

**Clarification#1 against tender# PROC-SERVICES/CB/RMD-4281/2019
Full field Integrated Reservoir Simulation Study of Uch Gas Field**

Sr#	Section from ITT	Bidder's Clarification	OGDCL response
1	<p>1.1 - OGDCL acquired the license in 1986 and evaluated the area through three 2D seismic surveys of different vintages.</p>	<ul style="list-style-type: none"> - Is the current 2D seismic coverage represent one of the 3 mentioned surveys. - What is the fold of the 2D seismic vintages? - What is the average seismic grid size - What type of processing, velocity modeling Stacking and Migration seismic velocity data - Are previous seismic interpretations available for the contractor? - Are there natural fractures in the reservoir? If yes are there any natural fractures and faults interpretations have been done? 	<p>The seismic data contains all 3 vintages acquired on different years.</p> <p>FOLD:-</p> <p>861-UCH = 24 fold</p> <p>897-UCH = 48 fold</p> <p>911-UCH = 48 fold</p> <p>All the three vintages seismic lines are distributed randomly and cover the whole Uch structure.</p> <p>SegY data is available upto migrated stack (post migration). Currently seismic data reprocessing is in progress upto PSTM, if completed at study time then PSTM data and velocities will be used.</p> <p>Previous interpretation is available but it is recommended that bidder will do his independent interpretation however bidder can visit our interpretation facility and model interpreted stacks can be provided. Successful Bidder can review previous horizons and fault interpretation at our workstation.</p>
2	<p>3.2.5 Workout the feasibility of Post-Stack Acoustic Inversion of existing processed 2D seismic data in terms of its use in reservoir characterization.</p>	<p>How many wells with shear wave curves that may be included in the seismic inversion study?</p>	<p>OGDCL plans to acquire this data in the upcoming well/wells</p>

3	1.6.3 Exploratory Well: The total number of drilled wells in Uch Gas Field to 37 (including replacement well of Uch-17), which will be the tentative number of wells to be included in this study. However, the number of wells, to be included in this study, may increase if further development / replacement wells are drilled till finalization of static model.	- How many wells could be possibly added to study before concluding Static Model.	It is difficult to say at this moment, however, 3 to 4 more wells could be possibly added
4	Well type	Are all wells vertical? Any deviated or horizontal wells?	Well Uch-6B and Uch-14 are deviated wells, rest are vertical.
5	1.9 Models update After update of Dynamic model in 2018, M/s Schlumberger has recommended to install the compression by 2021.	We presume that the last updated Reservoir Model (2018) was on Eclipse platform and have included 30 wells?	Last updated dynamic simulation model 2018 is on PETREL RE software. Total number of wells included were 37. Out of 37, producing wells were 30.
6		What is the extension of the study area? We noticed that size of Structure (about 49 Km by 5 Km) exceeds the license area (121 Km ²).	Extension of the study area will be mutually decided during the kick-off meeting for data collection, however, it obviously will be in excess of the license area.
7	-	What other measurements and tests have been performed?	Pressure-Production data is being acquired regularly in Uch gas field. Consultant has to incorporate all available technical data and the data acquired during the study
8	-	How many wells have been cored over reservoir section?	8 existing wells have been cored, however, OGDCL plans to core the upcoming well as well
9	-	Do you have core interpretation sheets (CCA)?	We have Routine Core Analysis Reports as well as SCAL reports
10	-	Are there any Geomechanics Studies?	No
11	-	Are there tight zones in the reservoir?	Consultant to work out
12	-	Is there significant water production?	No significant water production is observed in Uch gas field. Current average water production rate is

			about 600 bbl/d of water against around 450 MMSCFD of gas
13	-	Are there multiple equilibrium regions?	Consultant to work out
14	-	Are there multiple facies/flow units/rock types identified?	Consultant to work out
15	-	Are there major vertical flow barriers separating layers?	Consultant to work out
16	-	What is the total number of wells to be interpreted in Petrophysics	The total number of drilled wells in Uch Gas Field, including replacement well of Uch-17, is 37 which will be the tentative number of wells to be interpreted in Petrophysics. However, the number of wells, may increase if further development / replacement wells are drilled till finalization of static model.
17	-	Could we have a table with the availability of logs, imageries, well tests, production logs, VSP (1), CCAL, SCAL per well	Not at this stage
18	-	Are NMR processed logs available to define irreducible water saturation? Are the micro resistivity available to define "moveable hydrocarbon"? Are the Spectral GR, XRD-core, ECS/GEM data available for the clay type, clay parameters and shale volume? How many wells with SCAL-core data are available?	No, however, OGDCL plans to acquire this data in the upcoming well Yes No, but OGDCL plans to acquire this data in the upcoming well 2 wells with SCAL data are available
19	6.1 Estimate the ultimate recoverable reserves in proven, probable and possible categories as per - SPE and WPC definitions and provide certification for proven recoverable reserves.	Firm does not provide reserves certification, is that mandatory? Can a bidder submit their response without this section?	Reserves Certification is mandatory.

20		It is stated that the objective of this study is [initially] to update the static and dynamic models existing and realized in 2018. However, the general description of the services requires a new 2D seismic interpretation, a new petrophysical interpretation of wells and the construction of new models. Do you confirm that it is therefore in this study to build new static and dynamic models and not to update existing static and dynamic models?	This study is a full field integrated reservoir simulation study, it definitely requires to build new static and dynamic models from scratch.
21		What Software Platforms for Reservoir Modeling?	PETREL G&G for static model and PETREL RE for dynamic model.
22		What is the condensate gas ratio of this field? Previous studies have considered it as a dry gas or used a compositional approach Are there evidence of possible natural fractures? Or the matrix is sufficient enough to allow the fluid to flow?	Current approximate CGR of the Uch gas field is around 0.1 bbl/MMSCFD. Recent study has considered it as dry gas field. Yes, natural fractures exist in Uch gas field.
23	5.3 PipePhase, PipeSim or PipeSys surface network model must include:	Can we use alternative SW such as Petex gap prosper etc. Are the wellbores and surface facilities integrated into the model?	No Coupled run is the one of the of the objectives of this study, therefore, wellbores and surface facilities needs to be integrated into the model by the consultant
24	8.2 Total time of the study should not exceed 47 weeks including Phase-I and Phase-II reports and presentations and Phase-III scope of work and draft final report, however, data collection (02-03 weeks), Final presentation (01 week) and draft final report review (01 week) will be exclusive of the 47 weeks.	- Does that imply Data collection, final presentation and reporting time are unbillable?	Yes, data collection, final presentation and reporting time is not included in 47 weeks, however, as mentioned data collection, final presentation and draft final report review shall not exceed 02-03, 01 & 01 week, respectively.
25	10.7 OGDCL reserves the right to discontinue any	- Either Party may terminate this Agreement if the other Party fails to	Not acceptable.

	study / any task / any service related to above scope of work at any stage.	comply with terms and conditions of this Agreement, provided that the non-complying Party has been given fifteen (15) days' written notice prior to the proposed termination, during which the non-complying Party has failed to commence action to correct the breach to the reasonable satisfaction to the other.	
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