



## CAIRN INDIA LIMITED

### **GLOBAL EXPRESSION OF INTEREST FOR "3D SEISMIC FULL AZIMUTH PRE STACK DEPTH IMAGING AND VVAZ/AVAZ SIMULTANEOUS INVERSION OF LAND WIDE AZIMUTH DATA FOR RAAGESHWARI DEEP GAS FIELD IN BLOCK RJ-ON-90/1, INDIA"**

Cairn India Limited ("CIL") is the Operator of Raageshwari Deep Gas field in South Barmer Basin, Rajasthan. The Raageshwari Deep Gas Field (RDG) is a tight reservoir in early development phase by CIL and its JV partners.

CIL recently acquired a wide azimuth survey in the area. This dataset is being currently processed through a modern land processing workflow. The 3D pre-processed data, binned with common offset vector (OVT/COV) trace gathering will be available for this project. CIL is planning for Special High End Full Azimuth Pre Stack Depth Migration (including orthorhombic velocity model building) of a minimum 250sqkms and VAVZ/AVAZ Simultaneous Inversion on a minimum 50 sq kms full fold data of this survey. It is envisaged that the work will be conducted in Q2-Q3 2015.

CIL seeks an Expression of Interest ('EOI') under International Competitive Bidding Process ("ICB") from suitably experienced and reputed seismic data processing, imaging and reservoir characterization contractors with demonstrated performance for pre-qualification to participate in carrying out the following work, which broadly encompasses:

- Full Azimuthal Pre Stack Depth Migration, including Orthorhombic Velocity Model Building, VVAZ/AVAZ Simultaneous Inversion, including fracture characterization (intensity, orientation, and distribution), and pre conditioning of land wide azimuth data, including 5D Interpolation, using advanced seismic processing and inversion techniques.
- An effective & detailed internal as well as remote QA/QC process will be required. The Integration of various datasets: well based measurements, geomechanical data, core data, micro-seismic, and various seismic attributes will be used to obtain reservoir and completion quality parameters for optimized hydraulic fracturing and field development planning.

With this EOI, CIL intends to short list experienced Seismic Imaging and Reservoir Characterization Contractors to invite for the tender of the 3D Seismic Full Azimuthal Pre Stack Depth Imaging and Advanced Azimuthal Seismic Inversion Services.

The contractor shall necessarily be a land seismic data processing, imaging, and reservoir characterization contractor, shall have proven experience in similar types of work, and shall have sufficient personnel, equipment, management and organizational processes to conduct the work. The company shall be able to demonstrate full understanding of Indian and internationally accepted Health, Safety and Environmental practices, procedures and policies. Only companies who can comply with these requirements and who can demonstrate a successful track record, listing projects, clients and client contacts that may be approached, should respond to this notice.

- List of similar 3D Seismic Full Azimuth Pre Stack Depth Imaging and VVAZ/AVAZ Simultaneous Inversion projects successfully executed in last three (3) years and similar projects currently under execution.
- Technology available for OVT/COV 5D Interpolation, short period, long period multiple attenuation, Orthorhombic Velocity Model Building, Tomographic Inversion, Kirchhoff, Ray based, or similar Pre-stack Depth Migration, and generation of full imaged angle CIG-s.
- Technology available for VAVZ/AVAZ Simultaneous Inversion, and reservoir and fracture characterization
- Personnel details including bio-data of key personnel.
- Available software and hardware details.
- QA/QC procedure (internal and remote) details.

- Details of processing flow (Data Preconditioning and/or 5D Interpolation, Orthorhombic Velocity Model Building, Kirchhoff or Ray Based or Similar PreSDM).
- Details of VVAZ/AVAZ Simultaneous Inversion, fracture characterization, estimation of elastic parameters that measure brittleness and fraccability, distribution, intensity and orientation of natural fractures, and of stress anisotropy, determination of reservoir and completion quality parameters.
- Description of project deliverables.
- Lists of policies, procedures and quality assurance practices currently in place for the execution of similar work.
- Health, Safety and Environment policies, procedures and statistics covering the last 3 years.
- Audited financial details for last 3 years to evaluate Company financials on the basis of Turnover, Net-worth and Liquidity Ratio.

The interested suppliers should evince interest to participate in EOI within seven (7) days of publication of Expression of Interest.

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 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 above documents and details for prequalification via [Smart Source](#)