



'06 AUG -3 A7:58

STATE PROCUREMENT OFFICE NOTICE & REQUEST FOR SOLE SOURCE

- 1. TO: Chief Procurement Officer
- 2. FROM: DOH/SLD/EHASB/Chemical Terrorism Response Laboratory
Department/Division/Agency

Pursuant to §103D-306, HRS, and Subchapter 9, Chapter 3-122, HAR, the Department requests sole source approval to purchase the following:

3. Description of goods, services, or construction:
 The Milestone DMA-80 Direct Mercury Analyzer is a dedicated instrument for measuring mercury at trace levels (0.005 ng detection limit). It consists of a built-in 40-position autosampler, drying/decomposition furnace, catalytic reduction tube, gold amalgamator, unique dual-cell cuvette block in series with a delay cell, a mercury source lamp and detector, mercury trap, touch-screen controller with software, and an inline analytical balance.

The DMA-80 performs mercury analysis on a wide variety of sample types, both clinical and environmental. Sample throughput is very high - analyses are typically carried out in less than five minutes. Since there is no labor intensive sample preparation, sample costs are very low compared to other techniques (See Section 9). No solvents are required and no chemical waste is produced.

4. Vendor Name: Milestone Inc. Address: 25 Controls Drive Shelton, CT 06484	5. Price: \$39,110
6. Term of Contract: (mm/dd/yyyy) From: _____ To: _____	7. Prior Sole Source Ref No. AEA-01

8. Feature: The good, service, or construction has the following unique features, characteristics, or capabilities:

The Milestone DMA-80 Direct Mercury Analyzer is a user friendly, sensitive, high throughput analytical instrument that will be used for the measurement of total mercury in both solid and liquid clinical and environmental samples.

The DMA-80 gives mercury analysis results in approx. 5 minutes per sample with NO sample preparation or pretreatment. Moreover, no solvents are used nor waste generated. The instrument is compliant with U.S. EPA Method 7473.

Unique features include:

Optimized cell optical path for improved sensitivity and lower detection limits, a touch-screen controller with preloaded DMA-80 software, a fully integrated built-in, permanently aligned 40-position autosampler for unattended operation, large 500 uL and 1500 ul quartz boats for improved sample homogeneity, and improved programmable temperature ramping for controlled decomposition of organic samples such as fish and for analyzing mercury in petrochemicals and hazardous wastes.

Milestone provides online technical support: 24/7 online troubleshooting with FAQs, Operational Guidelines, and Visual Aids for routine maintenance and changing consummables.

Additional unique Milestone DMA-80 specifications: ATTACHMENT ONE

Unique features for the Milestone DMA-80 compared to the LECO AMA 254 Mercury Analyzer are tabulated in ATTACHMENT TWO.

9. Essential features. How the unique features, characteristics, or capabilities are essential for the agency to accomplish its work:

Because the Milestone DMA-80 Direct Mercury Analyzer does not require time-consuming and costly pre-analysis sample preparation, the cost per sample including labor is much less than for other techniques (Estd \$25-30/sample by DMA-80 versus \$110/sample by Cold Vapor AAS). Operator training is minimal.

The DMA-80 is exceedingly versatile - the mercury content of a wide variety of sample types can be measured including:

- Environmental (soil, sludge, wastewater, fish tissue),
- Geochemical (coal, crude oil, fly ash, cement),
- Food/Feed (grains, food additives, canned tuna, plant tissue) and
- Clinical samples (blood, urine, tissue, and hair).

11. Alternate source. The following other possible sources for the good, service, or construction were investigated but do not meet our needs because:

The Milestone DMA-80 Direct Mercury Analyzer is the only instrument investigated that meets our present Program (CDC Public Health Emergency Preparedness) needs and biomonitoring requirements for the detection and quantitative measurement of mercury - a chemical warfare agent and environmental contaminant - in clinical and environmental samples. The Milestone Analyzer possesses unique features that are absent in the other instruments (See Section 8 and ATTACHMENT ONE).

Several mercury analyzers were investigated: LECO AMA 254 Advanced Mercury Analyzer, CETAC M-7500 Mercury Analyzer, and NIC MA-2000 Mercury Analyzer. (See Section 8 and ATTACHMENT TWO).

12. Direct any inquiries to:

Department: DOH/SLD/EHASB/CT Response Lab

Contact Name/Title: Dr. Alfred Asato/CT Lab Coordinator

13. Phone Number:

808-453-6748

Fax Number:

808-453-6685

Expenditure may be processed with a purchase order: Yes No If no, a contract must be executed and funds certified.

Agency shall ensure adherence to applicable administrative and statutory requirements.

14. *I certify that the information provided above is to the best of my knowledge, true, correct and that the goods, services, or construction are available through only one source.*



AUG - 1 2006

Department Head

Date

Reserved for SPO Use Only

15. Date Notice Posted:

8/05/2006

Submit written objections to this intent to issue a sole source contract within seven calendar days or as otherwise allowed from the above posted date to:

Chief Procurement Officer
 State Procurement Office
 P.O. Box 119
 Honolulu, Hawaii 96810-0119

16. Chief Procurement Officer's comments:

This expenditure may be processed with a purchase order provided only a single lump-sum payment is made.

17.

APPROVED DISAPPROVED


Chief Procurement Officer

8/14/06
Date

**STATE PROCUREMENT OFFICE
NOTICE AND REQUEST FOR SOLE SOURCE**

ATTACHMENT ONE: ADDITIONAL UNIQUE FEATURES

for the

MILESTONE DMA-80 DIRECT MERCURY ANALYZER

- Detection Limit: 0.005 ng Hg
- Maximum solid sample weight: 2000 mg
- Maximum liquid sample volume: 1500 µL
- Analysis time: Approx. 5 minutes per sample
- Programmable Sample Treatment
 - Variable Drying Time: 0-300 sec
 - Variable Drying Temperature: 50-500°C
- Variable Decomposition Time: 0-420 sec
- Adjustable Decomposition Temperature (500-1000°C) with temperature sensor located inside the decomposition furnace
- Catalyst Tube protected by metal block
- Variable Standby Amalgamator Temperature: 150-250°C
- Adjustable Amalgamator Heating Temperature: 850-950°C
- Adjustable Release Time for Amalgamator: 0-30 sec
- Adjustable Recording Time: 0-60 sec
- Quartz boats, 500µL and 1500µL

Integrated 40-Position Autosampler

The autosampler must have the following specifications:

- Autosampler Built-in to unit and permanently aligned to allow for field use of instrument with autosampler capability
- Pneumatic sample boat transport mechanism for smooth, fast sample introduction

Flat Screen Controller

- User Friendly Touch Screen controller.
- Displays real time graphical representation of the sampling process
- Interfaces to an analytical balance and printer

Software

- Validate data vs. a stored calibration curve and automatically adjust results without recalibrating to improved the accuracy of measured data
- Store multiple calibration curves
- Store up to 100 sample results per data file
- Choose linear, second order or third order fit for calibration curves
- Easily switches between manual and automatic mode
- Easy data identification. User can specify a file name for all data sets
- Switch from sampling mode to data mode to view graphs
- Software measures peak height or peak area (operator's choice)
- Can add additional samples to the autosampler while a sample run is in progress

Data

- Printable data report includes the following information in list format: Sample No., Sample ID, Weight, Absorbance, Hg [ng], Conc., Calibration Factor, Dry Temp, Dry Time, Decomp Temp, Decomp Time, Purge Time, Amalg Heat Time, Recording Time
- Print Individual Sample Graphs (measurement peaks with absorbance values)

Support

- The manufacturer maintains applications/service support staff
- A thorough Applications Library and manual is provided with the system
- 24/7 on-line troubleshooting with FAQ's, Operational Guidelines, and Troubleshooting. Including Video clips to guide operators through changing consumables and other routine maintenance

- ATTACHMENT TWO -

DMA	AMA
<p>Detection Limit – 0.005ng</p> <p>Maximum Sample Size Solid sample weight: 2000mg Liquid sample weight: 1500ul</p> <p>Sample Boats Choice of Quartz* or Nickel Quartz boats allow for the use of dilute acid addition; important for stabilizing the Hg in liquid samples and to assist as a pre-digestion agent for samples like blood</p> <p>Adjustable Drying temperature (50 - 500°C). Vary temperature during method development for samples with various moisture content.</p> <p>Adjustable decomposition Temperature (500-1000°C) Vary temperature during method development of various sample matrices. Useful for easily ignitable samples</p> <p>Catalyst tube protected by metal block If sample holder is deformed by accident, the metal block that holds catalyst will protect the catalyst tube.</p> <p>Note: the DMA sample holder is made of rugged stainless steel tubes and is not easily damaged</p> <p>Variable Standby Amalgamator temperature 150-250°C Better for processing highly organic samples. Organics do not break down completely while decomposing at lower temperatures. They get absorbed on the amalgam interfering with analysis. At 200 °C, organics do not get absorbed on the amalgam, and therefore do not interfere with the analysis.</p> <p>Adjustable Release Time for Amalgamator (0-30 seconds) When amalgam is contaminated, this option allows for faster cleaning.</p>	<p>Detection Limit – 0.01ng</p> <p>Maximum Sample Size Solid sample weight: 700mg Liquid sample weight: 500ul</p> <p>Sample Boats Nickel only</p> <p>Drying temperature is constant, 120 °C</p> <p>Decomposition temperature is constant</p> <p>Catalyst tube is in direct contact with sample holder If sample holder is deformed by accident or because of regular wear and tear it can crack the catalyst tube</p> <p>Note: The AMA sample holder is made from thin wire that is easily deformed</p> <p>Standby Amalgamator temperature is fixed at 150 °C Organics do not break down completely while decomposing at lower temperatures. They get absorbed on the amalgam interfering with analysis. During the release time, the organics get released along with the mercury and cause a 'tailing peak'</p> <p>Release Time for Amalgamator is constant When amalgam is contaminated, cleaning takes longer</p>

DMA	AMA
<p>Recording time adjustable (0-60 seconds) Extended recording time gives extra time for any partially decomposed organics to be flushed out from the system prior to starting next analysis. Improves RSD for petroleum based and other organic samples.</p> <p>Autosampler Built-in to unit and permanently aligned to allow for field use of instrument with autosampler capability</p> <p>Pneumatic sample boat transport mechanism Uses same oxygen source as used for carrier gas in the system Allows fast and save introduction of the sample into the decomposition chamber. Takes 2 seconds to pick up and introduce sample into the oven</p>	<p>Recording time is Constant To flush out system after an organic sample, the operator would need to run an empty boat in between samples</p> <p>Standalone autosampler, alignment is cumbersome and takes long time.</p> <p>Electro-Mechanical Gear sample boat transport mechanism Very slow, takes 80 seconds per sample. Adds an additional 50 min to the analysis of a whole sample tray</p>
<p>Software measures peak height or peak area</p> <p>Internal Temperature Sensor with Variable Set Points Precisely measure and modify temperature settings for different sample matrices. Optimizes decomposition conditions for better combustion of volatile species and other organics</p> <p>The system must be controlled by a Touch Screen Controller running software written exclusively for the system (does not require separate PC to operate system)</p> <p>System has a password protection to control operator access to physically prevent unauthorized operation of the system as well as unauthorized access to instrument calibration and operational settings.</p> <p>Changing Consumables Easy access to sample processing compartment with slide out furnace block to make changing consumables fast & easy</p>	<p>Software measures peak height only</p> <p>Feature not Available. Decomposition temperature is constant</p> <p>Feature Not Available - The AMA requires a Desktop/Laptop Computer</p> <p>Feature Not Available - Any unauthorized user may access and run the software.</p> <p>Changing Consumables Access to sample processing compartment is time consuming, requiring cumbersome disassembly & assembly</p>



MILESTONE INC.

25 Controls Drive
Shelton, CT 06484

Phone: (866) 995-5100
Fax: (203) 925-4241

DMA-80
Direct Mercury Analyzer
for direct mercury determination of solids
and liquids *without* sample preparation

rev. 5/14/06

Company: **Hawaii Department of Health, EHASB**
Address: **2725 Waimano Home Road**

City: **Pearl City**
State: **HI** Zip: **96782**

Contact: **Mr. Alfred Asato**
Phone: **(808) 453-6748**
Fax:
E-mail: alfred.e.asato@doh.hawaii.gov

Quote No.: **39988**

Applications Specialist: **Tim Michel**

Date: **7/13/2006**

Sales Coordinator: **Amy Schmaling**

P/N	Description	Qty.	Unit Price	Total Price
DMA-8204	<p>Direct Mercury Analyzer - integrated sample drying, thermal decomposition, amalgamation and spectrophotometry</p> <ul style="list-style-type: none"> • Working Range (with automatic switch-over) : low range: from 0 to 20 ng of Hg high range: from 20 to 1000 ng of Hg • Reproducibility: <1.5% • Analysis time: Approx. 5 minutes • Detection Limit: 0.005 ng Hg • Wavelength: 254nm, installed with 9nm resolution interference filter • Detector: silicon UV photodetector • Sample treatment completely programmable; Drying time: between 0 and 300 sec. Drying temperature: between 50-500°C Decomposition time: between 0 and 420 sec. Decomposition temperature: between 500-1000°C • Calibration to be performed with standard ref. Materials in solid or liquid form • Max. solid sample weight: 2000mg • Max. liquid sample volume: 1500µL • Max. factor of preconcentration: 10 • Carrier gas: oxygen (input pressure 60 psig, flow rate ca 160 mL/min • Power: 110/220v, 50/60Hz, • Dimensions: 29"(L) x 18.5"(D) x 12"(H) • Weight: approx. 80lbs. • Unit functions diagnostics/control by Integrated Touch Screen Controller with Software 			

Milestone



M i c r o w a v e
L a b o r a t o r y S y s t e m s

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DMA-80

Direct Mercury Analyzer

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and liquids *without* sample preparation

rev. 5/14/06

P/N	Description	Qty.	Unit Price	Total Price
	Includes Color Touch Screen Terminal:			
	<ul style="list-style-type: none"> • 12" large high resolution color screen controller • "Touch Control" display, supplied with keyboard and mouse • Removable "Flash card" memory for data storing • Interfaces for Power, DMA unit, Printer (parallel), Balance (serial), Keyboard and Mouse • Dimensions 14"x10"x3"h • Weight: approx. 5 kg 			
I&T	Built-in 40-position Autosampler for solid and Liquid Samples	1	\$31,950.00	\$31,950.00
	One day of operator training and preventative maintenance <i>(includes all expenses)</i>	1	\$950.00	\$950.00

P/N	Description	Qty.	Unit Price	Total Price
	Accessories Kit* (required)			
DMA-SK	2 x Catalyst Tube with packing, (with O-rings & End Block) 2 x Amalgamator 1 x Nickel Boat 500ul (package of 40) 1 x Quartz Boat 500ul (package of 10) 1 x Mercury Trap, PN# 70200	1	\$1,500.00	\$1,500.00
Total Price				\$34,400.00

P/N	Description	Qty.	Unit Price	Total Price
	Options			
DMA8338	Additional Quartz Boats 500ul (pack of 10)	1	\$325.00	\$325.00
DMA-8347	Quartz Boats 1500ul (pack of 10)	1	\$425.00	\$425.00
XB220A	Precisa XB220A Analytical balance (4 place) Includes interface cable (9-pin sub-D, female)	1	\$3,500.00	\$3,500.00
84846	Deskjet Printer	1	\$350.00	\$350.00

*Specially priced Accessories Kit available only with initial DMA-80 Purchase



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<p>DMA-80 Direct Mercury Analyzer for direct mercury determination of solids and liquids <i>without</i> sample preparation</p> <p><small>rev. 5/14/06</small></p>
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P/N	Description	Qty.	Unit Price	Total Price
LT00004	<p>EasyDOC software for Data Acquisition</p> <ul style="list-style-type: none"> • Data transfer of all measured values and parameters • Representation of the data in different formats • Storage of the data in all Windows media • Connection to all Windows printers • Export data in: Excel, ASCII, PDF and JPG formats • Simple and easy to use • Document production on Windows basis • Graphic and table configuration • includes and interface cable for terminal 1024 to PC <p>Minimum System Requirements to run EasyDOC:</p> <ul style="list-style-type: none"> • Operating system: Windows 98, Windows 2000, Windows XP • RAM: 64MByte • Hard Drive: 20 MB • Screen resolution: SVGA 800 x 600 • Interface: RS232 <p><i>*User to Provide PC</i></p>	1	\$995.00	\$995.00

General Sales Conditions

Prices FOB Shelton, CT. Freight prepaid and added to the invoice. If a 3rd party carrier is preferred, please detail this on the Purchase Order and indicate freight collect terms.

Delivery : 3-4 weeks from receipt of order

Warranty : 12 months from date of installation but no longer than 13 months after delivery.

Payment : Net 30 (based on credit approval)

Validity of the offer : 30 days.

Milestone Inc.



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P/N	Description	Qty.	Unit Price	Total Price
DMA80SC	DMA-80 Service Contract For one (1) year period <i>Includes:</i> Technical Support Both On-site and telephone technical support Preventative Maintenance After The First Six Months of Service Contract ? Upgrade of firmware and/or software, if appropriate ? Complete performance check of all internal safety devices leakage testing ? Check and adjust instrument and installed options to if necessary ? Evaluation of line voltage, operating environment and general condition of instrument(s) ? One yearly scheduled preventative maintenance check up on your system(s) Parts and Labor (for repairs) ? All parts and labor required to repair an instrument or any of its installed options ? On-site repairs, or if necessary, at our authorized repair center (Replacement coverage does not apply to consumable catalyst, amalgamtor, o-rings, silicon connection joints, sample boats and mercury traps)	1	\$ 2,950.00	\$ 2,950.00
	Inspection Fee Added to the cost of the contract if the service contract is purchased more than one (1) month after the expiration of the Original warranty period, or more than one (1) month after the expiration of any other service contracts	1	\$ 850.00	\$ 850.00

General Sales Conditions

Prices FOB Shelton, CT. Freight prepaid and added to the invoice. If a 3rd party carrier is preferred, please detail this on the Purchase Order and indicate freight collect terms.

Delivery : 3-4 weeks from receipt of order

Warranty : 12 months from date of installation but no longer than 13 months after delivery.

Payment : Net 30 (based on credit approval)

Validity of the offer : 30 days.

Milestone Inc.

Milestone DMA-80 Direct Mercury analyzer

Technical Specifications

Instrument Control	Touch-screen controller
Instrument Optics	Single beam spectrophotometer with sequential flow through of measurement cells
Light Source	Low-pressure mercury vapor lamp
Wavelength	253.65 nm
Interference Filter	254 nm, 9 nm bandwidth
Detector	Silicon UV photodetector
Detection Limit	0.005 ng Hg
Working Range (with automatic switch-over)	Low range: 0–20 ng Hg High range: 20–1,000 ng Hg
Reproducibility	< 1.5%
Sample Treatment	Completely programmable
Sample Introduction	Built-in 40-position autosampler
Calibration	Performed with Std. Ref. Materials in liquid or solid form
Max. Liquid Sample Volume	1,500 µL
Max. Solid Sample Weight	2,000 mg
Carrier Gas	Oxygen
Input Pressure	4 bar (60 psig)
Flow Rate	~ 165 mL/min
Power	110 V / 60 Hz
Dimensions	29 x 19 x 9 in.
Weight	56 kg (123 lbs.)

Accuracy - Mercury recoveries and certified values for eight Standard Reference Materials

Sample	#	Ref. Value ppm (mg/kg)	DMA-80 ppm (mg/kg)
BCR CRM 184 Bovine Muscle	5	0.0026 ± 0.0006	0.0028 ± 0.0008
NIST SRM 8433 Corn Bran	2	0.003 ± 0.001	0.004 ± 0.001
BCR CRM 150 Skim Milk Powder	2	0.0094 ± 0.0017	0.0097 ± 0.0005
BCR CRM 185 Bovine Liver	2	0.044 ± 0.003	0.044 ± 0.001
NIST SRM 1566a Oyster Tissue	12	0.064 ± 0.007	0.064 ± 0.004
BCR CRM 151 Skim Milk Powder	10	0.101 ± 0.010	0.093 ± 0.005
BCR CRM 278 Mussel Tissue	9	0.188 ± 0.007	0.181 ± 0.009
Lyophilized human blood (1)	1	0.004	0.0033

Precision - Data obtained from 12 analyses of NIST SRM 1566a oyster tissue

NIST SRM 1566a Oyster Tissue Ref. Value: 0.064 ± 0.007 ppm (mg/kg)	
DMA-80 Analysis	Concentration (mg/kg)
1	0.067
2	0.064
3	0.068
4	0.067
5	0.064
6	0.064
7	0.063
8	0.063
9	0.064
10	0.062
11	0.063
12	0.061

Average Value	0.064
sd	0.002
rsd	0.033
cv%	3.32%