

**OIL & GAS DEVELOPMENT COMPANY LIMITED**  
**PROCUREMENT DEPARTMENT, ISLAMABAD**  
**FOREIGN SECTION**

(To be completed, filled in, signed  
and stamped by the principal)

ANNEXURE 'A'

Material ONLINE GAS CHROMATOGRAPH FOR CUSTODY TRANSFER POINTS OF PRODUCTION FIELDS.

Tender Enquiry No PROC-FE/CB/PROD-5304/2022

Due Date

Evaluation Criteria MAIN ITEM

**SCHEDULE OF REQUIREMENT**

Sr No	Description	Unit	Quantity	Unit Price (TOB)	Total Price (TOB)	Unit Price (C&F BY SEA)	Total Price (C&F BY SEA)	Delivered from
1	ONLINE GAS CHROMATOGRAPH WITH ALL ACCESSORIES. DETAIL SPECIFICATIONS ARE ATTACHED AT ANNEXURE-Z.		3					INDIA

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

**2. Bid Bond Amount:**

USD 6,500/- (United States Dollars Six Thousand Five Hundred only) or equivalent Pak Rupees 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 (Press-Single Stage Two Envelope) available on OGDCL website

**3. Delivery Period:** 05 Months from the LC establishment.

**4. Evaluation Criteria:** - Main Item/ Equipment Wise on CFR By Sea basis. The Cost of Main Equipment including accessories & commissioning spares.

**5. Bidder to provide** Un-priced list of recommended spares with quantity to be provided with technical bid. **Unit price of each quoted spare to be provided in the financial bid only.**

**6.** 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 Envelope) available on OGDCL website which is an integral part of this Schedule of Requirement

**7.** No payment will be accepted in shape of traditional banking instruments like Pay Order, Bankers Cheque, and Demand Draft etc. However, there will be no change in acceptance of Bid Bond in shape of Bank Guarantees issued by the banks as per OGDCL Tender Document. Bidders are advised to ensure enclosure of documentary evidence of Transfer of Bid Bond amount into OGDCL Bank Account with their sealed technical bids at the time of bid submission. Failure to which shall result in rejection of their bid

  
**ABIDA PARVEEN**  
Sr. Engr. (Telemetry)  
Ext: 2575





**DATA SHEET**  
**GAS CHROMATOGRAPH #1**

ANNEXURE-Z

**General**

1	Service	Custody Transfer
2	Quantity	One (01)
3	Electrical Area Class/Certification	Class 1, Division 1, IECEx Exd IIB/ ATEX II 2G
4	Calculations	GPA standard, Compressibility - AGA#8 and ASTM D3588
5	Ambient Temperature	- 5 to 55 deg C
6	Process Line Size	6 Inch
7	Process line pressure	1100 Psi
8	Process line Temperature	55 to 60 Deg C

**Functional Specification**

9	Power Supply	12/24 VDC
10	Power Source	Integrated Solar Panel/Generator (Not in vendor's scope)
11	Communication with online Gas Glow Computer (F.C.)	Transfer of data (BTU, WOBBE Index, Sale Gas Composition, Alarms etc) to F.C. and workstations through a serial or local communication
12	Local display with keypad	For monitoring of data and parameters
13	Programming Software	Windows based GUI/HMI type
14	Digital Input	Two (02)
15	Digital Output	Two (02)
16	Communication Port	Three (03) RS232, RS422/ RS485/Ethernet
17	Communication Protocol	MODBUS, TCP/IP

**Performance Specifications**


18	Measurement Principle	Thermal Conductivity (TCD)
19	Number of Columns	Two (02) or more
20	Number of Sensors	Four (04) or more
21	Sample Injection Valve	Diaphragm (no moving parts)
22	Analysis Cycle Time	4 minutes or less
23	Repeatability	max +/- 0.25 BTU per 1,000 Btu (-18 to 55 Deg C)
24	Manual data entry	GC shall be capable of accepting a manual entry of the characterization of components from up to C6+ inclusive, together with additional components, including water vapor, which may not be detectable by the chromatograph.
25	Data Logging/downloading	The GC should have the capability to download data such as components concentration, chromatograms, response factors, area charts, normalized and non normalized data, alarms and event logs for remote troubleshooting via serial link
26	Data archiving/storage	Archives of every analysis cycle for minimum 45 days in nonvolatile memory. Storage of Event and Alarm logs.
27	Security level	Sealable switch, password protected
28	Process Stream	Three (03)
29	Calibration Stream	One (01)
30	Carrier Gas	Helium (purity 99.995%)
31	Automatic Startup	Yes
32	Automatic Diagnostic	Yes

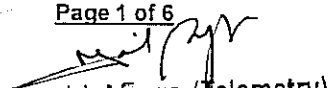
**Equipment**

33	Enclosure protection	NEMA 4X / IP66
34	Mounting	Both Wall and Pipe Mount (2 to 12") fittings


**Sample Conditioning System**

35	No. of Sample Streams	02 (01 for Analyzer, 01 for manual sampling)
36	Balston Filter	Yes
37	Genie Membrane Filter	Yes
38	Inline Filter	Yes
39	Purge Coil	Yes

  
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Manager (PE & FD)  
Ext: 3835

  
**M. F. (Telemetry)**  
Oil & Gas Dev. Company Ltd.  
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		<b>DATA SHEET</b> <b>GAS CHROMATOGRAPH #1</b>	ANNEXURE-Z
<b>Process Data</b>			
40	Component (%mol)	Typical Concentration	
41	N2	0.7724	
42	CO2	3.21	
43	H2S	0.00	
44	C1	81.88	
45	C2	7.13	
46	C3	3.59	
47	i-C4	0.46	
48	n-C4	0.96	
49	i-C5	0.26	
50	n-C5	0.26	
51	Hexane +	0.39	
52	Gross Heating Value (BTU/SCF)	1050	
<b>Commissioning Spares</b>			
53	Carrier Gas Cylinders with Stainless Steel Regulator certificates and minimum two year shelf life expiry .	Qty (05)	
54	Calibration Gas Cylinders with Stainless Steel Regulator as per given sale gas composition with minimum two year shelf life expiry .	Qty (01)	
55	Mounting rack/stand for both carrier and calibration Gas Cylinders	Capable of housing both carrier and calibration Gas Cylinders	
56	Sample Probe	Retrievable sample probe (Qty 1) for pipe line (6" Size) connection of 1" NPT	
57	Configuration machine	Qty (01) with latest specs & O.S, data communication cables & GC software.	
<b>Note:</b> The cost of the commissioning spares shall be included in financial evaluation.			
<b>2 years Operational Spares</b>			
58	2-Years Operational spares as per Vendor's recommended list	1 Lot	
<b>Note:</b> a. The cost of Spare parts shall be not more than 10% of total of cost of the unit. b. The Packager/ Manufacturer shall furnish in its bid an itemized price list of all two years vendor's recommended operational spares. c. The cost of item / Spare Parts shall not be included in Financial Evaluation.			
<b>Accessories</b>			
59	Pressure Regulators with SS-316 wetted parts	Qty. 02 (Two) to reduce sample pressure from 1100 psi in two stages	
60	Valve Manifold	Yes	
61	Containment trap	Yes (to remove heavy hydrocarbons from sample stream)	
62	Liquid Separator	Yes (Membrane type - to remove entrained liquids from sample stream)	
<b>Documentation</b>			
63	Calibration Certificates	Yes (Compulsary: iFAT, Optional: Customer FAT)	
64	Certificate of Origin	Yes	
65	Certificate of Conformity	Yes	
66	Documentation	Startup/Configuration/O&M manual (hard & soft copy)	
67	Certificates	Startup/Configuration/O&M manual (hard & soft copy)	

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**DATA SHEET**  
**GAS CHROMATOGRAPH #2**

ANNEXURE-Z

**General**

1	Service	Custody Transfer
2	Quantity	One (01)
3	Electrical Area Class/Certification	Class 1, Division 1, IECEx Exd IIB/ ATEX II 2G
4	Calculations	GPA standard, Compressibility - AGA#8 and ASTM D3588
5	Ambient Temperature	- 5 to 55 deg C
6	Process Line Size	6 Inch
7	Process line pressure	1100 Psi
8	Process line Temperature	55 to 60 Deg C

**Functional Specification**

9	Power Supply	12/24 VDC
10	Power Source	Integrated Solar Panel/Generator (Not in vendor's scope)
11	Communication with online flow Computer	Transfer of data (BTU, WOBBE Index, Sale Gas Composition, Alarms etc) to F.C. and workstations through a serial or local communication
12	Local display with keypad	For monitoring of data and parameters
13	Programming Software	Windows based GUI/HMI type
14	Digital Input	Two (02)
15	Digital Output	Two (02)
16	Communication Port	Three (03) RS232, RS422/ RS485/Ethernet
17	Communication Protocol	MODBUS, TCP/IP

**Performance Specifications**

18	Measurement Principle	Thermal Conductivity (TCD)
19	Number of Columns	Two (02) or more
20	Number of Sensors	Four (04) or more
21	Sample Injection Valve	Diaphragm (no moving parts)
22	Analysis Cycle Time	4 minutes or less
23	Repeatability	max +/- 0.25 BTU per 1,000 Btu (-18 to 55 Deg C)
24	Manual data entry	GC shall be capable of accepting a manual entry of the characterization of components from up to C6+ inclusive, together with additional components, including water vapor, which may not be detectable by the chromatograph.
25	Data Logging/downloading	The GC should have the capability to download data such as components concentration, chromatograms, response factors, area charts, normalized and non normalized data, alarms and event logs for remote troubleshooting via serial link
26	Data archiving/storage	Archives of every analysis cycle for minimum 45 days in nonvolatile memory. Storage of Event and Alarm logs.
27	Security level	Sealable switch, password protected
28	Process Stream	Three (03)
29	Calibration Stream	One (01)
30	Carrier Gas	Helium (purity 99.995%)
31	Automatic Startup	Yes
32	Automatic Diagnostic	Yes

**Equipment**

33	Enclosure protection	NEMA 4X / IP66
34	Mounting	Both Wall and Pipe Mount (2 to 12") fittings

**Sample Conditioning System**

35	No. of Sample Streams	02 (01 for Analyzer, 01 for manual sampling)
36	Balston Filter	Yes
37	Genie Membrane Filter	Yes
38	Inline Filter	Yes
39	Purge Coil	Yes



**DATA SHEET**  
**GAS CHROMATOGRAPH #2**

ANNEXURE-Z

**Process Data**

40	Component (%mol)	Typical Concentration
41	N2	1.83
42	CO2	1.64
43	C1	88.19
44	C2	4.96
45	C3	1.88
46	i-C4	0.45
47	n-C4	0.48
48	i-C5	0.25
49	n-C6	0.14
50	Hexane +	0.18
51	Specific Gravity	0.6464
52	Gross Heating Value (BTU/SCF)	1080

**Commissioning Spares**

53	Carrier Gas Cylinders with Stainless Steel Regulator certificates and minimum two year shelf life expiry .	Qty (05)
54	Calibration Gas Cylinders with Stainless Steel Regulator as per given sale gas composition with minimum two year shelf life expiry .	Qty (01)
55	Mounting rack/stand for both carrier and calibration Gas Cylinders	Capable of housing both carrier and calibration Gas Cylinders
56	Sample Probe	Retrievable sample probe (Qty 1) for pipe line (6" Size) connection of 1" NPT
57	Configuration machine	Qty (01) with latest specs & O.S, data communication cables & GC software.
<b>Note:</b> The cost of the commissioning spares shall be included in financial evaluation.		

**2.years Operational Spares**

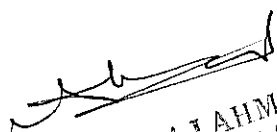
58	2-Years Operational spares as per Vendor's recommended list	1 Lot
<b>Note:</b> a. The cost of Spare parts shall be not more than 10% of total of cost of the unit. b. The Packager/ Manufacturer shall furnish in its bid an itemized price list of all two years vendor's recommended operational spares. c. The cost of item / Spare Parts shall not be included in Financial Evaluation.		

**Accessories**


59	Pressure Regulators with SS-316 wetted parts	Qty. 02 (Two) to reduce sample pressure from 1100 psi in two stages
60	Valve Manifold	Yes
61	Containment trap	Yes (to remove heavy hydrocarbons from sample stream)
62	Liquid Separator	Yes (Membrane type - to remove entrained liquids from sample stream)


**Documentation**


63	Calibration Certificates	Yes (Compulsary: iFAT, Optional:Customer FAT)
64	Certificate of Origin	Yes
65	Certificate of Conformity	Yes
66	Documentation	Startup/Configuration/O&M manual (hard & soft copy)
67	Certificates	Startup/Configuration/O&M manual (hard & soft copy)

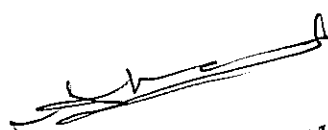
  
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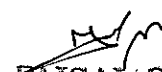
  
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		<b>DATA SHEET</b> <b>GAS CHROMATOGRAPH #3</b>
<b>General</b>		
1	Service	Custody Transfer
2	Quantity	One (01)
3	Electrical Area Class/Certification	Class 1, Division 1, IECEx Exd IIB/ ATEX II 2G
4	Calculations	GPA standard, Compressibility - AGA#8 and ASTM D3588
5	Ambient Temperature	- 5 to 55 deg C
6	Process Line Size	6 Inch
7	Process line pressure	1100 Psi
8	Process line Temperature	55 to 60 Deg C
<b>Functional Specification</b>		
9	Power Supply	12/24 VDC
10	Power Source	Integrated Solar Panel/Generator (Not in vendor's scope)
11	Communication with online flow Computer	Transfer of data (BTU, WOBBE Index, Sale Gas Composition, Alarms etc) to F.C. and workstations through a serial or local communication
12	Local display with keypad	For monitoring of data and parameters
13	Programming Software	Windows based GUI/HMI type
14	Digital Input	Two (02)
15	Digital Output	Two (02)
16	Communication Port	Three (03) RS232, RS422/ RS485/Ethernet
17	Communication Protocol	MODBUS, TCP/IP
<b>Performance Specifications</b>		
18	Measurement Principle	Thermal Conductivity (TCD)
19	Number of Columns	Two (02) or more
20	Number of Sensors	Four (04) or more
21	Sample Injection Valve	Diaphragm (no moving parts)
22	Analysis Cycle Time	4 minutes or less
23	Repeatability	max +/- 0.25 BTU per 1,000 Btu (-18 to 55 Deg C)
24	Manual data entry	GC shall be capable of accepting a manual entry of the characterization of components from up to C6+ inclusive, together with additional components, including water vapor, which may not be detectable by the chromatograph.
25	Data Logging/downloading	The GC should have the capability to download data such as components concentration, chromatograms, response factors, area charts, normalized and non normalized data, alarms and event logs for remote troubleshooting via serial link
26	Data archiving/storage	Archives of every analysis cycle for minimum 45 days in nonvolatile memory. Storage of Event and Alarm logs.
27	Security level	Sealable switch, password protected
28	Process Stream	Three (03)
29	Calibration Stream	One (01)
30	Carrier Gas	Helium (purity 99.995%)
31	Automatic Startup	Yes
32	Automatic Diagnostic	Yes
<b>Equipment</b>		
33	Enclosure protection	NEMA 4X / IP66
34	Mounting	Both Wall and Pipe Mount (2 to 12") fittings
<b>Sample Conditioning System</b>		
35	No. of Sample Streams	02 (01 for Analyzer, 01 for manual sampling)
36	Balston Filter	Yes
37	Genie Membrane Filter	Yes
38	Inline Filter	Yes
39	Purge Coil	Yes

		<b>DATA SHEET</b> <b>GAS CHROMATOGRAPH #3</b>	
<b>Process Data</b>			
40	Component (%mol)	Typical Concentration	
41	Nitrogen	0.7724	
42	Carbon Dioxide	0.6537	
43	Ethane	2.7424	
44	Propane	0.7065	
45	Isobutane	0.2253	
46	N-butane	0.2225	
47	Isopentane	0.146	
48	N-pentane	0.1067	
49	N-hexane	0.314	
50	Methane Balance	94.1105	
51	Gross Heating Value (BTU/SCF)	1055	
<b>Commissioning Spares</b>			
52	Carrier Gas Cylinders with Stainless Steel Regulator certificates and minimum two year shelf life expiry .	Qty (05)	
53	Calibration Gas Cylinders with Stainless Steel Regulator as per given sale gas composition with minimum two year shelf life expiry .	Qty (01)	
54	Mounting rack/stand for both carrier and calibration Gas Cylinders	Capable of housing both carrier and calibration Gas Cylinders	
55	Sample Probe	Retrievable sample probe (Qty 1) for pipe line (6" Size) connection of 1" NPT	
56	Configuration machine	Qty (01) with latest specs & O.S, data communication cables & GC software.	
<b>Note:</b> The cost of the commissioning spares shall be included in financial evaluation.			
<b>2 years Operational Spares</b>			
57	2-Years Operational spares as per Vendor's recommended list	1 Lot	
<b>Note:</b> a. The cost of Spare parts shall be not more than 10% of total of cost of the unit. b. The Package/ Manufacturer shall furnish in its bid an itemized price list of all two years vendor's recommended operational spares. c. The cost of item / Spare Parts shall not be included in Financial Evaluation.			
<b>Accessories</b>			
58	Pressure Regulators with SS-316 wetted parts	Qty. 02 (Two) to reduce sample pressure from 1100 psi in two stages	
59	Valve Manifold	Yes	
60	Containment trap	Yes (to remove heavy hydrocarbons from sample stream)	
61	Liquid Separator	Yes (Membrane type - to remove entrained liquids from sample stream)	
<b>Documentation</b>			
62	Calibration Certificates	Yes (Compulsary: iFAT, Optional: Customer FAT)	
63	Certificate of Origin	Yes	
64	Certificate of Conformity	Yes	
65	Documentation	Startup/Configuration/O&M manual (hard & soft copy)	
66	Certificates	Startup/Configuration/O&M manual (hard & soft copy)	

  
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**FAISAL QAYYUM**  
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 Ext 2801

  
**ABIDA PARVEEN**  
 Sr. Engr. (Telemetry)  
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## 1.0 TERMS & CONDITIONS

- a) Bidder /Manufacturer must have a proven track manufacturing record of Gas Chromatograph over a minimum period of ten (10) years. Bidder is required to submit documentary evidence (purchase orders) in this regard.
- b) Bidder /Manufacturer shall provide warranties/guarantees regarding the performance of WHCP according to the tender specifications.
- c) Bidder /Manufacturer shall be responsible to ensure the delivery of complete material within 05 Months after the establishment of L/C.
- d) Bidder /Manufacturer shall be responsible to provide Original Testing and Calibration Certificates of the equipment.
- e) Bidder /Manufacturer shall provide Certificate of Origin of all quoted items.
- f) Bidder /Manufacturer shall ensure that all material being used in the Gas Chromatograph shall be new and free of defects in any way.
- g) Bidder to quote price of Main Equipment including Commissioning Spares and Accessories and to provide un-priced list of recommended spares with quantity in technical bid. Unit price of each quoted spares to be provided in the financial bid.
- h) Non-compliance of any Tender Specification mentioned in Annexure-Z may lead to disqualification