## Proposed Sole Source Purchase Form

Pursuant to New Mexico Procurement law, the UNM Purchasing Department will post your completed form on the UNM Sunshine Portal for 30 days prior to purchase of the goods/services.

### I. GENERAL INFORMATION. PLEASE PROVIDE THE FOLLOWING:

<table>
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<tr>
<th>Date of Request</th>
<th>Requisition Number (If Applicable)</th>
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<tbody>
<tr>
<td>4/19/2018</td>
<td>102217721</td>
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## Request Submitted by:  Seth Newsome  
**Title**: Associate Director

**Department**: Center for Stable isotopes  
**Email**: newsome@unm.edu  
**Phone**: 505-277-0742

<table>
<thead>
<tr>
<th>Proposed Vendor</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Thermo Fisher Scientific</td>
<td>$239,639.65</td>
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Buyer Team - See Commodity list at  [http://www.unm.edu/~purch/commcodes.pdf](http://www.unm.edu/~purch/commcodes.pdf)

Provide a basic description of goods/services to be provided:

Acquisition of an IRMS system: Delta V Advantage Isotope Ratio Mass Spectrometer; GC Isolink for compound specific analysis with TriPlus RSH Autosampler; Conflo IV interface; Flash IRMS Elemental Analyzer with autosampler.

### Why is this purchase needed?

The new IRMS system is needed to support funded research and to expand Center for Stable Isotopes (CSI)’s analytical capabilities. CSI has two similar systems used to support both faculty research and commercial analysis. The demand for the use of these systems has increased dramatically during the last years. CSI has been successful in bringing per fee contract and because of the current large sample backlogs, turnaround times are longer, potentially unattractive for our customers. With increasing demand CSI needs to expand its analytical facilities. The research programs lead by CSI Associate Director Seth Newsome require an Isolink II GC-C system for compound specific analysis. In addition, the new IRMS system would upgrade one of our existing obsolete (20 years old) systems and will generate additional revenues to CSI through per fee analyses.

### II. BASIS FOR SOLE SOURCE PROCUREMENT. CHOOSE APPLICABLE BOX(ES) AND PROVIDE ADDITIONAL INFORMATION, AS REQUESTED:

- Proprietary item, technology or service only available from the proposed vendor. (Check box and describe proprietary component)

Although there is one other vendor (Elementar) offering similar IRMS systems, the Thermo Fisher Scientific IRMS system has some unique features. The Flash EA allows fast simultaneous measurements of carbon, nitrogen and sulfur isotopes from the same sample, feature critical for us to ensure higher throughput. The cost per measurement is significantly lower. Another proprietary technology allows to measure samples with unknown C and N concentrations. Thermofisher Scientific mass spectrometers also offer high sensitivity.
Compatibility requirement with existing item, technology or service. (Check box and describe compatibility requirement)

The Center for Stable Isotopes already has a 6 IRMS systems, all manufactured by Thermo Fisher Scientific. The new Elemental Analyzer we plan to purchase as part of the system is greatly improved and had new capabilities (fast, simultaneous measurement of C, N and S). However, numerous parts are interchangeable with the old instrument which will facilitate the maintenance, reduce operational costs and prolong the life of the instrument.

Renewal of support/maintenance/subscription of software, technology or other intellectual property. (Check box and describe)

Other Basis for Sole Source: Please describe below:

CSI personnel have been trained and are experienced with the use of Thermo Fisher Scientific instruments which will enable us to use the instrument immediately. CSI has in stock replacement parts for Thermo Fisher instruments, compatible with the new system. CSI personnel are experienced with the maintenance and repair of Thermo Fisher instruments and we do not have to purchase service contracts.

III. SUPPLEMENTAL DETAILS. PLEASE PROVIDE ADDITIONAL INFORMATION AS REQUESTED BELOW:

Describe in detail the unique capabilities of the proposed vendor’s goods/service and/or personnel performing the work and why this constitutes the only source. Focus on what is unique about the goods/service and why no other vendor could meet your needs.
We propose to purchase the IRMS system from Thermo Fisher Scientific because many of the applications critical to CSI research and commercial analyses were developed on their instruments and peripherals. As this IRMS system is an addition to similar Thermo Fisher Scientific systems already in use at CSI, we can use the same measurement protocols and procedures and have the flexibility of alternate use of the instruments. In addition, one of the peripherals (Flash IRMS Elemental Analyzer) has proprietary improvements critical for CSI. These include fast simultaneous measurements of carbon, nitrogen and sulfur isotope ratios through a ramped GC oven and reliable measurement of samples with unknown C, N, S concentration through their “Smart EA” technology.

Describe the due diligence made to locate other possible sources including communications with other universities, communications with similar providers, web searches, yellow page searches, review of advertisements and trade publications, etc.

There are only two vendors offering the type of IRMS systems we need. Over the years, we have consulted members of the scientific community and we are aware of the advantages/disadvantages offered by the instrumention of the two vendors, which based on our needs favor Thermo Fisher Scientific. Several members of our Scientific staff (Seth Newsome, Zachary Sharp, Viorel Atudorei, Laura Burkemper) have met with both vendors during professional meetings and there is a consensus that Thermo Fisher Scientific instruments better satisfy our needs.

List the other vendors who were contacted. Please describe the specs/qualifications/criteria that the other vendors were unable to satisfy.

We are aware of only 2 vendors who can offer this type of IRMS systems (Thermo Fisher Scientific and Elementar). Catalog prices are similar for the 2 vendors, however Thermo Fisher Scientific offered us a discount (15%) which brought the price significantly lower. In addition, some of the critical features offered by the Thermo Fisher Scientific are unique, as follows:
- overall sensitivity is better
- GC-C system is perfected and better than Elementar’s; it has capabilities to measure C, N and H isotope ratios in biomarkers at high resolution
- the new Flash IRMS Elemental Analyzer is significantly improved as described above
- the Flash Elemental Analyzer has a proprietary “Helium Management Module” which allows significant Helium saving (translated in cost savings)
- the IRMS system offers the capability of measuring trace amounts of N