

Information for 3rd Party Pre-Shipment Inspection

1	Purchase Order No.	PROC-FE/CB/ECMP/SCM/4500000211/2022
2	Amount of Purchase Order	CNY 3,201,714/-
3	Name/address of Manufacturer/Beneficiary	M/S Challenger Geoinstruments Ltd. Runhe West Street, Wanda Industrial Park, Development Zone, Zhuozhou Hebei Province China
4	Contact person	Contact Person: Zhang Shuai – Frank Tel: +86 312 3628588 E-Mail: frankzhang5595@foxmail.com
5	Local Agent/Contact person	M/s Eastern Global Energy Pvt Limited, G5 Al Mustafa Apartments G-8 Markaz Islamabad Ph: 051 2850486 Contact Person: Abrar Ali Khan Email: easternglobalenergy@gmail.com
6	Description of Material	SPARES FOR GROUND ELECTRONICS OF 428XL SEISMIC DATA ACQUISITION SYSTEM & NZXP-II WZ RECORDER
7	Scope of Work	As per attachment

THIRD PARTY PRE-SHIPMENT INSPECTION 'SCOPE OF WORK'

Spares of Ground Electronics for 428XL Seismic Data Acquisition Systems & NZXP-II WZ Recorder

ECMP(GS)/SOW/06/2022

Dated: 06-09-2022

Third party inspector shall carry out the pre-shipment inspection at M/s Challenger Geo Instruments Limited, China and must address the following:

Physical inspection of Spares of Ground Electronics for 428XL seismic data acquisition systems (1750 No. 428XL WPSR 220m FDU 1-4 link/cable with FDU428 connecting assemblies (without FDU card & lid assembly) and 2500 No. 428XL FDU1 LID Assembly) & 200 Nos standard vertical geophone 4.5 Hz for refraction survey for NZXP-II WZ recorder as per **Tender Specifications** (Flag C), **Technical Proposal** (Flag D) with **Clarifications** sought during technical evaluation (Flag E) and **Purchase Order No 4500000211** (Flag F).

Inspection Phase-I

TPI inspector to inspect equipment as per following inspection process (Sr # 1 to 8);

1. Third Party inspector shall confirm that all the material being provided is **brand new and Quantity** of items at Sr1,2&3 is as per purchase order.
2. Third Party Inspector must inspect **physically 100 %** equipment as per PO quantity.
3. Third Party inspector shall confirm that **428XL WPSR 220M FDU 1-4 link/cable with FDU428 connecting assemblies (without FDU card & lid assembly)** at Sr#3 of PO, is as per tender requirement and check all specifications of randomly selected at least 2 % of the indented cables including the dimensions (length of cable: 220 meters comprising of 03 intermediate links (55M) & 02 end links(27.5M) with FM connectors having dust caps), electric continuity, high & low temperature, diameter of cable, water blockage/leakage testing of cable at 15M water depth, weight of cable and connectors with dust caps as per specifications mentioned in attachment (Sr # 1) of tender enquiry/SOR, also spares included. Tested cables would be marked/tagged by inspector.
4. Third party inspector shall witness 'pull strength' test of randomly selected 02 Nos cable piece as per specifications given at Sr#1 in attachment of tender enquiry/SOR. Also, inspector shall open 3 Nos FM-4 connectors for Sr#3 of PO to confirm connector accessories at Flag H. Tested cables & checked connectors would be marked/tagged by inspector.
5. Third Party Inspector shall perform the water leakage test as per test details given at Flag G on randomly selected items at Sr#2 of PO.
6. Third Party Inspector shall confirm that 428XL FDU1 LID Assembly Equipped with Geophone Socket for FDU-1 at Sr#1 of PO, is equipped with FDU-1 Lid Assembly, geophone socket, dust cap, O-Rings. Also, check provided lid assembly must be compatible/fitable with quoted cable at Sr#3 of PO.

7. Third Party inspector shall confirm that **Standard Vertical Geophone 4.5 Hz for Refraction Survey** at Sr. No. 2 of PO, are as per tender requirement having rust proof brass spike and meet the detailed specifications as given at Sr. No. 5 in attachment of OGDCL SOR. Also, includes: 01 No connector will be provided as spare with each geophone.
8. Also, witness the test of randomly selected at least **5%** of the indented item of purchase order items at Sr. No. 2 **Standard Vertical Geophone 4.5 Hz for Refraction Survey** with SMT-200 / SMT 300 / SMT 400 / SGT. However, the manufacturer will provide the test results of 100 % of items at Sr. #2 of PO, to the inspector as well as to OGDCL. Also, copy of SMT/SGT parameters fed in while testing should be provided. Few geophone cases of randomly selected '**Standard Vertical Geophone**' and confirm that geophone coil inside the geophone case is **brand new** and as per specifications as given at Sr. No. 5 in attachment of OGDCL SOR.

Inspection Phase-II

TPI Firm to devise foolproof process including but not limited to the following steps (Step 1 to 4) to ensure safest supply of the inspected material, as per PO/TPI Scope:

- Step-1 Witness packing & labelling of the inspected material to be as per industry standards, and then, seal the material at manufacturer's site.
 - Step-2 Witness loading of sealed material into the container(s) at manufacturer's place for transportation to port of shipment & then suitable sealing of the container(s).
 - Step-3 Witness booking / shipment of the sealed container(s) preferably without opening the original seal fixed at manufacturer's site. In case the sealed container(s) are not allowed for booking without checking by port authorities/shipping line, then the checking and resealing at sea port after clearance, to be witnessed by TPI firm.
 - Step-4 TPI Firm to provide any proof of booking / loading of sealed container(s) as 'clean shipped on board' (copy of BL etc.) along with TPI Inspection Report for review / acceptance by OGDCL.
9. Maximum period for inspection will be 07 working days, however bidder can adjust days for Inspection Phase -I and Inspection Phase -II completion, accordingly. Bidder shall quote the **lump sum amount** of the total inspection cost for 07 working days in its financial quote including all expenditure like air travel, lodging / boarding and hotel charges etc. Inspector must have to complete inspection within prescribed time. No extra payment for any extra Man-days will be paid.
 10. Post-Shipment inspection shall also be carried out by the committee of indenting department (OGDCL) on arrival of equipment in Pakistan and 3rd Party Pre-Shipment invoice will be verified accordingly.
 11. 3rd party inspector will ensure to extend full co-operation with OGDCL professional (if any present as per clause vi(a) of SOR) during inspection.
 12. Third Party inspector will provide the detail report of inspected material to OGDCL before shipment of the material.
 13. Bidder will ensure that its nominated inspector will contact with manufacturer for inspection, packing, transportation and shipment schedule as soon as service order is issued in order to avoid any delay in shipment of material.

14. The bidder will submit the detailed CV of professional that will conduct this particular subject inspection in China along with the bid. Inspector should have **relevant experience** of inspection of electrical and electronics equipment.
15. 3rd Party Pre-Shipment Inspection Company will carry out the inspection as per OGDCL TOR. Any service conditions or general/specific/payment terms conditions of the inspection company will not be acceptable. Company will submit **sign / stamped OGDCL SOR, Terms & conditions, Annexures** and confirm clean acceptance of all terms & conditions given in TOR.
16. Any discrepancy in Part Number / Quantity / Item Description / poor packing/tampered or broken seal, is found during inspection by the inspector, same shall be reported to OGDCL immediately. If any above mentioned discrepancy is found later on, during post shipment inspection in Pakistan that was not reported in pre-shipment inspection report, OGDCL would not pay the inspection charges.
17. Only the bids of independent registered TPI agencies shall be entertained and bid from *subsidiary of the inspection agencies / sub-contractor / partner /joint venture company or associated firm / manufacturer doing operations as supply house/distributor*, shall be rejected.
18. All required documents being provided by the bidder in support of its technical criterion categories, must be in its own name or any of its own offices/setup present in other countries. Certificate of experience/year of incorporation/applicable certificates & registrations/inspections performed/setup/offices/technical experts/financial strength etc. *in name of Sub-Contractor Company or partner/joint Venture Company or associated firm* will **NOT** be considered for technical evaluation purpose.
19. Bidder must provide duly signed & stamped complete OGDCL SOR (all pages).
20. Bidder must attach all necessary documentary evidence required for technical evaluation criteria, in English. If any document is in other language, provide English translated version that will prevail.
21. A Certificate to be provided with the bid on the letter head of the company stating that all enclosed documents and information provided with the bid is genuine, if any document or information is found fake/forged at any later stage, then OGDCL can take any appropriate action including blacklisting etc.
22. Bidders are advised not to attach any irrelevant document/information and should be restricted to only those documents that are required in technical evaluation criterion.

TECHNICAL EVALUATION CRITERIA PRE-SHIPMENT INSPECTION AGENCIES

Bidder obtaining less than **70% on aggregate** or **less than 50% in any criteria** shall be considered non-responsive and will not be considered for Financial Evaluation.

Cat. No	Criteria Category	Points
1	Applicable Certifications & Registrations	40
	Registration with SECP	05
	Registration with FBR	05
	Valid ISO 9001:2015 under inspection category	05
	Valid ISO 14001:2015 under inspection category	05
	Valid certification of PNAC under inspection category	05
	Valid certification of "1236 Inspection category" with PEC	05
	Valid ISO/IEC 17020:2012	05
	Valid ISO/IEC 17025:2017	05
2	No. of Years of Company Experience Please attach certificates: 1. Year of incorporation 2. First inspection performed	10
	More than 20 Years	10
	10 to 20 Years	5
	Less than 10 Years	0
3	Financial Strength - Last 5 years audited accounts or bank statement required showing annual turnover in USD (Millions) or equivalent other currency (Please attach copy of audit reports or bank statements)	10
	USD 03 Million or above	10
	USD 01 Million to 03 Million	05
	Less Than USD 1 Million	0
4	Number of inspections performed worldwide in last 3 years (List of inspections with client name, year of inspection & copy of service orders to be enclosed)	10
	More than 40 inspections	10
	20 to 40 inspections	5
	Less than 20	0
5	In House Technical Capabilities: Attach list of No. of qualified technical experts in Pakistan or other countries available for inspection showing their name, employee ID No, qualification, location and experience etc.	10
	More Than 150	10
	Less Than 150	05
	Less Than 100	0
6	Company should have its own setup (Offices / Service centers) operational worldwide (Attach list of offices with complete address, phone/mobile and verifiable email address, contact person etc)	10
	25 or more countries including the country of inspection	10
	20 to 25 countries	5
	Less Than 20 Countries	0
7	Firms must have its office(s) in Pakistan (Attach list of offices with complete address, phone/mobile and verifiable email address, contact person etc)	10
	Two (02) or more operational offices in Pakistan	10
	01 operational office in Pakistan	05
	No office in Pakistan	0

Note: Only valid required documents for above criteria shall be attached with bid.

1. GENERAL

Name of company and address in Pakistan:

Type of company: (Public limited liability, private, limited, private practice, wholly owned subsidiary, sole proprietary, etc.)

Date established:

Name and address of company bankers in Pakistan:

Is your company registered with Income Tax Department in Pakistan? (if so provide)
Registration No.

Number of Experts/ Consultant/ Human Resource Base:

CEO / Managing Director / Director's Detail:

Focal Person:

Telephone numbers:

Email Address:

**PROCUREMENT DEPARTMENT ISLAMABAD
FOREIGN SECTION E**

To be completed, initialed, signed
and stamped by the principal

ANNEXURE 'A'

Material SPARES FOR GROUND ELECTRONICS OF 428XL, G3I SEISMIC DATA ACQUISITION SYSTEMS & NZXP-II WZ RECORDER
Tender Enquiry No PROC-FE/CB/ECMP-5142/2021
Due Date
Evaluation Criteria ITEM WISE

SCHEDULE OF REQUIREMENT

Sr No	Description	Unit	Quantity	Unit Price (FOB)	Total Price (FOB)	Unit Price C & F BY SEA	Total Price C & F BY SEA	Deviated From Tender Spec. If Any
1	WPSR 428XL 220M FDU 1-4 LINK/CABLE WITH FDU428 CONNECTING ASSEMBLIES (WITHOUT FDU CARD & LID ASSEMBLY) (details attached at Sr#1 of attachment)	Number	1750					
2	428XL FDU1 LID ASSEMBLY(details attached at Sr#2 of attachment)	Number	2500					
3	G3I RECEIVER LINE CABLE, 220M LENGTH, 4 TAKEOUT EACH @ 55M(details attached at Sr#3 of attachment)	Number	1750					
4	GEOPHONE SPREAD CABLE FOR REFRACTION SURVEY(details attached at Sr#4 of attachment)	Number	15					
5	STANDARD VERTICAL GEOPHONE 4.5 HZ FOR REFRACTION SURVEY(details attached at Sr#5 of attachment)	Number	200					

Note: **NOTE:**

1. Bid Validity: Bids must be **valid for 180 days** from the date of Technical Bid Opening.

2. Bid Bond Amount:

Item No. 1: USD 10,000/- (United States Dollar Ten Thousand only) or equivalent Pak Rupees.

Item No. 2: USD 340/- (United States Dollar Three Hundred Forty only) or equivalent Pak Rupees.

Item No. 3: USD 14,400/- (United States Dollar Fourteen Thousand Four Hundred only) or equivalent Pak Rupees.

Item No. 4: USD 530/- (United States Dollar Five Hundred Thirty only) or equivalent Pak Rupees.

Item No. 5: USD 730/- (United States Dollar Seven Hundred Thirty only) or equivalent Pak Rupees.

Bid Bond must be valid for 210 days from the date of Technical Bid Opening. Bidders are advised to carefully read all clauses related to Bid Bond in Tender Document.

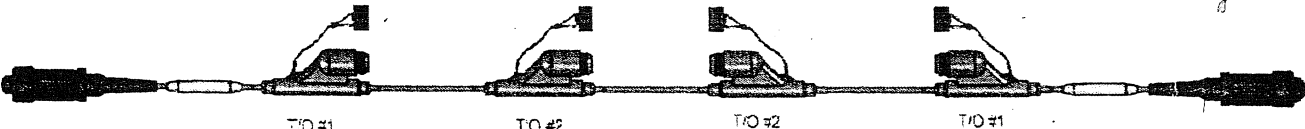
3. Evaluation Criteria: - Each Item Wise CFR Karachi

4. Delivery Period: 120 days from establishment of LC

5. Bidders are advised to carefully read all the terms and conditions of the Tender Document "Master Set of Foreign Tender Document (Press-Single Stage Two Envelop)" available on OGDCL website which is an integral part of this Schedule of Requirement

Asif
SYED ASIF ALI
Dy. Chief Engr(D.A) ECMP -GS
Ext:3154
17/9/21

Attachment "Import of Spares required for Ground Electronics of 428XL, G3i Seismic Data Acquisition Systems & NZXP-II WZ Recorder" Requisition No: ECMP(GS)/S1/2021 Dated: 30-07-2021 (Annexure "A")

Sr#	DESCRIPTION	UNIT	QTY	INDEX NO
1	<p>WPSR 428XL 220M FDU 1-4 LINK/CABLE WITH FDU428 CONNECTING ASSEMBLIES (WITHOUT FDU CARD & LID ASSEMBLY)</p> <p>It is made up of water proof & stress relieve cable with conductor type stranded, double jacket, diameter 9-10 mm maximum, weight 90-100 kg/km, tensile strength 250 daN, minimum operating water depth 15 meter. Operating Temperature: -5 to +55°C approximately</p> <p>220 meters cable includes 03 Intermediate links of 55M length and 02 End Links of 27.5 M length with FM-4 connectors with dust caps. All links will be connected (embedded) to each other by 428XL FDU-1 connecting assembly with ground nut & clamp.</p> <p>Includes: 04 No O-ring of FDU428 lid assembly and 32 Nos screws of FDU428 lid assembly will be provided as spare with each above FDU 1-4 link/ cable.</p>	Nos	1750	Fresh Demand
2	<p>428XL FDU1 LID ASSEMBLY</p> <p>Equipped geophone socket for 428 FDU-1 including 428 FDU-1 complete lid assembly along with its geophone socket, dust Cap and O-ring.</p>	Nos	2500	55-81-307-F
3	<p>G3I RECEIVER LINE CABLE, 220M LENGTH, 4 TAKEOUT EACH @ 55M</p> <ol style="list-style-type: none"> Each 220m receiver line water blocked cable consists of (2) 12-pin "Quick Lock Connectors" and (4) inline screw on, with 5515 female take outs with dust caps spaced @ 55m. 4-pairs used for sending commands or data routing, and 2-pairs connect to the sensor to transmit seismic data Receiver Line Connectors = 2 x 12-pin G3i Quick Lock Connectors with dust caps. Configuration = 6 x 26 AWG pairs Operational water depth = 5m Weight = 19.5 kg (Maximum) Pull strength = 273kg (600 lbs) Outer diameter = 9.2mm to 9.4 mm Water blocking = cable, cable heads and take outs <p>Cable Diagram:</p> 	Nos	1750	66-13-024-F
4	<p>GEOPHONE SPREAD CABLE FOR REFRACTION SURVEY</p> <p>Standard 12-channels spread cable with molded / Pigtail water proof dual 5515 male & female push fit connector or equivalent with dust cap, having following configuration:</p> <ol style="list-style-type: none"> Far end of the cable & first take-out has 5-meter interval. Far end has a terminator. All intermediate take-outs has an equivalent 20 meters interval (Total intervals = 11) 	Nos	15	55-18-004-F

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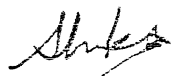
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Attachment "Import of Spares required for Ground Electronics of 428XL, G3 Seismic Data Acquisition Systems & NZXP-II WZ Recorder" Requestion No: ECMP(GS)/SI/2021 Dated: 30-07-2021 (Annexure "A")


	<p>c. 30 meters length between 12th take-out and soldered 27-Pin connector cannon NK-27-21C for 12-wirepair geophone cables. Connector to be connected & compatible with Strata visor 24-channel Exploration Seismograph NZXP II recorder.</p> <p>d. Total length of cable = 255 meters.</p> <p>e. Technical schematic diagram must be provided in technical bid with proper labelling and showing cable configuration.</p> <p>Includes: 01 No 27-Pin connector will be provided as spare with each cable</p> <p>Cable Diagram:</p> <p>Far end with terminator</p> <p align="center">GEOPHONE TAKEOUTS</p> <p align="right">27-pin cable plug/connector (to be connected with NZXP II recorder)</p> <p>1st takeout</p> <p>12th takeout</p> <p>255 m</p>			
5	<p>STANDARD VERTICAL GEOPHONE 4.5 HZ FOR REFRACTION SURVEY</p> <p>A geophone wired at one end of 2-conductor geophone cable having length= 1 meter and other end of cable is connected to waterproof dual 5515 male & female push fit connector (diagram given) or equivalent with dust cap . Geo- cable must have one molded polyurethane pick-up D-loop spaced at 0.5 meter interval.</p> <p>Geophone coil is up right vertical, housed in water proof Geophone land case with 3.00" to 3.25" inch-rust proof brass spike.</p> <p>Natural frequency: 4.5 Hz (Tolerance: ± 10.0%)</p> <p>Coil resistance: 375 Ohms (Tolerance: ± 5 %)</p> <p>Distortion: ≤ 0.3%</p> <p>Damping: 0.50% to 0.66%</p> <p>Sensitivity: 28.8 V/m/s (Tolerance: ±7.5%)</p> <p>Operating Temperature: - 40 degrees C to +70 degrees C</p> <p>Includes: 01 No connector will be provided as spare with each geophone.</p>	Nos	200	55-18-006-F
	<p>Terms and Conditions:</p> <p>i. Delivery period: 120 Days (Maximum).</p> <p>ii. Evaluation will be on "Each Item Wise" and <u>C & F</u> by <u>Sea</u> price basis.</p> <p>iii. The bidder must be original equipment manufacturer (OEM) of the quoted indented items. Bid from middleman, distributor or supply house would not be accepted.</p> <p>iv.</p> <p>a. The bidder must have minimum 05 years' experience of manufacturing such type of equipment. Experience will be considered from date of sale contract. Sale record (unpriced) to be provided with bid as proof, mentioning complete contact information of buyer i.e. name of buyer company, quantity sold, date of contract, email, web address, postal address, contact number etc.</p> <p>b. The bidder will provide the satisfactory performance certificate from 03 different renowned international geophysical companies working for seismic data acquisition that they are using same type of indented items satisfactory, providing contract copy(unpriced) & mentioning the complete contact information i.e. name of buyer company, quantity sold, date of contract, email, web address, postal address, contact number etc.</p>			


Attachment "Import of Spares required for Ground Electronics of 428XL, Geophysical Seismic Data Acquisition Systems & NZXP-II WZ Recorder" Regulation No: ECMP(GS)/SI/2021 Dated: 30-07-2021 (Annexure "A")

- v.
- Bidder must provide samples (excluding spares) along with the bid for technical evaluation purpose;
 - Item No. 1,2,3 & 5= 01 No each
 - Item No 4= 01 meter cable along with molded / Pigtail water proof dual 5515 male & female push fit connector or equivalent with dust cap at one side of cable and soldered 27 pin cannon NK-27-21C connector at other side of cable as per configuration of NZXP II/indent specifications.
 - Non submission of samples along with the bid will result in the rejection of bid.
 - Samples will be tested in Laboratory and Field, if not found as per specification or incompatible as required at vii(f), bid will be considered as technically non responsive.
 - All items should be clearly embossed/ printed or tagged with manufacturer's monogram / name on it in English, for identification. Samples without monogram/name will be considered as rejected.
- vi.
- Mandatory Third Party Pre-Shipment Inspection (TPI) of all material will be arranged at manufacturer's work place by OGDCL as per Scope of Work/Purchase Order. Bidder will provide full co-operation to 3rd party inspection team. Without 3rd Party Pre-shipment inspection, the material will not be accepted. 01 OGDCL professional may also witness TPI at OGDCL cost for which separate case will be initiated after issuance of purchase order.
 - TPI SOW is limited to physical inspection/testing of equipment that does not void the performance/operational capability & warranty of equipment from OEM as already agreed/defined in TOR/SOR.
- vii. Bidder will provide following mandatory documents /certificates along with the bid: -
- Valid quality certification, ISO9001 or equivalent.
 - Signed & stamped compliance sheet including complete TOR/SOR with all term & conditions. ✓
 - Experience Certificate for 05 years manufacturing of such type of items in addition to sale contract to be provided as per clause iv(a).
 - Brochure of the indented items in English including diagrams/drawings of all items for technical evaluation.
 - Provide certificate that all material is brand new.
 - Compatibility certificate that Quoted items Sr# 1-2 are compatible with Sercel 428XL ground electronics, quoted items Sr# 3 is compatible with INOVA G3i HD ground electronics, quoted item Sr# 4 is compatible with 24 channels Seismograph NZXP II WZ recorder and quoted item Sr# 5 is compatible / fit able with quoted item Sr # 4.
 - Standard Warranty Certificate for all indented items with minimum 06 months warranty mentioning that if any item found defective or incompatible as per clause vii (f), it will be replaced as warranty replacement at no cost to OGDCL. Also, local agent will be fully responsible for in time warranty replacement.
 - Item at Sr#1, 3, 4 & 5 are water proof as mentioned in specifications.
- viii. Packing of all materials will be as per Geophysical industry standards in pallet form having proper labelling.
- ix. Failure in meeting any criteria mentioned in specifications or any terms & conditions will result in rejection of the bid.
- x. Reference Clause No 4 (Section-I) of tender document, all documents being provided should be in English. In case any document is in other language, bidder is required to submit its translated English version along with copy of original document.


SHAUKAT HAYAT
AGM (Geophysical Services)


ARIQ MAHMUD


30/07/2021


Khalid Mahmood Gill
Manager (ECMP)

Flag D.

WPSR 428 Cable Operating Instruction

1. Model and Name:

WPSR 428XL Cable 220M 4 Channels.

2. Brief introduction:

The cable is suitable for water depth ≤ 15 meters, the cable maximum tensile strength $\geq 300\text{N}$, operating temperature $-40^{\circ}\text{C} + 70^{\circ}\text{C}$

3. Technical index

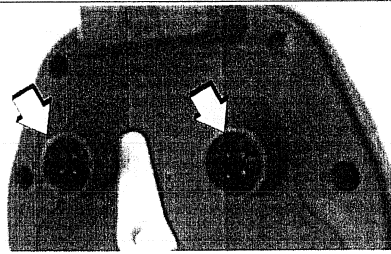
Field condition	Moist
Wire type	Twisted
preventing water	Ointment for preventing water
Maximum depth of the water	15 meters
Cable diameter	$9.5\text{mm} \pm 0.2$
Strength of extension	300N (bare wire) 250N (with connector)
Tensile reinforcement	Aramid knitted
Weight	95kg/km
Operating temperature	$-40^{\circ}\text{C} + 70^{\circ}\text{C}$

Electrical performance parameter

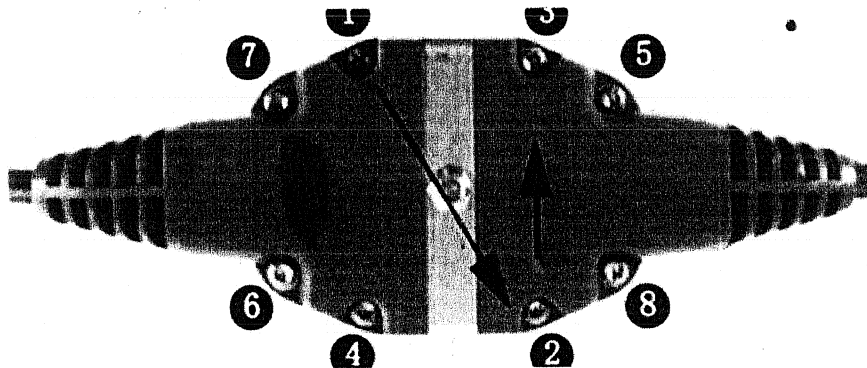
Direct current resistance $\leq 230\Omega/\text{km}$
Insulation resistance $\geq 150\text{M}\Omega/\text{km}$
Characteristic impedance tolerance $\pm 8\Omega$
Effective attenuation $\text{dB/hm} \leq 15(10\text{MHz})$

4. Usage and precautions

1. Carefully insert the FDU into the cable tap.



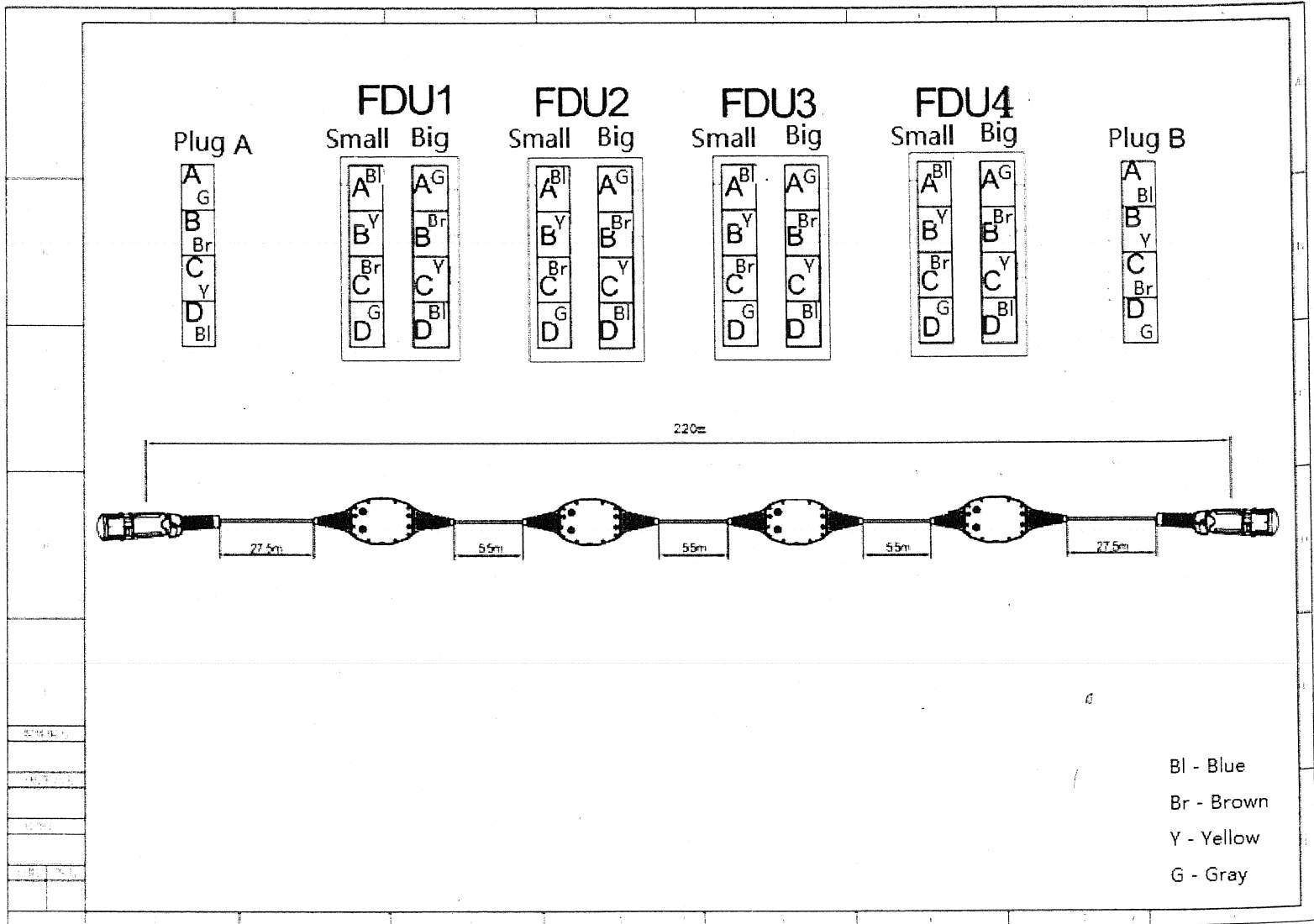
2. Put the eight M4 x 16 screws in place and tighten them in the following sequence: first tighten 1, 2, 3, and 4, and then tighten 5, 6, 7, and 8 (see Figure below). Tightening torque is 1.5 N m (1.1 lb. ft) @ 600 RPM.



3. Tighten again in the same order with the same torque.
4. Cover the dust cover.
5. During the use of cables, do not roll and drag by brute force, and do not tie cables.

5. Maintaining

After the cable is finished using, clean and dry the plug and FDU tap in time, and fasten the dust cap in time to prevent dust from entering.



CD-20DX-4.5A Instruction Manual for Land Geophone Strings

1. Model and name:

CD-20DX-4.5A geophone string

2. Introduction:

- (a) CD-20DX-4.5A geophone core is used.
- (b) It is suitable for oil exploration in terrestrial deserts and shallow water areas where the ambient temperature is $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$.
- (c) It is moisture-proof and rain-proof.
- (d) Cable tensile strength up to 60kgf.
- (e) Strong operability and wide application.

3. Specifications (test temperature is 22°C)

- (a) List of technical specifications of CD-20DX-4.5A high-precision geophone core.

Natural Frequency (Hz)	4.5 \pm 10%
Coil Resistance (Ω)	375 \pm 5%
Open Circuit Damping	0.58 \pm 10%
Open Circuit Sensitivity (v/m/s)	28.8 \pm 7.5%
Distortion (%)	≤ 0.3
Moving Mass (g)	11
Typical Case to Coil Motion p-p(mm)	1.5
Unit Diameter(mm)	25.4
Unit Height (mm)	33.5
Unit Mass(g)	87
Operating Temperature	$-40^{\circ}\text{C} - +70^{\circ}\text{C}$
Limited Warranty Period (Year)	1

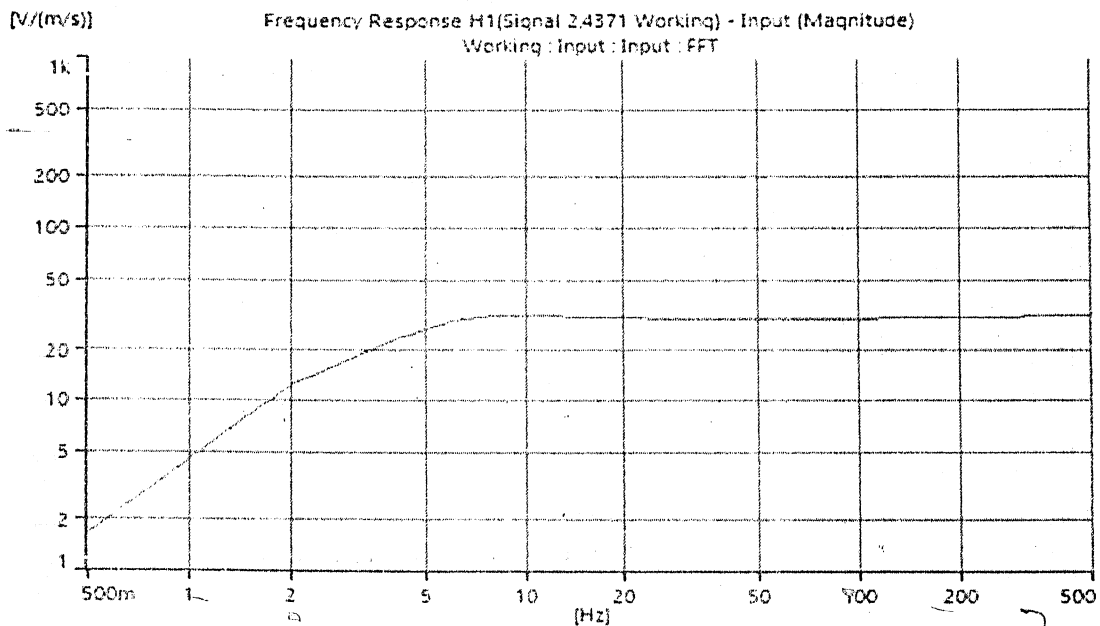
All parameters are under the environment of 22°C , the excitation signal frequency is 12Hz, and the speed is 0.7in/s.

- (b) List of Geophone string indicators (22°C) (M represents the number of series, N represents the number of parallel)

Product number	CD-20DX-4.5A
natural frequency (Hz)	4.5 \pm 10%

open circuit damping	0.58±10%
Open circuit sensitivity (V/m/s)	28.8×M±7.5%
resistance (Ω)	375 ×M/N±5%
Distortion	≤0.3
Insulation resistance	>200 MΩ
tensile strength	≥60 kgf

(c) CD-20DX-4.5A Amplitude-frequency response curve of geophone



涿州昌迪石油仪器有限公司

4. Usage and precautions

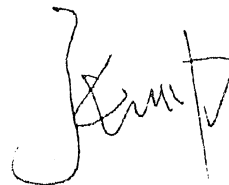
Challenger Geoinstruments Ltd

1. The geophone should be placed vertically on the test bench when the geophone string index is checked and accepted.
2. Input ambient temperature accurately into the test equipment. dc resistance of wires should be considered when spacing is greater than 5 m.
3. The acceptance test shall be carried out without vibration, strong AC magnetic field and other noises.
4. This product can connect the core of CD-3 geophone into series by means of 6 series and 2 parallel connection.
5. To keep the geophone plug dry, clean, to avoid bad plug contact caused by geophone string blockage.
6. In field production, the geophone should be buried flat, stable, straight, straight and tight, and the buried tilt Angle of the geophone should be less than 10°.
7. Protect geophone wires from moving vehicles or livestock when

crossing roads or shallow water.

8. During production, it is forbidden to hit the tail nail into the ground by hammering the geophone shell. When rewinding the line, pull out the detector by hand and put it down before rewinding the line. It is strictly forbidden to pull out or drag the geophone cable with strong force, in case the geophone string is damaged due to the string breakage.

涿州昌迪石油仪器有限公司



5. Maintenance Challenger Geoinstruments Ltd

1. Maintenance personnel should be properly trained and familiar with geophone string structure and repair methods.
2. Do not easily disassemble the geophone housing, only when the repair conditions and environment are available, can be disassembled and repaired.
3. During maintenance, please refer to the assembly drawing and assembly connection diagram of the land geophone series provided in the appendix for correct assembly and electrical connection.
4. After maintenance, necessary electrical index test and waterproof test shall be carried out

Annexure A CD-20DX-4.5A List of parts and components of land geophone

SN	Code	Name	Quantity	Not e
1	CD020217002	CD-20DX-4.5A top shell	12	
2	CD030114040	Nylon pull clasp	13	
3	CD030120002	Φ4.6mm waterproof cap	12	
5	CD020217001	CD-20DX-4.5A bottom shell	12	
6	CD030125008	M3.5×14 Stainless steel cross slotted head tapping screw	48	
7	CD030114007	Tail pin M10*50MM	12	
8	CD030114002	Spring washer Lightweight stainless steelΦ10	12	
9	CD010302011	WT-3A (460) pitch 50MM	99	
10	CD020217007	Support frame	1	

Note: Suitable for assembling CD-20DX-4.5A high precision geophone core.

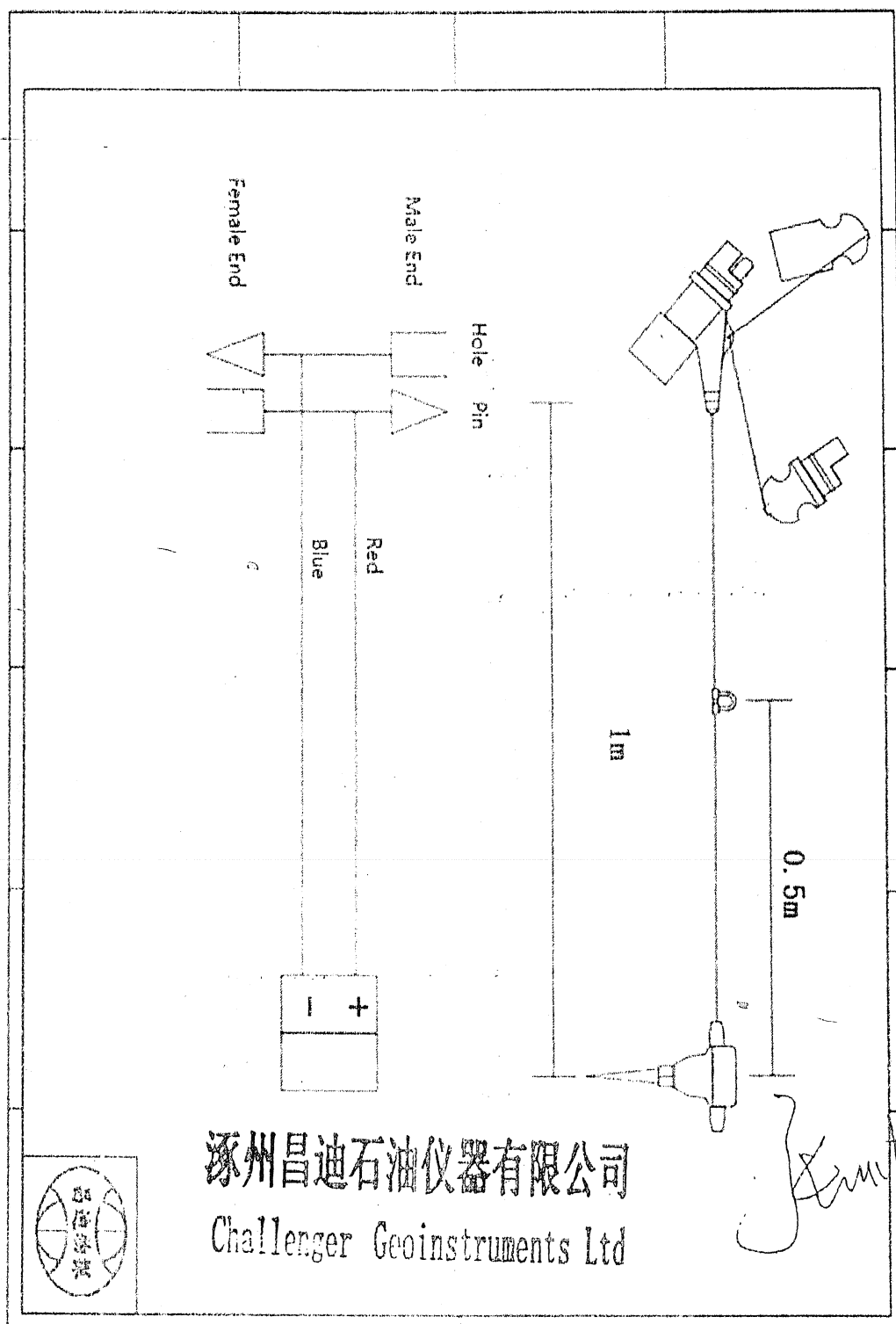
涿州昌迪石油仪器有限公司

Challenger Geoinstruments Ltd

Annexure B CD-20DX-4.5A land geophone accessories catalog

Easily damaged parts:		
Nylon pull clasp	Waterproof cap	Tail pin
Consumable:		
soldering tin	silicone oil	spring washer
Stainless steel cross slotted head tapping screw M3.5×14		
Equipped tools:		
Cross groove knife	14mm open spanner	Electric soldering iron

Figure A CD-20DX-4.5A Assembly diagram of land geophone



Original Equipment Manufacturer: Challenger Geoinstruments Ltd, China

Local Agent: Eastern Global Energy, Pvt Ltd

CLARIFICATIONS REQUIRED AGAINST TENDER ENQUIRY NO.PROC-FE/C/ECMP-5142/2021 FOR SPARES FOR GROUND ELECTRONICS OF 428XL G3I SEISMIC DATA ACQUISITION SYSTEMS & NZXP-II WZ RECORDER, BID RECEIVED ON (22-11-2021)

S#	TENDER REQUIREMENT	OFFERED BY THE BIDDER	CLARIFICATIONS REQUIRED
1.	Data summary sheet Annexure E	Complete name & address of LC Beneficiary mentioned as OGDCL.	Please provide Data summary sheet mentioning same OEM and L/C beneficiary.
2.	OEM business license	Company name mentioned in business license certificate (english translated version) provided in the bid against unified social credit code 911306817603316118 is Challenger Geoinstruments Ltd.	Mentioned verification website 'http://www.gsxt.gov.cn' on Business license against unified social credit code 911306817603316118 shows registered company as "Zhuozhou Changdi Petroleum Instrument Co., Ltd." Please provide valid business license issued in name of Challenger Geoinstruments Ltd (OEM & bidder) must be verifiable from issuer authority website.
3	For item #3 of SOR Outer diameter = 9.2mm to 9.4 mm	Bidder has mentioned 8.3 ±0.2 mm in provided brochure.	Please confirm to provide ' G3i receiver line cable (water blocked)' brochure with Outer diameter = 9.2mm to 9.4 mm' for item No 3 as per SOR.
4.	Terms & Conditions: (iv (a)) The bidder must have minimum 05 years' experience of manufacturing such type of equipment. Experience will be considered from date of sale contract. Sale record (unpriced) to be provided with bid as proof, mentioning complete contact information of buyer i.e. name of buyer company, quantity sold, date of contract, email, web address, postal address, contact number etc.	Provided sale contract in bid.	Please provide the same provided sale contract copy in verifiable English translated version.
5.	Terms & Conditions: (iv (b)) The bidder will provide the satisfactory performance certificate from 03 different renowned international geophysical companies working for seismic data acquisition that they are using same type of indented items satisfactory, providing contract copy(unpriced) & mentioning the complete contact information i.e. name of buyer company, quantity sold, date of contract, email, web address, postal address, contact number etc.	Bidder has provided satisfactory performance certificates of geophones & 428/408XL Cables	Please provide a 01 performance certificate copy (if in Chinese must be with verifiable English translated version)for confirming satisfactory performance of indented item at Sr#3 of SOR (G3i receiver line cable) mentioning the complete contact information i.e. name of buyer company, quantity sold, date of contract, email, web address, postal address, contact number etc.
6.	Terms & Conditions: (vii(b)) Signed & stamped compliance sheet including complete TOR/SOR with all term & conditions.	Bidder provided signed & stamped TOR/SOR, no compliance sheet provided with items and term & condition	Please provide each item and term & condition wise ' compliance sheet' as per SOR requirement.

Page 4

7.	Terms & Conditions: (vii(d)) Brochure of the indented items in English including diagrams/drawings of all items for technical evaluation.	Bidder has not provided brochure/technical specifications & diagram of Standard vertical geophone 4.5 Hz .	Please provide brochure of the indented item in English including diagrams/drawings for technical evaluation as per SOR requirement.
8.	Terms & Conditions of SOR/TOR: (vii(a,f,g&h)) Bidder will provide following <u>mandatory documents /certificates</u> along with the bid: - f. Compatibility certificate that <u>Quoted items Sr# 1-2 are compatible with Sercel 428XL ground electronics, quoted items Sr# 3 is compatible with INOVA G3i HD ground electronics, . quoted item Sr# 4 is compatible with 24 channels Seismograph NZXP II WZ recorder and quoted item Sr# 5 is compatible / fit able with quoted item Sr # 4.</u> g. Standard Warranty Certificate for all indented items with minimum 06 months warranty mentioning that if any item found defective or incompatible as per clause vii (f), it will be replaced as warranty replacement <u>at no cost to OGDCL</u> . Also, local agent will be fully responsible for in time warranty replacement. h. Item at Sr#1,3,4&5 are water proof, as mentioned in specifications.	Bidder has not provided <u>mandatory documents /certificates</u> for SOR/TOR terms & condition vii(f,g&h).	Please provide certificates for SOR/TOR as per term & conditions vii(f,g&h).

OEM: Frankzhang5595@foxmail.com

Local bidder: easternglobalenery@gmail.com



**OIL & GAS DEVELOPMENT COMPANY
LIMITED
OFFICE OF THE MANAGER (SCM)
(FOREIGN PO)**



OGDCL House, Jinnah
Avenue,

Fax +92-51-9209673
Email ejaz_rizwi@ogdcl.com

Phone: +92-51-920023780

Flag F

P.O. PROC/F/E/CB/ECMP/SCM//4500000211/2022 Incoterms Costs and freight Date: 17.08.2022

To CHALLENGER GEOINSTRUMENTS LTD

Attachments:

Supp. No 2000343

Address RUNHE WEST STREET, W ZHUOZHOU, City, China

Subject: **Purchase Order No. PROC/F/E/CB/ECMP/SCM//4500000211/2022 For Procurement of SPARES FOR GROUND ELECTRONICS OF 428XL SEISMIC DATA ACQUISITION SYSTEM & NZXP-II WZ RECORDER (ITEM NO. 1, 2 & 5)**

Dear Sir,

We are Pleased to issue purchase order in response to your above cited bid as detailed below :-

Sr.#	Item No	Material No.	Material Description	Unit	Quantity	Unit Value CNY	Total Value CFR CNY
1.	00010	55-02802	428XL FDU1 LID ASSEMBLY	NO	2,500	36.98	92,450.00
2.	00040	55-00036	STANDARD VERTICAL GEOPHONE 4.5 HZ FOR REFRACTION SURVEY	NO	200	77.02	15,404.00
3.	00050	55-02816	428XL WPSR 220M FDU 1-4 LINK/CABLE WITH FDU428 CONNECTING ASSEMBLIES (WITHOUT FDU CARD & LID ASSEMBLY)	NO	1,750	1,767.92	3,093,860.00
TOTALS							3,201,714.00

Amount In Words:

CNY THREE MILLION TWO HUNDRED ONE THOUSAND SEVEN HUNDRED
FOURTEEN ONLY

Purchase Requisition:

20000022

Name & Address of
Manufacturer:

M/S CHALLENGER GEOINSTRUMENTS LTD., CHINA

Delivery Period:

120 DAYS

Country of Origin

CHINA

Banker's Address:

BANK OF CHINA ZHUOZHOU SUB-BRANCH
SWIFT: BKCHCNBJ220
ACCOUNT NO: 100148064717

Port of Shipment:

CHINA

Port of Discharge

KARACHI

Special Note:

ALL THE CONTENTS OF TENDER DOCUMENTS, YOUR TECHNICAL CUM
FINANCIAL BID AND SUBSEQUENT CORRESPONDENCE ARE INTEGRAL PART OF
THIS PO.

"Conditions of Contract (General/Special) of tender enquiry, should be treated a part of the
Purchase Order"

Letter of credit shall be established as per terms & Conditions attached herewith.

Yes!
3568-22
NAMRA JAMEEL
Data Acq Engineer (ECMP, GS)
Extn. 2296

08/09/2022
SYED EJAZ ABBAS RIZVI
Manager (SCM) Foreign
Oil & Gas Development Co. Ltd.
Islamabad

OTHER TERMS AND CONDITIONS OF THE PO/LC
TO BE STRICTLY COMPLIED BY THE BENEFICIARY
(CFR Karachi Basis)

1. **CONSIGNEE:**
The goods must be consigned to the L/C establishing bank and notify party Oil & Gas Development Company Ltd. (OGDCL), Plot No. 21, OGDCL Warehouse, West Wharf Road, Karachi. Telephone No. 021-32311108, 32313119, E-mail: abdulwaheed_kunbhar@ogdcl.com
2. **PACKING:**
The Packing of the merchandise must conform to the International Standards and the packing list along-with Commercial Invoice must be placed inside the container without fail.
3. **MARKING:**
 - 3.1 All Packages/boxes must bear the Purchase Order No. as Shipping Marks, Country of Origin and Weight in Kilograms (Gross/Net). The marks must tally with shipping documents like Bill of Lading (B/L) and manifest there should not be any difference.
 - 3.2 In addition to the above mentioned shipping marks, the following procedure of color code marking is to be adopted / made on each side of the package/box/container while dispatching the material:-
"There will be an isosceles triangle with or less than six inches side, triangle side marked in black lines, letters "OGDCL" inscribed inside, the letters to be not less than 1½" tall and will be in black. On big packages/boxes/containers, the sides or triangle and letters will be increased appropriately. Underneath the triangle there will be two color code bars in "GREEN" color size six inches in length and 1½" in width. If the above color codes marking is not appropriate/suitable, the sizes and color may be changed".
 - 3.3 Each item of the consignment should also be marked with item # of the Purchase Order.
4. **SHIPPING DOCUMENTS.**
Shipping documents shall consist of the following:
 - 4.1 Original Clean Master Bill of Lading on Freight Pre-Paid Basis signed by the carrier or their authorized agent showing clean shipped on board. Freight forwarders, Third party, Short form, blank back and House Bill of Lading is not acceptable.
 - 4.2 Detail invoice showing commodity description, quantity, unit/total price, total No. of packages, etc. containing original signatures.
 - 4.3 Packing List, (Showing total number of packages, gross/net weight & measurement and Box No. in case of more than one boxes such as Box No. 1/10, 2/1010/10 and so on and detail of equipment in each box.
 - 4.4 Certificate of origin.
 - 4.5 Certificate of compliance of the credit terms as per clause No. 2 in respect of Packing.
 - 4.6 Insurance declaration. A copy of E-mail sent to Insurance Company in compliance to the Clause No. 9 hereunder.
 - 4.7 Copy of E-mail sent in compliance to the Clause No. 6.1 hereunder.
 - 4.8 Third Party Pre-Shipment Inspection Report duly verified by OGDCL officials.
5. **INSTRUCTIONS FOR COMPLETING SHIPPING DOCUMENTS:**
 - 5.1 The shipping invoice should be marked on top in capital words.
 - a) Complete, first and last consignment (if all the contractual material is shipped in one lot.)
 - b) First partial shipment/second partial shipment (and so on). Final and last shipment as the case may if shipments are effected in parts.
 - 5.2 All Invoices should be signed, and must indicate value of each items total value and also show 'SHIPPING MARKS' as provided in the contract.
 - 5.3 All containers of cargo must carry copy of invoice. A compliance certificate in this regard shall be provided along with the shipping documents. In case of noncompliance the beneficiary shall pay the penalty imposed by the Custom Authority.

A

AB

6. **SHIPMENT INTIMATION:**

6.1 The beneficiary within 24-48 hours of making shipment must send E-mail to (1) Dy. Chief Material Officer, Plot No. 21, West Wharf, Karachi, E-mail: abdulwaheed.kunbhar@ogdcl.com (2) Manager (SCM) Foreign, OGDCL House Plot No. 3 (New NO. 3013) F-6/G6, Blue Area, Jinnah Avenue, Islamabad, E-mail: ejaz.rizvi@ogdcl.com (3) Manager Accounts (Imports) on E-mail: imtiyaz.sherazi@ogdcl.com (4) National Insurance Company Limited, Karachi on E-mail: sanaullah.shaikh@nicl.com.pk OR ghulam.akbar@nicl.com.pk, OR info@nicl.com.pk intimating them the following:

- a) L/C numbers and Purchase Order / Contract No.
- b) Name of the Ship & Shipping Line.
- c) Bill of Lading No. & Date.
- d) Total CFR value of the consignment shipped.
- e) Port of shipment.
- f) No. of boxes/packages/pieces.
- g) Net and gross weight.
- h) Expected time of arrival (ETA) of ship.

7. **SHIPMENT INSTRUCTIONS**

- a) The contractor/supplier/vendor is requested to ensure that Commercial Invoice / Packing List shall be pasted on the inner side of the door of container for FCL Shipments and on Boxes / Crates / Cartons etc. for LCL Shipments. Non-Compliance to this instruction may result in penalty imposed by Custom Authorities which shall be recovered from the Contractor/Supplier/Vendor.
- b) Please ensure that in case of CFR purchase order / contracts the local charges at Karachi Seaport/Airport must be included in the freight cost.
- c) The freight forwarders/shipping agents at country of origin must include the corresponding local charges such as delivery order/port handling & container rentals for free time etc. company shall pay only the wharfage/demurrage charges. They should also ensure that there should be only one local agent of the shipping company who should handle such matters. In case OGDCL had to pay such charges, it shall be recovered from the contractor.

8. **INSTRUCTION REGARDING TRANSMISSION/NEGOTIATION OF SHIPPING DOCUMENTS**8.1 **ORIGINAL NEGOTIABLE DOCUMENTS:**

- a) The beneficiary immediately upon making shipment(s) should negotiate the original clean shipping documents free from any discrepancy with negotiating bank as indicated in the L/C.
- b) If clean documents free from any discrepancy are not negotiated within negotiation period mentioned in the L/C, or if the documents are withheld by the Bank on account of any discrepancy whatsoever the demurrage or financial impact if any incurred due to late negotiation of clean documents will be on beneficiary's account.
- c) Original/negotiable documents must contain at least four sets of the shipping documents mentioned under Clause No. 5 above.
- d) The original shipping documents should be dispatched through courier service by the negotiating bank at the beneficiary's cost within 24-48 hours after receipt from the beneficiary.
- e) The discrepant documents with minor discrepancies will be accepted subject to the consent of Procurement Department to facilitate prompt clearance of the consignment on the condition that demurrage, if any due to the discrepancies reported by L/C opening bank will be on beneficiary account.

8.2 **NON-NEGOTIABLE DOCUMENTS:**

- a) Complete sets of non-negotiable shipping documents along with one set of Parts Catalogue, Brochures, Technical Literature must be dispatched OR E-mailed to the Manager (SCM) Foreign at the following address immediately upon shipment is effected: -

MANAGER (SCM) FOREIGN
OIL & GAS DEVELOPMENT COMPANY LIMITED
OGDC HOUSE, PLOT NO. 3 (NEW NO. 3013),
F-6/G-6, BLUE AREA, JINNAH AVENUE,
ISLAMABAD, PAKISTAN.
PHONE NO. 0092-51-92002 3652
E-mail: ejaz.rizvi@ogdcl.com

b) Complete sets of non-negotiable shipping documents must be dispatched OR E-mailed to Dy. Chief Material Officer at the following address immediately upon shipment is effected: -

DEPUTY CHIEF MATERIAL OFFICER,
OIL & GAS DEVELOPMENT COMPANY LIMITED,
PLOT NO. 21, WEST WHARF ROAD, KARACHI, PAKISTAN.
PHONE NO. 0092-21-2311108, 2313119-23, E-mail: abdulwaheed_kunbhar@ogdcl.com

c) The shipping documents should be couriered through any reliable courier company at shipper's cost so that the same must be received at least 10 days before arrival of the vessel.

9. **INSURANCE:**

Insurance from port of shipment/delivery will be covered by openers and declaration shall be made by the beneficiary to Insurance Company i.e. M/S National Insurance Company Limited, NICL Building, South Zone, Abbasi Shaheed Road, off Shahra-e-Faisal Road, Karachi (Pakistan). E-mail: sanaullah.shaikh@nicl.com.pk OR ghulam.akbar@nicl.com.pk OR info@nicl.com.pk and Manager (Accounts) /OGDC LTD., E-mail: imtiyaz_sherazi@ogdcl.com immediately after shipment giving full details of shipment e.g. value of shipment description of material, name of vessel, B/L with date, port of shipment, contract and Letter of Credit Numbers.

10. **DEMURRAGE DUE TO DELAY IN RECEIPT OF ORIGINAL / NEGOTIABLE DOCUMENT / TRANSSHIPMENT AND SHIPPING LINES AGENTS:**

10.1 If clean documents are not negotiated within negotiation period of the L/C or documents are withheld by bank on account of any discrepancy, the demurrage charges, if any incurred due to late negotiation of the clean documents and paid by the OGDCL. will be realized from the beneficiary directly by raising debit advice, or by deducting the amount paid from the L/C value or by encashing Performance Bond (where applicable) to the extent of demurrage amount. In case the demurrage amount exceeds the value of Performance Bond the balance amount will be payable by the beneficiary.

10.2 Transshipment is totally prohibited under this L/C. The beneficiary must ensure that no transshipment takes place against this L/C, and demurrage paid by OGDCL due to transshipment will be on beneficiary's account.

10.3 Any demurrage paid by OGDCL due to inconsistency in B/L and manifest will be recovered from beneficiary.

11. **LIQUIDATED DAMAGES.**

a) If the contractor fails to deliver any or all of the goods within the time period(s) specified in the Contract, the Purchaser shall, without prejudice to other remedies under the contract, deduct from the contract price / Bank Guarantee as liquidated damages, a sum not more than 0.5% of the contract price per week or part thereof for first four weeks, 1.00% per week for next four weeks and 1.5% per week exceeding four weeks up to maximum extent of 10 % of the contract value.

b) In case the Purchaser is satisfied that the delayed / defective shipment was due to some mistake or circumstances beyond the control of the contractor and the contractor has not intentionally or negligently contributed in the delay, the Purchaser may impose Liquidated Damages for not more than a sum equivalent to 0.5% of the delayed or defective shipment per week or part thereof for first two weeks, 1.00 % per week for next three weeks and 1.5% per week exceeding five weeks but not exceeding 10% of the contract value of the delayed/ defective shipment provided that the contractor takes immediate remedial measures for the replacement of defective shipment and takes prompt steps to mitigate the delay. The Purchaser may however, impose Liquidated Damages as per (a) above if the delayed or defective shipment has affected the project completion schedule or has resulted in production losses.

c) Even after imposition of LDs, if the supplier fails to materialize the delivery (material and or services); the Purchaser reserves the right to cancel Purchase order/contract/LC and to forfeit the Guarantee (if applicable) after intimating the supplier for such cancellation / forfeiture.

[Handwritten signatures]

12. **AMENDMENT / EXTENSION OF L/C:**
The beneficiary will positively confirm shipment of all ordered goods within L/C validity or make request for extension of shipment and negotiation dates at least 15 to 30 days prior to the expiry of L/C. If shipment is not effected within L/C validity or request for extension is not received 15 to 30 days prior to expiry of L/C validity, no request for grant of extension in shipment and negotiation will be entertained under any circumstances. In case of extension in shipment/negotiation period, the beneficiary will be required to extend the validity of his performance bond (where applicable) accordingly. All charges on this account will be on beneficiary's account.
13. **CHARGES FOR L/C ESTABLISHMENT:**
13.1 All charges of credit opening bank for credit will be borne by the OGDCL.
13.2 All charges of corresponding bank such as negotiation of documents, adding confirmation to credit etc. will be to the account of beneficiary.
13.3 All charges for amendments / extension in L/C will be to the account of beneficiary.
14. **PAYMENT TERMS:**
The eighty percent (80%) payment will be made against each shipment upon submission of original shipping documents to the LC opening bank, whereas balance twenty percent (20%) payment will be released after receipt, inspection and acceptance of material at OGDCL Stores. Furthermore, payment of balance twenty percent (20%) will be released upon issuance of Acceptance / Delivery Certificate from OGDCL to L/C beneficiary confirming receipt & acceptance of material along with submission of commercial invoice of remaining value.

Purchase Order # 4500000211 (PROC-FE/CB/ECMP-5142/2022)

Accepted by:

Signature

Name of the signatory in Block Letters.....

Company Title of the Signatory.....

Company Seal.....

SYED EJAZ ABBAS RIZVI
Manager (SCL) Foreign
Oil & Gas Development Co. Ltd.
Islamabad

Purchase Order Issuance Authority:
Oil & Gas Development Company Ltd.

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Challenger
Geoinstruments Ltd.

Flag 4

Runhe West Street, Wanda
Industrial Park, Development
Zone, Zhuozhou, Hebei Province,
P.R. China
Tel: +86 312 3628588
Fax: +86 312 3628708
web: www.changdiwutan.com/en

Challenger Geoinstruments Ltd

Letter of Water Proof and Leakage Free Certificate

Dear customer, our Challenger Geoinstruments Ltd is identified as  and . In order to complete the production task on schedule, according to plan, with quality and quantity guaranteed, and meet the seismic exploration requirements of customers, we make the following statements and commitments:

- ① WPSR 428XL
- ② 428XL FDUI LID ASSEMBLY
- ③ G3I RECEIVER LINE CABLE
- ④ GEOPHONE SPREAD CABLE FOR REFRACTION SERVEY
- ⑤ STANDARD VERTICAL GEOPHONE 4.5HZ FOR REFRACTION SERVEY

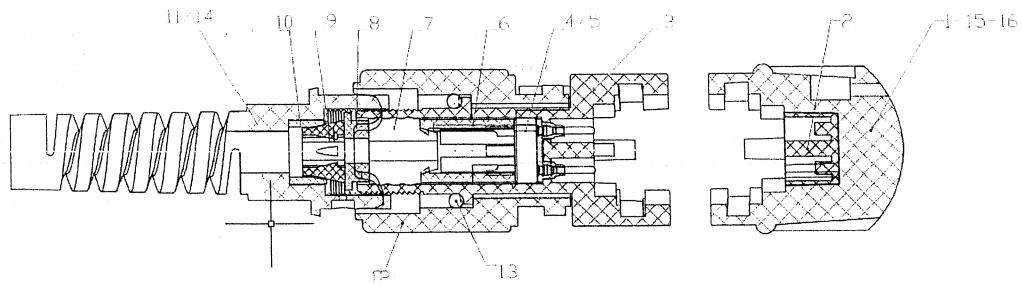
2. Product quality inspection before leave factory

- a. Water leakage detection; Test geophone and cable insulation resistance with 500V electronic megohm meter. (Geophone and cable should be placed in water during test).
- b. Ensure that each geophone and cable meets the design requirements of water and leakage.

Challenger Geoinstruments Ltd
涿州昌迪石油仪器有限公司
16 Jan 2022
Challenger Geoinstruments Ltd

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Annexure B



SN	Number	Name	Quantity
1	CT428-01	dust cap	1
2	CT428-02	Dust cap gasket	1
3	CT428-03	The plug body	1
4	CT428-04	Pin component	1
5	CT428-05	Pin gasket	1
6	CT428-06	spacer sleeve	1
7	CT428-07	sealing gasket	1
8	CT428-08	cushion	1
9	CT428-09	Card line block	1
10	CT428-10	Line card holder	1
11	CT428-11	tail pipe	1
12	CT428-12	Connecting Set	1
13	CT428-13	O-ring	1
14		Tapping screw 2.6x6	1
15		steel wire rope	1
16		copper pipe	2