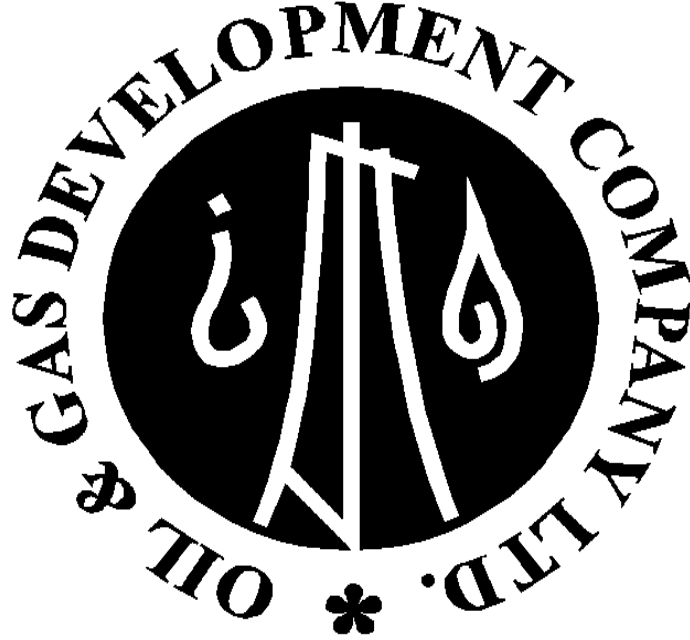


OIL & GAS DEVELOPMENT COMPANY LIMITED



TENDER ENQUIRY NO. PROC-SERVICES/CB/WL-4829/2020

WIRELINING LOGGING & PERFORATION SERVICES IN THE REGION OF PUNJAB & SINDH PROVINCE

Note:

Bid bond of **USD 80,000/- (US Dollar Eighty Thousand Only)** to be submitted with the technical bid.

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

TOR for Press Tendering for hiring of Wireline Logging and Perforating Services

1. SCOPE OF WORK

1.1 Wireline logging, perforating and log data processing / interpretation services are required on "CALL OUT" basis for a period of one year from issuance of LOI (contract extendable with mutual consent) on Exploratory, Appraisal, Development and Work over wells of OGDCL in the region of Punjab & Sindh provinces of Pakistan. The estimated number of wells is 50 (Rig and Rigless) with 160 jobs for the above mentioned period.

2. ELIGIBILITY REQUIREMENTS

The bidder:

- 2.1 must have minimum 10 years international experience of providing above mentioned services.
- 2.2 must have dedicated team of experienced professionals to handle technical matters relating to all types of wireline logging operations, perforations and logs data processing/interpretation services.
- 2.3 must be capable of providing required services / equipment as per Annexure-A2.
- 2.4 must be capable of providing Wireline logging & perforating services simultaneously on **at least four OGDCL wells** located in the region.
- 2.5 must confirm to carry out jobs at locations where OGDCL is active in operations.

3. TOOLS/EQUIPMENT/NOCs

- 3.1 Tools specified in Annexure-A2 should be suitable to perform services with temperature rating of 300 °F and 350 °F. Tools having temperature rating more than 350 °F should also be made available as and when required for logging on high temperature wells. H2S & CO2 rated tools/equipment should also be available when required.
- 3.2 The bidder should provide the latest tools/surface equipment for performing logging and perforating services as per annexure-A2.
- 3.3 The bidder will ensure the availability of sufficient tools and equipment (for three simultaneous jobs) with backup support to carry out logging operations & perforating services simultaneously at different locations without rig time loss.
- 3.4 Provision of equipment for logging with TLC, through drill pipe, coil tubing or tractors should also be available when required.
- 3.5 All types of permits / NOCs, security clearances required for operations especially pertaining to manpower, radioactive sources / explosive import, storage, transportation etc. to any location of OGDCL will be the responsibility of the bidder.

4. BASE FACILITIES

4.1 The bidder must have its suitably equipped base facilities for repair / maintenance, data processing / interpretation etc. and back up equipment/system support for smooth execution of logging and perforating services OR the bidder should confirm that in case of award of contract, they will ensure the establishment of adequate operational base / data processing facilities in Pakistan within 90 days of award of contract (for international bidders only). The bidder must ensure adequate operational setup in the both provinces in order to plan timely mobilization to OGDCL locations.

5. PERSONNEL

5.1 The bidder shall provide experienced professionals to perform logging, perforating and data processing/interpretation services. CVs to be submitted with the bid to appraise the competency level.

6. PREPARATION OF BIDS

6.1 The bidders shall prepare their bid in two parts i.e. Technical proposal (part-1) one original & one copy accompanied by soft copy on CD and Financial proposal (part-2) original.

6.2 The Technical proposal shall contain the details as per annexure-A2.

6.3 The bidders shall prepare their bids in line with given wireline services / nomenclature or equivalent services as per Annexure A2 & A3.

6.4 The Financial proposal should indicate all prices/rates as specified in Annexure-A3. Any Hi-Tech/New Technology service which can be used to achieve the objective and not part of the financial model may also be quoted separately on the similar format. However financial evaluation will be strictly based on given financial model (Cost Summary at Annexure-A3).

6.5 Any depth, flat charge etc, where applicable will be applied once from surface to the actual deepest depth recorded with the service irrespective of number of runs made with the service under one service charge.

6.6 Any survey, level, time, station charge etc, where applicable will be applied once for the actual intervals recorded with the service under one service charge.

6.7 POL such as HSD (Diesel) and lubricants will be issued by OGDCL (if required) to wireline units during logging operations and the same will be adjusted / deducted from the service company invoices at the time of payment.

6.8 All consumables items required for execution of any service mentioned in Annexure-A3 will be responsibility of the service company at no extra cost.

6.9 OGDCL shall provide accommodation and messing for contractor's personnel during stay at field.

7. BID VALIDITY

7.1 The bid shall remain valid and open for acceptance for a period of 180 days from the specified date of tender opening.

8. WIRELINE DELIVERABLES

8.1 One (1) set of rush prints along with one CD containing digital data at well site right after completion of the job.

8.2 Seven (7) sets of prints of all the logs within 5 days after completion of the job.

8.3 Two (2) CD's containing DLIS, LAS, LIS and PDF formats within 5 days after completion of the job.

9. DATA PROCESSING / INTERPRETATIONS DELIVERABLES

9.1 Four (4) sets of comprehensive reports with interpretation plots.

9.2 One (1) CD with each report containing digital data of final report in PDF format.

10. EVALUATION OF PROPOSALS

10.1 The technical proposal shall be reviewed first to determine the responsiveness according to the information required vide Annexure-A2. Technical proposals not conforming to and **deviating materially from the specifications and the conditions laid down in the Tender Documents shall be determined to be non-responsive and shall be rejected by the Company.**

10.2 Technical evaluation will be based on the following criteria.

DETAIL OF TECHNICAL BID EVALUATION CRITERIA

Descriptions	Point Value	
	Score	Section %
Equipment & Services		55%
Equipment, tools & services quoted by Contractor to meet OGDCL job requirements for		
i. Intermediate Logging	05	
ii. Reservoir Section Logging	20	
iii. Perforating Services	10	
iv. Auxiliary Services	10	
v. Production Logging	10	
Contractor's Experience		15%
<ul style="list-style-type: none"> Contractor's International experience & reputation in equipment and related services (11 points for 10-15 years, 15 points for 15+ years) 	15	
Contractor's Services Base		10%
Contractor's Wireline Services Base in Pakistan		
<ul style="list-style-type: none"> Upto One base/assurance of establishing a base = 7 Upto Two Bases = 10 	10	
Personal Qualification & Experience		10%
Qualification, Training and Experience of Contractor's proposed key personnel		
<ul style="list-style-type: none"> Experience > 8 years = 10 Experience upto 8 years = 7 	10	
HSE System		10%
Contractor's HSE Standards and Processes verification/ rating for the last five years	10	
TOTAL POINT VALUE	100	100%
TECHNICAL QUALIFICATION (Minimum Score)	75	

10.3 The companies obtaining less than 75% marks on the aggregate will not be considered for Financial Evaluation.

10.4 The bidder must get minimum 70% marks in each category. Any bidder getting less than 70% marks in any category will be disqualified.

10.5 After completion of Technical Evaluation, the financial proposal of technically qualified bidders will only be opened and examined to determine the lowest evaluated bid.

10.6 The bidder must provide un-priced copy of their financial proposal as per given format with the technical bid.

10.7 For the purpose of determining the lowest evaluated bid, cost as per financial model at Annexure-A3 will be taken into consideration. Optional equipment will not be considered for financial evaluation. However; bidder(s) should quote their firm prices on the similar format for any auxiliary / additional equipment / techniques or services not included in the schedule of requirement or financial evaluation model but required for Wireline logging & perforation operations as per technical requirement. **Firm prices & clear discounts / rebates (if any) for**

all the services referred in the proposal may be quoted. *Conditional prices or rebates will not be considered for evaluations.* Bidders are required to quote all items as per Annexure-A3. Incomplete bids will be rejected and not considered for the financial evaluation.

11. Payment Terms

- 11.1 Service Company will submit the invoices duly signed and stamp by OGDCL representatives after completion of job & submission of final data to OGDCL head office Islamabad.
- 11.2 The invoices will be submitted in US Dollars. However payment will be made in equivalent Pak Rupees at the prevalent rate on the date of payment after technical and contractual verification.

DETAIL OF WELL LOGGING AND PERFORATING SERVICES

Conventional and Slim Tools	
Equipment /Tools	Specification /Features
Logging Unit	<ul style="list-style-type: none"> Truck / Skid mounted Wireline Logging Unit for carrying out all type of Open Hole, Cased Hole Logging, Perforations services etc. on OGDCL wells.
Intermediate Section	
Spontaneous Potential	<ul style="list-style-type: none"> Spontaneous Potential Tool
Temperature	<ul style="list-style-type: none"> Temperature Tool measuring min. 300°F
Induction Tool	<ul style="list-style-type: none"> Induction Tool with 5 curves output data Minimum Depth of Investigation: 85 inch deep curve Range of Measurement: 0.1-2000 ohm-m Vertical Resolution = 2 ft
Sonic Tool	<ul style="list-style-type: none"> High resolution Bore hole Compensated Sonic tool Minimum Depth of Investigation: 3 inch Range of Measurement: 40-200 usec / ft Vertical Resolution compressional = 2ft Accuracy = +/- 2 us/ft
Gamma Ray	<ul style="list-style-type: none"> Gamma Ray Tool Minimum Depth of Investigation: 12 inch Vertical Resolution = 1 ft Range of Measurement: 400 API
Borehole Geometry tool	<ul style="list-style-type: none"> Caliper (4 – 6 Arm) is required for 24”, 17-1/2”, 12-1/4”, 8 1/2” and 6” hole with Deviation & Azimuth Minimum Depth of Investigation: Hole diameter
Cement Evaluation	<ul style="list-style-type: none"> Cement Bond / Variable Density logging tool is required Minimum Depth of Investigation: Casing to cement interface
Reservoir Section	
Resistivity Tool	<ul style="list-style-type: none"> High Resolution Laterolog Tool with 5 curves output Minimum Depth of Investigation: 48 inch Range of Measurement: 0.2-40000 ohm-m Vertical Resolution = 24 inch
Micro Resistivity Tool	<ul style="list-style-type: none"> Micro Spherical Focused Tool Minimum Depth of Investigation: 03 inch Range of Measurement: 0.2-2000 ohm-m Vertical Resolution = 3 inch
Navigation Tool	<ul style="list-style-type: none"> Navigation Tool is required for Deviation & Azimuth survey
Neutron Porosity Tool	<ul style="list-style-type: none"> High resolution Compensated neutron porosity tool with TNPH and NPHI outputs. Minimum Depth of Investigation: 09 inch Range of Measurement: 0-60 pu
Spectral Natural Gamma Ray	<ul style="list-style-type: none"> Natural Gamma Ray is required for Potassium, Thorium and Uranium measurements. Range of Measurement: 0-1000 API Vertical Resolution = 15 inch Depth of Investigation = 9.5 inch

Density Log	<ul style="list-style-type: none"> • High resolution litho-density with Photoelectric Absorption Coefficient tool • Minimum Depth of Investigation: 5 inch • Vertical Resolution = 19 inch
Array Sonic Tool	<ul style="list-style-type: none"> • Mono/Dipole Sonic with Cross dipole, P and S, Stonely, Full wave array sonic tools are required. • Minimum Depth of Investigation: 09 inch • Range of Measurement: As fast as for P waves 40 us/ ft and slowness as 700 us/ ft • Accuracy = 2 us/ft
Acoustic Scanning Tool	<ul style="list-style-type: none"> • Acoustic scanning tool is required to measure borehole compensated monopole with long and short spacing, cross dipole
Electric Micro Imager Tool	<ul style="list-style-type: none"> • Electric Micro Imager with Navigation tool • Minimum Depth of Investigation: 01 inch • Vertical Resolution = 0.2 inch • Minimum Range of Measurement: 80% borehole coverage in 8.5" hole
Electric Micro Imager Tool (OBM)	<ul style="list-style-type: none"> • Electric Micro Imager for Oil Base Mud • Minimum Depth of Investigation: 01inch • Range of Measurement: Provide maximum borehole coverage
Acoustic Bore Hole Imager	<ul style="list-style-type: none"> • Acoustic Bore hole Image tool with inclinometer tool • Minimum Depth of Investigation: Bore hole wall • Range of Measurement: 12 inch • Vertical Resolution = 0.4 inch
Ultra Sonic Image Tool	<ul style="list-style-type: none"> • Ultra sonic Image {Cement Evaluation} tool • Minimum Depth of Investigation: Casing to cement interface • Vertical Resolution = 6 inch • Range of Measurement: Acoustic impedance 0 to 10 Mrayl (0 to 10 MPa s/m)
Litho Scanner / Geochemical Spectroscopy Instrument / FLeX or equivalent	<ul style="list-style-type: none"> • Should measure minimum 14 elements (Al, Ca, C, Cl, Gd, H, Fe, Mg, Mn, O, K, Si, S, Ti) for enhanced reservoir characterization
Nuclear Magnetic Resonance	<ul style="list-style-type: none"> • Vertical Resolution Dynamic = 25 inches • Depth of Investigation: 1.5 inch
Mechanical / Rotary Sidewall Coring	<ul style="list-style-type: none"> • Minimum core capacity per run = 25 • Minimum core length = 1.75 inch • Minimum Core Diameter = 0.9 inch
Wireline BOP + Stuffing Box	<ul style="list-style-type: none"> • Wireline BOP and stuffing box required during logging in different sections and perforation jobs with min rating of 3000 psi
Vertical Seismic Profile / Imager	<ul style="list-style-type: none"> • Borehole tool has to be a three-component system compatible of performing services with vibrators as well as air guns, providing tight coupling between tool and casing. VSI tool with up to 8 shuttles required.
Wireline Formation Tester	<p>Wireline Formation Tester including (but not limited to)</p> <ul style="list-style-type: none"> • Pressure & Temperature recording with quartz/strain/sapphire gauges (min two gauges required). • Single and Dual Probe for Pressure points and sampling with standard/Large Diameter/ Extra Large Diameter probe.

	<ul style="list-style-type: none"> • Dual Packer module for pressure transient testing and sampling • Sampling Module (min 6 samples per run) • Live Fluid analyzer Module (Resistivity & Optical Based) • Pump out Module for sampling (including high pressure displacement unit)
Formation evaluation using slim hole tools	<ul style="list-style-type: none"> • Slim Resistivity Tool (Maximum OD 2.75") • Slim Density (Maximum OD 2.75") • Slim Neutron Porosity (Maximum OD 2.75") • Slim Sonic (Maximum OD 2.75") • Slim Gamma Ray (Maximum OD 2.75")
Behind Casing Reservoir Evaluation Tools	<ul style="list-style-type: none"> • Resistivity • Density • Neutron Porosity • Sonic • Gamma Ray
Auxiliary Services	
Well Head Pressure Control Equipment	<ul style="list-style-type: none"> • Well Head Pressure Control Equipment (10k to 15k psi) required for logging in different sections, production logging, perforation & other jobs
Casing collar locator tool	<ul style="list-style-type: none"> • Casing collar locator tool for detecting collars of different casings
Free Point indicators	<ul style="list-style-type: none"> • Free point Indicator services for different drill collars, drill pipes & Tubings.
Back Off Service	<ul style="list-style-type: none"> • Back off Service for different drill collars, drill pipes & Tubings.
RCT/ Jet/ Chemical/Non-explosive Cutters	<ul style="list-style-type: none"> • For cutting Tubings and casings of all sizes
Tubing Puncher	<ul style="list-style-type: none"> • Tubing Puncher Tools for tubular, ID ranging from 12.347" to 2-1/16".
Drill Pipe Colliding/ Severing Tool	<ul style="list-style-type: none"> • Drill pipe Colliding/Severing Tool is required for the following tubular: • DCS from 11" t o 3-1/8" • HWDPs of 6-5/ 8" t o 3 1/2" • DPs of 5-1/2", 5", 3-1/2" & 2-7/8"
Wireline Fishing Tools	<ul style="list-style-type: none"> • The Contractor shall maintain its fishing equipment inventory being capable of fishing all downhole wire line tools.
Depth Correlation	<ul style="list-style-type: none"> • Depth Correlation for Perforation with Gamma ray and CCL inside 9- 5/ 8" casing 7" and 5" liners through DST strings and Completions.
Bridge Plug Setting	<ul style="list-style-type: none"> • Bidder to provide details of setting kit with slow burn charges suitable for setting 9-5/8" ,7" & 5" Bridge Plugs.
Packer Setting	<ul style="list-style-type: none"> • Bidder to provide details of setting kit with slow burn 9-5/8", 7" & 5" Production Packers.
Through Tubing Bridge Plug Setting	<ul style="list-style-type: none"> • Inflatable plugs having inflation ratio up to 3 times for shutting-off water bearing perforations of different sizes.

Cementing Dumping	<ul style="list-style-type: none"> • Wireline conveyed cement dumping services above bridge plugs / packer.
Gauge Ring & Junk Basket	<ul style="list-style-type: none"> • Wireline conveyed gauge ring and junk basket services
Corrosion Monitoring Tools	<ul style="list-style-type: none"> • Tools for corrosion monitoring and integrity of tubing and casings of different sizes.
Tough Logging	<ul style="list-style-type: none"> • TLC equipment is required for deviated / slant wells.
Logging While Fishing	<ul style="list-style-type: none"> • Equipment/subs for logging while fishing.
Coiled Tubing Logging	<ul style="list-style-type: none"> • CTL services for real time data acquisition.
Perforating Services (RDX, HMX, HNS & PYX Explosive)	
Perforations Conventional Technology	<ul style="list-style-type: none"> • Deep penetrating (Gun size 1-11/16" to 4-1/2")
Perforations High End Technology	<ul style="list-style-type: none"> • Deep penetrating Charges with advanced application.
Perforations Special Applications	<ul style="list-style-type: none"> • Deep penetrating Charges with advanced application.
Perforations Spiral Guns	<ul style="list-style-type: none"> • Spiral / Strip Guns for thru tubing perforations.
Production Logging Services	
Production Logging	<ul style="list-style-type: none"> • Standard Production logging suite includes but not limited to pressure / temperature / fluid density / flow meter / GR / CCL • Water Hold up, Gas Hold up, Water flow log. <p><u>Other Services</u></p> <ul style="list-style-type: none"> • Production logging suite for highly deviated wells. • 3-phase water holdup (horizontal, highly deviated and vertical well with conveyance method. • Production logging in conveyance method with CT and tractor in real time.
Cased Hole Reservoir Saturation Tool	<ul style="list-style-type: none"> • Cased hole reservoir saturation tool to measure porosity, sigma, water velocity, phase velocity and bore hole holdup • Minimum Depth of Investigation: 12inch
Tractor	<ul style="list-style-type: none"> • Conveyer for wireline string in highly deviated and horizontal wells
Data Processing / Interpretations	
Data Output, Interpretations And Reports	<ul style="list-style-type: none"> • Rush prints at well site, processed data within 24hrs and interpretation reports (when required) within due time.

**1- Wireline
Services Cost
Depth = 4000M
Survey Interval =
1000M**

		A	B	C	D	E	F	G	H	
Sr No	Service	Depth Charge US \$/M	Survey Charge US \$/M	Special Conveyance (TLC, PCL etc) Depth Surcharge US \$/M	Deviation Depth Surcharge US \$/M (>35°)	H2S / CO2 Depth Surcharge US \$/M	Sub-Total US \$ =[(A*4000)+(B*1000)+{(C+D+E)*4000}]	Job Frequency multiplication factor	Total US \$ = F*G	
1	Bore hole Compensated Sonic							5		
2	Acoustic Borehole Imager / Ultrasonic Mud Imager							1		
3	Dipole Shear Imager / Monopole-Cross Dipole Sonic with Navigation	N/A								
	P & S							15		
	Anisotropy							15		
	Stonely							15		
4	Sonic Scanner / Compact Cross Dipole	N/A								
	P & S							15		
	Stonely							15		
	Anisotropy							15		
	CBL-VDL							15		
5	Vertical Seismic Imager-4 Shuttles (300Levels)		US \$ / level				Total inclusive of cost for 300 levels	10		
6	Vertical Seismic Imager-8 Shuttles (300Levels)		US \$ / level				Total inclusive of cost for 300 levels	10		
7	Cement Bond Log (All casings / Liners)							10		
8	Ultrasonic Cement Imager / Ultrasonic Radial Scanner							3		
9	Ultrasonic Casing Imager / Ultrasonic Radial Scanner							3		
10	Dual Induction Log / Simultaneous Triple Induction							1		
11	Array Induction Log							5		
12	Dual Laterolog							10		

13	Microspherically / Micro Cylindrically Focused Log							15	
14	Hi Resolution Laterolog Array							15	
15	Slim Neutron Tool (Max OD 2.75 inches)							5	
16	Slim Density Tool (Max OD 2.75 inches)							5	
17	Slim GR Tool (Max OD 2.75 inches)							5	
18	Slim Sonic Tool (Max OD 2.75 inches)							5	
19	Slim Resistivity Tool (Max OD 2.75 inches)							5	
20	Formation Resistivity Imaging							5	
21	Formation Resistivity Imaging (for high resistivity formations)							10	
22	Oil Base Mud Formation Resistivity Imaging							1	
23	Compensated Density / Spectral Pe Density							15	
24	Compensated Neutron log							15	
25	Natural Gamma Ray Spectroscopy							15	
26	Open Hole Gamma Ray log (all open hole sizes)							50	
27	Cased Hole Gamma Ray log (for all casing/tubing/Drill pipe)							50	
28	Hi Resolution Litho- Density							15	
29	CMR (all modes)							5	
30	Litho Scanner / Geochemical spectroscopy instrument (all modes)							5	
31	Dummy Tool (for any hole/casing/tubing/dr ill pipe size with active sensor)							50	
32	GR-CCL/TCP Correlation (stand alone or combinable)							20	

33	Casing Collar Locator (CCL)							50	
	Formation Tester	N/A							
	Single Probe (20 Pretests)		US \$/ Pretest					Total inclusive of cost for 20 pretests	5
	Dual Probe (20 Pretests)		US \$/ Pretest					Total inclusive of cost for 20 pretests	5
	Live Fluid Analyzer (6 Samples)		US \$/ Sample					Total inclusive of cost for 6 samples	5
34	Live Fluid Analyzer (6 Cleanout)		US \$/ Cleanout					Total inclusive of cost for 6 cleanout	5
	Pump Out (6 Samples)		US \$/ Sample					Total inclusive of cost for 6 samples	5
	Pump Out (6 cleanout)		US \$/ Cleanout					Total inclusive of cost for 6 cleanout	5
	Multi Sampling (6 Samples)		US \$/ Sample					Total inclusive of cost for 6 samples	5
	Dual Packer (6 Samples)		US \$/ Sample					Total inclusive of cost for 6 samples	5
35	Mechanical/Rotary sidewall coring (25 cores)		US \$/ core					Total inclusive of cost for 25 cores	1
36	Bore Hole Geometry log / Caliper Log (2-Axis)								10
37	Bore Hole Geometry log / Caliper Log (3-Axis)								15
38	Multi Finger Imaging Tool (All Casings / Tubings)								3
39	Formation Dip Measurement / Inclinometry								1
40	Downhole Camera								1

41	GPIT (IS)							1		
42	Cased Hole Resistivity log (all casing/liner sizes)							1		
43	Pressure / Temperature Log	N/A								
	Pressure							5		
	Temperature							5		
44	Production Services (PSP / PLT)	N/A								
	Temperature		N/A					5		
	Flowing - Shut in	N/A		N/A					5	
	Continuous flowmeter		N/A					5		
	Flowing - Shut in	N/A		N/A					5	
	Flowing - Shut in	N/A		N/A					5	
	Gradiomanometer		N/A					5		
	Flowing - Shut in	N/A		N/A					5	
	Flowing - Shut in	N/A		N/A					5	
	Full Bore Spinner		N/A					5		
	Flowing - Shut in	N/A		N/A					5	
	Flowing - Shut in	N/A		N/A					5	
	Fluid Imager/Flow View		N/A					5		
	Flowing - Shut in	N/A		N/A					5	
	Flowing - Shut in	N/A		N/A					5	
	X-Y caliper		N/A					5		
	Flowing - Shut in	N/A		N/A					5	
	Flowing - Shut in	N/A		N/A					5	
	Quartz pressure gauge		N/A					5		
	Flowing - Shut in	N/A		N/A					5	
	Flowing - Shut in	N/A		N/A					5	
Water/Gas hold up		N/A					5			
Flowing - Shut in	N/A		N/A					5		
Flowing - Shut in	N/A		N/A					5		
45	Reservoir Saturation/Pulsed Neutron Decay		N/A					3		

	Carb on / Oxygen	N/A		N/A				3	
	Sigma	N/A		N/A				3	
	Water r Flow	N/A		N/A				3	
46	Free Point Indicator (10 points)		US \$ / Point				Total inclusive of cost for 10 points	15	
47	Back Off		US \$ / Shot				Total inclusive of cost for single shot	15	
48	Severing Colliding / Dual End Severing Tool		US \$ / Shot				Total inclusive of cost for single shot	10	
49	Power Cutter		US \$ / Shot				Total inclusive of cost for single shot	10	
50	Radial Cutting Torch		US \$ / Shot				Total inclusive of cost for single shot	10	
51	Tubing Puncher (04 shots)		US \$ / Shot				Total inclusive of cost for 4 shots	15	
52	Through Tubing Bridge Plug		US \$ / Plug				Total inclusive of cost for single plug and setting	15	
53	Through Tubing Dump Bailer / Gravity Dump Bailer(03 runs)		US \$ / Cement Dump				Total inclusive of cost for 3 bailers	15	
54	Customer Instrument Survey		N/A					3	
55	Junk Basket / Gauge Ring		N/A					15	
56	Bridge Plug setting		US \$ / Setting				Total inclusive of cost for single setting	10	

57	Production Packer setting		US \$ / Setting				Total inclusive of cost for single setting	10	
58	Electrically Controlled Weak Point (Hepta/Mono Cable)		US \$ / Activation & Release				Total inclusive of cost for single release.	5	
Grand Total US\$									

Notes:

- * Cost of the above mentioned services **or equivalent** may be quoted.
- * Any Other Service / Technology not covered above like Jars, New Tech Tools, Special Cutters etc may be mentioned separately as per above format as optional.
- * Firm cost may be quoted and NIL may be mentioned whichever is not applicable
- * In case of TLC, no deviation charge will be applicable.
- * H2S / CO2 surcharge will only be applicable where special precautions are required.
- * Temperature surcharge (applicable on depth charge) exceeding 350°F bottom hole temperature may be quoted as optional.
- * Sub-Total of each service will be calculated assuming depth=4000M and survey interval=1000M. Total / service will be calculated by multiplying sub-total with job frequency multiplication factor.
- * When a Natural Gamma Ray Spectroscopy is recorded, no Gamma Ray survey will be applied for Gamma Ray recorded in combination with several different services under same service charge.
- * Any depth, survey, run charge etc where applicable will be applied once from surface to the actual deepest depth recorded with a service irrespective of number of runs made with the service under one service charge.
- * Depth and survey charges of all borehole imaging tools will be inclusive of GPIT charges
- * For free point job both stretch and torque measurements are required for stations to be valid
- * Resistivity data will be inclusive of SP curve.
- * For dipole / BCR / Anisotropy jobs depth and survey charges will be inclusive of centralization and GPIT charges. However, data of caliper and GPIT will be provided at no additional cost.
- * During Formation Testing service no pressure charge will be made for setting when no seal is obtained. Each fluid sample will include a pressure recording at no extra charge. Sample charge will be valid only if sample is fully recovered as per specified volume. For LFA & Pump out modules, Sample charge will be applicable only if sample is taken, however if only cleanout was the objective then cleanout charge will be applicable. In case both samples taken and cleanouts done, only one depth charge of Pumpout & LFA applicable. Probe charges quoted above will be same for all types of probes.
- * VSI charges will be inclusive of cost for Vibros etc. VSI charges cover Zero Offset, Offset and Walkaway VSP.
- * Any allied accessories/tool jewellery needed for smooth operation of above mentioned services will be responsibility of service company at no extra charge.
- * Above mentioned cost is for financial evaluation purpose only. However, payment will be made at actual against verified invoices and in Pak Rupees at exchange rate prevalent on the date of payment.
- * All tools mentioned in the table above should be the latest generation, and price quoted above will be inclusive of all modes pertaining to that tool.
- * ECRD activation & release charge will only be applicable if the weak point is released successfully as per mutual consent of OGDCL & the bidder.

2 - Equipment Stand by Charges

Sr No	Service	Standby/Rental US \$/day (If any)	No of Days Required	No of Free Days	Total US \$
1	Bore hole Compensated Sonic		15	10	
2	Acoustic Borehole Imager / Ultrasonic Mud Imager		15	10	
3	Dipole Shear Imager / Monopole-Cross Dipole Sonic with Navigation		15	10	
4	Sonic Scanner / Compact Cross Dipole		15	10	
5	Vertical Seismic Imager		15	10	
6	Cement Bond Log		15	10	
7	Ultrasonic Cement/Casing Imager / Ultrasonic Radial Scanner		15	10	
8	Dual Induction Log / Simultaneous Triple Induction		15	10	
9	Array Induction Log		15	10	
10	Dual Laterolog		15	10	
11	Microspherically / Micro Cylindrically Focused Log		15	10	
12	Hi resolution Laterolog array		15	10	
13	Formation Resistivity Imaging		15	10	
14	Oil Base Mud Formation Resistivity Imaging		15	10	
15	Compensated Density / Spectral Pe Density		15	10	
16	Compensated Neutron log		15	10	
17	Natural Gamma Ray Spectroscopy		15	10	
18	Gamma Ray log		15	10	
19	Hi Resolution Litho-Density		15	10	
20	CMR		15	10	
21	TCP Correlation Tool (GR-CCL)		15	10	
22	Perforation Correlation Tool (CCL)		15	10	
23	Formation Tester		15	10	
24	Mechanical/Rotary sidewall coring		15	10	
25	Bore Hole Geometry log / Caliper Log (2-Axis)		15	10	
26	Bore Hole Geometry log / Caliper Log (3-Axis)		15	10	
27	Multi Finger Imaging Tool		15	10	
28	Formation Dip Measurement / Inclination		15	10	
29	Downhole Camera		15	10	
30	Cased Hole Density log		15	10	
31	Cased Hole Neutron log		15	10	

32	Cased Hole Gamma Ray log		15	10	
33	Cased Hole Resistivity log		15	10	
34	Slim Neutron Tool (Max OD 2.75 inches)		15	10	
35	Slim Density Tool (Max OD 2.75 inches)		15	10	
36	Slim GR Tool (Max OD 2.75 inches)		15	10	
37	Slim Sonic Tool (Max OD 2.75 inches)		15	10	
38	Slim Resistivity Tool (Max OD 2.75 inches)		15	10	
39	Formation Resistivity Imaging (for high resistivity formations)		15	10	
40	Litho Scanner / Geochemical spectroscopy instrument		15	10	
41	Electrically Controlled Weak Point (Hepta/Mono Cable)		15	10	
42	Production Services (PSP / PLT)		15	10	
43	Reservoir Saturation/Pulsed Neutron Decay		15	10	
44	Free Point Indicator		25	10	
45	Back Off		15	10	
46	Severing Colliding / Dual End Severing Tool		15	10	
47	Wireline Tractor		15	10	
48	Power Cutter		15	10	
49	Radial Cutting Torch		15	10	
50	Tubing Puncher		15	10	
51	Through Tubing Dump Bailer / Gravity Dump Bailer		15	10	
52	Customer Instrument Survey		15	10	
53	Depth Determination (Dummy Tool)		15	10	
54	Junk Basket / Gauge Ring		15	10	
55	Bridge Plug setting		15	10	
56	Production packer setting		15	10	
57	Through Tubing Bridge Plug Setting		15	10	
58	1-11/16" Spiral		15	10	
59	2-1/8" Spiral (6SPF)		15	10	
60	2-7/8" HSD (6SPF)		15	10	
61	3-1/8" HSD (6SPF)		15	10	
62	4-1/2" HSD (5SPF)		15	10	
63	4-1/2" HSD (12SPF)		15	10	
64	4-1/2" Big hole entry charge		15	10	
65	Wireline Crew		50	10	
66	Logging Unit/Truck		50	10	
Grand Total US\$					

Notes:

- * Standby cost of the above mentioned equipment **or equivalent** may be quoted.

- * Standby will start after the above mentioned free days are consumed.
- * Standby will be applicable after the equipment/crew arrives at the well site and released by the Company.
- * Any Other Tool/equipment not covered above but required for operations may be mentioned separately as per above format as optional
- * Firm cost may be quoted and NIL may be mentioned whichever is not applicable
- * Above mentioned cost is for financial evaluation purpose only. However, payment will be made at actual against verified invoices and in Pak Rupees at exchange rate prevalent on the date of payment.

**3 - Perforation
Services Cost
Depth
=
4000M**

Sr No	Service	Minimum penetration (Inches) API 19B	Depth Charge US \$/M	Job Frequency Multiplication	Sub Total-1	Perforation interval HMX (meter)	Explosive Cost US \$/M	Sub Total-2	Perforation interval HNS (meter)	High Temperature Surcharge US \$/M (in case HNS is used)	Sub Total-3	Total US \$ (1+2+3)
	Deep Penetration Charges (HMX)											
1	1-11/16" Spiral	18		30		400			40			
3	2-1/8" Spiral (6SPF)	22		15		100			10			
5	2-7/8" HSD (6SPF)	24		15		200			20			
6	3-1/8" HSD (6SPF)	38		5		20			2			
7	4-1/2" HSD (5SPF)	54		30		400			40			
8	4-1/2" HSD (12SPF)	32		5		20			2			
9	4-1/2" Big hole	6		5		20			2			

entry charge										
Grand Total US\$										

Notes:

- * Any Other Perforating Charges / Technology not covered above may be quoted separately as per format as optional.
- * Firm cost may be quoted and NIL may be mentioned whichever is not applicable.
- * Total cost of each perforating gun system is required assuming depth=4000M and perforating interval as mentioned above against each gun system.
- * Depth Charge will be measured to the deepest shot. It will be applied only once for a series of runs made under the same service charge.
- * Explosive cost, where applicable , will be applied for the actual intervals perforated.
- * Above charges are inclusive of all types of blank guns, spacers and hardware charges.
- * Complimentary SPAN / EPA or equivalent will be provided.
- * Above mentioned cost is for financial evaluation purpose only. However, payment will be made at actual against verified invoices and in Pak Rupees at exchange rate prevalent on the date of payment.

4 - Blow Out Preventor and Pressure Charges

Sr No	Specification	US \$	Job Frequency multiplication factor	Total
1	Standard BOP for Openhole/Cased hole/Perforation (for over balanced wells)		40	
2	Pressure Control Equipment rated 10000 psi		40	
3	Pressure Control Equipment rated 15000 psi		5	
Grand Total US \$				

Notes:

- * Firm cost may be quoted and NIL may be mentioned whichever is not applicable.
- * Above quoted rates will be inclusive of H2S / CO2 surcharge.
- * BOP/Pressure Control Equipment charges will be applied once under one service charge.

5 - Miscellaneous Charges

Sr No	Head	Unit	Cost US\$	Job Frequency multiplication factor	Total US \$
1	Service Charge	Per Job		160	
2	Mob/Demob (Equipment, Crew, 3rd Party etc)	Per Job		160	
3	Wireline Tractoring Charge	Per Run		5	
4	Coil Tubing Compatibility Surcharge	Per Run		5	
5	Crane Charges	Per Job		40	
6	Incomplete Operation	Maximum charge per run		1	
Total US \$					

Notes:

- * Firm cost may be quoted and NIL may be mentioned whichever is not applicable
- * A service charge will be applied only once for a series of operations or attempted operations.
- * Mob/Demob charges include complete transportation of logging unit, personnel, equipment, Explosive, Radioactive material and related accessories/ third party transportation to and back from the wellsite.
- * If an operation cannot be completed due to failure / malfunctioning of equipment no charge will be applied.
- * If an operation is attempted but cannot be completed due to well conditions or if an operation is cancelled by the client while equipment is in the hole, IO will be applicable .
- * Only one IO charge will be applicable per run.
- * In case of I/O, minimum of following two charges will be applicable:
 - 1) Maximum Charge/run
 - OR
 - 2) Maximum of the depth charges of the toolstring (as defined in Annexure-A4) to the depth reached
- * If crew and equipment reached well site and all operations are cancelled by client before start of rigup, it will be treated as cancelled operation. Only Mob/demob charges will be applicable as defined in Miscellaneous Charges.
- * Crane will be arranged by the service company for rigless operations when and where requested by OGDCL.
- * Above mentioned cost is for financial evaluation purpose only. However, payment will be made at actual against verified invoices and in Pak Rupees at exchange rate prevalent on the date of payment.

				Annexure-A9	
	<u>6 - DATA PROCESSING</u>				
A-	<u>Resistivity Imager (FMI / FMI-HD /HMI / CMI / OBMI or Equivalent)</u>				
	<u>Data Processing Interval = 1000 M</u>				
	Head / Product	Interval Charge (US \$ / Meter)	Sub Total US\$	Job Frequency multiplication factor	Total US\$
	Image processing			15	
	Interactive dip picking & Classification			15	
	Structural analysis & Classification			15	
	Sedimentary analysis & Classification			15	
	Fracture & Statistical analysis			15	
	Any other processing			15	
	Total US \$				
B-	<u>Acoustic / Ultrasonic Imager(UBI / UMI or Equivalent)</u>				
	<u>Data Processing Interval = 1000 M</u>				
	Head / Product	Interval Charge (US \$ / Meter)	Sub Total US\$	Job Frequency multiplication factor	Total US\$
	Image processing				
	Interactive dip picking & Classification			1	
	Structural analysis & Classification			1	
	Sedimentary analysis & Classification			1	
	Fracture & Statistical analysis			1	
	Any other processing			1	
	Total US \$				
C-	<u>Seismic Imager</u>				
	<u>(No of Levels=300) Sonic/Density Interval = 2000m</u>				

	Head / Product	Interval/level Charge	Sub Total US\$	Job Frequency multiplication factor	Total US\$
	Stand alone edit from digital records (vertical well)	(US \$ / level)		10	
	Stand alone edit from digital records (deviated well)	(US \$ / level)		10	
	Geogram processing (P-Wave Geogram)	(US \$ / level)		10	
	Time Base Log	(US \$ / level)		10	
	Zero offset seismic profiling for vertical well-1 axis	(US \$ / level)		10	
	Zero offset seismic profiling for vertical well-3 axis	(US \$ / level)		10	
	Zero offset seismic profiling for deviated well-1 axis	(US \$ / level)		10	
	Zero offset seismic profiling for deviated well-3 axis	(US \$ / level)		10	
	Offset seismic profiling for vertical well-1/3 axis	(US \$ / level)		10	
	Offset seismic profiling for deviated well-1/3 axis	(US \$ / level)		10	
	Walkaway seismic profiling for vertical well-1/3 axis	(US \$ / level)		10	
	Walkaway seismic profiling for deviated well-1/3 axis	(US \$ / level)		10	
	Shear processing & analysis	(US \$ / level)		10	
	Q-estimation	(US \$ / level)		10	
	Inversion	(US \$ / level)		10	
	Sonic or Density calibration vertical well	(US \$ / M)		10	
	Sonic or Density calibration deviated well	(US \$ / M)		10	
	Any other processing	(US \$ / level)		10	
	Total US \$				
	* Deviation charge will be applicable on deviation > 15 deg				
D-	<u>Array Sonic Imager / Monopole-Dipole Imager</u>				
	<u>Data Processing Interval = 1000 M</u>				
	Head / Product	Interval Charge (US \$ / Meter)	Sub Total US\$	Job Frequency multiplication factor	Total US\$
	Compressional and Shear mode processing including slowness analysis			15	
	Stonely reflectivity analysis			15	

	Anisotropy & Dispersion Analysis			15	
	Fracture analysis			15	
	Any other processing			15	
	Total US \$				
E-	<u>Sonic Scanner / Compact Cross Dipole</u>				
	<u>Data Processing Interval = 1000 M</u>				
	Head / Product	Interval Charge (US \$ / Meter)	Sub Total US\$	Job Frequency multiplication factor	Total US\$
	Compressional and Shear mode processing including slowness analysis			15	
	Stonely reflectivity/fracture analysis			15	
	Anisotropy & Dispersion Analysis			15	
	Fracture analysis			15	
	Any other processing			15	
	Total US \$				
F-	<u>Production Logging</u>				
	<u>Data Processing Interval = 1000 M</u>				
	Head / Product	Interval Charge (US \$ / Meter)	Sub Total US\$	Job Frequency multiplication factor	Total US\$
	Production logging basic processing			5	
	Flow view processing			5	
	Gas holdup optical sensor			5	
	Reservoir saturation-Time Lapse sigma log			5	
	Carbon/Oxygen ratio from Spectroscopy			1	
	Water flow log			1	
	Any other processing			5	
	Total US \$				
G-	<u>Miscellaneous Processing</u>				
	<u>Data Processing Interval = 1000 M</u>				

	Head / Product	Interval Charge (US \$ / Meter)	Sub Total US\$	Job Frequency multiplication factor	Total US\$
	Logs Processing ELAN or Equivalent (Conventional Reservoir)			1	
	Logs Processing ELAN or Equivalent (Un-Conventional Reservoir)			1	
	Cement evaluation log			1	
	Cased hole formation resistivity log			1	
	Multi Finger Imaging Tool Processing			3	
	CMR complete processing with all answer products			5	
	Total US \$				
	Grand Total (A+B+C+D+E+F+G)				
	Notes:				
*	Cost of the above mentioned processing modules or equivalent may be quoted.				
*	Any Other Module of Processing not covered above may be quoted separately as optional.				
*	Any interval, level or station charge etc, where applicable, will be applied for the actual cumulative intervals processed.				
*	Above charges are inclusive of Report writing.				
*	Above mentioned cost is for financial evaluation purpose only. However, payment will be made at actual against verified invoices and in Pak Rupees at exchange rate prevalent on the date of payment.				

Cost Summary

Wireline Logging & Perforating Services

Sr #	Description	US \$
1	Wireline Services Cost	
2	Equipment Stand by Charges	
3	Perforation Services Cost	
4	Blow Out Preventor and Pressure Charges	
5	Miscellaneous Charges	
6	Data Processing	
Grand Total US \$		

Notes:

- Evaluation shall be carried out on **complete package basis** excluding **optional services**.
- Incomplete bids shall not be considered for evaluations and shall be rejected.
- Above mentioned cost is for financial evaluation purpose only. However, payment will be made at actual against verified invoices and in Pak Rupees at exchange rate prevalent on the date of payment.
- Bid bond of **USD 80,000/- (US Dollar Eighty Thousand Only)** to be submitted with the technical bid.
- The master set of tender documents (services) uploaded on OGDCL website (www.ogdcl.com) is the integral part of this TOR.