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Client:	LabTech Corporation Inc <i>Uni. of Oklahoma</i>		
Quotation Number:	15496 <i>16407</i>	Date:	24/03/2021 <i>16/8/22</i>
Job Number:	JN1255 <i>IN1290</i>	Date:	24/03/2021 <i>26/8/22</i>

- ☐ 1 QUOTATION
- ☐ 2 CUSTOMER ORDER
- ☐ 3 MACHINE SPECIFICATION DOCUMENT_S027_v11
- ☐ 4 LOG SHEET_S028_v3
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- ☐ 10 PACKING LIST_S035b_v6
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- ☐ 12 INSTALLATION ACCEPTANCE AND WARRANTY CERTIFICATE_S071_v3

ADDITIONAL:

Payment Terms:

50% / 40% / 10%

Other: please specify

Penalty Clause Yes / No

Please specify: _____

Blue Book Completion:

Signed		Date	
Verified		Date	

CONTENTS PAGE

Client:	University of Oklahoma		
Quotation Number:	16407	Date:	16/08/2022
Job Number:	IN1290	Date:	26/08/2022

- ☐ 1 QUOTATION
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- ☐ 7 ASSEMBLY AND TEST RECORD_S023_v5
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Payment Terms:

50% / 40% / 10%

Other: please specify

Penalty Clause Yes / No

Please specify: _____

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Signed		Date	
Verified		Date	

Quotation

To: University of Oklahoma
 101 David L Boren Blvd.
 SRTC Room 1075
 Norman,
 Oklahoma
 73019
 VAT No.

Quotation Date: 16/08/2022
Quotation Reference: 16407
Customer Ref:
Account Ref: UNI085
Quotation Validity: 16/11/2022

Quantity	Product Code	Product Description	Unit Price \$	Discount \$	Net Price \$
Integra2 EA-IRMS System					
1	20802/4	Integra2 Integrated EA-IRMS, for isotopic and elemental analysis of 13C and 15N, or 34S. Includes standard source, high sensitivity source is available as an optional upgrade. Includes 70201-2 - analyser spares kit - filament, gaskets, pump oil, source tool kit, snoop and ferrules Includes 70501-3 - sample preparation kit - micro spatula, mirror, forceps, sample tray and syringe Windows based PC and printer	92,400.00	9,240.00	83,160.00
1	70501-6	C & N Combustion Only Consumables Kit (approx. 5000 samples)	3,096.80	0.00	3,096.80
Sulphur Option					
1	70601-3	Sulphur option for Integra Dangerous goods in excepted quantities	4,200.00	420.00	3,780.00
1	70601-4	Sulphur Consumables Kit (approx. 5000 Samples)	3,995.91	0.00	3,995.91
1	WARR2	2 year warranty	0.00	0.00	0.00
1	DAP	DELIVERED AT PLACE Excluding any local duties and taxes that may apply.	3,000.00	0.00	3,000.00
1	INST	Installation and start up training at Customer's site	7,225.00	0.00	7,225.00

This quotation is issued in USD Dollar

Total Net Amount	\$	104,257.71
Total VAT Amount	\$	0.00
Order Total	\$	104,257.71

* The price quoted does not include any local taxes or duties
 See separate document for terms and conditions

Payment Details:-

50% with order, 40% on delivery and 10% installation
 Payment is required within 30 DAYS of invoice date by bank transfer.
 All bank transfer charges are the responsibility of the customer.

Sercon Bank Details:-

National Westminster Bank, 36 High Street,
 Nantwich, Cheshire CW5 5GA U.K.

Sterling: IBAN: GB74NWBK54101736755133
 Euro: IBAN: GB14NWBK60721013806831
 US Dollar: IBAN: GB94NWBK60730113806556
 BIC: NWBKGB2LXXX

121290



Board of Regents of the University of Oklahoma
2750 Venture Drive
Norman, Oklahoma 73069

Supplier: 9100079222

SERCON LIMITED
UNIT 3B CREWE TRADE PARK
CREWE CW1 6JT
United Kingdom

Purchase Order

Dispatch via Print

Purchase Order	Date	Revision	Page
NORMN-0000027394	08/26/2022		1
Payment Terms	Freight Terms	Ship Via	
NET 45	Destination, Freight Prepaid	Vendor's Standard Shipping	
Buyer	Phone/Email	Currency	
Craig Steven Robinson	c.robinson-1@ou.edu	USD	

Ship To: SRTC_1075
101 DAVID L. BOREN BLVD
SRTC ROOM 1075
NORMAN OK 73072
United States

Attention: Filley22323

Bill To: 101 DAVID L. BOREN BLVD
SRTC ROOM 1075
NORMAN OK 73072
United States

Tax Exempt? Y Tax Exempt ID: 73-1377584

Replenishment Option: Standard

Line-Sch	Item/Description	Mfg ID	Quantity	UOM	PO Price	Extended Amt	Due Date
1- 1	Integra2 EA-IRMS System		1.00	EA	83,160.00	83,160.00	08/26/2022
Schedule Total						83,160.00	
Item Total						83,160.00	
2- 1	C & N Combustion Only Consumables Kit		1.00	EA	3,096.80	3,096.80	08/26/2022
Schedule Total						3,096.80	
Item Total						3,096.80	
3- 1	Sulphur option for Integra		1.00	EA	3,780.00	3,780.00	08/26/2022
Schedule Total						3,780.00	
Item Total						3,780.00	
4- 1	Sulphur Consumables Kit		1.00	EA	3,995.91	3,995.91	08/26/2022
Schedule Total						3,995.91	
Item Total						3,995.91	
5- 1	2 year warranty		1.00	EA	0.00	0.00	08/26/2022
Schedule Total						0.00	

You are authorized to furnish the agency named above items subject to acceptance and approval. Submit INVOICE for each shipment or partial shipment. Purchase order number MUST appear on each and every invoice, package, delivery ticket package, delivery ticket and on correspondence. As applicable, the provisions of Executive Order 11246, as amended by As applicable, the provisions of Executive Order 11246, as amended by Exec. Order No. 11375, Exec. Order No. 11141, Exec. Order No. 13665 and as supplemented in Department of Labor Regulations (41 CFR Part 60-1.4(a), 60-300.5(a) and 60-741.5(a) et. seq.), are incorporated into this agreement and must be included in any subcontracts awarded involving this agreement. The parties represent that they are in compliance with all applicable federal and state laws and regulations and all services are provided without discrimination on the basis of race, color, religion, national origin, sex, sexual orientation, gender identity, gender expression, genetic information, age (40 or older), disability, political beliefs, or status as a veteran in any of their respective policies, practices, or procedures; they do not maintain nor provide for their employees any segregated facilities, nor will the parties permit their employees to perform their services at any location where segregated facilities are maintained. In addition, the parties agree to comply with the applicable provisions of Section 504 of the Rehabilitation Act of 1973, 29 U.S.C. §701, and the Vietnam Era Veteran's Readjustment Assistance Act of 1974, 38 U.S.C. §4212.

Authorized Signature

Caleb Shuchala



Board of Regents of the University of Oklahoma
2750 Venture Drive
Norman, Oklahoma 73069

Supplier: 9100079222

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UNIT 3B CREWE TRADE PARK
CREWE CW1 6JT
United Kingdom

Purchase Order

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NET 45	Destination, Freight Prepaid	Vendor's Standard Shipping	
Buyer	Phone/Email	Currency	
Craig Steven Robinson	c.robinson-1@ou.edu	USD	

Ship To: SRTC 1075
101 DAVID L. BOREN BLVD
SRTC ROOM 1075
NORMAN OK 73072
United States

Attention: Filley22323

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SRTC ROOM 1075
NORMAN OK 73072
United States

Tax Exempt? Y Tax Exempt ID: 73-1377584

Replenishment Option: Standard

Line-Sch	Item/Description	Mfg ID	Quantity	UOM	PO Price	Extended Amt	Due Date
							0.00
6- 1	Shipping - DELIVERED AT PLACE		1.00	EA	3,000.00	3,000.00	08/26/2022
Schedule Total						3,000.00	
Item Total						3,000.00	
7- 1	Installation and start up training		1.00	EA	7,225.00	7,225.00	08/26/2022
Schedule Total						7,225.00	
Item Total						7,225.00	

Please send order confirmation and invoice to srtcstore@ou.edu. Please refer to quote 16407c for details and pricing. Please ship attn: Filley22323. Thank you

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Total PO Amount

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Item Total



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Schedule Total						3,780.00	
Item Total						3,780.00	
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Total PO Amount

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3 - MACHINE SPECIFICATION

Client:	LabTech Corporation, Inc <i>Uni. of Oklahoma</i>		
Quotation Number:	15196 <i>16407</i>	Date:	<i>24/03/2021 15/8/22</i>
Job Number:	IN1255 <i>IN1290</i>	Date:	<i>24/03/2021 26/8/22</i>

Ref No.	Product Description	Required
HS2022 (continuous flow)		
20402/1	HS2022 Ref Gas + P Mag	
20402/2	HS2022 Ref Gas + E-Mag	
20402/3	HS2022 Ref Gas + Hd Collector + E-Mag	
20402/4	HS2022 Ref Gas + Hd Collector+E-Mag+Trap Loop	
20501	Hd Collector Assy	***
50101/2	Trapping Loop Assy	
70201-1	70201-1 Analyser spares kit - Included	Y
EA Units		
10202/11	iso-EArth	
10202/13	iso-EArth+	
10202/14	iso-Earth HT Furnace Upgrade	
10202/15	Iso-Earth (Without Autosampler)	
11802/1	Earth+PC	
11802/2	EArth+Clarity+PC	
70501-1	Consumables for C and N for Combustion Only	Y
70501-11	Simultaneous CNS Consumables Kit (approx. 10000 analysis)	
70501-3	Sample Prep Kit (Inc.)	Y
70501-4	GSL Combustion and Gas C & N Start Up Kit	
70501-5	Simultaneous NCS Consumables Kit	
70501-6	C&N Combustion Only Consumables Kit (approx. 5000 samples)	
70501-8	Simultaneous CNS Consumables Kit (approx. 5000 samples)	
70601-1	Sulphur Start Up Kit (Inc. with Sercon EA Systems)	
70601-2	Sulphur Consumables Kit for 1000 Samples	
70601-4	Sulphur Consumables Kit (approx. 5000 Samples)	
70801-2	Pyrolysis Consumables Kit-Low temp for Solids	
71701-1	Sub Microgram Nitrogen Analysis Start Up Kit	
SI2040	PN150 Pneumatic Autosampler with one no.50 pos, carousel	
SI2345	ME Micro Balance	
SI2737/A	Sercon 50 Position Autosampler Assy	
SI2789	Extra 50 Position Carousel	
SI2744	Automatic Liquid Sampler 15 Position	
SI2743	Liquid Sampler Mounting Plate	
Headspace Equilibration		
10202/10	XYZ Gas Sampling Control Box	
10302/1	Aqua System	
11103	µCarbs for CF	
11103-1	µCarbs for DI	
11601	200 Place Dual Heated Block 240 Volt	
11801	Sercon XYZ Gas Autosampler	
71107-1	CF oxygen-18 equilibration kit	
71107-2	DI Oxygen-18 Equilibration kit	
71201-1	CF deuterium equilibration kit	
71201-2	DI Deuterium Equilibration kit	
71801-1	WES-DI start up kit (Inc. with WES-DI)	
GC Units		
10402/2	Orchid module 1500C (Will run Hd 70901-1 C Spares Kit Inc)	
10901	Nitrogen Option (71301-1 N Spares kit Included)	
HP7890/1	Agilent 7890B GC System	
HP7890/2	Agilent 7890B GC with Auto Injector	
HP7890/3	Agilent 7890B GC + Auto Injector + 150 Vial Sample Tray	
SI2561	Nexis GC 2010 Plus	

3 - MACHINE SPECIFICATION

Client:	LabTech Corporation, Inc <i>Univ. of Oklahoma</i>		
Quotation Number:	15196 <i>16407</i>	Date:	24/03/2021 <i>16/8/22</i>
Job Number:	IN1255 <i>IN1290</i>	Date:	24/03/2021 <i>26/8/22</i>

Ref No.	Product Description	Required
GC Units <i>continued</i>		
SI2564	Nexis GC-2030	
70901-3	GC Pyrolysis H and O Start Up Kit	
70901-4	GC Pyrolysis H Spares Kit	
70901-5	GC Combustion C Spares Kit (approx. 5000 samples)	
70901-6	GC Pyrolysis h Start Up Kit (approx. 5000 samples)	
71301-1	GC N Spares kit	
ABCA2 Units		
10502/1	ABCA2 Sercon XYZ Autosampler	
10602	ABCA2 Gas Box	
20602	Complete Sercon ABCA2 system	
20603	ABCA IR Analyser	
70101-1	ABCA2 spares kit <i>(Inc. With ABCA2)</i>	
70101-2	ABCA2 Spares Kit for AB Analytica Systems	
70101-3	ABCA2 Autosampler Upgrade Kit	
SI1767	CVL505 – Barcode Reader	
SC9973	13C Urea breath test kit for Helicobacter pylori infection	
SC9974	Helicobacter Test kit for children age 3-11 (45mg)	
Integra2 Units		
20802/4	Integra2	Y
70201-2	Integra2 analyser spares kit - Included	Y
70401-1	Integra-2 consumables <i>(Inc. With Integra2)</i>	
Trace Gas Systems		
10802/4	CryoPrep	
10802/5	Automated LN refiller	
10802/6	CryoFlex (TOC)	
10802/7	CryoGas	
10802/8	CryoFlex (LA)	
SI2533	Silicon Carbide Vertical Furnace	
SI2731	213nm Laser Ablation System	
SI2733	isoScell 100 sampler chamber	
71001-1	Cryoprep Spares Kit	
71001-5	CryoGas Consumables Kit	
TOC Units		
14001	Thermalox Environmental TOC-IRMS	
14002	Thermalox Environmental TOC-Standalone	
14003	Thermalox Environmental TOC-Standalone No Sampler	
SI2772	CO2 Detector, High sensitivity Option	
SI2773	NOx detector Option	
SI2774	Vacuum pump Option	
SI2775	Stirred Vial rack Option	
72101-1	TOC Start Up Kit	
72101-2	TOC Chem Pack	
72101-3	TOC & TN Instrument with heavy usage - one year	
72101-4	TOC only - economy holding	
GEO 20-22 (dual inlet)		
10702	GEO 20-22 Water Equilibration System (D & 18O)	
21802/1	GEO 20-22	
21802/2	GEO 20-22 + E-Mag	

3 - MACHINE SPECIFICATION

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21802/3	GEO 20-22 + E-Mag +Hd	
21802/4	GEO 20-22 Inlet	
70301-1	GEO start up kit - Included	
70301-3E	Comprehensive GEO 20-22 spares kit for 5 years operation	

HT-EA

11501/4	HT-EA (With Autosampler)	
11501/5	HT-EA With Liquid Option	
11501/6	HT-EA Stand Alone	
11501/7	HT-EA (Without Autosampler)	
SI2622	CTC PAL3-LSI-L-S	
SI2624	CTC PAL3-Kit-Standalone	
70801-1	Pyrolysis Consumables Kit-High Temp for Solids	
71501-1	HT-EA Pyrolysis Start Up kit O and H	
71501-2	HT-EA Pyrolysis Kit for Water injections	
71501-3	HT-EA Sensitivity Start Up Kit for O & H in small samples	
71501-4	HT-EA Sensitivity Consumables Kit for O & H in small samples	
71501-5	HT-EA Sensitivity Kit for O&H in Small Samples (5000 samples)	
71501-7	HT-EA Kit for Room Temp Equilibration	
71501-8	HT-EA Pyrolysis Kit for Water injections (approx. 1 year kit)	

Ref No.	Product Description	Required
Upgrades		
12101	Evacuation System ***	
12102	2 Ref Gas+ Dilutor Box ***	
20101	Standard Source Assy ***	
20102	HS Source Assy ***	
20301	Standard Collector Assy ***	
30202/1	System Control Upgrade (Pmag) installation not included	Edwards Or Pfeiffer
30202/2	System Controller Upgrade (Emag) installation not included	Edwards Or Pfeiffer
10202/7	Preparation PCB Upgrade	
30202/3	Hijack Box ***	
30302/4	nEXT85 Edwards Pumping System Upgrade Single - installation not included	
30302/5	nEXT85 Edwards Pumping System Upgrade Dual - installation not included	
30302/6	nEXT85 Edwards Pumping System Upgrade Triple- installation not included	
SI2542	ABCA2 Upgrade Kit	
CALLISTOW	Callisto software upgrade ***	
Specials		
11702	LC-I interface	
12202	Leco Interface Unit	
SI2320	Agilent 1260 Series Refractive Index Detection HPLC System	
71401-1	ABCA-G Start Up/Spares Kit	
71401-2	ABCA-G Equilibration Spares Kit - Room temp O only	
71401-3	ABCA-G Equilibration Spares Kit - Room Temp O & H	
71601-1	LC Interface Spares Kit	
ADDITIONS		
PC	Windows 7 based PC System with Callisto Software	Y
Printer	Printer	
INST1	Installation and start up training at customer's site by Sercon Engineer	
INST2	Installation and start up training at customer's site by Agents Engineer	Y
WARR	1 year warranty	
WARR2	2 year warranty	Y
TRAIN	Training in UK for one person for 3 days	
SCONTRACT	Maintenance Service Contract - 1 year	

3 - MACHINE SPECIFICATION

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SPECIFICATION REQUIREMENTS		
Voltage	230 Volts 50/60Hzs	Y
Plug Type	SI2510 3 Metre USA/Japan plug to IEC C 13	
	SI2511 2.5 Metre Australian plug to IEC C 13	
	SI2512 3 Metre UK 13 amp Fused plug to IEC C 13	
	SI2523 3metre Schuko (Euro) Plug to IEC C13 Socket	
	SI2514 2.5 metre Chinese mains to IEC C13	Y
Pallet	Stamped for export heat treated for 30 min @ 56 °C	Y
	Complies with all Export Requirements	



sercon
innovators in isotopes

INITIAL UNIT BACK

UNIT

INITIALS SHIPPED AS

REPLACEMENT

Sercon Ltd, Unit 3B Crewe Trade Park, Gateway
Crewe, Cheshire CW1 6JT, UK
Tel: +44 (0)1270 580008 Fax: +44 (0)1270 252310
Company Registration No. 4290072 Vat No. 771 1100 74

Goods Repair Log Sheet

THIS UNIT IS 1252 -

Client:	LabTeek Corporation	Contact:	Chao He
Job number:	N/A	Date rec:	

Known faults:

Goods received: (include serial numbers)

Integra2

Parts used:

Part No.	Description	Quantity	Chargeable	Initials
			Y / N	
			Y / N	
			Y / N	
			Y / N	

Date	Action Taken	Initials
27 Sep 21	Set up instrument for testing. Filled Combustion/Reduction tubes, Water trap & CO ₂ trap tubes. Furnaces all heat up OK. GC oven heats up OK. Flows OK. O ₂ passes pressure test. Instrument is very slow to pump down Unit loads in a bad condition, photos taken. Very dirty, especially around turbo pumps.	
28 Sep 21	Attempted to tune. Unable to obtain decent peak shapes. Adjusted Magnet. Strange tune settings required and then cannot get good concordance on both N ₂ + CO ₂ at same time. Vented instrument and removed same to inspect. Found what looks like pipe strands caught in filament aperture and strands caught up in ionisation chamber (around the IE plate). Cleaned out area and blow blew down with He gas. Old filament also has cracked thorium line. Replaced and replaced for new	DDH

Goods Repair Log Sheet

900

Client:	LabTech Corporation Uni. of	Contact:	Chao He
Job number:	N/A	Date rec:	

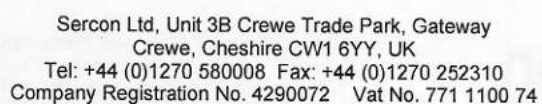
Date	Action Taken	Initials
30 Sep 21	Instrument still had high vac after pumping over night. (1.2×10^{-7}). Pumped in let line + blanked, pumped down again. Vac reached 8.2×10^{-8} mbar over night. Reopened Source + Collectors and blanked. Vac reached 5.8×10^{-8} within 2 hours. Reopened copper gasket from collectors filled (with source flange still blanked off). Vac very slow again to pump.	DJH
4-10.	Source back on. Pumping overnight. Baked out first tube.	
5-10.	Vacuum after pumping overnight 5.2×10^{-8} mbar. Attempted to run background scan AM with the isol. valve closed. no abnormal anomaly. Isol. valve open: Att to to MASS 28. Isol. valve open N_2 mode: Source pressure fluctuation from 3.1×10^{-6} to 3.6×10^{-6} mbar. Att: Flash over in N_2 mode when running background scan with isol. valve open. (361.7 V). Replaced the pipe from Isol. valve to the source inlet. Pumping down started 11:00 (Local). Cramp set at 1.2×10^{-7} mbar 13:50 (Local). Source pressure set 1.9×10^{-6} mbar initially. Source powered back on: 14:00 (Local).	
6-10-21	Vacuum after pumpj overnight. 5.8×10^{-8} mbar. Unit subject to major overhaul. Pumps powered off 11:00 (Local).	
02-Nov-21	LEAK CHECKED WITH AUTOAMPLER - PASSED PRESSURE TEST. HELIUM LINES RECLAIMED.	CM
03-Nov-21	TEST MODE MESSAGE REMOVED THROUGH CMD PROMPT.	CM
04-Nov-21	PRESSURE TESTED WITH AUTOAMPLER AFTER CHANGING O RING. FURNACES UP TO TEMPERATURE. Is CLAIMED 24 HR N_2 SOAK TEST PASS.	CM

[illegible]

Sercon Ltd, Unit 3B Crewe Trade Park, Gateway
Crewe, Cheshire CW1 6YY, UK
Tel: +44 (0)1270 580008 Fax: +44 (0)1270 252310
Company Registration No. 4290072 Vat No. 771 1100 74

Client:	University of Oklahoma		
Quotation Number:	16407	Date:	16/08/2022
Job Number:	IN1290	Date:	26/08/2022

[illegible]



Client:	University of Oklahoma		
Quotation Number:	16407	Date:	16/08/2022
Job Number:	IN1290	Date:	26/08/2022

S028_v3



Client:	LabTech Corporation Inc <i>Uni. of Oklahoma</i>		
Quotation Number:	45196 <i>16407</i>	Date:	<i>24/03/2021</i> <i>16/8/22</i>
Job Number:	<i>IN1255</i> <i>101290</i>	Date:	<i>24/03/2021</i> <i>26/8/22</i>

19/01/2017

Sercon Ltd, Unit 3B Crewe Trade Park, Gateway
Crewe, Cheshire CW1 6YY, UK
Tel: +44 (0)1270 580008 Fax: +44 (0)1270 252310
Company Registration No. 4290072 Vat No. 771 1100 74

Gas:

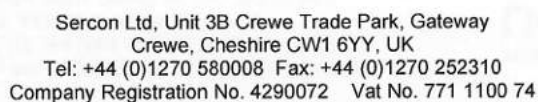
Client:	LabTech Corporation Inc <i>Uni. of Oklahoma</i>		
Quotation Number:	15196 <i>16407</i>	Date:	24/03/2021 <i>16/8/22</i>
Job Number:	IN1255 <i>121290</i>	Date:	24/03/2021 <i>26/8/22</i>

[illegible]



Client:	LabTech Corporation Inc. <i>Uni. of Oklahoma</i>		
Quotation Number:	15496 <i>16407</i>	Date:	24/03/2021 <i>16/8/22</i>
Job Number:	IN1255 <i>IN1290</i>	Date:	24/03/2021 <i>26/8/22</i>

S029_v3



Client:	LabTech Corporation Inc <i>Uni. of Saskatchewan</i>		
Quotation Number:	<i>15196 16407</i>	Date:	<i>24/03/2021 16/8/22.</i>
Job Number:	<i>IN1255 121290</i>	Date:	<i>24/03/2021 26/8/22</i>

[illegible]

6 - TEST / ACCEPTANCE SPECIFICATION

Customer:	LabTech Corporation Inc <i>Uni. of Oaxtehuca</i>		
Quotation Number:	15196 16407	Date:	24/03/2021 <i>16/8/22</i>
Job Number:	IN1255 <i>121200</i>	Date:	24/03/2021 <i>26/8/22</i>

GC Orchid						
Combustion (n=3 for each analyte)						
¹³ C	3 Alkanes	100 ng C	0.2		10 ng C	0.5
¹⁵ N	2 Amines	100 ng N	0.5		14 ng N	1.5
Pyrolysis (n=3 for each analyte)						
² H	3 Alkanes	250 ng H	3.0		25 ng H	10.0
¹⁸ O	3 FAMES	100 ng O	0.5		20 ng O	2.0
Water pyrolysis (n=5)						
² H	0.1 µl water	3.0				
¹⁸ O	0.1 µl water	0.4				

CryoRange						
(n=5)						
¹³ C	Air CO ₂ (12ml)	0.1		Air CH ₄ (125ml)	0.2	
¹⁵ N	Air N ₂ (1ml)	0.1		Air N ₂ O (125ml)	0.4	
¹⁸ O	Air CO ₂ (12ml)	0.15		Air N ₂ O (125ml)	0.7	
¹⁸ O	Air O ₂ (1ml)	0.1				
² H	Air CH ₄	3.0				
¹³ C	TOC (5ppm)	0.4				
¹³ C	Laser					



Test acceptance - 6

Sercon Ltd, Unit 3B Crewe Trade Park, Gateway
Crewe, Cheshire CW1 6JT, UK
Tel: +44 (0)1270 580008 Fax: +44 (0)1270 252310
Company Registration No. 4290072 Vat No. 771 1100 74

6 - TEST / ACCEPTANCE SPECIFICATION

Customer:	LabTech Corporation Inc <i>Uni. of Oklahoma</i>		
Quotation Number:	15196 <i>16407</i>	Date:	24/03/2021 <i>16/8/22</i>
Job Number:	IN1255 <i>101290</i>	Date:	24/03/2021 <i>26/8/22</i>

Geo2			
Internal precision (no change overs)			
² H	200 Bar µl	0.15	
¹³ C	100 Bar µl	0.01	
¹⁵ N	100 Bar µl	0.01	
¹⁸ O	100 Bar µl	0.015	
³⁴ S	100 Bar µl	0.015	
Single cold finger volumes (10 change overs)			
¹³ C	20 Bar µl	0.01	
¹⁸ O	20 Bar µl	0.015	
¹³ C	3 Bar µl	0.02	
¹⁸ O	3 Bar µl	0.03	
CAPS (n=5)			
¹³ C	50 µg CaCO ₃	0.03	
¹⁸ O	50 µg CaCO ₃	0.06	
WES (n=5)			
² H		1.0	
¹⁸ O		0.05	
Manifold (10 tubes)			
² H		0.5	
¹³ C		0.02	
¹⁵ N		0.02	
¹⁸ O		0.03	
³⁴ S		0.03	

6 - TEST / ACCEPTANCE SPECIFICATION

Customer:	LabTech Corporation Inc Uni. of Oklahoma		
Quotation Number:	15196 16407	Date:	24/03/2021 16/8/22
Job Number:	HN1255 121290	Date:	24/03/2021 26/8/22

HS20-22			
Reference Gas Precision (n=5)			
¹³ C	(CO ₂)	0.06	
¹⁵ N		0.06	
¹⁸ O	(CO ₂)	0.06	
³⁴ S	(SO ₂)	0.1	
² H		0.4	

Reference Gas Linearity			
¹³ C	≤0.02‰/nA		
¹⁵ N	≤0.02‰/nA		

IsoEarth & IsoEarth+					
Combustion (n=5)					
¹³ C	100 µg C	0.1		10 µg C	0.8
¹⁵ N	100 µg N	0.15		10 µg N	1.5
³⁴ S	25 µg S	0.3		10 µg S	1.0
Dual	400 µg C	0.1		100 µg N	0.15

Integra2			
¹³ C	100 µg C	0.2	
¹⁵ N	100 µg N	0.3	
Dual	100 µg N & 400 µg C	0.4 & 0.15	
³⁴ S	30 µg S	0.5	
¹⁸ O	100 µg O	0.5	

6 - TEST / ACCEPTANCE SPECIFICATION

Customer:	LabTech Corporation Inc <i>Uni. of Oklahoma</i>		
Quotation Number:	15196 <i>16407</i>	Date:	<i>24/03/2024 16/8/22</i>
Job Number:	INT255 <i>INT290</i>	Date:	<i>24/03/2021 26/8/22</i>

HT-EA			
Pyrolysis (n=5)			
¹⁸ O	100 µg O or 1 µl water	0.3	
² H	200 µg H or 1 µl water	1.0	

Aqua, µCarbs & GasBox					
Equilibrations (n=5)					
¹⁸ O	0.2 ml water	0.1			
² H	0.2 ml water	2.0			
Carbonates (n=5)					
¹³ C	100 µg CaCO ₃	0.08			
¹⁸ O	100 µg CaCO ₃	0.1			
Gas Analysis (n=5)					
¹³ C	5% CO ₂	0.1		Air CO ₂	0.1
¹⁸ O	5% CO ₂	0.1		Air CO ₂	0.2
² H	0.5 ml H ₂	1.5			
¹⁵ N	0.5 ml N ₂	0.1		100 ppm N ₂ O	0.5
¹³ C	Breath (12 ml)	0.1			
DIC (n=5)					
¹³ C	15ppm (0.5ml)	0.15			

LC-I			
(n=5)			
¹³ C		0.2	



Test acceptance - 6

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Company Registration No. 4290072 Vat No. 771 1100 74

6 - TEST / ACCEPTANCE SPECIFICATION

Customer:	LabTech Corporation Inc Uni. of Oklahoma		
Quotation Number:	15196-16407	Date:	24/03/2021 10/8/22
Job Number:	IN1255 IN1290	Date:	24/03/2021 26/8/22

Special tests

Sales Signature:  J. O'Connor	Date: 15/12/21
Test Signature:	Date:

7: ASSEMBLY AND TEST RECORD

Client:	University of Oklahoma		
Quotation Number:	16407	Date:	16/08/2022
Job Number:	IN1290	Date:	26/08/2022

PRODUCT:

INTEGRA 2.

SERIAL NUMBER:

20802/4-2022/1290.

 ASSEMBLED:
 (Name)

P. Hayso

Date:

5/2/21

 PRE-TEST
 INSPECTION:
 (Production name)

Jan Dier

Date:

5/2/21

 PRE-TEST
 INSPECTION:
 (Test name)

S.M.

Date:

5/2/21

 SYSTEM TEST:
 (Name)

S.M.

Date:

25/3/21

 PRE-DESPATCH
 INSPECTION:
 (Name)

P. Hayso

Date:

13/9/22

P.A.T. Test results

 In compliance with Low Voltage directive 73/23/EEC
 To Low Voltage standard EN61010 – 1:1993

Earth Continuity

0.079 Ω

Insulation

7300 $M\Omega$

Earth Leakage Current

0.90 mA. @ 0.05 kVA.

Tested by:

P. Hayso

Date:

5/2/21

8 - Serial Numbers Record Document

Client:	University of Oklahoma		
Quotation Number:	16407	Date:	16/08/2022
Job Number:	IN1290	Date:	26/08/2022

Units
MS/ABCA 20802/4-2022/1290
Integra 2
Prep Unit 1
Prep Unit 2/Misc
Electronics Upgrade
CETAC
Gas Box
Autosampler 42646
BCR
Dual Heater Block

Pump Kit and Optics	S/N
Turbo pump S	210621720
Turbo pump A	
Rotary Pump	200471792
Voltage	110 1 (240)
Gauge S	200032928
Gauge A	
Source	20101-185
Collector 1	20301-109
Collector 2	
Magnet	

Parts	S/N
Fan PSU	
24V PSU	

PCBs	S/N
Electronics Box	20210004
Prep PCB	
VFC PCB	
Watchdog PCB	
Head Amp PCB 1	2012
Head Amp PCB 2	
Electromagnet RP	

Furnaces	S/N
Combustion	
Reduction	
HT-EA	
GC Oven	
Furnace 1	
Furnace 2	

PC	S/N
PC	H3055B3
Monitor	JJH9WB3
Printer	

Key

Pumps:	E: Edwards P: Pfeiffer
Furnaces:	V/S: Vecstar E: Elite
Magnet:	E: Electromagnet S: Standard
Turbos & Gauges:	S: Source A: Analyser
Collectors:	Std: Standard S: Sulphur HD: Hydrogen Deuterium

Additional System Info:

8 - Serial Numbers Record Document

Client:	LabTech Corporation Inc <i>Univ. of Oxford</i>		
Quotation Number:	15196 <i>16407</i>	Date:	24/03/2021 <i>16/8/22</i>
Job Number:	4N1255 <i>1N1290</i>	Date:	24/03/2021 <i>26/8/22</i>

Units	S/N
MS/ABCA	
<u>Integra 2</u>	<i>20802/4-2021/1252</i>
Prep Unit 1	
Prep Unit 2/Misc	
Electronics Upgrade	
CETAC	
Gas Box	
<u>Autosampler</u>	<i>42646</i>
BCR	
Dual Heater Block	

Pump Kit and Optics	S/N
<u>Turbo pump S</u>	<i>210621720</i>
Turbo pump A	
<u>Rotary Pump</u>	<i>2004 71792</i>
Voltage	110 / <u>240</u>
<u>Gauge S</u>	<i>200032928</i>
Gauge A	
<u>Source</u>	<i>20101-185</i>
<u>Collector 1</u>	<i>20301-109</i>
Collector 2	
<u>Magnet</u>	

Parts	S/N
Fan PSU	
24V PSU	

PCBs	S/N
<u>Electronics Box</u>	<i>20210004</i>
Prep PCB	
VFC PCB	
Watchdog PCB	
<u>Head Amp PCB 1</u>	<i>2012</i>
Head Amp PCB 2	
Electromagnet RP	

Furnaces	S/N
Combustion	
Reduction	
HT-EA	
GC Oven	
Furnace 1	
Furnace 2	

PC	S/N
<u>PC</u>	<i>H30UR3</i>
<u>Monitor</u>	<i>JJH9WB3</i>
Printer	

Key

Pumps:	E: Edwards P: Pfeiffer
Furnaces:	V/S: Vecstar E: Elite
Magnet:	E: Electromagnet S: Standard
Turbos & Gauges:	S: Source A: Analyser
Collectors:	Std: Standard S: Sulphur HD: Hydrogen Deuterium

Additional System Info:

Packing List

Customer Reference: NORMN-000027394

Shipper / Exporter:

Sercon Limited
Unit 3B Crewe Trade park
Gateway
Crewe
CW1 6JT
UK

Tel: +44 (0)1270 580008
Reference: IN1290

Consignee:

University of Oklahoma
SRTC_1075
101 David L. Boren Blvd
SRTC Room 1075
Norman OK 73072
USA

Contact Name: Filley22323
Contact Tel Number: 001 405 325 5170

BOX: 1

Quantity	Product Code	Product Description	Serial Number: if available
☒ 1	20802/4	Integra 2	20802/4-2021/1290

Packed by:

Date:

P. Hays
13/9/22

Claims for damage or shortages must be made within 3 days

Packing List

Customer Reference: NORMN-000027394

Shipper / Exporter:

Sercon Limited
 Unit 3B Crewe Trade park
 Gateway
 Crewe
 CW1 6JT
 UK

Tel: +44 (0)1270 580008
 Reference: IN1290

Consignee:

University of Oklahoma
 SRTC_1075
 101 David L. Boren Blvd
 SRTC Room 1075
 Norman OK 73072
 USA

Contact Name: Filley22323
 Contact Tel Number: 001 405 325 5170

BOX: 2

Quantity	Product Code	Product Description	Serial Number: if available
☒ 1	SI0155	PC	H3OJJB3
☒ 1	SI2391	Monitor	JJH9WB3
☒ 1		Windows recovery drive inside PC box	
☒ 1		Software back up drive inside PC box	
☒ 1		Electronic manual on Software back up drive	
☒ 1	SI0103	240v Rotary pump. (Including oil filter)	200471792
☒ 1	SI0101	Magnet and feet	
☒ 1	10202-S	Auto sampler	42646
☒ 3	SI2510	USA mains cables	
☒ 1	70201-2	Analyser spares kit	
☒ 1	70501-3	Sample prep kit	
☒ 1	70501-6	C & N Combustion only con kit (approx. 5000 samples)	
☒ 1	70601-4	Sulphur Con kit (approx. 5000 samples)	
☒ 1	70601-3	Sulphur Option Includes below.	
☒ 2	SI0076	Tube couplings	
☒ 1	SI2542	ABCA2 upgrade kit	
☒ 1	SC0084	Scrubber tube	
☒ 1	SC0085	Cap kit	

Packed by: *P. Haynes*

Date: *13/9/22*

Claims for damage or shortages must be made within 3 days

Packing List

Customer Reference: NORMN-000027394

Shipper / Exporter:

Sercon Limited
Unit 3B Crewe Trade park
Gateway
Crewe
CW1 6JT
UK

Tel: +44 (0)1270 580008
Reference: IN1290

Consignee:

University of Oklahoma
SRTC_1075
101 David L. Boren Blvd
SRTC Room 1075
Norman OK 73072
USA

Contact Name: Filley22323
Contact Tel Number: 001 405 325 5170

BOX: Dimensions and weights

	<u>L</u>		<u>W</u>		<u>H</u>		
Box 1	99	x	85	x	108	cm	gw 154.9 kg
Box 2	99	x	85	x	108	cm	gw 77.4 kg
Box 3		x		x		cm	gw kg

Date 30/08/2022
Time 09:48:53

Sercon Limited

WO01561

Picking List JW

W/O Number WO01561

BOM Reference 70501-6

C&N Combustion Only Consumables Kit (approx. 5000 samples)

IN 1290
~~IN 1286 - CHROME~~
OKLAHOMA

<u>Required</u>	<u>Part No.</u>	<u>Description</u>
10.0	SC0001/E	Chromium Oxide Granular (25g)
10.0	SC0002	Copper Wires Fine Wires Reduced (100g)
5.0	SC0003	Copper Oxide Fine Wires (100g)
5.0	SC0004	Quartz Chips Granular (50g)
5.0	SC0006	Quartz Wool Very Fine (10g)
5.0	SC0007	Silver Wool Very Fine Wire Unreeled (10g)
10.0	SC0009	Tin Capsules, Pressed, 8 x 5mm, Pk/250
5.0	SC0010	Tin Capsules, Pressed, 6 x 4mm, Pk/500
20.0	SC0011	Quartz Liner Sleeve Insert Open Both Ends 15x180mm Pk/1
15.0	SC0012	Reaction/Reduction Tube Transparent Heavy Wall
20.0	SC0162	Magnesium Perchlorate Gran 0.7to1.2mm H2O Absorbent 25g
20.0	SC0235	EMASorb A Granular 0.8-1.6mm, 14-25 mesh CO2 Absorbant 25g

SC2667.

All items picked and packed as marked:

Date 30/8/22 Signed Joc

Stock: Allocated
Issued
Order: Completed

Date 30/8/22 Signed Joc

Date 30/08/2022
Time 09:49:15

Sercon Limited

WO01562

Picking List JW

IN1290 OKLAHOMA

IN1286 - CHROME

W/O Number WO01562
BOM Reference 70601-4
Sulphur Consumables Kit (approx. 5000 Samples)

<u>Required</u>	<u>Part No.</u>	<u>Description</u>
5.0	SC0004	Quartz Chips Granular (50g)
5.0	SC0006	Quartz Wool Very Fine (10g)
15.0	SC0008	Copper Wires for S Analysis High Purity Reduced (40g)
20.0	SC0009	Tin Capsules, Pressed, 8 x 5mm, Pk/250
5.0	SC0011	Quartz Liner Sleeve Insert Open Both Ends
10.0	SC0012	Reaction/Reduction Tube Transparent Heavy Wall
10.0	SC0162	Magnesium Perchlorate Gran 0.7to1.2mm H2O Absorbent 25g
5.0	SC0027	Vanadium Pentoxide Fine Powder (10g) UN2862 Cl:6.1
10.0	SC0034	Tungstic Oxide on Zirconium (sulphur analysis) (50g)
5.0	SC2495	Scrubber Tube 220mm
5.0	SC0074	O-Ring Set - ANCA SL/GSL (5xSC0046,5xSC0047,5xSC1395)

All items picked and packed as marked:

Date 30/8/22 Signed PC

Stock: Allocated
Issued
Order: Completed

Date 30/8/22 Signed Doc

Date 16/09/2022
Time 09:57:38

Sercon Limited

WO01584

Picking List JW

IN1290 - Oklahoma

W/O Number WO01584
BOM Reference 70601-3
Sulphur option for Integra

Required	Part No.	Description
2.0	SC0004	Quartz Chips Granular (50g)
1.0	SC0006	Quartz Wool Very Fine (10g)
4.0	SC0008	Copper Wires for S Analysis High Purity Reduced (40g)
4.0	SC0009	Tin Capsules, Pressed, 8 x 5mm, Pk/250
2.0	SC0011	Quartz Liner Sleeve Insert Open Both Ends
4.0	SC0012	Reaction/Reduction Tube Transparent Heavy Wall
4.0	SC0162	Magnesium Perchlorate Gran 0.7to1.2mm H2O Absorbent 25g
1.0	SC0027	Vanadium Pentoxide Fine Powder (10g) UN2862 Cl:6.1
4.0	SC0034	Tungstic Oxide on Zirconium (sulphur analysis) (50g)
2.0	SC2495	Scrubber Tube 220mm
1.0	SC0074	O-Ring Set - ANCA SL/GSL (5xSC0046,5xSC0047,5xSC1395)
1.0	SC2461	Sulphur Column
1.0	SI0837	Nafion Dryer
1.0	SI0022	Capillary Crimp Parts A & B
1.0	SI1899	1/16 x M5 Fitting
2.0	SI1900	Dowty Seal - M5
1.0	SI1167	Reducing Union 1/4-1/8
1.0	SI1168	1/4 Nut Knurled
1.0	SI0712	Tubing SS 1/16" ODX 0.75mm ID pk/1M
1.0	SI0982	Tubing PTFE 1/8" OD x 1.59mm ID 1m

Date 16/09/2022

Time 09:57:38

Sercon Limited

Picking List JW

WO01584

IN1290 - Oklahoma

All items picked and packed as marked:

Date / / Signed

Stock: Allocated
Issued
Order: Completed

Date / / Signed

Indented Parts List

BOM Reference	10202/2
Description	Sulphur Upgrade kit For Earth (USED IN BUILD)
Quantity	1,000

Level	Seq.	Reference	Description	Quantity	Instruction
1	10.00	SI0076	Tube Coupling	1,000	
1	20.00	SC0085	Cap Kit for Threaded Joints Caps & PTFE Backed Sil	2,000	
1	20.00	SC2461	Seals pk2	1,000	
1	30.00	SI1167	Sulphur Column	1,000	
1	40.00	SC0004	Reducing Union 1/4-1/8	2,000	
1	40.00	SI1168	Quartz Chips Granular (50g)	2,000	
1	50.00	SC0006	1/4 Nut Knurled (brass)	1,000	
1	50.00	SC0258	Quartz Wool Very Fine (10g)	1,000	
1	60.00	SC0008	Magnesium Perchlorate Self Indicating Gran 25g	4,000	
1	70.00	SC0009	Copper Wires for S Analysis High Purity Reduced (40g)	4,000	
1	80.00	SC0011	Tin Capsules, Pressed, 8 x 5mm, Pk/250	2,000	
1	90.00	SC0012	Quartz Liner Sleeve Insert Open Both Ends 15x180mm Pk/1	4,000	
1	100.00	SC0162	Reaction/Reduction Tube Transparent Heavy Wall	2,000	
1	110.00	SC0027	Magnesium Perchlorate Gran 0.7to1.2mm H2O Absorbent 25g	1,000	
1	120.00	SC0034	Vanadium Pentoxide Fine Powder (10g)	4,000	
1	130.00	SC0084	Tungstic Oxide on Zirconium (sulphur analysis) (50g)	2,000	
1	140.00	SC0074	Scrubber Tube Water Threaded, Borosilicate Glass Pk/1	1,000	
2	10.00	SC0046	O-Ring Set - ANCA SL/GSL	0.500	
2	20.00	SC0047	(5xSC0046,5xSC0047,5xSC1395)	0.500	
2	30.00	SC1395	Large Silicone O-Rings for Scrubber Tube Pk/10	0.500	
			Small Silicone O-Rings 10mm OD x 6mm ID Pk/10	0.500	
			O Ring Nitrile Rubber 29030042 Pk/10	0.500	



innovators in isotopes

COLLECTION NOTE

Tim Filley

Date:

16/9/22

2

Company:

NG Transport

Reg No.

M2IEW9

Signature:

W. J. P.

Print:

W. 112410 W 5121



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19/01/2017

Joanne Oconnor

From: ANTÓNIO MÁRIO SANTOS <santosbox@netcabo.pt>
Sent: 29 January 2023 20:38
To: Joanne Oconnor
Subject: Re: Maintenance Contract Renewal - Quotation 15794

Dear Joanne,

Do you have any news about the pump upgrade of our ABCA?

One of our customers would like to have an ABCA Infra Red Breath Analyser. What would be the distributor price for one of this ABCA's?

I would like to know the technical specifications of the instrument and also an estimate of the maintenance cost per year.

Kind regards

A. Mário Santos

Isomed Portugal

From: Joanne Oconnor <joanne.oconnor@sercongroup.com>
Sent: Monday, January 9, 2023 11:33 AM
To: ANTÓNIO MÁRIO SANTOS <santosbox@netcabo.pt>
Cc: Sercon Customer Support <service@sercongroup.com>
Subject: RE: Maintenance Contract Renewal - Quotation 15794

Dear Antonio,

Unfortunately due to the ongoing supply chain issues with the pumps from Edwards we are currently looking at delivery of your pump upgrade in March.

We will try to improve on this date and we are also looking at some possible alternatives.

We will keep you updated.

Best regards

Joanne

From: ANTÓNIO MÁRIO SANTOS <santosbox@netcabo.pt>
Sent: 03 January 2023 19:53
To: Joanne Oconnor <joanne.oconnor@sercongroup.com>
Subject: Re: Maintenance Contract Renewal - Quotation 15794

Dear Joanne,

Happy New Year!

Thank you very much for your e-mail.

I made the money transfer to pay the invoice nº 15162 last week.

Today I made the money transfer to pay the invoice 16601 (attached file).

11 – Installation Report

Client:	University of Oklahoma		
Quotation Number:	16407	Date:	16/08/2022
Job Number:	IN1290	Date:	26/08/2022

Contact:	Tim Filley, Janine Sparks		
Date of Visit:	16 th – 24 th January 2023	No. of Days:	8 (extended from 5)
Engineer:	Lee Martin		

Details of visit:

16th January 2023

Instrument on bench and powered up. All vacuum connections made and instrument pumping. Furnaces up to temperature after leak check with C and N configuration. Filament on before leaving.

17th January 2023

Emission and vacuum both good. Linearity pass for both C and N after some source tuning. While running a precision batch, system controller has blown. HT switch flickering, HT control lost and valves inoperable. Some damage observable on source cable which may have caused it. Replacement will need to be sent out with new source cable. Electronics switched off and instrument left pumping.

18th January 2023

New system controller sent from Sercon so trip extended.

20th January 2023

Delivery scheduled for Monday. Training with Janine Sparks commenced covering reprocessor and basic software overview.

23rd January 2023

New System Controller fitted but valve ribbon cable damaged for unknown reason. Cable remade after vice purchase from Home Depot. Valve control reestablished along with all other readbacks. Precision good for C and N. Linearity worse for N than previous week but filament outgassed slightly when source turned on so could be the cause. Furnaces cooled for Sulphur analysis the following day.

24th January 2023

Unit converted to sulphur. Peaks attained on ammonium sulphate but some tailing observable so the GC needs a bakeout. Flash combustion good. Peak shape good. 57ug S precision batch run but peaks not very good. Customer is going to keep unit in Sulphur mode to see if bakeout improves peaks.

Final Specs

Vacuum: 1.0e-08 mbar
 15N Peak Shape: Good
 15N Stability: Good
 15N 100ug N Precision: 0.05 permil
 15N 20_200ug N Linearity: 0.28 permil

13C Peak Shape: Good
 13C Stability: Good
 13C 400ug C Precision: 0.02 permil
 13C 50_500ug C Linearity: 0.12 permil

34S Peak Shape: Good
 34S Stability: Good

Recommendations:

11 – Installation Report

Client:	University of Oklahoma		
Quotation Number:	16407	Date:	16/08/2022
Job Number:	IN1290	Date:	26/08/2022
Bakeout of Haysep Q GC. Some possible combustion tube adjustments, failing this.			
Faults and Shortages: Some black viton o rings for top of combustion tubes need to be sent out.			
Follow up: Contact Service@sercongroup.com to discuss Sulphur peak improvements.			
Engineer:	LEE MARTIN		Date: 24-JAN-23
Signed:			

12 – Installation Acceptance and Warranty Certificate

Client:	University of Oklahoma		
Quotation Number:	16407	Date:	16/08/2022
Job Number:	IN1290	Date:	26/08/2022

Contact:	Tim Filley, Janine Sparks
System:	Integra2
Software:	Callisto 40.2.1
Engineer:	Lee Martin
Installation Date:	16 th – 24 th January 2023

Warranty commences:	24 th January 2023
Warranty Expires:	24 th January 2024

Customer Acceptance:

Name: Janine Sparks

Signature: [Signature]

Date: January 24th, 2023

Engineer's Signature:

On behalf of Sercon Limited

Name: LEE MARTIN

Signature: [Signature]

Date: 24-JAN-23

Notes: