

OIL & GAS DEVELOPMENT COMPANY LIMITED



TENDER ENQUIRY NO. PROC-SERVICES/CB/EXPL-5317/2022

**2D SEISMIC DATA PROCESSING SERVICES FOR SHAKKAR GANJ
WEST 2D UPTO PRE-STACK TIME AND DEPTH MIGRATION**

Note:

Bid bond of amounting to USD 6,000/- (US Dollar Six Thousand) must be submitted with the technical bid. Please see master set of tender documents services for further detail.

The master set of tender documents (services) uploaded on OGDCL website (www.ogdcl.com) is the integral part of this TOR.

HIRING OF 2D SEISMIC DATA
PROCESSING SERVICES FOR
SHAKKAR GANJ WEST 2D
UPTO PRE-STACK TIME AND DEPTH
MIGRATION



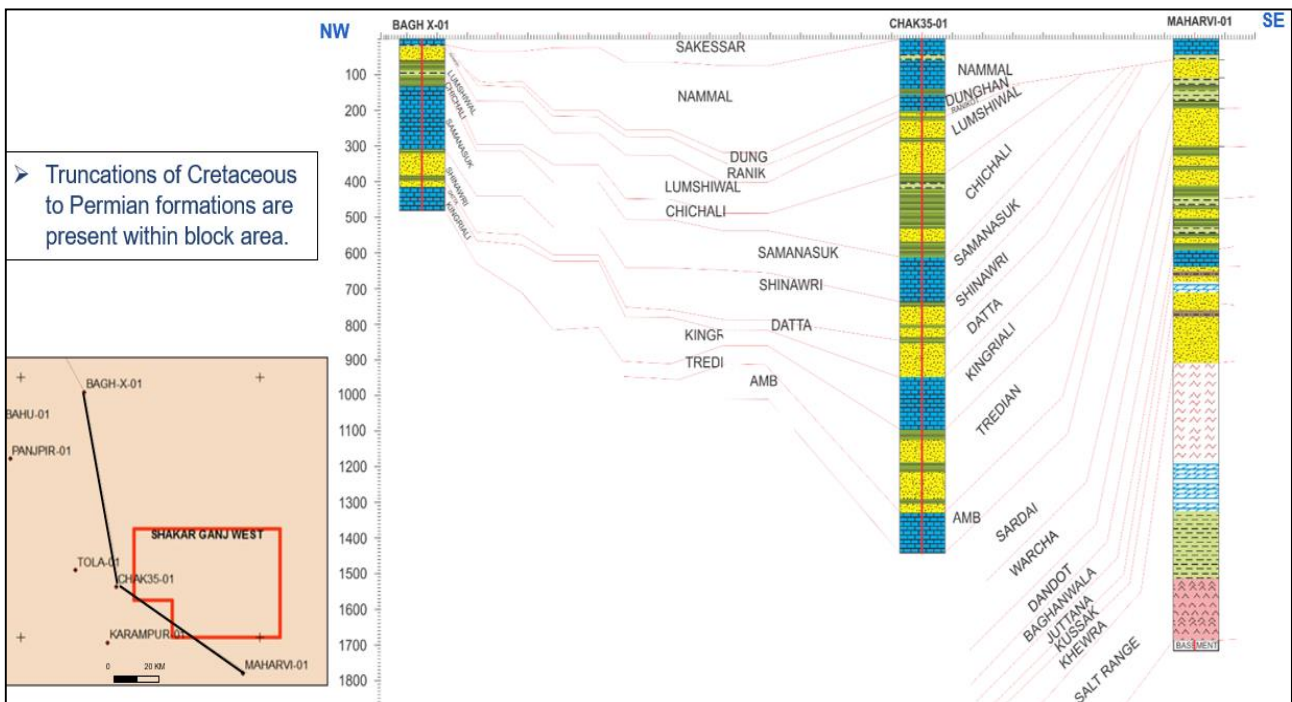
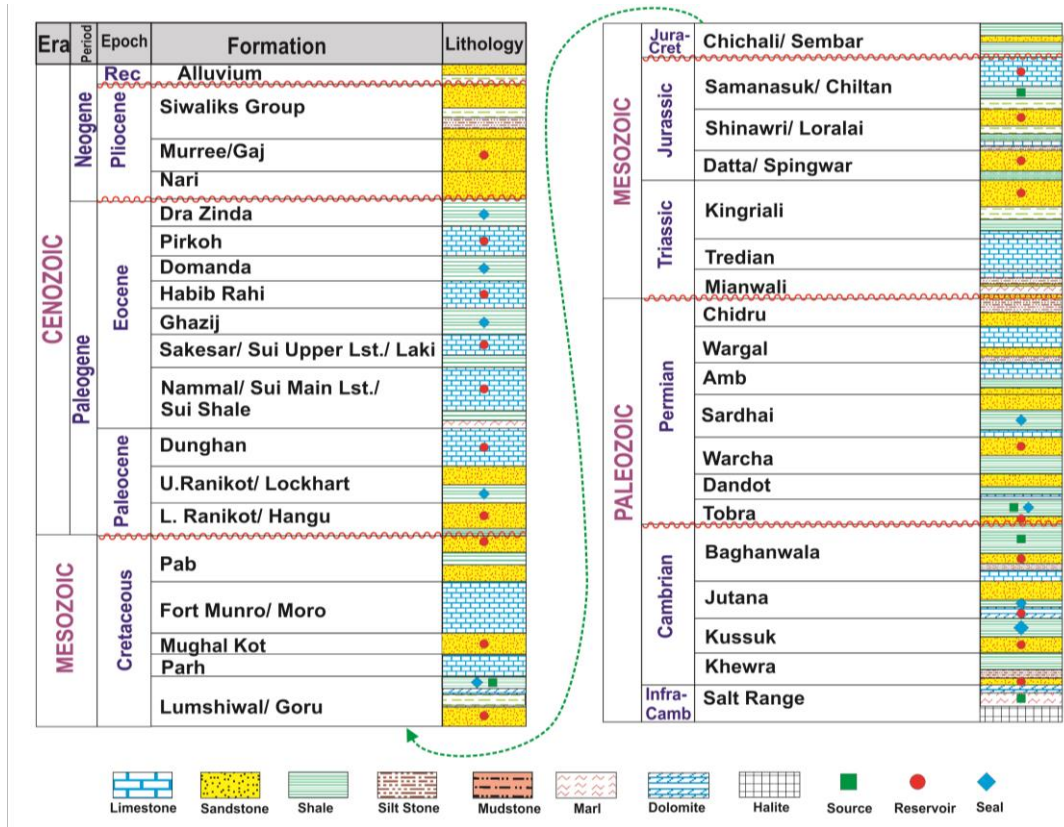
Shakkar Ganj West 2D

1.0 Introduction:

Oil and Gas Development Company Limited (hereafter referred as Company), a Government of Pakistan Enterprise, is a premier E & P Company engaged in exploration and production of crude oil and natural gas in different parts of Pakistan. The company intends to hire 2D seismic data processing services from an internationally reputed seismic data processing company (hereafter referred as Contractor) for **Shakkar Ganj 2D** in Punjab Platform Middle Indus Basin, Pakistan. Base map with 2D surveys and boundaries of Shakkar Ganj West E.L are provided in **Annexure-I**.

1.1 Shakkar Ganj West E.L:

- 1.1.1 Shakkar Ganj E.L is a joint venture of OGDCL (50%) and M/s PPL (50%) and is located in Vehari, Pakpattan, Sahiwal And Bahawalnager Districts, Punjab Province of Pakistan, falling between Latitudes 30° 24' 56.92" N and 29° 59' 57.17 " N and Longitudes 72° 28' 29.65 "E and 73° 04' 57.39 "E. Tectonically this block lie in Prospectivity Zone II.
- 1.1.2 OGDCL as Operator of the block has acquired 920 L.kms, 2D Seismic data in Shakkar Ganj West E.L. The intended 2D seismic data processing campaign comprises surface coverage of approx. 600 L.Kms. Time range of Horizon of interests lie in between time range 250ms-2500ms. Details of 2D Seismic acquisition survey is provided in Annexure-II.
- 1.1.3 There is no well control over the project area, so there is no VSP/Checkshot available for Well to Seismic tie. However for correlation purpose have few wells that can help for correlation.
- 1.1.4 The contractor is required to make sufficient arrangements to perform the stipulated task within agreed time frame to meet the targets of Company.
- 1.1.5 Tectonically The SGW EL lies in Punjab Platform and is understood to be only mildly affected by Post-Cretaceous tectonics, But pre-cretaceous strata is structurally disturbed in a similar extensional regime as is evident in the lower Indus basin. However effect of Halo-kinesis is visible in such configurations. Infra Cambrian to Recent deposits have been encountered in multiple wells in the vicinity. Truncations of Permian to Cretaceous strata is a significant phenomenon visible on the seismic data of the region.



2. Scope of Work:

- 2.1 The 2D processing services shall include processing up to PSDM level of 2D seismic data. The Contractor shall process the (600) L. Km data as per sequence of **Annexure III**, along with other advance processing modules offered by the contractor. Any step in the PSTM and PSDM processing workflow may be modified with mutual consent without affecting the cost of the project. The processing sequence may be modified by addition or deletion or reordering of any module as and when required to achieve the optimum results without any additional cost and subject to approval of the Company.
- 2.2 The data is required to be processed at 2ms sampling interval with full record length of 6 seconds along with true amplitude recovery and zero phase output.
- 2.3 The contractor shall use the state-of-art computer system with internationally used software capable of carrying out 2D time processing and depth processing by deploying professionals having seismic data processing experience as per **Annexure-VI**. The contractor shall provide digital data of all the outputs, parameter testing, intermediate and final processing, in acceptable format (Seg-Y) loadable on workstation for QC & interpretation. The contractor shall provide final deliverables, as mentioned in **Annexure-V**. The contractor would provide weekly progress report along with Gantt chart in a timely manner.
- 2.4 Contractor will execute the complete project within turnaround time (10 Months) given in the TOR.

3.0 Objectives:

- 3.1 The primary objective of seismic data processing is to have best quality in Depth.
- 3.2 Obtain high quality 2D seismic data free of multiples, enhanced S/N Ratio and improved frequency band width.
- 3.3 Define accurate Reflector Character in terms of vertical and horizontal resolution & continuity.
- 3.4 To improve the overall resolution and continuity of seismic data and properly image the subsurface configuration.
- 3.5 To improve the fault resolution so that fault zone can be properly marked and positioned
- 3.6 To have a data set in terms of broadband preserved amplitude, phase, frequency, and statics to be used for structural interpretation.
- 3.7 The target horizons lie at the TWT 800-3000ms as interpreted on the 2D seismic data set.
- 3.8 To improve the resolution of basement reflections.
- 3.9 To cater the velocity variations and resolve the salt related structuration

4.0 Seismic Data Processing Sequence:

The processing steps would be required to be applied in a manner so that amplitude, frequencies, and phase of the data remain preserved and output yield is of enhanced S/N ratio, improved broadband spectrum and high resolution. However, a proposed standard processing sequence for PSTM and PSDM is provided in the **Annexure-III A and Annexure-III B** which can be modified according to the requirement with no cost effect. However, the actual sequence will be determined at each step of processing in consultation with the company representatives.

5. Parameters Testing/QC:

The contractor shall submit the data in the form of power point presentation(s) and/or SEG Y for comparison of qualitative results and decision making. The contractor would be required to submit its recommendations regarding processing sequence/parameter selection. The final decision, however, would be of the Company. The Company's professionals' will participate in the project for QC purpose at the stages as proposed in the **Annexure-VII (keeping in view COVID-19 situation at that time)**. The contractor would be required to provide the QC display of each processing step of time and depth processing after extensive testing in order to select the optimum parameters if there is some additional information obtained from testing then that will also be included, the company can ask for the provision of data in SEG Y/PPT/TIFF/CGM etc. when and where required without any additional cost. At least two lines will be select for parameter testing.

- 5.1 After testing of PSDM (Kirchhoff, RTM/ CRAM/ CBM) the company will decide the best fit algorithm to be executed.

6. Rates of Processing

The contractor shall specify Lump sum rates in US \$ per Line Km. for PSTM and PSDM (Kirchhoff,) separately as per **Annexure-IV**. The processing rate should be inclusive of all taxes, duties, courier charges, levy etc. and deliverables as per **Annexure V and VI** except Provincial Sales Tax/ICT Tax on Services in Pakistan.

Any additional processing module other than proposed processing sequence which will be applied for improvement of data quality with mutual consent of the company and contractor will be free of cost.

7. Technical Evaluation Criteria:

- 7.1 The Technical evaluation will be based on the technical evaluation table **Annexure-VII**. The potential bidders are required to strictly follow the sequence of Technical Evaluation Criteria and submit their proposals accordingly.

7.2 At least 75% marks are to be obtained in technical evaluation criteria (**Annexure-VII**), with 70% in each category, to qualify as technically responsive bidder. Obtaining Zero (0) marks in any sub category will lead to disqualification.

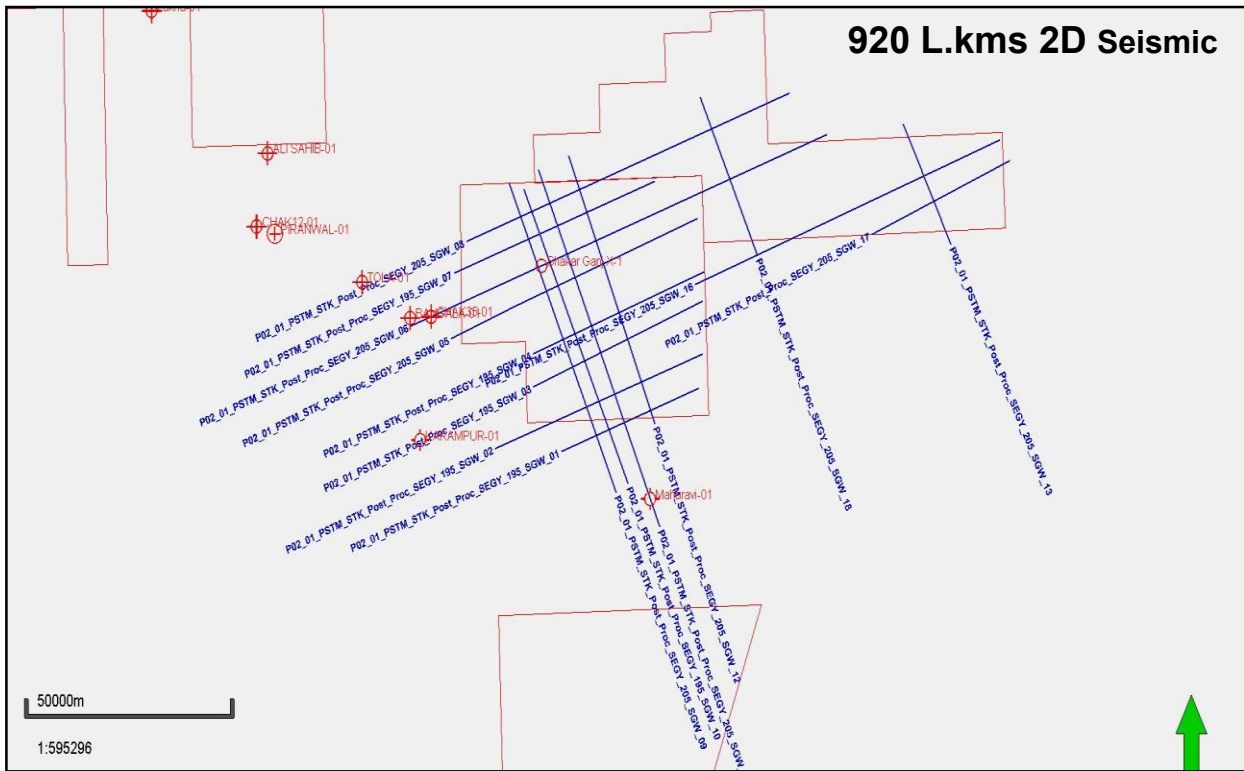
7.3 The contractor must have workable project schedule and turnaround time for the Project. The bidders should submit project schedule in the form of Gantt chart.

7.4 The contractor must provide schedule for the participation of professionals from the Client for the QC of the processing steps. Contractor shall provide a phase wise work program for the participation of the client professionals in line with **Annexure-VII**. Contractor will be bound to take all necessary measures to facilitate the Client's participation process. Any delay due to visa, air tickets etc. will be accommodated by the contractor, however cost of traveling and lodging will be borne by the (Shakkar Ganj West JVP).

8. Data Confidentiality / liability

The contractor shall be solely responsible for secrecy, loss or damage of data due to any reason including fire, theft etc. of any documents/cartridges/soft copies and other important documents /CDs etc. pertaining to the contract while in their custody or control. Neither contractor is liable to reproduce the same data for any other business reasons other than specified by the OGDCL.

Base Map Showing 2D Seismic Lines in Shakkar Ganj West 2D



Seismic Acquisition Parameters of the Shakkar Ganj West 2D

Receiver interval	25 m
Source interval	50 m
Spread	Symmetric Split
Number of Channels	480
Total Fold	120
Number Of Geophones	24 (02 Strings) Linear
Group Base	23.95
Geophone Interval	1.04
Record Length	Seconds
Sampling	2 m sec
Near Offset	+/- 37.5 m
Far Offset	+/- 6012.5 m
Hole Depth	21/ 24/ 27 m
Charge Size	3/ 4/ 5 Kg

For Dynamite

No. of Holes: Single Deep hole

Depth of hole: 21/ 24/ 27m

Charge Size: 3/ 4 / 5 Kg * 2 pcs Detonator

Supporting documentation:

Observer reports, Survey listings (Co-ordinates / elevation lists), SPS files, W-Z data/Up-hole data, etc.

(A) Basic/Standard Processing Sequence for PSTM Processing

The main basic processing steps to be taken into account: The contactor will process the land 2D seismic data through following basic processing sequence which also forms the basis for price quotation. The proposed basic processing steps to be performed are listed below:

Sr. No.	Time Processing Sequence
1.	Reformat
2.	Geometry application and QC attributes
3.	Geometry update & QC
4.	True Amplitude Recovery
5.	Minimum phase conversion and match filter
6.	Trace Editing
7.	Despike /Wild Noise Removal
8.	Coherent/Non Uniform Coherent noise removal in different domains
9.	Scattered/dispersive, random, and high frequency noise attenuation, preserving amplitude
10.	Multiple Attenuation
11.	Refraction Static computation and application (Refraction tomography and Diving Wave tomography etc.)
12.	Inverse Q Filtering (Q compensation)
13.	Surface consistent amplitude compensation (SCAC)
14.	Surface consistent Deconvolution/Robust Deconvolution
15.	1st Velocity analysis every at 1.0 Km x 1.0 Km
16.	1st pass of Surface Consistent Residual Static Correction
17.	2nd Velocity Analysis at 0.5 Km x 0.5 Km
18.	2 nd pass of Surface Consistent Residual Static Correction
19.	3rd Velocity analysis if required and more passes of residual static
20.	Pre-stack Random noise attenuation in different modes
21.	Pre stack signal enhancement/ CRS or equivalent subject to testing results
22.	Final Stack, Filtering and Scaling
23.	Post stack Signal Enhancement
24.	Spectral enhancement
25.	Post Stack Time Migration
26.	Noise attenuation before PSTM (if required)
27.	Final gather conditioning and velocity preparation for initial Pre-Stack Time Migration
28.	Initial PSTM (1st Pass/PSTM 1 st Run) (with different velocity percentage)
29.	First PSTM Velocity analysis at 0.5 Km x 0.5 Km (include ETA picking)
30.	Anisotropic PSTM
31.	2 nd PSTM Velocity analysis at 0.5 Km x 0.5 Km
32.	If required, more passes of Pre-stack Time Migration (Anisotropic Turning-Wave Kirchhoff) and Velocity analysis with higher order NMO correction in order to have adequate results.
33.	Filtering and Scaling on Final PSTM Stack

NOTE:

- All final output will have to be in zero phase and SEG standard normal polarity.

- Any advance processing module suggested by bidder to be used in place of above mention module that gives best results will be free of cost.
- Processing sequence may be changed if required for better results.

(B) Depth Processing Sequence for TTI PSDM (Kirchhoff, RTM/CRAM/CBM)

The contractor will process the land seismic data through following basic Depth processing sequence which also forms the basis for price quotation. The contractor will provide all iterations on all lines not on selected lines

Sr. No.	Depth Processing Sequence
1.	Data preparation and gather Conditioning for PSDM and RMO picking
2.	<p>Near Surface Velocity Model Building (NSM):</p> <p>A new shallow velocity model shall be required which can handle complex near surface velocity variation</p> <p>Merge the near surface & deeper velocities to form an integrated model suitable for depth migration workflows</p>
3.	<p>Initial Isotropic PSDM Velocity Model</p> <ul style="list-style-type: none"> ○ Convert Final velocity model to depth interval ○ Smooth and insert near surface model. ○ Isotropic PSDM using the initial velocity model.
4.	<p>Iteration 0 Migration</p> <ul style="list-style-type: none"> ○ Anisotropic PSDM
5.	Tomographic Inversion (Grid based / Layers based) to be tested
6.	<p>Iteration 1 Migration</p> <ul style="list-style-type: none"> ○ Isotropic PSDM ○ Calculation of Anisotropic parameters ○ Anisotropic PSDM
7.	<p>Iteration 2 Migration</p> <ul style="list-style-type: none"> ○ VTI/TTI Anisotropic PSDM
8.	<p>Iteration 3 Migration</p> <ul style="list-style-type: none"> ○ TTI Anisotropic PSDM
9.	<p>Iteration 4 Migration</p> <ul style="list-style-type: none"> ○ TTI Anisotropic PSDM
10.	<p>Iteration 5 Migration</p> <ul style="list-style-type: none"> ○ TTI Anisotropic PSDM
11.	Final Migration (Kirchhoff, RTM/CBM/CRAM subject to testing results) with minimum 40 Hz frequency
12.	Velocity Model Updating

13.	Re-run PSTM with final PSDM velocities
14.	Convert depth to time domain
15.	Spatially Continuous Velocity Analysis
16.	NMO Correction
17.	Stack
18.	Post stack processing
19.	Wells Calibration
20.	Convert back to Depth
21.	Run POST Stack Processing

NOTE:

- a) Contractor shall use dense grid of gathers, since this is important in PSDM, RTM/CRAM/CBM Project as this helps define the lateral velocity resolution and incorporate the thin velocity layer variation/ anomalies through the Inversion into the tomographic model (if required) without any additional cost.
- b) Number of tomo iterations may increase based on the satisfactory results without any additional cost.
- c) Incase; if the TTI solution are not able to resolve the velocity anisotropy accurately, Tilted ortho-rhombic tomo solution will be tested/ used. However, contractor may also suggest better solution at that time without any additional cost exposure.
- d) RTM/CRAM/CBM will be run after the last Tomographic iteration.
- e) Success of any iteration shall be based on improvement over the last update in term of image quality, resolution and faults definitions. Any iteration which is not showing the improvement over the last update (better image quality, faults definitions and resolution) shall be considered failed and contractor must revise it (without any additional cost) until the image quality, faults definition and resolution improves.
- f) VIP and CIP Gathers (with preserved azimuth and offset information) output is mandatory
- g) RTM/CRAM/CBM will be tested on target lines after the last Tomographic iteration. If the results of RTM/CRAM/CBM are not better than PSDM (Kirchhoff) last iteration, then RTM/CBM/CRAM will be excluded and cost of this will not be charged. If the results are satisfactory to the company, then it will be run on the whole volume as a production.
- h) Near offset contains very heavy noise. Special attention and processing flow shall be required to treat it properly.
- i) If the quality of first break picks is poor, then contractor must adjust them manually or even pick manually without any additional cost.
- j) Final depth image should Correlate with the existing wells data (horizons depths, structural dip, fault positions, etc.)

- k) The Contractor will be required to check and evaluate the polarity of the recording system for all tapes recorded by the seismic crew. The processor should ensure that the polarity of the processed data should represent SEG normal polarity (increase in impedance correspond to peak and vice versa).

Special Instruction to Bidders

1. For final bid evaluation, the technical evaluation will be carried out on the basis of information provided by the bidders in their technical proposals and the criteria prescribed at Annexure-VII with this document. The bidders securing 75% or more marks will qualify.
2. The detail breakup of the relevant information to be provided by the bidder and comprehensive marking criteria are tabulated at Annexure-VII. There are 5 categories and the bidders are required to obtain at least 70% in each category.
3. Contractor would be bound to provide detailed processing sequence/flow applied with information of all parameters.
4. After the final approval of PSTM results, the contractor will proceed for PSDM with consent of the company. However, the time gap between approval of PSTM results and go ahead for the PSDM/ RTM/CRAM/CBM will be excluded from the total project time.

Maximum Final Deliverable time is 01 months after completion of the project i.e. 10 Months

Financial Bid Format

Rates for land 2D seismic data Time Processing shall be provided as per given table.

S.No	Processing Sequence Description	COST in US \$ per L. km (2D)
1	Time Processing Sequence as per Annexure-III(A) (Lump Sum)	
2	PSDM Processing Sequence as per Annexure-III(B) (Lump sum)	
3	Total Lump Sum cost (Sr No.1+ Sr No.2)	

NOTE:

- i. *Financial bids will be evaluated on the basis of total cost Sr. No.3, above in the **Annexure-IV**, on the basis of lump sum turnkey rate (LSTK) basis. The contract will be awarded to technically responsive and financially lowest evaluated bidder.*
- ii. *Separate invoices need to be generated for Sr. No.1 and 2 of **Annexure-IV**. 50% of the Payment for Sr, No. 1 of **Annexure-IV** will be made after successful completion of PSTM and the remaining payment will be made after successful completion of the project.*
- iii. *The contractor should provide the list of all advance processing modules and should use these modules for improvement of data free of cost if needed during processing*
- iv. *Total line kilometers for charged rates will be calculated on the basis of subsurface coverage*
- v. *Contractor should also provide list of available Depth migration algorithms. After testing of PSDM algorithm, Company will decide best fit PSDM algorithm for production run.*
- vi. *Prices must be quoted inclusive of all Taxes, duties, courier charges and levy etc. except provincial sales tax / ICT Tax on services where applicable will be borne by OGDCL at*

Time Processing Deliverables for 2D Project

Sr. No.	Description	Format	Recommended Media	No. of Copies
a)	a) First Break Picks b) Refraction Statics	ASCII	DVD	03 sets
b)	a) Final Stacks (Unmigrated) with Post Stack Processing Sequence b) Final Stacks (Unmigrated) without Post Stack processing Sequence	SEGY	HD & LTO	Three sets on HD and three sets on LTO
c)	a) Final POSTM Stacks with Post Stack Processing Sequence b) Final POSTM Stacks without Post Stack processing Sequence	SEGY		
d)	a) Final PSTM Stacks with Post Stack Processing Sequence b) Final PSTM Stacks without Post Stack processing Sequence	SEGY		
e)	a) Final PSTM stacking Velocity (ASCII) b) Final PSTM stacking Velocity (SEG-Y)	SEG-Y & ASCII		
f)	a) Final PSTM CMP gather with NMO Correction Without Post Processing Sequence b) Final PSTM CMP gather without NMO Correction Without Post Processing Sequence	SEGY		
g)	a) Final Un-migrated CMP gather with NMO Correction Without Post Processing Sequence b) Final Un-migrated CMP gather without NMO Correction Without Post Processing Sequence	SEGY		
h)	a) PSTM Processing Report	MS Word/ PDF	DVD & Hard Copy	03 sets on

Depth Processing Deliverables for the Project

Sr. No.	Description	Format	Media	No. of Copies.
1.	a) Final PSDM Stack Calibrated with wells without post stack sequence b) Final PSDM Stack Calibrated with wells with post stack sequence c) Final PSDM Stack uncalibrated with wells without post stack sequence d) Final PSDM Stack uncalibrated with wells with post stack sequence	SEGY	HD & LTO	Two sets on HD and four sets on LTO
2.	a) Final PSDM Stack calibrated with wells stretch to time without post stack sequence b) Final PSDM Stack calibrated with wells stretch to time with post stack sequence c) Final PSDM Stack uncalibrated with wells stretch to time without post stack sequence d) Final PSDM Stack uncalibrated with wells stretch to time with post stack sequence	SEGY		
3.	a) Final PSDM, RTM/CBM/CRAM Gatherers	SEGY		
4.	a) Final PSDM velocity before well calibration b) Final PSDM velocity after well calibration	SEG-Y & ASCII		
5.	a) Final PSDM (Kirchhoff RTM/CBM/CRAM) Stack Calibrated with wells without post stack sequence b) Final PSDM (Kirchhoff RTM/CBM/CRAM) Stack Calibrated with wells with post stack sequence c) Final PSDM (Kirchhoff RTM/CBM/CRAM) Stack uncalibrated with wells without post stack sequence d) Final PSDM (Kirchhoff RTM/CBM/CRAM) Stack uncalibrated with wells with post stack sequence	SEGY		
6.	a) Final PSDM (Kirchhoff RTM/CBM/CRAM) Stack Calibrated with wells stretch to time without post stack sequence b) Final PSDM (Kirchhoff RTM/CBM/CRAM) Stack Calibrated with wells stretch to time with post stack sequence c) Final PSDM (Kirchhoff RTM/CBM/CRAM) Stack uncalibrated with wells stretch to time without post stack sequence d) Final PSDM (Kirchhoff RTM/CBM/CRAM) Stack uncalibrated with wells stretch to time with post stack sequence	SEGY		
7.	Final Depth Processing Report	Word/ PDF		

Technical Evaluation:

Cat No .	Description of Technical Information	Qualifying Criteria		Max. Marks
1	Company History & Profile (mention the list of projects executed in the mentioned time span)			46
	No. of Years in PSTM Processing of land Seismic Data in Extensional regime	PSTM	More than 10 years = 10 marks 8 to 10 years = 08 marks 4 to 7 years = 06 marks Less than 4 years = 00 marks	10
	No. of Years in PSDM Processing of land in Extensional regime	PSDM (Kirchoff)	More than 10 years = 12 marks 8 to 10 years = 10 marks 4 to 7 years = 06 marks Less than 4 years = 00 marks	12
	No. of land 2D projects for PSTM in the last 5 years in Extensional regime (Please provide Client list as per Annexure IX)	PSTM	More than 10 projects = 10 marks 07 to 10 projects = 8 marks 03 to 06 projects = 06 marks Less than 03 years = 00 marks	10
	No. of Land 2D projects for PSDM in the last 5 years in Extensional regime (Please provide Client list as per Annexure IX)	PSDM (Kirchhoff)	More than 10 projects = 14 marks 4 to 10 projects = 10 marks less than 4 projects = 0-4 marks	14
2	Processing Facilities Software and Work Flows			24
	List of all Processing modules applied for Land 2D seismic data processing upto PSTM must be Provided	Software/Module version used land 2D processing Less than 2-years old = 8 marks 02 to 05 years old = 6 mark More than 05 years old = 2 marks		8
	List of all Processing modules applied for Land 2D seismic data upto KPSDM processing must be Provided	Software/Module version used land 2D processing (KPSDM) Less than 2-years old = 8 marks 02 to 05 years old = 6 marks More than 05 years old = 2 marks		8
	Details of PSTM processing sequence for mentioned project including optional steps.	Cover 100% of proposed processing flow for PSTM with optional steps = 04 Cover 100%-90% of proposed processing flow for PSTM with optional steps = 03 Cover less than 90% of proposed processing flow for PSTM with optional steps = 00 marks		4

	Details of Depth processing sequence for mentioned project including optional steps.	Cover 100% of proposed processing flow for Depth with optional steps=04 Cover 100%-90% of proposed processing flow for Depth with optional steps=03 Cover less than 90% of proposed processing flow for Depth with optional steps=00 marks	4
	Hardware		13
3	Provide List of hardware / machines / equipment in operating condition owned by the company, available with contractors used in land 2D seismic data PSTM and PSDM processing as per Annexure-XI	Hardware/equipment version not older than 05 years=13 marks Hardware/equipment version not older than 08 years=10 marks Hardware/equipment version not older than 10 years=05 marks Hardware/equipment version older than 10 years=00 marks	13

	Manpower (Qualification of 16 Years Degree in Geophysics/ Geology) and having experience in 2D/3D PSTM ,PSDM Processing		17
4	Attach the resume of the contractor permanently employed manpower for land 2D PSTM processing projects in Extensional regime. (Give complete detail experience as per attached Annexure X).	At least 05 professionals with minimum experience of 05-10 years Experience of 10 or more years=07 Experience of 8 to 9 years= 06 Experience of 5 to 7 years= 05	7
	Attach the resume of the contractor permanently employed manpower for land 2D PSDM (Kirchhoff) Processing projects in Extensional regime (Give complete detail experience as per attached Annexure X).	At least 04 professionals with minimum experience of 05-10 years Experience of 10 or more years=10 Experience of 8 to 9 years= 08 Experience of 5 to 7 years= 06	10
	OGDCL professional participation in the 2D seismic data processing PSTM, PSDM (Kirchhoff,) project.		Mandatory
5	Submit workable QC schedule for OGDCL professionals.	1. During PSTM processing & finalization. (Three professionals for 02 weeks) 2. During PSDM (Kirchhoff, RTM/CRAM/CBM) & finalization/ well calibration. (Three Professionals for 02 weeks)	
	TOTAL MARKS (Qualifying Marks 70%)		100

Note: 75% overall and 70% in each category are mandatory.

MANDATORY REQUIREMENTS:

1. Seismic data processing companies and team leaders must have an experience of on-shore projects as per **Annexure VII**
2. Total turnaround time to complete the project is 10 months. After completion of PSTM and PSDM, complete volume should be delivered to OGDCL. The time of the project will start from complete data handing over to the contractor.
3. After the final approval of PSTM results, the contractor will proceed for production run of PSDM with consent of the company. However, the time gap between approval of PSTM results and go ahead for the PSDM (Kirchhoff, RTM/CBM/CRAM) will be excluded from the total project time.
4. Filling of Questionnaire as per Annexure-VIII.
5. Compliance to HSE policy is mandatory.

NOTE:

1. Contractor shall be declared as disqualified for Non Compliance against mandatory requirements.
2. Contractor should allocate dedicated team for OGDCL – Shakkar Ganj West project. At the time of award of contract contractor shall ensure to provide professionals of same level on which they have been awarded the contract
3. In case of JV, the JV leader should be professionally a Processing Company.
4. For the execution of the project, contractor should provide the processing team from the list of professionals mentioned at Annexure-VII, category 4.
5. The bidders must submit soft copy of bid document in pdf/ word along with hardcopy.

Questionnaire

Sr#	Questions	Answer
1	Registered Name of the Firm/Company.	
2	Permanent Address of Head Office and Branch Offices (if any) with telephone no(s)/fax no(s).	
3	Date and place of establishment of Company. (Please attach appropriate proof)	
4	Name and address of Foreign Associates (if any)	
5	Name, Designation and Qualifications of the person(s) authorized to represent the firm in Contractual Matters. (Authorization letter from Chief Executive of the Firm to be attached).	
6	a. Financial status of the Company with supporting documents.	
	b. Last 3 years audited financial statements of the Company. (Please attach Audit Reports with the Balance Sheets).	
	c. NTN Certificate and statement/proof of income tax deduction for last 3 years. (Please attach copies)	
7	Name and address of the Bankers	
8	Performance of the firm on at-least 5 recently completed jobs / contracts of similar nature (Certificates of satisfactory performance from organizations/owners to be attached)	
13	Average turnaround time for about 920 L.km PSTM, PSDM (Kirchhoff, RTM/CRAM/CBM), RTM data projects. Mention turnaround time for last 05 similar projects along with project volume.	
14	Availability of Innovational processing flow for any processing project	
15	Do you have a facility for remote/interactive data QC?	
16	Do you have a facility for Video Conferencing?	
17	Do you have seismic data visualization facilities?	
18	Do you have FTP site for transfer of data from processing center to clients office for QC	
20	Details of any litigations/cases in which the Firm/Company has been involved.	
21	Any other information.	
Note:	1	List of Facilities, ownership of contractor's machineries/equipment, availability of technical and skilled personnel, support capabilities and experience of the contractor may be checked and verified physically through technical audit.
	2	Mis-statement by the contractor will lead to subsequent disqualification at any stage.

List of Projects/Contracts during the Last 10 Years

Annexure-IX

(Mention complete detail of 2D PSTM and PSDM (Kirchhoff, RTM/CRAM/CBM), RTM processing projects.

S.NO	CLIENT NAME With address , email & Contact Number	SATISFACTORY REPORT OF THE CLIENT	DESCRIPTION OF WORK	AMOUNT (Million US \$)	CURRENT STATUS OF THE CONTRACT	VALIDITY	
						FROM	TO
1.							
2.							
3.							
4.							
5.							

Note: Please do not mention offshore projects

List / Resume of Manpower Permanently Employed by the Contractor

<u>Location and List of Resume of Staff</u> (Mention complete detail experience of PSTM and PSDM (Kirchhoff , RTM/CBM/CRAM) processing)						
S.NO	NAME OF PROFESSIONAL	DESIGNATION	ACADMIC QUALIFICATION (YEARS)		PROFESSIONAL EXPERIENCE	MENTION PROJECTS DETAIL
			DEGRE	OTHER		
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Details of hardware used by the contractor for 2D land Seismic Processing

S.NO.	HARDWARE NAME	ACQUIRED BY THE COMPANY ON	QUANTITY	CONDITION	REMARKS
1.					
2.					
3.					
4.					
5.					
6.					