

MEMORANDUM OF UNDERSTANDING

between

Schlumberger Solutions Private Limited ("SSPL")

and

Indian Institute of Technology (IIT) (Indian School of Mines ISM) Dhanbad ("ISM")

for

"Enhanced Hydrocarbon Recovery Study & Design Projects"



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MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding for cooperation (the "Agreement") made and entered into this 4th day of March 2021 ("Effective Date") by and between:

(1) Schlumberger Solutions Private Limited, a company incorporated under the laws of India and having its registered office at 37, Rajpur Road, Dehradun, Uttarakhand and notice office at Building No. 10, DLF Cyber City, Phase II, 14th Floor, Tower C, Gurgaon, Haryana (hereinafter referred to along with its Affiliates as "Schlumberger"); and

(2) Indian Institute of Technology (Indian School of Mines), Dhanbad [IIT (ISM)], an educational institution incorporated under The Institutes of Technology Act, 1961 and having its registered office at University Campus, Dhanbad - 826004 (hereinafter referred to as "ISM")

(each a "Party" and collectively referred to as "Parties" hereinafter.)

WHEREAS:

- A. Various Indian National oilfield operators (the "Oilfield Operator(s)") are required by the Ministry of Petroleum and Natural Gas, Government of India's Policy Framework to submit to pre-selected higher learning institutes including ISM, details of various producing acreages ("Producing Acreage") which may be suitable for Enhanced Hydrocarbon Recovery Methods.
- B. ISM shall screen, undertake laboratory experiments and provide recommendations to develop a Producing Acreage using Enhanced Hydrocarbon Recovery Methods in a first stage pilot project and secondary post pilot enhanced hydrocarbon recovery project (an "EOR Project").
- C. Schlumberger and ISM agree to collaborate utilizing each other's expertise, facilities, products and services of their respective businesses for providing recommendations and approvals, undertaking screening, laboratory experiments for the development of an EOR Project.
- D. Where a Producing Acreage is approved for development in accordance with the Ministry of Petroleum and Natural Gas, Government of India's Policy Framework development as an EOR Project, ISM agrees to suggest its recommendations about submissions to Oilfield Operators for the development of each EOR Project.

NOW THEREFORE, the Parties agree as follows:

1. BINDING PRELIMINARY COMMITMENTS

- 1.1 This MOU shall be effective from its date of signature and valid for twenty-four (24) months.
- 1.2 Schlumberger intends to work with ISM to provide the services set out in the Scope of Work including the Screening Services to assist ISM to review Producing Acreage sites as potential EOR Projects for Oilfield Operators in India.
- 1.3 During the term of this MOU, ISM hereby grants to Schlumberger on an exclusive basis, a right of first refusal to perform part or all of the Screening Services (as relevant) to ISM.



Promptly following receipt of instructions to review a Producing Acreage, ISM shall upon request provide all relevant details of such review to Schlumberger to allow it determine the scope of Screening Services required.

- 1.4 Schlumberger shall conduct a review within ten (10) days of receipt all information described in Article 1.3 and promptly notify ISM at any point during that review period that it is exercising its right of first refusal, following which ISM shall be obliged to appoint Schlumberger as contractor to ISM to provide the relevant Screening Services. Schlumberger prevailing terms and conditions for consultancy services shall apply to such Screening Services ("Consulting Agreement").
- 1.5 None of the Parties will either, during the period of this MOU and for a period of twelve (12) months commencing from the date of expiry or earlier termination of this MOU, whether on its own account or in conjunction with or on behalf of any other person, firm or company, including but not limited to recruitment or employment agencies:
- (i) solicit or entice away or attempt to solicit or entice away any person who shall at the time be an officer, manager or employee of the other Party who is or has at any time been involved in this MOU or the evaluation, development and management of the EOR Project whether or not any such person would commit a breach of his contract of employment by reason of leaving the employment of such other Party; or
 - (ii) offer employment to such a person, whether or not any such person would commit a breach of his contract of employment by reason of leaving the employment of such other Party;

provided however that hiring such a person as the result of a general solicitation in the employment market for applicants for a position or as a result of an unsolicited inquiry by such person seeking employment will not be a violation of this prohibition.

2. SCOPE OF THE AGREEMENT – SCREENING SERVICES

- 2.1 The Consulting Agreement shall, amongst other matters, detail certain Screening Services for each Producing Acreage to be reviewed for potential development as an EOR Project and (without limitation) may include:
- (iii) Appropriate Enhanced Hydrocarbon Recovery Methods;
 - (iv) Subsurface studies;
 - (v) Well engineering;
 - (vi) Laboratory Studies;
 - (vii) Development of specialized surfactant based chemical EOR formulation for each reservoir;
 - (viii) Simulation and Conceptual pilot design; and
 - (ix) Pilot Injection Facility design, Monitoring and Evaluation of pilot performance, (the "Screening Services").
- 2.2 The Parties acknowledge that utilizing each other's expertise, facilities, products and services of their respective businesses, some Screening Services will be performed by ISM and some of which will be performed by Schlumberger. Screening Services provided by Schlumberger shall be remunerated according to the prices provided in the Consulting Agreement.



3. SCOPE OF THE AGREEMENT – EOR PROJECT DEVELOPMENT

3.1 Where:

- (i) a Producing Acreage is approved for development in accordance with the Ministry of Petroleum and Natural Gas, Government of India's Policy Framework for development as an EOR Project; and
- (ii) the relevant Oilfield Operator(s) informally or formally issues an invitation to tender, call for submissions, invites an expression of interest or similar in relation to a proposed EOR Project.

Schlumberger and ISM shall as set out in the Scope of Work collaborate and work together (or through their Affiliates) on an exclusive basis in good faith to offer their respective services to each relevant Oilfield Operator to provide cost efficient proposal(s) for the execution of both integrated and non-integrated services for the relevant EOR Project.

3.2 Where pursuant to Article 3.1 the Parties develop and propose commercially competitive submissions for the development of an EOR Project:

- (i) a Work Programme & Budget ("WP&B") shall be agreed detailing the activities, technical and operational resources required to provide the engineering, planning and execution management of the work programme, and the estimated cost of goods & services to be procured to complete the activities in the phase;
- (ii) an appropriate contract shall be prepared by Schlumberger and agreed under mutually acceptable terms and conditions including relevant positions agreed under this MoU; and
- (iii) an alignment mechanism (production targets, pricing etc) will be developed once the production curves, economic model and due diligence for the field based on the data obtained by the Parties while undertaking the Screening Services is completed.

4. RESOURCES

4.1 Schlumberger shall provide, as and when required, human resources for specific periods to support the Screening Services and as defined in the WP&B, which may include, but not be limited to, professionals in the areas of geology, petrophysics, geomechanics, reservoir engineering, field development planning, acquisition and processing, drilling, completions, hydraulic stimulation and the management and optimization of production as relevant to the EOR Project.

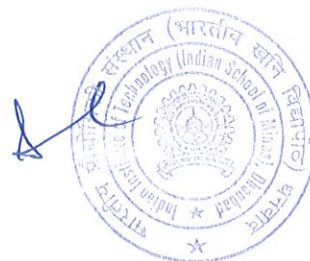
4.2 Schlumberger shall make its global experts available in its discretion to support the Screening Services and EOR Project through peer reviews and technology application recommendations.

4.3 ISM shall provide:

- (i) details of each Producing Acreage;
- (ii) human, scientific equipment and service resources for specific periods to support the Screening Services and as defined in the WP&B, academics in the areas of geology, petrophysics, geomechanics, reservoir engineering, field development planning, acquisition and processing, drilling, completions, hydraulic stimulation and the management and optimization of production as relevant to the EOR Project; and



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- (iii) other relevant academic resources to assist Screening and assessment of the Producing Acreage as an EOR Project.
- 4.4 Each Party shall designate a representative who shall assume responsibility on behalf of that Party for promoting the efficient communication and the successful implementation of this MoU and preparation of proposals, bid responses and negotiation of a contract with each relevant Oilfield Operator(s) and the corresponding agreement between the Parties.
- 4.5 The Parties agree that Schlumberger shall co-ordinate any response to any tender, EOI or similar submission to an Oilfield Operator(s) in relation to an EOI Project as the Prime Contractor and to serve as a single point of contact for the Oilfield Operator(s).
- 4.6 The Parties must ensure that the work to be performed by them under this MoU or related agreement can be carried out by themselves or their Affiliates. Where it is necessary, and subject to the prior written approval of the other Party (which must not be unreasonably withheld or delayed) a Party may sub-contract non-core elements of work which cannot be directly conducted by them but are necessary to meet the relevant Screening Services or work related to an Oilfield Operator(s).

5. CONFIDENTIALITY

- 5.1 The Parties agree that the objectives of this MOU may involve the disclosure of certain confidential information, including pricing, of the Parties respectively. Under this MOU, the term "Confidential Information" refers to any and all non-public and proprietary information provided by one Party ("Disclosing Party") to the other Party ("Receiving Party") during the course of this MOU. Confidential Information must be marked as confidential (or similar designation, such as "private" or "secret") or designated in writing as confidential within thirty (30) days after disclosure to the Receiving Party.
- 5.2 The Parties hereby covenant to keep in strict confidence the Confidential Information and undertakes not to divulge or disclose the Confidential Information to any third party without specific written permission of the Disclosing Party. The confidentiality obligations hereunder must not apply to the Confidential Information which:
- (i) was already in the public domain before disclosure to the Receiving Party;
 - (ii) Enters the public domain after disclosure to the Receiving Party except where such entry is the result of a breach by the Receiving Party of this MOU; or
 - (iii) Was already in receiving Party's possession (as proved by documentary evidence) before disclosure and was not then subject to an obligation of confidence; or
 - (iv) Is disclosed to the Receiving Party by a third party having a lawful right to do so; or
 - (v) Is independently developed by the Receiving Party without use of the Disclosing Party's Confidential Information; or
 - (vi) Was disclosed by the Disclosing Party to a third party on a non-confidential basis; or
 - (v) A court of competent jurisdiction orders to disclose on a non-confidential basis.
- 5.3 Each Party agrees that the Disclosing Party's Confidential Information must remain the Disclosing Party's sole property and will not be disclosed to any third parties without express prior written permission of the Disclosing Party or used for any purpose other than for effecting this MOU.



- 5.4 Nothing in this MOU may be construed as granting any rights to Confidential Information under any patents, trademarks, copyrights, trade secrets, or other intellectual or proprietary property presently or subsequently owned by the Parties.
- 5.5 CONFIDENTIAL INFORMATION IS PROVIDED "AS-IS," WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS, IMPLIED OR STATUTORY.
- 5.6 Each Party agrees to maintain all Confidential Information received from the other Party in secrecy and confidence during the term of this MOU, and for a period of five (5) years after the termination or expiration of this MOU, using the same degree of care as is used to protect its own confidential information. In no event will the receiving Party use less than a reasonable degree of care. In addition, notwithstanding the foregoing, should the Parties decide to transmit Schlumberger source code and/or related object code, Company agrees that the confidentiality of all Schlumberger source code and/or related object code received under this MOU must be protected by Company in perpetuity, unless agreed otherwise pursuant to a separate written agreement.
- 5.7 Upon expiry or termination of this MOU for whatever reason, both Parties must return all Confidential Information to each other including deliverables and must not be entitled to make or retain copies thereof. If the Receiving Party is unable practically or economically to destroy all electronically held Confidential Information the Receiving Party undertakes that such Confidential Information not so destroyed will not be used subsequently by the supplier or any persons to whom it has disclosed the same and will be held subject to the terms of this MOU. The return or destruction of Confidential Information must not release the Disclosing Party from any of its obligations under this MOU. If a Receiving Party fails to keep such Confidential Information confidential or uses such Confidential Information in violation of the provisions of this Article 5, the Receiving Party acknowledges and agrees that the Disclosing Party will be irreparably harmed, will not have an adequate remedy at law, and will be entitled to injunctive relief to prevent the Receiving Party from using or disclosing such Confidential Information.
- 5.8 ISM acknowledges and agrees that Schlumberger and its Affiliated group of companies may independently and without any encumbrance whatsoever develop or have developed and are free to contract with any third party for the development and provision of services and technology that may be substantially similar to solutions and/or techniques disclosed or developed by ISM ("*Independent Development*"). The Parties hereby agree that nothing in this MOU and/or any contracts which derive from it shall prevent, hinder or otherwise encumber the Schlumberger group of companies from pursuing and/or achieving such Independent Developments.
- 5.9 Schlumberger acknowledges that all the deliverables provided by ISM pursuant to this MOU including the Screening and assessment Services shall be on an as-is-where-is basis. Schlumberger is advised to test the workability and merchantability of each such deliverable before implementation. ISM does not make any representations, conditions, or warranties, either express or implied, with respect to such deliverables. ISM and its personnel including faculty, students and staff will not be liable for any damage or loss, whether direct, consequential, incidental, or special, which Schlumberger or any persons deriving title may suffer, arising from Schlumberger's decision to utilize such deliverables.
- 5.10 This Article 5 survives expiry or termination of this MOU.



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6. TERMS

6.1 Either Party may terminate this MOU upon prior written notice to the other Party upon any of the following circumstances:

- i) insolvency of either Party or if such Party enters into any deed of arrangement, administrative process or commits an act of bankruptcy or compounds with its creditors, has a receiving order made against it or an order or resolution is passed for its winding up or dissolution (otherwise than for the purposes of a bona fide amalgamation or reconstruction) which has previously been approved by the notifying Party or otherwise becomes unable to pay its debts as they fall due, is insolvent within the meaning of any applicable law or if the notifying Party reasonably anticipates that any of the above events is likely to occur;
- ii) a material breach (if capable of cure, not cured by the breaching Party upon written notice);
- iii) breach of any Anti-Corruption Laws;
- iii) by mutual agreement or in the event that there is an irretrievable breakdown in the relationship between the Parties;
- iv) where no Screening Services are undertaken by Schlumberger in the first year of this MOU and or the base scope of Screening Services is materially reduced in the view of Schlumberger.

6.2 Notwithstanding any term of this MOU, neither Party shall have any right or claim against the other Party for consequential loss under applicable law, including loss of profits (including anticipated profits) as a consequence of any Party's decision not to continue with any agreement with an Oilfield Operator or the failure of the Parties to negotiate or to execute any relevant agreement with an Oilfield Operator and/or supplementary contracts.

6.3 Termination of this MOU or related agreement shall not relieve or release either Party from any liability, obligation, or indebtedness that accrued pursuant to this MOU and/or any ancillary or subsequent agreement prior to the date of such termination.

6.1 **Anti-Corruption Laws** means: the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, 1997 ("**OECD Convention**"); the Foreign Corrupt Practices Act of 1977 of the United States of America, as amended by the Foreign Corrupt Practices Act Amendments of 1988 and 1998, and as may be further amended and supplemented from time to time ("**FCPA**"); the UK Bribery Act 2010; and any other applicable law (including any (a) statute, ordinance, rule or regulation; (b) order of any court, tribunal or any other judicial body; and (c) rule, regulation, guideline or order of any public body, or any other administrative requirement) which: (a) prohibits the conferring of any gift, payment or other benefit on any person or any officer, employee, agent or adviser of such person; and/or (b) is broadly equivalent to the FCPA and/or the above United Kingdom laws or was intended to enact the provisions of the OECD Convention or which has as its objective the prevention of corruption.

7. MISCELLEANEOUS

7.1 ISM makes the following representations and warranties to Schlumberger as of the date of this MOU:

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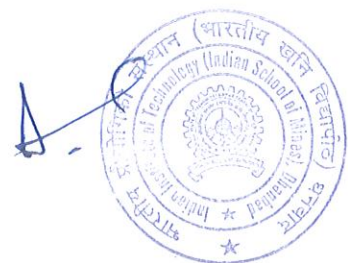
- (a) there are no liens over or claims, demands, actions, suits, governmental inquiries, or proceedings pending, or to its knowledge, threatened, against it which would have an adverse effect upon its rights and obligations under this MOU;
- (b) it is duly organised and validly existing under the laws of the country where it is organised;
- (c) It has all requisite corporate power and authority to enter into this MOU, to perform its obligations hereunder;
- (d) this MOU has been duly executed and delivered by it and constitutes a legal, valid and binding obligation on it, enforceable against it in accordance with the terms of the MOU;
- (e) the execution and performance of this MOU by it, and the compliance with the provisions hereof will not, to the best of its knowledge and belief:
- (f) violate any applicable laws, judgment, decree or award;
- (g) contravene its organisation documents; or
- (h) result in a violation of a term or provision, or constitute a default or accelerate the performance of an obligation under any contract or agreement executed by it;
- (i) it is not insolvent or subject to any actual or threatened insolvency proceedings.

7.2 Schlumberger represents and warrants that:

- (a) it is duly organised and validly existing under the laws of the country where it is organised;
- (b) it has all requisite corporate power and authority to enter into this MOU, to perform its obligations hereunder;
- (c) this MOU has been duly executed and delivered by it and constitutes a legal, valid and binding obligation on it, enforceable against it in accordance with the terms of the MOU; and
- (d) the execution and performance of this MOU by it, and the compliance with the provisions hereof will not, to the best of its knowledge and belief:
- (e) violate any applicable laws, judgment, decree or award;
- (f) contravene its organisation documents; or
- (g) result in violation of a term or provision or constitute a default or accelerate the performance of an obligation under any contract or agreement executed by it.

7.3 No change, modification, alteration, or addition to any provision, or waiver of any provision of this MOU shall be binding unless contained in writing and signed by each Party.

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- 7.4 This MOU replaces all previous understandings, agreements, commitments and representations between the Parties in relation to the subject matter hereof and with the Confidentiality Agreement comprise the entire agreement between the Parties in relation to the subject matter thereof as at the signature of this MOU by the Parties.
- 7.5 The rights of the Parties (whether arising under this MOU or under the general law) shall not be waived or varied otherwise than by an express waiver or variation in writing.
- 7.6 If any provision of this MOU shall be found by any court or administrative body of competent jurisdiction to be invalid or unenforceable, the invalidity or unenforceability of such provision shall not affect the other provisions of this MOU and all provisions not affected by such invalidity or unenforceability shall remain in full force and effect. The Parties agree to attempt to substitute, for any invalid or unenforceable provision, a valid or enforceable provision that achieves to the greatest possible extent, the economic, legal and commercial objectives of the invalid or unenforceable provision.
- 7.7 Neither Party shall publish or give permission for publication of any information relating to this MOU or the discussions contemplated by it that includes the name or would imply the name of the other Party without the prior written approval of such other Party. Such approval shall be given separately in relation to each specific application for publication and shall apply only to that application. The accuracy of any information released is the responsibility of the Party making or permitting the publication. If such information is published or publicized not in compliance with such approval or is wrong in any material respect the other Party shall:
- (a) publish an approved or corrected version at the expense of the Party making or permitting the original publication; and
 - (b) oblige the Party making or permitting the original publication to publish a correction and apology.
- 7.8 Articles 1 to 5 (inclusive), 6 and 7 of this MOU establish the terms and conditions intended to be binding between the Parties upon execution of this MOU. Except for the terms and conditions expressed in the aforementioned Sections, this MOU is intended to be a non-binding expression of intent. This MOU does not constitute and must not be construed or given effect as a joint venture, partnership or other formal business, or as creating any fiduciary relationship. Except as expressly provided herein, nothing herein must be construed as providing for the sharing of profits or loss, nor must either Party be liable to the other for any of the costs, expenses, risks, or liabilities arising out of the other's activities in connection with the performance of work under this MOU.
- 7.9 Each Party must comply with all laws, regulations, rules and codes issued by any governmental authority and/or local or national agency with jurisdiction over such Party, to the extent these may apply to the performance of this MOU.
- 7.10 Both Schlumberger and ISM have overhead costs associated with their evaluation of the Producing Acreages and operations undertaken in connection therewith. Save as otherwise agreed, each Party is solely responsible for all of its own costs and expenses associated with this MOU including discussions, analysis, negotiations and documentation covered hereby.
- 7.11 This MOU must be governed by and construed in accordance with the laws of India. Any dispute arising out of or in connection with this MOU, including any question

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regarding its existence, validity or termination, must be referred to and finally resolved by arbitration which must be the exclusive method of formal dispute resolution under this MOU. Such arbitration must be held in the English language at Mumbai in accordance with the Arbitration and Conciliation Act, 1996 and any statutory amendments, ordinances, modifications or re-enactment in lieu thereof must apply to the arbitration proceedings under this Article by a sole arbitrator mutually appointed by both Parties. Nothing herein must, however, prohibit a Party from seeking temporary or preliminary injunctive relief in a court of competent jurisdiction.

In WITNESS WHEREOF, the parties hereto have executed this MOU in English by their duly authorized legal representative as of the date first above written.

For and on behalf of

Schlumberger Solutions Private Limited

Signature: _____

Name: **CHITWAN GARG**

Title: **DIRECTOR**

Date: **March 4th, 2021**

Witness: _____

Signature: _____

Name: **Bhagyashree Setti**
Sr. Legal Counsel

For and on behalf of

Indian Institute of Technology - ISM

Signature: _____

Name: **Prof. Shalivahan**

Title: **Dean (R&D)**

Date: _____

Witness: _____

Signature: _____

Name: **Dr. Ajay Mandal**
Professor
Deptt. of Petroleum Engineering
Indian Institute of Technology
(Indian School of Mines), Dhanbad
Jharkhand-826004, India

Appendix A – Scope of Work

- 1.1 to work with each other in EOR study and pilot design capabilities in terms of technical expertise, laboratory equipment, competence in software and hardware tools and knowledge bank.
- 1.2 to approach, pursue, and execute a commercial industrial project with combined capabilities, with a single technical, commercial, and legal proposal.
- 1.3 SCHLUMBERGER personnel will involve and train ISM personnel involved in the project, in aspects/subjects/software in which the SCHLUMBERGER personnel is working in the overall execution of the Agreement, wherever agreed.
- 1.4 the overseeing authority to ensure execution and completion of a commercial project (hereafter addressed as "project manager") must be a designated faculty member of ISM. The overseeing authority must be responsible for managing the time and quality of delivery. In case of any disagreements between the customer and the association, it is solely the responsibility of the overseeing authority to handle and resolve the same, with available resources.
- 1.5 SCHLUMBERGER will have a project manager to manage SCHLUMBERGER personnel and software involved in the commercial project. The project manager will have the sole right of deciding the level and extent of SCHLUMBERGER's involvement in any such commercial project, in terms of technical expertise, laboratory test, software and hardware tools and competence, and knowledge bank. This is also valid at any point of time before, during, and after the execution of the project.

ISM and SCHLUMBERGER agree that detailed terms and conditions that guide each activity identified above, will be separately agreed upon by both parties by signing the Agreement for each activity. These terms in the Agreement must include a description of proposed activity and financial arrangement that must be final and binding between the Parties



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