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Quotation Number:	16598	Date:	26/09/2022
Job Number:	IN1296	Date:	29/11/2022

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ADDITIONAL:

Payment Terms:
 50% / 40% / 10%
Other: please specify

Penalty Clause Yes / No
 Please specify:

Blue Book Completion:

Signed	<i>S. O'Connor</i>	Date	14/6/23
Verified	<i>S. Merty</i>	Date	14/6/23

3 - MACHINE SPECIFICATION

Client:	International Rice Research Institute		
Quotation Number:	16598	Date:	26/09/2022
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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	
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	
70501-11	Simultaneous CNS Consumables Kit (approx. 10000 analysis)	
70501-3	Sample Prep Kit (Inc.)	✓
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

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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 (Inc. With ABCA2)	
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	✓
70201-2	Integra2 analyser spares kit - Included	✓
70401-1	Integra-2 consumables (Inc. With Integra2)	✓
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	

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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	
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	
WARR	1 year warranty	
WARR2	2 year warranty	
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	Volts 50/60Hzs	
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
Pallet	Stamped for export heat treated for 30 min @ 56 °C	
	Complies with all Export Requirements	



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This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

Approved by Sales: (Name)	<i>G. o'connor</i>	Date: 30/11/22
Approved by Tech.: (Name)	<i>M. O'Connell</i>	Date: 30/11/22

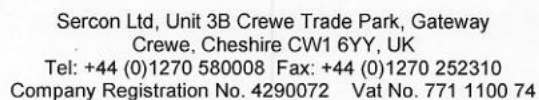
4 - LOG SHEET

Client:	International Rice Research Institute		
Quotation Number:	16598	Date:	26/09/2022
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Date	Action Taken	By Whom
23-2-23	Leak conditioned & gases connected System leak checked and fixed. Furnaces run up to temp after reaction tubes installed. Trapping loop & Isolation valve repaired. Baked out G.C oven	JB
24-2-23	Recooled G.C to working temps. Leak checked system 1 p.s.i. over 15 min. Calibrated flow meter. Leak on trapping loop when under pressure. Ripper seal replaced with Doughty seal.	JB
27-2-23	High background with Isolation valve open. Leak on Helium regulator Repaired. Leak as there was very little P.T.F.E tape on the transducer, trapping loop flaking: seals replaced. System run up and 100/400 p.p.c run performed.	JB
28 Feb	Emission brought the roof: removed source. Filament damaged so this was replaced. O ₂ leak on pressure transducer. Secured and retaped.	JB
1 March	Initiated a blank run to assess the blank size. tuned source for N ₂ C and initiated a 100-400 precision run. Carbon runs really well, but Nitrogen is poor. Water trap & liner replaced. leak checked OK. Put on another 100/400 run.	JB
7 March	Source started to flash over on Nitrogen Re-leak checked again O ₂ drop over 10 mins.	



Date	Action Taken	By Whom
2 nd March 23	Initiated an N ₂ only run with Banks. Initiated 100 µgC prec run. System flapping over on N source settings. Baked out flight tube & source flange.	SB
3 rd March 23	Tuned up for N ₂ ^{Peak & Stability} and initiated a 100 µg N precision run SD 0.04 Linearity run 100-250 SD N: 0.15 C: 0.4 Testing completed.	SB
TESTED BY S BENNETT Date <u>3rd March 2023</u>		



Client:	International Rice Research Institute		
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S028_v3



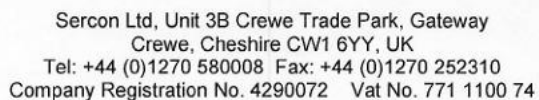
Client:	International Rice Research Institute		
Quotation Number:	16598	Date:	26/09/2022
Job Number:	IN1296	Date:	29/11/2022

S029 v3



Client:	International Rice Research Institute		
Quotation Number:	16598	Date:	26/09/2022
Job Number:	IN1296	Date:	29/11/2022

S029_v3

[illegible]

6 - TEST / ACCEPTANCE SPECIFICATION

Customer:	International Rice Research Institute		
Quotation Number:	16598	Date:	26/09/2022
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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		0.06	✓
¹⁵ N	100 µg N	0.3		0.04	✓
Dual	100 µg N & 400 µg C	0.4 & 0.15		0.04 x 0.01	✓
³⁴ S	30 µg S	0.5			
¹⁸ O	100 µg O	0.5			

N100 x C250 LWS

N: 0.15 C: 0.4

6 - TEST / ACCEPTANCE SPECIFICATION

Customer:	International Rice Research Institute		
Quotation Number:	16598	Date:	26/09/2022
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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	

6 - TEST / ACCEPTANCE SPECIFICATION

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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					

6 - TEST / ACCEPTANCE SPECIFICATION

Customer:	International Rice Research Institute		
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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	



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:	International Rice Research Institute		
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Special tests

Sales Signature: <i>[Signature]</i>	Date: <i>6/13/23</i>
Test Signature: <i>[Signature]</i>	Date: <i>6/13/23</i>

7: ASSEMBLY AND TEST RECORD

Client:	International Rice Research Institute		
Quotation Number:	16598	Date:	26/09/2022
Job Number:	IN1296	Date:	29/11/2022

PRODUCT:

INTEGRA 2

SERIAL NUMBER:

20802/4-2023/1296

 ASSEMBLED:
 (Name)

Jan Houn

Date:

8/2/23

 PRE-TEST
 INSPECTION:
 (Production name)

P. Hays

Date:

8/2/23

 PRE-TEST
 INSPECTION:
 (Test name)

Steven Bennett

Date:

23/2/23

 SYSTEM TEST:
 (Name)

Steven Bennett

Date:

3/3/23

 PRE-DESPATCH
 INSPECTION:
 (Name)

Jan Houn

Date:

6/3/23
P.A.T. Test results

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

Earth Continuity

0.084 Ω

Insulation

>300 $M\Omega$

Earth Leakage Current

1.30 mA. @ 0.05 kVA.

Tested by:

P.H.

Date:

6/3/23.

8 - Serial Numbers Record Document

Client:	International Rice Research Institute		
Quotation Number:	16598	Date:	26/09/2022
Job Number:	IN1296	Date:	29/11/2022

Units	S/N
MS/ABCA	/
Integra 2	20802/4-2023/1296
Prep Unit 1	/
Prep Unit 2/Misc	/
Electronics Upgrade	/
CETAC	/
Gas Box	/
Autosampler	42665
BCR	/
Dual Heater Block	/

Pump Kit and Optics	S/N
Turbo pump S	/
Turbo pump A	IT22436010
Rotary Pump	JP2205V001
Voltage	110 / (240)
Gauge S	L12223F039
Gauge A	/
Source	20101-207
Collector 1	20301-127
Collector 2	/
Magnet	21/12/22

Parts	S/N
Fan PSU	/
24V PSU	/

PCBs	S/N
Electronics Box	20230005
Prep PCB	/
VFC PCB	/
Watchdog PCB	/
Head Amp PCB 1	22021
Head Amp PCB 2	/
Electromagnet RP	/

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

PC	S/N
PC	7CYR163
Monitor	4PMP8H3
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:

ALLIANT PUMPS
=

Packing List

Customer Reference: 13100919

Shipper / Exporter:

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

Tel: +44 (0)1270 580008
Reference: IN1296

Consignee:

International Rice Research Institute
UP Compound, College
Los Banos, Laguna 4031
Philippines

Contact Name: Anicia Malabananb
Contact Tel Number: 09178745323

BOX: 1

Quantity	Product Code	Product Description	Serial Number: if available
✓ 1	20802/4	INTEGRA 2	20802/4-2023/1296

Packed by:



Date:

6.3.23

Claims for damage or shortages must be made within 3 days

Packing List

Customer Reference: 13100919

Shipper / Exporter:

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

Tel: +44 (0)1270 580008
 Reference: IN1296

Consignee:

International Rice Research Institute
 UP Compound, College
 Los Banos, Laguna 4031
 Philippines

Contact Name: Anicia Malabananb
 Contact Tel Number: 09178745323

BOX: 2

Quantity	Product Code	Product Description	Serial Number: if available
☒ 1		AGILENT PUMP + MAINS LEAD + UG15 OIL + FILTER	JP22205U001
☒ 1	SI0101	STD MAGNET WITH FEET	21/12/22
☒ 1	SI2391	MONITOR + MAINS LEAD + MONITOR TO PC CABLE	4PMP8H3
☒ 1	SI0155	PC + MAINS LEAD	7CYR155
☒ 1		USB - SOFTWARE + MANUALS (IN PCB BOX)	
☒ 1		USB WINDOW RECOVERY (IN PC BOX)	
☒ 1	10202-S	AUTOSAMPLER	42665
☒ 1		AUTOSAMPLER CONNECTIONS (IN AUTOSAMPLER BOX)	
☒ 1		UNIT MAINS LEAD	
☒ 1	70201-2	ANALYSER SPARES KIT	
☒ 1	70501-3	SAMPLE PREP KIT	
☒ 1	70401-1	START UP CONSUMABLES KIT	

Packed by:

ABaulAG

Date:

6.3.23

Claims for damage or shortages must be made within 3 days

Packing List

Customer Reference: 13100919

Shipper / Exporter:

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

Tel: +44 (0)1270 580008
Reference: IN1296

Consignee:

International Rice Research Institute
UP Compound, College
Los Banos, Laguna 4031
Philippines

Contact Name: Anicia Malabanab
Contact Tel Number: 09178745323

BOX: Dimensions and weights

	<u>L</u>		<u>W</u>		<u>H</u>		
Box 1	100	x	86	x	110	cm	gw 154 kg
Box 2	100	x	86	x	110	cm	gw 80 kg

Packing List

Customer Reference: 13100919

Shipper / Exporter:

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

Tel: +44 (0)1270 580008
Reference: IN1296

Consignee:

International Rice Research Institute
UP Compound, College
Los Banos, Laguna 4031
Philippines

Contact Name: Anicia Malabanab
Contact Tel Number: 09178745323

BOX: Dimensions and weights

	<u>L</u>		<u>W</u>		<u>H</u>				
Box 1	<u>100</u>	x	<u>86</u>	x	<u>110</u>	cm	gw	<u>154</u>	kg
Box 2	<u>100</u>	x	<u>86</u>	x	<u>110</u>	cm	gw	<u>80</u>	kg

COLLECTION NOTE

Job Number: **IN1296**
Customer: International Rice Research Institute, Philippines
Contact: **Anicia Malabanan**

Collection on
Date:

3/3/23

No. **2**
of boxes:

By:
Company:

NET TRASERT

Vehicle
Reg No. Mk21 EWT

Signature:

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MIKE WEBSTER

11 – Installation Report

Client:	IRRI- Los Banos. Philippines		
Quotation Number:		Date:	
Job Number:	IN1296	Date:	26 MAY 2023

Contact:	Lily R. Molina, Ruben Chavez		
Date of Visit:	22 nd – 26 th May 2023	No. of Days:	5
Engineer:	David Harris		

Details of visit:

Arrived on site. Lab is ready for instrument set up.
 All gasses ready and available for use. Set cylinder pressures to 50psi.
 Removed instrument from box – No damage noted.
 Set up on low desk top – All OK
 Plumbed in gas lines – All OK
 Set up PC and established comms – All OK
 Installed rotary pump, added oil - All OK.
 Fitted Magnet – All OK.
 Installed autosampler – All OK

Attempted to pump down instrument but rotary pump stalls. Investigate parts related to the pumping process.
 Status light flashing on turbo pump control unit. Issue resolved – System was plugged into 110V power line
 (via UPS power sockets). Different plug type required for 220V power. Plug connection changed by local
 facilities staff. System now on 220V power supply.
 System rotary and turbo pumps activate OK.
 Agilent Turbo pump speed reaches 68-69k rpm – All OK
 System is slightly slow to pump down due to turbo type. Low e-7mBar range reached within a few hours. System
 had reached 6.6e-08mBar after 5 days of pumping.
 Filament fires during source power on – All OK. Emissions good. Approx. 140µA with Trap @ 50µA.- All OK

6thou Source inlet piping appears to be blocked. No change in vac when opened. Flow detected from isolation
 valve. Replaced 6thou inlet plumbing and re-crimped when vacuum had fully formed. New plumbing respond
 correctly. Set to 4.0e-06mBar with isolation valve open.

Installed autosampler. Air leak found on blue tubing. Removed side panel. Re-seated loose connection. Now
 OK.

Lab supervisor made up combustion and reduction tubes, also water trap and carbon dioxide scrubber tubes.
 RC in familiar with the process having used Sercon/Europa MS for many years.
 Quartz chips are missing from delivery. Customer used Quartz Wool in the place of missing Quartz Chips. Part
 reported as missing.
 Furnaces heat up OK.
 GC oven heats up OK. Baked out GC column overnight at 140°C. Set to 60°C for operational use.

Positioned magnet and tuned instrument via trapping loop for N₂ and CO₂.
 Peak shapes and stability good. – All OK
 Background good. – All OK

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Calibrated flow meter – All OK

Pressure tested instrument – Pass. No drop in pressure for He or O₂ after system fully pressurised for 5 min.

System experienced a few flashovers during testing. This is not unusual during installation, especially as vacuum not quite down to the lower levels. Flashovers seemed to mainly occur over-night during electrical storms.

Adjusted sample timing to allow for run off from CO₂ to N₂ (sample to sample carry over). Adjusted O₂ flow speed as input slightly too high.

AS Beet Mix samples

Checked instrument against AS Beet Mix (CO₂ & N₂) – All OK

CO₂ Peak Shape (2/1) = OK

CO₂ Stability (2/1) = OK

N₂ Peak Shape (2/1) = OK

N₂ Stability (2/1) = OK

Ref Gas ¹³C Precision = 0.040% S.D.

Ref Gas ¹³C Linearity = 0.080% S.D.

Ref Gas ¹⁵N Precision = 0.118% S.D.

Ref Gas ¹⁵N Linearity = 0.127% S.D.

System passes all specs. Instrument ready to be used by customer.

Engineer expects the precision (repeatability) and linearity to improve over time as the vacuum improves.

Trained instrument users.

Gave introduction to the theory of Integra2 (EA & IR-MS)

Explained practical every day tasks (Checking peak position & stability, etc) and demonstrated procedure required.

Trained on software use (Callisto & the Reprocessor).

Demonstrated how to build methods and alter parameters, create reference files, build sample lists and run batches.

Demonstrated how to make up samples in tin caps (using liquid samples).

Demonstrated how to reprocess results and alter as required.

Customer made and ran test batch for dual analysis on Wheat Flour samples/standards.

Install and training complete.

Instrument handed over to customer.

Recommendations:

N/A

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Quotation Number:		Date:	
Job Number:	IN1296	Date:	26 MAY 2023
Faults and Shortages:			
Quartz Chips missing from start-up package.			
Follow up:			
N/A			
Engineer:	David Harris	Date:	26 th May 2023
Signed:			

12 – Installation Acceptance and Warranty Certificate

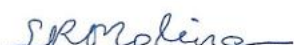
Client:	IRRI- Los Banos. Philippines		
Quotation Number:		Date:	
Job Number:	IN1296	Date:	26 MAY 2023

Contact:	Lily R. Molina, Ruben Chavez
System:	Integra2
Software:	V40.6.2
Engineer:	David Harris
Installation Date:	26 th May 2023

Warranty commences:	26 th May 2023
Warranty Expires:	26 th May 2025

Customer Acceptance:

Name: Lilia R. Molina

Signature: 

Date: 01 June 2023

Engineer's Signature:

On behalf of Sercon Limited

Name: David Harris

Signature: 

Date: 26th May 2023

Notes:

N/A