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**GLOBAL EXPRESSION OF INTEREST (EOI) FOR PROCUREMENT SERVICES FOR DIFFERENT G & G STUDIES UNDER LONG TERM RATE CONTRACT FOR RAJASTHAN BLOCK**

Cairn India Ltd (“CIL”) is the Operator of the Onshore **RJ-ON-90/1** block, on behalf of itself and its Joint Venture (JV) partners Cairn Energy Hydrocarbons Limited (CEHL) and Oil and Natural Gas Corporation Limited (ONGC), located in Barmer district, in the state of Rajasthan, India. The Block contains number of major oil discoveries, including the Mangala, Bhagyam, Aishwariya, Rageshwari and Saraswati Fields.

CIL on behalf of itself and its joint venture partners invites interested contractors (Indian and International) with proven capabilities and demonstrated HSE performance to express their interest for pre-qualification to participate in an International Competitive Bidding Process (ICB) for the packages listed below. CIL shall enter into Long Term Rate contract for the provision of G & G studies on call-out order basis.

The services covered under this EOI are listed below and the pre-qualification for each service will be done independently.

<b>Package Ref No.</b>	<b>Item Description</b>	<b>Brief Scope of Work</b>
<b>A 1</b>	<b>PVT Analysis</b>	<p>Contractors shall perform the services separately in two different sections, as follows:</p> <p>PVT Analysis</p> <p>The samples intended to be taken up for studies would range from bottomhole samples recovered from subsurface sampling chambers, separator gases and liquids (collected during drill stem tests) and well fluids collected during representative flow periods. The scope of analysis will depend on the actual fluid type and would be designed to characterize the PVT properties of the fluid. The Contractor should have the ability to perform all PVT and relevant studies, as required for fluid characterization. The laboratories should also be able to perform crude assay, wax tests, Asphaltene studies, emulsion tests, and flow assurance studies under a given set of conditions. For all fluid analysis services, all parameters that are either measured or determined from correlations using other properties should be specified.</p> <p>Sample Transfer, storage and shipping</p> <p>The contractor is required to carry out sample management, which would require the Contractor’s involvement, either in independent capacity or in conjunction with another logistic support provider which includes collection of samples from the designated collection/storage point, safe custody of samples in decontaminated sample cylinders (containers) and transfer to Contractor’s lab. The Contractor shall also be advised, based on validity of samples, to transfer the samples into their own containers for long term storage or to dispose the samples. It has been observed that transportation of samples is a time-taking process and a significant factor in causing delays, so it is recommended that all the procedures, safety measures and documentation for transfer of hydrocarbons as per international regulations should be fully understood for proper planning and quick transfer of samples.</p>



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		<p>The Contractor needs to provide equipment, personnel and services for field sampling, transfer of samples from wire line formation test tools and transportation of samples to their labs for further testing or storage.</p> <p>There may also be a need to call out, Contractor personnel for supervising sample collection. In such cases, he will be designated as "Sampling Supervisor" (on 12hrs per day basis) as the representative of Company and shall be responsible for monitoring all conditions during sampling, advising Company on the modalities of sampling to ensure high quality sampling, sample management at site and planning for onward dispatch to lab. Sampling Supervisor shall be mobilized within one week from intimation/ Call out.</p> <p>Contractor's Scope includes sample transfer at site, transportation of Samples from site to port, Custom clearance at ports and transportation of samples from port to Lab.</p>
<p><b>A 2</b></p>	<p><b>Core Analysis</b></p>	<p>Contractors shall perform the services separately in three different sections, as follows:</p> <p>Laboratory Core Handling and Processing, Core Sampling, and Sample Preparation</p> <p>Core handling, core sampling/plugging, CT scanning of core samples &amp; whole cores, sample preparation/(re)preservation, layout when requested, white and UV digital photography, slabbing, biscuit cuts, eventual resinization of whole core and provision of boxes etc. together with associated procedures to be performed in Contractor's facility.</p> <p>Conventional Core Analysis (CCA) of Prepared Samples</p> <p>These include spectral gamma ray scanning of core, He/air poro-perm at ambient and overburden loading &amp; unloading cycle, specific liquid permeability, sand sieve particle analysis, Laser Particle Size Analysis (LPSA), Dean-Stark saturation fluid measurement etc.</p> <p>Note that the final analytical program for CCA will be decided by the Company depending on the quality of core retrieved and after any core preliminary preparation is completed.</p> <p>Special core analysis of prepared samples</p> <p>Detailed information and desired scope of work are detailed below. Analysis such as wettability, NMR, relative permeability, electrical properties, &amp; drainage Capillary Pressure (MICP, Pressure Equilibrium &amp;/or Centrifuge method to attain endpoint saturation Swirr) &amp; Imbibition cycle, Geomechanical testing, Hydro-frac lab tests etc. are anticipated.</p> <p>Note that the final SCAL program will be decided by the Company depending on the quality of core retrieved and only after the conventional core analyses results are reviewed.</p> <p>Contractors are advised that Company requires all specialist SCAL work to be conducted at reservoir temperature, often also at NOBP, and on either native state or restored-aged core materials using reservoir fluids. This is a minimum requirement.</p>



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<p><b>A 3</b></p>	<p><b>Reservoir Characterization</b></p>	<p>This scope of work and technical specifications for the provision of specialist geological consulting services to the description of conventional rock cores, cuttings and field samples, and their related inorganic geochemical analysis, including petrographic and other analytical services, RSWCs, SWC and core samples, along with any associated outcrop field samples that may be relevant.</p> <p>Description of conventional rock cores, cuttings and field samples will be done in India as required and specified by the Company. For work undertaken by the Contractor under the provisions of this contract requiring specialist analytical sample preparation and analysis, including petrography, SEM, XRD, Biostratigraphy and other detailed analysis as may be requested, the Contractor may send samples for examination, preparation and analysis to locations outside of India under the direction and with the explicit permission of the Company.</p>
<p><b>A 4</b></p>	<p><b>Image Processing Interpretation</b></p> <p><b>Log &amp;</b></p>	<p>All the wells to be analyzed as a part of the study have image data recorded over an interval larger than the reservoir interval of interest. The Scope of Work is to carry out a detailed Image Log Analysis along with the integration with the core data and as well as wire-line log if applicable or required. The contractor may decide, in consultation with the company, based on the QC of the Image log, to process additional well if any if the Image quality is very bad in any of the wells mentioned in the quotation provided by the bidder. The company would ensure that interval provided by the company for the additional well or the replacement well in lieu of the bad quality Image in any of the mentioned wells in Quotation.</p> <p>The Company would like to achieve the following in the course of image log processing and analyses:</p> <p>Data QC and Processing: Process the available and selected image log recorded by various service providers to produce static and dynamic images for interpretation, after carrying out necessary pre-interpretation corrections, such as accelerometer corrections. Interactive Dip picking of laminations, bed boundaries, unconformities, faults, fracture (both open and sealed) and cross bedding. Identify structural features such as faults and structural dips for individual units. Estimate maximum horizontal stress direction and magnitude</p> <p>Geological Interpretation for Clastics: Sub-division of study intervals based on geological structure, using dip trend analysis and stereographic analysis. Calculation of structural dips and interpretation of structural zone boundaries. Net sand determination and net-to-gross ratio for the study interval. Interpretation of sedimentological features and environments. Paleo-current analysis of various Clastic/Stratigraphic units after structural dip removal. Sediment dispersal analysis: hierarchy of different sandstone internal surfaces (fore-sets, set boundaries), bed-form architecture, palaeo-transport / palaeo-slope analysis, direction and sand-body orientations. Image facies identification and quantification, possible relation between facies, porosity and permeability. Integration of available seismic data, including facies analysis from seismic geomorphology study, interpreted depth surfaces etc. Field-wise integration of sedimentological environment and structural interpretation.</p> <p>Geological Interpretation for Volcanics: Interpretation of Volcanic flows, flow direction, layer/flow boundary, textures, and features present in the Volcanic rocks such as vesicles, fracture type, fracture-width, etc. Fracture identification classification and quantification, orientation, width, spacing,</p>



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		intersections and clustering of fractures. Identify bore-hole break outs and induced tensile fractures and intensity for stress analysis
A 5	Seismic Processing Data	Experienced Seismic Contractors for the 2D/3D/4D Land seismic data processing services. Processing/Reprocessing of anisotropic 3D Pre Stack Time Migration (PreSTM) and anisotropic 3D Pre Stack Depth Migration (PreSDM) of 2D/3D Land seismic data using advanced seismic processing techniques. An effective & detailed internal as well as remote QA/QC process will be required.
A 6	Seismic Acquisition Data	Experienced Seismic Data Acquisition Contractors for the 2D/3D/4D Land seismic data acquisition services with Vibroseis.
A 7	Core Handling and Preservation Services	Experienced Contractor for Well site core handling which includes core catching, handling, marking, preparation (cutting) into 1-metre or similar sections and taking core photos at rig site. Acquiring Core Gamma, onsite. Core Preservation, which includes, Core Stabilization and appropriate packing for rough handling. Well site core plugging and preservation, which includes, provision for taking both horizontal and vertical core plugs in consolidated and un-consolidated formations. Transportation of Core Boxes to lab in India.

The interested suppliers should evince interest to participate in the Expression of Interest by clicking on the “**Evince Interest**” link against the corresponding EoI listing on the Cairn India website and submit their contact details online. Further to this, interested suppliers/ Contractors would be invited to submit their response via Smart Source (Cairn’s e Sourcing Platform). The suppliers would be requested, as a minimum, to submit the following documents and details for prequalification via Smart Source

Only those contractors (both Indian & International) possessing substantial and proven record in any of above services of similar scale & who are interested to enter into Long Term rate Contract should respond to this notice. Contractors are requested, as a minimum, to submit the documents listed against package.

Specific Go/No-Go Criteria:

1. Minimum 3 Years of experience in providing similar services to reputed Operators / Clients with demonstrated HSEQ performance.
2. Net Worth – Positive networth of atleast in each of the immediately preceding two financial years
3. Turnover – Annual Turnover of the Vendor in immediately preceding two financial years should be equal or more than the estimated average annual contract value.
4. Liquidity – Liquidity ratio in each of the preceding two financial years shall not be less than 0.60

In addition to the above requested document, contractor shall also submit credentials to support the specific qualification criteria for each package.

1. Letter of interest clearly indicating the Project references.
2. Detailed Company Information with Organisation structure, List of manpower with CVs of key Personnel, Plant and Machinery list mentioning year of manufacturing, Support agencies and other facilities & resources.
3. Details of completion of similar type of projects in the last five years under headings:
  - a. Brief scope of work
  - b. Value of work in INR



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- c. Contractual Duration
  - d. Actual completion of Project
  - e. Clients name
  - f. Contact details of the Client ( CIL may approach the client directly for the feedback)
  - g. Safety Certification / Inspection of plant and machineries
  - h. HSE statistics, LTI graph etc.
4. Typical Project Planning and Execution methodology.
  5. List of all jobs under execution with the value of the Job and percentage completion.( With particular Emphasis on project of similar magnitude carried out in Oil and Gas Sector)
  6. Experience of working in similar terrain.
  7. HSE policy and implementation procedures in line with internationally accepted practices with statistics for last four years.
  8. Quality assurance & Quality control practices currently in place for the execution of similar work /services.
  9. Company's financial performance documents (Audited Balance sheets and Profit and Loss statements , Auditors Report and Notes to Accounts etc) for last 2 (two) years. Latest financial statement should not be older than 12 months on the date of submission of response to Expression of interest. Please note that
    - i. Normally standalone financials of the bidding entity only will be considered. However, consolidated financials at the bidding entity level, if available, can also be submitted. Parent company or Affiliate's financials can be submitted and considered, subject to submission of Parent/ Affiliate company guarantee. This should be clearly mentioned in the EOI response.
    - ii. In case of consortium, the financials of the leader of the consortium (in whose name the bid is submitted) will be evaluated. However, consortium partner's financials can also be considered subject to submission of corporate guarantee by consortium partner. This should be clearly mentioned in the EOI response.
    - iii. Evaluation will be done only on the basis of the published annual reports / audited financials containing Auditor's report, Balance sheet, Profit & Loss a/c and Notes to Accounts.
    - iv. In case of unaudited statements (if there are no audit requirements for auditing of financials as per the local law), the financials shall be accompanied by a certificate from a Certified Accountant. Certificate should also mention the fact that there is no requirement of audit of the financials as per the local law.

All qualifications and exceptions brought out in Auditor's report and Notes to Accounts would be factored in while undertaking financial evaluation

**The interested suppliers should “[Evince interest](#)” to participate in Eoi within 14 days of publication of [Expression of Interest](#).**