

25th March, 2019

REF: GDC/MS/005/18-19/pk-maf

TO: ALL BIDDERS

Dear Sirs,

ADDENDUM 1: CLARIFICATION

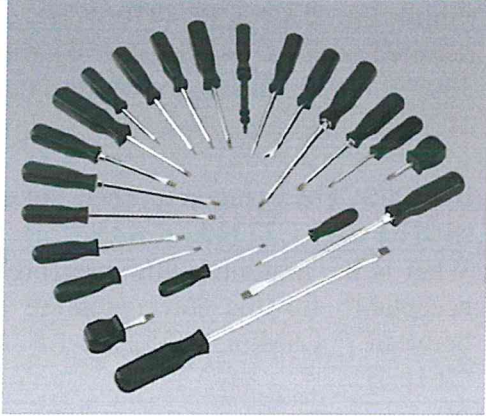
RE: TENDER FOR SUPPLY OF RIG TOOLS, SPARES, CONSUMABLES & BOOSTER COMPRESSOR FOR MENENGAI GEOTHERMAL PROJECT – TENDER NO. GDC/DO/ICB/020/2018-2019



In response to bidder's request for clarification, GDC wishes to respond as follows;

No	Bidders Question	GDC Response									
1.	SCHEDULE A - What is the size of process connection in inches of the Densitometer?	The specification of the Densitometer & the drawings is as attached (<i>Attachment I</i>)									
2.	SCHEDULE A - Can any other model or make be provided, if the specified requirements are met?	The specification of the Densitometer & the drawings is as attached (<i>Attachment I</i>)									
3.	SCHEDULE C – Drilling Tools - What is the rated loading capacity of <table border="1" data-bbox="248 1290 791 1518"> <tbody> <tr> <td>Elevator</td> <td>8" drill collar elevator</td> <td>1</td> </tr> <tr> <td>Elevator</td> <td>6" collar elevator</td> <td>1</td> </tr> <tr> <td>Cross over sub</td> <td>5" drill pipe elevator</td> <td>1</td> </tr> </tbody> </table>	Elevator	8" drill collar elevator	1	Elevator	6" collar elevator	1	Cross over sub	5" drill pipe elevator	1	<p>1. Drill Collar Elevators: The rated loading capacity for drill collar elevators is 350 tons</p> <p>2. 5" Drill Pipe Elevators: The rated loading capacity is 350 tons.</p>
Elevator	8" drill collar elevator	1									
Elevator	6" collar elevator	1									
Cross over sub	5" drill pipe elevator	1									
4.	SCHEDULE C – DOWN HOLE TOOLS Item 21 - 8" DC-6 1/2"DC Crossover - 6 5/8 REG Pin down- NC50 (4 1/2 IF) Box up thread connections Outside diameter-8.0", Inside Diameter-2- 13/16, Average Length-24" - Is Average Length-24" the length of the whole joint? According to API standard, the length of the variable diameter joint should be 48."	8"DC-6 1/2"DC Crossover: The crossover is to cross from 8 inch Drill collar to 6 1/2 inch drill collar/heavy weight drill pipe. The thread connection shall be 6 5/8 R Pin down by 4 1/2 IF (NC50) box up with 2-13/16 internal diameter. The length of the crossover should be about 0.48m to 0.5 m and shall meet API standards									
5.	SCHEDULE C – DOWN HOLE TOOLS	6 1/2" DC-8"DC Crossover: The thread connection shall be 6 5/8 R Box up by 4 1/2 IF (NC50) pin down									



	<p>Item 22 - 6 1/2" DC-8"DC Crossover - NC50 PIN down -6 5/8 Box Up, Outside diameter 8", inside diameter 2-13/16", Average Length-24"</p> <p>Is Average Length-24" the length of the whole joint? According to API standard, the length of the variable diameter joint should be 48."</p>	<p>with 2-13/16 internal diameter. The length of the crossover should be about 0.48m to 0.5 m and shall meet API standards.</p>
6.	<p>SCHEDULE C – DOWN HOLE TOOLS</p> <p>Item 23 - Swivel crossover - 7 5/8 REG BOX-6 5/8 REG PIN(LH) Thread connection, Outside diameter-8.0" Average length-11" - It is impossible to process 75/8REG thread for Outside diameter-8.0". According to the standard 8.0 "outer diameter, only 65/8REG or NC61 thread can be processed. The minimum outer diameter of 7.5/8 REG thread is 225.42 mm. Is Average Length-11" the length of the whole joint?.</p>	<p>Swivel Sub: 7 5/8 REG Pin (LH) by 6 5/8 REG PIN (LH) thread connection. Outside diameter is 10 inches and the approximate length 11 inches for the whole joint. The Specs shall meet API standards.</p>
7.	<p>SCHEDULE C – DOWN HOLE TOOLS</p> <p>Item 24 - Upper Kelly Cork - 6 5/8 REG Box-6 5/8 REG PIN(LH) Thread Connection, Outside diameter 6-1/8", Inside diameter 3 1/4" - It is impossible to process 75/8REG thread for Outside Diameter-6-1/8". only NC46 thread can be processed. he minimum outer diameter of 7.5/8 REG thread is 225.42 mm.</p>	<p>Upper Kelly Cork: 6 5/8 REG (LH) Box up by 6 5/8 REG (LH) Pin down Thread Connection, Outside diameter is 7¾", Inside diameter 2 -13/16". The length should be approximately 36 inches (0.9m). Shall meet API standards.</p>
8.	<p>SCHEDULE C – DOWN HOLE TOOLS</p> <p>Item 25 - Lower Kelly Cork - 6 5/8 REG Box-NC50 PIN(RH) Connection, Outside Diameter-6-1/8", Inside Diameter-3-1/8" - It is impossible to process 6 5/8REG thread for Outside Diameter-6-1/8". only NC46 thread can be processed. The minimum outer diameter of 6 5/8 REG thread is 190.5 mm.</p>	<p>Lower Kelly Cork: 6 5/8 REG (LH) Box up-NC50 (RH) Pin Connection, Outside Diameter-7¾ ", Inside Diameter-2-13/16". The approximate length should be approximately and shall meet API standards.</p>
9.	<p>SCHEDULE C – DOWN HOLE TOOLS</p> <p>Item 26 - Kelly Saver Sub - NC50 Box-NC50 Pin Thread connections, Outside diameter- 6-1/8", Inside Diameter-3-1/4" - It is impossible to process NC50 thread for Outside Diameter-6-1/8". only NC46 thread can be processed. The minimum outer diameter NC50 thread is 161.92 mm.</p>	<p>Kelly Saver Sub: NC50 Box-NC50 Pin thread connections, Outside diameter- 6½", Inside Diameter-3¼"</p>

10.	What is the Size of casing in gas injection well, depth of well, hydrogen sulfide in gas injection and deviation of well? Please confirm the applicable temperature is 350°?	Please refer to the specification indicated in the tender document
10.	Schedule G – Booster Compressor – What kind of gas will this compressor be used for;	Air
11.	Schedule C Page 3-77 No. 32 Hook, - can we provide without manufacturer authorization	The hook should meet the specifications specified in schedule C section VII of the tender document. If the bidder is the manufacturer then manufacturer's authorization is not mandatory. However the bidder must provide the manufacturers authorization if the intention is to source the equipment from elsewhere.
12.	Schedule D/page 3-79 No. 1 Mobile wire line winch, the survey winch tension is 400kg, is it acceptable?	The winch must meet the requirements specified in scheduled C section VII of the tender document.
13.	Schedule D/page 3-79 No. 2, 8" low speed Hi temp vector drill mud motor, bent angle 0-3.5°, can we provide 0-3° and is this acceptable?	6 3/4" low speed Hi Temp, Vector drill mud motor, air/foam mud motor (adjustable angle). Bend angle adjustment from 0-3° is acceptable. The maximum should not be less than 3°.
14.	Schedule D – No. 3 vector drill mud motor the bent angle required is 0-3.5°, can we provide 0-3° and is this acceptable?	
15.	Schedule D – No. 6 Hi temperature electronic survey kit, where does this kit use?	This tool is for taking directional surveys in directional drilling. The kit must have the capability of taking multi shot surveys in high temperature wells.
16.	Schedule F No. 4 screw driver Philips, can you provide some pictures	 <ul style="list-style-type: none"> •Chrome Vanadium steel shafts fully hardened, tempered and chrome plated. •Driver tips are hardened, shot blasted and magnetized.
17.	Schedule F No. 5 screw driver for pozidriv screws pzo, provide some pictures	
18.	Schedule F No. 6 screw driver for pozidriv screws pz2, provide some pictures	

19.	Schedule F No. 32 spherical head hex keys 1.5mm-10mm (allen keys) provide some pictures	
20.	Schedule F No. 48 filter wrench 12' provide some pictures	
21.	<p>Schedule G Page 3-84 No. 1 Booster Compressor? Confirm the required flowrate is 3600SCFM or 3600Nm³/h?</p> <p>(Since the CAT C18 (470 KW) engine required cannot match the flowrate of 3600SCFM, but match exactly the flowrate of 3600Nm³/h.</p> <p>If 3600SCFM is required, then the engine shall be CAT C27 (653 KW).)</p> <p>What is the minimum inlet pressure? Is it acceptable for the inlet pressure to be between 1.6MPa (232psi)-1.8 MPa (261psi)?</p> <p>Please provide the inlet air quality of the booster:</p> <p>1) the inlet air temperature:</p>	Please find the attached specifications (<i>Attachment II</i>)

	<p>Whether the cooling fan of booster can be driven by motor? If it is driven by motor, it needs 380V/3PH/50HZ power of about 20KW.</p> <p>Is there any power supply available on site?</p> <p>Please provide on-site ambient temperature range and onsite altitude for us to optimize the design</p>	
22.	Schedule D: Technical Requirements for Directional Drilling Tools Items 10 & 12 We Will Require Drawings. Please Provide	Refer to the tender document for the technical specifications
23.	SCHEDULE D: Technical Requirements for Directional Drilling Tools Items 11 , 13 & 14 Please Advise what series and whether you require Just The Sleeve Or Sleeve and Mandril	Sleeves
24.	Clarify the years of submission for the audited balance sheets or other financial statements acceptable to the Purchaser?	The years of submission for the audited balance sheets or other financial statements are the years 2017, 2016 and 2015 respectively.

NB: All the instructions including the tender closing date of **15th April, 2019 at 1100HRS** remain unchanged.

Yours faithfully,



MANAGER SUPPLY CHAIN
FOR: GEOTHERMAL DEVELOPMENT COMPANY



Attachment I

TECHNICAL SPECIFICATIONS FOR DENSITOMETER

DENSITOMETER

MODEL: F300S35CQBAMZZZZ

SENSOR No.: 14223430

DUAL SEAL

ELECTRONIC INPUT=17.3V, 160Ma

TEMP CODE: T3A

AMBIENT TEMP: -40°C to +60°C

FLOW Cal*=7950.94.52

Dens Calc=0210402527470

D1 0. K1:2104.445

D2 1 K2:2526.931D

DT 4.7 FD30000

FLUID TEMP= -100°C to 204°C

Pmax**275 case *** none psig

MICRO MOTION TRANSMITTER

MODEL: 2700R12BBAMZZZ

MODEL S/N: 3167065

SENSOR S/N: 14216346

VOLT 18-100 DC or 85-265 AC

POWER: 7 Watts

Temp Code: T4A

Ambient Temp: -40°C to 55°C

Comm. Cable: E3267789UAWM2027922AWG 80°C 30v AWM/I/A FT 2 LF ANCHEER

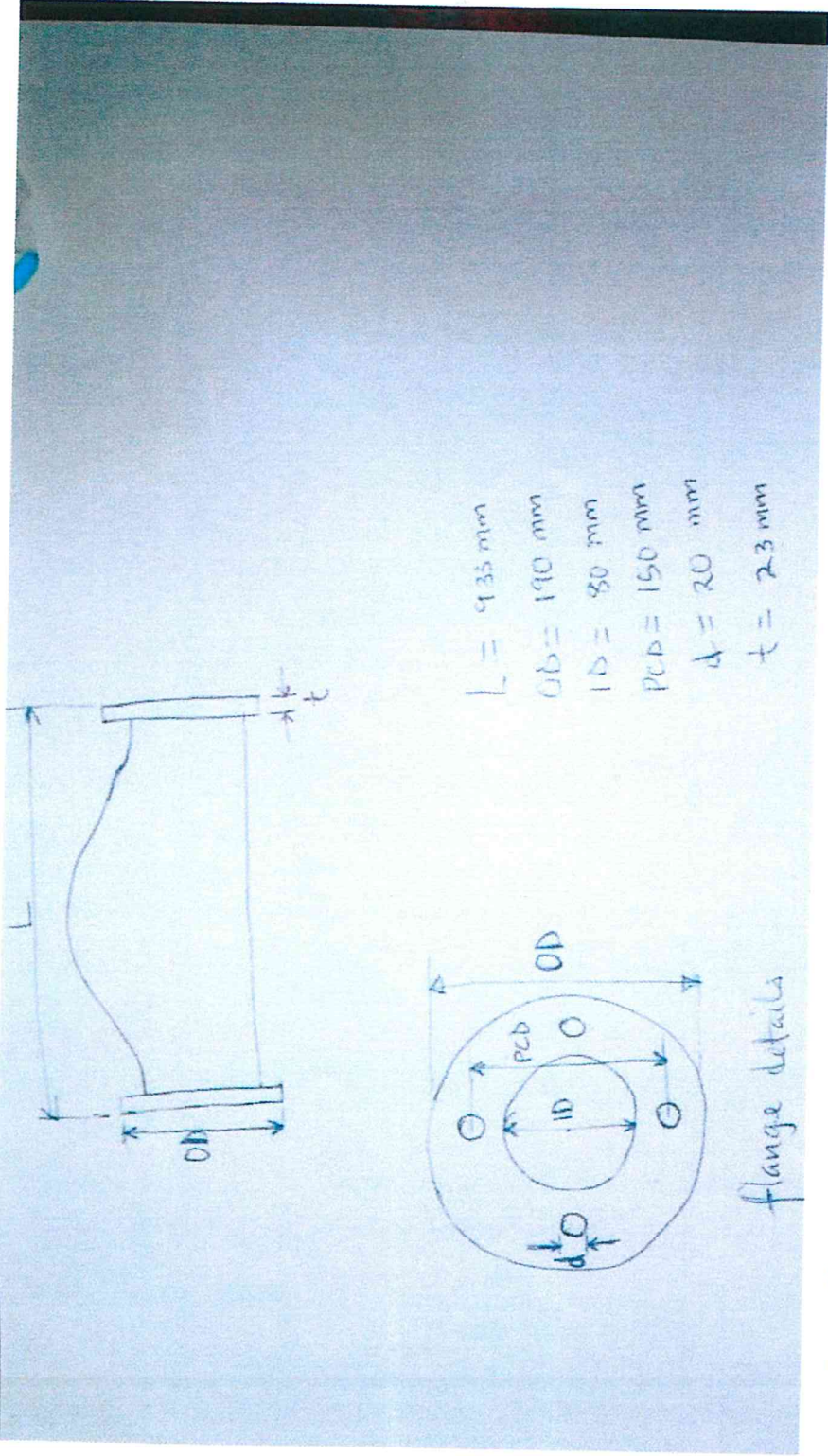
Signature
J. Morche

Signature

L.M. 04.3.207

Attachment I - Cont'd

The overall length and flange details are as shown in the sketch below:



Prepared by:

Lawrence M. Murungi
Senior Engineer, Cementing 04.3.2019.

Approved by:

Johnstone Maleche
Manager, Drilling Operations

ATTACHMENT II

BOOSTER

CAPACITY @ 350 PSIG SUCTION 2900 SCFM TWO STAGE MODE
@ 2175 PSIG DISCHARGE @ 1800 RPM
CAPACITY @ 350 PSIG SUCTION 3865 SCFM SINGLE STAGE MODE
@ 800 PSIG DISCHARGE @ 1800 RPM
SEE CAPACITY SHEET IN OPERATION SECTION FOR MORE DETAIL
MAXIMUM DISCHARGE PRESSURE 2175 PSIG TWO STAGE MODE
MAXIMUM DISCHARGE PRESSURE 800 PSIG SINGLE STAGE MODE
OPERATING SPEED 1200 RPM - 1800 RPM
MAXIMUM OVERALL COMPRESSION RATIO 6.00:1 TWO STAGE MODE
FROM SUCTION PRESSURE
MAXIMUM OVERALL COMPRESSION RATIO 2.23:1 SINGLE STAGE MODE
FROM SUCTION PRESSURE
MINIMUM OVERALL COMPRESSION RATIO 3.28:1 TWO STAGE MODE
FROM SUCTION PRESSURE
MINIMUM OVERALL COMPRESSION RATIO 1.81:1 SINGLE STAGE MODE
FROM SUCTION PRESSURE
FAILURE TO KEEP BOOSTER DISCHARGE PRESSURE ABOVE MINIMUM
COMPRESSION RATIO COULD RESULT IN CROSSHEAD, COMPRESSOR PISTON,
NEEDLE BEARING, BLOCK, AND/OR CRANKSHAFT DESTRUCTION. CHOKE
PRESSURE BACK IF NECESSARY. SEE CAPACITY SHEETS IN OPERATION SECTION
FOR MORE DETAIL.

ENGINE

MODEL CATERPILLAR C18
RATING 630 BHP @ 1800 RPM
INDUSTRIAL-C INTERMITTENT CURVE
FUEL DIESEL
ELECTRICAL SYSTEM 24 VDC

UNIT MEASUREMENTS

OVERALL LENGTH 17'-10" (214")
OVERALL WIDTH 7'-5" (89")
HEIGHT TOP OF FRAME 7'-5" (88.5")
OVERALL HEIGHT 7'-8" (92.5")
(OVERALL HEIGHT INCLUDES AIR CLEANER BONNET)

WEIGHT

DRY 17160 POUNDS
WET 17500 POUNDS

FLUID CAPACITIES

PUMPER LUBRICATING OIL 10 GALLONS (INCLUDES FILTER)
ENGINE LUBRICATING OIL 10 GALLONS (INCLUDES FILTER)
COOLANT SYSTEM 23 GALLONS
FUEL TANK NONE, BULKHEAD CONNECTIONS

