Annexure-A

TERMS OF REFERENCE (TOR)

FOR
HIRING OF COIL TUBING, NITROGEN PUMPING, NITROGEN, STIMULATION, THRU TUBING & ASSOCIATED SERVICES

TENDER ENQUIRY # PROC-SERVICES/CB/PROD-4431/2019

TERMS OF REFERENCE / SCOPE OF WORK

1. SCOPE OF WORK:

GROUP 'A": PROVISION OF COIL TUBING, NITROGEN PUMPING, NITROGEN, STIMULATION, THRU TUBING & ASSOCIATED SERVICES FOR PUNJAB AND KPK:

Coil tubing, Nitrogen Pumping, Nitrogen, Stimulation, Thru tubing & associated services for OGDCL wells/Fields/Plants located in province of Punjab and KPK on rate running and call out basis over a period of three (03) years for estimated 100 number of wells.

GROUP "B": PROVISION OF COIL TUBING, NITROGEN PUMPING, NITROGEN, STIMULATION, THRU TUBING & ASSOCIATED SERVICES FOR SINDH & BALOCHISTAN:

Coil tubing, Nitrogen Pumping, Nitrogen, Stimulation, Thru tubing & associated services for OGDCL Wells/Fields/Plants located in province of Sindh and Baluchistan on rate running and call out basis over a period of three (03) years for estimated 100 number of wells.

GROUP "C": PROVISION OF SMART/E-COIL AND EXPANDABLE BRIDGE PLUG SERVICES FOR ALL OVER PAKISTAN:

Acquiring Smart/E-coil and Expandable Bridge plug services for OGDCL Wells Located all over Pakistan on rate running and call out basis over a period of three (03) years for estimated 15 number of wells.

2. CRITERIA FOR PARTICIPATING IN BIDDING PROCESS:

2.1 GROUP "A": PROVISION OF COIL TUBING, NITROGEN PUMPING, NITROGEN, STIMULATION, THRU TUBING & ASSOCIATED SERVICES FOR PUNJAB AND KPK.

To meet the equipment and crew requirement set forth in the Technical Evaluation criteria for Group "A" (Punjab and KPK).

2.2 GROUP "B": PROVISION OF COIL TUBING, NITROGEN PUMPING, NITROGEN, STIMULATION, THRU TUBING & ASSOCIATED SERVICES FOR SINDH & BALOCHISTAN:

To meet the equipment and crew requirement set forth in the Technical Evaluation criteria for Group "B" (Sindh and Baluchistan).

2.3 GROUP "C": PROVISION OF SMART/E-COIL AND EXPANDABLE BRIDGE PLUG SERVICES FOR ALL OVER PAKISTAN:

To meet the equipment and crew requirement set forth in the Technical Evaluation criteria for Group "C" (All over Pakistan).

2.4 GROUP "A": PROVISION OF COIL TUBING, NITROGEN PUMPING, NITROGEN, STIMULATION, THRU TUBING & ASSOCIATED SERVICES FOR PUNJAB & KPK AND GROUP "C": PROVISION OF SMART/E-COIL AND EXPANDABLE BRIDGE PLUG SERVICES for All OVER PAKISTAN:

To meet the equipment and crew requirement set forth in the Technical Evaluation criteria for Group "A" (Punjab and KPK) Plus Group "C" (All over Pakistan).

2.5 GROUP "B": PROVISION OF COIL TUBING, NITROGEN PUMPING, NITROGEN, STIMULATION, THRU TUBING & ASSOCIATED SERVICES FOR SINDH AND BALUCHISTAN & GROUP "C": PROVISION OF SMART/E-COIL AND EXPANDABLE BRIDGE PLUG SERVICES FOR ALL OVER PAKISTAN:

To meet the equipment and crew requirement set forth in the Technical Evaluation criteria for Group "B" (Sindh and Baluchistan) Plus Group "C" (All over Pakistan).

2.6 GROUP "A"(PUNJAB & KPK) & GROUP B (SINDH & BALOCHISTAN): PROVISION OF COIL TUBING, NITROGEN PUMPING, NITROGEN, STIMULATION, THRU TUBING & ASSOCIATED SERVICES

To meet the equipment and crew requirement set forth in the Technical Evaluation criteria for Group "A" (Punjab and KPK) Plus Group "B" (Sindh and Baluchistan).

2.7 GROUP "A" (PUNJAB & KPK) & GROUP B (SINDH & BALOCHISTAN): PROVISION OF COIL TUBING, NITROGEN PUMPING, NITROGEN, STIMULATION, THRU TUBING & ASSOCIATED SERVICES AND GROUP "C": SMART/E-COIL AND EXPANDABLE BRIDGE PLUG SERVICES FOR All OVER PAKISTAN):

To meet the equipment and crew requirement set forth in the Technical Evaluation criteria for Group "A" (Punjab and KPK) Plus Group "B" (Sindh and Baluchistan) Plus Group "C" (All over Pakistan).

3. General Terms and Conditions for All Groups:

3.1 Bidders quoting for multiple groups have to submit single technical bid clearly mentioning on front page the groups for which the bid is being submitted, however financial proposal to be submitted separately for each group. Combined financial bids for multiple groups will not be accepted.

3.2 The bidders will be evaluated separately for each Group. Contract will be awarded to lowest evaluated bidder separately for each group.

3.3 All certificates, documents, proof of work etc. should be in English language; if not then they shall be accompanied with certified translation to English language to be considered for evaluation.

3.4 The bidder participating against any group shall arrange all services for that specific group as per criteria mentioned below in technical section for each group. Failing to do so, the contract will be terminated and corresponding Bank Guarantee will be confiscated.

3.5 All QHSE responsibility shall rest with the contractor for any third party equipment and personnel supplied by the contractor.

3.6 All the equipment should be in good working condition for the performance of the services, provide calibration certification and third party inspection certificates.

3.7 If some tools are not available in Pakistan, then bidder have to shift the same to Pakistan within 45 Days after signing of contract. OGDCL shall not be liable to pay mobilization/demobilization charges, of any tools/equipment for bringing them to Pakistan that may be located elsewhere.

3.8 Contractor will provide Check List of Equipment, Tools and other accessories before mobilizing to wellsite.

3.9 HSE / Safety related equipment should be available with Coil tubing unit.

3.10 Bidder to arrange all safety equipment/services at their own for their personnel's whichever is required by them for working in extreme H_2S environment with no additional cost to OGDCL.

3.11 Adequate back-up services / equipment should be available on well site. However, OGDCL will not pay for backup equipment.

3.12 Company shall not be liable to pay for any leftover chemicals. Handling of all chemicals before and after the job will be the responsibility of the contractor.

3.13 All technical details for items specified in Section "Technical Evaluation Criteria" must be covered in the Technical Bid.

3.14 Contractor to provide Standard Price List for Material, Equipment, consumables and tools required for the performance of the Work. The same will be used as reference for obtaining additional approvals when required. No terms and conditions specified in contractor price list will be applicable unless agreed by the company.

3.15 Company reserves the right to procure or hire and Contractor hereby agrees to provide any of the Material, Equipment, consumables, tools listed in the attached standard price list during the entire duration of the Contract.

3.16 The terms and conditions, if any, in the standard price list are to be superseded by the Contract terms and conditions.

3.17 Redress kits for all critical items should be provided.

3.18 The Equipment and crew have to work round the clock as per operational activities.

3.19 Bidders to attach unpriced financial bids in their technical bids.

3.20 Bidder to submit their technical bids in Hard as well as in soft form.

3.21 Stimulation job is performed either through bull heading or through Coil tubing.

3.22 All equipment must be H2S compliant.

3.23 Maximum notice period for each call-out is 7-10 days and transit time from company base to OGDCL location is 4 to 5 days.

3.24 Successful bidder will provide the same personnel mentioned in their bid to carryout jobs. In case the service company engages the personnel other than those mentioned in their bid, the educational and experience certificate must be provided before his mobilization. In case company fails to provide the necessary documentation, OGDCL reserves the right to cancel the personnel operation and stand by charges for that particular job.

3.25 The bidder to provide complete list of personnel to be deployed for the jobs along with detailed CV's highlighting the details of the completed jobs, level of competence of key personnel that will be involved in design, supervision and implementation, and provide necessary support during the projects.

3.26 The type and number of jobs performed by personnel must be clearly mentioned on CV.

3.27 OGDCL reserves the right to ask bidder for the replacement of any of their personnel who is / are unacceptable to OGDCL for his / their incompetence or misbehavior at Contract holder's expense.

3.28 If during job, it is ascertained that the service company is unable to perform / accomplish the job satisfactorily, OGDCL reserves the right to demobilize the service company.

3.29 Invoice for unsuccessful jobs will not be paid.

3.30 Bidder must quote the cost of every item of financial bid format otherwise incomplete bid will not be entertained. Bidder must strictly follow and quote prices as per financial bid format. No clause with "if & but" having financial impacts will be entertained and in such case bid will be treated as nonresponsive.

3.31 The format for rates (Unit Rates) and TOR will be the part of contract along with financial evaluation tables.

3.32 Evaluation Tables are for Evaluation purpose only, job design and acid recipes may change according to well condition.

3.33 The number of wells mentioned against each job model are estimated and for evaluation purpose only. Number of wells against each model may vary as per actual requirement.

3.34 Fuel, oil and lubricants/transport that may be required by service company for operational purpose will be charged to service company as per actual and the cost will be deducted from the invoice.

3.35 Rig up/Rig down and chemical mixing period before start of job will be paid as standby for both equipment and crew.

3.36 Lighting arrangement if required at well site is to be arranged by the bidder.

3.37 Daily operating charges for CTU / crew if applicable would commence from the date / time coil tubing is lowered in the well bore and would cease when coil tubing is out of hole.

3.38 Partial availability of crew or equipment will not attract any charges. During traveling (mobilization/de-mobilization) phase, no operating/stand-by/rental charges will be admissible and only Mob-De-Mob will be payable (if not mobilized by OGDCL).

3.39 Daily operating charges for Nitrogen pumper / crew if applicable would commence when the Nitrogen cool down / pumping is started and would cease when Nitrogen pumping is finished.

3.40 Daily operating charges for Pumping/Stimulation crew would commence when pumping is started and would cease when the job is accomplished and pumping unit is switched off.

3.41 Daily Operating and standby charges of equipment and crew, if applicable must remain uniform/fixed for all days of operation wherever these charges are applicable.

3.42 If, after mobilization / reporting at site, job is cancelled then only mobilization / de-mobilization charges for crew / equipment will be paid. No job cancellation charges are admissible.

3.43 The Standby rates of equipment and personnel must not exceed 50% of operating charges for all equipment / crew.

3.44 The number of days for operating and standby are for evaluation purpose only, payment will be made as per actual.

3.45 The Coil Tubing cumulative depth is defined as the accumulated downward movement of the Coil Tubing.

3.46 No mob/demob. charges for equipment and crew shall be applicable for well to well movement within the same field.

3.47 Mob/De-Mob charges for equipment & crew will only be applicable if transport is not provided by OGDCL and will be calculated as per OGDCL distance chart for the locations covered in the chart and as per actual for the locations which are not covered in OGDCL location distance chart.

3.48 Boarding / Lodging and laundry services would be provided free of cost by OGDCL to the service company crew while working in the field/Rig site.

3.49 During Nitrogen Kick-off job, environment would be treated as corrosive if respective recorded values of CO_2 exceed 5 % and H_2S exceed 10 PPM by volume. Extra charges for corrosive environment to be incorporated including adjusted additional dosage of corrosion

inhibitor and inhibitor Aid. Extra charges for chemicals to combat corrosive environment is not to be paid by OGDCL in case of corrosive environment.

3.50 Cost of liquid Nitrogen would be only paid for the volume shifted to Nitrogen pumper.

3.51 The lost in hole (LIH) will be paid by OGDCL as per following criteria subject to the condition that there is no malfunctioning of service company equipment and loss is due to abnormal well conditions.

- 40 % of Landed cost of Equipment/tools which are less than three years old.
- 30% of Landed cost of Equipment/tools which are equal to or more than three years old.

3.52 Bidder to confirm compliance to OGDCL‟s HSEQ policy.

3.53 Bidder must give "Clean acceptance certificate" of OGDCL terms and conditions and if exceptions are found, the bidder will withdraw all exceptions.

3.54 The scope of work for each group is tentative. OGDCL may increase or decrease the scope of work without any change in rates and terms & conditions.

4. Duration of Contract:

4.1 The duration of the contract for each group is three (03) years therefore the Bid proposal/rates should remain valid unconditionally during the period of contract. The Rate Running Contract (as and when required basis) will remain intact till the completion of jobs on wells where Service Company was mobilized for the job during the contract period, however, any extension in term of Contract will be subject to mutual consent of both the parties in writing.

5. Payment Terms:

5.1 The prices quoted by bidder in financial bid should be in US$. The quoted price should be fixed/firm and are inclusive of all applicable taxes, duties and Levies etc. except Provincial Sales Tax/ICT Tax on Services which shall be paid/refunded by OGDCL at actual.

5.2 The payments to the Service Company will be made through cross cheque in 100% Pak Rupees, at actual, against verified invoices at official exchange rate prevalent on the date of payment.

6. Bid Bond:

6.1 For each Group, following amount of Bid Bond/Bid Security is required to be attached/provided **with technical bid**.

Group-A: USD 84,000/- (US Dollars Eighty-Four Thousand Only)
Group-B: USD 84,000/- (US Dollars Eighty-Four Thousand Only)
Group-C: USD 68,000/- (US Dollars Sixty-Eight Thousand Only)

6.2 Please see Master Set of Tender Document for further details.

7. Bidding Method:

7.1 Bids against this tender are invited on "**Single Stage Two Envelope Bidding Procedure"** through press tendering, therefore, the bidders shall submit original and copy of their Technical and one original Financial bid along with soft copies sealed in their respective envelopes.

Note: The Master Set of Tender Documents for Services uploaded on OGDCL's website (www.ogdcl.com) is the integral part of this TOR.

TECHNICAL EVALUATION

DOCUMENTATION FOR TECHNICAL EVALUATION

Bidders are required to provide the following details along with the bid documents:

1. Complete list of personnel to be deployed for the jobs as mentioned in technical evaluation criteria along with detailed CV's highlighting the details of the completed jobs, level of competence of key personnel that will be involved in design, supervision and implementation, and provide necessary support during the jobs (both primary and backup crews). Note that the defined crew members shall not be changed without the prior consent of the Company.
2. Details of labs, equipment and testing services available (clearly identifying the facilities available on site, within the country and outside the country) to help gather relevant information to optimize operations.
3. Detailed list of necessary equipment to perform the intended Coil Tubing and Stimulation jobs in a safe and efficient manner along with their pressure and temperature ratings.
4. Complete list and details of available backup and support services.
5. Third party certification of all the equipment etc. along with dates of last testing/inspection.
6. Provide references for clients for whom these jobs (as mentioned in technical evaluation criteria) have been performed with contact person's name, designation & details.

TECHNICAL EVALUATION CRITERIA

1. Only technically qualified bidder(s) will be considered for commercial evaluation.
2. OGDCL reserves the right to visit bidder's operational base and check inventory and verify the information provided in the bid at any stage during the evaluation of the bids.
3. Bidder to provide documentary evidence for each criterion where proof is demanded. Provide documents, photographs for inventory claims.
4. All the bidders must fulfill the requirements below to technically qualify. In case they do not fulfill any of the below mentioned technical criteria their bid will not be acceptable. All the bidders are required to submit the below tables as per the given pattern.
5. Availability of all equipment and crew to be required in Pakistan except thru tubing tools and Expandable Retainers/Bridge plugs.

GROUP "A": PROVISION OF COIL TUBING, NITROGEN PUMPING, NITROGEN, STIMULATION, THRU TUBING & ASSOCIATED SERVICES FOR PUNJAB & KPK PROVINCE:

1. EQUIPMENT

Sr.	Description	Availability
1. COIL TUBING SERVICES		
1.1	**Coil Tubing Unit/ Reel/Injector Head**	
1.1.1	Availability of Minimum Two (2) Coil Tubing Units with coil sizes 1.5", 1.75" and 2" and coil length 5,500 M complete with all valid certificates available in Pakistan.	Yes/No
1.1.2	Commitment to provide additional unit if required by OGDCL.	Yes/No
1.1.3	The Coil tubing units must be equipped with latest real time monitoring software (fatigue computation, ovality monitoring and data acquisition), with self-aligning sliding Goose neck, separate Power Pack drive mechanism and Injector heads.	Yes/No
1.1.4	Availability of Injector Heads with pulling capacity of 60K lbs.	Yes/No

1.1.5	Availability of Injector Heads with pulling capacity of 80K lbs.	Yes/No
1.2	**Pressure Control Equipment (02 BOPS with Each Unit).**	Yes/No
1.2.1	WCE Remote Control Panel (To be operated from Control Cabin)	Yes/No
1.2.2	10K Psi Rating WCE (CAT-I), Compatible to H2S Environment	Yes/No
1.2.3	10K Psi Rating WCE (CAT-II), Compatible to H2S Environment	Yes/No
1.2.4	15K Psi Rating WCE (CAT-III), Compatible to H2S Environment	Yes/No
1.3	**Additional Services/Capabilities**	Yes/No
1.3.1	Adapters/X-overs for Coil Tubing rig-up (List to be provided) as per operator standard tree top/Drill Pipe connections without any financial impact	Yes/No
1.3.2	Availability of Thru Tubing Milling/Fishing Tools with backup for completion sizes 2-3/8'' to 7". Complete package (List of tools inventory to be provided) **(Can be arranged and made available in Pakistan within 45 Days after issuance of LOI either OWN or third Party contracting)**	Yes/No
1.3.3	High Speed Rotating & Jetting Tools at least 02 Nos.	Yes/No
1.3.4	Data Acquisition System at least 02 Nos.	Yes/No
2.0	**STIMULATION & PUMPING SERVICES**	Yes/No
2.1	**Pumping Units 10 K/15 K psi WP Single/Twin Pumping Unit**	Yes/No
2.1.1	Minimum 03 Pumping Unit 350 Hp -500 Hp.	Yes/No
2.1.2	Hook up Piping 15,000 Psi rating for performing jobs simultaneously at 02 or more wells.	Yes/No
2.2	**Mixing/Tanks with hook up piping**	Yes/No
2.2.1	50 bbl Batch Mixer at least 03 Nos.	Yes/No
2.2.2	100 bbl Paddle Batch Mixer at least 02 Nos.	Yes/No
2.2.3	500 bbl Storage Tanks at least 03 Nos.	Yes/No
2.2.4	250-300 bbl Storage Tanks at least 02 Nos.	Yes/No
2.2.5	Raw Acid Storage Tank at least 01 Nos.	Yes/No
2.3	**Additional Services/Capabilities**	Yes/No
2.3.1	Stimulation recipes supported in line with ITB	Yes/No
2.3.2	Stimulation software (STIM PT etc.)	Yes/No
3	**NITROGEN PUMPING SERVICES**	Yes/No
3.1	Minimum 02 Nitrogen Pumping units with hook up.	Yes/No
3.2	Minimum 02 Nos. liquid nitrogen cryogenic storage tank.	Yes/No
4	**Zone-II Certification**	Yes/No
4.1	At least one Coil Tubing unit, pumping and Nitrogen equipment are Zone II Certified, affirmation to certify the remaining unit within 1 month of award of LOI	Yes/No
5	Fully Operational Workshop in Pakistan with redressing facility and should have adequate backup tools.	Yes/No
6	Equipment base setup in Punjab/Islamabad	Yes/No

2. CREW

Sr.	Qualification/Experience of crew members	Availability
1	**CTU Engineers / Specialist (at least 2 Engineers)** Graduate Engineer with minimum five (5) years of exclusive experience of planning, designing and executing Coil Tubing operations along with relevant training(s) and certified courses etc. **Must have Designed and Performed following jobs.** • Nitrogen Kick Off = 100 Jobs • Stimulation = 100 Jobs	Yes/No

	• Thru tubing = 50 Jobs. **(Attach CV and Training/Certificates)**	
2	**Thru Tubing Engineers (at least 1 Engineer)** Graduate Engineer with minimum five (5) years of exclusive experience of performing thru tubing jobs with CTU along with relevant training(s) and certified courses etc. • **Must have Designed and Performed 50 thru tubing jobs**. **(Attach CV and Training/Certificates)**	Yes/No
3	**Stimulation Engineers / Specialist (at least 2 Engineers)** Graduate Engineer with minimum five (5) years of exclusive experience of planning, designing and executing Stimulation Jobs along with relevant training(s) and certified courses etc. **Must have designed and Performed following jobs** • Sand Stone Stimulation = 100 Jobs • Lime Stone Stimulation = 100 Jobs • HPHT Stimulation = 20 Jobs. **(Attach CV and Training/Certificates)**	Yes/No
4	**CTU and Stimulation Supervisor (at least 3 supervisors for each category)** Technical diploma holder with minimum of Five (05) years of exclusive experience of planning, designing and executing Coil Tubing jobs for CTU supervisor and Stimulation jobs for stimulation supervisor along with relevant training(s) and certified courses etc. **CTU supervisors must have Performed following jobs.** • Nitrogen Kick Off Jobs = 100 Jobs • Stimulation Jobs = 100 Jobs • Through tubing jobs = 20 Jobs. **Stimulation Supervisors must have Performed following jobs.** • Sand Stone Stimulation = 100 Jobs • Lime Stone Stimulation Jobs = 100 Jobs • HPHT Stimulation Jobs = 20 Jobs. **(Attach CV and Training/Certificates)**	Yes/No
5	**Operator (at least 05 operators for each category)** Technical diploma holder/ matric with at least Five (05) years of relevant experience of executing Coil Tubing for CTU operator and Stimulation jobs for stimulation operator, along with relevant certification and training courses etc. **CTU Operators must have Performed following jobs.** • Nitrogen Kick Off Jobs = 100 Jobs • Stimulation Jobs = 100 Jobs • Through tubing jobs = 50 Jobs. **Stimulation Operators must have Performed following jobs** • Sand Stone Stimulation (Sand Stone) = 100 Jobs • Lime Stone Stimulation Jobs = 100 Jobs • HPHT Stimulation Jobs = 20 Jobs. **(Attach CV and Training/Certificates)**	Yes/No

3. Company Profile

Sr.	Description	Availability
1	**Bidder's History (attach proof)**	
1.1	Company registered in Pakistan or elsewhere for Providing Coiled Tubing and Stimulation Services. Minimum registration period = 03 Years.	Yes/No
2	**Bidder's Capabilities**	
2.1	Capability in terms of equipment and crew to perform job on Deep wells (+5200 meters) with H2S environment simultaneously on 02 OGDCL wells.	Yes/No
2.2	Capability in terms of equipment and crew to provide stimulation solutions for Sandstone & Limestone.	Yes/No
2.3	Capability to handle job volumes upto 2,000 bbl	Yes/No
2.4	Providing Lab & XRD Facilities, or commitment thereof for the required Tests in Pakistan	Yes/No
2.5	Placing Sand Plug, Cement Plug Thru Coil tubing.	Yes/No
2.6	Thru tubing services	Yes/No
2.7	Pumping & Handling more than 20,000 Gallons LN2 .	Yes/No
2.8	Bidder, to provide standard operating procedure (SOPs) for standard Coil Tubing, Nitrogen Kickoff, well Clean Out, thru tubing jobs along with Technical manual of Pressure Control Equipment (PCE), Coil Tubing Unit and all types of thru' tubing tools also to be provided by the bidder.	Yes/No
2.9	Bidder, to provide published Pressure Control Manual for standard Coil Tubing operations & Stimulation Services.	Yes/No
2.10	Bidder, to provide free of cost basic and advanced Coiled Tubing and Stimulation training to two (02) OGDCL Engineers every year. Share a structured training program c/w list of courses/certifications and location where training will be performed.	Yes/No

GROUP "B": PROVISION OF COIL TUBING, NITROGEN PUMPING, NITROGEN, STIMULATION, THRU TUBING & ASSOCIATED SERVICES FOR SINDH AND BALUCHISTAN PROVINCE:

1. EQUIPMENT

Sr.	Description	Availability
1. COIL TUBING SERVICES		
1.1	**Coil Tubing Unit/ Reel/Injector Head**	
1.1.1	Availability of Minimum Two (2) Coil Tubing Units with coil sizes 1.5", 1.75" and 2" and coil length 5,500 M complete with all valid certificates available in Pakistan.	Yes/No
1.1.2	Commitment to provide additional unit if required by OGDCL.	Yes/No
1.1.3	The Coil tubing units must be equipped with latest real time monitoring software (fatigue computation, ovality monitoring and data acquisition), with self-aligning sliding Goose neck, separate Power Pack drive mechanism and Injector heads.	Yes/No
1.1.4	Availability of Injector Heads with pulling capacity of 60K lbs.	Yes/No
1.1.5	Availability of Injector Heads with pulling capacity of 80K lbs.	Yes/No
1.2	**Pressure Control Equipment (02 BOPS with Each Unit).**	Yes/No
1.2.1	WCE Remote Control Panel (To be operated from Control Cabin)	Yes/No
1.2.2	10K Psi Rating WCE (CAT-I), Compatible to H2S Environment	Yes/No
1.2.3	10K Psi Rating WCE (CAT-II), Compatible to H2S Environment	Yes/No
1.2.4	15K Psi Rating WCE (CAT-III), Compatible to H2S Environment	Yes/No
1.3	**Additional Services/Capabilities**	Yes/No
1.3.1	Adapters/X-overs for Coil Tubing rig-up (List to be provided) as per operator standard tree top/Drill Pipe connections without any financial impact	Yes/No

1.3.2	Availability of Thru Tubing Milling/Fishing Tools with backup for completion sizes 2-3/8'' to 7". Complete package (List of tools inventory to be provided) **(Can be arranged and made available in Pakistan within 45 Days after issuance of LOI either OWN or third Party contracting)**	Yes/No
1.3.3	High Speed Rotating & Jetting Tools at least 02 Nos.	Yes/No
1.3.4	Data Acquisition System at least 02 Nos.	Yes/No
2	**STIMULATION & PUMPING SERVICES**	Yes/No
2.1	**Pumping Units 10 K/15 K psi WP Single/Twin Pumping Unit**	Yes/No
2.1.1	Minimum 03 Pumping Unit 350 Hp -500 Hp.	Yes/No
2.1.2	Hook up Piping 15,000 Psi rating for performing jobs simultaneously at 02 or more wells.	Yes/No
2.2	**Mixing/Tanks with hook up piping**	Yes/No
2.2.1	50 bbl Batch Mixer at least 03 Nos.	Yes/No
2.2.2	100 bbl Paddle Batch Mixer at least 02 Nos.	Yes/No
2.2.3	500 bbl Storage Tanks at least 03 Nos.	Yes/No
2.2.4	250-300 bbl Storage Tanks at least 02 Nos.	Yes/No
2.2.5	Raw Acid Storage Tank at least 01 Nos.	Yes/No
2.3	**Additional Services/Capabilities**	Yes/No
2.3.1	Stimulation recipes supported in line with ITB	Yes/No
2.3.2	Stimulation software (STIM PT etc.)	Yes/No
3	**NITROGEN PUMPING SERVICES**	Yes/No
3.1	Minimum 02 Nitrogen Pumping units with hook up.	Yes/No
3.2	Minimum 02 Nos. liquid nitrogen cryogenic storage tank.	Yes/No
4	**Zone-II Certification**	Yes/No
4.1	At least one Coil Tubing unit, pumping and Nitrogen equipment are Zone II Certified, affirmation to certify the remaining unit within 1 month of award of LOI	Yes/No
5	Fully Operational Workshop in Pakistan with redressing facility and should have adequate backup tools.	Yes/No
6	Equipment base setup in Punjab/Islamabad	Yes/No

2. CREW

Sr.	Qualification/Experience of crew members	Availability
1	**CTU Engineers / Specialist (at least 2 Engineers)** Graduate Engineer with minimum five (5) years of exclusive experience of planning, designing and executing Coil Tubing operations along with relevant training(s) and certified courses etc. **Must have Designed and Performed following jobs.** • Nitrogen Kick Off = 100 Jobs • Stimulation = 100 Jobs • Thru tubing = 50 Jobs. **(Attach CV and Training/Certificates)**	Yes/No
2	**Thru Tubing Engineers (at least 1 Engineer)** Graduate Engineer with minimum five (5) years of exclusive experience of performing thru tubing jobs with CTU along with relevant training(s) and certified courses etc. • **Must have Designed and Performed 50 thru tubing jobs**. **(Attach CV and Training/Certificates)**	Yes/No

3	**Stimulation Engineers / Specialist (at least 2 Engineers)** Graduate Engineer with minimum five (5) years of exclusive experience of planning, designing and executing Stimulation Jobs along with relevant training(s) and certified courses etc. **Must have designed and Performed following jobs** • Sand Stone Stimulation = 100 Jobs • Lime Stone Stimulation = 100 Jobs • HPHT Stimulation = 20 Jobs. **(Attach CV and Training/Certificates)**	Yes/No
4	**CTU and Stimulation Supervisor (at least 3 supervisors for each category)** Technical diploma holder with minimum of Five (05) years of exclusive experience of planning, designing and executing Coil Tubing jobs for CTU supervisor and Stimulation jobs for stimulation supervisor along with relevant training(s) and certified courses etc. **CTU supervisors must have Performed following jobs.** • Nitrogen Kick Off Jobs = 100 Jobs • Stimulation Jobs = 100 Jobs • Through tubing jobs = 20 Jobs. **Stimulation Supervisors must have Performed following jobs.** • Sand Stone Stimulation = 100 Jobs • Lime Stone Stimulation Jobs = 100 Jobs • HPHT Stimulation Jobs = 20 Jobs. **(Attach CV and Training/Certificates)**	Yes/No
5	**Operator (at least 05 operators for each category)** Technical diploma holder/ matric with at least Five (05) years of relevant experience of executing Coil Tubing for CTU operator and Stimulation jobs for stimulation operator, along with relevant certification and training courses etc. **CTU Operators must have Performed following jobs.** • Nitrogen Kick Off Jobs = 100 Jobs • Stimulation Jobs = 100 Jobs • Through tubing jobs = 50 Jobs. **Stimulation Operators must have Performed following jobs** • Sand Stone Stimulation (Sand Stone) = 100 Jobs • Lime Stone Stimulation Jobs = 100 Jobs • HPHT Stimulation Jobs = 20 Jobs. **(Attach CV and Training/Certificates)**	Yes/No

3. Company Profile

Sr.	Description	Availability
1	**Bidder's History (attach proof)**	
1.1	Company registered in Pakistan or elsewhere for Providing Coiled Tubing and Stimulation Services. Minimum registration period = 03 Years.	Yes/No
2	**Bidder's Capabilities**	Yes/No
2.1	Capability in terms of equipment and crew to perform job on Deep wells (+5200 meters) with H2S environment simultaneously on 02 OGDCL wells.	Yes/No
2.2	Capability in terms of equipment and crew to provide stimulation solutions for Sandstone & Limestone.	Yes/No

2.3	Capability to handle job volumes upto 2,000 bbl	Yes/No
2.4	Providing Lab & XRD Facilities, or commitment thereof for the required Tests in Pakistan	Yes/No
2.5	Placing Sand Plug, Cement Plug Thru Coil tubing.	Yes/No
2.6	Thru tubing services	Yes/No
2.7	Pumping & Handling more than 20,000 Gallons LN2 .	Yes/No
2.8	Bidder, to provide standard operating procedure (SOPs) for standard Coil Tubing, Nitrogen Kickoff, well Clean Out, thru tubing jobs along with Technical manual of Pressure Control Equipment (PCE), Coil Tubing Unit and all types of thru' tubing tools also to be provided by the bidder.	Yes/No
2.9	Bidder, to provide published Pressure Control Manual for standard Coil Tubing operations & Stimulation Services.	Yes/No
2.10	Bidder, to provide free of cost basic and advanced Coiled Tubing and Stimulation training to two (02) OGDCL Engineers every year. Share a structured training program c/w list of courses/certifications and location where training will be performed.	Yes/No

GROUP C: SMART/E-COIL & EXPANDABLE BRIDGE PLUGS SERVICES ALL OVER PAKISTAN

1. EQUIPMENT

Sr.	Description	Availability
1. COIL TUBING SERVICES		
1.1	**Coil Tubing Unit/ Reel/Injector Head**	
1.1.1	Availability of at least One (01) Coil Tubing Unit with coil sizes 1.5", 1.75" and 2" and coil length 5,500 M complete with all valid certificates available in Pakistan.	Yes/No
1.1.2	The Coil tubing units equipped with latest real time monitoring software (fatigue computation, ovality monitoring and data acquisition), with self-aligning sliding Goose neck, separate Power Pack drive mechanism and Injector heads.	Yes/No
1.1.3	Availability of Injector Heads with pulling capacity of 60K lbs.	Yes/No
1.1.4	Availability of Injector Heads with pulling capacity of 80K lbs.	Yes/No
1.1.5	At least 01 Smart/E-Coil cable (5,500 M) with logging head	Yes/No
1.2	**Pressure Control Equipment**	Yes/No
1.2.1	WCE Remote Control Panel (To be operated from Control Cabin)	Yes/No
1.2.2	10K Psi Rating WCE (CAT-I), Compatible to H2S Environment	Yes/No
1.2.3	10K Psi Rating WCE (CAT-II), Compatible to H2S Environment	Yes/No
1.2.4	15K Psi Rating WCE (CAT-III), Compatible to H2S Environment	Yes/No
1.3	**Additional Services/Capabilities**	Yes/No
1.3.1	Adapters/X-overs for COIL TUBING rig-up (List to be provided) as per operator standard tree top/Drill Pipe connections without any financial impact	Yes/No
1.3.2	Provision of Expandable Retainers/Bridge plugs. **(Commitment to Provide within 15 Days of mobilization notice at well site)**	Yes/No
1.3.3	Data Acquisition System	Yes/No
2.0	**PUMPING SERVICES**	Yes/No
2.1	**Pumping Units 10 K/15 K psi WP Single/Twin Pumping Unit**	Yes/No
2.1.1	At least 01 Pumping Unit 350 Hp -500 Hp.	Yes/No
2.1.2	Hook up Piping 15,000 Psi rating for pressure testing.	Yes/No
3.0	**Zone-II Certification**	Yes/No
3.1	Coil Tubing unit and pumping units are Zone-II Certified.	Yes/No
4.0	Fully Operational Workshop are Equipment Base set up anywhere in Pakistan with redressing facility and should have adequate backup tools.	Yes/No

2. CREW

Sr.	Qualification/Experience of crew members	Availability
1	**CTU Engineers / Specialist (at least 1 Engineer)** Petroleum or Mechanical Engineer with min. Five (5) years of exclusive experience of planning, designing and executing Coil Tubing operations along with relevant training(s) and certified courses etc. **Must have Designed and Performed 100 Coil tubing jobs.** **(Attach CV and Training/Certificates)**	Yes/No
2	**Smart/E-Coil Operator (at least 02)** Technical diploma holder with minimum of Five (05) years' experience of Smart/E-coil operations. **Must have designed and Performed 30 jobs with smart/E-coil.** **(Attach CV and Training/Certificates)**	Yes/No
3	**Operator (at least 02 operators for each Category)** Technical diploma holder/ matric with at least Five (05) years relevant experience of executing Coiled Tubing and Stimulation jobs, along with relevant certification and training courses etc. • **CTU Operator must have Performed 100 jobs with CTU.** • **Pumping Operator must have Performed 100 Jobs with pumping equipment.** **(Attach CV and Training/Certificates)**	Yes/No

3. Company Profile

Sr.	Description	Availability
1	**Bidder's History (attach proof)**	
1.1	Company registered in Pakistan or elsewhere for Providing Coil Tubing and Stimulation Services. Minimum registration period = 03 Years.	Yes/No
2	**Bidder's Capabilities**	Yes/No
2.1	Bidder have performed at least 10 job with Smart/E-coil on Deep wells (+5200 meters) with H2S environment.	Yes/No
2.2	Have pumping unit with hook up connection to provide pressure testing services.	Yes/No
2.3	Bidder, to provide standard operating procedure (SOPs) for standard Coil Tubing, Smart/E-coil jobs along with Technical manual of Pressure Control Equipment (PCE).	Yes/No
2.4	Bidder, to provide published Pressure Control Manual for standard Coil Tubing operations.	Yes/No

HSE for all Groups

Sr.	Description	Remarks
1	Written and approved HSE and Quality Policy	Yes/No
2	QHSE Management System in line with International Standards available to cater HSE risks. Or Management System not available however, procedures are available to fulfill minimum QHSE requirements (i.e. Risk Assessment, Environmental risks, Emergency Response Procedures waste management etc.) Note: Copies of QHSE Management System procedures to be attached.	Yes/No
3	**QHSE Responsibilities (**CV's to be attached)	Yes/No

3.1	Dedicated QHSE person available to handle QHSE matters. Please provide Job Responsibilities and Quality Inspection Plan identifying 3rd party certificates for lifting equipment involved in job.	Yes/No
3.2	QHSE Responsibilities given to Supervisor in addition to technical job responsibilities	Yes/No
4	**Hazard Identification & Risk Assessment**	Yes/No
4.1	Hazard Identification & Risk Assessment / Job Hazard Analysis are conducted before start of project and appropriate preventive measures taken to address hazards. Copies of previously conducted similar assessments to be attached	Yes/No
5	**Environmental Aspect Impact Analysis**	Yes/No
5.1	Environmental Aspect Impact Analysis is carried out before start of job and mitigation measures taken in account to prevent environmental damage. Copies of previously conducted similar assessments to be attached.	Yes/No
5.2	Use of National Environmental Quality Standards (NEQS) compliant equipment e.g. generators at site. Recent emission reports (last Two (02) years) of equipment / vehicles through accredited environmental Lab. to be attached.	Yes/No
6	**Equipment & Tools**	Yes/No
6.1	Maintenance records of all equipment / tools available	Yes/No
6.2	Third party validity certificates of equipment / tools available	Yes/No
7	**Waste Management**	Yes/No
7.1	Procedures available for Environment Friendly Waste Disposal for hazardous and non-hazardous waste available. please provide copy.	Yes/No
7.2	Contractor shall arrange for environment friendly disposal of waste produced as result of its activities.	Yes/No
8	**Emergency Response Procedure**	Yes/No
8.1	Approved Emergency Response Plan available with responsibilities shall be shared with OGDCL	Yes/No
8.2	All types of required emergency handling equipment is available which include but not limited to appropriate number of fire extinguishers, first aid boxes, stretcher, SCBA, eye wash stations and multi-gas detectors. Please provide details of equipment.	Yes/No
9	**Incident Reporting**	Yes/No
9.1	Incident Reporting Procedure available	Yes/No
9.2	Contractor shall report all incidents and dangerous occurrences to Company's Site Representative concerned Government Authorities CIM, District Management etc. as per legal and regulatory requirement.	Yes/No
10	**Project QHSE Performance Report**	Yes/No
10.1	Contractor to submit Project QHSE performance report / statistics to OGDCL Site Representative at the end of project.	Yes/No
11	**HSE Legal / Regulatory Compliance.**	Yes/No
11.1	Contractor shall comply with Health & Safety Regulations Mines Act 1923, The Oil & Gas (Safety In Drilling & Production Regulations 1974)	Yes/No
11.2	Contractor shall comply with Environmental Protection ACT 1997 and National Environmental Quality Standards	Yes/No
12	**QHSE Trainings**	Yes/No
12.1	All staff is trained is in basic QHSE trainings i.e. Fire Fighting, First aid, H_2S. Please provide details / records of the crew.	Yes/No
12.2	Staff receives specialized QHSE trainings with respect to their jobs	Yes/No
13	**Personal Protective Equipment**	Yes/No
13.1	All required personal protective equipment available to all its staff and subcontractors.	Yes/No

14	**Permit to work**	Yes/No
14.2	PTW system available and strictly followed	Yes/No
15	**Vehicle Management**	Yes/No
15.1	Travelling Policy / Procedure available	Yes/No
15.2	Cranes, Fork lifters are third party certified. Certificates to be provided before the execution of job.	Yes/No

FORMAT FOR RATES AND FINANCIAL EVALUATION

FORMAT FOR RATES FOR ALL GROUPS (ALL RATES TO BE QUOTED IN US$):

Sr.	Description	UOM	Operating Rate	Standby Rate
			US$/UOM	
Coil Tubing Unit				
1	Coil Tubing Unit with Category 1 PCE	Day		
2	Coil Tubing Unit with Category 2 PCE.	Day		
3	Coil Tubing Unit with Category 3 PCE.	Day		
4	Coil Tubing Complete crew for all Categories PCE	Day		
5	CT BHA including Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.	Day		
6	CT BHA including Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA , Nozzle Various Types, Weight Bars, Riser, etc. including High Pressure Jetting / Rotating Tool.	Day		
7	CT Cumulative Depth Charges for non-Corrosive Environment.	Meter		
8	CT Cumulative Depth Charges for Corrosive Environment $CO_2 \geq 5$ %, $H_2S \geq 10$ PPM.	Meter		
9	Coil Tubing Unit (Complete set up) Mob/Demob.	KM		
10	Coil Tubing Crew (Complete Crew) Mob/Demob.	KM		
Nitrogen Services				
11	Nitrogen Pumping Equipment (Includes Nitrogen unit, Nitrogen tank, piping and all other associated equipment)	Day		
12	Nitrogen Pumping Crew (Complete Crew)	Day		
13	Liquid Nitrogen Supply Tanker Standby Charges	Day	N/A	
14	Liquid Nitrogen Volume Pumping Charges	Gal		
15	Liquid Nitrogen Charges	Gal		
16	Nitrogen Pumping Equipment (Complete set up) Mob/Demob	KM		
17	Nitrogen Pumping Crew (Complete crew) Mob/Demob	KM		
18	Liquid Nitrogen Supply Tanker Mob/Demob	KM		
Pumping and Stimulation Services				
19	Pumping Crew (Complete Crew)	Day		
20	Stimulation Crew (Complete Crew)	Day		
21	500 BBL Tank charges	Day		
22	250-350 BBL Tank Charges	Day		
23	Supply Truck for Acid Standby Charges	Day	N/A	
24	Trailer for Supply of Chemicals Standby Charges	Day	N/A	

25	Pumping Equipment with all accessories Standby Charges (This includes Self driven pumper with piping connections for pressure testing and Batch treatment).	Day	N/A	
26	Stimulation Equipment with all accessories Standby Charges (This includes Pumpers, Chemical Transfer Pump, Centrifugal pumps, RMX/Batch Mixer/Blender, storage tanks ,Surface piping etc. and all other necessary equipment which ever required)	Day	N/A	
27	Volume Pumping Charges for Non-Corrosive Fluids using pumping equipment	Gal		
28	Volume pumping Charges for Corrosive/abrasive fluid using pumping equipment	Gal		
29	Volume pumping Charges for Non-Corrosive Fluids using stimulation equipment	Gal		
30	Volume pumping Charges for Corrosive/abrasive Fluid using stimulation equipment	Gal		
31	Pumping Equipment (complete set up) Mob/Demob	KM		
32	Pumping Crew (Complete crew) Mob/Demob	KM		
33	Stimulation Equipment (Complete Set up) Mob/Demob	KM		
34	Stimulation Crew(Complete Crew) Mob/Demob	KM		
35	Supply Truck for Acid Mob/Demob	KM		
36	Trailer for Supply of Chemicals Mob/Demob	KM		
37	500 BBL Tank Mob/Demob	KM		
38	250-350 BBL Tank Mob/Demob	KM		

Smart/E-Coil Services:

Sr.	Description	UOM	Operating Rate	Standby Rate
			US$/UOM	
1	Coil tubing unit with Smart/E-Coil cable and logging Head	Day		
2	Coil tubing with Smart/E-Coil cable Cumulative Depth Charges for Non-Corrosive Environment (Coil tubing +Smart/E-coil Cable)	Meter		
3	Coil tubing with Smart/E-Coil cable Cumulative Depth Charges for Corrosive Environment CO2≥ 5 %, H2S ≥ 10 PPM (Coil tubing +Smart/E-coil Cable)	Meter		
4	Coil tubing unit with Smart/E-coil cable and logging Head Mob/Demob	KM		
5	Coil tubing unit with Smart/E-coil cable and logging Head crew Mob/Demob	KM		

Expandable Retainers/ Bridge Plug:

Sr.	Description	UOM	Unit Rate	
			Retrieved	Left in hole
1	Expandable Retainers/Bridge plugs (2-7/8" tubing to 5"-7" Liner/casing) on location charges	Number		
2	Expandable Retainers/Bridge plugs (3-1/2" tubing to 5"-7" Liner/casing) on location charges	Number		
3	Expandable Retainers/Bridge plugs (4-1/2" tubing to 5"-7" Liner/casing) on location charges	Number		
4	Expandable Retainers/Bridge plugs (5-1/2" tubing to 5"-7" Liner/casing)	Number		

Expandable Retainers/ Bridge Plug Services:

Sr.	Description	UOM	Operating Rate	Standby Rate
			US$/UOM	
1	Expandable Retainers/Bridge plug crew with setting kit	Day		
2	Expandable Retainers/Bridge plug crew including setting kit Mob/Demob	KM		

Crane with Operator:

Sr.	Description	UOM	Operating Rate	Standby Rate
			US$/UOM	
1	40-50 ton Hydraulic Crane with operator	Day		
2	40-50 ton Hydraulic Crane with operator Mob/Demob	KM		

Acid recipes

Sr.	Treating Solution	UOM	Unit rate (US$/UOM)		
			Upto 250 ^{0}F	Upto 350 ^{0}F	Above 350 ^{0}F
1	15% HCl solution c/w 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time up to 350 ^{0}F 08 hrs. inhibition time above 350 ^{0}F	Gal			
2	7.5% HCl Solution c/w 2,000 ppm iron control with chelating agent 12 hrs. inhibition time up to 350 ^{0}F 08 hrs. inhibition time above 350 ^{0}F	Gal			
3	Regular Mud Acid solution: (12% HCl + 3%HF) c/w 2,000ppm iron control with chelating agent 12 hrs. inhibition time up to 350 ^{0}F 08 hrs. inhibition time above 350 ^{0}F	Gal			
4	10% Acetic Acid Solution c/w 2,000 ppm iron control with chelating agent 12 hrs. inhibition time up to 350 ^{0}F 08 hrs. inhibition time above 350 ^{0}F	Gal			
5	9% Formic Acid solution c/w 2,000ppm iron control with chelating agent 12 hrs. inhibition time up to 350 ^{0}F 08 hrs. inhibition time above 350 ^{0}F	Gal			

Chemicals:

Sr.	Product Name	Temp. Rating	Product Code	UOM	Unit rate
					US$/UOM
1	Corrosion Inhibitor	Upto 250 ^{0}F		Gal	
		Upto 350 ^{0}F		Gal	
		Above 350 ^{0}F		Gal	
2	Corrosion Inhibitor Aid	Upto 250 ^{0}F		Gal	
		Upto 350 ^{0}F		Gal	
		Above 350 ^{0}F		Gal	
3	Organic Corrosion Inhibitor	Upto 250 ^{0}F		Gal	
		Upto 350 ^{0}F		Gal	
		Above 350 ^{0}F		Gal	
4	H2S/CO2 Inhibitor	Upto 250 ^{0}F		Gal	

		Upto 350 ^{0}F		Gal	
		Above 350 ^{0}F		Gal	
5	Chelating/Iron Control Agent	Upto 250 ^{0}F		Lbs	
		Upto 350 ^{0}F		Lbs	
		Above 350 ^{0}F		Lbs	
6	Foaming Agent	Upto 250 ^{0}F		Gal	
		Upto 350 ^{0}F		Gal	
		Above 350 ^{0}F		Gal	
7	Demulsifier	Upto 400 ^{0}F		Gal	
8	Anti-Sludge Agent	Upto 400 ^{0}F		Gal	
9	32% HCL Acid	Upto 400 ^{0}F		Gal	
10	Citric Acid	Upto 400 ^{0}F		Gal	
11	Formic Acid	Upto 400 ^{0}F		Gal	
12	Acetic Acid	Upto 400 ^{0}F		Gal	
13	HF Acid	Upto 400 ^{0}F		Gal	
14	H2S Scavenger	Upto 400 ^{0}F		Gal	
15	Alcohol	Upto 400 ^{0}F		Gal	
16	Methanol	Upto 400 ^{0}F		Gal	
17	Mutual Solvent	Upto 400 ^{0}F		Gal	
18	Non-Damaging Clean Out Fluid (Gel)	Upto 400 ^{0}F		Gal	
19	Xylene	Upto 400 ^{0}F		Gal	
20	Surfactant	Upto 400 ^{0}F		Gal	
21	Diverting Agent	Upto 400 ^{0}F		Gal	
22	Gelling Agent	Upto 400 ^{0}F		Gal	
23	Viscoelastic or equivalent diverter	Upto 400 ^{0}F		Gal	
24	Toulene	Upto 400 ^{0}F		Gal	
25	Ammonium Chloride	Upto 400 ^{0}F		Lbs	
26	Potassium Chloride	Upto 400 ^{0}F		Lbs	
27	Calcium Chloride	Upto 400 ^{0}F		Lbs	
28	Calcium Carbonate	Upto 400 ^{0}F		Lbs	
29	Sodium Chloride	Upto 400 ^{0}F		Lbs	
30	Soda Ash	Upto 400 ^{0}F		Lbs	
31	Caustic Soda	Upto 400 ^{0}F		Lbs	
32	Acid Fiber	Upto 400 ^{0}F		Lbs	
33	Silica Sand	Upto 400 ^{0}F		Lbs	
34	Mesh Sand (30/60)	Upto 400 ^{0}F		Lbs	
35	Mesh Sand (20/40)	Upto 400 ^{0}F		Lbs	
36	HF intensifier	Upto 400 ^{0}F		Lbs	
37	Organic Acid Intensifier	Upto 400 ^{0}F		Lbs	

Thru Tubing Services

Sr.	Description	UOM	Operating Rate	Standby Rate
			US$/UOM	
1	Thru Tubing Crew	Day		
2	Internal Dimple Connector	Day		
3	External Dimple Connector	Day		
4	Upto 2-1/8” Size Down hole filter	Day		
5	Upto 2-1/8” Size Thru Tubing Motor	Day		
6	Upto 2-1/8” Size Thru Tubing weight bar	Day		
7	Upto 2-1/8” Flat Bottom Mill	Day		
8	Upto 2-1/8” Tapered Mill	Day		

9	Upto 2-1/8" Junk Mill	Day		
10	Upto 2-1/8" Impact Hammer	Day		
11	Upto 2-1/8" Accelerator	Day		
12	Centralizer	Day		
13	Pull test sub	Day		
14	Surface filter	Day		
15	Debris Filter Charges	Nos.		
16	Thru Tubing Screen Filter Charges	Nos.		
17	Thru Tubing Tools Mob/Demob	KM		
18	Thru Tubing Crew Mob/Demob	KM		

Format for Standard Acid Recipes

15% Acid Solution complete with 2,000ppm iron control with chelating agent, 12 hrs. inhibition time for product concentration/1,000 Gals of Acid recipe Up to 250 ^{0}F						
Sr.	**Product Name**	**Product Code**	**UOM**	**Unit Rate US$/UOM**	**Qty.**	**Total Rate US$**
1	32% HCl		Gal			
2	Water		Gal			
3	Chelating Agent		lbs			
4	Corrosion Inhibitor		Gal			
5	Corrosion Inhibitor Aid		Gal			
6	Surfactant		Gal			
					Recipe cost(US$)/1,000 Gals	
					Recipe cost(US$)/Gal	

15% Acid Solution complete with 2,000ppm iron control with chelating agent, 12 hrs. inhibition time for product concentration/1,000 Gals of Acid recipe Up to 350 ^{0}F						
Sr.	**Product Name**	**Product Code**	**UOM**	**Unit Rate US$/UOM**	**Qty.**	**Total Rate US$**
1	32% HCl		Gal			
2	Water		Gal			
3	Chelating Agent		lbs			
4	Corrosion Inhibitor		Gal			
5	Corrosion Inhibitor Aid		Gal			
6	Surfactant		Gal			
					Recipe cost(US$)/1,000 Gals	
					Recipe cost(US$)/Gal	

15% Acid Solution complete with 2,000ppm iron control with chelating agent, 08 hrs. inhibition time for product concentration/1,000 Gals of Acid recipe above 350 ^{0}F						
Sr.	**Product Name**	**Product Code**	**UOM**	**Unit Rate US$/UOM**	**Qty.**	**Total Rate US$**
1	32% HCl		Gal			
2	Water		Gal			
3	Chelating Agent		lbs			
4	Corrosion Inhibitor		Gal			
5	Corrosion Inhibitor Aid		Gal			
6	Surfactant		Gal			
					Recipe cost(US$)/1,000 Gals	
					Recipe cost(US$)/Gal	

7.5% Acid Solution complete with 2,000ppm iron control with chelating agent, 12 hrs. inhibition time for product concentration/1,000 Gals of Acid recipe Up to 250 ^{0}F						
Sr.	**Product Name**	**Product Code**	**UOM**	**Unit Rate US$/UOM**	**Qty.**	**Total Rate US$**
1	32% HCl		Gal			
2	Water		Gal			
3	Chelating Agent		lbs			
4	Corrosion Inhibitor		Gal			
5	Corrosion Inhibitor Aid		Gal			
6	Surfactant		Gal			
					Recipe cost(US$)/1,000 Gals	
					Recipe cost(US$)/Gal	

7.5% Acid Solution complete with 2,000ppm iron control with chelating agent, 12 hrs. inhibition time for product concentration/1,000 Gals of Acid recipe Up to 350 ^{0}F						
Sr.	**Product Name**	**Product Code**	**UOM**	**Unit Rate US$/UOM**	**Qty.**	**Total Rate US$**
1	32% HCl		Gal			
2	Water		Gal			
3	Chelating Agent		lbs			
4	Corrosion Inhibitor		Gal			
5	Corrosion Inhibitor Aid		Gal			
6	Surfactant		Gal			
					Recipe cost(US$)/1,000 Gals	
					Recipe cost(US$)/Gal	

7.5% Acid Solution complete with 2,000ppm iron control with chelating agent, 8 hrs. inhibition time for product concentration/1,000 Gals of Acid recipe above 350 ^{0}F						
Sr.	**Product Name**	**Product Code**	**UOM**	**Unit Rate US$/UOM**	**Qty.**	**Total Rate US$**
1	32% HCl		Gal			
2	Water		Gal			
3	Chelating Agent		lbs			
4	Corrosion Inhibitor		Gal			
5	Corrosion Inhibitor Aid		Gal			
6	Surfactant		Gal			
					Recipe cost(US$)/1,000 Gals	
					Recipe cost(US$)/Gal	

Regular Mud Acid : (12% HCl + 3% HF) c/w 2,000ppm iron control with chelating agent, 12 hrs. inhibition time for product concentration/1,000 Gals of Acid recipe Up to 250 ^{0}F						
Sr.	**Product Name**	**Product Code**	**UOM**	**Unit Rate US$/UOM**	**Qty.**	**Total Rate US$**
1	32% HCl		Gal			
2	HF Intensifier		lbs			
3	Water		Gal			
4	Chelating Agent		lbs			
5	Corrosion Inhibitor		Gal			
6	Corrosion Inhibitor Aid		Gal			
7	Surfactant		Gal			
8	Mutual Solvent		Gal			

Recipe cost(US$)/1,000 Gals	
Recipe cost(US$)/Gal	

Regular Mud Acid : (12% HCl + 3% HF) c/w 2,000ppm iron control with chelating agent, 12 hrs. inhibition time for product concentration/1,000 Gals of Acid recipe Up to 350 ^{0}F

Sr.	Product Name	Product Code	UOM	Unit Rate US$/UOM	Qty.	Total Rate US$
1	32% HCl		Gal			
2	HF Intensifier		lbs			
3	Water		Gal			
4	Chelating Agent		lbs			
5	Corrosion Inhibitor		Gal			
6	Corrosion Inhibitor Aid		Gal			
7	Surfactant		Gal			
8	Mutual Solvent		Gal			
					Recipe cost(US$)/1,000 Gals	
					Recipe cost(US$)/Gal	

Regular Mud Acid : (12% HCl + 3% HF) c/w 2,000ppm iron control with chelating agent, 8 hrs. inhibition time for product concentration/1,000 Gals of Acid recipe Above 350 ^{0}F

Sr.	Product Name	Product Code	UOM	Unit Rate US$/UOM	Qty.	Total Rate US$
1	32% HCl		Gal			
2	HF Intensifier		lbs			
3	Water		Gal			
4	Chelating Agent		lbs			
5	Corrosion Inhibitor		Gal			
6	Corrosion Inhibitor Aid		Gal			
7	Surfactant		Gal			
8	Mutual Solvent		Gal			
					Recipe cost(US$)/1,000 Gals	
					Recipe cost(US$)/Gal	

10% Acetic Acid complete with 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time for product concentration/1,000 Gals of Acid recipe Up to 250 ^{0}F

Sr.	Product Name	Product Code	UOM	Unit Rate US$/UOM	Qty.	Total Rate US$
1	32% HCl		Gal			
2	HF Intensifier		Lbs.			
3	Acetic Acid		Gal			
4	Water		Gal			
5	Chelating Agent		Ibs.			
6	Corrosion Inhibitor		Gal			
7	Corrosion Inhibitor Aid		Gal			
8	Surfactant		Gal			
					Recipe cost(US$)/1,000 Gals	
					Recipe cost(US$)/Gal	

10% Acetic Acid complete with 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time for product concentration/1,000 Gals of Acid recipe Up to 350 ^{0}F

Sr.	Product Name	Product Code	UOM	Unit Rate US$/UOM	Qty.	Total Rate US$
1	32% HCl		Gal			
2	HF Intensifier		Lbs.			
3	Acetic Acid		Gal			
4	Water		Gal			
5	Chelating Agent		Ibs.			
6	Corrosion Inhibitor		Gal			
7	Corrosion Inhibitor Aid		Gal			
8	Surfactant		Gal			
					Recipe cost(US$)/1,000 Gals	
					Recipe cost(US$)/Gal	

10% Acetic Acid complete with 2,000 ppm iron control with chelating agent, 08 hrs. inhibition time for product concentration/1,000 Gals of Acid recipe above 350 ^{0}F						
Sr.	**Product Name**	**Product Code**	**UOM**	**Unit Rate US$/UOM**	**Qty.**	**Total Rate US$**
1	32% HCl		Gal			
2	HF Intensifier		Lbs.			
3	Acetic Acid		Gal			
4	Water		Gal			
5	Chelating Agent		Ibs.			
6	Corrosion Inhibitor		Gal			
7	Corrosion Inhibitor Aid		Gal			
8	Surfactant		Gal			
					Recipe cost(US$)/1,000 Gals	
					Recipe cost(US$)/Gal	

9% Formic Acid complete with 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time for product concentration/1,000 Gals of Acid recipe Up to 250 ^{0}F						
Sr.	**Product Name**	**Product Code**	**UOM**	**Unit Rate US$/UOM**	**Qty.**	**Total Rate US$**
1	32% HCl		Gal			
2	HF Intensifier		Lbs.			
3	Formic Acid		Gal			
4	Water		Gal			
5	Chelating Agent		Ibs.			
6	Corrosion Inhibitor		Gal			
7	Corrosion Inhibitor Aid		Gal			
8	Surfactant		Gal			
					Recipe cost(US$)/1,000 Gals	
					Recipe cost(US$)/Gal	

9% Formic Acid complete with 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time for product concentration/1,000 Gals of Acid recipe Up to 350 ^{0}F						
Sr.	**Product Name**	**Product Code**	**UOM**	**Unit Rate US$/UOM**	**Qty.**	**Total Rate US$**
1	32% HCl		Gal			
2	HF Intensifier		Lbs.			
3	Formic Acid		Gal			

4	Water		Gal			
5	Chelating Agent		Ibs.			
6	Corrosion Inhibitor		Gal			
7	Corrosion Inhibitor Aid		Gal			
8	Surfactant		Gal			
					Recipe cost(US$)/1,000 Gals	
					Recipe cost(US$)/Gal	

9% Formic Acid complete with 2,000 ppm iron control with chelating agent, 08 hrs. inhibition time for product concentration/1,000 Gals of Acid recipe above 350 ^{0}F						
Sr.	**Product Name**	**Product Code**	**UOM**	**Unit Rate US$/UOM**	**Qty.**	**Total Rate US$**
1	32% HCl		Gal			
2	HF Intensifier		Lbs.			
3	Formic Acid		Gal			
4	Water		Gal			
5	Chelating Agent		Ibs.			
6	Corrosion Inhibitor		Gal			
7	Corrosion Inhibitor Aid		Gal			
8	Surfactant		Gal			
					Recipe cost(US$)/1,000 Gals	
					Recipe cost(US$)/Gal	

FINANCIAL EVALUATION MODEL
GROUP "A" (PUNJAB & KPK)

(A) NITROGEN KICK-OFF					
Sr.	**Services**	**Qty. (Q)**	**UOM (U)**	**Unit Cost (P)**	**Total Cost =P x Q**
				US$/ UOM	**US$**
1.5" /1.75" /2" CT Services (Complete setup/crew)					
1	Coil Tubing Unit using Category 1 PCE Operating Charges	3	Days		
2	Coil Tubing Unit using Category 1 PCE Standby Charges	2	Days		
3	Coil Tubing Unit using Category 2 PCE Operating Charges	3	Days		
4	Coil Tubing Unit using Category 2 PCE Standby Charges	2	Days		
5	Coil Tubing Unit using Category 3 PCE Operating Charges	3	Days		
6	Coil Tubing Unit using Category 3 PCE Standby Charges	2	Days		
7	Coil Tubing Crew Operating Charges	3	Days		
8	Coil Tubing Crew Standby Charges	2	Days		
9	Coil Tubing Cumulative Depth Charges for Non-Corrosive Environment.	5,000	Meters		
10	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Operating Charges	3	Days		
11	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Standby Charges	2	Days		
12	Coil Tubing Unit Mob/Demob	1,300	KM		
13	Coil Tubing Crew Mob/Demob	1,300	KM		
Nitrogen and pumping services(Complete Setup/Crew)					
14	Nitrogen Pumping Equipment Operating Charges	3	Days		
15	Nitrogen Pumping Equipment Standby Charges	2	Days		
16	Nitrogen Pumping Crew Operating Charges	3	Days		
17	Nitrogen Pumping Crew Standby Charges	2	Days		
18	Liquid Nitrogen volume Pumping Charges	2,700	Gals		
19	Liquid Nitrogen Charges	3,000	Gals		
20	Liquid Nitrogen Supply Tanker Standby Charges	1	Days		
21	Pumping Crew Operating Charges	3	Days		
22	Pumping Crew Standby Charges	2	Days		
23	Volume Pumping Charges for Non-Corrosive Fluids using pumping equipment	1,000	Gals		
24	Pumping Equipment Standby Charges	2	Days		
25	Nitrogen Pumping Equipment Mob/Demob	1,300	KM		
26	Nitrogen Pumping Crew Mob/Demob	1,300	KM		
27	Pumping Equipment Mob/Demob	1,300	KM		
28	Pumping Crew Mob/Demob	1,300	KM		
29	Liquid Nitrogen Supply Tanker Mob/Demob	1,300	KM		
Crane Services inclusive of Operator					
30	40-50 ton Hydraulic Crane Operating Charges	3	Days		
31	40-50 ton Hydraulic Crane Standby Charges	2	Days		
32	Crane with operator Mob/De-mob	1,300	KM		
				Total/well (US$)	
				Total for Estimated 54 wells (US$)	

(B) STIMULATION(HCL SOLUTION) / NITROGEN KICK-OFF					
Sr.	**Services**	**Qty. (Q)**	**UOM (U)**	**Unit Cost (P)**	**Total Cost =P x Q**
				US$/ UOM	**US$**
1.5"/1.75"/2" CT Services (complete Setup/Crew)					
1	Coil Tubing Unit using Category 1 PCE Operating Charges	3	Days		
2	Coil Tubing Unit using Category 1 PCE Standby Charges	2	Days		
3	Coil Tubing Crew Operating Charges	3	Days		
4	Coil Tubing Crew Standby Charges	2	Days		
5	Coil Tubing Cumulative Depth Charges for Non-Corrosive Environment	5,000	Meters		
6	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Operating Charges	3	Days		
7	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Standby Charges	2	Days		
8	Coil Tubing Unit Mob/Demob	1,300	KM		
9	Coil Tubing Crew Mob/Demob	1,300	KM		
Nitrogen Services (Complete Setup/Crew)					
10	Nitrogen Pumping Equipment Operating Charges	3	Days		
11	Nitrogen Pumping Equipment Standby Charges	2	Days		
12	Nitrogen Pumping Crew Operating Charges	3	Days		
13	Nitrogen Pumping Crew Standby Charges	2	Days		
14	Liquid Nitrogen Pumping Volume Charges	2,700	Gal		
15	Liquid Nitrogen Charges	3,000	Gal		
16	Liquid Nitrogen Supply Tanker Standby Charges	1	Days		
17	Nitrogen Pumping Equipment Mob/Demob	1,300	KM		
18	Nitrogen Pumping Crew Mob/Demob	1,300	KM		
19	Liquid Nitrogen Supply Tanker Mob/Demob	1,300	KM		
Stimulation Services (Complete Setup/Crew)					
20	Stimulation Crew Operating Charges	3	Days		
21	Stimulation Crew Standby Charges	2	Days		
22	Stimulation Equipment Standby Charges	2	Days		
23	Volume Pumping Charges for Non-Corrosive Fluids using stimulation equipment	10,000	Gal		
24	Volume Pumping Charges for Corrosive/Abrasive Fluid using stimulation equipment	4,000	Gal		
25	500 BBL Tank Charges	5	Days		
26	Supply Truck for Acid Standby Charges	1	Days		
27	Trailer for Supply of Chemicals Standby Charges	1	Days		
28	Stimulation Equipment Mob/Demob	1,300	KM		
29	Stimulation Crew Mob/Demob	1,300	KM		
30	500 BBLS Tank Mob/Demob	1,300	KM		
31	Supply Truck for Acid Mob/Demob	1,300	KM		
32	Trailer for Supply of Chemicals Mob/Demob	1,300	KM		
Limestone Treatment					
33	Treating Solution: 15% HCl upto 250 ^{0}F c/w 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time	1,000	Gal		

34	Treating Solution: 15% HCl upto 350 ^{0}F c/w 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time	1,000	Gal		
35	Treating Solution: 15% HCl above 350 ^{0}F c/w 2,000 ppm iron control with chelating agent, 8 hrs. inhibition time	1,000	Gal		
36	Treating Solution: 7.5% HCl upto 250 ^{0}F c/w 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time	1,000	Gal		
37	Treating Solution: 7.5% HCl upto 350 ^{0}F c/w 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time	1,000	Gal		
38	Treating Solution: 7.5% HCl above 350 ^{0}F c/w 2,000 ppm iron control with chelating agent, 08 hrs. inhibition time	1,000	Gal		
39	Diverting Agent	100	Gal		
40	Gelling Agent	100	Gal		
41	Alcohol	500	Gal		
42	Mutual Solvent	200	Gal		
43	Ammonium Chloride	1,000	Lbs		
44	Potassium Chloride	1,000	Lbs		
45	Soda Ash	1,000	Lbs		
46	Caustic Soda	1,000	Lbs		
Crane Services Inclusive of Operator					
47	40-50 ton Hydraulic Crane Operating Charges	3	Days		
48	40-50 ton Hydraulic Crane Standby Charges	2	Days		
49	Crane with operator Mob/Demob	1,300	KM		
				Total/well (US$)	
				Total for Estimated 10 wells (US$)	

(C) SAND STONE STIMULATION (MUD ACID SOLUTION)/ KICK OFF					
Sr.	**Services**	**Qty. (Q)**	**UOM (U)**	**Unit Cost (P)**	**Total Cost =P x Q**
				US$/UOM	**US$**
1.5"/1.75"/2" CT Services (complete Setup/Crew)					
1	Coil Tubing Unit using Category 3 PCE Operating Charges	3	Days		
2	Coil Tubing Unit using Category 3 PCE Standby Charges	2	Days		
3	Coil Tubing Crew Operating Charges	3	Days		
4	Coil Tubing Crew Standby Charges	2	Days		
5	CT Cumulative Depth Charges for Corrosive Environment ($CO_2 \geq 5$ %, $H_2S \geq 10$ PPM)	5,000	Meters		
6	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Operating Charges	3	Days		
7	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Standby Charges	2	Days		
8	Coil Tubing Unit Mob/Demob	1,300	KM		
9	Coil Tubing Crew Mob/Demob	1,300	KM		
Nitrogen Services (Complete Set Up)					
10	Nitrogen Pumping Equipment Operating Charges	3	Days		
11	Nitrogen Pumping Equipment Standby Charges	2	Days		
12	Nitrogen Pumping Crew Operating Charges	3	Days		
13	Nitrogen Pumping Crew Standby Charges	2	Days		
14	Liquid Nitrogen Pumping Volume Charges	2,700	Gal		
15	Liquid Nitrogen Charges	3,000	Gal		

16	Liquid Nitrogen Supply Tanker Standby Charges	1	Days		
17	Nitrogen Pumping Equipment Mob/Demob	1,300	KM		
18	Nitrogen Pumping Crew Mob/Demob	1,300	KM		
19	Liquid Nitrogen Supply Tanker Mob/Demob	1,300	KM		
Stimulation Services (Complete setup)					
20	Stimulation Crew Operating Charges	3	Days		
21	Stimulation Crew Standby Charges	2	Days		
22	Stimulation Equipment Standby Charges	2	Days		
23	Volume Pumping Charges for Non-Corrosive Fluids using stimulation equipment	10,000	Gal		
24	Volume Pumping Charges for Corrosive/Abrasive Fluid using stimulation equipment	4,000	Gal		
25	500 BBL Tank Charges	5	Days		
26	Supply Truck for Acid Standby Charges	1	Days		
27	Trailer for Supply of Chemicals Standby Charges	1	Days		
28	Stimulation Equipment Mob/Demob	1,300	KM		
29	Stimulation Crew Mob/Demob	1,300	KM		
30	500 BBLS Tank, Mob/Demob	1,300	KM		
31	Supply Truck for Acid Mob/Demob	1,300	KM		
32	Trailer for Supply of Chemicals Mob/Demob	1,300	KM		
Sand Stone Treatment - 12% HCL & 3% HF Acid					
33	Regular Mud Acid upto 250 ^{0}F: (12% HCl + 3%HF) c/w 2,000ppm iron control with chelating agent, 12 hrs inhibition time	1,000	Gal		
34	Regular Mud Acid upto 350 ^{0}F: (12% HCl + 3%HF) c/w 2,000ppm iron control with chelating agent, 12 hrs inhibition time	1,000	Gal		
35	Regular Mud Acid above 350 ^{0}F: (12% HCl + 3%HF) c/w 2,000ppm iron control with chelating agent, 08 hrs. inhibition time	1,000	Gal		
36	Diverting Agent	100	Gal		
37	Ammonium Chloride	1,000	Lbs		
38	Potassium Chloride	1,000	Lbs		
39	Soda Ash	1,000	Lbs		
40	Caustic Soda	1,000	Lbs		
Crane Services Inclusive of Operator					
41	40-50 ton Hydraulic Crane Operating Charges	3	Days		
42	40-50 ton Hydraulic Crane Standby Charges	2	Days		
43	Crane with operator Mob/Demob	1,300	KM		
				Total/well (US$)	
				Total for Estimated 10 wells (US$)	

(D) SAND STONE STIMULATION (ORGANIC ACID SOLUTION)/ KICK OFF					
Sr.	**Services**	**Qty. (Q)**	**UOM (U)**	**Unit Cost (P)**	**Total Cost =P x Q**
				US$/UOM	**US$**
1.5"/1.75"/2" CT Services (complete Setup/Crew)					
1	Coil Tubing Unit using Category 2 PCE Operating Charges	3	Days		
2	Coil Tubing Unit using Category 2 PCE Standby Charges	2	Days		
3	Coil Tubing Crew Operating Charges	3	Days		
4	Coil Tubing Crew Standby Charges	2	Days		

5	CT Cumulative Depth Charges for Non Corrosive Environment	5,000	Meters		
6	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Operating Charges	3	Days		
7	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Standby Charges	2	Days		
8	Coil Tubing Unit Mob/Demob	1,300	KM		
9	Coil Tubing Crew Mob/Demob	1,300	KM		
Nitrogen Services (Complete Set Up)					
10	Nitrogen Pumping Equipment Operating Charges	3	Days		
11	Nitrogen Pumping Equipment Standby Charges	2	Days		
12	Nitrogen Pumping Crew Operating Charges	3	Days		
13	Nitrogen Pumping Crew Standby Charges	2	Days		
14	Liquid Nitrogen Pumping Volume Charges	2,700	Gal		
15	Liquid Nitrogen Charges	3,000	Gal		
16	Liquid Nitrogen Supply Tanker Standby Charges	1	Days		
17	Nitrogen Pumping Equipment Mob/Demob	1,300	KM		
18	Nitrogen Pumping Crew Mob/Demob	1,300	KM		
19	Liquid Nitrogen Supply Tanker Mob/Demob	1,300	KM		
Stimulation Services (Complete setup)					
20	Stimulation Crew Operating Charges	3	Days		
21	Stimulation Crew Standby Charges	2	Days		
22	Stimulation Equipment Standby Charges	2	Days		
23	Volume Pumping Charges for Non-Corrosive Fluids using stimulation equipment	10,000	Gal		
24	Volume Pumping Charges for Corrosive Fluid using stimulation equipment	4,000	Gal		
25	500 BBL Tank Charges	3	Days		
26	Supply Truck for Acid Standby Charges	1	Days		
27	Trailer for Supply of Chemicals Standby Charges	1	Days		
28	Stimulation Equipment Mob/Demob	1,300	KM		
29	Stimulation Crew Mob/Demob	1,300	KM		
30	500 BBL Tank, Mob/Demob	1,300	KM		
31	Supply Truck for Acid , Mob/Demob	1,300	KM		
32	Trailer for Supply of Chemicals , Mob/Demob	1,300	KM		
Sand Stone Treatment – Organic Acid Solution					
33	10% Acetic Acid complete with 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time Up to 250 ^{0}F	1,000	Gal		
34	10% Acetic Acid complete with 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time Up to 350 ^{0}F	1,000	Gal		
35	10% Acetic Acid complete with 2,000 ppm iron control with chelating agent, 8 hrs. inhibition time above 350 ^{0}F	1,000	Gal		
36	9% Formic Acid complete with 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time Up to 250 ^{0}F	1,000	Gal		
37	9% Formic Acid complete with 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time Up to 350 ^{0}F	1,000	Gal		
38	9% Formic Acid complete with 2,000 ppm iron control with chelating agent, 8 hrs. inhibition time above 350 ^{0}F	1,000	Gal		
39	Diverting Agent	100	Gal		

40	Mutual Solvent	500	Gal		
41	Ammonium Chloride	1,000	Lbs		
42	Potassium Chloride	1,000	Lbs		
43	Soda Ash	1,000	Lbs		
44	Caustic Soda	1,000	Lbs		
Crane Services Inclusive of Operator					
45	40-50 ton Hydraulic Crane Operating Charges	3	Days		
46	40-50 ton Hydraulic Crane Standby Charges	2	Days		
47	Crane with operator Mob/Demob	1,300	KM		
				Total/well (US$)	
				Total for Estimated 10 wells (US$)	

(E) WELL CLEAN OUT (XYLENE WASH) / NITROGEN KICK-OFF					
Sr.	**Services**	**Qty. (Q)**	**UOM (U)**	**Unit Cost (P)**	**Total Cost =P x Q**
				US$/UOM	**US$**
1.5"/1.75"/2" CT Services (complete Setup/Crew)					
1	Coil Tubing Unit using Category 1 PCE Operating Charges	3	Days		
2	Coil Tubing Unit using Category 1 PCE Standby Charges	2	Days		
3	Coil Tubing Crew Operating Charges	3	Days		
4	Coil Tubing Crew Standby Charges	2	Days		
5	Coil Tubing Cumulative Depth Charges for Non corrosive Environment	5,000	Meters		
6	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Operating Charges	3	Days		
7	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Standby Charges	2	Days		
8	Coil Tubing Unit Mob/Demob	1,300	KM		
9	Coil Tubing Crew Mob/Demob	1,300	KM		
Nitrogen Services (Complete Set Up)					
10	Nitrogen Pumping Equipment Operating Charges	3	Days		
11	Nitrogen Pumping Equipment Standby Charges	2	Days		
12	Nitrogen Pumping Crew Operating Charges	3	Days		
13	Nitrogen Pumping Crew Standby Charges	2	Days		
14	Liquid Nitrogen Pumping Volume Charges	2,700	Gal		
15	Liquid Nitrogen Charges	3,000	Gal		
16	Liquid Nitrogen Supply Tanker Standby Charges	2	Days		
17	Nitrogen Pumping Equipment Mob/Demob	1,300	KM		
18	Nitrogen Pumping Crew Mob/Demob	1,300	KM		
19	Liquid Nitrogen Supply Tanker Mob/Demob	1,300	KM		
Stimulation Services (Complete setup)					
20	Stimulation Crew Operating Charges	3	Days		
21	Stimulation Crew Standby Charges	2	Days		
22	Stimulation Equipment Standby Charges	2	Days		
23	Volume Pumping Charges for Non-Corrosive Fluids using stimulation equipment	1,000	Gal		
24	250-300 BBL Tank Charges	5	Days		
25	Trailer for Supply of Chemicals Standby Charges	1	Days		
26	Stimulation Equipment Mob/Demob	1,300	KM		

27	Stimulation Crew Mob/Demob	1,300	KM		
28	250-300 BBL Tank Mob/Demob	1,300	KM		
29	Trailer for Supply of Chemicals Mob/Demob	1,300	KM		
Xylene wash chemicals					
30	Corrosion Inhibitor up to 250 ^{0}F	20	Gal		
31	Xylene	400	Gal		
Crane Services Inclusive of Operator					
32	40-50 ton Hydraulic Crane Operating Charges	3	Days		
33	40-50 ton Hydraulic Crane Standby Charges	2	Days		
34	Crane with operator Mob/Demob	1,300	KM		
				Total/well (US$)	
				Total for Estimated 10 wells (US$)	

(F) SAND PLUG/ ZONAL ISOLATION

Sr.	Services	Qty. (Q)	UOM (U)	Unit Cost (P)	Total Cost =P x Q
				US$/UOM	US$
1.5"/1.75"/2" CT Services (complete Setup/Crew)					
1	Coil Tubing Unit using Category 1 PCE Operating Charges	3	Days		
2	Coil Tubing Unit using Category 1 PCE Standby Charges	2	Days		
3	Coil Tubing Crew Operating Charges	3	Days		
4	Coil Tubing Crew Standby Charges	2	Days		
5	Coil Tubing Cumulative Depth Charges for Corrosive Environment ($CO_2 \geq 5$ %, $H_2S \geq 10$ PPM)	5,000	Meters		
6	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Operating Charges	3	Days		
7	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Standby Charges	2	Days		
8	Coil Tubing Unit Mob/Demob	1,300	KM		
9	Coil Tubing Crew Mob/Demob	1,300	KM		
Stimulation Services (Complete setup)					
10	Stimulation Crew Operating Charges	3	Days		
11	Stimulation Crew Standby Charges	2	Days		
12	Stimulation Equipment Standby Charges	2	Days		
13	Volume Pumping Charges for Non-Corrosive Fluids using stimulation equipment	10,000	Gal		
14	Volume Pumping Charges for Corrosive/Abrasive Fluids using stimulation equipment	4,000	Gal		
15	500 BBL Tank Charges	5	Days		
16	Trailer for Supply of Chemicals Standby Charges	1	Days		
17	Stimulation Equipment Mob/Demob	1,300	KM		
18	Stimulation Crew Mob/Demob	1,300	KM		
19	500 BBL Tank Mob/Demob	1,300	KM		
20	Trailer for Supply of Chemicals Mob/Demob	1,300	KM		
Sand Plug Chemicals					
21	Potassium Chloride	1,000	Lbs		
22	Ammonium Chloride	1,000	Lbs		
23	Silica Sand	1,000	Lbs		
24	Mesh Sand (30/60)	1,000	Lbs		

25	Mesh Sand (20/40)	1,000	Lbs		
Crane Services Inclusive of Operator					
26	40-50 ton Hydraulic Crane Operating Charges	3	Days		
27	40-50 ton Hydraulic Crane Standby Charges	2	Days		
28	Crane with operator Mob/Demob	1,300	KM		
				Total/well (US$)	
				Total for Estimated 03 wells (US$)	

(G) THRU TUBING CT SERVICES					
Sr.	**Services**	**Qty. (Q)**	**UOM (U)**	**Unit Cost (P)**	**Total Cost =P x Q**
				US$/UOM	**US$**
1.5"/1.75"/2" CT Services (complete Setup/Crew)					
1	Coil Tubing Unit using Category 2 PCE Operating Charges	3	Days		
2	Coil Tubing Unit using Category 2 PCE Standby Charges	2	Days		
3	Coil Tubing Crew Operating Charges	3	Days		
4	Coil Tubing Crew Standby Charges	2	Days		
5	Coil Tubing Cumulative Depth Charges for Non Corrosive Environment	5,000	Meters		
6	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA , Nozzle Various Types, Weight Bars, Riser, etc. including High Pressure Jetting / Rotating Tool) Operating Charges	3	Days		
7	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA , Nozzle Various Types, Weight Bars, Riser, etc. including High Pressure Jetting / Rotating Tool) Standby Charges	2	Days		
8	Coil Tubing Unit Mob/Demob	1,300	KM		
9	Coil Tubing Crew Mob/Demob	1,300	KM		
Thru Tubing Services With Back Up Tools					
10	Internal Dimple Connector - Operating	2	Days		
11	Internal Dimple Connector - Stand by	1	Days		
12	External Dimple Connector - Operating	2	Days		
13	External Dimple Connector - Stand by	1	Days		
14	Upto 2-1/8” Size Down hole filter - Operating	2	Days		
15	Upto 2-1/8” Size Down hole filter -Stand By	1	Days		
16	Upto 2-1/8” Size Thru Tubing Motor - Operating	2	Days		
17	Upto 2-1/8” Size Thru Tubing Motor - Stand By	1	Days		
18	Upto 2-1/8” Size Thru Tubing weight bar - Operating	2	Days		
19	Upto 2-1/8” Thru Tubing weight bar - Standby	1	Days		
20	Upto 2-1/8” Flat Bottom Mill - Operating	2	Days		
21	Upto 2-1/8” Flat Bottom Mill - Stand By	1	Days		
22	Upto 2-1/8” Tapered Mill -Operating	2	Days		
23	Upto 2-1/8” Tapered Mill - Stand By	1	Days		
24	Upto 2-1/8” Junk Mill - Operating	2	Days		
25	Upto 2-1/8” Junk Mill - Stand By	1	Days		
26	Upto 2-1/8” Impact Hammer - Operating	2	Days		
27	Upto 2-1/8” Impact Hammer – Standby	1	Days		
28	Upto 2-1/8” Accelerator – Operating	2	Days		
29	Upto 2-1/8” Accelerator - Stand by	1	Days		
30	Centralizer - Operating	2	Days		

31	Centralizer - Stand by	1	Days		
32	Pull test sub - Operating	2	Days		
33	Pull test sub - Stand by	1	Days		
34	Surface filter - Operating	2	Days		
35	Surface filter - Standby	1	Days		
36	Debris Filter charges	10	Nos.		
37	Thru Tubing Screen Filter Charges	20	Nos.		
38	Thru Tubing Crew - Operating	3	Days		
39	Thru Tubing Crew - Standby	2	Days		
40	Thru Tubing Tools Mob/Demob	1,300	KM		
41	Thru Tubing crew Mob/Demob	1,300	KM		
Stimulation Services (Complete setup)					
42	Stimulation Crew Operating Charges	3	Days		
43	Stimulation Crew Standby Charges	2	Days		
44	Stimulation Equipment Standby Charges	2	Days		
45	Volume Pumping Charges for Non-Corrosive Fluids using stimulation equipment	10,000	Gal		
46	500 BBL Tank Charges	5	Days		
47	Trailer for Supply of Chemicals Standby Charges	1	Days		
48	Stimulation Equipment Mob/Demob	1,300	KM		
49	Stimulation Crew Mob/Demob	1,300	KM		
50	500 BBL Tank Mob/Demob	1,300	KM		
51	Trailer for Supply of Chemicals Mob/Demob	1,300	KM		
Clean Out Non- Damaging Fluid					
52	Potassium Chloride	1,000	Lbs		
53	Ammonium Chloride	1,000	Lbs		
54	Non-Damaging Clean Out Fluid (Gel)	1,000	Gal		
55	Mutual Solvent	1,000	Gal		
56	Alcohol	1,000	Gal		
Crane Services Inclusive of Operator					
57	40-50 ton Hydraulic Crane Operating Charges	3	Days		
58	40-50 ton Hydraulic Crane Standby Charges	2	Days		
59	Crane with operator Mob/Demob	1,300	KM		
				Total/well (US$)	
				Total for Estimated 03 wells (US$)	

TABLE TOTALIZER GROUP "A"		
Table No.	**Description**	**Value (US$)**
Table A	NITROGEN KICK-OFF	
Table B	STIMULATION(HCL SOLUTION) / NITROGEN KICK-OFF	
Table C	SAND STONE STIMULATION (MUD ACID SOLUTION)/ KICK OFF	
Table D	SAND STONE STIMULATION (ORGANIC ACID SOLUTION)/ KICK OFF	
Table E	WELL CLEAN OUT (XYLENE WASH) / NITROGEN KICK-OFF	
Table F	SAND PLUG/ ZONAL ISOLATION	
Table G	THRU TUBING CT SERVICES	
	GRAND TOTAL OF GROUP A (ESTIMATED 100 WELLS)	

FINANCIAL EVALUATION MODEL
GROUP "B" (SINDH & BALUCHISTAN)

(A) NITROGEN KICK-OFF					
Sr.	**Services**	**Qty. (Q)**	**UOM (U)**	**Unit Cost (P)**	**Total Cost =P x Q**
				US$/ UOM	**US$**
1.5" /1.75" /2" CT Services (Complete setup/crew)					
1	Coil Tubing Unit using Category 1 PCE Operating Charges	3	Days		
2	Coil Tubing Unit using Category 1 PCE Standby Charges	2	Days		
3	Coil Tubing Unit using Category 2 PCE Operating Charges	3	Days		
4	Coil Tubing Unit using Category 2 PCE Standby Charges	2	Days		
5	Coil Tubing Unit using Category 3 PCE Operating Charges	3	Days		
6	Coil Tubing Unit using Category 3 PCE Standby Charges	2	Days		
7	Coil Tubing Crew Operating Charges	3	Days		
8	Coil Tubing Crew Standby Charges	2	Days		
9	Coil Tubing Cumulative Depth Charges for Non-Corrosive Environment.	5,000	Meters		
10	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Operating Charges	3	Days		
11	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Standby Charges	2	Days		
12	Coil Tubing Unit Mob/Demob	1,300	KM		
13	Coil Tubing Crew Mob/Demob	1,300	KM		
Nitrogen and pumping services(Complete Setup/Crew)					
14	Nitrogen Pumping Equipment Operating Charges	3	Days		
15	Nitrogen Pumping Equipment Standby Charges	2	Days		
16	Nitrogen Pumping Crew Operating Charges	3	Days		
17	Nitrogen Pumping Crew Standby Charges	2	Days		
18	Liquid Nitrogen volume Pumping Charges	2,700	Gals		
19	Liquid Nitrogen Charges	3,000	Gals		
20	Liquid Nitrogen Supply Tanker Standby Charges	1	Days		
21	Pumping Crew Operating Charges	3	Days		
22	Pumping Crew Standby Charges	2	Days		
23	Volume Pumping Charges for Non-Corrosive Fluids using pumping equipment	1,000	Gals		
24	Pumping Equipment Standby Charges	2	Days		
25	Nitrogen Pumping Equipment Mob/Demob	1,300	KM		
26	Nitrogen Pumping Crew Mob/Demob	1,300	KM		
27	Pumping Equipment Mob/Demob	1,300	KM		
28	Pumping Crew Mob/Demob	1,300	KM		
29	Liquid Nitrogen Supply Tanker Mob/Demob	1,300	KM		
Crane Services inclusive of Operator					
30	40-50 ton Hydraulic Crane Operating Charges	3	Days		
31	40-50 ton Hydraulic Crane Standby Charges	2	Days		
32	Crane with operator Mob/De-mob	1,300	KM		
				Total/well (US$)	
				Total for Estimated 54 wells (US$)	

(B) STIMULATION(HCL SOLUTION) / NITROGEN KICK-OFF					
Sr.	**Services**	**Qty. (Q)**	**UOM (U)**	**Unit Cost (P)**	**Total Cost =P x Q**
				US$/ UOM	**US$**
1.5"/1.75"/2" CT Services (complete Setup/Crew)					
1	Coil Tubing Unit using Category 1 PCE Operating Charges	3	Days		
2	Coil Tubing Unit using Category 1 PCE Standby Charges	2	Days		
3	Coil Tubing Crew Operating Charges	3	Days		
4	Coil Tubing Crew Standby Charges	2	Days		
5	Coil Tubing Cumulative Depth Charges for Non-Corrosive Environment	5,000	Meters		
6	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Operating Charges	3	Days		
7	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Standby Charges	2	Days		
8	Coil Tubing Unit Mob/Demob	1,300	KM		
9	Coil Tubing Crew Mob/Demob	1,300	KM		
Nitrogen Services (Complete Setup/Crew)					
10	Nitrogen Pumping Equipment Operating Charges	3	Days		
11	Nitrogen Pumping Equipment Standby Charges	2	Days		
12	Nitrogen Pumping Crew Operating Charges	3	Days		
13	Nitrogen Pumping Crew Standby Charges	2	Days		
14	Liquid Nitrogen Pumping Volume Charges	2,700	Gal		
15	Liquid Nitrogen Charges	3,000	Gal		
16	Liquid Nitrogen Supply Tanker Standby Charges	1	Days		
17	Nitrogen Pumping Equipment Mob/Demob	1,300	KM		
18	Nitrogen Pumping Crew Mob/Demob	1,300	KM		
19	Liquid Nitrogen Supply Tanker Mob/Demob	1,300	KM		
Stimulation Services (Complete Setup/Crew)					
20	Stimulation Crew Operating Charges	3	Days		
21	Stimulation Crew Standby Charges	2	Days		
22	Stimulation Equipment Standby Charges	2	Days		
23	Volume Pumping Charges for Non-Corrosive Fluids using stimulation equipment	10,000	Gal		
24	Volume Pumping Charges for Corrosive Fluid using stimulation equipment	4,000	Gal		
25	500 BBL Tank Charges	5	Days		
26	Supply Truck for Acid Standby Charges	1	Days		
27	Trailer for Supply of Chemicals Standby Charges	1	Days		
28	Stimulation Equipment Mob/Demob	1,300	KM		
29	Stimulation Crew Mob/Demob	1,300	KM		
30	500 BBLS Tank Mob/Demob	1,300	KM		
31	Supply Truck for Acid Mob/Demob	1,300	KM		
32	Trailer for Supply of Chemicals Mob/Demob	1,300	KM		
Limestone Treatment					
33	Treating Solution: 15% HCl upto 250 ^{0}F c/w 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time	1,000	Gal		

34	Treating Solution: 15% HCl upto 350 ^{0}F c/w 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time	1,000	Gal		
35	Treating Solution: 15% HCl above 350 ^{0}F c/w 2,000 ppm iron control with chelating agent, 8 hrs. inhibition time	1,000	Gal		
36	Treating Solution: 7.5% HCl upto 250 ^{0}F c/w 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time	1,000	Gal		
37	Treating Solution: 7.5% HCl upto 350 ^{0}F c/w 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time	1,000	Gal		
38	Treating Solution: 7.5% HCl above 350 ^{0}F c/w 2,000 ppm iron control with chelating agent, 08 hrs. inhibition time	1,000	Gal		
39	Diverting Agent	100	Gal		
40	Gelling Agent	100	Gal		
41	Alcohol	500	Gal		
42	Mutual Solvent	200	Gal		
43	Ammonium Chloride	1,000	Lbs		
44	Potassium Chloride	1,000	Lbs		
45	Soda Ash	1,000	Lbs		
46	Caustic Soda	1,000	Lbs		
Crane Services Inclusive of Operator					
47	40-50 ton Hydraulic Crane Operating Charges	3	Days		
48	40-50 ton Hydraulic Crane Standby Charges	2	Days		
49	Crane with operator Mob/Demob	1,300	KM		
				Total/well (US$)	
				Total for Estimated 10 wells (US$)	

(C) SAND STONE STIMULATION (MUD ACID SOLUTION)/ KICK OFF					
Sr.	**Services**	**Qty. (Q)**	**UOM (U)**	**Unit Cost (P)**	**Total Cost =P x Q**
				US$/UOM	**US$**
1.5"/1.75"/2" CT Services (complete Setup/Crew)					
1	Coil Tubing Unit using Category 3 PCE Operating Charges	3	Days		
2	Coil Tubing Unit using Category 3 PCE Standby Charges	2	Days		
3	Coil Tubing Crew Operating Charges	3	Days		
4	Coil Tubing Crew Standby Charges	2	Days		
5	CT Cumulative Depth Charges for Corrosive Environment (CO2 ≥ 5 %, H2S ≥ 10 PPM)	5,000	Meters		
6	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Operating Charges	3	Days		
7	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Standby Charges	2	Days		
8	Coil Tubing Unit Mob/Demob	1,300	KM		
9	Coil Tubing Crew Mob/Demob	1,300	KM		
Nitrogen Services (Complete Set Up)					
10	Nitrogen Pumping Equipment Operating Charges	3	Days		
11	Nitrogen Pumping Equipment Standby Charges	2	Days		
12	Nitrogen Pumping Crew Operating Charges	3	Days		
13	Nitrogen Pumping Crew Standby Charges	2	Days		
14	Liquid Nitrogen Pumping Volume Charges	2,700	Gal		
15	Liquid Nitrogen Charges	3,000	Gal		

16	Liquid Nitrogen Supply Tanker Standby Charges	1	Days		
17	Nitrogen Pumping Equipment Mob/Demob	1,300	KM		
18	Nitrogen Pumping Crew Mob/Demob	1,300	KM		
19	Liquid Nitrogen Supply Tanker Mob/Demob	1,300	KM		
Stimulation Services (Complete setup)					
20	Stimulation Crew Operating Charges	3	Days		
21	Stimulation Crew Standby Charges	2	Days		
22	Stimulation Equipment Standby Charges	2	Days		
23	Volume Pumping Charges for Non-Corrosive Fluids using stimulation equipment	10,000	Gal		
24	Volume Pumping Charges for Corrosive/Abrasive Fluid using stimulation equipment	4,000	Gal		
25	500 BBL Tank Charges	5	Days		
26	Supply Truck for Acid Standby Charges	1	Days		
27	Trailer for Supply of Chemicals Standby Charges	1	Days		
28	Stimulation Equipment Mob/Demob	1,300	KM		
29	Stimulation Crew Mob/Demob	1,300	KM		
30	500 BBLS Tank, Mob/Demob	1,300	KM		
31	Supply Truck for Acid Mob/Demob	1,300	KM		
32	Trailer for Supply of Chemicals Mob/Demob	1,300	KM		
Sand Stone Treatment - 12% HCL & 3% HF Acid					
33	Regular Mud Acid upto 250 ^{0}F: (12% HCl + 3%HF) c/w 2,000ppm iron control with chelating agent, 12 hrs inhibition time	1,000	Gal		
34	Regular Mud Acid upto 350 ^{0}F: (12% HCl + 3%HF) c/w 2,000ppm iron control with chelating agent, 12 hrs inhibition time	1,000	Gal		
35	Regular Mud Acid above 350 ^{0}F: (12% HCl + 3%HF) c/w 2,000ppm iron control with chelating agent, 08 hrs. inhibition time	1,000	Gal		
36	Diverting Agent	100	Gal		
37	Ammonium Chloride	1,000	Lbs		
38	Potassium Chloride	1,000	Lbs		
39	Soda Ash	1,000	Lbs		
40	Caustic Soda	1,000	Lbs		
Crane Services Inclusive of Operator					
41	40-50 ton Hydraulic Crane Operating Charges	3	Days		
42	40-50 ton Hydraulic Crane Standby Charges	2	Days		
43	Crane with operator Mob/Demob	1,300	KM		
				Total/well (US$)	
				Total for Estimated 10 wells (US$)	

(D) SAND STONE STIMULATION (ORGANIC ACID SOLUTION)/ KICK OFF					
Sr.	**Services**	**Qty. (Q)**	**UOM (U)**	**Unit Cost (P)**	**Total Cost =P x Q**
				US$/UOM	**US$**
1.5"/1.75"/2" CT Services (complete Setup/Crew)					
1	Coil Tubing Unit using Category 2 PCE Operating Charges	3	Days		
2	Coil Tubing Unit using Category 2 PCE Standby Charges	2	Days		
3	Coil Tubing Crew Operating Charges	3	Days		
4	Coil Tubing Crew Standby Charges	2	Days		

5	CT Cumulative Depth Charges Non Corrosive Environment	5,000	Meters		
6	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Operating Charges	3	Days		
7	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Standby Charges	2	Days		
8	Coil Tubing Unit Mob/Demob	1,300	KM		
9	Coil Tubing Crew Mob/Demob	1,300	KM		
Nitrogen Services (Complete Set Up)					
10	Nitrogen Pumping Equipment Operating Charges	3	Days		
11	Nitrogen Pumping Equipment Standby Charges	2	Days		
12	Nitrogen Pumping Crew Operating Charges	3	Days		
13	Nitrogen Pumping Crew Standby Charges	2	Days		
14	Liquid Nitrogen Pumping Volume Charges	2,700	Gal		
15	Liquid Nitrogen Charges	3,000	Gal		
16	Liquid Nitrogen Supply Tanker Standby Charges	1	Days		
17	Nitrogen Pumping Equipment Mob/Demob	1,300	KM		
18	Nitrogen Pumping Crew Mob/Demob	1,300	KM		
19	Liquid Nitrogen Supply Tanker Mob/Demob	1,300	KM		
Stimulation Services (Complete setup)					
20	Stimulation Crew Operating Charges	3	Days		
21	Stimulation Crew Standby Charges	2	Days		
22	Stimulation Equipment Standby Charges	2	Days		
23	Volume Pumping Charges for Non-Corrosive Fluids using stimulation equipment	10,000	Gal		
24	Volume Pumping Charges for Corrosive Fluid using stimulation equipment	4,000	Gal		
25	500 BBL Tank Charges	3	Days		
26	Supply Truck for Acid Standby Charges	1	Days		
27	Trailer for Supply of Chemicals Standby Charges	1	Days		
28	Stimulation Equipment Mob/Demob	1,300	KM		
29	Stimulation Crew Mob/Demob	1,300	KM		
30	500 BBL Tank, Mob/Demob	1,300	KM		
31	Supply Truck for Acid , Mob/Demob	1,300	KM		
32	Trailer for Supply of Chemicals , Mob/Demob	1,300	KM		
Sand Stone Treatment – Organic Acid Solution					
33	10% Acetic Acid complete with 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time Up to 250 ^{0}F	1,000	Gal		
34	10% Acetic Acid complete with 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time Up to 350 ^{0}F	1,000	Gal		
35	10% Acetic Acid complete with 2,000 ppm iron control with chelating agent, 8 hrs. inhibition time above 350 ^{0}F	1,000	Gal		
36	9% Formic Acid complete with 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time Up to 250 ^{0}F	1,000	Gal		
37	9% Formic Acid complete with 2,000 ppm iron control with chelating agent, 12 hrs. inhibition time Up to 350 ^{0}F	1,000	Gal		
38	9% Formic Acid complete with 2,000 ppm iron control with chelating agent, 8 hrs. inhibition time above 350 ^{0}F	1,000	Gal		
39	Diverting Agent	100	Gal		
40	Mutual Solvent	500	Gal		

41	Ammonium Chloride	1,000	Lbs		
42	Potassium Chloride	1,000	Lbs		
43	Soda Ash	1,000	Lbs		
44	Caustic Soda	1,000	Lbs		
Crane Services Inclusive of Operator					
45	40-50 ton Hydraulic Crane Operating Charges	3	Days		
46	40-50 ton Hydraulic Crane Standby Charges	2	Days		
47	Crane with operator Mob/Demob	1,300	KM		
				Total/well (US$)	
				Total for Estimated 10 wells (US$)	

(E) WELL CLEAN OUT (XYLENE WASH) / NITROGEN KICK-OFF					
Sr.	**Services**	**Qty. (Q)**	**UOM (U)**	**Unit Cost (P)**	**Total Cost =P x Q**
				US$/UOM	**US$**
1.5"/1.75"/2" CT Services (complete Setup/Crew)					
1	Coil Tubing Unit using Category 1 PCE Operating Charges	3	Days		
2	Coil Tubing Unit using Category 1 PCE Standby Charges	2	Days		
3	Coil Tubing Crew Operating Charges	3	Days		
4	Coil Tubing Crew Standby Charges	2	Days		
5	Coil Tubing Cumulative Depth Charges for Non corrosive Environment	5,000	Meters		
6	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Operating Charges	3	Days		
7	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Standby Charges	2	Days		
8	Coil Tubing Unit Mob/Demob	1,300	KM		
9	Coil Tubing Crew Mob/Demob	1,300	KM		
Nitrogen Services (Complete Set Up)					
10	Nitrogen Pumping Equipment Operating Charges	3	Days		
11	Nitrogen Pumping Equipment Standby Charges	2	Days		
12	Nitrogen Pumping Crew Operating Charges	3	Days		
13	Nitrogen Pumping Crew Standby Charges	2	Days		
14	Liquid Nitrogen Pumping Volume Charges	2,700	Gal		
15	Liquid Nitrogen Charges	3,000	Gal		
16	Liquid Nitrogen Supply Tanker Standby Charges	2	Days		
17	Nitrogen Pumping Equipment Mob/Demob	1,300	KM		
18	Nitrogen Pumping Crew Mob/Demob	1,300	KM		
19	Liquid Nitrogen Supply Tanker Mob/Demob	1,300	KM		
Stimulation Services (Complete setup)					
20	Stimulation Crew Operating Charges	3	Days		
21	Stimulation Crew Standby Charges	2	Days		
22	Stimulation Equipment Standby Charges	2	Days		
23	Volume Pumping Charges for Non-Corrosive Fluids using stimulation equipment	1,000	Gal		
24	250-300 BBL Tank Charges	5	Days		
25	Trailer for Supply of Chemicals Standby Charges	1	Days		
26	Stimulation Equipment Mob/Demob	1,300	KM		
27	Stimulation Crew Mob/Demob	1,300	KM		

28	250-300 BBL Tank Mob/Demob	1,300	KM		
29	Trailer for Supply of Chemicals Mob/Demob	1,300	KM		
Xylene wash chemicals					
30	Corrosion Inhibitor up to 250 ^{0}F	20	Gal		
31	Xylene	400	Gal		
Crane Services Inclusive of Operator					
32	40-50 ton Hydraulic Crane Operating Charges	3	Days		
33	40-50 ton Hydraulic Crane Standby Charges	2	Days		
34	Crane with operator Mob/Demob	1,300	KM		
			Total/well (US$)		
			Total for Estimated 10 wells (US$)		

(F) SAND PLUG/ ZONAL ISOLATION

Sr.	Services	Qty. (Q)	UOM (U)	Unit Cost (P)	Total Cost =P x Q
				US$/UOM	US$
1.5"/1.75"/2" CT Services (complete Setup/Crew)					
1	Coil Tubing Unit using Category 1 PCE Operating Charges	3	Days		
2	Coil Tubing Unit using Category 1 PCE Standby Charges	2	Days		
3	Coil Tubing Crew Operating Charges	3	Days		
4	Coil Tubing Crew Standby Charges	2	Days		
5	Coil Tubing Cumulative Depth Charges for Corrosive Environment (CO2 ≥ 5 %, H2S ≥ 10 PPM)	5,000	Meters		
6	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Operating Charges	3	Days		
7	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA, Nozzle Various Types, Weight Bars, Riser, etc.) Standby Charges	2	Days		
8	Coil Tubing Unit Mob/Demob	1,300	KM		
9	Coil Tubing Crew Mob/Demob	1,300	KM		
Stimulation Services (Complete setup)					
10	Stimulation Crew Operating Charges	3	Days		
11	Stimulation Crew Standby Charges	2	Days		
12	Stimulation Equipment Standby Charges	2	Days		
13	Volume Pumping Charges for Non-Corrosive Fluids using stimulation equipment	10,000	Gal		
14	Volume Pumping Charges for Corrosive/Abrasive Fluids using stimulation equipment	4,000	Gal		
15	500 BBL Tank Charges	5	Days		
16	Trailer for Supply of Chemicals Standby Charges	1	Days		
17	Stimulation Equipment Mob/Demob	1,300	KM		
18	Stimulation Crew Mob/Demob	1,300	KM		
19	500 BBL Tank Mob/Demob	1,300	KM		
20	Trailer for Supply of Chemicals Mob/Demob	1,300	KM		
Sand Plug Chemicals					
21	Potassium Chloride	1,000	Lbs		
22	Ammonium Chloride	1,000	Lbs		
23	Silica Sand	1,000	Lbs		
24	Mesh Sand (30/60)	1,000	Lbs		
25	Mesh Sand (20/40)	1,000	Lbs		

Crane Services Inclusive of Operator					
26	40-50 ton Hydraulic Crane Operating Charges	3	Days		
27	40-50 ton Hydraulic Crane Standby Charges	2	Days		
28	Crane with operator Mob/Demob	1,300	KM		
				Total/well (US$)	
				Total for Estimated 03 wells (US$)	

(G) THRU TUBING CT SERVICES					
Sr.	**Services**	**Qty. (Q)**	**UOM (U)**	**Unit Cost (P)**	**Total Cost =P x Q**
				US$/UOM	**US$**
1.5"/1.75"/2" CT Services (complete Setup/Crew)					
1	Coil Tubing Unit using Category 2 PCE Operating Charges	3	Days		
2	Coil Tubing Unit using Category 2 PCE Standby Charges	2	Days		
3	Coil Tubing Crew Operating Charges	3	Days		
4	Coil Tubing Crew Standby Charges	2	Days		
5	Coil Tubing Cumulative Depth Charges for Non Corrosive Environment	5,000	Meters		
6	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA , Nozzle Various Types, Weight Bars, Riser, etc. including High Pressure Jetting / Rotating Tool) Operating Charges	3	Days		
7	BHA (Connector, DFCV, Hydraulic Disconnect, knuckle joint, Circulating Sub, MHA , Nozzle Various Types, Weight Bars, Riser, etc. including High Pressure Jetting / Rotating Tool) Standby Charges	2	Days		
8	Coil Tubing Unit Mob/Demob	13,00	KM		
9	Coil Tubing Crew Mob/Demob	13,00	KM		
Thru Tubing Services With Back Up Tools					
10	Internal Dimple Connector - Operating	2	Days		
11	Internal Dimple Connector - Stand by	1	Days		
12	External Dimple Connector - Operating	2	Days		
13	External Dimple Connector - Stand by	1	Days		
14	Upto 2-1/8” Size Down hole filter - Operating	2	Days		
15	Upto 2-1/8” Size Down hole filter -Stand By	1	Days		
16	Upto 2-1/8” Size Thru Tubing Motor - Operating	2	Days		
17	Upto 2-1/8” Size Thru Tubing Motor - Stand By	1	Days		
18	Upto 2-1/8” Size Thru Tubing weight bar - Operating	2	Days		
19	Upto 2-1/8” Thru Tubing weight bar - Standby	1	Days		
20	Upto 2-1/8” Flat Bottom Mill - Operating	2	Days		
21	Upto 2-1/8” Flat Bottom Mill - Stand By	1	Days		
22	Upto 2-1/8” Tapered Mill -Operating	2	Days		
23	Upto 2-1/8” Tapered Mill - Stand By	1	Days		
24	Upto 2-1/8” Junk Mill - Operating	2	Days		
25	Upto 2-1/8” Junk Mill - Stand By	1	Days		
26	Upto 2-1/8” Impact Hammer - Operating	2	Days		
27	Upto 2-1/8” Impact Hammer – Standby	1	Days		
28	Upto 2-1/8” Accelerator – Operating	2	Days		
29	Upto 2-1/8” Accelerator - Stand by	1	Days		
30	Centralizer - Operating	2	Days		
31	Centralizer - Stand by	1	Days		

32	Pull test sub - Operating	2	Days		
33	Pull test sub - Stand by	1	Days		
34	Surface filter - Operating	2	Days		
35	Surface filter - Standby	1	Days		
36	Debris Filter charges	10	Nos.		
37	Thru Tubing Screen Filter Charges	20	Nos.		
38	Thru Tubing Crew - Operating	3	Days		
39	Thru Tubing Crew - Standby	2	Days		
40	Thru Tubing Tools Mob/Demob	1,300	KM		
41	Thru Tubing crew Mob/Demob	1,300	KM		
Stimulation Services (Complete setup)					
42	Stimulation Crew Operating Charges	3	Days		
43	Stimulation Crew Standby Charges	2	Days		
44	Stimulation Equipment Standby Charges	2	Days		
45	Volume Pumping Charges for Non-Corrosive Fluids using stimulation equipment	10,000	Gal		
46	500 BBL Tank Charges	5	Days		
47	Trailer for Supply of Chemicals Standby Charges	1	Days		
48	Stimulation Equipment Mob/Demob	1,300	KM		
49	Stimulation Crew Mob/Demob	1,300	KM		
50	500 BBL Tank Mob/Demob	1,300	KM		
51	Trailer for Supply of Chemicals Mob/Demob	1,300	KM		
Clean Out Non- Damaging Fluid					
52	Potassium Chloride	1,000	Lbs		
53	Ammonium Chloride	1,000	Lbs		
54	Non-Damaging Clean Out Fluid (Gel)	1,000	Gal		
55	Mutual Solvent	1,000	Gal		
56	Alcohol	1,000	Gal		
Crane Services Inclusive of Operator					
57	40-50 ton Hydraulic Crane Operating Charges	3	Days		
58	40-50 ton Hydraulic Crane Standby Charges	2	Days		
59	Crane with operator Mob/Demob	1,300	KM		
				Total/well (US$)	
				Total for Estimated 03 wells (US$)	

TABLE TOTALIZER GROUP "B"		
Table No.	**Description**	**Value (US$)**
Table A	NITROGEN KICK-OFF	
Table B	STIMULATION(HCL SOLUTION) / NITROGEN KICK-OFF	
Table C	SAND STONE STIMULATION (MUD ACID SOLUTION)/ KICK OFF	
Table D	SAND STONE STIMULATION (ORGANIC ACID SOLUTION)/ KICK OFF	
Table E	WELL CLEAN OUT (XYLENE WASH) / NITROGEN KICK-OFF	
Table F	SAND PLUG/ ZONAL ISOLATION	
Table G	THRU TUBING CT SERVICES	
	GRAND TOTAL OF GROUP B (ESTIMATED 100 WELLS)	

FINANCIAL EVALUATION MODEL
GROUP "C" (ALL OVER PAKISTAN)

(A) SMART /E-COIL SERVICES					
Sr	**Services**	**Qty. (Q)**	**UOM (U)**	**Unit Cost (P)**	**Total Cost =P x Q**
				US$/UOM	**US$**
1.5"/1.75"/2" CT Services (for all Categories PCE) along with Smart/E-coil Reel					
1	Coil tubing unit with Smart/E-Coil cable and logging Head Operating	2	day		
2	Coil tubing unit with Smart/E-Coil cable and logging Head Standby	1	day		
3	Coil tubing with Smart/E-Coil cable Cumulative Depth Charges for Non-Corrosive Environment (coil tubing +Smart/E-coil Cable)	6,000	Meters		
4	Coil tubing with Smart/E-Coil cable Cumulative Depth Charges for Corrosive Environment CO2≥ 5 %, H2S ≥ 10 PPM	6,000	Meters		
5	Coil tubing unit with Smart/E-coil Reel and logging Head Mob/demob	1,300	KM		
6	Coil tubing unit with Smart/E-coil Reel and logging Head crew Mob/demob	1,300	KM		
Pumping Services (Complete setup)					
7	Pumping Crew Operating Charges	2	Days		
8	Pumping Crew Standby Charges	1	Days		
9	Pumping Equipment Standby Charges	1	Days		
10	Volume Pumping Charges for Non-Corrosive Fluids using Pumping equipment	2,000	Gal		
11	Pumping Equipment Mob/Demob	1,300	KM		
12	Pumping Crew Mob/Demob	1,300	KM		
Crane Services Inclusive of Operator					
13	40-50 ton Hydraulic Crane Operating Charges	2	Days		
14	40-50 ton Hydraulic Crane Standby Charges	1	Days		
15	Crane with operator Mob/Demob	1,300	KM		
				Total/well (US$)	
				Total for 15 wells (US$)	

(B) EXPANDABLE RETAINERS/BRIDGE PLUGS:							
Sr.	**Description**	**Qty.**	**UOM**	**Unit Rate (US$/UOM)**		**Total Cost (US$)**	
				Retrieved	**Left in hole**	**Retrieved**	**Left in hole**
1	Expandable Retainers/bridge plugs (2-7/8" tubing to 5"-7" Liner/casing) on location charges	3	Nos.				
2	Expandable Retainers/Bridge plugs (3-1/2" tubing to 5"-7" Liner/casing) on location charges	3	Nos.				

3	Expandable Retainers/Bridge plugs (4-1/2" tubing to 5"-7" Liner/casing) on location charges	3	Nos.				
4	Expandable Retainers/Bridge plugs (5-1/2" tubing to 5"-7" Liner/casing)	3	Nos.				
					Total Cost(US$)		

(C) EXPANDABLE RETAINERS/BRIDGE PLUG SERVICES:					
Sr.	**Description**	**Qty. (Q)**	**UOM (U)**	**Unit Cost (P)**	**Total Cost =P x Q**
				US$/UOM	**US$**
1	Expandable Retainers/Bridge plugs crew with setting kit Operating	2	Day		
2	Expandable Retainers/Bridge plugs crew with setting Standby	1	Day		
3	Expandable Retainers/Bridge plugs crew with setting kit Mob/Demob.	2,600	KM		
				Total/well (US$)	
				Total for 15 wells (US$)	

TABLE TOTALIZER GROUP "C"		
Table No.	**Description**	**Value (US$)**
Table A	SMART /E-COIL SERVICES	
Table B	EXPANDABLE RETAINERS/ BRIDGE PLUG S(LEFT IN HOLE COST TO BE USED)	
Table C	EXPANDABLE RETAINERS/ BRIDGE PLUG SERVICES	
	GRAND TOTAL OF GROUP C	

Note for all Groups (GROUP A, B & C):

- Financial Evaluation shall be carried out on each Group wise/Grand Total of each Group and Contract shall be awarded to lowest evaluated bidder in each Group.
- The unit rates mentioned in "format for rates" will prevail, in case different rate against same item is quoted in "Financial evaluation model".
- Any additional items not covered in the table may be utilized as per published price book, if required, subject to approval of OGDCL Management.
- Quantities mentioned are for evaluation purposes only. Actual invoicing shall depend on the work carried out.
- Mob/De-mob charges for equipment/crew will be as per actual i.e. the point from where the equipment/crew was mobilized.
- The bidder to quote same rates for same items in different tables.