

EOGEPL/ CBM-RG (E)/ HSE/2024/6303

30th December, 2024

**The Regional Director
Ministry of Environment, Forest and Climate Change,
Integrated Regional Office, Kolkata
IB – 198, Sector-III, Salt Lake City, Kolkata – 700106.**

Essar Oil and Gas Exploration and
Production Ltd
Essar House- Durgapur
Village & Post Office- Molandigi
Block-Kanksa
Durgapur Sub-Division
Dist. Paschim Bardhaman
Durgapur-713212
West Bengal
India

CIN: U11203GJ2016PLC091903

E eogepl@essarenp.co.in
www.essar.com

Sub: Submission of the Six-monthly Compliance Report of Environment Clearance, Phase-III and its amendments by Essar Oil Gas Exploration and Production Limited (EOGEPL) reg.

Ref: Environmental Clearance, Phase-III vide F. No. J-11011/491/2011-IA II (I) dated 26th February, 2013 and its amendments dated 27th November, 2017; 9 th May 2019 & 14th August, 2023.

Respected Sir/Madam,

We are pleased to submit the Six-monthly Compliance Report w.r.t. the stipulated conditions of prior Environment Clearance, Phase III vide F. No. J-11011/491/2011-IA II (I), dated 26th February 2013 and its amendments dated 27th November, 2017; 9th May 2019 & 14th August, 2023.

The Six-monthly Compliance Report to be considered for the period of April'24 to September'24.

Thanking you for your continued support.

For Essar Oil and Gas Exploration and Production Limited

Warm Regards,



**Vikram Goday
Vice President & Head- Facilities
Raniganj East, CBM Project-Durgapur**

Enclosed: Annexure I, II, III, IV, V, VI, VII, VIII, IX, X, Annexure (Colly. A), Annexure XI, XII, XIII, XIV, XV, XVI, XVII, XVIII, XIX, XX & XXI.

Copy to:

1. The Environmental Engineer, Durgapur Regional Office, WBPCB, Durgapur-713216

Essar Oil and Gas Exploration and Production Limited
RG (East)-CBM-2001/1 (Phase-III) Six-monthly Environment Clearance Progressive Compliance Report
(Apr'24 to Sep'24)

Ref: Environmental Clearance F. No. J-11011/491/2011-IA II (I), dated 26th February 2013 and its amendment dated 27th November, 2017, 9th May, 2019 & 14th August, 2023.

S. No	Condition	Compliance Status																																																																																																																																																																																												
2.0	<p>The Ministry of Environment & Forest has examined your application. It is noted that the proposal is for drilling of development & production wells along with Surface Facilities, Phase-III of CBM Block RG (E)-CBM-2001/1, Raniganj CBM Block, West Bengal by M/s Essar Oil Ltd. (E&P Division). Essar Oil Ltd. & Govt. of India signed a contract for exploration and production of coal bed methane (CBM) from block RG (East)-CBM-2001/1 on 26th July, 2002. Block is located in Raniganj Coal Field, West Bengal at latitude 23°21'45"N & 23°41'12" N and longitude 87°14'40"E & 87°28'46"E. Total block area is 500 Km² & spread in Burdwan, Birbhum and Bankura districts of West Bengal. Land requirement will be 2 acres/well site and 5 acres per GGS/MCS. Following are the co-ordinates of Block.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 5%;">S.N.</th> <th colspan="3" style="width: 30%;">Latitude (N)</th> <th colspan="3" style="width: 30%;">Longitude (N)</th> </tr> </thead> <tbody> <tr><td>A</td><td>23°</td><td>41'</td><td>12"</td><td>87°</td><td>25'</td><td>02"</td></tr> <tr><td>B</td><td>23°</td><td>40'</td><td>38"</td><td>87°</td><td>26'</td><td>45"</td></tr> <tr><td>C</td><td>23°</td><td>40'</td><td>00"</td><td>87°</td><td>27'</td><td>16"</td></tr> <tr><td>D</td><td>23°</td><td>39'</td><td>05"</td><td>87°</td><td>27'</td><td>09"</td></tr> <tr><td>E</td><td>23°</td><td>38'</td><td>50"</td><td>87°</td><td>25'</td><td>52"</td></tr> <tr><td>F</td><td>23°</td><td>37'</td><td>14"</td><td>87°</td><td>25'</td><td>33"</td></tr> <tr><td>G</td><td>23°</td><td>34'</td><td>47"</td><td>87°</td><td>26'</td><td>17"</td></tr> <tr><td>H</td><td>23°</td><td>32'</td><td>51"</td><td>87°</td><td>28'</td><td>46"</td></tr> <tr><td>I</td><td>23°</td><td>31'</td><td>45"</td><td>87°</td><td>28'</td><td>46"</td></tr> <tr><td>J</td><td>23°</td><td>30'</td><td>00"</td><td>87°</td><td>27'</td><td>35"</td></tr> <tr><td>K</td><td>23°</td><td>29'</td><td>15"</td><td>87°</td><td>26'</td><td>45"</td></tr> <tr><td>L</td><td>23°</td><td>27'</td><td>35"</td><td>87°</td><td>27'</td><td>25"</td></tr> <tr><td>M</td><td>23°</td><td>26'</td><td>35"</td><td>87°</td><td>27'</td><td>25"</td></tr> <tr><td>N</td><td>23°</td><td>23'</td><td>00"</td><td>87°</td><td>26'</td><td>10"</td></tr> <tr><td>O</td><td>23°</td><td>22'</td><td>10"</td><td>87°</td><td>26'</td><td>00"</td></tr> <tr><td>P</td><td>23°</td><td>21'</td><td>45"</td><td>87°</td><td>25'</td><td>00"</td></tr> <tr><td>Q</td><td>23°</td><td>24'</td><td>15"</td><td>87°</td><td>20'</td><td>00"</td></tr> <tr><td>R</td><td>23°</td><td>27'</td><td>30"</td><td>87°</td><td>16'</td><td>30"</td></tr> <tr><td>S</td><td>23°</td><td>30'</td><td>00"</td><td>87°</td><td>14'</td><td>40"</td></tr> <tr><td>T</td><td>23°</td><td>32'</td><td>10"</td><td>87°</td><td>15'</td><td>45"</td></tr> <tr><td>U</td><td>23°</td><td>35'</td><td>10"</td><td>87°</td><td>18'</td><td>00"</td></tr> <tr><td>V</td><td>23°</td><td>37'</td><td>00"</td><td>87°</td><td>20'</td><td>00"</td></tr> <tr><td>W</td><td>23°</td><td>39'</td><td>45"</td><td>87°</td><td>25'</td><td>20"</td></tr> </tbody> </table>	S.N.	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No. J-11011/491/2011-IA II (I) dated 9th May, 2019.</p> <p>Further, the EC also got amendment with an extended validity till 25th Feb. 2025.</p> <p>Under the EC- Phase III, EOGEPL drilled only 281 CBM wells in non-forest area. The project cost and the activities proposed are well noted.</p> <p>Out of the activities proposed in the EC, the status of completion as of date is presented in the table below.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 20%;">Type</th> <th style="width: 20%;">Approved</th> <th style="width: 20%;">Completing</th> <th style="width: 20%;">Balance</th> </tr> </thead> <tbody> <tr> <td>CBM development & production well</td> <td style="text-align: center;">630</td> <td style="text-align: center;">281</td> <td style="text-align: center;">349</td> </tr> <tr> <td>Shale well (exploration)</td> <td style="text-align: center;">20</td> <td style="text-align: center;">ongoing</td> <td style="text-align: center;">20</td> </tr> <tr> <td>Gas Gathering Station (GGS)</td> <td style="text-align: center;">8</td> <td style="text-align: center;">3</td> <td style="text-align: center;">5</td> </tr> <tr> <td>Main Compressor Station (MCS)</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> </tr> </tbody> </table> <p>Interconnecting and transportation pipeline network with a diameter range of 4"-18" has been laid.</p> <p>Presently, EOGEPL producing ~ 1 MMSCMD CBM gas w.r.t. the proposed production 5 MMSCMD.</p>	Type	Approved	Completing	Balance	CBM development & production well	630	281	349	Shale well (exploration)	20	ongoing	20	Gas Gathering Station (GGS)	8	3	5	Main Compressor Station (MCS)	1	1	0
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	<p>Out of 500 Km² block area, phase – III project is proposed in 190.3 Km² block area. Out of 180.5 Km² area falls within the existing CBM block in Burdwan district, WB with an additional 9.8 Km² area located outside the block abutting the western boundary. No national park/sanctuary is located within 10 Km radius of the block. No diversion of forest land is involved. River Damodar and River Ajay are flowing in the block. Total project cost is Rs. 2866 Crore. Following activities are proposed:</p> <ul style="list-style-type: none"> i) Total no. of wells-650 (each well pad will have one vertical and several directional wells, optimized for the location and geology of the well pad) with the target depth of ~2000 m (618 wells in 180.5 Km² of block area and 32 wells in 9.8 Km² of additional area). Out of the total 650 wells, 107 wells falling within the Durgapur Municipal Corporation Boundary. ii) 8 Nos. of Group Gathering Station (GGS) with the capacity 0, 45 MMSCMD each and 1 No. of Main Compressor Station (MCS) with capacity 3.0 MMSCMD. iii) Interconnecting and transportation pipeline network with a diameter range of 4"-18". iv) Total estimated production of CBM from the proposed project is 5 million m³/day. Each well is estimated to generate a peak production of 15,000 m³/day. 	
3.0	<p>Air emissions from DG sets will be dispersed by providing adequate stack height. Flaring will be done as per the CPCB guidelines. Fresh water requirement will be 125 m³/well during drilling and 1 m³/day for GGS/MCS operation. Water based mud (WBM) and synthetic based mud will be used. Effluent comprising mud will be treated in compact effluent treatment plant (ETP) comprising equalization, chemical coagulation, flocculation and clarification by settling. Residual unusable mud will be collected in lined pits and solar evaporated. Remaining mud will be reused in the drilling process. Produced water will be generated around 50 m³/day and treated through reverse osmosis (RO) before utilizing for agriculture, domestic purposes, preparation of mud. Drill cutting (DC) will be separated from water based mud (WBM) and washed properly and unusable drilling fluids (DF) will be disposed off in well-designed lined pit with impervious liner for solar drying. Disposal of drill cuttings and drill mud will be carried out in accordance with the GSR 546 (E) dated 30th August, 2005. Used oil will be sent to authorised recyclers.</p>	<p>DG sets are in used confirming to CPCB guidelines providing adequate stack height.</p> <p>Generated produced water is treated through RO system and fulfilling the water requirement of project and operation.</p> <p>The produced water generated an average ~ (17 – 20) m³/well/day is reused in project and other activities.</p> <p>Only water base mud is being used for drilling.</p> <p>Drilling Waste Processing Plant is operational to treat the effluent comprising of mud and drill cuttings.</p> <p>Non-hazardous drill cuttings are used for well pad development and unusable drilling fluid is disposed off in well-designed lined pit with impervious liner for solar drying.</p> <p>We are in compliance with the GSR 546 (E) dated 30th August, 2005.</p> <p>Used oil is sent to authorized recycler.</p>
4.0	<p>All the oil and gas production projects are listed at S.N. 1(b) under Category 'A' and appraised at the central level.</p>	<p>Noted.</p>
5.0	<p>The proposal was considered by the Expert Appraisal Committee (Industry-2) in its 30th meeting held during 15th – 16th December, 2011 and reconstituted Expert Appraisal Committee (Industry) in its 2nd meeting held during 29th – 31st October, 2012 respectively.</p>	<p>Noted.</p>
6.0	<p>Public Hearing/ Public Consultation meeting conducted by the W.B. Pollution Control Board on 24th May, 2012.</p>	<p>Noted.</p>
7.0	<p>The Ministry of Environment and Forest hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14th September, 2006 subject to strict compliance of the following specific and general conditions.</p>	<p>Noted.</p>

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A	Specific Conditions	
I.	Compliance to all the environmental conditions stipulated in the environmental clearance letter nos.J-11011/660/2007-IA-II(I) dated 6 th May, 2008, J-11011/351/2009-IA-II(I) dated 23.09.2011 and its subsequent amendment shall be satisfactorily implemented.	Compliance to the environmental conditions stipulated in the Environment Clearance (EC) vide letter no. J-11011/660/2007-IA-II(I) dated 6 th May, 2008, J-11011/351/2009-IA-II(I) dated 23.09.2011 and its' amendment dated 18 th June 2012 are being satisfactorily implemented. Currently, no further developmental activities are being undertaken with respect to these ECs and therefore no further change in status. The last compliance report was submitted to the Regional office of MoEF&CC on 18 th May 2024..
II.	Compensation for the land acquisition to the land oustees, if any, and also for standing crop shall be paid as per the National Resettlement and Rehabilitation Policy (NRRP) 2007 or State Government norms. It may be ensured that compensation provided shall not be less than the norms of the NRRP, 2007	Land acquisition is conducted directly with the land owners and the compensation is paid as per the prevailing market rate and mutual consent. There are no involvement of Rehabilitation and Resettlement.
III.	Prior permission from the Ministry of Defence shall be obtained regarding impact of proposed plant on Panagarh, if any.	Prior permission from the Ministry of Defence has been obtained for Group/Gas Gathering Station (GGS) and Main Compressor Station (MCS). MCS is located at a distance around 9 km. from Panagarh Airbase. The nearest facility, GGS (GGS#4) is located at a distance around 3 km. from Panagarh Airbase, which is non-operational. We don't have any other major operation in proximity to Panagarh Airbase which could have any such impact.
IV.	As proposed, no forest land shall be used for the proposed facilities	No forest land is used for the proposed facilities.
V.	Ambient Air Quality shall be monitored near the closest human settlements as per the National Ambient Air Quality Emission Standards (NAAQES) issued by the Ministry vide G.S.R No. 826(E) dated 16 th November, 2009 for PM10, PM2.5, SO2, NOx, CO, CH4, VOCs, HC, Non-Methane HC etc. Efforts shall be made to improve the ambient air quality of the area.	Ambient Air Quality (AAQ) Monitoring being conducted by the NABL accredited laboratory at well sites near to the closest human settlements as per the Ambient Air Quality Standards (NAAQS) issued by the Ministry vide G.S.R No. 826(E) dated 16 th November, 2009 for PM10, PM2.5, SO2, NOX, CO, CH4, VOCs, HC, Non-methane HC. The summary of the report of AAQ monitoring for last six months i.e. Apr'24 to Sep'24 is enclosed in Annexure I . Efforts to improve the AAQ of the area is being implemented through green belt development, water sprinkling and proper maintenance.
VI.	Mercury shall also be analysed in air, water and drill cuttings twice during drilling period	Mercury is being analysed through authorized laboratory in produced water, ambient air and drill cuttings. The summary of analysis results of Ambient Air (refer to Annexure I), Produced Water (refer to Annexure II) and toxicology analysis of drill cuttings (refer to Annexure III) reveals that the mercury concentration observed at below detection limit (BDL).
VII.	The flare system shall be designed as per good oil field practices and Oil Industry Safety Directorate (OISD) guidelines. The company shall take necessary measures to prevent fire hazards and soil remediation as needed. At the place of ground flaring, the flare pit shall be lined with refractory bricks and efficient burning system. In case of overhead flare stacks, the stack height shall be provided as per the regulatory requirements and emission from stacks shall meet the MoEF/CPCB guidelines.	The overhead flaring system has been installed as per OISD Standards/Guidelines. The flare stack height is 30 m. for GGS and 50 m. for MCS. The measures delineated in the EIA/EMP are being maintained to prevent fire hazards. The following measures have been implemented.

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		<ul style="list-style-type: none"> • Installation of electrical equipment has been done as per the approved hazardous zone classification of DGMS. • Major facilities like GGS, MCS, Warehouse etc. are well equipped with Fire hydrant system. • Dry chemical fire extinguishers are available at site. • Online methane gas analysers (CH₄) and portable multi gas detectors are in place. • Flame proof type lighting fixtures, push buttons and switches are used at drill sites and facilities.
VIII.	The company shall make the arrangement for control of noise from the drilling activity, compressor station and DG sets by providing necessary mitigation measures such as proper acoustic enclosures to DG sets and meet the norms notified by the MoEF. Height of all the stacks/vents shall be as per the CPCB guidelines.	<p>DG sets, Gas Generator Sets are in used conforming to CPCB guidelines of acoustic enclosure and providing of adequate stack height.</p> <p>Schedule noise monitoring is carried out at nearby localities. The summary of results of noise monitoring enclosed in Annexure IV.</p>
IX.	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.	<p>Complied with.</p> <p>Drill cuttings (non-toxic) and drilling fluids (non-hazardous "Water Base Mud") are collected in HDPE lined pit at site. Then it is transferred to the treatment site, where it is stored in RCC pit for further treatment through Drilling Waste Processing Plant.</p> <p>After treatment, the solid waste, drill cuttings/dry cuttings is used for well pad development and internal roads.</p>
X.	Total fresh water requirement should not exceed 125m ³ for each well during drilling phase 1 m ³ /day for GGS/MCS. Prior permission shall be obtained from the Competent Authority and a copy submitted to the Ministry's Regional Office at Bhubaneswar	<p>RO treated produced water is recycled/ reused in project activities and operational purposes., therefore, no fresh water is used for drilling/project activities and operation.</p> <p>Ground water is used solely for potable purposes, based on approvals obtained from Ground Water Resource Development Authority/ State Water Investigation Directorate, Govt. of West Bengal. Please find enclosed herewith the copies of 6 permissions obtained in Annexure V.</p>
XI.	During well drilling, wastewater should be segregated into waste drilling fluid and drill cuttings. Drill cutting should be stored onsite impervious HDPE lined pit for solar evaporation and drying. Effluent should be properly treated and treated effluent should conform to CPCB standards. As proposed, produced water should be treated by reverse osmosis and reuse in drilling of new wells, fire hydrant system and other beneficial purposes. Domestic effluent should be disposed off through septic tank followed by soak pit.	<p>Drilling wastewater (non-hazardous) & drill cuttings (non-toxic) collected in onsite impervious HDPE lined pit. Then it is transferred to the treatment site, where it is stored in RCC pit for further treatment through Drilling Waste Processing Plant. The treated effluent conforming to the notified standard for onshore discharge (refer to Annexure VI) Pit residual is solar evaporated and dry.</p> <p>Produced water is treated through Reverse Osmosis (RO) System (capacity 8100 cu. m. per day) and reused for drilling of new wells, fire hydrant and other beneficial purposes. The summary of RO treated water analysis enclosed in Annexure VII.</p> <p>Domestic effluent is disposed of through septic tank to soak pit.</p>
XII.	Ground water quality monitoring should be done to assess if produced water storage or disposal has any effect.	The ground water quality monitoring report carried out during May'24 is enclosed in Annexure VIII . All the

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		monitoring parameters observed within the permissible limit.
XIII.	Drilling wastewater including drill cuttings, wash water shall be collected in disposal pit lined with HDPE lining, evaporated or treated and shall comply with the notified standards for on-shore disposal on land. Proper toxicological analysis shall be done to ensure there is no hazardous material. Copy of toxicological analysis shall be submitted to Ministry's Regional Office at Bhubaneswar.	<p>Drilling wastewater including drill cuttings, wash water is collected onsite impervious HDPE lined pit at site. Then it is transferred to the treatment site, where it is stored in RCC pit for further treatment through Drilling Waste Processing Plant. Treated effluent conforming to the notified standard for onshore discharge. Dry cuttings are used for well pad development and internal roads.</p> <p>The summary of toxicological analysis of drill cuttings/ Sludge enclosed in Annexure III reveals that all tested parameters are within the permissible limit.</p>
XIV.	Water base drilling mud or synthetic based mud shall be used	Only water base mud is used for drilling.
XV.	The company shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. At place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during operation.	<p>The necessary preventive measures have taken in place to prevent fire hazards, oil spill and soil remediation as follows.</p> <ul style="list-style-type: none"> • Installation of electrical equipment has been done as per the approved hazardous zone classification of DGMS. • Major facilities like GGS, MCS, Ware House etc. are well equipped with fire hydrant system • Dry chemical fire extinguishers are available at all well sites. • Fixed and Portable type multi gas detectors are in used for work zone monitoring. Detectable gases are, CH₄, O₂, CO, H₂S. • Flame proof type lighting fixtures, push buttons and switches are used at drill site and facilities. • Impervious lining, secondary containment and spill kits are ensured, whenever there is a possibility of soil contamination. <p>There is no ground flaring at site. The overhead flaring stack with knockout drums have been installed to minimize gaseous emissions during operation.</p>
XVI.	The company shall take necessary measures to prevent fire hazards and soil remediation as needed. The stacks of adequate height shall be provided to flare the gas, if required, to minimize gaseous emissions and heat load during flaring	<p>The necessary preventive measures have taken in place to prevent fire hazards and soil remediation as follows.</p> <ul style="list-style-type: none"> • Installation of electrical equipment has been done as per the approved hazardous zone classification of DGMS. • Major facilities like GGS, MCS, Warehouse etc. are well equipped with fire hydrant system • Dry chemical fire extinguishers are available at all well site. • Fixed and Portable type multi gas detectors are in used for work zone monitoring. Detectable gases are, CH₄, O₂, CO, H₂S. • Flame proof type lighting fixtures, push buttons and switches in the drill site facilities are used. • Impervious surface, secondary containment and spill kits are provided whenever there is a possibility of soil contamination.

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		The overhead flaring stack with adequate height of 30 m. for GGS and 50 m. for MCS are provided to flare the gas, if required to minimize gaseous emissions and heat load during flaring.
XVII.	To prevent underground coal fire, preventive measures shall be taken for ingress of ambient air during withdrawal inside the coal seams by adopting technologies including vacuum suction. Gas detectors for the detection of CH ₄ and H ₂ S shall be provided.	There is no chance of ingress of ambient air, as the well is arrested with drive head and operational through Progressive Cavity Pump. Fixed and Portable type multi gas detector is used for the detection of CH ₄ , H ₂ S, O ₂ and CO at Gas Gathering Station and production sites.
XVIII.	The design, material of construction, assembly, inspection, testing and safety aspects of operation and maintenance of pipeline and transporting the natural gas/oil shall be governed by ASME/ANSI B 31.8/B31.4 and OISD standard 141. Pipeline wall thickness and minimum depth of burial at river crossing and casings at rails, major road crossings should be in conformity with ANSI/ASME requirements.	All the surface facilities and pipelines have been designed and installed as per the ASME/ANSI B 31.8 and OISD Standards 141/226. The inspection, testing and safety aspects of operation and maintenance of pipeline and transporting the natural gas is being conducted as per PNGRB Guidelines and OISD Standards.
XIX.	The company shall develop a contingency plan for H ₂ S release including all necessary aspects from evacuation to resumption of normal operations. The workers shall be provided with personal H ₂ S detectors in locations of high risk of exposure along with self-containing breathing apparatus.	H ₂ S is not present as per the analysis of gas tapped from the wells. However, all the necessary safety measures are delineated as per the Emergency Response Plan (ERP). Multi Gas detector is used at drilling sites and production sites to check the presence of gases in the work zone. All workforce is ensured with the standard PPEs according to the job requirement. Self-Contained Breathing Apparatus is ensured as per the requirement.
XX.	Adequate well protection system shall be provided like Blow Out Preventer (BOP) or diverter systems as required based on the geological formation of the blocks.	CBM well hydrostatic pressures are normally less than 1.5 psi/m. However, considering the hydrostatic pressures and sensitivity of well, Blow Out Preventer or Diverter System adopted at the well head during drilling and workover. Apart from this, other well control measures are ensured with, such as proper pre-well planning and drilling fluid logging to maintain hydrostatic pressure.
XXI.	The top soil removed shall be stacked separately for reuse during restoration process.	The top soil is spreaded over the designated areas for green belt development at facilities/well pads.
XXII.	Emergency Response Plan shall be based on the guidelines prepared by OISD, DGMS and Govt. of India. Recommendations mentioned in the Risk Assessment & Consequence Analysis and Disaster Management Plan shall be strictly followed.	Petroleum & Natural Gas Regulatory Board (PNGRB) authorized agency 'SEVA' approved Emergency Response & Disaster Management Plan (ERDMP) is operational for the CBM project & activities of EOGEP. The approved ERDMP certificate vide Certificate No.: SEVA/DMP/27/23 enclosed in Annexure IX .
XXIII.	Project proponent shall comply with the environment protection measures and safeguards recommended in the EIA/EMP/risk analysis report/disaster management plan	Environmental protection measures and safeguards recommended in EMP / Risk Analysis / Disaster Management Plan are being implemented and maintained.
XXIV.	The company shall take measures after completion of drilling process by well plugging and secured enclosures, decommissioning of rig upon abandonment of the well and drilling site shall be restored in original condition. In the event that no economic quantity of hydrocarbon is found a full abandonment shall be implemented for the drilling site in accordance with the applicable Indian Petroleum Regulations.	Till now no such full abandonment is done for any of the drilling site, however standard practices as per OISD and Indian Petroleum Regulations are being followed for plugging and securing the drilled wells and it is taken into production process.
XXV.	Occupational health surveillance of the workers shall be carried out as per the prevailing Acts and Rules.	All employees have undergone pre-employment medical examination.

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		Periodical occupational health surveillance is conducted as per the approved schedule of Directorate- General of Mine Safety (DGMS). The Company conducted latest occupational health surveillance for 893 employees (including contractual workers) in October 2024.
XXVI.	Company shall adopt Corporate Environment Policy as per the Ministry's O.M.No.J-11013/41/2006-IA II(I) dated 26 th April, 2011 and implemented.	Environment Policy has been framed and being implemented & maintained.
XXVII.	All the commitments made to the public during the Public Hearing/Public Consultation meeting held on 24 th May, 2012 shall be satisfactorily implemented and a separate budget for implementing the same shall be allocated and information submitted to the Ministry's Regional Office at Bhubaneswar.	Commitments given in the public hearing being implemented satisfactorily in consultation with village Communities/Panchayet etc.
XXVIII.	At least 5% of the total cost of the project should be earmarked towards the enterprise social commitment and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Bhubaneswar. Implementation of such program shall be ensured accordingly in a time bound manner.	EOGEPL has been spending on the enterprise social commitment on various activities in accordance with applicable regulatory requirements and based on existing policies of the company and socio-economic requirement in and around the project area. EOGEPL has incurred an expenditure of INR 8.45 Crores till Mar 2024 and an additional expenditure amounting INR 11,44,137 (Annexure X) has been incurred during the period Apr-24 to Sep-24 judiciously towards enterprise social commitment with thrust areas like Health, Education, Cultural Event, Infrastructure Development etc. for the villages surrounding of the project area.
XXIX.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Compliance with: EOGEPL engage local labour for project activities. However, all the necessary infrastructure and facilities like porta- cabins, mobile toilets, septic tank & soak pit, safe drinking water, medical health care etc. are being provided.
B	General Conditions	
I.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government and any other statutory authority.	EOGEPL strictly adhere to the stipulations made by the State Pollution Control Board (SPCB), State Government and Statutory Authority always.
II.	No further expansion or modification in the project shall be carried out without prior approval of the Ministry of Environment & Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	At the outset it is pertinent to mention that in total EOGEPL has drilled only 445 wells till date and produces ~1 MMSCMD CBM gas, which is within the permitted limit of 650 wells and 5 MMSCMD CBM gas in the EC, respectively. Further, the SRO Report dated 23.09.2024 already records that while there were 12 additional wells which were allegedly drilled outside the EC area, however, they are present in the 7 sq.km. area for which Provisional Grant Order for Petroleum Mining Lease has already been received by EOGEPL on 10.05.2024. The SRO Report has noted that 5 wells have been drilled by EOGEPL beyond the area identified in the EC and the licensed area identified by the MoPNG. In this regard, it is stated that this unintended deviation of drilling these wells in contiguous area to the block boundary was done on the bona fide assumption that

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		<p>approval for this additional area was imminent and was subject to only technical formalities. Drilling of wells in this area was to obtain gas production from prolific pockets of the same reservoir in line with Article 11.2 of the CBM Contract executed with Government of India on 26.07.2002. Be that as it may, all of these 5 wells have already been shut and there are no operations as on date.</p> <p>It is also important to add that there is no additional pollution load by the action of the PP and there was a legitimate expectation given the fact that the MoPNG has granted allotment for 7 sq.km. and a further 16 sq.km. of unallocated land has also been secured by EOGEP through a competitive bidding conducted by Directorate General of Hydrocarbons, wherein the allotment letter is expected anytime. A copy of the repeated requests and recommendation letter is appended collectively as Annexure (Colly. A)</p> <p>Further, EOGEP has applied for the EC for the additional wells, which is at an advanced stage of being processed. It is informed that the Terms of Reference for the same were granted on 04.04.2024 and the Public Hearing has been conducted on 16.07.2024.</p> <p>As for all other wells involved in the project of EOGEP, the same have been utilized in terms of the earlier ECs obtained from time to time. Specifically, the EC dated 26.02.2013 granted by the MoEF&CC had allowed drilling of 32 wells in the additional area of 9.8 sq.km. beyond 180.5 Sq. km.</p>
III.	<p>The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 2000 as amended subsequently. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained, wherever applicable.</p>	<p>Compliance with.</p> <p>EOGEP complying with the directions/guidelines/approval of Oil Mines Regulations 2017, Oil Industry Safety Directorate, Directorate General of Mine Safety and Petroleum and Explosives Safety Organization for CBM operation.</p>
IV.	<p>The project authorities must strictly comply with the rules and regulation with regarding to handling and disposal of Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 wherever applicable. Authorization from the State Pollution Control Board must be obtained for collections/treatment/storage/ disposal of hazardous wastes.</p>	<p>Compliance with.</p> <p>According to the Rules, EOGEP obtained Hazardous Waste Authorization vide Memo No. – 190/2S(HW)-2449/2008, Date- 28/12/2023 (Annexure XI) and Annual Return is submitted to WBPCB within the schedule time frame (Annexure XII).</p>
V.	<p>The overall noise levels in and around the plant area shall be kept within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75dBA (daytime) and 70 dBA (night time)</p>	<p>Compliance with.</p> <p>Schedule noise monitoring is carried out at nearby localities. The summary of results of noise monitoring refer to Annexure IV.</p>
VI.	<p>A separate Environmental Management Cell equipped with full-fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.</p>	<p>A dedicated Environment Management Cell is functional for implementing the environment management plan at large.</p> <p>We conduct environmental monitoring through M/s Scientific Research laboratory, Kolkata (MoEF&CC recognized and NABL accredited laboratory).</p>

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VII.	As proposed, Rs.2.80 Crore earmarked for environment pollution control measures shall be used to implement the conditions	Complied with. The expenditure amounting INR 88,20,891 has been spent towards environment pollution control measures for the period Apr'24 to Sep'24 enclosed in Annexure XIII . Till date, EOGEP has spent INR 15.93 Crs. On CAPEX and ~ INR 43.21 Crs. on OPEX towards the same.
VIII.	The Regional Office of this Ministry/Central Pollution Control Board/State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	Six-monthly compliance report along with annexures is submitted on regular basis, last submitted on 18.05.2024.
IX.	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/ Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.	Complied with. Please note that, EOGEP received the extension of the EC- Phase III on 14.08.2023 and the same, along with the original EC, was intimated to 5 Panchayats (in the CBM Block area) on 21.08.2023. Copies of the letters are enclosed in Annexure XIV .
X.	The project proponent shall upload the status of compliance for the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF, the respective Zonal Office of CPCB and the WBPCB. The criteria pollutant levels namely; PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , HC (Methane & Non-methane), VOCs (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	The compliance report of environment clearance conditions including results of monitoring data is uploaded on EOGEP website periodically and send it to the Sub-Office of MOEF&CC and WBPCB at regular intervals. The screenshot of portal uploading enclosed in Annexure XV . The ambient air quality monitoring is carried out as per the National Ambient Air Quality Standards (NAAQS) issued by CPCB vide G.S.R No. 826(E) dated 16th November, 2009. The criteria pollutant levels namely; PM _{2.5} , SO ₂ , NO _x , HC (Methane & Non-methane), VOCs (ambient levels as well as stack emissions) are monitored schedule wise and displayed at the main gate of main Office adjacent to MCS and warehouse also. The display board of environmental information refers to Annexure XVI .
XI.	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEF, the respective Zonal Office of CPCB and the WBPCB. The Regional Office of this Ministry/CPCB/WBPCB shall monitor the stipulated conditions.	The six-monthly report on the status of the compliance of the stipulated environmental conditions including results of environmental monitored data is submitted through e-mail to the Sub-Office Kolkata, MoEF&CC and hard copy is submitted to Durgapur Regional Office, WBPCB schedule wise. (Refer Annexure XVII)
XII.	The environmental statement for each financial year ending 31 st March in Form-V as is mandated to be submitted by the project proponent 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 conditions and shall also be sent to the respective Regional Offices of the MoEF by e-mail	The Environmental Statement in Form-V (FY 2023-24) is submitted to the Durgapur Regional Office, West Bengal Pollution Control Board in hard copy. The scan copy of the receiving enclosed in Annexure XVIII . The said Form V has also been uploaded in the portal of EOGEP. The screenshot of the portal enclosed in Annexure XIX . Apart from that the last Form V (FY 2023-24) also been submitted to Sub-office Kolkata, MoEF&CC by e-mailing of the soft copy on 06.09.2024. The screenshot of the same enclosed in Annexure XX .
XIII.	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	Complied with.

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	available with the WBPCB and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.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 Regional Office.	
XIV.	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 commencing the land development work.	Complied with.
8.	The Ministry may revoke or suspend the clearance .if implementation of any of the above condition is not satisfactory	Noted.
9.	The ministry reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner shall implement these conditions.	Noted.
10.	The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act,1981, the Environment (Protection) Act.1986, Hazardous Waste (Management, Handling and Trans-Boundary Movement) Rules, 2008 and the Public Liability Insurance Act ,1991 along with their amendments and rules.	Noted.
Ref.: Amendment of EC vide F. No. J-11011/491/2011-IA II (I) dated 27th November, 2017		
2	The Ministry had earlier issued environmental clearance for development & Production Wells along with Surface Facilities, Phase-III of CBM Block RG (E)-CBM-2001/1, Raniganj CBM Block, West Bengal in favour of M/s Essar Oil Limited (E&P Division) vide letter dated 26 th February, 2013.	Noted.
3	M/s Essar Oil Limited has demerged its Exploration and Production (E&P) Division, which has now been transferred to a newly created wholly owned subsidiary namely M/s Essar Oil and Gas Exploration and Production Ltd (EOGEPL) and thus necessitating transfer of all requisite approvals in the name of new company.	Complied with.
4	M/s Essar Oil Limited has given 'No Objection Certificate' for transfer of environmental clearance granted vide letter dated 26th February, 2013 in the name of M/s Essar Oil and Gas Exploration and Production Limited.	Noted.
5	M/s Essar Oil and Gas Exploration and Production Limited has submitted an affidavit to abide by the terms and conditions stipulated in the environment clearance dated 26th February, 2013 issued in the name of M/s Essar Oil Limited (E&P Division).	Noted.
6	As per the relevant provisions of the EIA Notification, 2006, the environmental clearance to the project 'Development & Production Wells along with Surface Facilities, Phase-III of CBM Block RG(E)-CBM-2001/1, Raniganj CBM Block; West Bengal granted by the Ministry vide letter No. J-11011/491/2011-IA-II dated 26 th February, 2013 is hereby transferred from M/s Essar Oil Limited (E&P Division) to M/s Essar Oil and Gas Exploration and Production Limited, on the same terms and conditions under which prior environmental clearance was initially granted and for the same validity period.	Noted.
7	This issues with the prior approval of the Competent Authority.	Noted.

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Ref.: Amendment of EC vide F. No. J-11011/491/2011-IA-II (I) dated 9th May ,2019														
2	<p>The proposal has been submitted for extension of validity of the said environmental clearance for a period of 3 years, and also amendment therein, with the details as under: -</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">S. No</th> <th style="text-align: center;">Para of EC</th> <th style="text-align: center;">Details as per the EC</th> <th style="text-align: center;">To be revised/read as</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2 (i)</td> <td>Total no. of wells- 650 nos.</td> <td>Out of total 650 wells. 20 wells proposed for exploration of shale gas</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">2 (i)</td> <td>With the target depth of ~ 2000 m</td> <td>With the target depth of ~ 2000 m of CBM 1 wells and ~3000 m of Shale Gas Well</td> </tr> </tbody> </table>	S. No	Para of EC	Details as per the EC	To be revised/read as	1	2 (i)	Total no. of wells- 650 nos.	Out of total 650 wells. 20 wells proposed for exploration of shale gas	2	2 (i)	With the target depth of ~ 2000 m	With the target depth of ~ 2000 m of CBM 1 wells and ~3000 m of Shale Gas Well	Noted.
S. No	Para of EC	Details as per the EC	To be revised/read as											
1	2 (i)	Total no. of wells- 650 nos.	Out of total 650 wells. 20 wells proposed for exploration of shale gas											
2	2 (i)	With the target depth of ~ 2000 m	With the target depth of ~ 2000 m of CBM 1 wells and ~3000 m of Shale Gas Well											
3	The proposal was considered by the Expert Appraisal Committee (Industry-2) in the Ministry in its meeting held on 29-31 January, 2019. The Committee has recommended for the proposed amendment as above, and also extension of validity of the environmental clearance for a period of three years i.e. up to 26 th February, 2023.	Noted.												
4	Based on recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords approval to the proposed amendment in the environmental clearance dated 26 th February, 2013, and extension of its validity for a period of three years i.e. up to 26 th February, 2023.	Noted.												
5	All other terms and conditions stipulated in the environmental clearance dated 26 th February, 2013 shall remain unchanged.	Noted.												
Ref.: Amendment of EC vide F. No. IA- J-11011/491/2011-IA-II(I) dated 14th August, 2023														
2	The Ministry of Environment, Forest and climate change has considered the above proposal for amendment in the environmental clearance granted by the Ministry vide F. No. J-11011/491/2011-IA-II(I) dated 26 th February, 2013 for the project titled "Development & Production Wells along with Surface Facilities, Phase- III of CBM Block RG (E)-CBM-2001/1 located at Raniganj CBM Block, Durgapur, West Bengal by M/s Essar Oil and Gas Exploration and Production Limited". The project was given extension vide letter dated F. No. J-11011/491/2011-IA-II(I) dated 9 th May, 2019 for three years which was valid up to 26 th February, 2023.	Noted												
3	The Project proponent requested to amendment for extension in the validity of EC with the details is as under.	Noted.												

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S. No	Para of EC issued by MoEF&CC	Details as per the EC	To be revised/re ad as	Justification /Reason
01	Para-4 of EC vide F. No. J11011/491/2011-IA-II(I) dated 9 th May, 2019	Based on the recommendation of the EAC, the Ministry of Environment, Forest and climate Change hereby accords approval to the proposed amendment in the environment clearance dated 26 th February, 2013, and extension of its validity for a period of 3 years i.e. up to 26 th February, 2023.	Extension of validity of the Environment Clearance (EC) vide F. No. J-11011/491/2011-IA-II(I) dated 9 th May, 2019 for a period of 01 year i.e. up to 25 th February, 2024, under the notification-S.O. 1807 (E), dated 12 th April 2022 of the Ministry.	<p>Lagging Indicator:</p> <p>EOGEPL has drilled only 193 CBM wells out of the planned 630 CBM wells under phase III development.</p> <p>Drilling campaign was temporarily stopped in 2017, due to delay in pipeline connectivity posing a significant constrain to evacuate the CBM gas produced.</p> <p>The pipeline commissioning timeliness further got extended due the pandemic situation created by COVID 19 Coronavirus and the nation-wide lockdown.</p> <p>Non availability of the evacuation pipeline and the pandemic has badly affected our operations and delayed the planned development activities</p> <p>Leading Indicator:</p> <p>Urja Ganga Pipeline (UGPL) was commissioned and connectivity to our CBM block was established.</p> <p>Connectivity with the national gas grid has ensured seamless evacuation of the entire CBM gas Produced from the block since June 2021.</p> <p>EOGEPL is now geared up to commence major developmental activities to enhance gas production</p>

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					<p>from the Raniganj CBM block.</p> <p>ML valid till May, 2032.</p> <p>CBM contract valid till May, 2041.</p>	
4	<p>During deliberations, EAC discussed following issues:</p> <ul style="list-style-type: none"> EAC noted that the extension has been already been given to the project vide letter dated F. No. J-11011/491/2011-IA-II (I) dated 9th May, 2019 which was valid up to 26th February, 2023. 					Noted.
5.	<p>After detailed deliberations EAC found the justification for amendment sought satisfactory and recommended for extension of EC till 25th February, 2024 as proposed by the project proponent with the following Additional condition:</p> <ol style="list-style-type: none"> PP shall sensitize and create awareness among the people working within the project area as well as its surrounding area on the ban of Single Use Plastic in order to ensure the compliance of Notification published by MOEFCC on 12th August.2021. A report along with photographs on the measures taken shall also be included in the six-monthly compliance report being submitted to concerned authority. 					EOGEPL conducted the awareness campaign "Ban of Single Use Plastic" for the last six months, i.e. Apr-24 to Sep-24 refers to <u>Annexure XXI</u> .
6	<p>Based on recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords approval to the proposed amendment for extension in the validity of environmental clearance dated 26th February, 2013 as stated above, for the project Development and Production Wells along with Surface Facilities Phase - III of CBM Block RG (East) - CBM- 2001/1, Raniganj CBM Block, West Bengal by M/s. Essar Oil and Gas Exploration and Production Ltd.</p>					Noted.
7	<p>Upon examination in the Ministry, it is concluded that as per S.O. 1807 (E), dated 12th April 2022, the validity of EC of instant project shall be 10 years and as per SO 221 (E) dated 18.01.2021 the period from the 1st April, 2020 to the 31st March, 2021 shall not be considered for the purpose of calculation of the period of validity of EC granted under the provisions of this notification in view of outbreak of Corona Virus (COVID-19) and subsequent lockdowns. Hence the validity of EC is till 25th February, 2024. Further, as per S.O. 1807 (E), dated 12th April 2022 the validity of EC can be extended for one more year. As per request for extension made by PP and recommendation of EAC, the validity of EC shall be till 25th February, 2025. However, all other terms and conditions mentioned in EC issued vide. F No. J-11011/491/2011-IA-II (I) dated 26th February, 2013 shall remain unchanged.</p>					Noted.
8	<p>This issues with approval of the competent authority.</p>					Noted.

Essar Oil and Gas Exploration and Production Limited
RG (East)-CBM-2001/1 (Phase-III) Six-monthly Environment Clearance Progressive Compliance Report
(Apr'24 to Sep'24)

Ref: Environmental Clearance F. No. J-11011/491/2011-IA II (I), dated 26th February 2013 and its amendment dated 27th November, 2017, 9th May, 2019 & 14th August, 2023.

ANNEXURE I

Name of Location		MCS										GGS-01				
		Month														
		Parameter	UoM	NAAQS LIMIT	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24
PM _{2.5}	µg/m ³	60	39.68	34.54	36.25	29.61	25.94	31.58	40.62	32.78	33.86	34.51	26.70	24.17		
PM ₁₀	µg/m ³	100	70.37	76.62	71.55	59.43	57.84	62.38	79.81	67.64	64.69	70.20	56.16	56.17		
Nitrogen Dioxide	µg/m ³	80	32.53	32.23	32.08	29.42	27.96	28.18	32.38	33.07	32.50	32.06	29.62	29.28		
Sulphur Dioxide	µg/m ³	80	4.38	4.34	4.52	4.23	4.12	4.03	4.44	4.26	4.19	4.52	4.41	4.05		
Carbon Monoxide	mg/m ³	2	0.456	0.432	0.468	0.408	0.386	0.398	0.482	0.404	0.480	0.448	0.396	0.412		
Hydrocarbon	mg/m ³	NIL	1.73	1.66	1.95	1.42	1.46	1.64	1.90	1.47	1.81	1.95	1.38	1.52		
Mercury	mg/m ³	NIL		< 0.002			< 0.002			< 0.002			< 0.002			
Hydrocarbon as Non Methane	mg/m ³	NIL	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003		
VOC's	µg/m ³	NIL		3.37			2.44						2.38			
Benzo(a)Pyrene	ng/m ³	1		0.46			0.20						0.10			
Ammonia	µg/m ³	400		31.78			24.02						23.48			
Ozone	µg/m ³	180		37.96			28.29						27.33			
Lead	µg/m ³	1		0.09			0.06						0.05			
Nickel	ng/m ³	20		10.28			6.33						5.95			
Arsenic	ng/m ³	6		1.68			1.24						1.15			
Benzene	µg/m ³	5		1.83			1.32						1.24			

Name of Location			GGs-02							PARULIA				
			Month		Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Apr-24	May-24	Jun-24	Jul-24
Parameter	UoM	NAAQS LIMIT												
PM _{2.5}	µg/m ³	60	47.92	32.49	41.67	30.83	37.04	30.98	49.62	41.68	41.67	26.78	26.27	35.87
PM ₁₀	µg/m ³	100	83.24	71.70	84.27	62.94	73.50	68.51	84.42	83.15	83.01	50.78	56.59	70.82
Nitrogen Dioxide	µg/m ³	80	31.68	32.08	33.86	28.46	29.74	29.57	33.77	33.15	32.84	26.34	27.54	29.69
Sulphur Dioxide	µg/m ³	80	4.61	4.45	4.28	4.24	4.51	4.29	4.73	4.64	4.63	4.07	4.18	4.50
Carbon Monoxide	mg/m ³	2	0.478	0.426	0.472	0.408	0.394	0.410	0.482	0.420	0.458	0.404	0.394	0.408
Hydrocarbon	mg/m ³	NIL	2.06	1.49	2.37	1.74	1.93	1.72	2.47	1.72	2.21	1.24	1.42	1.76
Mercury	mg/m ³	NIL		< 0.002			< 0.002			< 0.002			< 0.002	
Hydrocarbon as Non Methane	mg/m ³	NIL	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
VOC's	µg/m ³	NIL		3.20			2.78			3.56			2.41	
Benzo(a)Pyrene	ng/m ³	1		0.40			0.31			0.52			0.10	
Ammonia	µg/m ³	400		30.27			28.47			33.14			23.79	
Ozone	µg/m ³	180		36.19			34.52			39.88			27.97	
Lead	µg/m ³	1		0.08			0.11			0.11			0.06	
Nickel	ng/m ³	20		9.08			11.38			12.34			6.17	
Arsenic	ng/m ³	6		1.50			1.58			1.78			1.16	
Benzene	µg/m ³	5		1.71			1.67			1.89			1.28	

Name of Location			SARASWATIGUNJ												PRATPPUR				
			Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24					
Parameter	UoM	NAAQS LIMIT	Month																
			PM _{2.5}	µg/m ³	60	46.06	34.25	29.20	31.22	27.48	25.38	35.42	31.69	32.65	30.92	31.89	29.58		
PM ₁₀	µg/m ³	100	73.30	75.46	61.98	60.48	58.98	55.16	69.10	63.93	68.82	57.37	68.73	59.29					
Nitrogen Dioxide	µg/m ³	80	32.13	31.21	30.76	29.44	27.39	27.76	33.50	32.76	32.61	28.93	30.33	29.70					
Sulphur Dioxide	µg/m ³	80	4.45	4.28	4.40	4.11	4.15	4.13	4.21	4.49	4.47	4.00	4.37	4.28					
Carbon Monoxide	mg/m ³	2	0.468	0.430	0.422	0.398	0.386	0.412	0.482	0.410	0.476	0.418	0.408	0.424					
Hydrocarbon	mg/m ³	NIL	1.82	1.59	1.78	1.45	1.53	1.45	1.79	1.33	1.89	1.34	1.84	1.55					
Mercury	mg/m ³	NIL	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002					
Hydrocarbon as Non Methane	mg/m ³	NIL	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003					
VOC's	µg/m ³	NIL		3.34			2.48			3.07			2.73						
Benzo(a)Pyrene	ng/m ³	1		0.45			0.20			0.30			0.27						
Ammonia	µg/m ³	400		31.18			24.67			28.14			26.72						
Ozone	µg/m ³	180		37.44			28.94			33.07			31.37						
Lead	µg/m ³	1		0.09			0.08			0.07			0.10						
Nickel	ng/m ³	20		9.83			8.57			7.53			10.08						
Arsenic	ng/m ³	6		1.62			1.27			1.37			1.48						
Benzene	µg/m ³	5		1.80			1.35			1.54			1.59						

Name of Location		BANSIA						AKANDARA	JAMGORA					
		Apr-24	May-24	Jun-24	Jul-24	Sep-24	Aug-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	
Parameter	UoM	NAAQS LIMIT												
PM _{2.5}	µg/m ³	42.59	39.17	40.83	32.50	26.25	29.17	42.92	31.81	39.85	32.41	33.73	28.28	
PM ₁₀	µg/m ³	84.80	76.80	80.65	66.41	52.87	60.20	74.51	62.24	78.24	61.68	70.47	52.22	
Nitrogen Dioxide	µg/m ³	32.91	32.17	32.35	28.26	28.03	29.32	34.12	32.28	32.77	28.27	29.32	29.95	
Sulphur Dioxide	µg/m ³	4.49	4.39	4.29	4.17	4.17	4.06	4.35	4.70	4.47	4.09	4.68	4.62	
Carbon Monoxide	mg/m ³	0.476	0.418	0.462	0.416	0.416	0.398	0.474	0.422	0.468	0.396	0.418	0.418	
Hydrocarbon	mg/m ³	1.99	1.60	2.16	1.57	1.41	1.63	1.85	1.29	2.07	1.48	1.87	1.38	
Mercury	mg/m ³		< 0.002				< 0.002		< 0.002			< 0.002		
Hydrocarbon as Non Methane	mg/m ³	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	
VOC's	µg/m ³		3.28				2.56		2.96			2.70		
Benzo(a)Pyrene	ng/m ³		0.45				0.21		0.28			0.29		
Ammonia	µg/m ³		31.95				22.68		27.86			27.83		
Ozone	µg/m ³		38.28				28.94		32.59			32.81		
Lead	µg/m ³		0.09				0.08		0.06			0.10		
Nickel	ng/m ³		10.08				8.89		7.18			10.74		
Arsenic	ng/m ³		1.59				1.35		1.31			1.53		
Benzene	µg/m ³		1.77				1.43		1.48			1.62		

Name of Location		KULDIHA						JATGORIA					
		Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24
Parameter	UoM	Month											
		Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24
PM _{2.5}	µg/m ³	48.41	34.23	31.67	25.79	24.23	29.35	43.10	31.53	32.49	26.94	31.36	37.08
PM ₁₀	µg/m ³	81.54	78.48	64.50	58.42	53.09	59.45	88.92	60.79	66.40	57.34	68.46	76.08
Nitrogen Dioxide	µg/m ³	32.45	32.45	30.60	28.14	28.56	27.59	32.52	32.56	30.77	27.54	29.77	27.20
Sulphur Dioxide	µg/m ³	4.72	4.72	4.64	4.11	4.12	4.02	4.24	4.25	4.44	4.21	4.25	4.16
Carbon Monoxide	mg/m ³	0.474	0.422	0.438	0.402	0.398	0.408	0.484	0.416	0.438	0.412	0.398	0.408
Hydrocarbon	mg/m ³	1.96	1.68	1.83	1.37	1.32	1.58	2.31	1.18	1.87	1.31	1.80	1.83
Mercury	mg/m ³	< 0.002	< 0.002			< 0.002			< 0.002			< 0.002	
Hydrocarbon as Non Methane	mg/m ³	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
VOC's	µg/m ³		3.41			2.25			2.85			2.65	
Benzo(a)Pyrene	ng/m ³		0.46			0.10			0.25			0.26	
Ammonia	µg/m ³		32.35			23.07			27.38			27.11	
Ozone	µg/m ³		38.77			26.75			31.75			33.09	
Lead	µg/m ³		0.10			0.05			0.06			0.10	
Nickel	ng/m ³		10.73			5.34			6.78			10.29	
Arsenic	ng/m ³		1.69			1.02			1.15			1.44	
Benzene	µg/m ³		1.85			1.13			1.37			1.57	

Name of Location			Gopalpur Warehouse												KANTABERIA					
Parameter	UoM	NAAQS LIMIT	Month																	
			Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24
PM _{2.5}	µg/m ³	60	43.28	33.60	37.92	32.15	30.20	32.59	47.10	30.03	35.49	33.61	30.43	32.92						
PM ₁₀	µg/m ³	100	92.19	74.01	79.91	63.44	63.14	72.17	86.61	65.36	69.82	73.56	61.88	79.10						
Nitrogen Dioxide	µg/m ³	80	32.03	32.03	31.68	27.89	28.25	28.30	32.93	33.70	32.09	32.81	28.55	28.04						
Sulphur Dioxide	µg/m ³	80	4.44	4.44	4.28	4.11	4.05	4.17	4.24	4.23	4.36	4.55	4.06	4.06						
Carbon Monoxide	mg/m ³	2	0.472	0.418	0.462	0.424	0.402	0.406	0.476	0.412	0.442	0.436	0.394	0.402						
Hydrocarbon	mg/m ³	NIL	2.19	1.54	2.12	1.53	1.74	1.80	2.38	1.41	1.90	2.04	1.67	1.89						
Mercury	mg/m ³	NIL	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002						
Hydrocarbon as Non Methane	mg/m ³	NIL	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003						
VOC's	µg/m ³	NIL		3.23			2.59			3.08			2.60							
Benzo(a)Pyrene	ng/m ³	1		0.43			0.24			0.33			0.23							
Ammonia	µg/m ³	400		30.49			25.23			28.38			25.08							
Ozone	µg/m ³	180		37.23			30.14			34.18			29.42							
Lead	µg/m ³	1		0.09			0.09			0.07			0.09							
Nickel	ng/m ³	20		9.37			9.48			8.02			9.12							
Arsenic	ng/m ³	6		1.57			1.44			1.42			1.39							
Benzene	µg/m ³	5		1.75			1.51			1.60			1.48							

Name of Location			NACHAN						SARENGA					
			Month	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24
Parameter	UoM	NAAQS LIMIT												
PM _{2.5}	µg/m ³	60	43.64	31.04	34.01	34.19	31.73	26.69	40.83	33.78	40.52	29.78	23.33	23.45
PM ₁₀	µg/m ³	100	81.40	69.12	70.53	75.58	68.31	55.42	76.94	75.82	77.19	57.02	56.14	55.51
Nitrogen Dioxide	µg/m ³	80	32.32	34.34	31.94	32.22	29.29	29.61	32.74	33.31	33.12	27.73	29.05	29.13
Sulphur Dioxide	µg/m ³	80	4.71	4.38	4.65	4.69	4.52	4.64	4.30	4.38	4.22	4.20	4.29	4.30
Carbon Monoxide	mg/m ³	2	0.478	0.408	0.474	0.43	0.424	0.434	0.478	0.416	0.468	0.422	0.392	0.408
Hydrocarbon	mg/m ³	NIL	1.94	1.51	1.93	2.10	1.77	1.47	1.88	1.56	2.03	1.29	1.35	1.38
Mercury	mg/m ³	NIL	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Hydrocarbon as Non Methane	mg/m ³	NIL	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
VOC's	µg/m ³	NIL		3.18			2.62			3.25			2.24	
Benzo(a)Pyrene	ng/m ³	1		0.38			0.25			0.41			0.10	
Ammonia	µg/m ³	400		29.71			26.34			31.43			23.35	
Ozone	µg/m ³	180		35.28			30.52			37.89			27.19	
Lead	µg/m ³	1		0.07			0.10			0.09			0.05	
Nickel	ng/m ³	20		8.98			9.92			9.97			5.88	
Arsenic	ng/m ³	6		1.46			1.42			1.60			1.08	
Benzene	µg/m ³	5		1.69			1.54			1.73			1.70	

Name of Location		LABNAPARA						
Parameter	UoM	NAAQS LIMIT	Month					
			Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24
PM _{2.5}	µg/m ³	60	44.27	42.92	37.29	28.69	28.75	30.02
PM ₁₀	µg/m ³	100	77.34	80.36	74.10	69.49	59.56	61.74
Nitrogen Dioxide	µg/m ³	80	31.83	31.09	32.48	31.84	27.20	29.90
Sulphur Dioxide	µg/m ³	80	4.37	4.52	4.24	4.56	4.16	4.53
Carbon Monoxide	mg/m ³	2	0.488	0.426	0.472	0.436	0.398	0.404
Hydrocarbon	mg/m ³	NIL	1.91	1.67	1.97	1.88	1.58	1.61
Mercury	mg/m ³	NIL		< 0.002			< 0.002	
Hydrocarbon as Non Methane	mg/m ³	NIL	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
VOC's	µg/m ³	NIL		3.39			2.49	
Benzo(a)Pyrene	ng/m ³	1		0.05			0.20	
Ammonia	µg/m ³	400		32.89			23.95	
Ozone	µg/m ³	180		39.41			29.18	
Lead	µg/m ³	1		0.10			0.08	
Nickel	ng/m ³	20		11.24			8.71	
Arsenic	ng/m ³	6		1.69			1.25	
Benzene	µg/m ³	5		1.87			1.38	

ANNEXURE II

S. No.	Parameter	Unit	Onshore Discharge Standards	MONTH						
				EDI-71-D5 (MALANDIGHI)	EDI-71-D2 (MALANDIGHI)	EDI-123 -D2 (HARKI)	EDI-115-V1 (SARASWATIG UNJ)	EDI-39-D3 (SARASWATIG UNJ)	EDI-47-D1 (AKANDARA)	
1	pH		5.5-9.0	8.35	8.4	7.98	8.38	8.51	8.42	
2	Temperature	deg. C	40 deg. C	35.9°C	35.7°C	36.8°C	38.7°C	39.1°C	37.5°C	
3	Suspended Solids	mg/l	100	32.00	4.00	4.00	4.00	2.00	19.00	
4	Total Dissolved Solids	mg/l	2100	11692	13920	10520	1426	4880	9264	
5	Chlorides	mg/l	600	6125	7270	5342	568	1780	4715	
6	Sulphates	mg/l	1000	10.3	11.8	8.7	7.6	9	10.2	
7	BOD, 3 Days at 27°C	mg/l	30	2	2.0	3.0	<2	<2	<2	
8	COD	mg/l	100	10	9	12	<8	<8	<8	
9	Oil & Grease	mg/l	10	<5.0	<5.0	<5	<5	<5	<5	
10	Phenolic Compounds	mg/l	1.2	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
11	Sulphides	mg/l	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
12	Fluorides	mg/l	1.5	0.97	1.08	0.83	0.68	0.89	1.3	
13	Chromium (Total)	mg/l	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
14	Zinc	mg/l	0.1	0.018	0.023	0.016	0.015	0.02	0.024	
15	Copper	mg/l	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
16	Nickel	mg/l	3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
17	Lead	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL	
18	Mercury	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
19	Cyanide	mg/l	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
20	Chromium (Cr +6)	mg/l	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
21	% Sodium	mg/l	60	91.9	95.4	92.5	94.7	97.8	96	

S. No.	Parameter	Unit	Onshore Discharge Standards	MONTH						
				Apr-24						
				EDI-47-D2 (AKANDARA)	EDI-47-D4 (AKANDARA)	EDI-47-D5 (AKANDARA)	EDI-45-D2 (AKANDARA)	EDD-23-D2 (GOPEDANGA)	EDD-23-D4 (GOPEDANGA)	
1	pH		5.5-9.0	8.42	8.49	8.37	8.48	8.59	8.55	
2	Temperature	deg. C	40 deg. C	34.6°C	35.2°C	35.2°C	37.9°C	38.7°C	37.6°C	
3	Suspended Solids	mg/l	100	22.00	14.00	37.00	15.00	10.00	8.00	
4	Total Dissolved Solids	mg/l	2100	9198	2912	8060	8192	1780	2274	
5	Chlorides	mg/l	600	4925	1210	3975	4236	124	175	
6	Sulphates	mg/l	1000	8.8	6.3	7.9	9.1	5.3	6	
7	BOD, 3 Days at 27°C	mg/l	30	<2	<2	<2	<2	3.0	4.0	
8	COD	mg/l	100	10	8	9	8	14	17	
9	Oil & Grease	mg/l	10	<5	<5	<5	<5	<5	<5	
10	Phenolic Compounds	mg/l	1.2	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
11	Sulphides	mg/l	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
12	Fluorides	mg/l	1.5	0.89	0.53	0.94	0.75	0.55	0.39	
13	Chromium (Total)	mg/l	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
14	Zinc	mg/l	0.1	0.017	0.014	0.021	0.018	0.014	0.017	
15	Copper	mg/l	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
16	Nickel	mg/l	3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
17	Lead	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL	
18	Mercury	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
19	Cyanide	mg/l	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
20	Chromium (Cr +6)	mg/l	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
21	% Sodium	mg/l	60	94.6	88.1	95.7	95.5	96.9	97.1	

S. No.	Parameter	Unit	Onshore Discharge Standards	MONTH							
				EDH-35-D5 (AKANDARA)	EDH-33-D10 (LABNAPARA)	EDD-52-D6 (PRATAPPUR)	EDD-08-D5 (JAMBON)	EDD-11-D4 (BANGORIA)	EDD-423-D1 (KALIKAPUR)		
1	pH		5.5-9.0	7.91	8.38	8.45	8.51	8.47	8.55		
2	Temperature	deg. C	40 deg. C	36.2°C	36.2°C	37.8°C	34.3°C	36.3°C	36.0°C		
3	Suspended Solids	mg/l	100	14	8	5	15	3	4		
4	Total Dissolved Solids	mg/l	2100	3948	3486	2672	2824	1728	3262		
5	Chlorides	mg/l	600	1590	710	410	672	112	370		
6	Sulphates	mg/l	1000	8.9	6.7	5.8	7.3	8.8	9.4		
7	BOD, 3 Days at 27°C	mg/l	30	5	4	2	<2	<2	<2		
8	COD	mg/l	100	22.0	16.0	9.0	8.0	8.0	<8		
9	Oil & Grease	mg/l	10	<5.0	<5.0	<5	<5	<5	<5		
10	Phenolic Compounds	mg/l	1.2	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
11	Sulphides	mg/l	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
12	Fluorides	mg/l	1.5	0.97	0.82	1.06	0.84	0.35	0.90		
13	Chromium (Total)	mg/l	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
14	Zinc	mg/l	0.1	0.016	0.014	0.022	0.017	0.012	0.024		
15	Copper	mg/l	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
16	Nickel	mg/l	3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
17	Lead	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL		
18	Mercury	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
19	Cyanide	mg/l	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		
20	Chromium (Cr +6)	mg/l	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
21	% Sodium	mg/l	60	84.6	92.6	95.3	97.4	96.9	98.6		

S. No.	Parameter	Unit	Onshore Discharge Standards	MONTH						
				May-24						
				EDD-423-D2 (KALIKAPUR)	EDD-245-V1 (NACHAN)	EDD-242-D1 (NACHAN)	EDG-074 -D7 (PARULIA)	EDN-166-D7 (VALUKANDA)	EDN-166-D6 (VALUKANDA)	
1	pH		5.5-9.0	8.50	8.37	8.45	8.49	7.78	7.86	
2	Temperature	deg. C	40 deg. C	34.5°C	36.2°C	35.8°C	35.8°C	34.6°C	34.1°C	
3	Suspended Solids	mg/l	100	7	5	21	<2	24	37	
4	Total Dissolved Solids	mg/l	2100	2110	3126	2650	2614	3672	4276	
5	Chlorides	mg/l	600	230	608	460	565	1580	2140	
6	Sulphates	mg/l	1000	8.1	9.2	6.3	7.5	8.1	10.2	
7	BOD, 3 Days at 27°C	mg/l	30	2	<2	2	<2	17	19	
8	COD	mg/l	100	9.0	8.0	10.0	<8	58.0	65.0	
9	Oil & Grease	mg/l	10	<5	<5	<5	<5	<5	<5	
10	Phenolic Compounds	mg/l	1.2	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
11	Sulphides	mg/l	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
12	Fluorides	mg/l	1.5	0.54	0.69	0.48	0.95	1.06	1.42	
13	Chromium (Total)	mg/l	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
14	Zinc	mg/l	0.1	0.025	0.018	0.014	0.014	0.019	0.021	
15	Copper	mg/l	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
16	Nickel	mg/l	3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
17	Lead	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL	
18	Mercury	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
19	Cyanide	mg/l	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
20	Chromium (Cr +6)	mg/l	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
21	% Sodium	mg/l	60	97.8	97.7	98.1	98.3	64.2	66.8	

S. No.	Parameter	Unit	Onshore Discharge Standards	MONTH						
				EDD-364-V1 (GOPEDANGA)	EDD-364-D2 (GOPEDANGA)	EDD-364-D3 (GOPEDANGA)	EDD-364-D4 (GOPEDANGA)	EDD-304-D2 (JATGORIA)	EDD-304-D1 (JATGORIA)	
1	pH		5.5-9.0	8.55	8.47	8.49	8.52	8.39	8.35	
2	Temperature	deg. C	40 deg. C	38.3°C	38.7°C	38.5°C	38.1°C	33.4°C	34.5°C	
3	Suspended Solids	mg/l	100	3	<2	<2	4	115	81	
4	Total Dissolved Solids	mg/l	2100	2344	2094	1922	2148	2988	3604	
5	Chlorides	mg/l	600	225	185	170	310	745	1080	
6	Sulphates	mg/l	1000	7.4	5.9	4.6	7.9	9.2	8.3	
7	BOD, 3 Days at 27°C	mg/l	30	<2	<2	<2	<2	10	13	
8	COD	mg/l	100	<8	<8	<8	8.0	41.0	53.0	
9	Oil & Grease	mg/l	10	<5.0	<5.0	<5	<5	<5	<5	
10	Phenolic Compounds	mg/l	1.2	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
11	Sulphides	mg/l	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
12	Fluorides	mg/l	1.5	0.71	0.58	0.63	0.63	0.70	0.83	
13	Chromium (Total)	mg/l	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
14	Zinc	mg/l	0.1	0.014	0.019	0.012	0.017	0.025	0.012	
15	Copper	mg/l	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
16	Nickel	mg/l	3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
17	Lead	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL	
18	Mercury	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
19	Cyanide	mg/l	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
20	Chromium (Cr +6)	mg/l	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
21	% Sodium	mg/l	60	98.4	98.0	98.5	98.1	97.3	96.5	

S. No.	Parameter	Unit	Onshore Discharge Standards	MONTH							
				Jun-24							
				EDN-163-D3 (VALUKANDA)	EDN-163-D5 (VALUKANDA)	EDN-163-D6 (VALUKANDA)	EDN-166 -D8 (SARENGA)	EDN-166 -D9 (SARENGA)	EDN-166 -D10 (SARENGA)		
1	pH		5.5-9.0	7.87	7.96	7.71	7.67	7.91	7.56		
2	Temperature	deg. C	40 deg. C	36.2°C	34.9°C	34.4°C	32.7°C	34.2°C	33.2°C		
3	Suspended Solids	mg/l	100	92	54	34	43	57	69		
4	Total Dissolved Solids	mg/l	2100	8992	6820	7114	5814	6896	8106		
5	Chlorides	mg/l	600	4890	3715	4155	3145	4045	5028		
6	Sulphates	mg/l	1000	11.50	9.85	10.40	10.11	8.90	12.29		
7	BOD, 3 Days at 27°C	mg/l	30	13	7	4	3	5	8		
8	COD	mg/l	100	49.0	31.0	20.0	19.0	23.0	34.0		
9	Oil & Grease	mg/l	10	<5	<5	<5	<5	<5	<5		
10	Phenolic Compounds	mg/l	1.2	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
11	Sulphides	mg/l	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
12	Fluorides	mg/l	1.5	1.85	0.96	0.62	1.71	1.52	1.90		
13	Chromium (Total)	mg/l	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
14	Zinc	mg/l	0.1	0.016	0.011	0.013	0.018	0.014	0.022		
15	Copper	mg/l	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
16	Nickel	mg/l	3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
17	Lead	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL		
18	Mercury	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
19	Cyanide	mg/l	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		
20	Chromium (Cr +6)	mg/l	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
21	% Sodium	mg/l	60	92.5	86.1	88.1	81.2	86.2	84.1		

S. No.	Parameter	Unit	Onshore Discharge Standards	MONTH						
				Jul-24						
				EDD-364-V1 (GOPEDANGA)	EDD-364-D2 (GOPEDANGA)	EDD-364-D3 (GOPEDANGA)	EDD-364-D4 (GOPEDANGA)	EDD-304-D2 (JATGORIA)	EDD-304-D1 (JATGORIA)	
1	pH		5.5-9.0	8.55	8.47	8.49	8.52	8.39	8.35	
2	Temperature	deg. C	40 deg. C	38.3°C	38.7°C	38.5°C	38.1°C	33.4°C	34.5°C	
3	Suspended Solids	mg/l	100	3	<2	<2	4	115	81	
4	Total Dissolved Solids	mg/l	2100	2344	2094	1922	2148	2988	3604	
5	Chlorides	mg/l	600	225	185	170	310	745	1080	
6	Sulphates	mg/l	1000	7.4	5.9	4.6	7.9	9.2	8.3	
7	BOD, 3 Days at 27°C	mg/l	30	<2	<2	<2	<2	10	13	
8	COD	mg/l	100	<8	<8	<8	8.0	41.0	53.0	
9	Oil & Grease	mg/l	10	<5.0	<5.0	<5	<5	<5	<5	
10	Phenolic Compounds	mg/l	1.2	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
11	Sulphides	mg/l	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
12	Fluorides	mg/l	1.5	0.71	0.58	0.63	0.63	0.70	0.83	
13	Chromium (Total)	mg/l	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
14	Zinc	mg/l	0.1	0.014	0.019	0.012	0.017	0.025	0.012	
15	Copper	mg/l	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
16	Nickel	mg/l	3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
17	Lead	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL	
18	Mercury	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
19	Cyanide	mg/l	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
20	Chromium (Cr +6)	mg/l	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
21	% Sodium	mg/l	60	98.4	98.0	98.5	98.1	97.3	96.5	

S. No.	Parameter	Unit	Onshore Discharge Standards	MONTH							
				Jul-24							
				EDN-163-D3 (VALUKANDA)	EDN-163-D5 (VALUKANDA)	EDN-163-D6 (VALUKANDA)	EDN-166 -D8 (SARENGA)	EDN-166 -D9 (SARENGA)	EDN-166 -D10 (SARENGA)		
1	pH		5.5-9.0	7.87	7.96	7.71	7.67	7.91	7.56		
2	Temperature	deg. C	40 deg. C	36.2°C	34.9°C	34.4°C	32.7°C	34.2°C	33.2°C		
3	Suspended Solids	mg/l	100	92	54	34	43	57	69		
4	Total Dissolved Solids	mg/l	2100	8992	6820	7114	5814	6896	8106		
5	Chlorides	mg/l	600	4890	3715	4155	3145	4045	5028		
6	Sulphates	mg/l	1000	11.50	9.85	10.40	10.11	8.90	12.29		
7	BOD, 3 Days at 27°C	mg/l	30	13	7	4	3	5	8		
8	COD	mg/l	100	49.0	31.0	20.0	19.0	23.0	34.0		
9	Oil & Grease	mg/l	10	<5	<5	<5	<5	<5	<5		
10	Phenolic Compounds	mg/l	1.2	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
11	Sulphides	mg/l	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
12	Fluorides	mg/l	1.5	1.85	0.96	0.62	1.71	1.52	1.90		
13	Chromium (Total)	mg/l	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
14	Zinc	mg/l	0.1	0.016	0.011	0.013	0.018	0.014	0.022		
15	Copper	mg/l	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
16	Nickel	mg/l	3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
17	Lead	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL		
18	Mercury	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
19	Cyanide	mg/l	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		
20	Chromium (Cr +6)	mg/l	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
21	% Sodium	mg/l	60	92.5	86.1	88.1	81.2	86.2	84.1		

MONTH		Aug-24									
S. No.	Parameter	Unit	Onshore Discharge Standards	EDI-038-V1 (SARASWATIG UNJ)	EDI-038-D2 (SARASWATIG UNJ)	EDN-041-V1 (GHATAKDANG A)	EDD-053-D3 (NACHAN)	EDI-034-D4 (AKANDARA)	EDD-007-D2 (GOPEDANGA)		
1	pH		5.5-9.0	8.60	8.37	7.81	8.44	8.39	8.40		
2	Temperature	deg. C	40 deg. C	32.6°C	33.9°C	32.9°C	37.8°C	33.6°C	37.3°C		
3	Suspended Solids	mg/l	100	14	7	9	28	4	17		
4	Total Dissolved Solids	mg/l	2100	5348	5028	8786	3164	9770	1928		
5	Chlorides	mg/l	600	2076	2470	4940	530	5162	170		
6	Sulphates	mg/l	1000	8.6	9.20	13.70	7.1	15.0	6.2		
7	BOD, 3 Days at 27°C	mg/l	30	2	<2	3	<2	2	3		
8	COD	mg/l	100	10.0	<8	15.0	<8	9.0	12.0		
9	Oil & Grease	mg/l	10	<5.0	<5.0	<5	<5	<5	<5		
10	Phenolic Compounds	mg/l	1.2	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
11	Sulphides	mg/l	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
12	Fluorides	mg/l	1.5	0.86	0.77	1.80	0.46	1.45	0.58		
13	Chromium (Total)	mg/l	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
14	Zinc	mg/l	0.1	0.017	0.014	0.022	0.013	0.018	0.011		
15	Copper	mg/l	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
16	Nickel	mg/l	3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
17	Lead	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL		
18	Mercury	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
19	Cyanide	mg/l	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		
20	Chromium (Cr +6)	mg/l	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
21	% Sodium	mg/l	60	97	95.9	96.5	99.1	98.7	98.2		

S. No.	Parameter	Unit	Onshore Discharge Standards	MONTH						
				Aug-24						
				EDE-250-D1 (PARULIA)	EDE-250-D2 (PARULIA)	EDE-250-D3 (PARULIA)	EDG-074-D1 (PARULIA)	EDG-074-D1 (PARULIA)	EDG-074-D1 (PARULIA)	EDG-077-D1 (KAMALPUR)
1	pH		5.5-9.0	8.43	8.37	8.32	8.47	8.40	8.50	
2	Temperature	deg. C	40 deg. C	33.5°C	34.6°C	34.4°C	35.4°C	37.7°C	35.7°C	
3	Suspended Solids	mg/l	100	5	11	8	<2	8	<2	
4	Total Dissolved Solids	mg/l	2100	3812	3342	3416	2048	2650	1180	
5	Chlorides	mg/l	600	1243	985	865	260	412	185	
6	Sulphates	mg/l	1000	6.3	5.9	8.0	5.7	7.5	4.2	
7	BOD, 3 Days at 27°C	mg/l	30	<2	<2	<2	<2	<2	<2	
8	COD	mg/l	100	8.0	<8	<8	<8	<8	<8	
9	Oil & Grease	mg/l	10	<5	<5	<5	<5	<5	<5	
10	Phenolic Compounds	mg/l	1.2	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
11	Sulphides	mg/l	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
12	Fluorides	mg/l	1.5	0.89	0.76	0.94	0.65	0.59	0.49	
13	Chromium (Total)	mg/l	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
14	Zinc	mg/l	0.1	0.018	0.012	0.024	0.017	0.019	0.023	
15	Copper	mg/l	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
16	Nickel	mg/l	3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
17	Lead	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL	
18	Mercury	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
19	Cyanide	mg/l	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
20	Chromium (Cr +6)	mg/l	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
21	% Sodium	mg/l	60	97	96.6	95.9	98.3	98.1	96.8	

S. No.	Parameter	Unit	Onshore Discharge Standards	MONTH							
				Sep-24							
				EDN-099-D1 (KULDIHA)	EDN-099-D2 (KULDIHA)	EDI-046-D1 (AKANDARA)	EDI-046-D2 (AKANDARA)	EDI-046-D3 (AKANDARA)	EDI-046-D4 (AKANDARA)		
1	pH		5.5-9.0	8.39	8.33	8.47	8.53	8.49	8.56		
2	Temperature	deg. C	40 deg. C	32.4°C	33.4°C	33.4°C	34.8°C	34.7°C	34.8°C		
3	Suspended Solids	mg/l	100	4	8	14	18	4	9		
4	Total Dissolved Solids	mg/l	2100	4296	9574	5498	5358	5598	4478		
5	Chlorides	mg/l	600	2219	6055	2415	1975	2030	1592		
6	Sulphates	mg/l	1000	8.6	12.40	9.10	7.5	10.2	8.3		
7	BOD, 3 Days at 27°C	mg/l	30	3	5	2	<2	<2	2		
8	COD	mg/l	100	15.0	32.0	10.0	8.0	<8	9.0		
9	Oil & Grease	mg/l	10	<5.0	<5.0	<5	<5	<5	<5		
10	Phenolic Compounds	mg/l	1.2	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002		
11	Sulphides	mg/l	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		
12	Fluorides	mg/l	1.5	0.93	1.86	0.88	0.65	0.97	0.59		
13	Chromium (Total)	mg/l	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
14	Zinc	mg/l	0.1	0.021	0.019	0.023	0.014	0.026	0.022		
15	Copper	mg/l	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
16	Nickel	mg/l	3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		
17	Lead	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL		
18	Mercury	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
19	Cyanide	mg/l	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02		
20	Chromium (Cr +6)	mg/l	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		
21	% Sodium	mg/l	60	99.8	93.3	98.1	98.6	98.5	97.7		

Produced Water Analysis Report for the period of Apr-24 to Sep-24

Annexure II

S. No.	Parameter	Unit	Onshore Discharge Standards	MONTH				
				Sep-24				
1	pH		5.5-9.0	EDI-035-D2 (AKANDARA)	EDI-035-V1 (AKANDARA)	EDG-240-D1 (PARULIA)	EDG-240-D2 (PARULIA)	
2	Temperature	deg. C	40 deg. C	8.40	33.4°C	8.36	8.45	
3	Suspended Solids	mg/l	100	<2	<2	8	10	
4	Total Dissolved Solids	mg/l	2100	4468	9436	1628	1124	
5	Chlorides	mg/l	600	2310	4765	490	145	
6	Sulphates	mg/l	1000	9.9	12.5	4.8	7.3	
7	BOD, 3 Days at 27°C	mg/l	30	<2	4	<2	3	
8	COD	mg/l	100	<8	17.0	<8	11.0	
9	Oil & Grease	mg/l	10	<5	<5	<5	<5	
10	Phenolic Compounds	mg/l	1.2	<0.002	<0.002	<0.002	<0.002	
11	Sulphides	mg/l	2	<0.5	<0.5	<0.5	<0.5	
12	Fluorides	mg/l	1.5	0.77	1.35	0.48	0.76	
13	Chromium (Total)	mg/l	1	<0.05	<0.05	<0.05	<0.05	
14	Zinc	mg/l	0.1	0.013	0.025	0.017	0.021	
15	Copper	mg/l	0.2	<0.05	<0.05	<0.05	<0.05	
16	Nickel	mg/l	3	<0.05	<0.05	<0.05	<0.05	
17	Lead	mg/l	0.1	BDL	BDL	BDL	BDL	
18	Mercury	mg/l	0.01	<0.001	<0.001	<0.001	<0.001	
19	Cyanide	mg/l	0.2	<0.02	<0.02	<0.02	<0.02	
20	Chromium (Cr +6)	mg/l	0.1	<0.01	<0.01	<0.01	<0.01	
21	% Sodium	mg/l	60	98.1	98	97.3	95.8	

ANNEXURE III

Well Name				EDE-002-D2	EDI-037-D12	EDD-248-D2	EDN-099-D5	EDE-005-D3	
Location				Jatgoria	Akandara	Bargaria	Pathardihi	Jatgoria	
Date				03-05-2024	14.06.2024	08.07.2024	08.07.2024	13.08.2024	
Sl. No	Class	Parameter	Unit	Limit as per G.S.R No. 395 E, dtd- 4th Apr, 2016 Schedule-II, Class-A	Result				
1	A1	Arsenic	mg/L	5	<0.05	<0.05	<0.05	<0.05	<0.05
2	A2	Barium	mg/L	100	0.73	0.47	0.45	0.65	0.4
3	A3	Cadmium	mg/L	1	<0.05	<0.05	<0.05	<0.05	<0.05
4	A4	Chromium and/or Chromium(III) Compounds	mg/L	5	<0.05	0.06	<0.05	<0.05	<0.05
5	A5	Lead	mg/L	5	<0.05	<0.05	<0.05	<0.05	<0.05
6	A6	Manganese	mg/L	10	7.74	1.95	3.56	0.9	3.56
7	A7	Mercury	mg/L	0.2	<0.05	<0.05	<0.05	<0.05	<0.05
8	A8	Selenium	mg/L	1	<0.05	<0.05	<0.05	<0.05	<0.05
9	A9	Silver	mg/L	5	<0.05	<0.05	<0.05	<0.05	<0.05
11	A11	Cyanide	mg/L	20	<0.05	<0.05	<0.05	<0.05	<0.05
12	A14	1,1-Dichloroethylene	mg/L	0.7	<0.01	<0.01	<0.01	<0.01	<0.01
13	A15	1,2-Dichloroethane	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01
14	A16	1,4-Dichlorobenzene	mg/L	7.5	<0.01	<0.01	<0.01	<0.01	<0.01
15	A17	2,4,5-Trichlorophenol	mg/L	400	<0.05	<0.05	<0.05	<0.05	<0.05
16	A18	2,4,6-Trichlorophenol	mg/L	2	<0.05	<0.05	<0.05	<0.05	<0.05
17	A19	2,4-Dinitrotoluene	mg/L	0.13	<0.01	<0.01	<0.01	<0.01	<0.01
18	A20	Benzene	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01
19	A24	Carbon tetrachloride	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01
20	A25	Chlorobenzene	mg/L	100	<0.01	<0.01	<0.01	<0.01	<0.01
21	A26	Chloroform	mg/L	6	<0.01	<0.01	<0.01	<0.01	<0.01
22	A27	Cresol (ortho + meta + para)	mg/L	200	<0.05	<0.05	<0.05	<0.05	<0.05
23	A29	Hexachlorobenzene	mg/L	0.13	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
24	A30	Hexachlorobutadiene	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01
25	A31	Hexachloroethane	mg/L	3	Absent	Absent	Absent	Absent	Absent
26	A32	Methylethylketone	mg/L	200	<0.01	<0.01	<0.01	<0.01	<0.01
27	A34	Nitrobenzene	mg/L	2	<0.01	<0.01	<0.01	<0.01	<0.01
28	A35	Pentachlorophenol	mg/L	100	<0.05	<0.05	<0.05	<0.05	<0.05
29	A36	Pyridine	mg/L	5	<0.01	<0.01	<0.01	<0.01	<0.01
30	A37	Tetrachloroethylene	mg/L	0.7	<0.01	<0.01	<0.01	<0.01	<0.01
31	A38	Trichloroethylene	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01
32	A39	Vinylchloride	mg/L	0.2	<0.01	<0.01	<0.01	<0.01	<0.01
33	A40	2,4,5-TP (Silvex)	mg/L	1	Absent	Absent	Absent	Absent	Absent
34	A41	2,4-Dichlorophenoxyacetic acid	mg/L	10	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
35	A47	Chlordane	mg/L	0.03	<0.001	<0.001	<0.001	<0.001	<0.001
36	A51	Endrin	mg/L	0.02	<0.001	<0.001	<0.001	<0.001	<0.001
37	A53	Heptachlor (& its Epoxide)	mg/L	0.008	<0.001	<0.001	<0.001	<0.001	<0.001
38	A55	Lindane	mg/L	0.4	<0.001	<0.001	<0.001	<0.001	<0.001
39	A57	Methoxychlor	mg/L	10	<0.001	<0.001	<0.001	<0.001	<0.001
40	A61	Toxaphene	mg/L	0.5	Absent	Absent	Absent	Absent	Absent
41	A68	Nickel	mg/L	20	<0.05	<0.06	<0.07	<0.08	<0.09
42	C3	Reactivity - [Cyanide (as HCN)]			Non-reactive	Non-reactive	Non-reactive	Non-reactive	Non-reactive
43	C2	Corrosivity			Non corrosive	Non corrosive	Non corrosive	Non corrosive	Non corrosive
44	C1	Ignitability			Non Flamable	Non Flamable	Non Flamable	Non Flamable	Non Flamable

ANNEXURE IV

**Ambient Noise Monitoring Report of CBM Raniganj Project of Essar Oil and Gas
Exploration and Production Ltd.**

(Period: Apr-24 to Sep-24)

Ambient Noise Monitoring Report

Location	Day time		Night time	
	Limit as per the EC, dBA	Noise Level (Leq) dBA	Limit as per the EC, dBA	Noise Level (Leq) dBA
KULDIHA [EDN-099]	75	63.29	70	51.82
MCS [Malandighi]	75	63.84	70	53.21
Gopalpur Ware House	75	61.25	70	53.2
Akandara [GGS-02]	75	63.51	70	51.47
Saraswatiganj [EDI-039]	75	64.8	70	49.83
Labnapara [EDH-064]	75	57.91	70	51.66
Nachan [EDD-053]	75	62.56	70	49.56
Kantaberia (EDD-012)	75	64.21	70	49.37
Jatgoria (EDD-005)	75	57.78	70	49.4
Khatgoria (GGS-01)	75	61.73	70	49.48
Jamgora (EDD-407)	75	59.02	70	53.31
Pratappur (EDD-049)	75	54.47	70	48.51
Parulia (EDC-413)	75	58.25	70	49.62
Bansia (EDD-411)	75	58.38	70	53.36
Sarenga (Roof top of Anup Das House)	75	58.37	70	51.56

ANNEXURE V

FORM 4

[See Rules 9(3) and 10(5)]

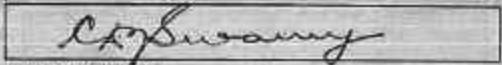
(EMBLEM OR HOLOGRAM OF THE CONCERNED AUTHORITY)

PERMIT FOR SINKING OF NEW WELL[U/S 7(3)(b)/7(4)(b)/7(5)(a) of the West Bengal Ground Water Resources
(Management, Control and Regulation) Act 2005.]**P- 1998**

P0216034011930000001TSE

066520

PERMIT NO

1. (a) Name of the applicant (user) : Shri/Smt. **ESSAR OIL & GAS EXPLORATION AND PRODUCTION LIMITED.**
 (b) Son / Daughter of : **BIDHAN NAGAR, DURGAPUR**
 (c) Address of the applicant : **Small Farmer / Marginal Farmer / Others**
 (d) Category of farmer (Please tick) : **BP/A0658, SL.NO:93; DT: 02.07.2018**
 (in case of irrigation well)
 (e) Serial No. of application Form and date of submission :
 (f) Specimen signature of the user : 
2. Location particulars--
 (a) District : **BURDWAN**
 (b) Block, Mouza, J. L. No., Plot No. : **KANKSA, GOPALPUR, 065, 1193**
 (c) Municipality / Corporation
 Ward No. / Borough No., Holding No. :
3. Particulars of the proposed well and pumping device--
 (a) Type of the well : **TUBEWELL**
 (b) Approx. depth of the well (m) : **150 m**
 (c) Purpose of the well : **INDUSTRIAL [CBM EXPL. AND PRODUCTION UNIT]**
 (d) Assembly size (for tube well) : **100 mm. X 150 mm.**
 (e) Approx. strainer length (for tube well) : **12 m.**
 (f) Diameter (for dug well)
 (g) Type of pump to be used : **SUBMERSIBLE**
 (h) H. P. of the pump : **1.5 H.P.**
 (i) Operational device : **Electric Motor**
 (j) Rate of withdrawal (m³/hr.) : **2.5 m³/hr**
 (k) Maximum allowable running hours per day : **6 Hours Per Day**

This permit authorizes the owner applicant (user) to sink a well in the location specified at S1. (2) for extraction of ground water at a rate not exceeding that as shown at S1. (3) (j) and for running hours / day as shown at S1. (3) (K), and is valid subject to the observance of the conditions stated overleaf.

Place : **Burdwan**Date : **29/08/2018**

Signature of Competent Authority
 Member Secretary, District Level
 Ground Water Resources Development Authority
 Burdwan-713101

Conditions :

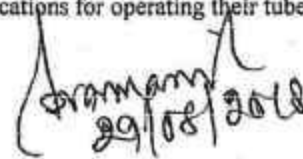
- (1) In case of any change of ownership of the proposed well, fresh registration has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at S1. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this permit.
- (3) In case, any of the particulars / information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- (4) Any other condition imposed by the concerned Authority.

N.B: Conditionalities are imposed on reverse page of this certificate.



**CONDITIONALITIES FOR PACKAGE DRINKING WATER PROJECTS AND INDUSTRIES/
INFRASTRUCTURES:**

1. Roof Top Rain Water harvesting for Surface Storage.
2. Excavation of pond of size 150 ft. x 50ft. with 2 m. depth.
3. Chemical Quality Test Report from BIS approved Laboratory in each year to be submitted to the Geologist & Member Secretary, DLA.
4. Arrangement of Water Meter at the outlet of Tube Well discharge to be monitored by Govt. Officials as assigned by DLA.
5. The enhanced rate if any in future (including the rates revised retrospectively) of fees/ charges/ taxes for draws of ground water on annual basis, should be borne by applications for operating their tube wells in a continuous manner.


29/08/2018

Geologist, SWID &
Member Secretary, District Level
Ground Water Resources Development Authority
Burdwan-713101

FORM 4

[See Rules 9(3) and 10(5)]

(EMBLEM OR HOLOGRAM OF THE CONCERNED AUTHORITY)

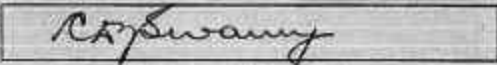
066521

PERMIT FOR SINKING OF NEW WELL

[U/S 7(3)(b) / 7(4)(b) / 7(5)(a) of the West Bengal Ground Water Resources (Management, Control and Regulation) Act 2005.]

P- 1999

PERMIT NO. P0216001000410000001TSE

1. (a) Name of the applicant (user) : Shri/Sm. **ESSAR OIL & GAS EXPLORATION AND PRODUCTION LIMITED.**
(b) Son / Daughter of :
(c) Address of the applicant : **BIDHAN NAGAR, DURGAPUR**
(d) Category of farmer (Please tick) : **Small Farmer / Marginal Farmer / Others**
(in case of irrigation well)
(e) Serial No. of application Form and date of submission : **BP/A0658, SL.NO:21; DT. 02.07.2018**
(f) Specimen signature of the user : 
2. Location particulars—
(a) District : **BURDWAN**
(b) Block, Mouza, J. L. No., Plot No. : **KANKSA, AKANDARA, 047, 41**
(c) Municipality / Corporation :
Ward No. / Borough No., Holding No. :
3. Particulars of the proposed well and pumping device—
(a) Type of the well : **TUBEWELL**
(b) Approx. depth of the well (m) : **150 m**
(c) Purpose of the well : **INDUSTRIAL [CBM EXPL. AND PRODUCTION UNIT]**
(d) Assembly size (for tube well) : **100 mm X 50 mm.**
(e) Approx. strainer length (for tube well) : **12 m.**
(f) Diameter (for dug well) : **m.**
(g) Type of pump to be used : **SUBMERSIBLE**
(h) H. P. of the pump : **1.5 H.P.**
(i) Operational device : **Electric Motor**
(j) Rate of withdrawal (m³/hr.) : **2.5 m³/hr**
(k) Maximum allowable running hours per day : **6 Hours Per Day**

This permit authorizes the owner applicant (user) to sink a well in the location specified at S1. (2) for extraction of ground water at a rate not exceeding that as shown at S1. (3) (j) and for running hours / day as shown at S1. (3) (k), and is valid subject to the observance of the conditions stated overleaf.

Place : Burdwan

Date : 29/08/2018

Conditions:

- (1) In case of any change of ownership of the proposed well, fresh registration has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at S1. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this permit.
- (3) In case, any of the particulars / information furnished by the applicant in the application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- (4) Any other condition imposed by the concerned Authority.

N.B! Conditionalities are imposed on reverse page of this certificate

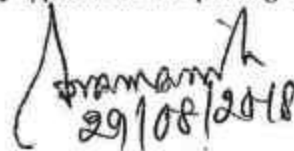


Braman
29/08/2018
Signature of the Competent Authority
Member Secretary, District Level
Ground Water Resources Development Authority
Burdwan-713101



**CONDITIONALITIES FOR PACKAGE DRINKING WATER PROJECTS AND INDUSTRIES/
INFRASTRUCTURES:**

1. Roof Top Rain Water harvesting for Surface Storage.
2. Excavation of pond of size 150 ft. x 50ft. with 2 m. depth.
3. Chemical Quality Test Report from BIS approved Laboratory in each year to be submitted to the Geologist & Member Secretary, DLA.
4. Arrangement of Water Meter at the outlet of Tube Well discharge to be monitored by Govt. Officials as assigned by DLA.
5. The enhanced rate if any in future (including the rates revised retrospectively) of fees/ charges/ taxes for draws of ground water on annual basis, should be borne by applications for operating their tube wells in a continuous manner.


29/08/2018

Geologist, SWID &
Member Secretary, District Level
Ground Water Resources Development Authority
Burdwan-713101

FORM 4

[See Rules 9(3) and 10(5)]

(EMBLEM OR HOLOGRAM OF THE CONCERNED AUTHORITY)

PERMIT FOR SINKING OF NEW WELL

[U/S 7(3)(b) / 7(4)(b) / 7(5)(a) of the West Bengal Ground Water Resources (Management, Control and Regulation) Act 2005.]

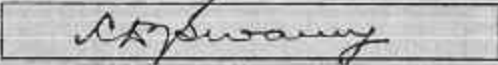
P- 2000

P0209056004270000001TSE

PERMIT NO

066522

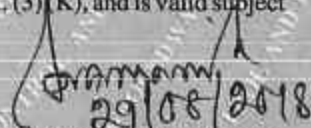


1. (a) Name of the applicant (user) : Shri/Smt. **ESSAR OIL & GAS EXPLORATION AND PRODUCTION LIMITED.**
(b) Son / Daughter of :
(c) Address of the applicant : **BIDHAN NAGAR, DURGAPUR**
(d) Category of farmer (Please tick) : **Small Farmer / Marginal Farmer / Others**
(in case of irrigation well)
(e) Serial No. of application Form and date of submission : **BP/A0660, SL.NO:100; DT: 02.07.2018**
(f) Specimen signature of the user : 
2. Location particulars---
(a) District : **BURDWAN**
(b) Block, Mouza, J. L. No., Plot No. : **DURGAPUR-FARIDPUR, KHATGORIA, 030, 427**
(c) Municipality / Corporation :
Ward No. / Borough No., Holding No. :
3. Particulars of the proposed well and pumping device---
(a) Type of the well : **TUBEWELL**
(b) Approx. depth of the well (m) : **150 m**
(c) Purpose of the well : **INDUSTRIAL [CBM EXPL. AND PRODUCTION UNIT]**
(d) Assembly size (for tube well) : **100 mm. X 150 mm.**
(e) Approx. strainer length (for tube well) : **12 m.**
(f) Diameter (for dug well) : **m.**
(g) Type of pump to be used : **SUBMERSIBLE**
(h) H. P. of the pump : **1.5 H.P**
(i) Operational device : **Electric Motor**
(j) Rate of withdrawal (m³/hr.) : **2.5 m³/hr**
(k) Maximum allowable running hours per day : **6 Hours Per Day**

This permit authorizes the owner applicant (user) to sink a well in the location specified at S1. (2) for extraction of ground water at a rate not exceeding that as shown at S1. (3) (j) and for running hours / day as shown at S1. (3) (K), and is valid subject to the observance of the conditions stated overleaf.

Place : **Burdwan**
Date : **29/ 08/ 2018**




29/08/2018
Signature: **Geologist, SWRA Authority**
Member Secretary, District Level
Ground Water Resources Development Authority
Burdwan-713101

Conditions :

- (1) In case of any change of ownership of the proposed well, fresh registration has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at S1. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this permit.
- (3) In case, any of the particulars / information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- (4) Any other condition imposed by the concerned Authority.

N.B. Conditionalities are imposed on reverse page of this certificate.



**CONDITIONALITIES FOR PACKAGE DRINKING WATER PROJECTS AND INDUSTRIES/
INFRASTRUCTURES:**

1. Roof Top Rain Water harvesting for Surface Storage.
2. Excavation of pond of size 150 ft. x 50ft. with 2 m. depth.
3. Chemical Quality Test Report from BIS approved Laboratory in each year to be submitted to the Geologist & Member Secretary, DLA.
4. Arrangement of Water Meter at the outlet of Tube Well discharge to be monitored by Govt. Officials as assigned by DLA.
5. The enhanced rate if any in future (including the rates revised retrospectively) of fees/ charges/ taxes for draws of ground water on annual basis, should be borne by applications for operating their tube wells in a continuous manner.


29/08/2018

Geologist, SWID &
Member Secretary, District Level
Ground Water Resources Development Authority
Burdwan-713101

FORM 4

[See Rules 9(3) and 10(5)]

066523

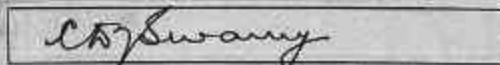
(EMBLEM OR HOLOGRAM OF THE CONCERNED AUTHORITY)

PERMIT FOR SINKING OF NEW WELL

[U/S 7(3)(b) / 7(4)(b) / 7(5)(a) of the West Bengal Ground Water Resources (Management, Control and Regulation) Act 2005.]

P- 2001

PERMIT NO. **P0216038003740000001TSE**

1. (a) Name of the applicant (user) : Shri/Smt. **ESSAR OIL & GAS EXPLORATION AND PRODUCTION LIMITED.**
(b) Son / Daughter of :
(c) Address of the applicant : **BIDHAN NAGAR, DURGAPUR**
(d) Category of farmer (Please tick) : **Small Farmer / Marginal Farmer / Others**
(in case of irrigation well)
(e) Serial No. of application Form and date of submission : **BP/A0660, SL.NO:99; DT. 02.07.2018**
(f) Specimen signature of the user : 
2. Location particulars---
(a) District : **BURDWAN**
(b) Block, Mouza, J. L. No., Plot No. : **KANKSA, JAMBAN, 018, 374**
(c) Municipality / Corporation :
Ward No. / Borough No., Holding No. :
3. Particulars of the proposed well and pumping device---
(a) Type of the well : **TUBEWELL**
(b) Approx. depth of the well (m) : **150 m**
(c) Purpose of the well : **INDUSTRIAL [CBM EXPL. AND PRODUCTION UNIT]**
(d) Assembly size (for tube well) : **100 mm x 50 mm.**
(e) Approx. strainer length (for tube well) : **12 m.**
(f) Diameter (for dug well) : **m.**
(g) Type of pump to be used : **SUBMERSIBLE**
(h) H. P. of the pump : **1.5 H.P**
(i) Operational device : **Electric Motor**
(j) Rate of withdrawal (m³/hr.) : **2.5 m³/hr**
(k) Maximum allowable running hours per day : **6 Hours Per Day**

This permit authorizes the owner applicant (user) to sink a well in the location specified at S1. (2) for extraction of ground water at a rate not exceeding that as shown at S1. (3) (j) and for running hours / day as shown at S1. (3) (k), and is valid subject to the observance of the conditions stated overleaf.

Place : **Burdwan**

Date : **29/08/2018**

Conditions :

- (1) In case of any change of ownership of the proposed well, fresh registration has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at S1. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this permit.
- (3) In case, any of the particulars / information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- (4) Any other condition imposed by the concerned Authority.

N.B: Conditionalities are imposed on reverse page of this certificate.



Signature of the Issuing Authority
29/08/2018
Geologist, SWID &
Member Secretary, District Level
Ground Water Resources Development Authority
Burdwan-713101

**CONDITIONALITIES FOR PACKAGE DRINKING WATER PROJECTS AND INDUSTRIES/
INFRASTRUCTURES:**

1. Roof Top Rain Water harvesting for Surface Storage.
2. Excavation of pond of size 150 ft. x 50ft. with 2 m. depth.
3. Chemical Quality Test Report from BIS approved Laboratory in each year to be submitted to the Geologist & Member Secretary, DLA.
4. Arrangement of Water Meter at the outlet of Tube Well discharge to be monitored by Govt. Officials as assigned by DLA.
5. The enhanced rate if any in future (including the rates revised retrospectively) of fees/ charges/ taxes for drawls of ground water on annual basis, should be borne by applications for operating their tube wells in a continuous manner.

Aramanah
29/08/2018

Geologist, SWID &
Member Secretary, District Level
Ground Water Resources Development Authority
Burdwan-713101

FORM 4

{See Rules 9(3) and 10(5)}

066476

P-1596

(EMBLEM OR HOLOGRAM OF THE CONCERNED AUTHORITY)

PERMIT FOR SINKING OF NEW WELL

[U/S 7(3)(b) / 7(4)(b) / 7(5)(a) of the West Bengal Ground Water Resources (Management, Control and Regulation) Act 2005.]



PERMIT NO P0216034012960000001TSE

- 1. (a) Name of the applicant (user) : **Shri/Smt ESSAR OIL LIMITED**
- (b) Son / Daughter of : **(EGP) DIVISION**
- (c) Address of the applicant : **Gopalpur, Kamra, Burdwan**
- (d) Category of farmer (Please tick) : **Small Farmer / Marginal Farmer / Others**
- (in case of irrigation well)
- (e) Serial No. of application Form : **Sl. No. 08 of 68/A0507 dt. 01.09.15**
- and date of submission
- (f) Specimen signature of the user :
- 2. Location particulars--
- (a) District : **Burdwan**
- (b) Block, Mouza, J. L. No., Plot No. : **Kamra, Gopalpur-065, 1296**
- (c) Municipality / Corporation : **N.A.**
- Ward No. / Borough No., Holding No.
- 3. Particulars of the proposed well and pumping device--
- (a) Type of the well : **Tubewell**
- (b) Approx. depth of the well (m) : **90m**
- (c) Purpose of the well : **Industrial**
- (d) Assembly size (for tube well) : **150 mm. X 100 mm.**
- (e) Approx. strainer length (for tube well) : **12 m.**
- (f) Diameter (for dug well) : **m.**
- (g) Type of pump to be used : **Submersible**
- (h) H. P. of the pump : **1.5 H.P.**
- (i) Operational device : **Electric Motor**
- (j) Rate of withdrawal (m³/hr.) : **06 m³/hr**
- (k) Maximum allowable running hours per day : **01 hr per day**

This permit authorizes the owner applicant (user) to sink a well in the location specified at S1. (2) for extraction of ground water at a rate not exceeding that as shown at S1. (3) (j) and for running hours / day as shown at S1. (3) (K), and is valid subject to the observance of the conditions stated overleaf.

Place : **Burdwan**

Date : **12.10.2015**



Prasanna
13/10/2015
Geologist Member Secretary,
District Level Ground Water Resource
Development
Signature of the Issuing Authority
and Designation.

Conditions :

- (1) In case of any change of ownership of the proposed well, fresh registration has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at S1. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this permit.
- (3) In case, any of the particulars / information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- (4) Any other condition imposed by the concerned Authority.

N.B: Conditions are imposed on the reverse page of the certificate



CONDITIONALITIES FOR PACKAGE DRINKING WATER PROJECTS AND INDUSTRIES/ INFRASTRUCTURES:

1. Roof Top Rain Water harvesting for Surface Storage.
2. Excavation of pond of size 150 ft. x 50ft. with 2 m. depth.
3. Chemical Quality Test Report from BIS approved Laboratory in each year to be submitted to the Geologist & Member Secretary, DLA.
4. The Certificate of Permit will be reviewed in every year from the date of issuance of Permit-based on local hydrogeological conditions that may prevail afterwards.
5. Arrangement of Water Meter at the outlet of Tube Well discharge to be monitored by Govt. Officials as assigned by DLA.
6. The enhanced rate if any in future, (including the rates revised retrospectively) of fees/ charges/ taxes for draws of ground water on annual basis, should be borne by applications for operating their tube wells in a continuous manner.

2731-9

31.10.10. 16 F000492 to 30.01.12

(Signature)
 13/10/2015.
 Geologist Member Secretary,
 District level Ground, Water Resource
 Development Authority, Burdwan

31.10.10. 16 F000492 to 30.01.12

Burdwan

B.M

Tube Well
 MOP

100 120
 21

1.5 H.P.
 Electric Motor
 02 meter
 01 to 02 meter

Burdwan
 18.10.2012

8-1597

FORM 4

[See Rules 9(3) and 10(5)]

066477

(EMBLEM OR HOLOGRAM OF THE CONCERNED AUTHORITY)

PERMIT FOR SINKING OF NEW WELL

[U/S 7(3)(b) / 7(4)(b) / 7(5)(a) of the West Bengal Ground Water Resources (Management, Control and Regulation) Act 2005.]



PERMIT NO P0216051002520000001TSE

- 1. (a) Name of the applicant (user) : ~~Shri/Smt.~~ ESSAR OIL LIMITED
- (b) Son / Daughter of : (F.R.P) DIVISION
- (c) Address of the applicant : Malandighi, Kamksa, Burdwan
- (d) Category of farmer (Please tick) : Small Farmer / Marginal Farmer / Others
- (e) Serial No. of application Form and date of submission : S1.09 of BR/A 0507 dt. 01.09.15
- (f) Specimen signature of the user :
- 2. Location particulars---
 - (a) District : Burdwan
 - (b) Block, Mouza, J.L. No., Plot No. : Kamksa, Malandighi-048,
 - (c) Municipality / Corporation : N.A. Plot - 252
 - Ward No. / Borough No., Holding No.
- 3. Particulars of the proposed well and pumping device---
 - (a) Type of the well : Tubewell
 - (b) Approx. depth of the well (m) : 90m
 - (c) Purpose of the well : Industrial
 - (d) Assembly size (for tube well) : 150 mm. X 100 mm.
 - (e) Approx. strainer length (for tube well) : 12 m.
 - (f) Diameter (for dug well) : m.
 - (g) Type of pump to be used : Submersible
 - (h) H. P. of the pump : 1.5 H.P.
 - (i) Operational device : Electric motor
 - (j) Rate of withdrawal (m³/hr.) : 06 m³/hr
 - (k) Maximum allowable running hours per day : 02 hrs per day

This permit authorizes the owner applicant (user) to sink a well in the location specified at S1. (2) for extraction of ground water at a rate not exceeding that as shown at S1. (3) (j) and for running hours / day as shown at S1. (3) (K), and is valid subject to the observance of the conditions stated overleaf.

Place : Burdwan

Date : 13.10.2015



13/10/2015.

Signature of the Issuing Authority
District level (and Designation) Resource Development Authority, Burdwan

Conditions :

- (1) In case of any change of ownership of the proposed well, fresh registration has to be obtained.
- (2) No change of location, design, rate of withdrawal and pumping device in respect of the proposed well as indicated at S1. (2) and (3) of this certificate shall be made without prior permission of the Competent Authority. Any deviation in this regard shall lead to cancellation of this permit.
- (3) In case, any of the particulars / information furnished by the applicant in his application for issuance of this permit is found to be incorrect during verification at any subsequent stage, this permit is liable for cancellation.
- (4) Any other condition imposed by the concerned Authority.

N.B: Conditions are imposed on the reverse page of the certificate



ANNEXURE VI



SCIENTIFIC RESEARCH LABORATORY

(Analytical & Environmental Engineering Laboratory)

Laboratory Recognised By West Bengal Pollution Control Board

An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 (OHSAS) Certified

Annexure VI

90, Lake East (4th Road) Santoshpur, Jadavpur, Kolkata - 700 075

Tele Fax : (033) 2416 2267, Tel.: (033) 2416 1311, E-mail : jyotirmoysrl@gmail.com, srkolenvironmental@gmail.com

Website : www.srlkolkata.com

DETAILS OF WASTE WATER SAMPLE

[Format No. SRL/FRM/17]

Name & Address of the Customer : ESSAR OIL AND GAS EXPLORATION AND PRODUCTION LIMITED,
Essar House - Durgapur
Village & Post Office – Molandighi, Block:- Kanksa, Durgapur Sub-Division,
Dist. - Paschim Bardhaman, Durgapur 713212, West Bengal, India

Sampling Location : EDD-028 ETP Outlet- Lat:23°36'10"N, Long:87°21'28"E

Sample Identification No. : WW-004-2024

Sampling Method/Sample Collected By : APHA 23rd Edition, 1060 B / Scientific Research Laboratory

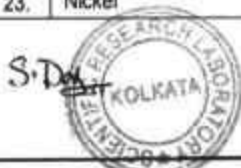
Environmental Condition : Clear Water Sampling Date : 11.06.2024

Sample Receiving/Analysis Starting On : 11.06.2024 Analysis Completed On : 19.06.2024

TEST REPORT OF WASTE WATER [CHEMICAL]

[Report No. SRL / EOGEP / WW-004-2024 Dated: 20.06.2024]

SL No.	Characteristic	Unit	Results	Test Specification	Limit
			WW-004-2024		Onshore Discharge Standards
1.	pH at 27°C	---	8.04	APHA 23rd Edition, 4500-H ⁺ B	5.5 to 9.1
2.	Temperature	°C	33.9		40°C
3.	Total Suspended Solids	mg/l	43	APHA 23rd Edition, 2540 D	100
4.	Total Dissolved Solids	mg/l	992	APHA 23rd Edition, 2540 C	2100
5.	Electrical Conductivity at 25° C	mg/l	1680	APHA 23rd Edition, 2510 B	---
6.	Acidity as CaCO ₃	mg/l	3	IS 3025 (Part -22)-1986	---
7.	Total Alkalinity as CaCO ₃	mg/l	370	APHA 23rd Edition, 2320 B	---
8.	Chloride as Chlorine	mg/l	510	APHA 23rd Edition, 4500 -Cl- B	600
9.	Total Hardness	mg/l	305	APHA 23rd Edition, 2340 C	---
10.	Iron	mg/l	5.3	APHA 23rd Edition, 3500-Fe B	---
11.	Calcium	mg/l	72	APHA 23rd Edition, 3500-Ca B	---
12.	Manganese	mg/l	0.091	APHA 21st Edition, 3111 B	---
13.	Magnesium	mg/l	30	APHA 23rd Edition, 3500-Mg B	---
14.	Biochemical Oxygen Demand	mg/l	15	IS 3025 (Part 44):1993	30
15.	Chemical Oxygen Demand	mg/l	79	APHA 23rd Edition, 5220 B	100
16.	Oil & Grease	mg/l	<5	APHA 23rd Edition, 5520 B	10
17.	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	<0.002	APHA 23rd Edition, 5530 C	1.2
18.	Sulphides (as S ₂) in mg/l	mg/l	<0.5	APHA 23rd Edition, 4500-S ²⁻ F	2
19.	Fluoride	mg/l	1.15	APHA 23rd Edition, 4500 -F- D	1.5
20.	Total Chromium	mg/l	<0.05	APHA 23rd Edition, 3111 B	1
21.	Zinc	mg/l	0.014	APHA 23rd Edition, 3111 B	2
22.	Copper	mg/l	<0.05	APHA 23rd Edition, 3111 B	0.2
23.	Nickel	mg/l	<0.05	APHA 23rd Edition, 3111 B	3



- The test report shall not be reproduced, except in full, without written approval of the company.
- Results relate only to the parameters tested.
- No Repeat Analysis will be entertained after 15 days from the date of reporting.
- All relevant information of customers regarding testing are treated as "Confidential".



SL No	Characteristic	Unit	Results	Test Specification	Limit
			WW-004-2024		Onshore Discharge Standards
24.	Lead	mg/l	<0.1	APHA 23rd Edition, 3111 B	0.1
25.	Mercury	mg/l	<0.001	APHA 23rd Edition, 3112 B	0.01
26.	SAR	-	5.5	By Calculation	—
27.	Nitrate Nitrogen(as N),mg/L	mg/l	0.26	APHA 23rd Edition, 4500-NO ₃ -E	—
28.	Sodium	mg/l	175	APHA 23rd Edition, 3500 -Na B	—
29.	Hexavalent Chromium	mg/l	<0.01	APHA 23rd Edition, 3500 -Cr B	0.1
30.	Cyanide	mg/l	<0.02	APHA 23rd Edition, 4500 -CN E	0.2
31.	%Sodium		52.8	By Calculation	60
32.	Dissolved Phosphate	mg/l	2.8	APHA 23rd Edition, 4500 -P D	—
33.	Selenium	mg/l	<0.005	APHA 23rd Edition, 3114 C	—
34.	Cadmium(as Cd)	mg/l	<0.02	APHA 23rd Edition, 3111 B	—
35.	Vanadium	mg/l	<0.1	APHA 23rd Edition, 3111 D	—
36.	Total Arsenic (as As)	mg/l	<0.01	APHA 23rd Edition, 3114 C	—
37.	Free Ammonia(as NH ₃)	mg/l	0.1	IS 2488 (Part -4)-1974	—
38.	Total Kjeldahl Nitrogen (as N)	mg/l	12.9	APHA 23 rd Edition, 4500 NH ₃ B, C,D & 4500 - N _{org} B	—
39.	Ammoniacal Nitrogen(as N)	mg/l	2	APHA 23rd Edition, 4500 - Norg B	—
40.	Total Residual Chlorine	mg/l	<0.1	IS 3025 (Part -26)-1986	—
41.	Colour	Hazen Units	<5	APHA 23rd Edition, 2120 B	—
42.	Odour		Agreeable	IS: 3025 (Part 5) - 1983	—
43.	Sulphate (as SO ₄)	mg/L, Max	4.6	APHA 23 rd Edition, 4500-SO ₄ ²⁻ E	1000
43.	Particulate size of suspended solids (<0.45)	microns	30	APHA 23rd Edition, 2540 D	—
44.	Particulate size of suspended solids(0.45-1.2)	microns	11	APHA 23rd Edition, 2540 D	—
45.	Particulate size of suspended solids(>1.2)	microns	2	APHA 23rd Edition, 2540 D	—

For Scientific Research Laboratory

Shimendu Dey

(Senior Chemist)



- The test report shall not be reproduced, except in full, without written approval of the company.
- Results relate only to the parameters tested.
- No Repeat Analysis will be entertained after 15 days from the date of sampling.



SCIENTIFIC RESEARCH LABORATORY

(Analytical & Environmental Engineering Laboratory)

Laboratory Recognised By West Bengal Pollution Control Board

An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 (OHSAS) Certified

90, Lake East (4th Road) Santoshpur, Jadavpur, Kolkata - 700 075

Tele Fax : (033) 2416 2267, Tel.: (033) 2416 1311, E-mail : jyotirmoysrl@gmail.com, srkolenvironmental@gmail.com

Website : www.srlkolkata.com

DETAILS OF WASTE WATER SAMPLE

[Format No. SRL/FRM/17]

Name & Address of the Customer : ESSAR OIL AND GAS EXPLORATION AND PRODUCTION LIMITED,
Essar House - Durgapur
Village & Post Office - Molandighi, Block:- Kanksa, Durgapur Sub-Division,
Dist. - Paschim Bardhaman, Durgapur 713212, West Bengal, India

Sampling Location : EDD-028 ETP Outlet- Lat:23°36'10"N, Long:87°21'28"E

Sample Identification No. : WW-006-2024

Sampling Method/Sample Collected By : APHA 23rd Edition, 1060 B / Scientific Research Laboratory

Environmental Condition : Cloudy Water Sampling Date : 26.07.2024

Sample Receiving/Analysis Starting On : 26.07.2024 Analysis Completed On : 05.08.2024

TEST REPORT OF WASTE WATER [CHEMICAL]

[Report No. SRL / EOGEP / WW-006-2024 Dated: 05.08.2024]

SL No.	Characteristic	Unit	Results	Test Specification	Limit
			WW-006-2024		Onshore Discharge Standards
1.	pH at 27°C		7.93	APHA 23rd Edition, 4500-H* B	5.5 to 9.1
2.	Temperature		31.2°C		40°C
3.	Total Suspended Solids	mg/l	51	APHA 23rd Edition, 2540 D	100
4.	Total Dissolved Solids	mg/l	1128	APHA 23rd Edition, 2540 C	2100
5.	Electrical Conductivity at 25° C	mg/l	1790	APHA 23rd Edition, 2510 B	---
6.	Acidity as CaCO ₃	mg/l	28	IS 3025 (Part -22)-1986	---
7.	Total Alkalinity as CaCO ₃	mg/l	445	APHA 23rd Edition, 2320 B	---
8.	Chloride as Chlorine	mg/l	529	APHA 23rd Edition, 4500 -Cl -B	600
9.	Total Hardness	mg/l	395	APHA 23rd Edition, 2340 C	---
10.	Iron	mg/l	7.32	APHA 23rd Edition, 3500-Fe B	---
11.	Calcium	mg/l	93	APHA 23rd Edition, 3500-Ca B	---
12.	Manganese	mg/l	0.087	APHA 21st Edition, 3111 B	---
13.	Magnesium	mg/l	39	APHA 23rd Edition, 3500-Mg B	---
14.	Biochemical Oxygen Demand	mg/l	17	IS 3025 (Part 44):1993	30
15.	Chemical Oxygen Demand	mg/l	82	APHA 23rd Edition, 5220 B	100
16.	Oil & Grease	mg/l	<5	APHA 23rd Edition, 5520 B	10
17.	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	<0.002	APHA 23rd Edition, 5530 C	1.2
18.	Sulphides (as S ₂)	mg/l	<0.5	APHA 23rd Edition, 4500-S ²⁻ F	2
19.	Fluoride	mg/l	1.42	APHA 23rd Edition, 4500 -F D	1.5
20.	Total Chromium	mg/l	<0.05	APHA 23rd Edition, 3111 B	1
21.	Zinc	mg/l	0.072	APHA 23rd Edition, 3111 B	2
22.	Copper	mg/l	<0.05	APHA 23rd Edition, 3111 B	0.2
23.	Nickel	mg/l	<0.05	APHA 23rd Edition, 3111 B	3

S.D.



- The test report shall not be reproduced, except in full, without written approval of the company.
- Results relate only to the parameters tested.
- No Repeat Analysis will be entertained after 15 days from the date of reporting.
- All relevant information of customers regarding testing are treated as "Confidential".



Sl. No	Characteristic	Unit	Results	Test Specification	Limit
			WW-006-2024		Onshore Discharge Standards
24.	Lead	mg/l	<0.1	APHA 23rd Edition, 3111 B	0.1
25.	Mercury	mg/l	<0.001	APHA 23rd Edition, 3112 B	0.01
26.	SAR	-	4.78	By Calculation	---
27.	Nitrate Nitrogen(as N),mg/L	mg/l	0.31	APHA 23rd Edition, 4500-NO ₃ -E	---
28.	Sodium	mg/l	219	APHA 23rd Edition, 3500 -Na B	---
29.	Hexavalent Chromium	mg/l	<0.01	APHA 23rd Edition, 3500 -Cr B	0.1
30.	Cyanide	mg/l	<0.02	APHA 23rd Edition, 4500 -CN E	0.2
31.	%Sodium		54.9	By Calculation	60
32.	Dissolved Phosphate	mg/l	3.2	APHA 23rd Edition, 4500 -P D	---
33.	Selenium	mg/l	<0.005	APHA 23rd Edition, 3114 C	---
34.	Cadmium(as Cd)	mg/l	<0.02	APHA 23rd Edition, 3111 B	---
35.	Vanadium	mg/l	<0.1	APHA 23rd Edition, 3111 D	---
36.	Total Arsenic (as As)	mg/l	<0.01	APHA 23rd Edition, 3114 C	---
37.	Free Ammonia(as NH ₃)	mg/l	0.05	IS 2488 (Part -4)-1974	---
38.	Total Kjeldahl Nitrogen (as N)	mg/l	11.8	APHA 23 rd Edition, 4500 NH ₃ B, C,D & 4500 - N _{org} B	---
39.	Ammoniacal Nitrogen(as N)	mg/l	1.12	APHA 23rd Edition, 4500 - Norg B	---
40.	Total Residual Chlorine	mg/l	<0.1	IS 3025 (Part -26)-1986	---
41.	Colour	Hazen Units	<5	APHA 23rd Edition, 2120 B	---
42.	Odour	---	Agreeable	IS: 3025 (Part 5) - 1983	---
43.	Sulphate (as SO ₄)	mg/L, Max	5.8	APHA 23 rd Edition, 4500-SO ₄ ²⁻ E	1000
43.	Particulate size of suspended solids (<0.45)	microns	37	APHA 23rd Edition, 2540 D	---
44.	Particulate size of suspended solids(0.45-1.2)	microns	12	APHA 23rd Edition, 2540 D	---
45.	Particulate size of suspended solids(>1.2)	microns	2	APHA 23rd Edition, 2540 D	---

For Scientific Research Laboratory

Shimanchi Day

(Senior Chemist)



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- The test report shall not be reproduced, except in full, without written approval of the company.
- Results relate only to the parameters tested.
- No Repeat Analysis will be entertained after 15 days from the date of sampling.

ANNEXURE VII

R.O. water analysis report of CBM Raniganj Project of Essar Oil and Gas Exploration and Production Ltd.
(Period: Apr-24 to Sep-24)

ANNEXURE VII

S. No.	Parameter	Unit	Onshore Discharge Standards	CPCB Limit for Discharge	Month			
					EDN-99 R.O. Treated Water Analysis	EDD 50 R.O. Treated Water Analysis	EDH-64 R.O. Treated Water Analysis	GG-001 R.O. Treated Water Analysis
1	pH		5.5-9.0	5.5 to 9.0	7.33	7.52	7.78	7.39
2	Temperature	deg. C	40 deg. C		33.4°C	32.8°C	29.1°C	34.6°C
3	Suspended Solids	mg/l	100	100	<2	<2	<2	<2
4	Total Dissolved Solids	mg/l	2100	---	974	808	960	1598
5	Chlorides	mg/l	600	---	506	350	407	585
6	Sulphates	mg/l	1000	---	5.1	<2.5	3.9	2.9
7	BOD, 3 Days at 27°C	mg/l	30	30	<2	<2	<2	<2
8	COD	mg/l	100	250	<8	<8	<8	<8
9	Oil & Grease	mg/l	10	10	<5.0	<5.0	<5.0	<5.0
10	Phenolic Compounds	mg/l	1.2	1	<0.002	<0.002	<0.002	<0.002
11	Sulphides	mg/l	2	2	<0.5	<0.5	<0.5	<0.5
12	Fluorides	mg/l	1.5	2	0.46	0.48	0.45	0.45
13	Chromium (Total)	mg/l	1	2	<0.05	<0.05	<0.05	<0.05
14	Zinc	mg/l	2	5	0.012	0.011	0.018	0.014
15	Copper	mg/l	0.2	3	<0.05	<0.05	<0.05	<0.05
16	Nickel	mg/l	3	3	<0.05	<0.05	<0.05	<0.05
17	Lead	mg/l	0.1	0.1	<0.1	<0.1	<0.1	<0.1
18	Mercury	mg/l	0.01	0.01	<0.001	<0.001	<0.001	<0.001
19	Cyanide	mg/l	0.2	0.2	<0.02	<0.02	<0.02	<0.02
20	Chromium (Cr+6)	mg/l	0.1	0.1	<0.01	<0.01	<0.01	<0.01
21	% Sodium	mg/l	60	---	54.6	58.7	57.3	58.3

Apr'24

R.O. water analysis report of CBM Raniganj Project of Essar Oil and Gas Exploration and Production Ltd.
(Period: Apr-24 to Sep-24)

ANNEXURE VII

S. No.	Parameter	Unit	Onshore Discharge Standards	CPCB Limit for Discharge	May'24			
					GGs-001 R.O. Treated Water Analysis	EDD 50 R.O. Treated Water Analysis	EDH-64 R.O. Treated Water Analysis	EDN-99 R.O. Treated Water Analysis
1	pH		5.5-9.0	5.5 to 9.0	7.67	7.24	7.35	7.29
2	Temperature	deg. C	40 deg. C		33.8°C	33.4°C	34.7°C	31.8°C
3	Suspended Solids	mg/l	100	100	<2	<2	<2	<2
4	Total Dissolved Solids	mg/l	2100	---	1886	1676	1046	1254
5	Chlorides	mg/l	600	---	240	255	490	595
6	Sulphates	mg/l	1000	---	5	4.2	6.1	7.1
7	BOD, 3 Days at 27°C	mg/l	30	30	<2	<2	<2	<2
8	COD	mg/l	100	250	<8	<8	<8	<8
9	Oil & Grease	mg/l	10	10	<5.0	<5.0	<5.0	<5.0
10	Phenolic Compounds	mg/l	1.2	1	<0.002	<0.002	<0.002	<0.002
11	Sulphides	mg/l	2	2	<0.5	<0.5	<0.5	<0.5
12	Fluorides	mg/l	1.5	2	0.35	0.43	0.61	0.44
13	Chromium (Total)	mg/l	1	2	<0.05	<0.05	<0.05	<0.05
14	Zinc	mg/l	2	5	0.014	0.016	<0.01	0.012
15	Copper	mg/l	0.2	3	<0.05	<0.05	<0.05	<0.05
16	Nickel	mg/l	3	3	<0.05	<0.05	<0.05	<0.05
17	Lead	mg/l	0.1	0.1	<0.1	<0.1	<0.1	<0.1
18	Mercury	mg/l	0.01	0.01	<0.001	<0.001	<0.001	<0.001
19	Cyanide	mg/l	0.2	0.2	<0.02	<0.02	<0.02	<0.02
20	Chromium (Cr+6)	mg/l	0.1	0.1	<0.01	<0.01	<0.01	<0.01
21	% Sodium	mg/l	60	---	58.6	58.1	56.6	57.6

R.O. water analysis report of CBM Raniganj Project of Essar Oil and Gas Exploration and Production Ltd.
(Period: Apr-24 to Sep-24)

ANNEXURE VII

S. No.	Parameter	Unit	Onshore Discharge Standards	CPCB Limit for Discharge	Month			
					GGG-001 R.O. Treated Water Analysis	EDD 50 R.O. Treated Water Analysis	EDH-64 R.O. Treated Water Analysis	EDN-99 R.O. Treated Water Analysis
1	pH		5.5-9.0	5.5 to 9.0	8.39	8.34	7.92	7.35
2	Temperature	deg. C	40 deg. C		33.9°C	31.1°C	30.2°C	31.2°C
3	Suspended Solids	mg/l	100	100	<2	<2	2	<2
4	Total Dissolved Solids	mg/l	2100	---	1756	1714	1250	1470
5	Chlorides	mg/l	600	---	470	495	560	870
6	Sulphates	mg/l	1000	---	3.8	4.2	4.0	4.9
7	BOD, 3 Days at 27°C	mg/l	30	30	<2	<2	<2	<2
8	COD	mg/l	100	250	<8	<8	<8	<8
9	Oil & Grease	mg/l	10	10	<5.0	<5.0	<5.0	<5.0
10	Phenolic Compounds	mg/l	1.2	1	<0.002	<0.002	<0.002	<0.002
11	Sulphides	mg/l	2	2	<0.5	<0.5	<0.5	<0.5
12	Fluorides	mg/l	1.5	2	0.49	0.3	0.45	0.57
13	Chromium (Total)	mg/l	1	2	<0.05	<0.05	<0.05	<0.05
14	Zinc	mg/l	2	5	0.011	0.012	0.019	0.014
15	Copper	mg/l	0.2	3	<0.05	<0.05	<0.05	<0.05
16	Nickel	mg/l	3	3	<0.05	<0.05	<0.05	<0.05
17	Lead	mg/l	0.1	0.1	<0.1	<0.1	<0.1	<0.1
18	Mercury	mg/l	0.01	0.01	<0.001	<0.001	<0.001	<0.001
19	Cyanide	mg/l	0.2	0.2	<0.02	<0.02	<0.02	<0.02
20	Chromium (Cr+6)	mg/l	0.1	0.1	<0.01	<0.01	<0.01	<0.01
21	% Sodium	mg/l	60	---	58.5	56.4	56.9	51.3

R.O. water analysis report of CBM Raniganj Project of Essar Oil and Gas Exploration and Production Ltd.
(Period: Apr-24 to Sep-24)

ANNEXURE VII

S. No.	Parameter	Unit	Onshore Discharge Standards	CPCB Limit for Discharge	Month			
					GGs-001 R.O. Treated Water Analysis	EDD 50 R.O. Treated Water Analysis	EDH-64 R.O. Treated Water Analysis	EDN-99 R.O. Treated Water Analysis
					Jul'24			
1	pH		5.5-9.0	5.5 to 9.0	8.44	8.36	7.95	7.85
2	Temperature	deg. C	40 deg. C		35.1°C	30.5°C	31.2°C	30.5°C
3	Suspended Solids	mg/l	100	100	<2	3	<2	<2
4	Total Dissolved Solids	mg/l	2100	---	1842	1148	946	1510
5	Chlorides	mg/l	600	---	223	490	470	585
6	Sulphates	mg/l	1000	---	4	5.9	6.5	4.7
7	BOD, 3 Days at 27°C	mg/l	30	30	<2	<2	<2	<2
8	COD	mg/l	100	250	<8	<8	<8	<8
9	Oil & Grease	mg/l	10	10	<5.0	<5.0	<5.0	<5.0
10	Phenolic Compounds	mg/l	1.2	1	<0.002	<0.002	<0.002	<0.002
11	Sulphides	mg/l	2	2	<0.5	<0.5	<0.5	<0.5
12	Fluorides	mg/l	1.5	2	0.71	0.63	0.81	0.59
13	Chromium (Total)	mg/l	1	2	<0.05	<0.05	<0.05	<0.05
14	Zinc	mg/l	2	5	0.017	0.015	0.016	0.014
15	Copper	mg/l	0.2	3	<0.05	<0.05	<0.05	<0.05
16	Nickel	mg/l	3	3	<0.05	<0.05	<0.05	<0.05
17	Lead	mg/l	0.1	0.1	<0.1	<0.1	<0.1	<0.1
18	Mercury	mg/l	0.01	0.01	<0.001	<0.001	<0.001	<0.001
19	Cyanide	mg/l	0.2	0.2	<0.02	<0.02	<0.02	<0.02
20	Chromium (Cr+6)	mg/l	0.1	0.1	<0.01	<0.01	<0.01	<0.01
21	% Sodium	mg/l	60	---	59	56.2	58	55.5

R.O. water analysis report of CBM Raniganj Project of Essar Oil and Gas Exploration and Production Ltd.
(Period: Apr-24 to Sep-24)

ANNEXURE VII

S. No.	Parameter	Unit	Onshore Discharge Standards	CPCB Limit for Discharge	Month			
					GGs-001 R.O. Treated Water Analysis	EDD 50 R.O. Treated Water Analysis	EDH-64 R.O. Treated Water Analysis	EDN-99 R.O. Treated Water Analysis
1	pH		5.5-9.0	5.5 to 9.0	8.33	8.37	7.55	7.21
2	Temperature	deg. C	40 deg. C		32.3°C	31.2°C	31.3°C	31.3°C
3	Suspended Solids	mg/l	100	100	<2	<2	<2	2
4	Total Dissolved Solids	mg/l	2100	---	1682	1056	1410	1932
5	Chlorides	mg/l	600	---	225	189	580	590
6	Sulphates	mg/l	1000	---	4.9	<2.5	5.2	6.5
7	BOD, 3 Days at 27°C	mg/l	30	30	<2	<2	<2	<2
8	COD	mg/l	100	250	<8	<8	<8	<8
9	Oil & Grease	mg/l	10	10	<5.0	<5.0	<5.0	<5.0
10	Phenolic Compounds	mg/l	1.2	1	<0.002	<0.002	<0.002	<0.002
11	Sulphides	mg/l	2	2	<0.5	<0.5	<0.5	<0.5
12	Fluorides	mg/l	1.5	2	0.68	0.73	0.81	0.93
13	Chromium (Total)	mg/l	1	2	<0.05	<0.05	<0.05	<0.05
14	Zinc	mg/l	2	5	0.015	0.017	0.013	0.018
15	Copper	mg/l	0.2	3	<0.05	<0.05	<0.05	<0.05
16	Nickel	mg/l	3	3	<0.05	<0.05	<0.05	<0.05
17	Lead	mg/l	0.1	0.1	<0.1	<0.1	<0.1	<0.1
18	Mercury	mg/l	0.01	0.01	<0.001	<0.001	<0.001	<0.001
19	Cyanide	mg/l	0.2	0.2	<0.02	<0.02	<0.02	<0.02
20	Chromium (Cr+6)	mg/l	0.1	0.1	<0.01	<0.01	<0.01	<0.01
21	% Sodium	mg/l	60	---	53.8	54.3	53.7	54.7

R.O. water analysis report of CBM Raniganj Project of Essar Oil and Gas Exploration and Production Ltd.
(Period: Apr-24 to Sep-24)

ANNEXURE VII

S. No.	Parameter	Unit	Onshore Discharge Standards	CPCB Limit for Discharge	Month			
					EDH-64 R.O. Treated Water Analysis	EDN-99 R.O. Treated Water Analysis	EDD 50 R.O. Treated Water Analysis	GG-001 R.O. Treated Water Analysis
1	pH		5.5-9.0	5.5 to 9.0	7.98	7.73	8.31	8.41
2	Temperature	deg. C	40 deg. C		28.7°C	32.2°C	30.5°C	31.7°C
3	Suspended Solids	mg/l	100	100	<2	3	<2	<2
4	Total Dissolved Solids	mg/l	2100	---	1312	1246	1620	1684
5	Chlorides	mg/l	600	---	588	585	128	155
6	Sulphates	mg/l	1000	---	6.1	9.1	4.5	3.5
7	BOD, 3 Days at 27°C	mg/l	30	30	<2	<2	<2	<2
8	COD	mg/l	100	250	<8	<8	<8	<8
9	Oil & Grease	mg/l	10	10	<5.0	<5.0	<5.0	<5.0
10	Phenolic Compounds	mg/l	1.2	1	<0.002	<0.002	<0.002	<0.002
11	Sulphides	mg/l	2	2	<0.5	<0.5	<0.5	<0.5
12	Fluorides	mg/l	1.5	2	0.71	1.01	0.67	0.48
13	Chromium (Total)	mg/l	1	2	<0.05	<0.05	<0.05	<0.05
14	Zinc	mg/l	2	5	0.017	0.020	0.014	0.011
15	Copper	mg/l	0.2	3	<0.05	<0.05	<0.05	<0.05
16	Nickel	mg/l	3	3	<0.05	<0.05	<0.05	<0.05
17	Lead	mg/l	0.1	0.1	<0.1	<0.1	<0.1	<0.1
18	Mercury	mg/l	0.01	0.01	<0.001	<0.001	<0.001	<0.001
19	Cyanide	mg/l	0.2	0.2	<0.02	<0.02	<0.02	<0.02
20	Chromium (Cr+6)	mg/l	0.1	0.1	<0.01	<0.01	<0.01	<0.01
21	% Sodium	mg/l	60	---	57	51.6	55.4	53

ANNEXURE VIII

GROUND WATER SAMPLE FOR THE MONTH OF MAY 2024				31.05.2024	31.05.2024	31.05.2024	31.05.2024	31.05.2024	31.05.2024	31.05.2024	31.05.2024	31.05.2024	31.05.2024	31.05.2024	31.05.2024	31.05.2024				
Date of Sampling																				
Latitude & Longitude																				
S. No.	Parameter	Drinking Water Specification (Second Revision)- IS-10500-2012 and Amendment		Method of Analysis	Village near															
		Requirement (Acceptable Limit)	Permissible limit in the absence of Alternate Source		Nacton	Necton	Kalkapur	Bargone	Karlabera	Ohaban	Lakshapara	Akandara	Jalgota	Saravali	Ghatadas	Saraga	Gopalpur			
1	Colour, Hazen Units	5	15	APHA 20 th Edition, 2120 B	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5				
2	pH Value	6.5-8.5	No relaxation	APHA 20 th Edition, 4500-11 B	6.75	6.9	7.12	6.7	6.91	7.24	7.6	6.85	7.20	6.97	6.62	7.10	7.97			
3	Turbidity, NTU	1	5	APHA 20 th Edition, 2150B	<1	2.3	1.8	<1	2.9	<1	<1	2	3.3	2.1	<1	2.4	3.9			
4	Total Dissolved Solids, mg/L	500	2000	APHA 20 th Edition, 2540 C	418	324	134	52	78	68	228	18	184	228	48	234	192			
5	Total Suspended Solids, mg/L	—	—	APHA 20 th Edition, 2540 D	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	3			
6	Aluminium (as Al), mg/L	0.03	0.2	APHA 20 th Edition, 3500-M B	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			
7	Arsenic (as total arsenic -As), mg/L	0.05	No relaxation	APHA 20 th Edition, 4500-MH, F	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
8	Arsonic Detergents (as MGAS), mg/L	0.2	1	APHA 20 th Edition, 5540 C	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
9	Borion (as B), mg/L	0.7	No relaxation	APHA 20 th Edition, 3111 D	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
10	Bromine (as Br), mg/L	0.5	2.4	APHA 20 th Edition, 4500-B C	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
11	Calcium (as Ca), mg/L	75	200	APHA 20 th Edition, 3500-Ca B	71	48	22	8	9	12	28	11	29	32	5	38	25			
12	Chloride (as Cl), mg/L	250	1000	APHA 20 th Edition, 4500-Cl B	71	13	24	8	23	15	168	16	22	91	8	34	33			
13	Copper (as Cu), mg/L	0.05	1.5	APHA 20 th Edition, 3111 B	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
14	Fluoride (as F), mg/L	1	1.5	APHA 20 th Edition, 4500-F D	0.29	0.17	<0.05	<0.05	<0.05	<0.05	0.42	<0.05	0.41	0.35	<0.05	0.21	0.37			
15	Free Residual Chlorine, mg/L	0.2	1	IS 3325 (Part 26)-1998	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
16	Iron (as Fe), mg/L	1	No relaxation	APHA 20 th Edition, 3500-Fe B	0.11	0.23	0.19	0.14	0.33	0.18	0.17	0.28	0.52	0.34	<0.1	0.34	0.38			
17	Magnesium (as Mg), mg/L	30	100	APHA 20 th Edition, 3500-Mg B	25	18	12	4	5	3	12	9	12	14	3	23	9			
18	Manganese (as Mn), mg/L, Max.	0.1	0.3	APHA 20 th Edition, 3111 B	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
19	Mineral Oil, mg/L, Max	1	No relaxation	IS 3325 (Part 35)-1991	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1			
20	Nitrate (as NO ₃), mg/L	45	No relaxation	APHA 20 th Edition, 4500-NO ₃ -B	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.88	<0.5	<0.5	<0.5	<0.5	<0.5	0.82			
21	Phenolic Compounds (as C ₆ H ₅ OH), mg/L	0.001	0.002	APHA 20 th Edition, 5530 C	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001			
22	Sulphate (as SO ₄), mg/L, Max.	200	400	APHA 20 th Edition, 4500-SO ₄ -E	8.8	5.3	<2.5	<2.5	<2.5	<2.5	9.2	<2.5	7.3	8.2	<2.5	6.3	10.1			
23	Silver (as Ag), mg/L	0.1	No relaxation	APHA 20 th Edition, 3111 B	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
24	Sodium (as Na), mg/L	—	—	APHA 20 th Edition, 2500-Na B	44	31	14	6	15	8	85	11	14	21	5	26	38			
25	Selenium (as Se), mg/L	0.01	No relaxation	APHA 20 th Edition, 3114 C	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			
26	Cadmium (as Cd), mg/L	0.03	No relaxation	APHA 20 th Edition, 3111 B	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003			
27	Cyanide (as CN), mg/L	0.05	No relaxation	APHA 20 th Edition, 4500-CN E	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02			
28	Lead (as Pb), mg/L	0.01	No relaxation	APHA 20 th Edition, 3111 B	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			
29	Mercury (as Hg), mg/L	0.001	No relaxation	APHA 20 th Edition, 3112 B	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001			
30	Total Arsenic (as As), mg/L	0.01	No relaxation	APHA 20 th Edition, 3114 C	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			
31	Polyaromatic hydrocarbons (as PAH), mg/L	0.001	No relaxation	APHA 20 th Edition, 5440 B	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001			
32	Pesticide Residues, µg/L	0.01	No relaxation	APHA 20 th Edition, 8030 B/C	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			
33	Total Coliforms Count, MPN/100 ml.	Shall not be detectable in any 100 ml sample		IS 1622-1991 (Reaffirmed 2005)	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2			
34	Odour	Agreeable	Agreeable	IS- 3325 (Part 5) - 1985	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable			
35	Polychlorinated Biphenyls	0.0005	No relaxation	APHA 20th Edition, 6030	Not Detectable	Not Detectable	Not Detectable	Not Detectable	Not Detectable	Not Detectable	Not Detectable	Not Detectable	Not Detectable	Not Detectable	Not Detectable	Not Detectable	Not Detectable			
36	Chloramines, mg/L	4	No Relaxation	APHA 20th Edition, 4500 Cl G	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
37	Nitrylamine, mg/L	0.07	No Relaxation	APHA 20th Edition, 3111 D	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
38	Sulphide, mg/L	0.01	No Relaxation	APHA 20th Edition, 4500-S ²⁻ D	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
39	Electrical Conductivity at 25° C, µmhos/cm	—	—	APHA 20th Edition, 2510 B	785	560	270	94	140	123	380	105	360	360	88	380	358			
40	Phosphorus (P), mg/L	—	—	APHA 20th Edition, 4500 P D	<0.01	<0.01	0.014	<0.01	<0.01	<0.01	0.015	<0.01	<0.01	0.02	<0.01	0.00	<0.01			
41	Nitrate, mg/L	0.02	No Relaxation	APHA 20th Edition, 3111 B	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02			
42	Total Chromium, mg/L	0.05	No relaxation	APHA 20th Edition, 3111 B	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
43	Zinc, mg/L	5	15	APHA 20th Edition, 3111 B	0.017	0.011	<0.01	<0.01	0.013	<0.01	0.026	<0.01	0.013	0.019	0.011	0.013	0.016			
44	Total Alkalinity as CaCO ₃ , mg/L	200	300	APHA 20th Edition, 2320 B	279	336	111	27	27	34	34	27	187	41	22	218	34			
45	Total Hardness, mg/L	200	300	APHA 20th Edition, 2340 C	284	192	194	33	42	50	119	58	121	138	23	242	168			

ANNEXURE IX



CertificateNo:SEVA/DMP/27/23

SANMARGENGINEERINGVALIDATIONANDASSESSMENTPVT.LTD.

This Certificate is issued to
**Essar Oil and Gas Exploration and
Production Limited, Durgapur**

To certify that ERDMP of Essar Oil & Gas Exploration and Production Limited for its Associated Pipelines upto Customer End at Durgapur has been assessed with respect to the requirements of PNGRB Notification GSR 39(E) PNGRB Codes of Practices for Emergency Response and Disaster Management Plan (ERDMP) Regulations 2010 including Amendment Regulations 2020

ERDMP Certificate Valid from: 20th July 2023

ERDMP Certificate Valid upto: 19th July 2028



Audit Date: 26th Apr – 27th Apr 2023

Chapters: 31 Nos.

Annexures: 19 Nos.

Audit report No: SEVA/2023/DMP/01/Essar-Durgapur

Document No: RG-CBM-HSE-PROC-004A Rev 03

Certificate is issued based on Compliance report submitted

ANNEXURE X

Expenditure towards Enterprise Social Commitment for CBM Project, Raniganj by Essar Oil and Gas Exploration and Production Ltd.			
Period: Apr-24 to Sep-24			
Thematic Area	Projects	Beneficiaries (Nos.)	Expenditure (INR)
HEALTH	Community Health Care Services through Mobile Medical Van	7872	9,32,811.00
EDUCATION & TRAINING	Basic Amenities support to 6 anganwari centre under Kanksa Block	180	28,900
SPORTS AND CULTURAL EVENT	Support to sports	1772	68,150.00
COMMUNITY INFRASTRUCTURE DEVELOPMENT	Support to community	2632	1,14,276.00
TOTAL		12456	11,44,137.00

ANNEXURE (Colly. A)

ESSAR29th September, 2007

To
 The Director General,
 Directorate General of Hydrocarbons
New Delhi

Essar Group
 Essar House
 T1, K. K. Mang
 Maheshwari
 Mumbai 400 004
 India

Kind Attn. Sh. SC Sarma (Sr. Adviser)

Sub. - Discrepancy in award of Contract Area -- Block RG(East)-CBM-2001/1

Dear Sir,

As you are aware, block Raniganj East CBM was awarded to Essar Oil Ltd. as part of the 1st Round of CBM block auctions. The contract for the block was signed in July, 2002. Currently, the block is in its exploration phase with 11 coreholes drilled. The initial results are very encouraging.

It may be noted that one of our observations during the exploratory work planning and execution is reduction of the available contract area to 476 sq.km against the original area of 500 sq. km mentioned in the contract and the Data Package for the block.

COORDINATES OF THE BLOCK: RG (EAST)-CBM-2001/1

Sl. No.	Latitude (N)			Longitude (E)		
A	23°	41'	12"	87°	25'	02"
B	23°	40'	38"	87°	28'	45"
C	23°	40'	00"	87°	27'	10"
D	23°	39'	05"	87°	27'	09"
E	23°	38'	50"	87°	25'	52"
F	23°	37'	14"	87°	25'	33"
G	23°	34'	47"	87°	28'	17"
H	23°	32'	51"	87°	28'	46"
I	23°	31'	45"	87°	28'	46"
J	23°	30'	00"	87°	27'	39"

Essar Oil Limited
 Registered Office: Bhamburda, Post Box No.24, Old, Debraj Chatterji, Guwahati - 781 005, India

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STEEL | ENERGY | INFRASTRUCTURE | SERVICES

Sl. No.	Latitude (N)			Longitude (E)		
K	23°	29'	15"	87°	28'	45"
L	23°	27'	35"	87°	27'	25"
M	23°	28'	35"	87°	27'	25"
N	23°	23'	00"	87°	28'	10"
O	23°	22'	10"	87°	28'	00"
P	23°	21'	45"	87°	25'	00"
Q	23°	24'	15"	87°	29'	00"
R	23°	27'	30"	87°	16'	30"
S	23°	30'	00"	87°	14'	40"
T	23°	32'	10"	87°	15'	45"
U	23°	35'	10"	87°	18'	00"
V	23°	37'	00"	87°	20'	00"
W	23°	39'	45"	87°	25'	20"

The contract block co-ordinates of the above table was plotted in GCS (Geographic co-ordinate system)-WGS84 to get the awarded block boundary of CBM Block: RG (East)-CBM-2001). The projected boundary covers an area of 476,134456 Sq. Km which is 23.865544 Sq. Km less than the awarded 500 sq.km.

We would look forward to your kind attention to the issue. This remains a matter of concern since the eventual development of the block may be impacted due to loss of surface access and other processes.

We look forward to DGH co-operation in this matter. All the relevant documents mentioned above are enclosed for your ready reference.

Thanking you,
Yours sincerely,
For Essar Oil Limited



S.K. Singh
GM - CBM

EOL/CBM/RG/CA/1-2014

Dated : July 24, 2014

Shri P.K. Singh, IAS,
Joint Secretary (IC&GP)
Ministry of Petroleum & Natural Gas
Government of India
NEW DELHI- 110001

Essar Oil Limited
Prakash Deep
10th Floor
7, Tolstoy Marg
New Delhi-110001
India

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F +91 11 4350 1046, 4350 1047
www.essar.com

Sub: Allocation of about 7 sq. km contiguous area (not identified by Coal India Ltd for coal mining) along Essar's Raniganj (East) CBM Block under Article 11.2 of the CBM contract

As per
24/7

Dear Sir,

As you are kindly aware, Essar's Raniganj CBM Block RG(East)-CBM-2001/1 is a CBM Round-I block and is one of the most successful Private CBM ventures in India. Essar has since award of the block in 2002 successfully completed the Phase I and II of Exploratory and Appraisal phases and is presently in the Development Phase (Phase III). Till date, we have drilled more than 200 wells in our identified Fairway area of the block and we are producing more than 200,000 scmd of gas, most of which is being sold to a few local customers. Going forward, Essar has aggressive plans to drill more than 500 wells over the next few years and expects a peak production of about 3.0 mmscmd. The region though is severely gas starved, the demand is going up on a regular basis. We are sure our Raniganj CBM play will be a worthy showcase of emerging Indian unconventional hydrocarbon space and will go a long way for the regional energy security and improving the face of dwindling upstream investments in the country.

As mentioned above, our exploration work has identified an area of about 200 sq. km within the CBM block that has excellent gas potential which we are developing currently. The exploration data also clearly indicates that this fairway reservoir extends beyond the western limits of the block into the area between Essar and ONGC's Raniganj North CBM blocks and can be defined as a 'contiguous area'. Under the Govt. of India (GoI) policy pertaining to the CBM development in the country and crystallized in the form of various CBM contracts, the Article 11.2 in the CBM contract pertains to the extraction of gas from the area contiguous to the contract area. The specific lines being:

"where a part of reservoir in respect of which a commercial assessment extends beyond the contract area, such area may be included in the proposed developed area and application for a lease can be made, on such terms and conditions as decided by the central government; provided that such area is not subject to license or lease granted to any other person"

CIN: L11100GJ1989PLC032116

Page-1

Essar Oil Limited
Registered Office Address : Khandhalin, Post Box No. 24, Jamnagar 361 305, Gujarat, India.

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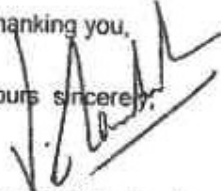
We had thus earlier carved out a tentative area of about 22 sq. km from this contiguous area and been communicating with DGH/MoPNG for its allocation to Essar. The last correspondence to Essar on the matter from MoPNG was in April 2011 (MoPNG letter ref. O-19018/27/2009-ONG-I-Vol II) whereby we were informed that this requested area is coal bearing and Coal India Ltd. has identified few coal blocks in this area. However, with the simultaneous coal mining and CBM policy still awaited, the matter remains undecided. We are however, aware that the MoPNG and MoC are in the interim reviewing the case.

Meanwhile, Essar has been able to get some additional location information of all of the above mentioned mining blocks in this contiguous area and it is seen from an internal plot of coordinates of these blocks vis-à-vis Essar CBM block that an area measuring 7 Sq. Km. (refer Annexure I) is apparently free and is not identified by CIL for any future coal mining blocks as also it is not part of any lease or contract.

Given the above references and referring to Article 11.2 of the CBM contract, Essar would request that this 7 sq. km area be allotted to Essar at the earliest and with the existing Raniganj East CBM contract terms. It may also be worthwhile to mention here that Essar has a few producing wells in our fairway just along the limits of this area bound and these wells are best producers amongst all. We expect same reservoir properties in this 7 sq. km patch and our access to this area will give room for about 20 extra CBM wells with our latest technologies and will add about 0.2-0.3 mmscmd of additional gas which is significant in terms of scales of a CBM field and local gas demand.

Thanking you,

Yours sincerely,


(V. Ramachandran)

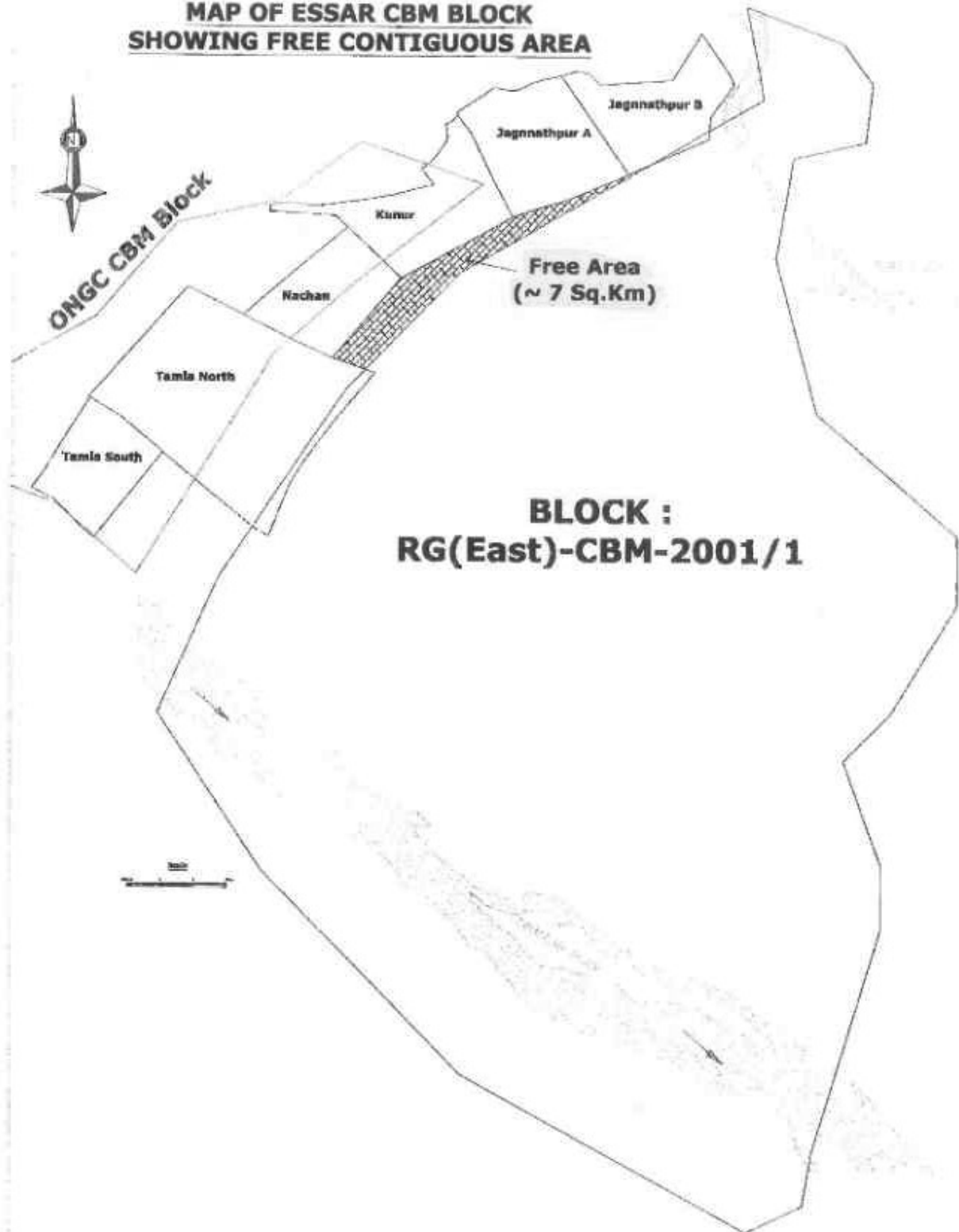
President, Corporate Affairs (Energy Business)

Encl.: Annexure I

✓cc Director General, Directorate General of Hydrocarbons, OI DB Bhawan, Plot No.2, Sector 73,
NOIDA-201301

ANNEXURE I

**MAP OF ESSAR CBM BLOCK
SHOWING FREE CONTIGUOUS AREA**



EOL/CBMRG/CA/1-2014

Dated : July 24, 2014

Shri P.K. Singh, IAS,
Joint Secretary (IC&GP)
Ministry of Petroleum & Natural Gas
NEW DELHI- 110001

Essar Oil Limited
Prakash Deep
10th Floor
7, Tolstoy Marg
New Delhi-110001
India

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F +91 11 4350 1046, 4350 1047
www.essar.com

Sub: Allocation of about 16 sq. km unallocated contiguous area along Essar's Raniganj (East) CBM Block under Article 11.2 of the CBM contract

Dear Sir,

As you are kindly aware, Essar's Raniganj CBM Block RG(East)-CBM-2001/1 is a CBM Round-1 block and is one of the most successful Private CBM ventures in India. Essar has since award of the block in 2002 successfully completed the Phase I and II of Exploratory and Appraisal phases and is presently in the Development Phase(Phase III). Till date, we have drilled more than 200 wells in our identified Fairway area of the block and we are producing more than 200,000 scmd of gas, most of which is being sold to a few local customers. Going forward, Essar has aggressive plans to drill more than 500 wells over the next few years and expects a peak production of about 3.0 mmscmd. The region though is severely gas starved, the demand is going up on a regular basis. We are sure our Raniganj CBM play will be a worthy showcase of emerging Indian unconventional hydrocarbon space and will go a long way for the regional energy security and improving the face of dwindling upstream investments in the country.

Rem - 1
4/2
2014

As mentioned above, our exploration work has identified an area of about 200 sq. km within the CBM block that has excellent gas potential which we are developing currently. The exploration data also clearly indicates that this fairway reservoir extends beyond the western limits of the block into the area between Essar and ONGC's Raniganj North CBM blocks and can be defined as a 'contiguous area'. Under the Govt. of India (GoI) policy pertaining to the CBM development in the country and crystallized in the form of various CBM contracts, Article 11.2 in the CBM contract pertains to the extraction of gas from the area contiguous to the contract area. The specific wording of Clause 11.2 is as given below:

'Where a part of a Reservoir in respect of which a Commercial Assessment Area extends beyond the Contract Area, such area may be included in the proposed Development Area and an application for a Lease can be made, on such terms and conditions as decided by the Central Government; provided that such area is :

- (a) not subject to a license or lease granted to any other person;*
- (b) not the subject of negotiations/bidding for a grant of a license or lease;*
- (c) available for licensing (i.e. is not an area over which CBM Operations are excluded);*
- and*
- (d) not subject to litigation or arbitration."*

Page-1

Essar Oil Limited
Registered Office Address: Khamthalia, Post Box No. 24, Jamnagar 361 305, Gujarat, India.

CIN: L11100GJ1989PLC032116

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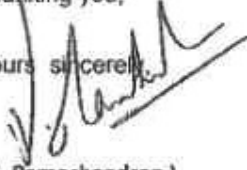
We had earlier carved out a tentative area of about 22 sq. km from this contiguous area and been communicating with DGH/MoPNG for its allocation to Essar. The last correspondence to Essar on the matter from MoPNG was in April 2011 (MoPNG letter ref. O-19018/27/2009-ONG-I-Vol II) whereby we were informed that the entire area between Essar and ONGC North CBM block is coal bearing and thus have been carved to six captive purpose coal mining blocks namely Nachan, Tamia N&S, Kunur and Jagannathpur A & B. It was also mentioned that of these six identified coal blocks, Jagannathpur A&B have already been allocated to West Bengal Mineral Development & Trading Corporation (WBMDTC). We understand that MoPNG has since sought the opinion of MoC on the issue and the matter remains undecided, thus leaving behind at least about 20 BCM of untapped CBM gas.

However, we are aware now and wish to highlight here that except the Jagannathpur A&B blocks above, all the other mentioned blocks are merely internally identified and/or planned blocks by CMPDI/CIL for future captive bids. Thus, the conditions embedded in Article 11.2 (a), (b) and (c) of the CBM contract above are satisfied in favor of Essar's claim and also as far as we know, this area is not subject to litigation or arbitration of any sort.

Given the above references, Essar would request that this 16 sq. km area (Annexure I) falling in the identified mining leaseholds of Tamia N, Kunur and Nachan in between Essar CBM and ONGC North CBM blocks be allotted to Essar at the earliest with the existing Raniganj East CBM contract terms. The results of CBM wells on either side of this patch viz. with Essar and the ONGC blocks are very encouraging. In addition to adding a volume of about 0.5-0.6 mmscmd of gas in the region it will also be making future mining safe.

Thanking you,

Yours sincerely,



(V. Ramachandran)

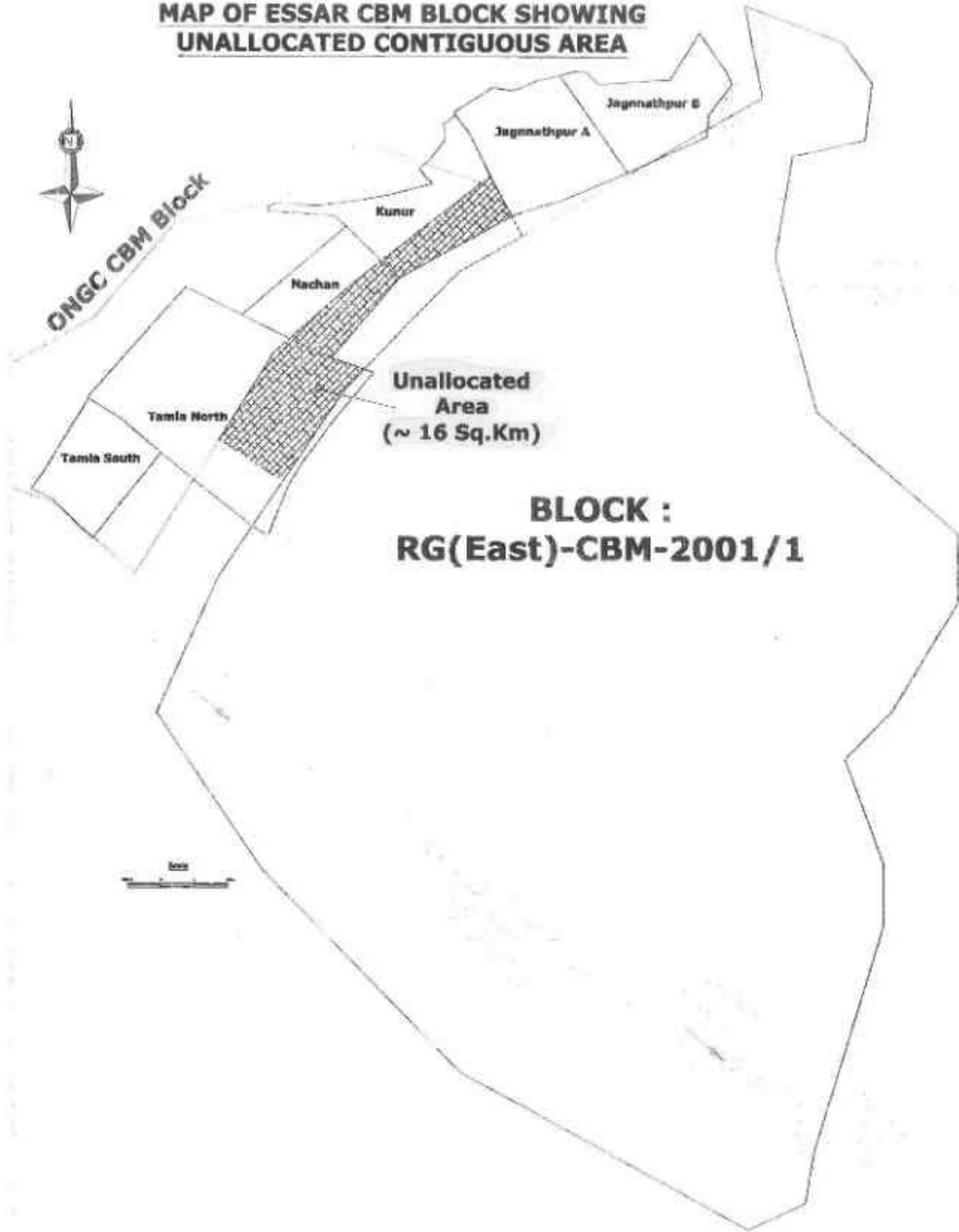
President, Corporate Affairs (Energy Business)

Encl.: Annexure I

cc: The Director General, Directorate General of Hydrocarbons, OIDB Bhawan, Plot No.2, Sector 73, NOIDA-201301.

ANNEXURE I

**MAP OF ESSAR CBM BLOCK SHOWING
UNALLOCATED CONTIGUOUS AREA**



Minutes of the 15th Steering Committee Meeting

For Block RG (East)-CBM-2001/1

Held on 10th November, 2014 at MoPNG office, New Delhi

The 15th Steering Committee (SC) meetings of the CBM block RG (East)-CBM-2001/1 comprising of representatives from MoPNG, DGH and Essar Oil Ltd. (EOL) was held in MoPNG office, New Delhi on Monday, 10th November, 2014.

MEMBERS PRESENT:

MOPNG

Shri U. P. Singh
Joint Secretary(Exp.) Addl. Charge(IC&GP)
Shri Nilesh S. Avhad
Director (GP)
Dr. Vikas Sharma,
Contract Cell
Ms. Reema Sharma,
Section Officer (GP)

DGH

Shri. K. Vishwasath
DGM(Geology)
Shri. B.J. Hazarika
Chief Geologist

At the outset, the chairman extended very warm welcome to the members of the committee and gave a brief description about the listed agenda. This was followed by a detailed presentation by EOL and interactive sessions.

The gist of the discussions and the decision of the SC members are enumerated below:

ESSAR

Shri Vilas Tawde
(Project Director - Unconventional,
Exploration & Production),
Dr. S. K. Singh
VicePresident-G&G (Unconventional
Projects), Member Steering
Committee
Mr Upendra Patro
General manager – F&A

Agenda	Description	Contractor/DGH/MoPNG Views	Steering Committee Decision observations
1. Brief Overview of progress in	Operator presented the data on progress in activities under		

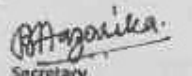
	restricted our dewatering capacity. Building up water handling capability resulted in delayed production.																		
<p>Proposal for development well locations in contiguous area to the western part of AG(E)-CBM 2001/1 Block:</p>	<p>As indicated in the approved FDP of the block that there are upside potential for increasing CBM gas production at the western boundary of the block in the following prospective areas:</p> <ol style="list-style-type: none"> 1. "Free Area" of 7 sq. km with no mining blocks mapped. 2. "Unallocated Area" of 16 sq. km in three mining blocks namely Nachan, Kunur and Tamla North which are merely mapped identities by Coal India Ltd. for future coal mining. <p>The well planning summary for the areas are given below:</p> <table border="1"> <thead> <tr> <th>Area</th> <th>AREA (Sq.km)</th> <th>PAD S</th> <th>WE</th> </tr> </thead> <tbody> <tr> <td>Free Area</td> <td>7</td> <td>11</td> <td>30</td> </tr> <tr> <td>Unallocated Area</td> <td>16</td> <td>12</td> <td>54</td> </tr> <tr> <td>TOTAL</td> <td>23</td> <td>23</td> <td>84</td> </tr> </tbody> </table>	Area	AREA (Sq.km)	PAD S	WE	Free Area	7	11	30	Unallocated Area	16	12	54	TOTAL	23	23	84	<p>Contractor Views: Contractor has sought the additional area as per the provisions of Article 11.2 of the contract after demonstrating the continuity of reservoir. All relevant data, documents have been submitted to DGH for review.</p> <p>DGH Views: Technically examined the area of 7 & 16 sq.km and found there is CBM potential in the referred area. The views of MoC is to be obtained on the feasibility of award of these area to the Contractor as per Article 11.2</p> <p>MoPSANG Views:</p> <ul style="list-style-type: none"> • MoPSANG stated that why the free area adjoining to the CBM block was not included at the time of bidding of the block. • It was also pointed out that MoC had identified blocks for captive Coal mines in the vicinity of the area. The views of MoC would be required whether the free and unallocated area can be awarded for CBM exploration and exploitation. • The terms & condition for award of additional area needs to be specified by the Government which will be examined if NOC is given by MoC. The decision to allocate to existing Contractor or re-bid will be taken thereafter. 	<p>SC opined that clearance of MoC is required for the award of free area. The terms & conditions in case additional area available for award, will be examined by the Government after NOC from MoC.</p>
Area	AREA (Sq.km)	PAD S	WE																
Free Area	7	11	30																
Unallocated Area	16	12	54																
TOTAL	23	23	84																



		<p>production phase on completion of development phase or development plan, whichever is earlier.</p> <p>Currently Operator is selling gas in small quantities on a no-commitment basis to the industrial units in Durgapur as the current gas production is insufficient to supply to Matix Fertilisers and Chemicals Ltd (priority sector). On reaching the required volume of production, the Operator would sell gas at the approved price to Matix.</p> <p>Operator agreed that it would resubmit the copy of the letter dated 24/05/2013 earlier sent to MoPNG for record and to obtain a letter from Matix stating that their minimum requirement of gas.</p> <p>DGH Views:</p> <p>As per Article 10.9 of CBM contract, the gas produced during exploration Phase-I & II can be sold with the approval of SC/GOI subject to payment of royalty, PLP etc.</p> <p>As per Article 1.21 of the CBM contract, Commercial production means production of CBM from the Contract area and delivery of the same at the relevant Delivery Points (s) under a programme of regular production and sale. The FDP of the Block is approved and the gas is being sold by the Contractor.</p> <p>The Contractor was intimated about Govt approved gas price @ US\$ 5.05 /MMBTU on Gross Calorific Value(GCV) for the period 01/11/2014 to 31/03/2015 vide letter dated 05/11/2014.</p>	
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The meeting ended with the vote of thanks to the Chair.


CHAIRMAN
 (Steering Committee)
 Essar Oil Limited


Secretary
 (Steering Committee)
 Directorate-General of
 Hydrocarbons


Representative
 (Steering Committee)
 Ministry of Petroleum &
 Natural Gas

Minutes of the 17th Steering Committee Meeting
 For Block RG (East)-CBM-2001/1

Held on 7th December, 2015 at 3-00 PM at MoPNG, New Delhi

The 17th Steering Committee (SC) meetings of the CBM block RG (East)-CBM-2001/1 comprising of representatives from MoPNG, DGH and Essar Oil Ltd. (EOL) was held at MoPNG, New Delhi on Monday, 7th December, 2015 at 3-00 PM.

MEMBERS PRESENT:

<u>MOPNG</u>	<u>DGH</u>	<u>ESSAR</u>
Shri U. P. Singh Additional Secretary (Exploration) Shri Prashant Lokande Director (Exploration) Shri Rakesh Mishra Under Secretary Shri Malay Rudra DGM	Shri Anurag Gupta GM Shri Rajnish Kumar SE Shri. A. K. Changakakoty Nodal Officer, CBM Blocks Shri T. Ashwini Kumar Senior Engineer (Production)	Shri Vilas Tawde (Project Director - Unconventional, Exploration & Production), Upendra Patro General Manager - Finance Hari Singh Chauhan Consultant

At the outset, the chairman extended very warm welcome to the members of the committee and gave a brief description about the listed agenda. This was followed by a detailed presentation by EOL and interactive sessions.


The gist of the discussions and the decision of the SC members are enumerated below:


The block contains a handwritten signature and the initials 'AT' in a circle.


<p>3. CBM Exploitation in 7 Sq. Km. Contiguous Area</p>	<p>on 29 September 2014 and 28 September 2015 respectively. Total Project Cost USD FY - 2013-2014 is 79,094,735 USD and FY-2014-2015 is 102,927,170.</p>	<p>FY 2014-15 Budget Estimate – USD 159,707,000 and budget incurred – USD 102,927,170. Operator to respond to the query raised by DGH Finance section which will then be examined by DGH.</p> <p><u>MOPNG View:</u> Noted.</p>	<p>SC recommended for allotment of 7 sq km contiguous area adjacent to the block and MOPNG may kindly take a view subject to clarification from MOC.</p>
	<ul style="list-style-type: none"> 7 sq.km area adjacent to EOL block in the northwestern part is free and not within license of any operator or even earmarked for any future Mining by CMPDI. Considering the depths of coal seams (>500 mts), the area is beyond commercial mining in near future. Methane extraction prior to mining will help in reduction in greenhouse gas, reducing mine hazards and increase mine efficiency. As per the provision of the Article 11.2 CBM contract – EDL has been requesting for permission to do developmental drilling in the contiguous area to augment CBM production. Essar has already developed CBM infrastructure in nearby area & has 	<p><u>Contractor's View:</u> Operator requests for permission for carrying out CBM development in 7 sq.km area.</p> <p><u>DGH View:</u> After examination of Operator's proposal DGH in agreement with operator's proposal and has already communicated to MOPNG.</p> <p><u>MOPNG View:</u> MOC has stated that there is no free area available. MOPNG to again check with MOC.</p>	

<p>5. Charge Creation on Participating Interest</p>	<ul style="list-style-type: none"> To meet the capital expenditure requirement for development of Raniganj project, Operator had secured Rs. 573.33 crore by way debt funding from a consortium of Banks comprising State Bank of India, Indian Overseas Bank and Axis Bank Limited. As part of security, a charge has been created in favour of the said lenders on the Operator's Participating Interest in the Block based on the approval of SC. To meet the further capital expenditure of the project, the Operator has got further sanctions of Rs. 640 crore from Axis Bank Limited and US\$ 72 Million from India Infrastructure Finance Company (UK) Limited. 	<p><u>Contractor's View:</u> Operator now requests the permission from the Steering Committee for creation of charge on its PI in the Block in favour of the new lenders to the project viz., Axis Bank Limited and India Infrastructure Finance Company (UK) Limited in terms of Article 25.8 of the CBM Contract.</p> <p><u>DGH View:</u> DGH to examine the proposal submitted by Operator and will provide their views.</p> <p><u>MoPNG View:</u> DGH to examine the proposal submitted by Operator in line with the provisions of 25.8 of CBM Contract to ensure that the debt raised by Operator is for the purpose of CBM operations in the block.</p>	<p>SC to consider the proposal after the same is examined by DGH in line with CBM contract provisions.</p>
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The meeting ended with the vote of thanks to the Chair.


CHAIRMAN
(Steering Committee)
Essar Oil Limited


Secretary
(Steering Committee)
Directorate General of
Hydrocarbons


Representative
(Steering Committee)
Ministry of Petroleum &
Natural Gas

7th December, 2018



To
The Secretary
Ministry of Petroleum & Natural Gas
Govt. of India
Shastri Bhawan
New Delhi 110001

Essar Oil and Gas Exploration and Production Ltd.
Essar House
11 K. K. Marg
Mumbai - 400 034
India
CIN : U11203G/2016PLC091503
T +91 22 6660 1100
F +91 22 6660 0429
E esops@essar.com
www.essar.com

Kind Attn. – Dr. M. M. Kutty, IAS

Sub. - Contradiction in block area offered, awarded and delineated in CBM Block- RG(East)-CBM-2001/1 (Raniganj East CBM) and consequential issues.

Dear Sir

In order to develop and monetise unconventional resources in the Country, Government of India invited CBM International Bid Round I Blocks in 2001. Along with Notice Inviting Offer (NIO), as a pre-requisite to bidding, interested companies were also required to buy the Data Package of block, which was compiled by the Directorate General of Hydrocarbons (DGH). The companies were expected to review the data, analyse the prospectively of blocks and then put forward their bids. Thus, Essar had participated in the bidding process by purchasing the Data Package and post due-diligence of data available, it successfully bid and won the Raniganj East CBM Block ("Block") called RG(East)-CBM-2001/1. The data package had provided relevant information of the Block i.e. its location, area, geotechnical details, etc. As per Data Package the area of the Block is 500 sq. km (actually 505 sq. km.). A detailed list of coordinates delineating the block area was also available in the data package (Points A to W). The CBM contract for the block was signed on July 26, 2002. The contract had mentioned that the area of the block is approximately 500 sq. km, which was understood to be exactly in line to what the Data Package had indicated. The contract also had the listing of the area coordinates (Points A to W). (*Annexure 1*)

Subsequent to award of the block and the receipt of PEL, Essar successfully completed the Phase I and II minimum work programme (MWP). As per contractual provisions, the Field Development Plan (FDP) was approved in December, 2010. Currently, the block is in its production phase (since July 2016) and has established itself as a showcase of CBM development in the country with the first CBM block in India to cross 1.0 million cubic metres per day (mmscmd) of gas production.

In this regard, further to our submission in Para I, we would like to highlight the following -

- During the exploratory work (2007), Essar found that the southern part of the block has shallow coal and in fact there is an existing coal block award in the area to a Govt. of West Bengal undertaking which partly overlapped the contract area awarded to Essar. Hence, in-lieu of the overlapping area, Essar requested to allot a separate parcel of land measuring 53 sq. km in the immediate adjacent west of the Raniganj East Block.
- In fact, during the time of preparation of the FDP, all exploratory data was mapped and analysed on standard software platforms (ArcGIS/Petrel) with the worldwide accepted projection system (namely WGS 84) and was found that the actual contract area was only 476 sq. km against 500 sq. km allotted as per the data package and contract (Ref. Section 11 of the contract). With the above facts, based on advice from the DGH, Essar concurrently submitted a request for additional area of 53 sq. km towards the reservoir extension area, as per the provisions of Article 11.2 of the CBM contract, which

Essar Oil and Gas Exploration and Production Ltd.
Registered Office Address : F-80, Sector 1 Shopping, Vicks-Argha, Highway, Rajapur, Mahesana, Gujarat - 384 002, India. T +91 7902 244 607 F +91 2922 244 605

STEEL | ENERGY | INFRASTRUCTURE | SERVICES

Secy (PNG) FTS No. 72279 dt. 10.12.2018.

- allows for award of such adjacent reservoir extension area. Please also refer Chapter 15 of the FDP (*Annexure 2*).
- c. During 2014, it was learnt that Ministry of Coal has in fact earmarked five coal mining blocks in this patch (ref. in 'b' above) out of which two blocks were already allocated to WBMDTCL. During the discussions with representatives of MoC & MoPNG, GoI, Essar was advised to submit two separate proposals, for allocation of 23 sq. km (Instead of the original request of 53 sq. km.) viz. 7 sq. km freehold area and 16 sq. km overlapping with three demarcated coal mining blocks (*Annexure 3*).
 - d. The Steering Committee (SC) of the block, comprising representative of MoPNG, DGH and Essar, in its Meetings dtd. 10th November, 2014 & (15th SC Meeting) and 7th December, 2015 (17th SC Meeting) had recommended that the award of the requested 23 sq. km area to Essar based on technical and contractual considerations. It was referred to MoC in 2016 for their NOC, but the same has been pending (*Annexures 4, 5 & 6*).
 - e. It is pertinent to mention here that the aforesaid three coal mining block demarcated for captive coal mining has deeper coals (>500 m) and are perceived to un-sustainable or unviable for mining blocks at least in the next 30 years (*Vision Coal 2025* document).
 - f. Further, it may also be noted that a part of the aforesaid coal blocks beyond the 16 sq. km sought by Essar is overlapping with ONGC Raniganj North CBM development block, where the contract is also valid for development and production until 2041. Thus coal mining in these blocks is in any case remains technically not feasible prior to 2040s.
 - g. Despite several follow-ups across both the Ministry of Coal and Petroleum & Natural Gas for the NOC for the 23 sq. km area, the matter is still pending, though a substantial time has elapsed. This has resulted in delay in development and under-utilization of national resources.
 - h. Taking the advantage of this inordinate delay in awarding the additional area, several vested interests have jumped into the fray to take undue advantage of the situation. One such incidence has recently come to our notice that some vested group had fraudulently used the official position of GM (Min/Agent) of Eastern Coalfields Limited (ECL) and had written a complaint to several authorities against Essar, which later after investigation by ECL, found to be fraud and baseless. Anguished by this, ECL has already lodged a FIR with police against these unknown vested interests. This has time and again led to jeopardizing our focus on CBM development work.

We would like to bring to your kind attention a pertinent fact that when all other CBM players were reluctant to invest and carry out CBM operations in the country in view of the consistent fall in oil and gas prices, Essar pioneered and made substantial investments of about US\$ 200 MM during that period. Till date Essar has invested about US\$ 600 MM in its Raniganj Block and has established CBM as a successful venture. This project, in addition to generating employment in the area has also supported development of industries on clean fuel, thus also supporting the environment.

EOGEP, as an operator, believes it to be an opportune moment to draw your kind attention to a few crucial points in this regard.

1. The additional area of 23 sq. km area, would have been a part of the block, if the co-ordinate and block demarcation of the Data Package is considered. Thus, we believe that the change in co-ordinates of the block was made post submission of Bid by Essar and the same was not made known to Essar (*Annexure 1*). Essar undertook the evaluation and bid for the block with the assessed Minimum Work Program and Production Level Payments to the GoI based on the Data Package information and therefore it is unjust to deprive Essar of this additional area.
2. It seems that due to apparent overlaps, the block configuration was revised in the contract, wherein this patch of a potential CBM prospective area was excluded. This is unusual since most of the CBM



- blocks awarded alongside Essar's block also had boundary sharing with adjoining blocks but such truncating was not done in any of them. When Essar approached DGH for its guidance and way forward in view of this unusual situation, DGH advised Essar to apply for this truncated area by exercising the provisions in the CBM Contract i.e. Article 11.2, which Essar complied. (Annexure 7).
3. Further, we understand that the CBM Blocks were identified and offered by GoI with prior clearance from the MoC in designated "YES" Areas where coal mining is not perceived in the foreseeable future and a MoU to this effect was entered between MoPNG and MoC (Standing Committee On Petroleum & Natural Gas Report, Aug., 2016). Thus, the reason for seeking approval from MoC on Essar's proposal once again is not clear as the same was not necessary.

Therefore, for Early Monetization of CBM in line with the GoI long term Vision of reducing Import Dependency, Essar requests MoPNG to kindly expedite final approval for inclusion of the requested area (23 sq. km), which was originally a part of the Block, thus eliminating the anomaly in the area offered under NID and actually awarded under the contract.

We will also like to mention that following the GoI's recent liberal policy of allowing marketing and pricing freedom to the CBM operators, Essar had auctioned and discovered a competitive gas price that supports the development of its CBM Block followed by signing of a long-term Gas Sales and Purchase Agreement (GSPA) with GAIL earlier this year and the gas offtake has already started. We are now eagerly awaiting the commissioning of the Urja-Ganga Pipeline of GAIL wherein we will make all endeavours to supply 2.3 mmscmd to the grid by 2022. An early approval by GoI on the allocation of 23 sq.km area, as requested above, shall support Essar's endeavour in enhancing CBM production and fulfilling its commitments.

We would request a convenient time from your kind office to showcase our development achievements in the Raniganj East Block and seek your valuable views on the subject.

Thanking you,
Sincerely yours



Vilas S Tawde
Managing Director & CEO

Copy to -

- a. Shri Amar Nath, IAS, JS (E), Minister of Petroleum and Natural Gas, New Delhi
- b. The Director General, DGH, Sector 73, Noida, UP.
- c. Shri Binaya Srikanta Pradhan, PS to Minister of Petroleum and Natural Gas, New Delhi

Encl. - 3/a

S. S. Negi
10/12/18

F. No. Expl-11019(18)/611/2017-Expl.I-PNG (E-10267)

Government of India
Ministry of Petroleum and Natural Gas

Shastri Bhawan, New Delhi 110001

Dated: 5th September, 2023

To

The Principal Secretary (Mines and Minerals),
Government of West Bengal,
Nabanna, 3rd Floor,
325, Sarat Chatterjee Road,
Mandirtala, Shibpur,
Howrah 711102, Kolkata.

Subject:- Grant of freehold area of 7 Sq. KM contiguous to Raniganj (East)-CBM-2001/1 to M/s Essar Oil and Gas Exploration and Production Ltd. (EOGEPL) - Reg.

Sir,

I am directed to refer to the subject mentioned above, and to convey prior recommendation of the Central Government, under Section 5(1) (ii) of Petroleum and Natural Gas Rules, 1959 for grant of freehold area of 7 Sq. KM contiguous to Block Raniganj (East)-CBM-2001/1 to M/s Essar Oil and Gas Exploration and Production Ltd. (EOGEPL) in terms of provisions of Article 11.2 of the Coal Bed Methane (CBM) Contract for the Block Raniganj (East)-CBM-2001/1.

2. Details of the Block coordinates and maps are enclosed herewith.
3. M/s EOGEPL will submit application for grant of Petroleum Mining Licenses (PMLs) by the Government of West Bengal under Rule 5(1)(ii) of the Petroleum and Natural Gas Rules, 1959 along with relevant details.

This issues with the approval of the Competent Authority.

Encl: As above.

Yours faithfully,



(Awdhesh Kumar Mehta)

Under Secretary to the Government of India

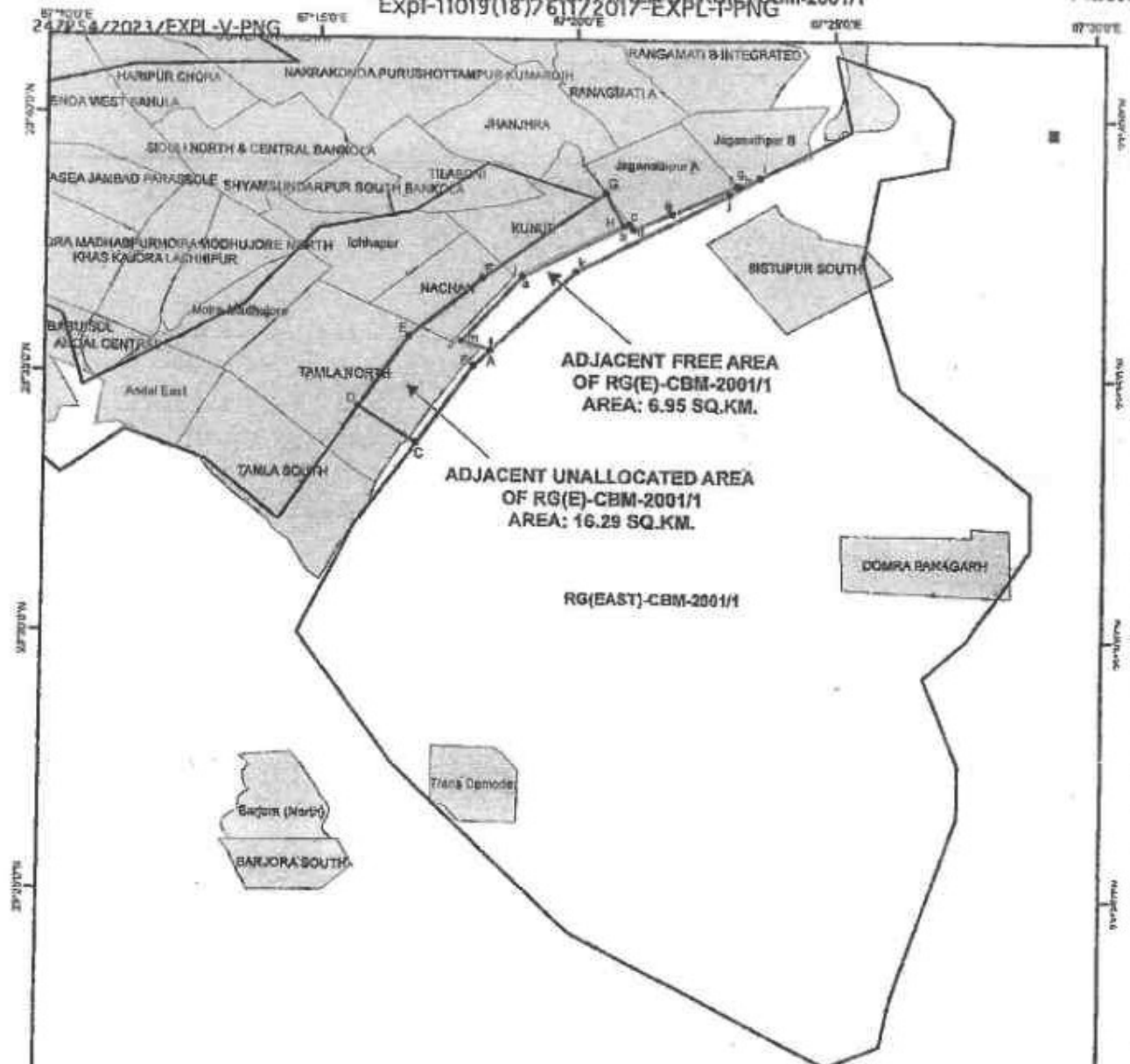
Tel: 011-23381984

Copy to:

1. DG, DGH, OI&B Bhawan, Sector 73, Noida, Uttar Pradesh.
- ✓ 2. The CEO and Director, M/s. Essar Oil and Gas Exploration and Production Ltd., (EOGEPL), Essar House, 11, K. K. Marg, Mahalakshmi, Mumbai 400034.

MAP SHOWING ADJACENT AREA OF RG(E)-CBM-2001/1
Expi-11019(18)/611/2017-EXPL-I-PNG

743/893



CO-ORDINATES OF ADJACENT UNALLOCATED AREA OF
RG(E)-CBM-2001/1(WGS84)
AREA: 16.29 SQ.KM.

POINT	LONGITUDE	LATITUDE
A	87° 18' 19.650" E	23° 35' 28.020" N
B	87° 18' 00.000" E	23° 35' 10.000" N
C	87° 16' 53.040" E	23° 33' 40.740" N
D	87° 15' 46.740" E	23° 34' 21.840" N
E	87° 16' 44.290" E	23° 35' 44.420" N
F	87° 18' 10.290" E	23° 36' 51.420" N
G	87° 20' 33.030" E	23° 38' 31.310" N
H	87° 20' 55.330" E	23° 37' 53.120" N
I	87° 18' 57.350" E	23° 36' 54.380" N
J	87° 17' 44.990" E	23° 35' 38.770" N

CO-ORDINATES OF ADJACENT FREE AREA OF RG(E)-CBM-
2001/1(WGS84)
AREA: 6.95 SQ.KM.

POINT	LONGITUDE	LATITUDE
a	87° 18' 57.350" E	23° 36' 54.380" N
b	87° 20' 55.330" E	23° 37' 53.120" N
c	87° 21' 01.685" E	23° 37' 55.104" N
d	87° 21' 06.310" E	23° 37' 49.227" N
e	87° 21' 49.015" E	23° 38' 07.788" N
f	87° 23' 06.035" E	23° 38' 41.195" N
g	87° 23' 07.342" E	23° 38' 39.788" N
h	87° 23' 10.171" E	23° 38' 40.245" N
i	87° 23' 33.600" E	23° 38' 50.179" N
j	87° 22' 56.660" E	23° 38' 31.130" N
k	87° 20' 00.000" E	23° 37' 00.000" N
l	87° 18' 19.650" E	23° 35' 28.020" N
m	87° 17' 44.990" E	23° 35' 38.770" N
a	87° 18' 57.350" E	23° 36' 54.380" N





Government of West Bengal
Department of Industries, Commerce and Enterprises
4, Abanindranath Tagore Sarani (Camac Street), Kolkata – 16
Mines Branch

No.267-ICE/O/MIN/MJM-CBM/001/2024

Date:10.05.2024.

From: The Deputy Secretary
to the Government of West Bengal

To: The Chief Financial Officer,
Essar Oil and Gas exploration and Production Ltd.,
Essar House-Durgapur, Vill&P.O.-Molandighi,
Block-Kanksa, Durgapur,
Dist.: Paschim Bardhaman, West Bengal-713212

Sub : Provisional Grant Order for Petroleum Mining Lease in favour of M/S Essar Oil and Gas Exploration and Production Ltd in respect of additional area of 7 Sq. Km adjacent to operational CBM-Block- Raniganj (East) CBM-2001/1, in Raniganj Coal Field, West Bengal .

Sir,

I am directed to refer to your application dt. 13/09/2023 on the subject above and to inform that upon due consideration and on basis of approval accorded by Ministry of Petroleum and Natural Gas, Govt. of India, Provisional Grant Order for Petroleum Mining License in favour of M/s. Essar Oil and Gas Exploration and Production, vide, their F. No.Expl-11019(18)611/217-Expl.I.-PNG(E-10267) dated 05/09/2023, is hereby issued under rule 5(1)(ii) of Petroleum and Natural Gas Rules, 1959 and as amended from time to time, for extraction of Coal Bed Methane in respect of 7 Sq. KM contiguous to Raniganj (East) CBM -2001/1, West Bengal as per Appendix of the aforesaid order of Ministry of Petroleum & Natural Gas subject to the execution of Mining Lease Deed within 90 days from the date of issuance of this order containing the terms and conditions of the production sharing contract and subject also to fulfillment of the following terms and conditions :

1. The lease shall be in respect of Coal Bed Methane (CBM) Contract and it's subsequent amendment.
2. The lease shall be valid up to 01/05/2032 from the date of registration of the amended PML Lease Deed.
3. The lease shall be subject to the provisions of the Oil Fields (Regulation & Development) Act, 1948 (53 of 1948) and the Petroleum & Natural Gas Rules, 1959 made there under as amended from time to time.
4. Payment to be made:
 - a) Payment of the mining dues with penal amounts in terms of Rule 23 of the Petroleum and Natural Gas Rules,1959 for the existing leased out 500 Sq. Km.
 - b) Payment of initial lease fee of Rs. 2,00,000/- (Two lakh) in terms of Rule 6 of the Petroleum and Natural Gas Rules,1959.
 - c) Payment of Security deposit of Rs. 4,00,000/- (Four Lakh) in terms of Rule 11 of the Petroleum and Natural Gas Rules,1959.
 - d) Payment of Mining Lease fees of Rs. 8,00,000/- (Eight Lakh) in terms of Rule 13 of the Petroleum and Natural Gas Rules,1959.

- e) Payment of meeting Preliminary Expenses of Rs. 1,20,000/- (One lakh twenty thousand) in terms Rule 13 of the Petroleum and Natural Gas Rules, 1959.

4.1 Payment of Statutory fees, rentals, levies, taxes shall be as under:

Statutory levies, royalty, Production Level Payments (PLP) and taxes to be paid to the Government as per prevailing statutory laws and rules as mentioned in the Lease deed and/or as amended from time to time.

4.2 Subject to other provisions of the contract, Contractor shall be liable for payments of :

- a) Annual rental charges and Lease fees under the Rules.
 - b) Charges payable by specified industries or in connection with CBM Operations under applicable legislations.
 - c) Payments for purchase, lease or rental of land or land rights in connection with CBM Operations.
 - d) Taxes, fees or charges for specific services rendered on request or to the public generally.
 - e) Customs duties, except for those items subject to exemption as provided in Article 16 applicable at the rates specified from time to time; and
 - f) Stamp duties, registration fees, lease fees, taxes such as taxes on property or assets (not calculated by reference to income or otherwise exempted) or other levies, fees or charges of a non-discriminatory nature and generally applicable in India or in the State where CBM Operations are being conducted.
5. The lessee shall as soon as possible provide the Central Government / State Government or its designated agency, free of cost, all data obtained or to be obtained as a result of Petroleum Exploration as specified in Rule 19 © of the Petroleum & Natural Gas Rules, 1959 as amended from time to time.
6. Necessary approval from the Competent Authority should be obtained for the Reserve Forest Area (if any) falling in the leased area, before any activity is commenced there.
7. If International companies or foreigners are entrusted with the task, the lessee may get security-vetting of these companies through the appropriate authority / Ministry.
8. Security to its employees both at the project site and en-route in insurgency-affected areas will be the responsibility of the lessee.
9. Lessee shall allow State Government authorities to enter and inspect area for security checkup, whenever necessary.
10. Aerial survey, if any, would be governed by the provisions of Ministry of Defence letter No.18(8)82-D-(GS III) dated January 31, 1989 or as per prevailing norms.
11. Air Force areas falling within the zones embarked for delineation should be avoided.
12. For works in close vicinity of Indian Air Force units / installations and visit to these installations, if any, specific permission of Air Hdqrs. should be obtained.
13. Any work within 55 m of the perimeter of Air Force station should be intimated to Air Force Authority at least 10 days before commencement of activities and due permission needs to be obtained.
14. No obstruction shall be erected higher than 15 metres. within 5 kms. radius of Air Force Airfields and construction of any high mast/towers shall be carried out only in consultation with the Air Force Authority.
15. Lessee shall execute a separate lease deed in respect of such other covenant, terms and conditions as per the prescribed format.

16. The lessee shall submit to the State Govt. without fail every three months the progress of all operations, including boring and test production.
17. The lessee shall submit Environment Clearance from the Ministry of Environment, Forest and Climate Change, Govt. of India, Consent to establish & Consent to Operate from West Bengal Pollution Control Board and any other NoC/Clearance as applicable.
18. The lessee will submit the report of availability of land from D.L. & L.R.Os. concerned only for the areas where actual drilling of bore holes would be carried out before execution of lease deed, subject to settlement of overlapped areas of 7.05 sq. km with BAPL.
19. An affidavit shall be given by the lessee to the effect that none of the CBM installations, wells should interfere with the present or future Coal mining operation and that they will obtain surface right of land in due observance of WBLR Act, 1955 as amended from time to time.
20. The grant order is subject to such other terms and conditions as the State Government may determine from time to time depending on the exigencies and in public interest.
21. This order complies with the Ministry of Petroleum and Natural Gas, Govt. of India's approval for grant of Petroleum Mining License in respect of M/s. Essar Oil and Gas Exploration Ltd. vide their F. No.Expl-11019(18)/611/217-Expl.L-PNG(E-10267) dated 05/09/2023,
22. The lessee shall observe the provisions of Petroleum & Natural Gas Rules, 1951, Mines Act, 1952, Environment (Protection) Rules, 1986 failing which penalty will be imposed as per provisions of the said Act and Rules.
23. Certificate in respect of "Income Tax clearance" and "No mining Dues" shall have to be submitted.
24. As regard to surface land, the same shall be procured by lessee through direct negotiation with the raiyats/owners of the land as and when required basis.

Yours faithfully,


Deputy Secretary to the
Government of West Bengal

No. 267/1(1)-ICE/O/MIN/MJM-CBM/001/2024

Date: 10.05.2024

Copy forwarded for kind information to the Under Secretary to the Govt. of India, Ministry of Petroleum & Natural Gas, Shastri Bhavan, New Delhi - 110 001

This has a reference to his F.No. Expl-11019(18)/611/217-Expl.L-PNG(E-10267) dated 05/09/2023.


Deputy Secretary to the
Government of West Bengal

No. 267/2(3)1(1)-ICE/O/MIN/MJM-CBM/001/2024

Date: 10.05.2024

Copy forwarded for kind information and necessary action to:

1. The District Magistrate, Paschim Bardhaman, Vivekananda Road, R.K Mission- 713304.
2. The Director of Mines and Minerals, West Bengal,
3. The Chief Mining Officer, West Bengal, Court Road, Asansol, P.O.Asansol, Dist., Paschim Bardhaman


Deputy Secretary to the
Government of West Bengal

ANNEXURE XI



West Bengal Pollution Control Board
(Department of Environment, Government of West Bengal)
Paribesh Bhawan, Bldg. 10A, Block LA
Sector III, Bidhannagar, Kolkata 700 106
Tel: (033) 2202-3000, 2202-3001 to 3139
Email: net.wbpcb-wb@bangla.gov.in

Memo No. 190 /2S(HW)-2449/2008

Date: 28/12/2023.

FORM 2

Grant of Authorization under the provisions of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

Ref.: Application authorization dated 04.12.2023 for management & handling of hazardous waste under Hazardous & Other Waste (Management & Transboundary Movement) Rules, 2016 and its amendment thereafter.

M/s. Essar Oil and Gas Exploration and Production Limited

Raniganj CBM Block, Durgapur, Paschim Bardhaman-713212 is hereby granted an authorisation for generation, collection, reception, storage, transport, reuse, recycling, recovery, pre-processing, co-processing, utilisation, treatment, disposal, or any other use of hazardous or other wastes or both on the premises located at **Raniganj CBM Block, Durgapur, Paschim Bardhaman-713212**.

Details of Authorisation:

Sl. no.	Category of Hazardous Waste as per the Schedule I, II and III of these rules	Authorized mode of disposal or recycling or utilization or co-processing etc.	Quantity (Ton/year)
1.	5.1	Recycling through authorized recyclers.*	50.0
2.	5.2	Disposed to CHWTSDF.*	12.0
3.	36.2	Disposed to CHWTSDF.*	5.0
4.	35.1	Disposed to CHWTSDF.*	3.0

* For detail refer to Specific Conditions.

- (1) Authorization shall be valid for a period upto **31.10.2028** with effect from the date of issue
- (2) The authorization is subject to the following general and specific conditions:

[OSD (O&E)]

West Bengal Pollution Control Board
Officer on Special Duty (O & E)
West Bengal Pollution Control Board
Dept. of Environment, Govt. of West Bengal

A. General conditions of authorization:

1. The authorised person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.
2. The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the State Pollution Control Board.
3. The person authorised shall not rent, lend, sell, transfer or otherwise transport the hazardous and other wastes except what is permitted through this authorisation.
4. Any unauthorised change in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorisation.
5. The person authorised shall implement Emergency Response Procedure (ERP) for which this authorisation is being granted considering all site-specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time;
6. The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty"
7. It is the duty of the authorised person to take prior permission of the State Pollution Control Board to close down the facility.
8. The imported hazardous and other wastes shall be fully insured for transit as well as for any accidental occurrence and its clean-up operation.
9. The record of consumption and fate of the imported hazardous and other wastes shall be maintained.
10. The hazardous and other waste which gets generated during recycling or reuse or recovery or pre-processing or utilisation of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorisation.
11. The importer or exporter shall bear the cost of import or export and mitigation of damages if any.
12. An application for the renewal of an authorisation shall be three months before the expiry of such authorisation.
13. Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.
14. Annual return shall be filed by June 30th every year for the period ending 31st March of that year.

B. Specific conditions:

1. The unit shall store the hazardous wastes (category wise separately) under shade in an environment friendly safe manner within the premises at designated places and the unit shall not store hazardous waste on site for more than 90 days.
2. Silica gels for purification of flue gas (35.1), waste or residue containing oil (5.2), used/discarded DG Set filter (36.2) shall be disposed to the CHWTSDF, West Bengal through Manifest system (Form-10).
3. Used oil (5.1) and empty barrels/containers contaminated with hazardous chemicals (33.1) shall be sold through manifest system (Form 10) to the authorized recyclers having valid authorization of the State Pollution Control Board. During each sale, original Pass-book issued by SPCB to the authorized recyclers shall be endorsed mentioning the quantity and copy of the same shall be kept as record. If not fit for recycling shall be sent to CHWTSDF facility with manifest system.

4. The unit shall submit copies of Form-10 to the State Board on a regular basis.
5. Transport of hazardous and other waste shall be in accordance with the Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016, guidelines issued by the Central Pollution Control Board (CPCB) and rules made under the Motor Vehicle's Act, 1988. The responsibility of safe transport shall be either of the sender or the receiver whosoever arranges the transport and this responsibility shall be clearly indicated in the Manifest.
6. Records of hazardous waste generation, storage and disposal shall be maintained properly and shall be available to the inspecting officials of the State Board during inspection.
7. The unit shall update regularly the environmental information in Display Boards as per the order of the Hon'ble Supreme Court dated. 14.10.2003 in W.P.(C) NO.657 of 1995.
8. Authorisation will be revoked in case of non-compliances with any of the above conditions.

M/s. Essar Oil and Gas Exploration and Production Limited
Raniganj CBM Block, Durgapur,
Paschim Bardhaman-713212

WEST BENGAL

Sml
[OSD (O&E)]

West Bengal Pollution Control Board

Officer on Special Duty (O & E)
West Bengal Pollution Control Board
Dept. of Environment, Govt. of W.B.



ANNEXURE XII



Annexure XII



Ref: EOGEP/CBM-RG (E)/HSE/2024/5881

28th June, 2024

The Officer on Special Duty (OSD),
(Waste Management Cell)
West Bengal Pollution Control Board
Paribesh Bhawan Building, 10A, Block LA,
Sector- III, Salt Lake, Kolkata- 700106

Essar Oil and Gas Exploration and Production Ltd
Essar House - Durgapur
Village & Post Office - Molandighi
Block - Kanksa
Durgapur Sub-Division
Dist. - Paschim Bardhaman
Durgapur - 713212
West Bengal
India
CIN: U11203GJ2015PLC091903
E: eogepl@essarenp.co.in
www.essar.com

Sub: Submission of the Annual Return (Form 4) for the Financial Year 2023-24 along with the declaration of disposal of more qty. Hazardous Wastes, Schedule I; Category- 5.1 and 36.2 under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

- Ref: i) Annual Return (Form 4), Return No.- 5405965.
ii) Authorization vide Memo No. 190/25(HW)-2449/2008 dated 28/12/2023.
iii) Manifest copies (Form 10) for the Financial Year 2023-24.

Respected Sir,

With due respect, I would like to draw your kind attention that the Annual Return (Form 4), Return No.- 5405965 has already been uploaded in the portal dated 24/06/2024 is submitted herewith on behalf of Essar Oil and Gas Exploration and Production Ltd. (EOGEPL).

Also, I hereby do inform you that the generation of Hazardous Wastes, Schedule I; Category- 5.1 and 36.2 under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, got increased in quantity. As because, the ramp up of new drilling campaign of CBM wells for enhancing the CBM production w.r.t. market demand. Therefore, generation of the hazardous wastes increased in accordance with the CBM production activities, whereas the same have been disposed of through authorized recycler/co-processor and CHWTSDF respectively.

The disposal quantity is differed with the authorization quantity as mentioned in the below table.

Sl. No.	Category	Description of Hazardous Waste	Quantity Authorized per Year (Ton)	Quantity Disposed for the FY 2023-24 (Ton)	Mode of Disposal
01	5.1	Used or Spent Oil	50	64.92	Recycle/co-process
02	36.2	Filter Medium (Oil filter and RO membrane)	5	10.14	CHWTSDF

Kindly acknowledge and oblige

Thanking you,

For Essar Oil and Gas Exploration and Production Limited


Vikram Goday
Vice President & Head - Facilities

- Enclosed: i) Annual Return (Form 4), Return No.- 5405965.
ii) Authorization vide Memo No. 190/25(HW)-2449/2008 dated 28/12/2023.
iii) Manifest copies (Form 10) for the Financial Year 2023-24.

ANNEXURE XIII

Expenditure towards Environmental Protection Measures at EOGEP L CBM Project, Raniganj by Essar Oil and Gas Exploration and Production Ltd.		
Period: Apr-24 to Sep-24		
S. No.	Particular	Expenses (INR)
1	Operation & maintenance of the RO system & pumps and water tanker services-Opex	88,20,891
TOTAL		88,20,891

ANNEXURE XIV



Ref. No.: EOGEP/CEM-RG (E)/EC-Int./2023
Date: 21/08/2023

To
The Pradhan
Trilokchandrapur Gram Panchayet
Dist.- Paschim Bardhaman.

Essar Oil and Gas Exploration and Production Ltd
Essar House- Durgapur
Village & Post Office- Molandigi
Block-Kanksa
Durgapur Sub-Division
Dist. Paschim Bardhaman
Durgapur-713212
West Bengal
India

CIN: U11203GJ2016PLC091903

E eoqep@essarenp.co.in
www.essar.com

Sub.: Intimation of the Environment Clearance granted to EOGEP vide F. No. J-11011/491/2011-IA II (I) dated 14th August 2023.

Dear Sir/Madam,

This has reference to the captioned subject. We are pleased to submit herewith a copy of the amended Environment Clearance (EC) letter granted by MoEF&CC, GoI for your intimation and record. The said letter is granted to us with an extended validity of EC till 25th February 2025. We are also enclosing the copy of the ECs as desired by you.

These are also available in our website.

Thanking you,
For Essar Oil and Gas Exploration and Production Ltd.

Authorized Signatory



Enclosed:

- EC letter for validity extension vide F. No. J-11011/491/2011-IA II (I) dated 14th August 2023. (Annexure I)
- EC letter vide F. No. J-11011/491/2011-IA II (I) dated 26th February 2013. (Annexure II)
- Amended EC letter vide F. No. J-11011/491/2011-IA II (I) dated 27th November 2017. (Annexure III)
- Amended EC letter vide F. No. J-11011/491/2011-IA II (I) dated 9th May 2019. (Annexure IV)
- EC letter vide F. No. J-11011/351/2009-IA II (I) dated 23rd September 2011. (Annexure V)
- Amended EC letter vide F. No. J-11011/351/2009-IA II (I) dated 18th June 2012. (Annexure VI)
- Amended EC letter vide F. No. J-11011/351/2009-IA II (I) dated 6th November 2017. (Annexure VII)
- EC letter vide F. No. J-11011/660/2007-IA II (I) dated 6th May 2008. (Annexure VIII)

N. B.: Kindly acknowledge and oblige by signing off as mentioned in the below table after the receiving.

S.No	Panchayet Name	Ref. No. & Date	Received with Signature
01	Office of the Trilokchandrapur Gram Panchayet, Dist- Paschim Bardhaman.	EOGEP/CEM-RG (E)/EC-Int./2023 dated 21/08/2023	 Upa-pradhan Trilokchandrapur Gram Panchayet Kankas, Paschim Bardhaman

810



Ref. No.: EOGEP/ CBM-RG (E)/EC-Int./2023
Date: 21/08/2023

Essar Oil and Gas Exploration and Production Ltd
Essar House- Durgapur
Village & Post Office- Molandigi
Block-Kanksa
Durgapur Sub-Division
Dist. Paschim Bardhaman
Durgapur-713212
West Bengal
India

CIN: U11203GJ2016PLC091903

E eogetpl@essarenp.co.in
www.essar.com

To
The Pradhan
Bid Bihar Gram Panchayet
Dist.- Paschim Bardhaman.

Sub.: Intimation of the Environment Clearance granted to EOGEP vide F. No. J-11011/491/2011-IA II (I) dated 14th August 2023.

Dear Sir/Madam,

This has reference to the captioned subject. We are pleased to submit herewith a copy of the amended Environment Clearance (EC) letter granted by MoEF&CC, GoI for your intimation and record. The said letter is granted to us with an extended validity of EC till 25th February 2025. We are also enclosing the copy of the ECs as desired by you.

These are also available in our website.

Thanking you,
For Essar Oil and Gas Exploration and Production Ltd.

Authorized Signatory



Enclosed:

- i) EC letter for validity extension vide F. No. J-11011/491/2011-IA II (I) dated 14th August 2023. (Annexure I)
- ii) EC letter vide F. No. J-11011/491/2011-IA II (I) dated 26th February 2013. (Annexure II)
- iii) Amended EC letter vide F. No. J-11011/491/2011-IA II (I) dated 27th November 2017. (Annexure III)
- iv) Amended EC letter vide F. No. J-11011/491/2011-IA II (I) dated 9th May 2019. (Annexure IV)
- v) EC letter vide F. No. J-11011/351/2009-IA II (I) dated 23rd September 2011. (Annexure V)
- vi) Amended EC letter vide F. No. J-11011/351/2009-IA II (I) dated 18th June 2012. (Annexure VI)
- vii) Amended EC letter vide F. No. J-11011/351/2009-IA II (I) dated 6th November 2017. (Annexure VII)
- viii) EC letter vide F. No. J-11011/660/2007-IA II (I) dated 6th May 2008. (Annexure VIII)



N. B.: Kindly acknowledge and oblige by signing off as mentioned in the below table after the receiving.

S.No	Panchayet Name	Ref. No. & Date	Received with Signature
01	Office of the Bid Bihar Gram Panchayet, Dist-Paschim Bardhaman.	EOGEP/ CBM-RG (E)/EC-Int./2023 dated 21/08/2023	

Essar Oil and Gas Exploration and Production Limited

Registered Office Address: F 20, Balaji Shopping Wide Angle, Highway, Nagarpur, Mehsana, Gujarat -384002, India

T +91 2762-244607 F +91 2762-244608

o/c



Ref. No.: EOGEP/ CBM-RG (E)/EC-Int./2023
Date: 21/08/2023

To
The Pradhan
Pratappur Gram Panchayet
Dist.- Paschim Bardhaman.

Essar Oil and Gas Exploration and Production Ltd
Essar House- Durgapur
Village & Post Office- Molandigi
Block-Kanksa
Durgapur Sub-Division
Dist. Paschim Bardhaman
Durgapur-713212
West Bengal
India

CIN: U11203GJ2016PLC091903

E eogep@essarenp.co.in
www.essar.com

Sub.: Intimation of the Environment Clearance granted to EOGEP vide F. No. J-11011/491/2011-IA II (I) dated 14th August 2023.

Dear Sir/Madam,

This has reference to the captioned subject. We are pleased to submit herewith a copy of the amended Environment Clearance (EC) letter granted by MoEF&CC, GoI for your intimation and record. The said letter is granted to us with an extended validity of EC till 25th February 2025. We are also enclosing the copy of the ECs as desired by you.

These are also available in our website.

Thanking you,
For Essar Oil and Gas Exploration and Production Ltd.

Authorized Signatory



Enclosed:

- i) EC letter for validity extension vide F. No. J-11011/491/2011-IA II (I) dated 14th August 2023. (Annexure I)
- ii) EC letter vide F. No. J-11011/491/2011-IA II (I) dated 26th February 2013. (Annexure II)
- iii) Amended EC letter vide F. No. J-11011/491/2011-IA II (I) dated 27th November 2017. (Annexure III)
- iv) Amended EC letter vide F. No. J-11011/491/2011-IA II (I) dated 9th May 2019. (Annexure IV)
- v) EC letter vide F. No. J-11011/351/2009-IA II (I) dated 23rd September 2011. (Annexure V)
- vi) Amended EC letter vide F. No. J-11011/351/2009-IA II (I) dated 18th June 2012. (Annexure VI)
- vii) Amended EC letter vide F. No. J-11011/351/2009-IA II (I) dated 6th November 2017. (Annexure VII)
- viii) EC letter vide F. No. J-11011/660/2007-IA II (I) dated 6th May 2008. (Annexure VIII)

N. B.: Kindly acknowledge and oblige by signing off as mentioned in the below table after the receiving.

S.No	Panchayet Name	Ref. No. & Date	Received with Signature
01	Office of the Pratappur Gram Panchayet, Dist-Paschim Bardhaman.	EOGEP/ CBM-RG (E)/EC-Int./2023 dated 21/08/2023	 Without Verification

Essar Oil and Gas Exploration and Production Limited

Registered Office Address: F. 20, Balaji Shopping, Wide Angle, Highway, Nagapur, Mehsana, Gujarat -384002, India.

Pratappur Gram Panchayet
T +91 2762-244807 F +91 2762-244808

olc



Ref. No.: EOGEP/ CBM-RG (E)/EC-Int./2023
Date: 21/08/2023

To
The Pradhan
Malandighi Gram Panchayet
Dist.- Paschim Bardhaman.

Essar Oil and Gas Exploration and Production Ltd
Essar House- Durgapur
Village & Post Office- Molandigi
Block-Kanksa
Durgapur Sub-Division
Dist. Paschim Bardhaman
Durgapur-713212
West Bengal
India

CIN: U11203GJ2016PLC091903

E eogep@essarenp.co.in
www.essar.com

Sub.: Intimation of the Environment Clearance granted to EOGEP vide F. No. J-11011/491/2011-IA II (I) dated 14th August 2023.

Dear Sir/Madam,

This has reference to the captioned subject. We are pleased to submit herewith a copy of the amended Environment Clearance (EC) letter granted by MoEF&CC, GoI for your intimation and record. The said letter is granted to us with an extended validity of EC till 25th February 2025. We are also enclosing the copy of the ECs as desired by you.

These are also available in our website.

Thanking you,
For Essar Oil and Gas Exploration and Production Ltd.

Authorized Signatory



Enclosed:

- EC letter for validity extension vide F. No. J-11011/491/2011-IA II (I) dated 14th August 2023. (Annexure I)
- EC letter vide F. No. J-11011/491/2011-IA II (I) dated 26th February 2013. (Annexure II)
- Amended EC letter vide F. No. J-11011/491/2011-IA II (I) dated 27th November 2017. (Annexure III)
- Amended EC letter vide F. No. J-11011/491/2011-IA II (I) dated 9th May 2019. (Annexure IV)
- EC letter vide F. No. J-11011/351/2009-IA II (I) dated 23rd September 2011. (Annexure V)
- Amended EC letter vide F. No. J-11011/351/2009-IA II (I) dated 18th June 2012. (Annexure VI)
- Amended EC letter vide F. No. J-11011/351/2009-IA II (I) dated 6th November 2017. (Annexure VII)
- EC letter vide F. No. J-11011/660/2007-IA II (I) dated 6th May 2008. (Annexure VIII)

N. B.: Kindly acknowledge and oblige by signing off as mentioned in the below table after the receiving.

S.No	Panchayet Name	Ref. No. & Date	Received with Signature
01	Office of the Malandighi Gram Panchayet, Dist-Paschim Bardhaman.	EOGEP/ CBM-RG (E)/EC-Int./2023 dated 21/08/2023	

Essar Oil and Gas Exploration and Production Limited

Registered Office Address: F 20, Balaji Shopping, Wide Angle, Highway, Nagarpur, Mehsana, Gujarat -364002, India.

T +91 2762-244608

Upa-Pradhan
Malandighi Gram Panchayet



Ref. No.: EOGEP/ CBM-RG (E)/EC-Int./2023
Date: 21/08/2023

To
The Pradhan
Gopalpur Gram Panchayat
Dist.- Paschim Bardhaman.

Essar Oil and Gas Exploration and Production Ltd
Essar House- Durgapur
Village & Post Office- Molandigi
Block-Kanksa
Durgapur Sub-Division
Dist. Paschim Bardhaman
Durgapur-713212
West Bengal
India

CIN: U11203GJ2016PLC091903

E: eogepl@essarenp.co.in
www.essar.com

Sub.: Intimation of the Environment Clearance granted to EOGEP vide F. No. J-11011/491/2011-IA II (I) dated 14th August 2023.

Dear Sir/Madam,

This has reference to the captioned subject. We are pleased to submit herewith a copy of the amended Environment Clearance (EC) letter granted by MoEF&CC, GoI for your intimation and record. The said letter is granted to us with an extended validity of EC till 25th February 2025. We are also enclosing the copy of the ECs as desired by you.

These are also available in our website.

Thanking you,
For Essar Oil and Gas Exploration and Production Ltd.

Authorized Signatory



Enclosed:

- EC letter for validity extension vide F. No. J-11011/491/2011-IA II (I) dated 14th August 2023. (Annexure I)
- EC letter vide F. No. J-11011/491/2011-IA II (I) dated 26th February 2013. (Annexure II)
- Amended EC letter vide F. No. J-11011/491/2011-IA II (I) dated 27th November 2017. (Annexure III)
- Amended EC letter vide F. No. J-11011/491/2011-IA II (I) dated 9th May 2019. (Annexure IV)
- EC letter vide F. No. J-11011/351/2009-IA II (I) dated 23rd September 2011. (Annexure V)
- Amended EC letter vide F. No. J-11011/351/2009-IA II (I) dated 18th June 2012. (Annexure VI)
- Amended EC letter vide F. No. J-11011/351/2009-IA II (I) dated 6th November 2017. (Annexure VII)
- EC letter vide F. No. J-11011/660/2007-IA II (I) dated 6th May 2008. (Annexure VIII)

N. B.: Kindly acknowledge and oblige by signing off as mentioned in the below table after the receiving.

S.No	Panchayat Name	Ref. No. & Date	Received with Signature
01	Office of the Gopalpur Gram Panchayat, Dist-Paschim Bardhaman.	EOGEP/ CBM-RG (E)/EC-Int./2023 dated 21/08/2023	 Upa-Pradhan

Essar Oil and Gas Exploration and Production Limited

Registered Office Address: F 20, Balaji Shopping, Wide Angle, Highway, Nagalpur, Mehsana, Gujarat -384002, India.

T +91 2762-244607 F +91 2762-244608

Gopalpur Gram Panchayat
P.S.-Kanksa, Dist- Paschim Bardhaman

ANNEXURE XV

The screenshot of EOGEP portal uploading of Six-monthly Compliance Report

The screenshot displays the ESSAR EOGEP portal interface. At the top, the ESSAR logo is on the left, and navigation links for 'About Us', 'Operations', 'Sustainability', 'Media', 'Careers', and 'Contact Us' are on the right. The main content area shows a list of 12 compliance reports, each with a document icon, the report title, and the reporting period. The reports are listed in descending order of date. On the right side of the page, there are social media icons for Facebook, Twitter, LinkedIn, YouTube, and Instagram.

Report Title	Reporting Period
RG (East)-CBM-2001/1 (Phase-III)	Oct.2023 – Mar.2024
RG (East)-CBM-2001/1 (Phase-III)	Apr.2023 – Sep.2023
RG (East)-CBM-2001/1 (Phase-III)	Oct.2022 – Mar.2023
RG (East)-CBM-2001/1 (Phase-III)	Apr.2022 – Sep.2022
RG (East)-CBM-2001/1 (Phase-III)	Oct.2021 – Mar.2022
RG (East)-CBM-2001/1 (Phase-III)	Apr.2021 – Sep.2021
RG (East)-CBM-2001/1 (Phase-III)	Oct.2020 – Mar.2021
RG (East)-CBM-2001/1 (Phase-III)	Apr.2020 – Sep.2020
RG (East)-CBM-2001/1 (Phase-III)	Oct.2019 – Mar.2020
RG (East)-CBM-2001/1 (Phase-III)	Apr.2019 – Sep.2019
RG (East)-CBM-2001/1 (Phase-III)	Oct.2018 – Mar.2019
RG (East)-CBM-2001/1 (Phase-III)	Apr.2018 – Sep.2018

ANNEXURE XVI

Environmental Information Display Board placed near the Main Gate of the Office/MCS of Essar Oil and Gas Exploration and Production Ltd. (EOGEPL).

Photograph



ANNEXURE XVII

o/c



EOGEPL/ CBM-RG (E)/ HSE/2024/5862

21st June, 2024



Essar Oil and Gas Exploration and Production Ltd
Essar House - Durgapur
Village & Post Office -- Molandighi
Block - Kanksa
Durgapur Sub-Division
Dist. - Paschim Bardhaman
Durgapur - 713212
West Bengal
India

CIN: U11203GJ2016PLC091903

E eoegpl@essarenp.co.in
www.essar.com

The Environment Engineer & In-charge
Durgapur Regional Office
West Bengal Pollution Control Board
Sahid Khudiram Sarani, City Center
Durgapur, Paschim Bardhaman 713216

Sub: Submission Six-monthly Compliance Report of the Environmental Clearance (Phase-III and its amendments) by Essar Oil Gas Exploration and Production Limited (EOGEPL) reg.

Ref: Environmental Clearance of Phase-III vide F. No. J-11011/491/2011-IA II (I) dated 26th February 2013 and its amendment dated 27th November 2017, 9th May 2019 & 14th August 2023

Dear Sir

We submit herewith the six-monthly compliance report for the period of October²³ to March²⁴, as stipulated conditions of prior environmental clearance vide F. No. J-11011/491/2011-IA II (I), dated 26th February 2013 and its amendment dated 27th November 2017, 9th May 2019 & 14th August 2023 granted by MoEF&CC to Essar Oil and Gas Exploration and Production Ltd., for the Production and Development Phase (Phase-III) of CBM project activities.

Thank you for your continued support

For Essar Oil and Gas Exploration and Production Limited

Warm Regards,

**Vikram Goday
Vice President & Head- Facilities
Raniganj East, CBM Project-Durgapur**



Enclosed:

- i) Six-monthly compliance report, period- October²³ to March²⁴
- ii) Annexure I, II, III, IV, V, VI, VII, VIII, IX, X.

Essar Oil and Gas Exploration and Production Limited

Registered Office Address: F 20, Balaji Shopping, Wide Angle, Highway, Nagaipur, Mehsana, Gujarat -384002, India.

T +91 2782-244607 F +91 2782-244608

ANNEXURE XVIII



EOGEPL/CBM- RG (E)/ HSE/ 2024/6002

02-September-2024

The Environmental Engineer and In-Charge
Durgapur Regional Office
West Bengal Pollution Control Board
Sahid Khudiram Sarani, City Centre
Durgapur, Paschim Bardhaman 713216

Essar Oil and Gas Exploration and Production Ltd
Essar House- Durgapur
Village & Post Office- Molandigi
Block-Kanksa
Durgapur Sub-Division
Dist. Paschim Bardhaman
Durgapur-713212
West Bengal
India

CIN: U11203GJ2016PLC091903

E eoqepl@essarenp.co.in
www.essar.com

Sub: **Submission of Environmental Statement for the Financial Year ending with 31st March 2024.**

Dear Sir,

Greetings from Essar Oil and Gas Exploration and Production Ltd. (EOGEPL)!

Please find attached herewith the Environmental Statement (Form V) for the Financial Year ending with 31st March 2024 for the Raniganj CBM Block- RG (East)- CBM-2001/1, Durgapur, West Bengal, operated by EOGEPL.

Kindly acknowledge and oblige.

Thanking you,

For Essar Oil and Gas Exploration and Production Limited

Vikram Goday

Vice President & Head- Facilities

Raniganj East, CBM Project-Durgapur



Enclosed: i) Environmental Statement (Form V) for the Financial Year ending with 31st March 2024,

ii) Annexure- I, II, III, IV, V, VI, VII

Copy to:

The Regional Director, Ministry of Environment, Forest and Climate Change, Integrated Regional Office, IB – 198, Sector-III, Salt Lake City, Kolkata – 700106.

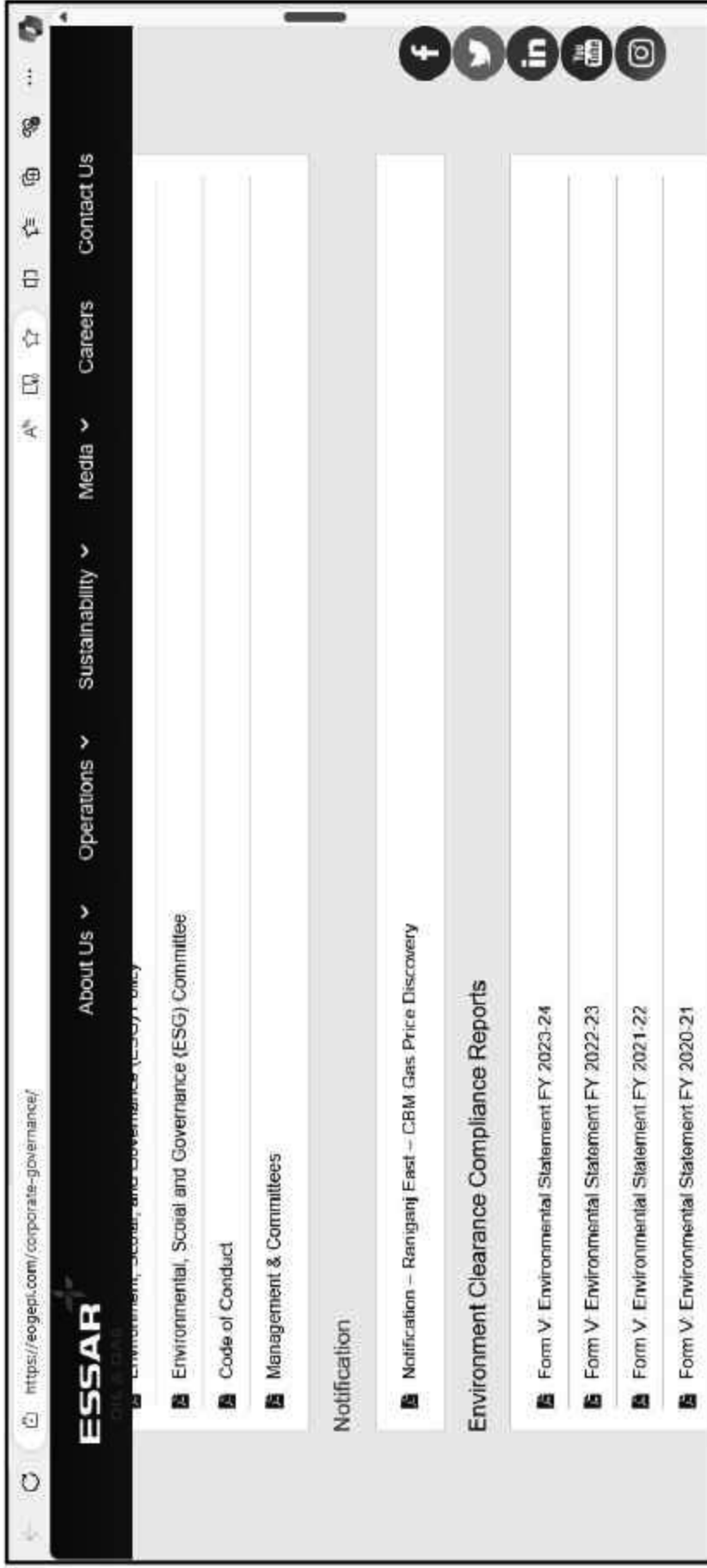
Essar Oil and Gas Exploration and Production Limited

Registered Office Address: F 20, Baijaj Shopping, Wide Angle, Highway, Nagarpur, Mehsana, Gujarat -384002, India.

T +91 2782-244607 F +91 2782-244608

ANNEXURE XIX

Screenshot of EOGEPL portal uploaded with the Environmental Statement in Form V for the FY 2023-24.



ANNEXURE XX

Screenshot of the submission of Environmental Statement in Form V (FY 2023-24) to Sub-office, Kolkata MoEF&CC.



Respected Sir/ Madam,

Greetings!

Ref: Environment Clearance vide F. No. J-11011491/2011-IA (II) dated 28th February, 2013, B. General Conditions-xii) and subsequent amendments dated 27th November 2017, 9th May 2019 and 1st August 2023.

With reference to above, I submitted herewith the Environmental Statement (FORM V) for the Financial Year 2023-24 of the Raniganj East CBM Block, RG(East)-CBM-2001/1 operated by Essar Oil and Gas Exploration and Production Ltd. (EOGEP L).

Kindly acknowledge and oblige

Thanking you,
With regards,

Malay Samantha,

ANNEXURE XXI

Awareness Campaign on "Ban of Single Use Plastic"

Campaign conducted at the Anganwari Center

Location : Kantaberia Anganwari Center
 Date : 27.06.2024
 Topic : i) Single use plastic pollution and its impact on Environment & Health
 ii) Non-use of plastic carry bag for household purposes and adopt behavioral change towards ban of single use plastic.
 iii) Jute bag distribution to all the participants.

Participants : Anganwari Workers and Children

Photographs:



Awareness Campaign on "Ban of Single Use Plastic"

Campaign conducted at the School

- Location : Bijra High School
Date : 20.09.2024
Topic :
i) Single use plastic pollution and its impact on Environment & Health
ii) Non-use of plastic carry bag for household purposes and adopt behavioral change towards ban of single use plastic.
iii) Jute bag distribution to all the participants.
- Participants : Students, Teaching & Non-Teaching Staffs.

Photographs:

