



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER: LBS90133

PAGE: 1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
 ROBERTA WAGNER
 304-558-0067

VENDOR

RFQ COPY
 TYPE NAME/ADDRESS HERE
 PerkinElmer Health Sciences, Inc.
 710 Bridgeport Avenue
 Shelton, CT 06484

SHIP TO

HEALTH AND HUMAN RESOURCES
 ENVIRONMENTAL CHEMISTRY LAB
 4710 CHIMNEY DRIVE
 CHARLESTON, WV
 25302 304-558-3530

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
06/05/2009	Net 30	Ground	Destination	Freight Quoted

BID OPENING DATE: 06/18/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM NO. 1 1. QUESTIONS AND ANSWERS ARE ATTACHED. 2. ADDENDUM ACKNOWLEDGMENT IS ATTACHED. THIS DOCUMENT SHOULD BE SIGNED AND RETURNED WITH YOUR BID. FAILURE TO SIGN AND RETURN MAY RESULT IN DISQUALIFICATION OF YOUR BID. EXHIBIT 10 REQUISITION NO.: LBS90133 ADDENDUM ACKNOWLEDGEMENT I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING ADDENDUM(S) AND HAVE MADE THE NECESSARY CHANGES TO MY PROPOSAL, PLANS AND/OR SPECIFICATIONS. ADDENDUM NO. S: NO. 1 X NO. 2 NO. 3 NO. 4 NO. 5 I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF BIDS.						

SHELTON, CT 06484
 UNITED STATES

RECEIVED
 2009 JUN 17 AM 10:12
 WV PURCHASING DIVISION

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE: TELEPHONE: 800-762-4000 DATE: 6/15/09

TITLE: Manager Business Team FEIN: 04-3361624 ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)**

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
5. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
14. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
15. **WEST VIRGINIA ALCOHOL & DRUG-FREE WORKPLACE ACT:** If this Contract constitutes a public improvement construction contract as set forth in Article 1D, Chapter 21 of the West Virginia Code ("The West Virginia Alcohol and Drug-Free Workplace Act"), then the following language shall hereby become part of this Contract: "The contractor and its subcontractors shall implement and maintain a written drug-free workplace policy in compliance with the West Virginia Alcohol and Drug-Free Workplace Act, as set forth in Article 1D, Chapter 21 of the West Virginia Code. The contractor and its subcontractors shall provide a sworn statement in writing, under the penalties of perjury, that they maintain a valid drug-free work place policy in compliance with the West Virginia and Drug-Free Workplace Act. It is understood and agreed that this Contract shall be cancelled by the awarding authority if the Contractor: 1) Fails to implement its drug-free workplace policy; 2) Fails to provide information regarding implementation of the contractor's drug-free workplace policy at the request of the public authority; or 3) Provides to the public authority false information regarding the contractor's drug-free workplace policy."

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form.
4. Unit prices shall prevail in case of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
6. **BID SUBMISSION:** All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130



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BIDDING

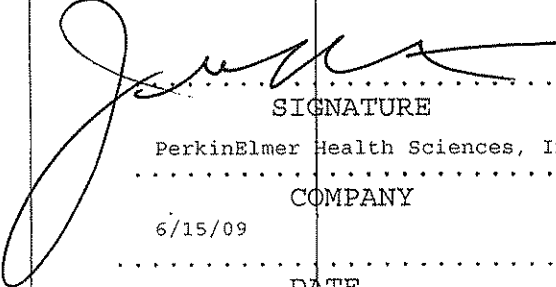
RFQ COPY
 TYPE NAME/ADDRESS HERE
 PerkinElmer Health Sciences, Inc.
 710 Bridgeport Avenue
 Shelton, CT 06484

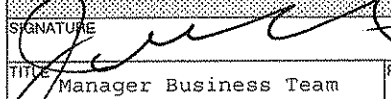
SHIPPING

HEALTH AND HUMAN RESOURCES
 ENVIRONMENTAL CHEMISTRY LAB
 4710 CHIMNEY DRIVE
 CHARLESTON, WV
 25302 304-558-3530

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<p>VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.</p>  <p>..... SIGNATURE PerkinElmer Health Sciences, Inc. COMPANY 6/15/09 DATE</p> <p>REV. 11/96</p> <p>END OF ADDENDUM NO. 1</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS			
SIGNATURE	TELEPHONE	DATE	
	800-762-4000	6/15/09	
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE	
Manager Business Team	04-3361624		

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WV-36 (Rev. 01/01/07)

STATE OF WEST VIRGINIA
PURCHASE CONTINUATION SHEET

Page 2 of 2 Pages

Requisition / P.O. No.:
LBS90133

File: _____ Acct. No.:
5201-2009-3045-099-072-15384

Vendor: PerkinElmer Health Sciences, JBC P.O. Date: _____

Spending Unit:
DHHR/OLS

Item No.	Quantity	Description	Unit Price	Amount
		<p>VENDOR QUESTION #1:</p> <p>I am trying to work on the quote for the training portion and I have a question.</p> <p>Line 0005 pages 1 & 22</p> <p>Advanced training course for the GCMS (4 days)</p> <p>How many students would participate for this class?</p> <p>RESPONSE:</p> <p>Only 1 person will attend this advanced training course.</p> <p>VENDOR QUESTION #2:</p> <p>I had a couple of questions on the bid package LBS90133. There are 2 instruments listed for the bid so does that mean that only 1 vendor will be picked for both instruments?</p> <p>RESPONSE:</p> <p>We are willing to accept a split award.</p> <p>VENDOR QUESTION #3:</p> <p>Also, I had previous conversations with the end user who referenced that they are eligible for GSA pricing. Can you confirm this?</p> <p>RESPONSE:</p> <p>No, we are not eligible for GSA Pricing. We are requesting competitive bids.</p>		



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05/19/2009	Net 30	Ground	Destination	Freight quoted

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LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	EA		PerkinElmer Quote 20306749 490-55 Frt charges w/ Inside del	\$66,494.40 690.00	\$67,184.40
GAS CHROMATOGRAPH/MASS SPECTROMETER (GC-MS) TO ANALYZE FOR TRIHALOMETHANES (THMS) AND VOLATILE ORGANIC CHEMICALS (VOCs) PER THE ATTACHED SPECS.						
0002	1	EA		PerkinElmer Quote 20306776 490-55 Frt charges w/ Inside del	\$34,591.00 449.00	\$35,040.00
GAS CHROMATOGRAPH/ELECTRON CAPTURE DETECTOR (GC-ECD) TO ANALYZE FOR HALOACETIC ACIDS (HAAS) IN DRINKING WATER PER THE ATTACHED SPECS.						
0003	1	EA		490-55	\$ 2,700.00	\$ 2,700.00
ON-SITE BASIC USER TRAINING FOR GC-MS SPECTROMETER (1 DAY AT INSTALLATION OF EQUIPMENT.)						
0004	3	EA		490-55	\$ 2,700.00	\$ 8,100.00
ON SITE BASIC USER TRAINING FOR GC-ECD DETECTOR Bid in accordance with PerkinElmer Health Sciences, Inc. quotations 20306749 and 20306776 attached. (3 DAYS AT INSTALLATION OF EQUIPMENT.)						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE 	TELEPHONE 800-762-4000	DATE 6/15/09
TITLE Manager Business Unit	FEIN 04-3361624	ADDRESS CHANGES TO BE NOTED ABOVE

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0005	4	EA		490-55	Included	0
<p>ADVANCED TRAINIG COURSE FOR THE GC-MS SPECTROMETER</p> <p>(4 DAYS)</p> <p>THE AWARD WILL BE MADE TO THE VENDOR WITH THE LOWEST OVERALL TOTAL COST OF THE EQUIPMENT WHICH MEETS ALL REQUESTED SPECIFICATIONS AND REQUIREMENTS. PAYMENT WILL BE MADE IN ARREARS.</p> <p>CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN NOTICE TO THE VENDOR IF THE COMMODITIES AND/OR SERVICES SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM TO THE SPECIFICATIONS OF THE BID AND CONTRACT HEREIN.</p> <p>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THIS CONTRACT IS AUTOMATICALLY NULL AND VOID, AND IS TERMINATED WITHOUT FURTHER ORDER.</p> <p>INQUIRIES: WRITTEN QUESTIONS SHALL BE ACCEPTED THROUGH CLOSE OF BUSINESS ON 6/2/2009. QUESTIONS MAY BE SENT VIA USPS, FAX, COURIER OR E-MAIL. IN ORDER TO ASSURE NO VENDOR RECEIVES AN UNFAIR ADVANTAGE, NO SUBSTANTIVE QUESTIONS WILL BE ANSWERED ORALLY. IF POSSIBLE, E-MAIL QUESTIONS ARE PREFERRED. ADDRESS INQUIRIES TO:</p> <p>ROBERTA WAGNER DEPARTMENT OF ADMINISTRATION</p>						

Bid in accordance with PerkinElmer Health Sciences, Inc. quotations 20306749 and 20306776 attached.

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE TELEPHONE 800-762-4000 DATE 6/15/09

TITLE Manager Business Unit FEIN 04-3361624 ADDRESS CHANGES TO BE NOTED ABOVE

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LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>PURCHASING DIVISION 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25311 FAX: 304-558-4115 E-MAIL: ROBERTA.A.WAGNER@WV.GOV</p> <p>THE MODEL/BRAND/SPECIFICATIONS NAMED HEREIN ESTABLISH THE ACCEPTABLE LEVEL OF QUALITY ONLY AND ARE NOT INTENDED TO REFLECT A PREFERENCE OR FAVOR ANY PARTICULAR BRAND OR VENDOR. VENDORS WHO ARE BIDDING ALTERNATES SHOULD SO STATE AND INCLUDE PERTINENT LITERATURE AND SPECIFICATIONS. FAILURE TO PROVIDE INFORMATION FOR ANY ALTERNATES MAY BE GROUNDS FOR REJECTION OF THE BID. THE STATE RESERVES THE RIGHT TO WAIVE MINOR IRREGULARITIES IN BIDS OR SPECIFICATIONS IN ACCORDANCE WITH SECTION 148-1-4(F) OF THE WEST VIRGINIA LEGISLATIVE RULES AND REGULATIONS.</p> <p style="text-align: center;">NOTICE</p> <p>A SIGNED BID MUST BE SUBMITTED TO:</p> <p style="text-align: center;">DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130</p> <p>PLEASE NOTE: A CONVENIENCE COPY WOULD BE APPRECIATED.</p> <p>THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF</p>						

SIGNATURE		TELEPHONE 800-762-4000	DATE 6/15/09
TITLE Manager Business Unit	FEIN 04-3361624	ADDRESS CHANGES TO BE NOTED ABOVE	

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Gas Chromatograph – Mass Spectrometer

SPECIFICATIONS AND REQUIREMENTS:

1. The Environmental Chemistry Laboratory section of the Office of Laboratory Services is requesting to purchase a Gas Chromatograph – Mass Spectrometer (GC-MS) instrument to analyze for Trihalomethanes (THMs) and Volatile Organic Chemicals (VOCs) in drinking water to fulfill requirements of United States Environmental Protection Agency (EPA) regulations for compliance monitoring of public water systems. Compliance monitoring testing is a requirement of a state's Principal State Laboratory mandated under federal code at 40 CFR 142.10(b)(4) for the state to maintain Primacy over its Drinking Water Program. The instrument will also serve the purpose of protecting public health by providing testing capabilities to private well owners. This instrument is to be installed for use by the Environmental Chemistry Laboratory located at 4710 Chimney Drive, Suite G, Charleston, WV 25302.
2. The technology of this GC-MS instrument must be compatible with and fulfill the requirements of United States Environmental Protection Agency (EPA) method 524.2 (1995, Revision 4.1) for THMs and VOCs, and the resolution and sensitivity capability must be able to meet or exceed the limits of detection and minimum reporting levels required for these regulated compounds as stipulated under the federal Safe Drinking Water Act, and the Stage 2 Disinfection Byproduct Rule.
3. The GC-MS Instrument must be fully automated for analysis with a system controller that is loaded with the necessary software which is compatible with Windows XP. System controller software must be able to export data to the existing Laboratory Information Management System (LIMS).
4. The GC-MS Instrument system controller software must be able to fulfill all of the analytical and quality control requirements stated in the EPA Method 524.2 (Rev. 4.1) as well as the pertinent requirements listed in Chapter IV of the EPA "Manual for the Certification of Laboratories Analyzing Drinking Water, Fifth edition, January 2005", for the analysis of THMs and VOCs in drinking water.
5. GC-MS Instrument must be fully compatible with a system software controlled autosampler that is integral with a Purge and Trap concentrator sampling system manufactured by OI Analytical. The autosampler is Model 4551-A. The Purge and Trap is the Eclipse Model 4660. The OI Analytical autosampler and purge and trap have already been purchased separately.
6. The GC-MS Instrument must come with a temperature-programmable split/splitless capillary column injector compatible with a Purge and Trap sampling interface.
7. The GC-MS Instrument must come with a column for method 524.2 volatiles analysis.
8. The GC-MS Instrument must come equipped with a quadrupole mass spectrometer.
9. The GC-MS Instrument must come equipped with a pre-quad filter, or fully equivalent technology, to protect the quadrupole from contamination.

10. The GC-MS Instrument must be capable of mass scan rates of at least 12,500 amu/sec and 65 scans/sec.
11. The GC-MS Instrument must be capable of detecting a wide mass range of at least 1.5-1050 u (Daltons).
12. The GC-MS Instrument must come equipped with a 179 L/sec turbomolecular pump or better.
13. The GC-MS Instrument must be capable of being attached to a nitrogen purge gas stream to prohibit oxygen from entering the system during venting, or provide equivalent technology, to minimize contamination in case of a power outage.
14. The GC-MS Instrument oven must be capable of a rapid cool-down rate, from 450°C to 50°C, in less than 2 minutes to facilitate fast analytical cycles.
15. The GC-MS Instrument must come equipped with a programmable pneumatic control system that controls and monitors all injector, detector, and auxiliary gases electronically, or fully equivalent technology.
16. The GC-MS Instrument system must operate on 110-120 V AC.

Installation Requirements:

1. Vendor must install the GC-MS Instrument system in the Environmental Chemistry Laboratory in the Elk Office Center building at 4710 Chimney Drive, Suite G, Charleston, WV 25302 .
2. Vendor must provide to the Environmental Chemistry Laboratory (ECL) Program Manager all relevant information concerning the installation in a documented form at least 2 weeks prior to the scheduled installation.
3. At the time of the GC-MS Instrument installation, Vendor must provide to the ECL Program Manager: All relevant system manuals for hardware components; system and application software documentation; a parts, supplies, accessories catalog.
4. Vendor must include all necessary cables and fittings and other costs for installation in the submitted bid price.
5. Installation and on-site training must be completed within 90 days of delivery date.

Training Requirements:

1. Vendor must provide, upon completion of installation, basic on-site training for Environmental Chemistry Laboratory personnel on the operation and user maintenance requirements of the GC-MS Instrument system.
2. On-site training provided by Vendor must last for at least 1 day, following GC-MS Instrument system installation.
3. All costs incurred by the Vendor including travel, lodging, and living expenses necessary to provide this basic training shall be included in the bid price.
4. Vendor must also provide an advanced and complete training course that includes the theory of GC-MS, workshops demonstrating all aspects of the proprietary software

capabilities, and hands-on lab work. This course must last at least 4 days. Vendor must include the cost of this course in the bid price.

Warranty Requirements:

1. Vendor must include in the total price of the equipment at least 1-year factory warranty covering all system components.
2. Software support must be included as part of one-year warranty. Vendor must agree to provide software support for any subsequent service agreements that may follow the original one-year standard warranty.
3. Warranty must include on-site service including labor, travel time, and expenses with a 24-hour on-site response time at no extra cost to maintain the specifications listed in this bid and the Vendor's product specifications.
4. Vendor must include all warranty information including terms and conditions upon delivery.
5. Warranty must begin upon completion of installation.
6. Service provided under warranty must be provided directly by an employee of the Vendor's company exclusive of contracted third parties.
7. Vendor must agree to offer the first one year extended service warranty after the initial 1 year warranty expires at a cost indicated on the bid response page.
8. For a period of ten years commencing with the end of the one year warranty period following installation, the Vendor must make available a one-year service period for preventive maintenance and emergency service on both system hardware and software on a reoccurring annual basis.

Delivery Requirements:

1. The GC-MS Instrument and its components must be shipped for "inside delivery" by freight delivery company.
2. The GC-MS Instrument and its components must be shipped "F.O.B. Destination" unless otherwise stated in quote by Vendor. Any shipping and handling requirements must be stated in Vendor's quote.
3. Delivery must be within 90 days after receipt of order.

Conformance Requirements:

1. The GC-MS Instrument system shall be operated for a period of 30 days following installation and must be found to conform to the herein listed specifications.
2. Vendor must agree to accept the return of the GC-MS Instrument system should the GC-MS Instrument system fail to conform to any required specification within this 30 day period.

3. Should the GC-MS Instrument system be returned to the Vendor, the Vendor must agree to provide a full refund of the bid price of the GC-MS Instrument system to the State of West Virginia.

Gas Chromatograph – Electron Capture Detector

SPECIFICATIONS AND REQUIREMENTS:

1. The Environmental Chemistry Laboratory section of the Office of Laboratory Services is requesting for purchase a Gas Chromatograph – Electron Capture Detector (GC-ECD) instrument to analyze for Haloacetic Acids (HAA5) in drinking water to fulfill requirements of United States Environmental Protection Agency (EPA) regulations for compliance monitoring of public water systems. Compliance monitoring testing is a requirement of a state's Principal State Laboratory mandated under federal code at 40 CFR 142.10(b)(4) for the state to maintain Primacy over its Drinking Water Program. The instrument will also serve the purpose of protecting public health by providing testing capabilities to private well owners. This instrument is to be installed for use by the Environmental Chemistry Laboratory at 4710 Chimney Drive, Suite G, Charleston, WV 25302.
2. The technology of this GC-ECD instrument must be compatible with and fulfill the requirements of United States Environmental Protection Agency (EPA) method 552.3 (2003, Revision 1.0) for Haloacetic Acids (HAA5) and the resolution and sensitivity capability must be able to meet or exceed the limits of detection and minimum reporting levels required for these regulated compounds as stipulated under the federal Safe Drinking Water Act, and the Stage 2 Disinfection Byproduct Rule.
3. The GC-ECD Instrument must be fully automated for analysis with a system controller that is loaded with the necessary software which is compatible with Windows XP. System controller software must be able to export data to the existing Laboratory Information Management System (LIMS).
4. The GC-ECD Instrument system controller software must be able to fulfill all of the analytical and quality control requirements stated in the EPA Method 552.3 (Rev. 1.0) as well as the pertinent requirements listed in Chapter IV of the EPA "Manual for the Certification of Laboratories Analyzing Drinking Water, Fifth edition, January 2005", for the analysis of HAA5 in drinking water.
5. Instrument must be equipped with a system software controlled autosampler.
6. The GC-ECD Instrument must come with a temperature-programmable split / splitless capillary column injector.
7. The GC-ECD Instrument must come equipped with a Primary GC Column for method 552.3 volatiles analysis. This is a DB-1701, 30-meter length, 0.25-mm i.d., 0.25- μ m film, fused silica capillary with chemically bonded (14% cyanopropylphenyl-methylpolysiloxane), or equivalent bonded, fused silica column.

8. The GC-ECD Instrument must come equipped with a Secondary Confirmation GC Column. This is a DB-5.625, 30-meter length, 0.25-mm i.d., 0.25- μ m film, fused silica capillary with chemically bonded ("equivalent to" 5% phenylmethylpolysiloxane), or equivalent bonded, fused silica column.
9. The GC-ECD Instrument must come equipped with a low volume, micro, Electron Capture Detector for each of the Primary and Secondary Confirmation columns.
10. The GC-ECD Instrument oven must be capable of a rapid cool-down rate from 450 °C to 50 °C in less than 2 minutes to facilitate fast analytical cycle times.
11. The GC-ECD Instrument must come equipped with a programmable pneumatic control system, or fully equivalent technology, that controls and monitors all injector, detector, and auxiliary gases electronically.
12. The GC-ECD Instrument system must operate on 110-120 V AC.

Installation Requirements:

1. Vendor must install the GC-ECD Instrument system in the Environmental Chemistry Laboratory in the Elk Office Center building at 4710 Chimney Drive, Suite G, Charleston, WV 25302 .
2. Vendor must provide to the Environmental Chemistry Laboratory (ECL) Program Manager all relevant information concerning the installation in a documented form at least 2 weeks prior to the scheduled installation.
3. At the time of the GC-ECD Instrument installation, Vendor must provide to the ECL Program Manager: All relevant system manuals for hardware components; system and application software documentation; a parts, supplies, accessories catalog.
4. Vendor must include all necessary cables and fittings and other costs for installation in the submitted bid price.
5. Installation and on-site training must be completed within 90 days of delivery date.

Training Requirements:

1. Vendor must provide on-site training for Environmental Chemistry Laboratory personnel on the operation and user maintenance requirements of the GC-ECD, following completion of installation.
2. Vendor must provide on-site training relevant to the acceptable performance of the EPA method 552.3.
3. On-site training provided by Vendor must be for a minimum of 3 days following Instrument system installation.
4. All costs incurred by the Vendor including travel, lodging, and living expenses necessary to provide this training shall be included in the bid price.

Warranty Requirements:

1. Vendor must include in the total price of the equipment at least 1-year factory warranty covering all system components.

2. Software support must be included as part of one-year warranty. Vendor must agree to provide software support for any subsequent service agreements that may follow the original one-year standard warranty.
3. Warranty must include on-site service including labor, travel time, and expenses with a 24-hour on-site response time at no extra cost to maintain the specifications listed in this bid and the Vendor's product specifications.
4. Vendor must include all warranty information including terms and conditions upon delivery.
5. Warranty to begin upon completion of installation.
6. Service provided under warranty must be provided directly by an employee of the Vendor's company exclusive of contracted third parties.
7. Vendor must agree to offer the first one year extended service warranty after the initial 1 year warranty expires at a cost indicated on the bid response page.
8. For a period of ten years commencing with the end of the one year warranty period following installation, the Vendor must make available a one-year service period for preventive maintenance and emergency service on both system hardware and software on a reoccurring annual basis.

Delivery Requirements:

1. The GC-ECD Instrument and its components must be shipped for "inside delivery" by freight delivery company.
2. The GC-ECD Instrument and its components are to be shipped "F.O.B. Destination" unless otherwise stated in quote by Vendor. Any shipping and handling requirements must be stated in Vendor's quote.
3. Delivery must be within 90 days after receipt of order.

Conformance Requirements:

1. The GC-ECD system must be operated for a period of 30 days following installation and must be found to conform to the herein listed specifications.
2. Vendor must agree to accept the return of the GC-ECD system should the GC-ECD system fail to conform to any required specification within this 30 day period.
3. Should the GC-ECD system be returned to the Vendor, the Vendor must agree to provide a full refund of the bid price of the GC-ECD system to the State of West Virginia.

RFQ COST SHEET

Bidders shall provide a cost for the following:

Gas Chromatograph – Mass Spectrometer (GC-MS) \$ 67,184.40

On-site Basic User Training (1 day at installation of equipment) \$ 2,700.00

Advanced Training Course (4 days) \$ 0

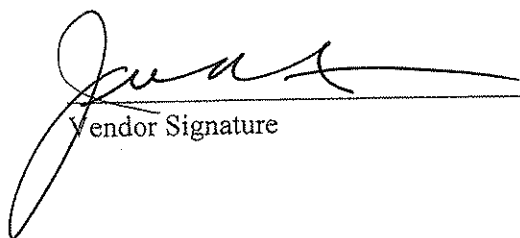
Gas Chromatograph – Electron Capture Detector (GC-ECD) \$ 35,040.00

On-site Basic User Training (3 days at installation of equipment) \$ 8,100.00

Total Cost \$ 113,024.40

Bid in accordance with PerkinElmer health Sciences, Inc. quotations 20306749 and 20306776 attached.

The award will be made to the vendor with the lowest overall total cost of the equipment which meets all requested specifications and requirements. Payment will be made in arrears.



Vendor Signature

6/15/09
Date

WV-96
Rev. 10/07

AGREEMENT ADDENDUM

In the event of conflict between this addendum and the agreement, this addendum shall control:

1. **DISPUTES** - Any references in the agreement to arbitration or to the jurisdiction of any court are hereby deleted. Disputes arising out of the agreement shall be presented to the West Virginia Court of Claims.
2. **HOLD HARMLESS** - Any clause requiring the Agency to indemnify or hold harmless any party is hereby deleted in its entirety.
3. **GOVERNING LAW** - The agreement shall be governed by the laws of the State of West Virginia. This provision replaces any references to any other State's governing law.
4. **TAXES** - Provisions in the agreement requiring the Agency to pay taxes are deleted. As a State entity, the Agency is exempt from Federal, State, and local taxes and will not pay taxes for any Vendor including individuals, nor will the Agency file any tax returns or reports on behalf of Vendor or any other party.
5. **PAYMENT** - Any references to prepayment are deleted. Payment will be in arrears.
6. **INTEREST** - Should the agreement include a provision for interest on late payments, the Agency agrees to pay the maximum legal rate under West Virginia law. All other references to interest or late charges are deleted.
7. **RECOUPMENT** - Any language in the agreement waiving the Agency's right to set-off, counterclaim, recoupment, or other defense is hereby deleted.
8. **FISCAL YEAR FUNDING** - Service performed under the agreement may be continued in succeeding fiscal years for the term of the agreement, contingent upon funds being appropriated by the Legislature or otherwise being available for this service. In the event funds are not appropriated or otherwise available for this service, the agreement shall terminate without penalty on June 30. After that date, the agreement becomes of no effect and is null and void. However, the Agency agrees to use its best efforts to have the amounts contemplated under the agreement included in its budget. Non-appropriation or non-funding shall not be considered an event of default.
9. **STATUTE OF LIMITATION** - Any clauses limiting the time in which the Agency may bring suit against the Vendor, lessor, individual, or any other party are deleted.
10. **SIMILAR SERVICES** - Any provisions limiting the Agency's right to obtain similar services or equipment in the event of default or non-funding during the term of the agreement are hereby deleted.
11. **ATTORNEY FEES** - The Agency recognizes an obligation to pay attorney's fees or costs only when assessed by a court of competent jurisdiction. Any other provision is invalid and considered null and void.
12. **ASSIGNMENT** - Notwithstanding any clause to the contrary, the Agency reserves the right to assign the agreement to another State of West Virginia agency, board or commission upon thirty (30) days written notice to the Vendor and Vendor shall obtain the written consent of Agency prior to assigning the agreement.
13. **LIMITATION OF LIABILITY** - The Agency, as a State entity, cannot agree to assume the potential liability of a Vendor. Accordingly, any provision limiting the Vendor's liability for direct damages to a certain dollar amount or to the amount of the agreement is hereby deleted. Limitations on special, incidental or consequential damages are acceptable. In addition, any limitation is null and void to the extent that it precludes any action for injury to persons or for damages to personal property.
14. **RIGHT TO TERMINATE** - Agency shall have the right to terminate the agreement upon thirty (30) days written notice to Vendor. Agency agrees to pay Vendor for services rendered or goods received prior to the effective date of termination.
15. **TERMINATION CHARGES** - Any provision requiring the Agency to pay a fixed amount or liquidated damages upon termination of the agreement is hereby deleted. The Agency may only agree to reimburse a Vendor for actual costs incurred or losses sustained during the current fiscal year due to wrongful termination by the Agency prior to the end of any current agreement term.
16. **RENEWAL** - Any reference to automatic renewal is hereby deleted. The agreement may be renewed only upon mutual written agreement of the parties.
17. **INSURANCE** - Any provision requiring the Agency to insure equipment or property of any kind and name the Vendor as beneficiary or as an additional insured is hereby deleted.
18. **RIGHT TO NOTICE** - Any provision for repossession of equipment without notice is hereby deleted. However, the Agency does recognize a right of repossession with notice.
19. **ACCELERATION** - Any reference to acceleration of payments in the event of default or non-funding is hereby deleted.
20. **CONFIDENTIALITY** - Any provision regarding confidentiality of the terms and conditions of the agreement is hereby deleted. State contracts are public records under the West Virginia Freedom of Information Act.
21. **AMENDMENTS** - All amendments, modifications, alterations or changes to the agreement shall be in writing and signed by both parties. No amendment, modification, alteration or change may be made to this addendum without the express written approval of the Purchasing Division and the Attorney General.

ACCEPTED BY:

STATE OF WEST VIRGINIA

Spending Unit: _____

Signed: _____

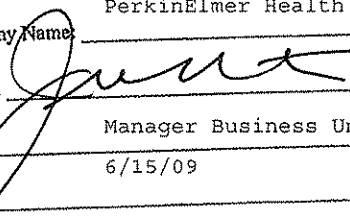
Title: _____

Date: _____

VENDOR

PerkinElmer Health Sciences, Inc.

Company Name: _____

Signed:  _____

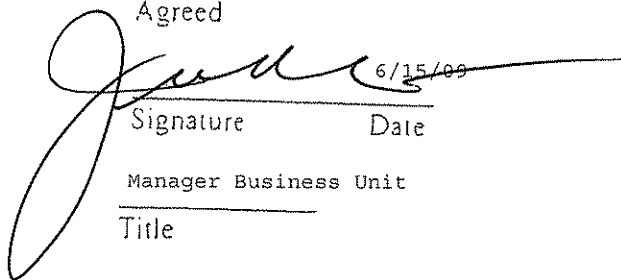
Title: Manager Business Unit

Date: 6/15/09

ATTACHMENT
P.O.# LBS90133

This agreement constitutes the entire agreement between the parties, and there are no other terms and conditions applicable to the licenses granted hereunder.

Agreed

 6/15/09
Signature Date
Manager Business Unit
Title

PerkinElmer Health Sciences, Inc.
Company Name

Signature Date

Title

Agency/Division

PerkinElmer Health Sciences, Inc. recognizes WV as a sovereign state and agrees to be bound by the laws of WV. However, the state must be aware of the function and operation of the PerkinElmer warranty and remedies which the UCC requires to be clearly disclosed. It is not PerkinElmer's intent to usurp the WV rules and regulations of purchase but instead to supplement same. Submitted in accordance with PerkinElmer Health Sciences, Inc. quotations 20306749 and 20306776 attached. In the event of a conflict between the two parties terms and conditions, the terms of the State of WV will prevail.

RFQ No. LBS90133

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

VENDOR OWING A DEBT TO THE STATE:

West Virginia Code §5A-3-10a provides that: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

PUBLIC IMPROVEMENT CONTRACTS & DRUG-FREE WORKPLACE ACT:

If this is a solicitation for a public improvement construction contract, the vendor, by its signature below, affirms that it has a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the *West Virginia Code*. The vendor **must** make said affirmation with its bid submission. Further, public improvement construction contract may not be awarded to a vendor who does not have a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the *West Virginia Code* and who has not submitted that plan to the appropriate contracting authority in timely fashion. For a vendor who is a subcontractor, compliance with Section 5, Article 1D, Chapter 21 of the *West Virginia Code* may take place before their work on the public improvement is begun.

ANTITRUST:

In submitting a bid to any agency for the state of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the state of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the state of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the state of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership or person or entity submitting a bid for the same materials, supplies, equipment or services and is in all respects fair and without collusion or fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

LICENSING:

Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

CONFIDENTIALITY:

The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.

Under penalty of law for false swearing (*West Virginia Code* §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

PerkinElmer Health Sciences, Inc.

Vendor's Name: _____

Authorized Signature: _____

Date: 6/15/09

State of West Virginia **VENDOR PREFERENCE CERTIFICATE**

Certification and application* is hereby made for Preference in accordance with *West Virginia Code*, §5A-3-37. (Does not apply to construction contracts). *West Virginia Code*, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the *West Virginia Code*. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Resident Vendor Preference, if applicable.

- 1. **Application is made for 2.5% resident vendor preference for the reason checked:**
 Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,
 Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,
 Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,
- 2. **Application is made for 2.5% resident vendor preference for the reason checked:**
 Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
- 3. **Application is made for 2.5% resident vendor preference for the reason checked:**
 Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
- 4. **Application is made for 5% resident vendor preference for the reason checked:**
 Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,
- 5. **Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:**
 Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,
- 6. **Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:**
 Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: _____ **Signed:** _____

Date: _____ **Title:** _____

*Check any combination of preference consideration(s) indicated above, which you are entitled to receive.

Response to bid Specifications and Requirements for LBS90133

Gas Chromatograph-Mass Spectrometer

Specification and Requirements:

1. The Clarus 600T GC/MS is fully capable of performing the tests required for THMs and VOCs in your laboratory
2. The Clarus 600T GC/MS is compatible with EPA method 524.2 and is able to meet the limits of detection for your methods
3. The Clarus 600T meets this specification and is capable of outputting the data in an Excel format which can be ported into virtually any LIMS.
4. The Data system has full Quality Control capability using EPA CLP-like reporting.
5. The Clarus 600T is compatible with all Purge and Trap concentrator and autosampler units on the market including the 4551-A and 4660 from OI.
6. The GC includes a temperature programmable Capillary Injector and is compatible with a purge and trap interface.
7. The correct column for method 524.2 is included on the quotation.
8. The Clarus 600T is a quadrupole mass spectrometer.
9. The Clarus 600T includes pre-quad filters to protect the the quadrupole from contamination.
10. The Clarus 600T meets this scan specification.
11. The Clarus 600T has a mass range of 1-1200 AMU.
12. The Clarus 600T has a 255/L-sec turbo pump.
13. The Clarus 600T comes with a nitrogen purge accessory.
14. The Clarus 600T can cool from 450c to 50c in less than two minutes.
15. The Clarus 600T is outfitted with PPC to control all flows in the system.
16. The Clarus 600T operates on 110-120 VAC.

Installation Requirements:

1. The system will be installed in the Charleston location as per your request.
2. A pre-installation document for both systems will be sent prior to the scheduling of the installation.
3. All documentation ships with the instrument and will be made available to the ECL Program Manager.
4. All fittings, cables, and charges are included with the system or are on the bid response.
5. Installation and on-site training are always done as close as possible to the customer's requirements. 90 days is very reasonable.

Training Requirements:

1. Basic on-site training and user maintenance is part of the installation fee and included with all PerkinElmer Instruments.
2. Advanced On-Site training for one day is listed on the bid as an option if the customer requires on-site training over and above the basic training provided during installation.
3. All costs for the optional on-site training are included in the price.
4. A 4-day advanced GC/MS training course is included on the bid response at no charge.

Warranty Requirements:

1. One-year warranty is included in the price of the instrument.
2. Software coverage is included in the standard one-year warranty and in any subsequent service agreements.
3. Warranty to maintain the instrument at shipping specifications includes parts, labor, and travel costs. While 24-hour response time can not be absolutely guaranteed, all possible avenues will be explored in arriving on-site as soon as possible, with 24-hour response as a target.
4. Warranty and Terms and conditions are provided with the bid.
5. Warranty will begin at completion of the installation.
6. All warranty service performed is provided by employees of PerkinElmer Health Sciences, Inc.
7. Agreed
8. One-year service agreements are always made available on instruments throughout their lifetime until they reach their 'end of life'. This period is always considered to be at least seven years after discontinuation of the model. In this case, the Clarus 600T GC/MS is ~ 2 years old and will have agreements available for ten years.

Delivery Requirements:

1. Inside delivery is quoted.
2. F.O.B. Destination is quoted.
3. Delivery is generally 30 to 45 days.

Conformance Requirements:

1. PerkinElmer agrees to this statement as long as scheduled training, vacations, etc. do not cause time frame to exceed 30 day requirement. PerkinElmer also agrees to extend the warranty for an additional 30 days should the instrument itself be the cause of any delay past the 30 day requirement.
2. PerkinElmer agrees that as long as there is proof that failure of the GC/MS system itself to perform the application is the cause of non-conformance, we will discuss return of the instrument. It is not in the best interest of either party for this to occur, so all possible care will be taken on the part of PerkinElmer to assist the ECL Program Manager in this matter.
3. Agreed.

Gas Chromatograph-Electron Capture Detector

Specification and Requirements:

1. The Clarus 600 GC is fully capable of performing the tests required for HAA5 in your laboratory.
2. The Clarus 600 GC is compatible with EPA method 552.3 and is able to meet the limits of detection for your methods
3. The Clarus 600 meets this specification and is capable of outputting the data in an CSV format which can be ported into virtually any LIMS.
4. The system software has all of these capabilities.
5. The system software controlled autosampler is included.
6. The Clarus 600 is quoted with a temperature programmable split/splitless capillary column injector.
7. The appropriate columns for the application are included on the bid.
8. The appropriate columns for the application are included on the bid.
9. The Clarus 600 is quoted with two low-volume ECD Detectors, one each for the primary and secondary confirmation columns.
10. The Clarus 600 GC can cool from 450c to 50c in less than two minutes.
11. The Clarus 600 GC is outfitted with PPC to control all flows in the system.
12. The Clarus 600 GC operates on 110-120 VAC.

Installation Requirements:

1. The system will be installed in the Charleston location as per your request.
2. A pre-installation document for both systems will be sent prior to the scheduling of the installation.
3. All documentation ships with the instrument and will be made available to the ECL Program Manager.
4. All fittings, cables, and charges are included with the system or are on the bid response.
5. Installation and on-site training are always done as close as possible to the customer's requirements. 90 days is very reasonable

Training Requirements:

1. Basic on-site training and user maintenance is part of the installation fee and included with all PerkinElmer Instruments.
2. Advanced On-Site training for three days is listed on the bid as an option for Method 552.3.
3. Agree: 3 days
4. All costs for the optional on-site training are included in the price.

Warranty Requirements:

1. One-year warranty is included in the price of the instrument.
2. Software coverage is included in the standard one-year warranty and in any subsequent service agreements.
3. Warranty to maintain the instrument at shipping specifications includes parts, labor, and travel costs. While 24-hour response time can not be absolutely guaranteed, all possible avenues will be explored in arriving on-site as soon as possible, with 24-hour response as a target.
4. Warranty and Terms and conditions are provided with the bid.
5. Warranty will begin at completion of the installation.
6. All warranty service performed is provided by employees of PerkinElmer Health Sciences, Inc.
7. Agreed
8. One-year service agreements are always made available on instruments throughout their lifetime until they reach their 'end of life'. This period is always considered to be at least seven years after discontinuation of the model. In this case, the Clarus 600 GC is ~ 2 years old and will have agreements available for ten years.

Delivery Requirements:

1. Inside delivery is quoted.
2. F.O.B. Destination is quoted.
3. Delivery is generally 30 to 45 days.
- 4.

Conformance Requirements:

1. PerkinElmer agrees to this statement as long as scheduled training, vacations, etc. do not cause time frame to exceed 30 day requirement. PerkinElmer also agrees to extend the warranty for an additional 30 days should the instrument itself be the cause of any delay past the 30 day requirement.
2. PerkinElmer agrees that as long as there is proof that failure of the GC/MS system itself to perform the application is the cause of non-conformance, we will discuss return of the instrument. It is not in the best interest of either party for this to occur, so all possible care will be taken on the part of PerkinElmer to assist the ECL Program Manager in this matter.
3. Agreed.



Quotation

710 Bridgeport Avenue
Shelton, CT 06484-4794

Phone: 1-800-762-4000
Fax: 203-944-4914

To: STATE OF WEST VIRGINIA
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION - BLDG. 15
2019 WASHINGTON STREET EAST
P.O. BOX 50130
CHARLESTON WV 25305-0130

QUOTE NO.: 20306749
QUOTE VALID TO: 08/15/2009
QUOTE DATE: 06/15/2009
PAY. TERMS: Net 30 Days
FREIGHT TERMS: FOB Destination - Frt Quoted
ULTIMATE DEST.: UNITED STATES OF AMERICA

TELEPHONE NO.
FAX NO. 304 558 4115
YOUR REFERENCE 9RS34

ITEM	MATERIAL	DESCRIPTION	QTY/EA	UNIT PRICE	TOTAL
1	N6659600	CLARUS 600 GAS CHROMATOGRAPH Sales Discount 120 Volt Selection N6650A00 120 Volt 20 Amp Oven N665000A Base GC with PPC Clarus 600 Gas Chromatograph with Programmed Pneumatic Control (PPC) N66510F0 Split/Splitless w/PPC Channel A - Single programmable split/ splitless (PSS) injector with PPC and 1/16" male column fittings. N66530A0 Integral LINK Option The Clarus 600 GC side panel provides an Ethernet port which allows the instrument to connect directly to the local area network (LAN) and a serial port for simpler configurations. dotLINK CD and Serial and Ethernet cables are included. Provides digital-to-digital connection between the Clarus 600 GC and a TotalChrom Chromatography Workstation. Requires Clarus 600 GC IPMs for TotalChrom Workstation and Client/Server	1	14,742.00	14,742.00 3,685.50-
2	N6658603	CLARUS 600T MS 120/230V (EI) Sales Discount Clarus 600 T MS EI, 120/230V Mass spectrometer with Electron Ionization only. Includes state-of-the-art electronics, 1.1200 u mass range, gold component technology, 255L/sec turbomolecular pump, single wide range pressure gauge, complete manuals set for hardware and software,	1	60,500.00	60,500.00 15,125.00-

SEND PURCHASE ORDERS TO:
PerkinElmer Life and Analytical Sciences
710 Bridgeport Ave.
Shelton, CT 06484-4794
Phone: 1-800-762-4000
Fax: 203-944-4914

SALES REPRESENTATIVE: ROBERT STROYNE
PREPARED BY: Wendy Metzger



Quotation

710 Bridgeport Avenue
Shelton, CT 06484-4794

Phone: 1-800-762-4000
Fax: 203-944-4914

To: STATE OF WEST VIRGINIA
DEPARTMENT OF ADMINISTRATION

QUOTE NO.: 20306749
QUOTE VALID TO: 08/15/2009
QUOTE DATE: 06/15/2009

ITEM	MATERIAL	DESCRIPTION	QTY/EA	UNIT PRICE	TOTAL
		and shipping kit.			
3	N6470045	VENT KIT-TURBOMASS INERT GAS	1	371.00	371.00
		Sales Discount			92.75-
4	N6658613	CONTROLLER 3 CLARUS 600 MS	1	3,920.00	3,920.00
		Sales Discount			980.00-
		Clarus 600 Controller			
		Dell PC Tower with Windows XP, TurboMass software with customizable reporting, includes environmental and forensic reporting packages, and a 2nd network card for connection to existing network.			
5	09404759	19" LCD MONITOR WIDE SCREEN (for ADC)	1	642.00	642.00
6	N6520220	S/W TURBOMASS NIST 2008	1	2,563.00	2,563.00
		Sales Discount			640.75-
7	N0200451	INSTALLATION-CLARUS GC/MS	1	3,270.00	3,270.00
8	N0200417	TRAINING-TURBOMASS OPERATOR	1	2,370.00	2,370.00
		New Inst Train Disc			2,370.00-
		4 day course conducted at a PerkinElmer Technical Center.			
9	N9316393	COL-ELITE VRX-75M-.45MM-2.55UM	1	1,263.00	1,263.00
		Sales Discount			252.60-
10	N0207282	On-Site Training - GC (Per Day)	1	2,700.00	
		OPTIONAL ITEM			
11	GC600GCAPOS0	POS0600GC Inj/PPC/Dictr	12	142.20	
		OPTIONAL ITEM			
		NOTE: The price shown for this item includes a point-of-sale discount and is a unit price of one month. The price of a one-year extended warranty is \$1,706.40.			
12	GCCLRS600TPOS0	Repair - Clarus 600T MS	12	459.90	
		OPTIONAL ITEM			
		NOTE: The price shown for this item includes a point-of-sale discount and is a unit price of one month. The price of a one-year extended warranty is \$5,518.80.			
		Freight/Handling:			690.00



Quotation

710 Bridgeport Avenue
Shelton, CT 06484-4794

Phone: 1-800-762-4000
Fax: 203-944-4914

QUOTE NO.: 20306749
QUOTE VALID TO: 08/15/2009
QUOTE DATE: 06/15/2009

To: STATE OF WEST VIRGINIA
DEPARTMENT OF ADMINISTRATION

ITEM	MATERIAL	DESCRIPTION	QTY/EA	UNIT PRICE	TOTAL
Total Net Price in USD:					67,184.40

Optional items not included in total

Customized Financing Solutions are available - We offer competitive rates with a wide range of structures to assist in acquiring your PerkinElmer technology - Speak to your Sales Engineer today or call us at 1-800-559-2755 ext. 69608

The amount displayed does not include tax.

These charges will be added to the invoice if applicable.

*

Includes installation and one year warranty (parts, labor and travel).

*

Estimated delivery: 6-8 weeks after receipt of order.

*

Terms subject to credit approval.

*

NOTE: Freight charges include inside delivery by freight company.

Robert Stroyne 6/15/09
ROBERT STROYNE *wlm*



Quotation

710 Bridgeport Avenue
Shelton, CT 06484-4794

Phone: 1-800-762-4000
Fax: 203-944-4914

To: STATE OF WEST VIRGINIA
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION - BLDG. 15
2019 WASHINGTON STREET EAST
P.O. BOX 50130
CHARLESTON WV 25311

QUOTE NO.: 20306776
QUOTE VALID TO: 08/18/2009
QUOTE DATE: 06/15/2009
PAY. TERMS: Net 30 Days
FREIGHT TERMS: FOB Destination - Frt Quoted
ULTIMATE DEST.: UNITED STATES OF AMERICA

TELEPHONE NO.
FAX NO. 304 558 4115
YOUR REFERENCE LBS90133

ITEM	MATERIAL	DESCRIPTION	QTY/EA	UNIT PRICE	TOTAL
1	N6659ECD	CLARUS 600 ECD GC Sales Discount 120 Volt Selection N6650A00 120 Volt 20 Amp Oven N665000A Base GC with PPC Clarus 600 Gas Chromatograph with Programmed Pneumatic Control (PPC) N66500A0 Integral Autosampler Both the GC and autosampler are fully controlled from the instrument keyboard. N66510F0 Split/Splitless w/PPC Channel A - Single programmable split/ splitless (PSS) injector with PPC and 1/16" male column fittings. N66520C0 ECD with PPC Channel A - Single electron-capture detector (ECD) with PPC. Includes amplifier and programmable pneumatic control for makeup gas. N665200C ECD with PPC Channel B - Single electron-capture detector (ECD) with PPC. Includes amplifier and programmable pneumatic	1	38,431.00	38,431.00 7,686.20-

SEND PURCHASE ORDERS TO:
PerkinElmer Life and Analytical Sciences
710 Bridgeport Ave.
Shelton, CT 06484-4794
Phone: 1-800-762-4000
Fax: 203-944-4914

SALES REPRESENTATIVE: ROBERT STROYNE
PREPARED BY: Wendy Metzger



Quotation

710 Bridgeport Avenue
Shelton, CT 06484-4794

Phone: 1-800-762-4000
Fax: 203-944-4914

To: STATE OF WEST VIRGINIA
DEPARTMENT OF ADMINISTRATION

QUOTE NO.: 20306776
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ITEM	MATERIAL	DESCRIPTION	QTY/EA	UNIT PRICE	TOTAL
		control of makeup gas.			
		N66530B0 TotalChrom & Int LINK			
		The Clarus 600 GC side panel provides an Ethernet port which allows the instrument to connect directly to the local area network (LAN) and a serial port for simpler configurations. Provides digital-to-digital connection between the Clarus 600 GC and TotalChrom Workstation or the Clarus 600 Mass Spectrometer. Includes dotLINK CD and TotalChrom Software. The Clarus 600 GC IPMs for TotalChrom 6.3.0 and 6.3.1 are included at no charge on a separate CD in the Clarus 600 GC Shipping Kit (Part Number N650-0549).			
		CLARUS600 / TotalChrom Pkg A			
2	09406118	PC LENOVO M58P (XPSP3) USA NON-ATO Lenovo ThinkCentre M58p Windows® XP Service Pack 3, Tower USA	1	1,512.00	1,512.00
		Model: Lenovo ThinkCentre® M58p, 3.0 GHz Intel® Core 2 Duo, 1333 MHz Front Side Bus (FSB), 6M L2 cache * Chassis: Tower * Factory Installed Operating System: Microsoft® Windows® XP Professional SP3 * Memory: 2 GB, Non-ECC, 1066 MHz, DDR3, 2 x 1GB, Four DIMM slots * Hard Drive: 160 GB SATA, 7200 * RPM Networking: Integrated Gigabit Ethernet * External I/O Ports: 8 USB 2.0 (2 front, 6 rear), 1 Ethernet (RJ45), 2 serial (9-pin), 1 VGA (DB-15, Display Port) out			
		Expansion Slots: * Slot 1: half-length, full-height, PCIe 2.0 x16 (75w max) * Slot 2: half-length, full-height, PCIe x1 * Slot 3: half-length, full-height, 32-bit PCI 2.3 * Slot 4: half-length, full-height, 32-bit PCI 2.3			
		RemovableMedia: DVD+/-RW SATA Video: Integrated video, Intel® GMA4500 Floppy Drive 3.5" 1.44MB diskette drive standard Mouse: Lenovo USB optical mouse with scroll Keyboard: Lenovo USB Keyboard Audio: Integrated High Definition Audi			
		* Specifications might change without notice			
3	09404759	19" LCD MONITOR WIDE SCREEN (for ADC)	1	642.00	642.00



Quotation

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ITEM	MATERIAL	DESCRIPTION	QTY/EA	UNIT PRICE	TOTAL
4	09404922	NETWORK CARD	1	69.00	69.00
5	N9316234	COL-ELITE-1701-30M-.25UM-.25MM Material Discount	1	536.00	536.00 107.20-
6	N9316076	COL-ELITE-5-30M-.25UM-.25MM Material Discount	1	493.00	493.00 98.60-
7	N0207032	BASIC INSTALLATION CLARUS 500 GC	1	800.00	800.00
8	GC600GCOPOS0	POS0600GC Auto/Inj/PPC/(2)Dtctr/DH OPTIONAL ITEM	12	261.90	
NOTE: The price shown for this item includes a point-of-sale discount and is a unit price of one month. The price of a one-year extended warranty is \$3,142.80.					
Freight/Handling:					449.00
Total Net Price in USD:					35,040.00

Optional items not included in total

Customized Financing Solutions are available - We offer competitive rates with a wide range of structures to assist in acquiring your PerkinElmer technology - Speak to your Sales Engineer today or call us at 1-800-559-2755 ext. 69608

The amount displayed does not include tax.

These charges will be added to the invoice if applicable.

*

Includes installation and one year warranty (parts, labor and travel).

*

Estimated delivery: 4-6 weeks after receipt of order.

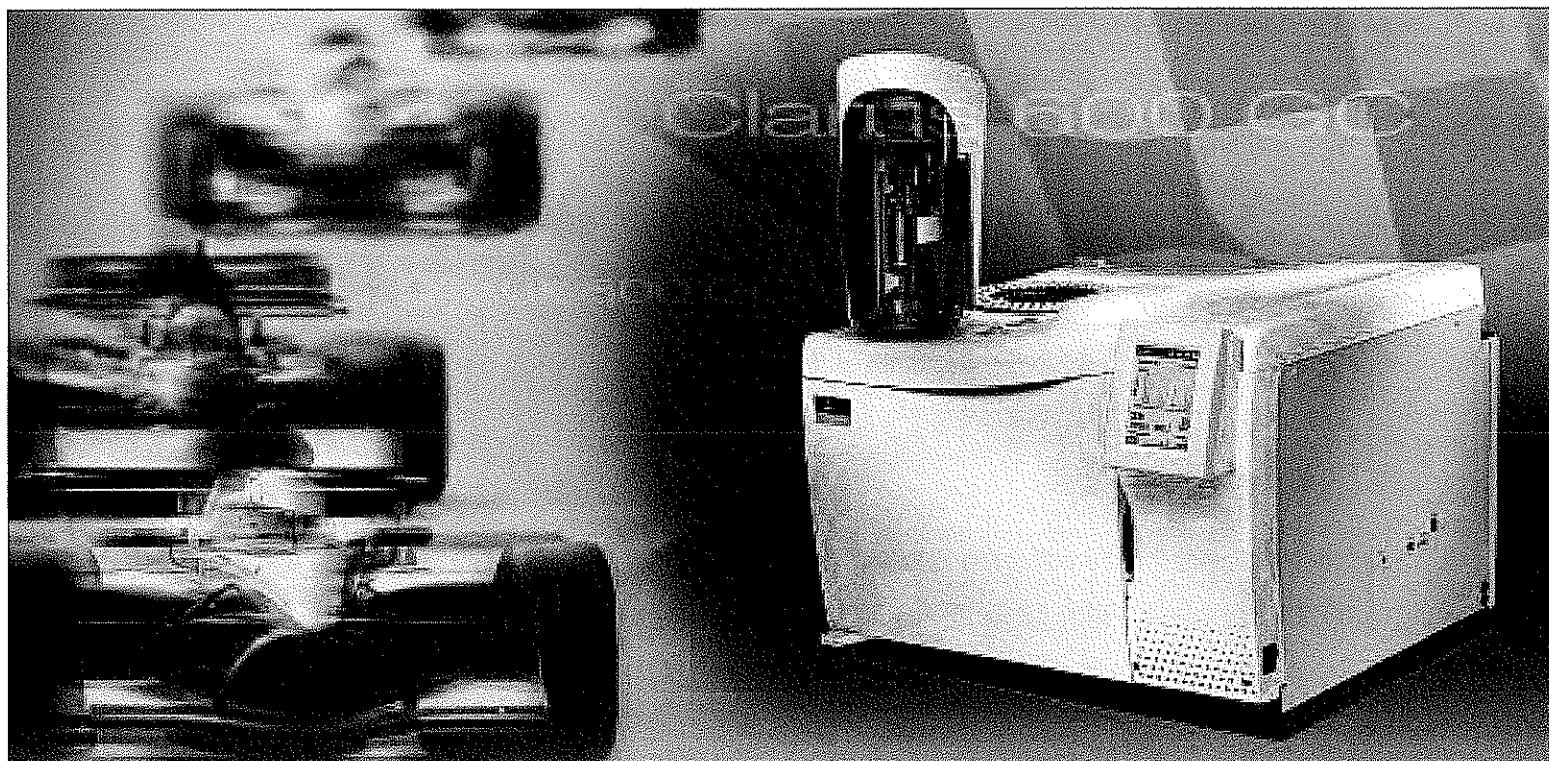
*

Terms subject to credit approval.

Robert Stroyne 6/15/09
ROBERT STROYNE *uw*

Clarus 600

Gas Chromatograph



the fastest
injection-to-injection time
in conventional gas chromatography


PerkinElmer[®]
precisely.

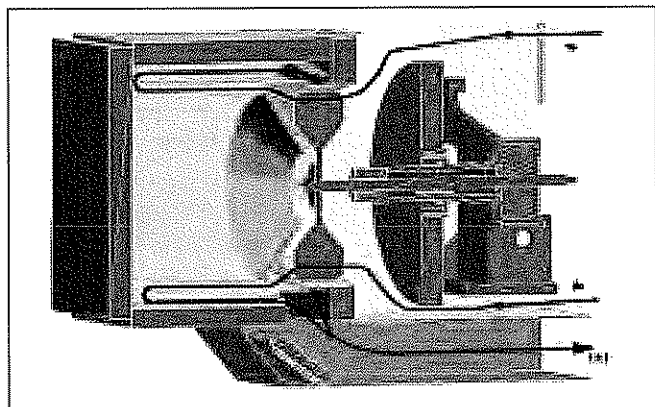
the Clarus 600 GC

maximizes your GC productivity

Shorten injection-to-injection time with a high-performance oven

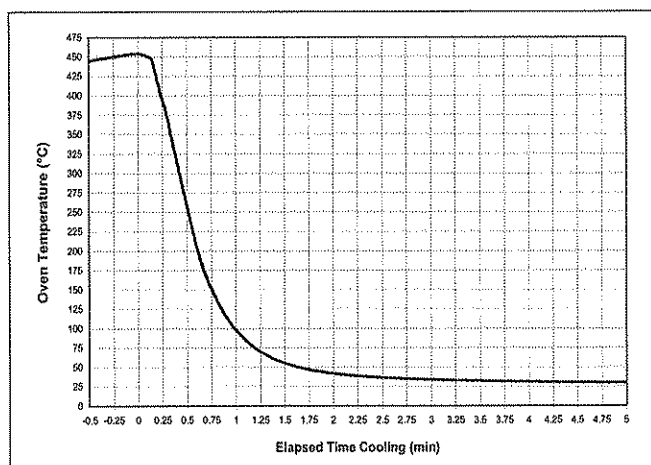
The unique oven design of the Clarus 600 GC provides the fastest available heat-up and cool-down rate, enabling shorter injection-to-injection and analytical cycle times, maximizing your sample throughput.

- **Fast oven heat-up rates** allow faster chromatography using a high-power heating element combined with the spatial and physical properties of the oven.
- **Fastest available cool-down rate** is delivered using forced convection air. The path of the air stream maximizes the effect of the convective cooling by passing air directly over the heated components, including the oven insulation.
- **Fan speeds supplement oven heat-up and cool-down.*** During the heating cycle, relatively slow fan speeds are applied to achieve good heating ramp rates while, during the cooling cycle, higher fan speeds are utilized to provide the fastest cooling rates.
- **Novel twin-walled oven design with concentric air exhaust*** allows faster oven cooling to reduce injection-to-injection times and allows chromatography at near-ambient temperatures.
- **SOFTcooling™ capability*** prevents ingress of detector gases into the hot column on the onset of cooling as well as ghost peaks due to column-bleed chilling during cool-down of the previous run.



Unique airflow paths allow the fastest combined oven heat-up and cool-down rates.

- **More program steps.** Up to 10 oven-temperature program steps are available to support the most demanding applications.
- **Autosampler pre-rinse performs time-consuming syringe rinse** with sample before the GC becomes ready, saving time in between runs and reducing injection-to-injection time.



Clarus 600 GC typical oven cooling profile.

QUICK GLANCE

- Oven cool-down from 450 °C to 50 °C in *less than 2 minutes*.
- Unique high-performance conventional oven *speeds cycle times*.
- Integrated autosampler adds *flexibility and automation*.
- Temperature programmable inlets deliver *performance and flexibility* for more demanding applications.
- Programmable pneumatic control (PPC) adds *automation efficiencies*.
- Exclusive optional PreVent pressure-balanced system enhances *performance and productivity*.
- Innovative, intuitive touch-screen interface makes *operation easy*—no training required.
- Scalable TotalChrom Chromatography Data Systems (CDS) make data management and reporting *easier than ever*.
- PerkinElmer's complete offering allows *easy integration* of best-in-class mass spectrometer, headspace, headspace trap or thermal desorption.

* patent pending

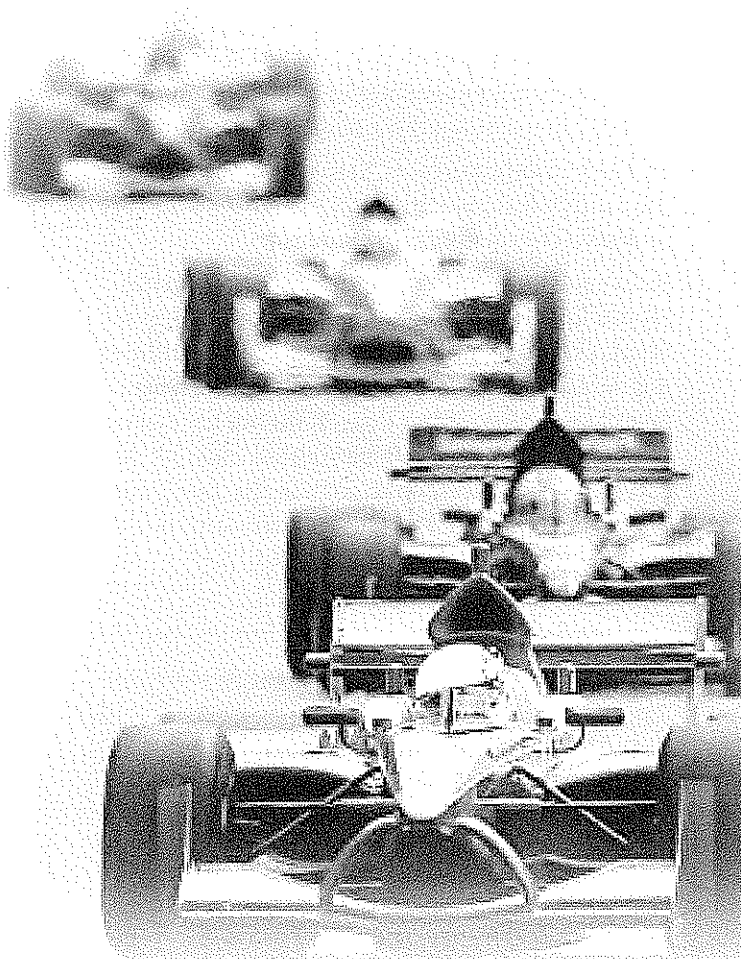
Add automation efficiencies with programmable pneumatic control (PPC)

PPC offers additional capability and levels of performance not attainable with manual pneumatic systems, allowing analysis of a wide range of samples. PPC allows you to:

- **Control and monitor all injector, detector and auxiliary gases electronically**, using the Clarus 600 touch-screen interface.
- **Eliminate labor-intensive and complex steps associated with measuring and setting flows manually.** You set all flows and pressures of all the instrument

gases on the touch screen. No more knobs or complicated software. For instance, to set up split ratios, you simply enter the required ratios on the touch screen and the Clarus 600 GC automatically calculates and adjusts the split vent to the correct flow for the selected column flow.

- **Quickly and easily set up the detector combustion or makeup gases**, reducing variability in instrument setup due to operator bias or environmental conditions. You can enter published methods exactly as written, without trial and error, saving time and increasing reproducibility.



How does PPC work?

Using PPC, the Clarus 600 GC automatically adjusts carrier-gas flows to compensate for variations of ambient temperature and pressure, providing constant retention times under widely varying conditions. This greatly enhances system stability even in extreme environments. With flexible flow velocity and pressure control, you can program the carrier gas for optimal column performance.

Constant mass-flow control simplifies setup and shortens analysis time while improving performance of certain detectors, including those sensitive to mass-flow changes such as thermal conductivity detectors and nitrogen phosphorus detectors.

A single PPC method stores all temperatures, gas flows and pressures, making it easy to follow standard operating procedures (SOPs). Simply recall the method to establish complete operating conditions. If you need a greater level of data management, the Clarus 600 GC's TotalChrom CDS can control and store all operating conditions with the chromatographic data and the method.

Using PPC also greatly enhances confidence in system performance and accuracy. By monitoring deviations from the pneumatic set-points, the Clarus 600 GC can automatically shut down if leaks are suspected. The system constantly monitors the status of the combustion gas. If the Clarus 600 GC detects that the flame is out and automatic reignition fails, it turns off combustion gas supplies, preventing injection and possible loss of valuable samples.

innovative touch-screen interface makes operation easy

You won't find a more intuitive instrument user interface than the full-color touch screen on the Clarus GC. So easy-to-use, virtually no training is required. No more confusing keypads and user manuals!

Smooth navigation brings GC analysis to your fingertips

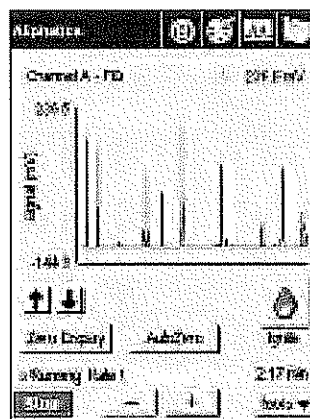
Clear and concise visual language guides you through the system. With single-touch access to the functions you need, the Clarus 600 GC touch screen eliminates drilldown, simplifying instrument control. Icon buttons define the type and status of each heated zone and each injector and detector is identified by a unique icon, which is color coded by channel.

Multiple language support makes the Clarus 600 a global GC

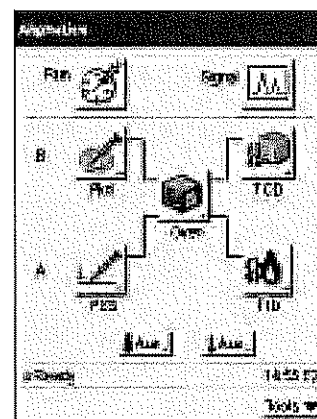
The Clarus 600 GC comes with multilingual capability, including error messages, so you can work in the language of your choice – and you can easily switch to different languages. This ensures your entire staff is at ease when working with the system. So whether you speak English, Spanish, French, Italian, German, Russian, Japanese or Chinese, the Clarus 600 GC makes perfect sense.

Automatic monitoring simplifies maintenance

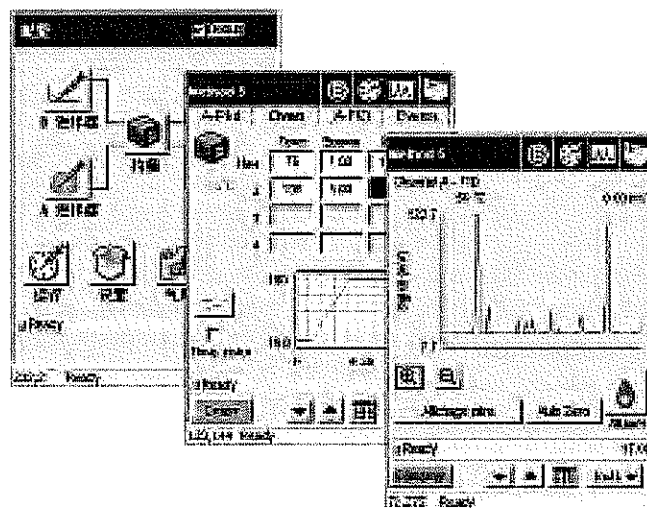
The touch-screen interface keeps track of the number of injections so you know when to replace septa and perform routine maintenance on the system, eliminating the need to track this important information on paper. It tracks total number of injections and elapsed time; both can be reset. It gives proactive warning and user-error messages, using real words instead of cryptic codes. The Clarus 600 GC also offers the ability to turn off the flame ionization detector (FID) and other instrument parameters overnight or over the weekend.



Real-time chromatogram is displayed continuously, allowing you to monitor your runs.



Icon buttons allow quick and easy recognition of injectors and other devices.

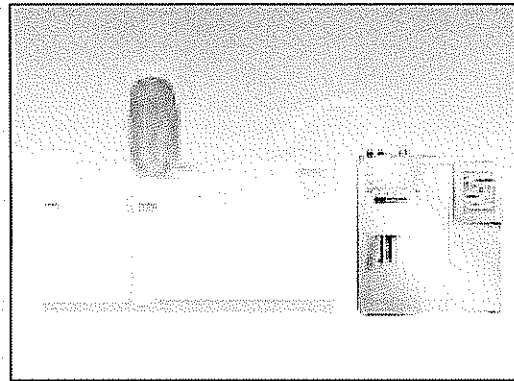


Available in eight languages, the Clarus 600 GC speaks everyone's language (Chinese, Russian and French shown above).

TurboMatrix Thermal Desorbers

Our family of five different TurboMatrix Thermal Desorber (TD) models allows you to match throughput and technology to your laboratory and applications needs. Choose from single-tube and automated 50-tube configurations, with PPC or manual pneumatics.

Use this clean technique to simplify and speed up a wide range of GC applications, including indoor and outdoor air monitoring, analysis of flavors/fragrances and analysis of outgassing volatile compounds from packaging, polymers, pharmaceuticals and semiconductor materials such as those used in the manufacture of disc drives and wafers.



Flexible, expandable data-handling solutions — TotalChrom CDS

PerkinElmer's award-winning TotalChrom Chromatography Data Systems (CDS) is the industry standard in chromatography software. With its scalable architecture, 21 CFR Part 11 compliance features and proven algorithms, TotalChrom CDS offers a computing strategy to manage your growing volume of chromatography data quickly, efficiently and safely in both regulated and non-regulated environments. The software features TC Publisher™ which is simply the world's best chromatography reporting package available. Operating in a Microsoft® Windows® operating environment, TotalChrom CDS can control up to eight instruments.

The combination, our Clarus 600 GC with TotalChrom CDS, provides a total laboratory solution from data collection and analysis to reporting and storage. Whatever your data-handling requirements, there is a TotalChrom system to fit your budget and your technical demands.

Expert, end-to-end service and support

PerkinElmer manufactures and supports the broadest range of instruments, reagents and consumables in the industry. With over 60 years of experience, our knowledge, skills and expertise are unparalleled.

We have the largest and most experienced service force in the industry, so you can count on us to be there when you need us. Our 1200 factory-trained and certified engineers have an average 15 years of experience maintaining leading-edge scientific equipment, including preventative maintenance, validation support and instrument repair. Plus, you can rely on end-to-end training and technical and applications support, from sample handling through data handling.

to unique application challenges

ensure trouble-free operation of the fuel in diesel engines. Monitoring the level of free glycerin and any unrelated mono-, di- and triglycerides will indicate the efficiency and progress of the chemical reaction during the process of making biodiesel.

Ozone precursor analyzers developed with the U.S. EPA

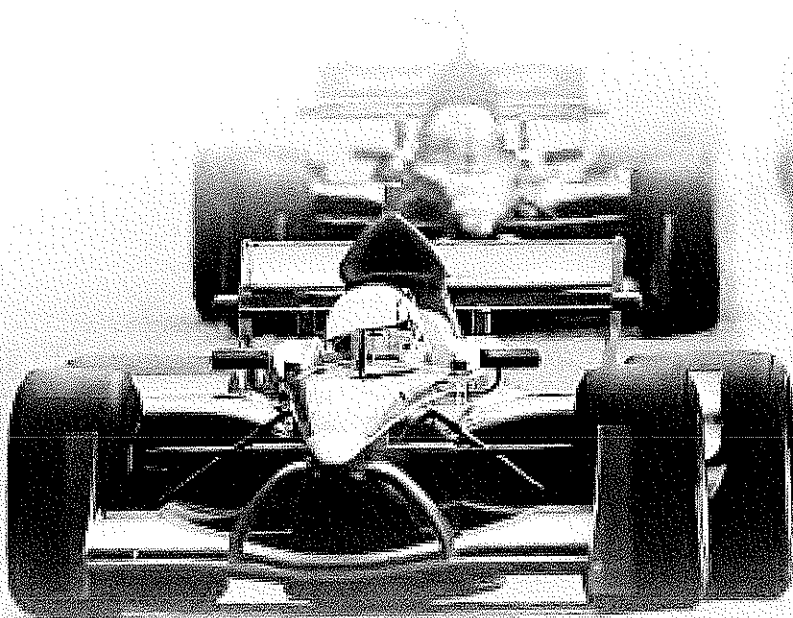
In the United States, the Clean Air Act of 1970 gave the Environmental Protection Agency (EPA) responsibility for maintaining clean air. Six parameters are measured routinely in ambient air: SO_x , NO_x , PM_{10} , Pb, CO and ozone. In the 1990s, the Clean Air Act was expanded to include volatile organic compounds (VOCs) that contribute to the formation of ground-level ozone. These measurements are implemented through Photochemical Assessment Monitoring Stations (PAMS). Similar recommendations have also been made in Europe following the 1992 Ozone Directive and United Nations Economic Commission for European protocol on controlling VOC emissions.

In conjunction with the U.S. EPA, PerkinElmer developed an analyzer and methodology for collecting and automatically measuring C_2 - C_{11} without the use of liquid cryogen. The PerkinElmer Ozone Precursor Analyzers, available with PPC, incorporate an on-line TurboMatrix Thermal Desorber and the Clarus Gas Chromatograph.

Rapid blood-alcohol analysis

Accuracy and precision are critical in blood-alcohol analysis because the toxicologist not only has to be confident in his or her results, but also must be prepared to withstand tough cross examination by defense attorneys. In addition, crime laboratories must comply with state regulations regarding blood-alcohol testing, including proficiencies which require the result to be within $\pm 10\%$.

For this application, you can couple the Clarus GC with a TurboMatrix Headspace sampler, the industry standard around the world for the determination of alcohol in blood. For high throughput, the TurboMatrix HS 110 can process a full magazine of 110 sample vials in three hours.



Clarus 600

Gas Chromatograph/Mass Spectrometers



your GC/MS results.
better.
faster.


PerkinElmer[®]
precisely.

robust, precise and accurate

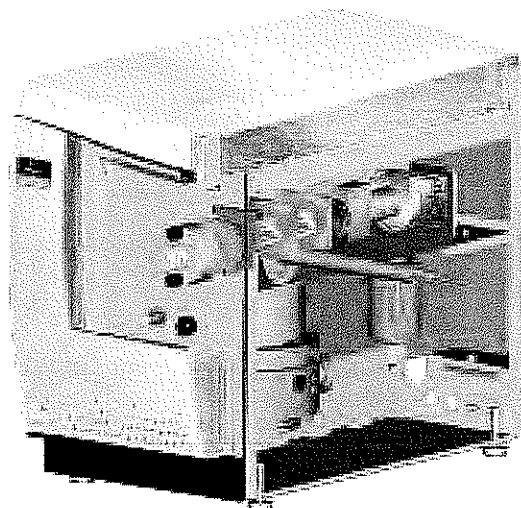
for any application

The Clarus GC/MS combines our Clarus 600 Gas Chromatograph (GC), featuring the fastest available heat-up and cool-down conventional oven, with our Clarus 600 Mass Spectrometer (MS) for a superior GC/MS.

The rugged Clarus 600 MS is one of the fastest quadrupole mass spectrometers available, acquiring more spectra (up to 65 scans/second) across a GC peak than other quadrupole systems. It features the widest mass range (1-1200 u) and best-in-class detection limits available. The combination of these MS features with the fast analytical cycle time of the Clarus 600 GC provides opportunities for new applications, increased sample throughput and higher levels of productivity.

The Clarus 600 GC/MS runs on our proven TurboMass™ software, a sample-centric, application-focused platform. The instrument's advanced hardware coupled with this versatile software results in a powerful package that provides a complete characterization of samples to drive your laboratory analyses.

Whether you do routine "workhorse" applications or challenging research requiring more capabilities, the Clarus 600 GC/MS is an extremely robust, precise and accurate system that can handle all your demands.



QUICK GLANCE

Hardware:

- EI and CI: *best-in-class* signal/noise specifications offer *new possibilities* for analysis.
- Plug-and-play ion source: loosen two screws and *easily* change when needed.
- Three pumping systems: provide the right *performance* to fit your needs and budget.
- Smaller footprint: for economical space use.
- System *stays clean longer* with real samples: pre-quad removes undesirable contamination before the main analytical quadrupole.
- Innovative photomultiplier detector: does not require periodic replacement because it is not a consumable.
- Fast scanning: for the most *accurate* determination of peaks.
- Widest mass range (1–1200 u): encompasses a *variety of applications*, such as brominated flame retardants.
- EI and CI run with the same ion source: increases *productivity*.
- Optional PreVent™ system: eliminates *performance* and *productivity* barriers.
- Rugged autosampler: provides optimized, *reliable throughput*.

Software:

- Access your data easily with sample-centric software! Two clicks and you can view the mass spectrum or other information collected on a sample.
- SIFI™ simultaneous collection of *selected ion* and *full ion* scanning data for the most productive analytical work.
- UltraTune™ automated tuning for BFB/DFTTP or custom tuning on any compound for *faster setup*.
- AutoBuild™ quantitative method creation to *speed startup*.
- More than 70 standard templates provided for *rapid* reporting.
- *Easily customizable* environmental reporting templates for U.S. EPA methods.
- Choice of EI or positive or negative CI for the *best match* to application needs.
- Advanced features such as NIST AMDIS deconvolution, noise-reduction algorithms and other tools *speed* complex projects.

rugged design

for maximum uptime

The Clarus 600 GC/MS is built tough to deliver reliability, reduced cost of ownership and easy maintenance.

Design controls maximize system safeguards

Built-in controls reduce breakdowns and minimize operating and repair costs.

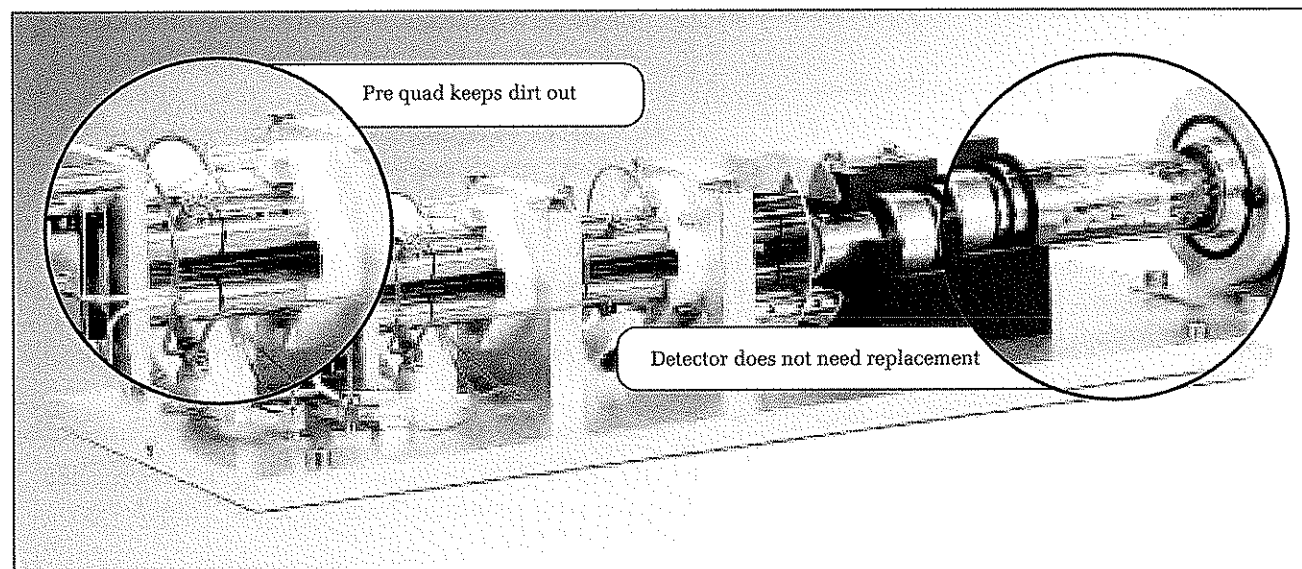
- **Sealed, long-life photomultiplier detector lowers operating costs:** eliminates expensive and contamination-prone electron multipliers that need periodic replacement.
- **Gold-plated critical components:** enhance overall instrument stability and significantly reduce downtime by minimizing contamination.
- **Unique programmable pneumatic control (PPC) safeguards the system from column damage and ion-source contamination:** automatically turns off the GC oven and transfer-line heating, if carrier-gas pressure drops.
- **Independent control of the instrument ion source and transfer-line temperatures maximizes spectral quality:** reduces contamination and protects thermally-labile compounds from uncontrolled fragmentation. Temperatures can be set up to 350 °C.

- **Power outages will not damage the system:** the Clarus 600 MS can be attached to a nitrogen purge gas stream. This prohibits oxygen from entering the system during venting, minimizing contamination.

Design logic saves maintenance time

The logical design of the Clarus 600 GC/MS means that you save time on routine maintenance tasks.

- **Quick source changeover (less than 15 minutes) reduces the risk of contaminating the quadrupole analyzer:** you have easy access to the ion source from the front of the instrument without exposing the ion optics or vacuum manifold.
- **Routine cleaning of electron ionization (EI) or chemical ionization (CI) sources is simple:** no wire connections needed.
- **Filament replacement is quick and easy** due to the self-aligning design of the robust filament system, which also means consistent performance, analysis after analysis.
- **Cleanable RF-only prefilters are easy to maintain:** located in front of the quadrupole analyzer.



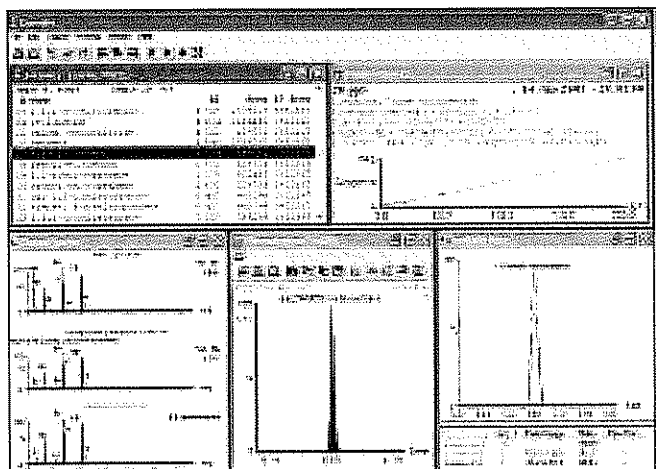


Figure 3. Interactive data review.

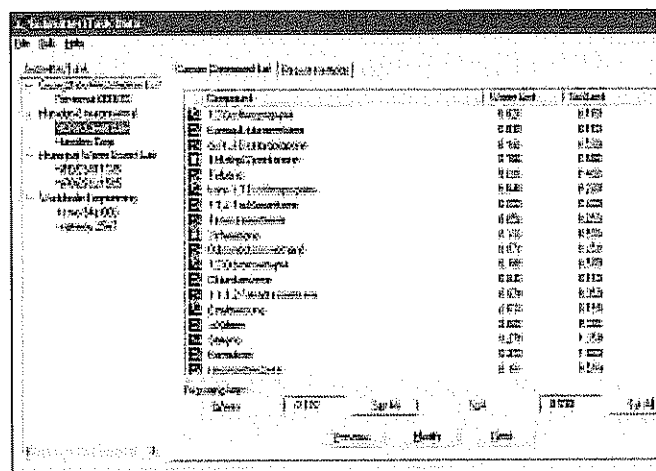


Figure 4. Custom compound list delivers the correct set of compounds to each client.

software automatically tunes the mass spectrometer using a new-generation proprietary tune (UltraTune), providing enhanced stability and reproducibility.

GC detector support adds flexibility

You can use two additional GC detectors simultaneously with your Clarus GC/MS system. All acquisition, display and quantitation can be performed by TurboMass software. Or you have the option of using our TotalChrom® Chromatography Data Systems (CDS) workstation or client/server software for these processes.

Environmental data evaluation and reporting package speeds quality results

TurboMass software is especially designed to meet the strict quality-control (QC) and compliance requirements of environmental and other types of laboratories.

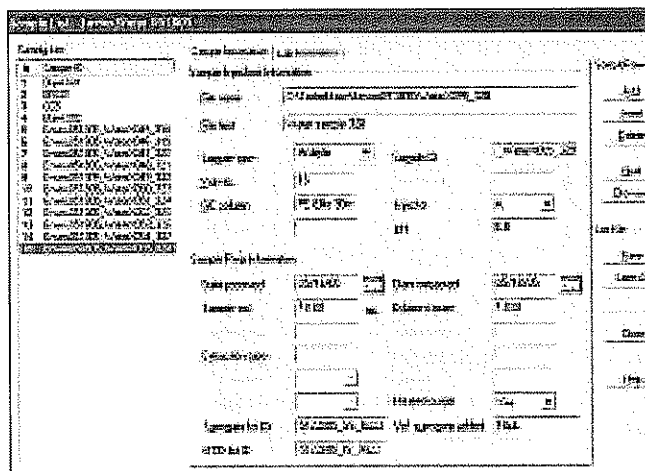


Figure 5. The sample wizard during data entry for a water sample group.

Maximize your lab's productivity with the superior data review, evaluation and report-generating capabilities of TurboMass software, while ensuring complete compliance with required methodologies (Figures 4 and 5).

Fast, simple and flexible reporting completes the process

Most labs must present their data in an attractive, standardized format for reporting to internal or external clients. TurboMass software includes over 70 standard templates, allowing report generation with just a few clicks. Report templates are designed to meet the specific needs of labs conducting environmental, forensic, clinical or toxicological diagnostics, as well as general chemical analysis. Examples of reports are included to make the choice simple.

Multiple-ion-ratio analysis

Multiple-ion-ratio (often called "3-ion-ratio" for historical reasons) is a mass spectrometry technique where specific selected ions of a mass spectrum are ratioed to determine if they match a reference spectrum within certain pre-defined tolerances. Only if the calculated ion ratios are within user-defined limits is the peak "identified" as the presumptive target compound. A match adds additional certainty to a compound confirmation, beyond that available through only a GC retention time and the presence of a peak at a single mass. A powerful set of tools is included with TurboMass software to use multiple ions for maximum benefit. TurboMass software allows the choice of absolute, relative or ISO-compliant ratio calculation for up to 5 ions.

- **Perform injector maintenance without cooling** and venting the MS.
- **Use any capillary column at any carrier-gas flow rate** and deliver a fixed flow rate into the detector (equivalent to open split interface).
- **Connect the vent to a second detector** for dual-signal capability.

Gain flexibility and automation capability with the integrated Autosampler

The integrated Clarus GC Autosampler provides a mechanically robust, dependable system with the flexibility and automation capability you need.

- **Complete application flexibility:** accommodates three syringe sizes (0.5, 5.0 and 50 μ L) and three injection speeds (slow, normal and fast).
- **Smart, single-autosampler design assures efficient utilization of the gas chromatograph:** provides unobstructed access to either injection port, allowing any combination of analyses.
- **Quality assurance built in:** optical sensors consistently monitor system performance for accurate injections, run after run.
- **You are in full control using the Clarus 600 GC touch screen:** you also see run, status and automation logs that indicate any deviation from the preprogrammed method conditions.

Choice of ionization to suit your application

The Clarus 600 MS can acquire data in both Electron Ionization (EI) and Chemical Ionization (CI) modes.

- **EI produces high-quality classical spectra** that are the basis for compound identification by library searching.
- **Positive ion and negative ion CI mode (optional)** can be used for obtaining molecular weight information, additional selectivity with complex samples, or when detailed characterization is required.
- **EI mode can be run with the CI ion source** for rapid screening without changing the ion source, a productivity benefit for your lab.



Choice of acquisition-mode options provides further flexibility

- **Full-scan mode** is available with Centroid mode and Continuum mode running independently or simultaneously.
- **SIM mode** can run independently or concurrently with the various full-scan modes.

More column choices

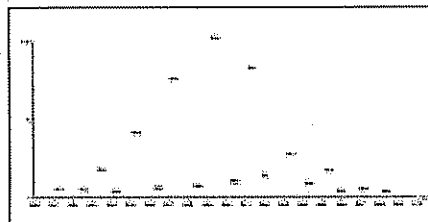
The Clarus 600 C and T GC/MS turbomolecular pump models allow a carrier-gas flow of up to 5 mL per minute in EI mode. This means you have more column choices than with other GC/MS systems. Narrow-, medium- and wide-bore columns can be used with an almost unlimited choice of stationary-phase column diameters and analytical methods.

analytical solution

for your performance and throughput needs

Clarus 600 GC/MS

- Semivolatile organics in environmental matrices
- Pesticides in soil, water and food
- Drugs-of-abuse testing for purity analysis and in bodily fluids
- Brominated flame retardants in electronic components

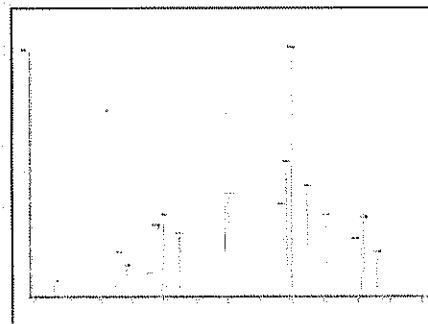


Molecular ion cluster for Decabromodiphenyl Ether (BDE-209).

With TurboMatrix Headspace

Our TurboMatrix Headspace and high-sensitivity Headspace Trap samplers provide unparalleled precision and ease-of-use for any GC or GC/MS application. You choose the system you need based on your performance and throughput requirements.

- Volatile organics in environmental matrices
- Blood-alcohol analysis
- Off-odors and off-flavors in food-packaging films

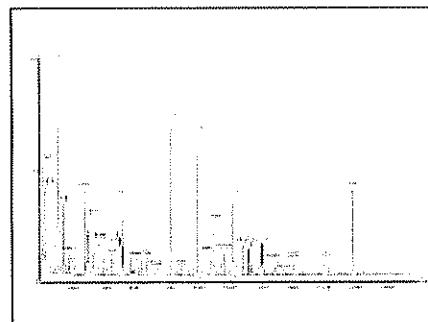


Fuel oxygenates measured using U.S. EPA Method 8260B after Headspace Trap extraction from water.

With TurboMatrix Thermal Desorption

Our family of five different TurboMatrix Thermal Desorbers match throughput and technology to your laboratory and applications needs. Choose from single-tube and automated 50-tube configurations, with PPC or manual pneumatics.

- Air Toxics (U.S. EPA Method TO-17)
- Occupational health and safety samples
- VOCs in food/pharmaceutical packaging
- Arson accelerants



Air toxics analysis of outdoor air sample.

Clarus 600 Gas Chromatograph

The PerkinElmer® Clarus® 600 Gas Chromatograph (GC) is a fully automated gas chromatograph with programmable pneumatic control (PPC).

OVEN

The Clarus 600 GC provides the fastest heat-up and cool-down oven available in a conventional GC. The oven gives excellent temperature control and fast cool-down times for maximum productivity. All temperature and time functions are microprocessor-controlled and are shown on the touch-screen display.

Oven heat-up

The oven provides higher heat-up rates in defined temperature ranges to a maximum of 140 °C/min. The heat-up rates are determined by ballistic heating of the oven, after the oven has been at less than 30 °C for an hour, with a single injector and a single detector heated to 250 °C. The oven heat-up rate is met over the temperature range indicated below when the instrument's nominal AC line voltage (220 VAC, 230 VAC or 240 VAC for fast heating; 120 VAC or 230 VAC for standard heating) is applied to the instrument.

Typical Clarus 600 GC Dual-Channel Ramp Rates

<u>Temperature Range (°C)</u>	<u>Standard Oven Heating (°C/min)</u>	<u>Fast Oven Heating (°C/min)</u>
50-70	80	140
70-115	60	105
115-175	45	85
175-300	30	55
300-450	20	35

Ballistic oven cool-down

The ballistic cool-down time for the oven from 450 °C to 50 °C is less than 2.0 minutes under the following conditions:

- 1 injector and 1 detector at 250 °C
- Lab conditions at 22 °C
- Ballistic cool-down starts immediately after heat-up

Oven and column characteristics

Volume (HxWxD) 9 in. (229 mm) x 9 in. (229 mm) x 9.8 in. (249 mm) = 794 cubic in.
Maximum usable depth = 6.3 in.

Columns Accepts 1/8-in. o.d. stainless steel, 6 mm o.d. glass and all fused silica, packed or capillary columns 6.5-in. diameter coil. An interface adapter will be required for packed columns.

Maximum packed column length Two 12 ft x 1/8-in. o.d. stainless steel or two 3 m x 6 mm o.d. glass nominal 6.5-in. diameter coil with uniform shape and contact between successive turns and co-overlapping turns.

AUTOSAMPLER

The Clarus 600 GC offers an optional, built-in syringe autosampler for maximum sampling capabilities. All control is accomplished through the keyboard or by a data system such as TotalChrom® chromatography data systems.

Injection speed	Normal, fast, slow
Program modes	Two methods may be programmed
Sample positions	82, plus one priority
Vial size	2-mL (0.25 mL with insert) crimp-top caps 2-mL screw-top caps
Waste and wash vials	4 waste and 4 wash
Waste and wash vial size	4 mL
Syringe size	0.5 µL, 5.0 µL or 50.0 µL
Sampling volume	0.1 µL to 0.5 µL from the 0.5-µL syringe in 0.1-µL increments or 0.5 µL to 5.0 µL from the 5.0-µL syringe in 0.5-µL increments or 5.0 µL to 50.0 µL from the 50.0-µL syringe in 5.0-µL increments
Viscosity settings	0-15
Maximum injections per vial	15
Maximum solvent postwashes	15
Maximum sample pumps	15
Maximum sample prewashes	15
Minimum sample	5 µL when used with the 0.25-mL vial insert; 350 µL when used with the 2-mL vial
Reproducibility	< 0.5% RSD for packed columns 1% C ₉ in C ₇ , 1 µL injected

INJECTORS

The Clarus 600 GC supports a comprehensive array of injectors that provides accuracy and precision to all of your sampling applications. Up to two injectors may be installed and operated simultaneously with independent temperature control. Every injector is available with PPC.

Packed-column injector

- Removable glass liner for trapping nonvolatile residues
- Adapter for on-column injection to wide-bore capillary columns
- 50 °C to 450 °C in 1 °C increments
- 1/8-in. fitting
- 1/4-in. column adapter available
- PPC pneumatics – programmed flow or pressure includes readout which displays pressure or column flow

GAS-SAMPLING VALVES

- Wide offering of 4-, 6-, 8- and 10-port valves
- Large range of valved systems and standard analyzers available
- Keyboard-controlled
- 1/16- or 1/8-in. fittings

DETECTORS

A wide choice of detectors, optimized for sensitivity and selectivity, is available for use with the Clarus 600 GC. All built-in detectors include an automated background-compensation feature that corrects for column bleed. Whether you choose the flame ionization detector (FID), the thermal conductivity detector (TCD), the electron capture detector (ECD) and/or environmental-specific detectors, all conform to the highest industry standards for reliability and performance. Every detector is available with PPC. Up to two detector modules may be installed and operated simultaneously with independent temperature and pneumatic control.

Flame ionization detector (FID)

- Wide linear dynamic range
- No makeup gas required due to efficient sweeping of column effluent by hydrogen combustion gas
- Air flow designed to minimize contamination and residue buildup
- 1/8-in. fittings
- PPC pneumatics – software flow control of hydrogen and air
- “Flame out” warning and ready interlock

Operating temperature	100 °C to 450 °C in 1 °C increments
Sensitivity	> 0.015 coulombs/g C
Minimum detectable quantity	< 3 • 10 ⁻¹² g C/sec nonane at a S/N = 2 to 1
Linearity	> 10 ⁶
Signal filtration	50, 200, 800 msec
Input range	1, 20
Makeup gas	Not required

Electron capture detector (ECD)

- High sensitivity and excellent selectivity
- High operating temperature for maximum stability
- 1/8-in. fittings
- PPC pneumatics – software flow control of makeup gas

Source	15 mCi ⁶³ Ni
Temperature protect	470 °C by software
Carrier gas	Either Ar/CH ₄ or N ₂
Operating temperature	100 °C to 450 °C in 1 °C increments
Minimum detectable quantity	< 0.05 pg perchloroethylene with argon/methane or nitrogen
Linearity	> 10 ⁴
Signal filtration	200, 800 msec
Makeup gas	Standard

Nitrogen phosphorus detector (NPD) (continued)

Operating temperature	100 °C to 450 °C in 1 °C increments
Minimum detectable quantity	5 • 10 ⁻¹³ g N/sec 2,4-dimethylaniline, 5 • 10 ⁻¹⁴ g P/sec tributylphosphate
Linearity	> 10 ⁴
Signal filtration	50, 200, 800 msec
Selectivity	50,000:1 (N/C), 10:1 (P/N)
Input range	1, 20
Makeup gas	Not required

Flame photometric detector (FPD)

- GC software controls photo-multiplier tube voltage
- GC software linearizer for sulfur mode
- 1/8-in. fittings
- PPC pneumatics – software flow control of hydrogen and air

Operating temperature	250 °C to 450 °C in 1 °C increments
Minimum detectable quantity	1 • 10 ⁻¹¹ g S/sec thiophene, 1 • 10 ⁻¹² g P/sec tributylphosphate
Linearity	Sulfur 10 ² (log-log), Phosphorus 10 ³
Signal filtration	50, 200, 800 msec
Selectivity	10,000:1 (S/C), 100,000:1 (P/C)
Makeup gas	Not required

TOUCH-SCREEN GRAPHICAL USER INTERFACE

- Multi-language support (English, French, Italian, German, Spanish, Japanese, Chinese and Russian)
- Real-time graphical display of chromatogram and graphical display of temperature and pneumatic programs
- Injection countdown for manual injections
- Column pressure/flow/velocity calculator
- Meaningful error/alarm messages
- Log file
- Upgradable firmware
- Preventative-maintenance counter
- Password protection
- Status-summary screen
- 256-color display; Resolution: 240 x 320

OTHER CLARUS 600 GC FEATURES

- Recorder attenuation range from 1 to 65,536 in binary steps
- Long-term battery backup of GC methods, autosampler programs, flow and temperature-calibration data
- Software calibration of oven temperature and carrier gas flow with PPC
- Full instrument control via external computer
- Five stored methods
- Baseline compensation
- Auxiliary heated zone for accessory devices

Clarus 600 Mass Spectrometers

The PerkinElmer® Clarus® 600 Mass Spectrometer (MS) is a detector that is interfaced to the Clarus 600 Gas Chromatograph (GC). The entire system is controlled through the PerkinElmer TurboMass™ GC/MS software. The following models are available:

Clarus 600 C MS – Electron ionization (EI) and chemical ionization (CI) with 255 L/sec turbomolecular pump.

Clarus 600 T MS – Electron ionization with 255 L/sec turbomolecular pump.

Clarus 600 S MS – Electron ionization with 75 L/sec turbomolecular pump.

Clarus 600 D MS – Electron ionization with air-cooled oil diffusion pump.

Hardware

Mass range	1.0-1200 u (amu)
Detector	Sealed long-life photomultiplier
Analyzer	Quadrupole with prefilter 131 mm x 12 mm circular rods; 16 mm x 12 mm prefilter rods
Mass stability	±0.1 m/z mass accuracy over 48 hours
EI voltage	10-100 eV
Vacuum pumps	Clarus 600 C and T MS: 255 L/sec (nitrogen) air-cooled turbomolecular pump (230 L/sec best-in-class helium pumping capacity) Clarus 600 S MS: 75 L/sec (nitrogen) air-cooled turbomolecular pump (59 L/sec best-in-class helium pumping capacity) Clarus 600 D MS: air-cooled oil diffusion pump
Vacuum gauge	Standard, single wide-range gauge for all pumping options
Field upgrades	Positive/negative chemical ionization Pump upgrade from diffusion or 75 L/sec turbo to 255 L/sec turbo Water cooling (Clarus 600 C, T and S models)
Pump-down time	255 L/sec turbomolecular pump: < 3 min for air/water; < 90 min for quantitative stability
GC transfer line	Settable from 50 °C to 350 °C. Clarus 600 C and T models accommodate flow rates up to 5 mL/min (EI mode)
Source	Temperature settable from 50 °C to 350 °C; No wires – plug and play
Calibrant gas	PFTBA (FC-43), triazine for high mass calibration (optional), or user selectable
MSVent	Optional accessory for MS isolation

Performance

Scan rate	Fully variable up to 12,500 amu/sec
Maximum acquisition rate	Up to 65 scans/second full scan, depending on mass range Up to 100 samples/second, selected ion monitoring (SIM)
Linear dynamic range	Electronic: 10 ⁶ -10 ⁷ depending on acquisition rate
Scan functions/run	32 sets (full scan/SIM) of 32 ions per function