



INVITATION FOR SEALED BID

Bid 00-522

Description: GC/MS SYSTEM

Department: PUBLIC WORKS

NIGP Commodity Code(s): 175-00-00-000-0

Total pages including this page is 21

Important Instruction – Read Carefully:

If you have obtained these bid specifications from either of:
City of Tulsa's Fax-on-Demand (918-596-1171) or
City of Tulsa's Web-site : www.cityoftulsapurchasing.org

You must notify the buyer Darlene Donica of your intent to bid by e-mail ddonica@ci.tulsa.ok.us in order to receive addenda. The buyer will always acknowledge your e-mail for your records. All addenda will be posted on fax-on-demand and the web-site.

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Pay special attention to those pages with a reference to the following notes:

Note #1: Signature of authorized agent required

Note #2: Signature of an authorized agent and notarized required

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Your bid response should follow the same format listed above plus any additional format requested in the body of the bid invitation.

TO
City of Tulsa

200 CIVIC CENTER, ROOM 109, TULSA, OKLAHOMA 74103

Bid number and date of bid opening must appear on the lower left outside corner of bid envelopes and all related containers.

DATE OF OPENING: FEBRUARY 15, 2001

BID NUMBER: 00-522

BID MUST BE IN THE CITY CLERK'S OFFICE AT THE ABOVE ADDRESS BY 5:00 P.M. THE DAY PRECEDING THE "DATE OF OPENING" SHOWN ABOVE.

BIDS WILL BE OPENED AT 8:30 A.M. IN THE CITY COUNCIL ROOM ON THE DAY SPECIFIED UNDER "DATE OF OPENING."

PUBLISHED IN THE TULSA DAILY COMMERCE AND LEGAL NEWS: FEBRUARY 5, 6, 7, 8, 9, 2001

Bid must be accompanied by bidder's bond, cashier's check or certified check in the amount of: NONE

PLEASE READ TERMS AND CONDITIONS ON THE NEXT PAGE BEFORE COMPLETING BID DOCUMENTS

THE FOLLOWING SECTION MUST BE COMPLETED BY BIDDER

Delivery will be made in not more than _____ days after receipt of order.

Payment terms _____ % _____ days.

City of Tulsa may increase quantity of order at the unit price bid for _____ days. (Bidder to Specify Days) I have examined the terms and specifications and the instructions to bidders herein and agree, provided I am awarded a contract, to provide the above described items for the sum shown in accordance with the terms and specifications stated herein. All deviations are in writing and attached hereto.

Enclosed is a BID BOND ; CASHIER'S CHECK; Certified Check in the amount of \$ _____, which I agree the City of Tulsa may retain as liquidated damages in the event of my failure to comply with the terms of this bid.

MUST BE SIGNED BY AUTHORIZED AGENT TO BE VALID

FIRM NAME _____ by _____ (Signature)

STREET _____ TITLE _____

CITY STATE _____ ZIP CODE _____ PHONE NUMBER _____ DATE _____

GENERAL TERMS AND CONDITIONS OF BIDS

THESE ITEMS APPLY TO AND BECOME A PART OF THE BID.

NO EXCEPTIONS TO THESE TERMS & CONDITIONS WILL BE CONSIDERED.

1. **BIDS MUST BE SUBMITTED ON THIS FORM ONLY INCLUDING A SIGNATURE OF AN AUTHORIZED AGENT.** Each bid shall be placed in a separate envelope. Be sure envelope is completely and properly identified and sealed, showing the bid number and date in the lower left hand corner. Bids must be time stamped in the office of the City Clerk by 5:00 P.M. on the day before date of opening.
2. No bidder may withdraw his proposal for a period of thirty (30) days after the date and hour set for the opening of bids.
3. All prices shall be quoted F.O.B. Tulsa, Oklahoma, and delivery to City of Tulsa location shall be without additional charge.
4. The bidder shall attach the manufacturer's name of the equipment or material to be furnished, type, model numbers, manufacturer's descriptive bulletins and specifications. All guarantees and warranties should be clearly stated. This data shall be in sufficient detail to describe accurately the equipment or material to be furnished. Manufacturer's specifications, in respect to the successful bidder, shall be considered as part of his contract with the City of Tulsa.
5. The bidder shall show in the proposal both the unit prices and total amount, where required, of each item listed. In the event of error or discrepancy in the mathematics, the unit prices shall prevail.
6. Any exceptions or deviations from written specifications shall be shown in writing and attached to the bid form.
7. Each bidder agrees to comply with the terms of Title 5, Chapter 1, of Tulsa, Oklahoma Charter and revised ordinances relating to equal employment opportunity.
8. **THE ENCLOSED FORMS REGARDING NON-COLLUSION AND FINANCIAL INTEREST MUST BE SIGNED, NOTARIZED, AND RETURNED WITH THE BID.**
9. The City of Tulsa reserves the right to reject any and all bids, to waive any technicalities in the bidding, and to award each item to different bidders or all items to a single bidder.
10. All bids must be accompanied by bidders bond, cash, certified or cashier's check in the amount shown on the face of the bid form. This amount shall be retained by the City of Tulsa as liquidated damages in the event the successful bidder (or bidders) fails to execute a contract, if required. The bidder agrees that said amount is presumed to be the damages sustained by the City due to the impracticability and extreme difficulty in fixing the actual damages. The office of the City Clerk will return the bid deposits to the unsuccessful bidders, after a contract has been awarded or all bids have been rejected.
11. In the event cash discounts are offered by the bidder, the discount date shall begin with the date of invoice, the date of receipt of all material covered by the purchase order, or the date of receipt by the City of Tulsa of the original copy of the purchase order with properly executed Affidavit of Claimant, whichever is the later date.
12. Direct purchase of certain items of equipment or material by the City of Tulsa are exempt from Federal Excise Tax and Oklahoma Sales Tax. In such cases the bidder shall quote prices which do not include Federal Excise Tax and Oklahoma Sales Tax. The City of Tulsa will furnish executed exemption certificates upon presentation by the bidder at the time of purchase.
13. Bid must show number of days required for delivery under normal conditions. Failure to state delivery time obligates bidder to complete delivery in fourteen (14) calendar days. Unrealistically short or long delivery promises may cause bid to be disregarded. Contractor must keep Purchasing Department advised at all times of status of order. Default in promised delivery or failure to meet specifications authorizes the Purchasing Agent to purchase supplies elsewhere and charge full increase of cost and handling to defaulting contractor. Consistent failure to meet delivery promises without valid reason may cause removal from bid list.
14. Bidder agrees to defend and save City of Tulsa from and against all demands, claims, suits, costs, expenses, damages and judgments based upon infringement of any patent relating to goods specified in this order or the ordinary use or operation of such goods by City or use or operation of such goods in accordance with bidders direction.
15. If the bid requires a written contract, the successful bidder shall execute a written contract with the City of Tulsa and return the required bonds and insurance certificates within ten (10) days after submission of contracts to said bidder by the City.

INTEREST AFFIDAVIT

STATE OF _____ }

COUNTY OF _____ } ss
}

_____, of lawful age, being first duly sworn, states that s(he) is the agent authorized by the bidder to submit the attached bid. Affiant further states that no officer or employee of the City of Tulsa either directly or indirectly, owns a twenty-five percent (25%) interest in the bidder's business or such a percentage which constitutes a controlling interest. Affiant further states that the following officers and/or employees of the City of Tulsa have some direct or indirect interest in the bidder's business:

By _____
(Signature)

(Title)

Subscribed and sworn to before me this _____ day of _____, 19_____.

NOTARY PUBLIC SIGNATURE

My Commission Expires:

The Interest Affidavit must be completed, signed by an authorized agent, and notarized.

BIDDER AFFIDAVIT - TITLE 74 O.S. (1974 SUPP.) 85.22-85.25

STATE OF _____ COUNTY OF _____

_____, of lawful age, being first duly sworn on oath says
Authorized Agent

1. (s)he is the duly authorized agent of _____, the bidder submitting the competitive bid which is attached to this statement, for the purpose of certifying the facts pertaining to the existence of collusion among bidders and between bidders and municipal officials or employees, as well as facts pertaining to the giving or offering of things of value to government personnel in return for special consideration in the letting of any contract pursuant to the bid to which this statement is attached.
2. (s)he is fully aware of the facts and circumstances surrounding the making of the bid to which this statement is attached and has been personally and directly involved in the proceedings leading to the submission of such bid; and
3. neither the bidder nor anyone subject to the bidder's direction or control has been a party;
 - a. to any collusion among bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding,
 - b. to any collusion with any municipal official or employee as to quantity, quality or price in the prospective contract, or as to any other terms of such prospective contract, nor
 - c. in any discussions between bidders and any municipal official concerning exchange of money or other thing of value for special consideration in the letting of a contract.

SIGNATURE OF AUTHORIZED AGENT

Subscribed and sworn to before me this _____ day of _____, 19_____.

Signature of Notary Public

MY COMMISSION EXPIRES

The Bidder Affidavit must be completed, signed by an authorized agent, and notarized.

CONTRACTOR/BIDDER INFORMATION SHEET

**To be completed by all Bidders
For Contracts with the City of Tulsa
(Please print or type)**

Project No. or Description _____

Full Name of Bidder _____

Legal Identity
(Corporation, Partnership,
Individual, etc.) _____

Address _____

Telephone No. _____

FAX No. _____

Taxpayer Identification Number _____

Contact Person _____

 Phone No. _____

 Fax No. _____

 E-mail address _____

 Webpage Address _____

Price Sheet Summary

Vendor Name: _____ Signature: _____
Date: _____

You will be able to obtain a copy of the Bid Summary on the City of Tulsa's Purchase-Net Fax-on-Demand and Website shortly after bid opening.

BID 00-522

<u>Qty</u>	<u>Description</u>	<u>Total Cost</u>
1	GC/MS System	\$ _____

To include:

Gas Chromatograph, Mass selective detector, Turbo pump, Ion guage, Liquid autosampler, Autosampler tray, GC/MS software, Windows NT software, GC/MS computer system, Printer, Modem, Monitor, CD-ROM, NIST library with spec and structures, Purge and trap system with concentrator and autosampler. Purge and trap must have inert pathways GC must have dual injection ports. Installation and three (3) days on-site check-out and training to be included. Training to be completed with a software applications support personnel. System to include one year warranty. Purge and trap remote pad must be included. Instrument must meet or exceed the attached specification guidelines.

For further questions please contact: Ken Burman @ 918-591-4576

**BID 00-522
GC/MS SYSTEM
PUBLIC WORKS DEPARTMENT**

INTENT:

It is the intent of this bid to secure, on a competitive basis, a source of supply for furnishing **GC/MS System** for the City of Tulsa, Public Works Department.

ALTERING BIDS:

Bids cannot be altered or amended after submission deadline. Any interlineation, alteration, or erasure made before opening time and date must be initialed by the signer of the bid, guaranteeing authenticity. Bids must be submitted in ink or typewritten. Penciling will not be accepted.

PRICING:

Bid prices, unless otherwise specified, must be net, including transportation and handling charges fully prepaid by vendor to destination and subject only to cash discount for prompt payment of invoice.

DESCRIPTIVE LITERATURE, BROCHURES, SPECIFICATIONS SHEETS:

Bidders must provide descriptive literature, brochures and or specification sheets on product bidding. This information is to be part of your bid and included with your bid package. Failure to comply will result in rejection of your bid.

BIDDER AFFIDAVITS:

Each bidder shall accompany his bid with a fully executed and notarized copy of the attached Non-Collusion Affidavit and the Interest Affidavit. Failure to do so shall be cause for rejection of the bid.

ADDENDA AND INTERPRETATIONS:

If it becomes necessary to revise any part of this bid, a written addendum will be provided to all the bidders. The City of Tulsa is not bound by any oral representations, clarifications, or changes made in the written specifications by City of Tulsa employees unless such clarification or change is provided to bidders in written addendum form from the Purchasing Division.

AWARD OF BID:

The bid shall be awarded to the firm whose proposal is responsive to the bid and is most advantageous to the City, considering the factors identified in the bid and Section 406E of Title 6, The Purchasing Ordinance set forth below:

406E. AWARD OF CONTRACT

1. **Authority in the Mayor.** The Mayor shall have the authority to award Contracts within the purview of this chapter.
2. **Lowest Secure Bidder.** Contracts shall be awarded to the lowest secure Bidder meeting specifications. Bid Specifications may include a point System for evaluating the lowest secure bid. In determining “lowest Secure bidder”, in addition to price, the following factors shall be considered:
 - a. the ability, capacity and skill of the bidder to perform the contract Or provide the service required;
 - b. whether the bidder can perform the contract or provide the service promptly or within the time specified, without delay or interference;
 - c. the character, integrity, reputation, judgment, experience and efficiency of the bidder;
 - d. the quality of performance of previous contracts or services;
 - e. the previous and existing compliance by the bidder with laws and ordinances relating to the contract or service;
 - f. the sufficiency of the financial resources and ability of the bidder to perform the contract or provide the service;
 - g. the quality, availability and adaptability of the supplies or contractual services to the particular use required;
 - h. the ability of the bidder to provide future maintenance and service for the use of the subject of the contract;
 - i. where an earlier delivery date would be of great benefit to the requisitioning agency, the date and terms of delivery may be considered in the bid award, and
 - j. the number and scope of conditions attached to the bid.
 - k. If a point system has been utilized in the bid specifications, the number of points earned by the bidder.

GC/MS System Specification Guidelines

Electron Impact Ionization (EI) sensitivity specifications for Scan (SCAN) and Selected Ion Monitoring (SIM) modes.

SCAN mode: 1 pg OFN give > 10:1 S/N
SIM mode: 20 fg OFN gives > 10:1 S/N

Upgradeability to Positive and Negative Chemical Ionization (PCI/NCI) capability.

Chemical Ionization (CI) sensitivity specifications for Scan (SCAN) and Selected Ion Monitoring (SIM) modes.

PCI mode: 100 pg BZP gives > 75:1 S/N in SCAN mode

PCI mode: 100 fg BZP gives > 10:1 S/N in SIM mode

NCI mode: 1 pg OFN gives > 500:1 S/N in SCAN mode

NCI mode: 1 fg OFN gives > 10:1 S/N in SIM mode

Ability to handle capillary Gas Chromatograph (GC) column flow rates up to 4 mL/minute and still maintain high vacuum ($>5 \times 10^{-5}$ Torr) in the ion source

Ion source design that includes 2 filaments; this allows the user to continue being productive if one filament burns out

User selectable ionization energy from 10-240 eV

User selectable ionization current from 0-315 μ A

Ion source temperature independently heated from 100-250 degrees C as set by the user; allows for cleaning the source by "baking out" and optimization of analyte ionization

Stable isotope ratios across the entire mass range (1.6 – 800 amu) independent of sample concentration and matrix complexity

Precise and accurate quantitation in both SCAN and SIM modes independent of sample matrix complexity

Linear dynamic range over 4 orders of magnitude for calibration curves (quantitation)

Fast scanning (5200 amu/second) rates of the mass spectrometer allows the user to take advantage of "fast GC" capabilities to improve sample throughput

A large GC oven (28 x 31 x 16 cm) to provide easy access to columns

Oven temperature range from 4 degrees C above ambient temperature to 450 degrees C, allowing for optimal splitless inlet sampling procedures for trace analysis

Split/Splitless capillary GC inlet provides back-pressure control in the split mode to allow for the independent adjustment of split flow and septum purge flow without affecting the column flow rate

Split/Splitless capillary GC inlet is electronically controlled over a flow range of 0 to 1000 mL/minute and a pressure range of 0-150 psig, allowing for the high split ratios required for "fast GC" analysis

Electronic Pneumatic Control (EPC) should adjust for atmospheric pressure and ambient temperature changes in real time to provide the highest precision in analyte retention time.

GC Autosampler provides for up to 100 samples to be run unattended and minimizes carryover by rinsing the inside and outside of the syringe

GC Autosampler is all electronic (no high pressure gas source required)

GC Autosampler tray has 4 easily removable quadrants (25 vials/quadrant) for storage of samples under refrigeration

GC Autosampler tray can be heated or chilled using a circulating water bath

GC AutoInjector can be easily mounted and dismounted without the use of tools

GC and MS Set point changes made in the data system user interface can be made instantaneously with an actual readout displaying the set point change.

Baseline integration can be performed either manually or automatically for flexible analyte quantitation

Data Analysis integrator assigns Retention Times to all peaks

Calibration of analytes can be performed automatically using sequencing or interactively (with results being displayed immediately)

The Data System operating software is fully operable in and compatible with the Microsoft NT 4.0 Operating System.

System must include installation, basic instrument overview and a 1 year warranty provided in the US List price of the product. A computer based training module and system maintenance procedures must be provided on CD-ROM

System must have CD ROM based presentations, delivered by application experts, on the following topics: Sample Preparation, System Diagnostics, System Startup, System Calibration and GC/MS Fundamentals. These presentations are to include full video and audio features.

GAS CHROMATOGRAPH OVERVIEW

Built-in and permanently calibrated barometer and thermometer compensate for ambient laboratory changes for maximum reproducibility.

120 degrees/min oven temperature program rate possible for fast chromatography

13 total independent channels of pneumatic controls must be available

Injectors and detectors must be modular to permit exchange in 5 minutes

Able to control two (2) detectors simultaneously with the MSD

System automatically shuts off gases in the event of a leak

Retention time is reproducible to within 0.007 minutes using n-decane

Stability over 72 hours varies less than 0.060 psi

HPIB and PS-232 i/f and two (2) analog output ports are standard

Usable volume of 21.2 liters for ease of column installation and inlet maintenance.

6 ramp and 7 plateau oven temperature programming flexibility

Oven Temperature Range: Ambient +40 to 4500 w/o cryo to -800 w/cryo

Functional keyboard with 4 line alphanumeric display

Power fail memory protection

Control of 7 heated zones, 1 x oven, 2 x injector, 2 x detector, 2 x auxiliary e.g.MSD, valves

Built-in diagnostics and comprehensive self-tests.

Built in control of autosampler

Automatic capture and storage of control deviation events within the instrument.

Includes a 30m x 0.32 mm x 0.25 µm 5% Phenyl Methyl Silicone column

Free method translation software lets you transfer current methods to faster methods in minutes. You can see the impact of parameter changes on analysis speed before you run a sample.

All GC parameters and data files, can be stored in a single protected, uneditable format for assured integrity. Methods and data are protected by a keyboard lock and multi-level security.

The GC system designed and manufactured under a quality system that is registered to ISO 9001. A Declaration of Conformity certifies that every instrument

passes internal performance tests. A Declaration of System Validation, validating every piece of software before shipping.

SPLIT/SPLITLESS INJECTOR

Programmable from 1-150 psi @ 0.01 – 99 psi/min for use with narrow bore, high back pressure applications, i.e. fast chromatography.

Quantitatively inject up to 5 uL of sample using Pressure Pulse.

The Split/Splitless inlet must operate in back pressure regulated mode for split injections to permit independent adjustment of split flow rate and septum purge without affecting column flow rate, and operate in forward pressure regulated mode for splitless injections for improved performance especially for large volume injections.

Multi-Ramp Pressure/Flow Programming should be possible.

Pressure Pulse injection technique reduces inlet degradation because samples spend less time in hot injectors.

Digital readout and storage of all flows/pressures should be standard.

Gas Saver mode reduces split vent flow during analysis

Patented Vacuum Compensation maintains constant flow i.e. the inlet pressure is adjusted in real time to maintain constant volumetric flow at column outlet irrespective of back-pressure increases due to temperature rampling or MS vacuum fluctuations.

Mass spectra (which are pressure dependent) are now extremely reproducible.

AUTOSAMPLER

Syringe sizes: 5, 10, 25, 50, and 100 uL

Injection volume selection 2%, 10%, 20%, 30%, 40%, or 50% of syringe volume

Syringe rinse solvents two solvents, 4 mL each

Area reproducibility better than 0.3% RSD

Injection volume linearity: 99% correlation

Carryover: Not measureable with four solvent A and four solvent B washes

Variable sampling depth –2 to +30 mm above default position for selected injection of bi-layered samples

Minimum sample injection volume (single injection) 0.1 uL (using a 5-uL syringe)

Maximum sample injection volume (single injection) 50uL (using a 100-uL syringe)

Multiple injection mode (with PTV inlet) 1-99 injections

Sampler positioned away from GC to minimize exposure to heat. Tray quadrants can be cooled or heated using customer-supplied water circulator.

Bar code reader module reads 3 of 9, 2 of 5, and UPC bar codes. Sample information is annotated automatically on sample report.

Vials are vortex mixed automatically for 15 seconds just prior to injection.

The autosampler must be capable of directly injecting into a 0.25 mm and 0.32 mm columns without using pre-columns in the COC inlets.

Using Dual Simultaneous Automatic Injection it is possible to inject 2 different samples simultaneously for 100% productivity gains over single automatic injector designs.

The system must permit automated introduction of 100 x 2 ml samples via autosampler using either fast or slow injection (4 sec.) techniques.

Must be able to be directly interfaced to an Automated Sample Preparation and/or Supercritical Fluid Extractor station capable of unattended dilutions, standard additions, solvent exchange, solid phase extraction, and bar coding without operator intervention from insertion of raw sample to final report of chromatographic results.

MASS SPECTROMETER

The Mass Spectrometer shall be capable of scanning from 1.6 – 800 amu in 0.1 amu increments at a scan rate of up to 5200 amu/sec.

SENSITIVITY: FULL SCAN EI

1 picogram of octafluoronaphthalene injected in 1 uL iso-octane solvent onto a 25m x 0.25mm x 0.25um HP-5ms column with data acquired at 1-2 scans/second over the mass range 50-300 amu shall yield an RMS signal/noise of at least 10:1 for the extracted ion signal at mass 272.0

SENSITIVITY: SELECTED ION MONITORING (SIM) EI

20 femtograms of octafluoronaphthalene injected in 1 uL iso-octane solvent onto a 25m x 0.25mm x 0.25um HP-5ms column with data acquired at 2-5 cycles/second with a dwell time of 250 mseconds, shall yield an RMS signal/noise of at least 10:1 for the extracted ion signal at mass 272.0

SENSITIVITY: FULL SCAN NCI

1 picogram of octafluoronaphthalene injected in 1uL iso-octane solvent onto a 25m x 0.25mm x 0.25um HP-5ms column with data acquired at 1-02 scans/second over the mass range 50-300 amu shall yield an RMS signal/noise of at least 100:1 for the extracted ion signal at mass 272.0 using methane as reagent gas.

SENSITIVITY: SIM NCI

10 fentograms of octafluoronaphthalene injected with data acquired at 2-5 cycles/second shall yield an RMS signal/noise of at least 50:1 when monitoring mass 272.0 using methane as reagent gas.

SENSITIVITY: FULL SCAN PCI

100 picograms of Benzophenone injected in 1uL solvent with data acquired at 1-2 scans/second over the mass range 50-300 amu shall yield an RMS signal/noise of at least 20:1 for the extracted ion signal at mass 183.1 using methane as reagent gas. Adducts at 211 and 223 m/z are also included.

SENSITIVITY: SIM PCI

100 femtograms of Benzophenone shall yield an RMS signal/noise of at least 10:1 when monitoring mass 183.1 using methane as reagent gas.

The system must allow venting of the high vacuum and access to the source volume without requiring column removal

Dual filaments shall be standard in the ion source. The user must be able to switch filaments, through the software, without venting the system

Quadrupple mass filter consists of a one-piece gold-plated quartz hyperbolic filter device. The faces of the quadrupples are permanently aligned and will never require re-alignment.

The quadrupple temperature shall be user selectable between 100-200 degrees C

The ionization energy shall be slectable over the range 10-241 eV

The ionization current shall be slectable over the reange 0-215 uA

The ion source temperature shall be selectable between 100-250 degrees C

The GC/MS interface temperature shall be selectable between 100-320 degrees C

The Mass Axis stability shall be ± 0.15 amu per 12 hour time period.

The vacuum system choices shall consist of either: 90 L/second air-cooled diffusion pump, or 250 L/second turbomolecular pump.

Pump down times to operating pressures is 10 minutes or less for either pump

The capillary direct I/F shall be short (4.5") to provide better sensitivity and less sample degradation.

The dynamic range of the instrument shall be over 6 orders of magnitude.

The linear dynamic range shall be over 4 orders of magnitude.

Ionization dwell time shall be constant and equal over the entire run, irrespective of the amount of compound in the ion source to achieve reproducible quantitation for both trace and high level compounds.

Systems which arbitrarily set ionization times are **unacceptable**

The system shall generate classical Electron Impact (EI) spectra which are not contaminated with any extraneous effects which could skew the naturally occurring isotopic abundances found in nature.

The relative percentages of these isotope ions provides clues useful in unravelling the identity of a parent molecule from its molecular fingerprint.

The ion source shall be of simple design with fewer than 13 elements for ease of user cleaning and maintenance.

A source cleaning video tape shall be included to illustrate proper maintenance.

A Chemical Ionization source must be available which operates in both positive and negative modes (PCI and NCI). CI becomes necessary for compounds which exhibit nonmolecular ion (coupled with uninformative spectra) or compounds which exhibit identical spectra are easily characterized by their molecular ions. CI reagent gases must be selectable. Adduct ions at $m+1$, $M+29$, and $M+41$ shall be present to confirm molecular ion

Autotunes for PCI and NCI should be standard.

GC/MS DATA SYSTEM

The Data System shall include a Pentium III 500 MHz with 64MB RAM, at least a 16 GB hard drive, 3.5" floppy, CD ROM drive, Laserjet 4000 printer, Ultra VGA 17" monitor, 10-Base-T Lan card, 28.8 modem with software for remote operation.

Software shall be Microsoft Windows NT. The software must have Computer Based Training for self paced training.

The software is Year 2000 ready in all respects.

The software must allow user to acquire and process both MS and optional GC detector data simultaneously.

Peak deconvolution software is standard for automated ID and Quantitation in complex mixtures.

Remote operation and diagnostics shall be possible via modem. Security is enhanced by using password and phone number restricted access.

It must have the ability to Auto-tune to DFTPP and BFB per EPA targets without operator intervention as well as user specified Target Compound tune, PCI and NCI tune and Manual tune with ramping of the following voltages:

- 1) Repeller
- 2) Ion focus lens
- 3) Entrance lens
- 4) Entrance lens offset
- 5) X-Ray
- 6) AMU gain
- 7) AMU offset

The software shall be multi-tasking and be able to run unattended the following schedule:

- 1) Acquire data from MS and GC detectors simultaneously
- 2) Produce Custom report with library search for target and non-target compounds
- 3) Quantitate
- 4) Re-Calibrate for new analyses
- 5) Export data to Excel spreadsheet

The software allows 50 groups of 30 ions to be monitored in SIM

The software must also permit user built mass spectral libraries that complement available NIST (107,000 entries), Drug/Poison/Metabolite (4370+), Wiley (275,000), and Pesticide/Metabolite (340)

The software shall permit display of the NIST chemical structures simultaneously with the acquired mass spectra.

Parametric retrieval of reference spectra through specification of molecular weight, molecular formula, CAS number, or text information is standard.

Target compound software shall provide all compounds, panels, Quant ions, Qualifier ions for the most common EPA GC and GC/MS methods.

DrugQuant Target compound software shall provide necessary panels for quantitation of drugs of abuse.

“Smart Sequencing” shall be possible which allows the user to pre-define AQ rules, e.g. if autotune does not pass then retry 3 times, or, if Calibration Curve Verifier does not pass then retry 3 times, etc.

Reviews of the data shall be possible through the software for easy determination of QA.

COMPUTER;

High End:

D6720T-HP Kayak XA 7/450 SI 16GB 64M G200 TV
PC Wkst 450MHz PentiumIII; 100MHz FSB;
512Kb, desktop, 64MB SDRAM; G200 AGP 8MB;
CD-ROM 2x; 16 bit audio; 6slots/5bays; 6.4GB Ultra
ATA HDD; NT4.0; mouse & keyboard

Includes: CPU-Pentium III – 450MHz
MEM: 64 MB standard memory-sdram-(128 mb total –see D6522A below)
HDD: 6.4 GB Ultra ATA Hard Drive
Graphics Matrox G200 – AGP8mb
CDR: IDE2 CD-ROM, 32x
Desktop with 6 slots & 5 bays
10/100 Base-T Night Director 10/100 Ethernet Card (D6936A)
SW: Windows NT Workstation Rev. 4.0 Service Pack 4

Included Accessories:

HP Ultra VGA 19” Display D2842A
D6522A, 64 MB SCRAM ECC 100MHz SDRAM Qty.-1
82341C HPIB Card CAG P/N G1680-63711
Laserjet 4050 – C4251A
Parallel Cable – C2951A
Recovery Kit – G1030-60105