated after separation from crude oil and</li> </ul>	<ul style="list-style-type: none"> <li>Quality of ETP treated water from the drilling locations is analyzed frequently. (Test report is enclosed as <b>Annexure - 1</b>).</li> <li>Quality of Formation water is analyzed frequently (Test report enclosed as <b>Annexure-</b></li> </ul>	No variation is observed.  All parameters of treated effluent and Formation water are within the permissible limits.



	treatment is pumped back to the underground formation (depth greater than 1600 m) through formation water disposal wells.	<b>II)</b>	
(b) Air	No major air pollutants are emitted from Oil & Gas exploratory and development drilling and production activities except Stack Gas emissions at drilling locations and Production Installations & Flaring at Oil Collecting Stations.	Stack Gas and Ambient Air Quality (AAQ) monitoring is carried out frequently at drilling locations and Production Installations (Test report enclosed as <b>Annexure- III)</b>	No variation is observed.  All parameters of Stack Gas emissions and Ambient Air are within the permissible limits.

**PART - D**  
**HAZARDOUS WASTES**

(As specified under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016)

Hazardous Wastes	Category of Hazardous Waste as per Schedule - I of HW Rules, 2016	Total Quantity generated	
		During F.Y. 2021-22	During F.Y. 2022-23
a) From process	S.No. 2.2 Sludge containing Oil	9943 MT	4671.52 MT
	S.No. 5.1 Used or Spent Oil	60 KL	208 KL
	S.No. 33.1 Empty barrels/containers/liners contaminated with hazardous chemicals/ wastes	41569 Nos.	26616 Nos.
	S.No. 33.2 Contaminated cotton rags or other cleaning materials	3.7 MT	6.19 MT
b) From pollution control facilities	S.No. 33.5 Chemical sludge from waste water treatment	2600 KL	120.84 KL



**PART - E**  
**SOLID WASTES**

Solid Wastes	Total Quantity	
	During F.Y. 2021-22	During F.Y. 2022-23
(a) From process		
Drill Cuttings	23,000 m <sup>3</sup> (Approx.)	27,000 m <sup>3</sup> (Approx.)
(b) From pollution control facilities	NIL	
(c)		
(1) Quantity recycled or re-utilized within the unit.	N/A	
(2) Sold	N/A	
(3) Disposed	N/A	

**PART - F**

**PLEASE SPECIFY THE CHARACTERIZATION (IN TERMS OF COMPOSITION AND QUANTUM) OF HAZARDOUS AS WELL AS SOLID WASTES AND INDICATE DISPOSAL PRACTICE ADOPTED FOR BOTH THESE CATEGORIES OF WASTES.**

**(I) Hazardous Wastes:**

Name of the Hazardous Waste	Quantity generated during F.Y. 2022-23	Disposal Practices
a) Sludge containing Oil	4671.52 MT	Sent to Sludge Processing Plant for oil recovery followed by Bioremediation
b) Used or Spent Oil	208 KL	Stored in barrels under covered shed and sold to authorized recyclers through auction
c) Empty barrels/containers/liners contaminated with hazardous chemicals/wastes	26616 Nos	Sold to authorized recyclers through auction
d) Contaminated cotton rags or other cleaning materials	6.19 MT	Bioremediation
e) Chemical sludge from waste water treatment	120.84 KL	Disposed in HDPE lined pits



**(I) Solid Wastes:**

<b>Name of the Solid Waste</b>	<b>Quantity generated during F.Y. 2022-23</b>	<b>Disposal Practices</b>
a) Drill Cuttings	27,000 m <sup>3</sup> (Approx.)	Disposed in HDPE lined pits

**PART – G****IMPACT OF THE POLLUTION ABATEMENT MEASURES TAKEN ON CONSERVATION OF NATURAL RESOURCES AND ON THE COST OF PRODUCTION**

- Acoustic enclosures have been provided around all gensets to reduce noise levels.
- Recovery of drilling mud from drill cuttings by using a combination of Vertical Cutting Dryer (VCD) and a high-performance centrifuge.
- Wastewater generated from drilling locations is collected in HDPE lined pits, treated in Effluent Treatment Plant (ETP) with Reverse Osmosis unit and the treated effluent is reused back in the drilling operation.
- Formation water generated from Production Installations is treated in Effluent Treatment Plant (ETP) before disposal in the abandoned/ water disposal wells.
- Processing of oily sludge for recovery of Crude oil and further treatment of sludge through Bioremediation.
- Construction of central concrete pit for disposal of waste mud.
- Treatment of Biomedical waste through incinerator.
- Plantation of 50,000 saplings was carried out at 8 nos. of abandoned OIL well sites.

**PART – H****Additional measures/investment proposal for environmental protection, abatement of pollution, prevention of pollution.**

- MoU with District Administration, Tinsukia for treating the legacy waste of Tinsukia Municipality through the process of Biomining.
- Proposal for construction of Community Sewage Treatment Plant (STP) at Duliajan.
- MoU with Digboi Forest division, Assam for carrying out afforestation in 100 Ha of degraded forest area.
- MoU with IIT Guwahati to study the feasibility of using treated drill cutting as a building material.

**PART – I****ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF THE ENVIRONMENT.**\*\*\*\*\*  
