



January 9, 2019

Ms. Rene Botts
State Purchasing Dept
1526 K Street, Suite 130
Lincoln NE 68508

Ref: Solicitation Number 5987OF

Dear Ms. Botts,

Thank you for allowing Malvern Panalytical the opportunity to respond to the above referenced Solicitation.

I have attached our response, and we meet or exceed all of the solicitation specifications. If I can answer any questions, or assist further, please don't hesitate to call on me.

Very truly yours,

A handwritten signature in blue ink, appearing to be 'Scott Krane', written over a blue circular scribble.

Scott Krane
Account Manager – Midwest
Malvern Panalytical

e-mail: scott.krane@malvernpanalytical.com
Phone: 630-608-7084

State of Nebraska - INVITATION TO BID CONTRACT

Return to:
State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, Nebraska 68508

Telephone: 402-471-6500
Fax: 402-471-2089

Date	12/11/18	Page	1 of 2
Solicitation Number	5987 OF		
Opening Date and Time	01/10/19	2:00 pm	
Buyer	RENE BOTTS (AS)		

DESTINATION OF GOODS

NDOT M&R
1400 NE HWY 2-TEST
PO BOX 94759
LINCOLN NE 68509-4759

Per Nebraska's Transparency in Government Procurement Act, DAS is required to collect statistical information regarding the number of contracts awarded to Nebraska contractors. This information is for statistical purposes only and will not be considered for contract award purposes.

____ NEBRASKA CONTRACTOR AFFIDAVIT: Bidder hereby attests that bidder is a Nebraska Contractor. "Nebraska Contractor" shall mean any bidder who has maintained a bona fide place of business and at least one employee within this state for at least the six (6) months immediately preceding the posting date of this ITB.

____ I hereby certify that I am a Resident disabled veteran or business located in a designated enterprise zone in accordance with Neb. Rev. Stat. §73-107 and wish to have preference, if applicable, considered in the award of this contract.

Contract to supply and deliver SEQUENTIAL XRF SPECTROMETER EQUIPMENT WITH EXTERNAL WATER RECIRCULATING SYSTEM to the State of Nebraska as per the attached specifications for a five (5) year period from date of award. The contract may be renewed for five (5) additional one (1) year periods when mutually agreeable to the vendor and the State of Nebraska.

(vc 12/10/18)

INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
1	SEQUENTIAL XRF SPECTROMETER EQUIPMENT WITH EXTERNAL WATER RECIRCULATING SYSTEM	1.0000	EA	\$297,850 ⁰⁰	\$297,850 ⁰⁰
2	TRADE IN VALUE FOR BRUKER / DISCOUNT S4 PIONEER AND EXTERNAL WATER CIRCULATING SYSTEM. DEDUCTION AMOUNT	1.0000	EA	(\$81,862)	(\$81,862)
3	ANNUAL FLAT RATE PREVENTATIVE MAINTENANCE PLAN 48 HR Response	1.0000	EA	\$29,877	\$29,877

BIDDER MUST COMPLETE THE FOLLOWING

DISCOUNT PAYMENT TERMS: 0 % 0 DAYS N/A

By signing this Invitation to Bid form, the bidder guarantees compliance with the provisions stated in this Invitation to Bid, agrees to the terms and conditions unless otherwise agreed to (see Section III) and certifies that bidder maintains a drug free work place environment. Vendor will furnish the items requested within ____ days after receipt of order. Failure to enter Delivery Date may cause quotation to be REJECTED.

Sign

Here (Authorized Signature MANDATORY - MUST BE SIGNED IN INK)

VENDOR#

VENDOR: Malvern Analytical, Inc.
Address: 117 Flanders Rd
Westborough MA 01581

Enter Contact Information Below

Contact

SCOTT KRANE
Telephone 630-608-7084
Facsimile 508-768-6403
Email SCOTT-KRANE@Malvern.com

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INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
4	HOURLY RATE FOR SERVICE CALL REGULAR BUSINESS HOURS INCLUDE ALL EXPENSES (TRAVEL, MILEAGE, FOOD LODGING, PARKING, FUEL, LABOR, NEXT DAY SERVICE PARTS SHIPPING COSTS/DELIVERY FEES.)	50.0000	HR	<u>\$294⁰⁰</u>	<u>\$294⁰⁰</u>
5	HOURLY RATE FOR SERVICE CALL WEEKEND AND HOLIDAY HOURS INCLUDE ALL EXPENSES (TRAVEL, MILEAGE, FOOD LODGING, PARKING, FUEL, LABOR, NEXT DAY SERVICE PARTS SHIPPING COSTS/DELIVERY FEES.)	20.0000	HR	<u>\$440⁰⁰</u>	<u>\$440⁰⁰</u>
6	MISC NON CORE XRF EQUIPMENT PERCENT OF DISCOUNT OFF RETAIL PRICE LIST FOR PARTS, ACCESSORIES, WARRANTIES, SERVICE MAINTENANCE PLANS, SOFTWARE, HARDWARE, AND FIRMWARE (EXCLUDING CORE ITEMS)			<u>3.5</u>	%
OPTIONAL ITEMS					
7	HOURLY RATE FOR REMOTE METHOD DEVELOPMENT THAT EXCEEDS THE NO CHARGE 40 HOURS ASSISTANCE	20.0000	HR	<u>\$275⁰⁰</u>	<u>\$5,500⁰⁰</u>
8	HOURLY RATE FOR ON-SITE METHOD DEVELOPMENT THAT EXCEEDS THE NO CHARGE 40 HOURS ASSISTANCE SHALL INCLUDE ALL EXPENSES (TRAVE, MILEAGE, FOOD, LODGING, PARKING, FUEL, LABOR) ASSOCIATED WITH THE METHOD DEVDPLOPMENT RATE.	20.0000	HR	<u>\$400⁰⁰</u>	<u>\$8,000⁰⁰</u>

I. PROCUREMENT PROCEDURE

A. GENERAL INFORMATION

The ITB is designed to solicit bids from qualified Bidders who will be responsible for providing **Sequential XRF Spectrometer Equipment with External Water Recirculating System for Nebraska Department of Transportation (NDOT) Materials and Research Division** at a competitive and reasonable cost. A detailed description can be found in Section VI. – Invitation to Bid Technical Specifications.

Bids shall conform to all instructions, conditions, and requirements included in the ITB. Prospective Bidders are expected to carefully examine all documents, schedules, and requirements in this ITB, and respond to each requirement in the format prescribed. Bids may be found non-responsive if they do not conform to the ITB.

B. PROCURING OFFICE AND COMMUNICATION WITH STATE STAFF AND EVALUATORS

Procurement responsibilities related to this ITB reside with the SPB. The point of contact (POC) for the procurement is as follows:

Name: René A. Botts
Agency: State Purchasing Bureau
Address: 1526 K Street, Suite 130
Lincoln, NE 68508
Telephone: 402-471-6500

E-Mail: as.materielpurchasing@nebraska.gov

C. COMMUNICATION WITH STATE STAFF

From the date the ITB is issued until the Intent to Award is issued communication from the Bidder is limited to communication with the State Purchasing Bureau (SPB). Only SPB is empowered to make binding statements regarding this ITB. SPB will issue any clarifications or opinions regarding this ITB in writing. Only SPB can modify the ITB, answer questions, render opinions, and only the SPB can award a contract. Bidders shall not have any communication with, or attempt to communicate or influence any evaluator involved in this ITB. After the intent to award is issued the Bidder may communicate with individuals the State has designated as responsible for negotiating the contract on behalf of the State.

The following exceptions to these restrictions are permitted:

1. Contact made pursuant to pre-existing contracts or obligations;
2. Contact required by the schedule of events or an event scheduled later by the SPB; and
3. Contact required for negotiation and execution of the final contract.

Violation of these conditions may be cause to reject a Bidder's bid and/or withdraw an Intent to Award, or terminate a contract if the State determines there has been a violation of these procurement procedures.

D. SCHEDULE OF EVENTS

The State expects to adhere to the procurement schedule shown below, but all dates are approximate and subject to change.

ACTIVITY		DATE/TIME
1.	Release ITB	December 11, 2018
2.	Last day to submit written questions	December 19, 2018
3.	State responds to written questions through ITB "Addendum" and/or "Amendment" to be posted to the Internet at: http://das.nebraska.gov/materiel/purchasing.html	December 21, 2018
4.	Bid opening Location: State Purchasing Bureau 1526 K Street, Suite 130 Lincoln, NE 68508	January 10, 2019 2:00 PM Central Time
5.	Review for conformance of mandatory requirements	TBA
6.	Evaluation period	TBA
7.	Post "Letter of Intent to Award" to Internet at: http://das.nebraska.gov/materiel/purchasing.html	TBA

ACTIVITY		DATE/TIME
8.	Contract finalization period	TBA
9.	Contract award	TBA
10.	Contractor start date	TBA

E. WRITTEN QUESTIONS AND ANSWERS

Questions regarding the meaning or interpretation of any ITB provision must be submitted in writing to the SPB and clearly marked "ITB Number 5987 OF; XRF Spectrometer Equipment with External Water Recirculating System for Nebraska Department of Transportation (NDOT) Materials and Research Division Questions". SPB is not obligated to respond to questions that are received late per the Schedule of Events.

Bidders should present, as questions, any assumptions upon which the Bidder's bid is or might be developed. Bids will be evaluated without consideration of any known or unknown assumptions of a Bidder. The contract will not incorporate any known or unknown assumptions of a Bidder.

It is preferred that questions be sent via e-mail to as.materiel purchasing@nebraska.gov, but may be delivered by hand or by U.S. Mail. It is recommended that Bidders submit questions using the following format.

ITB Section Reference	ITB Page Number	Question

Written answers will be posted at <http://das.nebraska.gov/materiel/purchasing.html> per the Schedule of Events.

F. RECYCLING (§ 81-15,159(d)(2))

Preference will be given to items which are manufactured or produced from recycled material or which can be readily reused or recycled after their normal use. Preference will also be given to purchases of corn-based biodegradable plastics and road deicers if available and suitable. No preference shall be given if such preference would result in the purchase of products, materials, or supplies that are of inadequate quality or of substantially higher cost.

G. SECRETARY OF STATE/TAX COMMISSIONER REGISTRATION REQUIREMENTS (Statutory)

All Bidders must be authorized to transact business in the State and comply with all Nebraska Secretary of State Registration requirements. The Bidder who is the recipient of an Intent to Award will be required to certify that it has complied and produce a true and correct copy of its current (within ninety (90) calendar days of the intent to award) Certificate or Letter of Good Standing, or in the case of a sole proprietorship, provide written documentation of sole proprietorship and the United States Citizenship Attestation Form, available on the DAS website at <http://das.nebraska.gov/materiel/purchasing.html>. This must be accomplished prior to execution of the contract.

H. ETHICS IN PUBLIC CONTRACTING

The State reserves the right to reject bids, withdraw an intent to award or award, or terminate a contract if a Bidder commits or has committed ethical violations, which include, but are not limited to:

1. Offering or giving, directly or indirectly, a bribe, fee, commission, compensation, gift, gratuity, or anything of value to any person or entity in an attempt to influence the bidding process;
2. Utilize the services of lobbyists, attorneys, political activists, or consultants to influence or subvert the bidding process;
3. Being considered for, presently being, or becoming debarred, suspended, ineligible, or excluded from contracting with any state or federal entity;
4. Submitting a bid on behalf of another party or entity;
5. Collude with any person or entity to influence the bidding process, submit sham bids, preclude bidding, fix pricing or costs, create an unfair advantage, subvert the bid, or prejudice the State,

The Bidder shall include this clause in any subcontract entered into for the exclusive purpose of performing this contract.

Bidder shall have an affirmative duty to report any violations of this clause by the Bidder throughout the bidding process, and throughout the term of this contract for the successful Bidder and their subcontractors.

I. SPECIFICATIONS

Any manufacturer's names, trade names, brand names, information and/or catalog numbers listed in a specification are for reference and not intended to limit competition, but will be used as the standard by which equivalent material offered will be judged. The Materiel Administrator will be the sole judge of equivalency. The Bidder may offer any brands which meets or exceeds the specification. When a specific product is required, the ITB will so state. Any item bid is to be the latest current model under standard production at the time of order. No used or refurbished equipment will be accepted, unless otherwise stated.

J. SAMPLES

When requested, samples shall be furnished at the Bidder's expense prior to the opening of the bid, unless otherwise specified. Each sample must be labeled clearly and identify the Bidder's name, the ITB number and the item number. Samples submitted must be representative of the commodities or equipment which would be delivered if awarded the bid. The State reserves the right to request samples even though this may not have been set forth in the ITB. Samples not destroyed in testing will be returned at Bidder's expense, if requested, or will be donated to a public institution.

K. BID PREPARATION COSTS

The State shall not incur any liability for any costs incurred by Bidders in replying to this ITB, including any activity related to bidding on this ITB.

L. DISCOUNTS

Prices quoted shall be inclusive of ALL trade discounts. Cash discount terms of less than thirty (30) days will not be considered as part of the bid. Cash discount periods will be computed from the date of receipt of a properly executed claim voucher or the date of completion of delivery of all items in a satisfactory condition, whichever is later.

M. PRICES

All prices, costs, and terms and conditions outlined in the bid shall remain fixed and valid commencing on the opening date of the bid until award of the contract or the ITB is cancelled. Prices quoted on the ITB form or Cost Sheet shall remain fixed for one (1) year of the contract period. Any request for a price increase subsequent to the one (1) year must be submitted in writing to the SPB for approval, and be accompanied by documentation justifying the price increase. These documents include, but are not limited to: 1) invoices for physical components of contracted item(s) Further documentation may be required by the State to justify the increase. The State reserves the right to deny any requested price increase. No price increases are to be billed to any State Agencies prior to written amendment of the contract by the parties.

The State reserves the right to deny any requested price increase. No price increases are to be billed to any State Agencies prior to written amendment of the contract by the parties.

N. DEVIATIONS FROM THE INVITATION TO BID

The requirements contained in the ITB (Sections II. through VI.) become a part of the terms and conditions of the contract resulting from this ITB. Any deviations from the ITB in Section II. through VI. must be clearly defined by the Bidder in its bid and, if accepted by the State, will become part of the contract. Any specifically defined deviations must not be in conflict with the basic nature of the ITB, mandatory requirements, or applicable state or federal laws or statutes. "Deviation", for the purposes of this ITB, means any proposed changes or alterations to either the contractual language or deliverables within the scope of this ITB. The State discourages deviations and reserves the right to reject proposed deviations.

O. ALTERNATE/EQUIVALENT BIDS

Bidder may offer bids which are at variance from the express specifications of the ITB. The State reserves the right to consider and accept such bids if, in the judgment of the Materiel Administrator, the bid will result in goods and/or services equivalent to or better than those which would be supplied in the original bid specifications. Bidders must indicate on the ITB the manufacturer's name, number and shall submit with their bid, sketches, descriptive literature and/or complete specifications. Reference to literature submitted with a previous bid will not satisfy this provision. Bids which do not comply with these requirements are subject to rejection. In the absence of any stated deviation or exception, the bid will be accepted as in strict compliance with all terms, conditions and specification, and the Bidder shall be held liable therefore.

P. LUMP SUM OR 'ALL OR NONE' BIDS

The State reserves the right to purchase item-by-item, by groups or as a total when the State may benefit by so doing. Bidders may submit a bid on an "all or none" or "lump sum" basis, but should also submit a bid on an item-by-item basis. The term "all or none" means a conditional bid which requires the purchase of all items on which bids are offered and Bidder declines to accept award on individual items; a "lump sum" bid is one in which the Bidder offers a lower price than the sum of the individual bids if all items are purchased, but agrees to deliver individual items at the prices quoted.

Q. BID REQUIREMENTS

The bids will first be examined to determine if all requirements listed below have been addressed and whether further evaluation is warranted. Bids not meeting the requirements may be rejected as non-responsive. The requirements are:

1. Original Commodity ITB form signed using an indelible method (electronic signatures are not acceptable);
2. Clarity and responsiveness of the bid;
3. Completed Sections II. through VI. ;
4. Completed ITB Form or State's Bid Sheet.

R. FAILURE TO COMPLY WITH INVITATION TO BID

Violation of the terms and conditions contained in this ITB or any resultant contract, at any time before or after the award, shall be grounds for action by the State which may include, but is not limited to, the following:

1. Rejection of a Bidder's bid;
2. Withdrawal of the Intent to Award;
3. Withdrawal of the Award;
4. Termination of the resulting contract;
5. Legal action; or,
6. Suspension of the Bidder from further bidding with the State for the period of time relative to the seriousness of the violation, such period to be within the sole discretion of the State.

S. SUBMISSION OF BIDS

*******ALL BIDS MUST BE SUBMITTED IN A SEALED ENVELOPE OR CONTAINER!*******

Only one (1) original bid shall be submitted. Each bid should be in a separate envelope or container. Bid responses should include the completed Form A, "Bidder Contact Sheet". Bids must reference the ITB number and be sent to the specified address. Please note that the address label should appear as specified below, on the face of each container or Bidder's bid response packet. The ITB number must be included in all correspondence.

Name: René A. Botts
Agency: State Purchasing Bureau
Address: 1526 K Street, Suite 130
Lincoln, NE 68508
Telephone: 402-471-6500

E-Mail: as.materielpurchasing@nebraska.gov

If a recipient phone number is required for delivery purposes, 402-471-6500 should be used.

Emphasis should be concentrated on conformance to the ITB instructions, responsiveness to requirements, completeness, and clarity of content. If the Bidder's bid is presented in such a fashion that makes evaluation difficult or overly time consuming the State reserves the right to reject the bid as non-conforming.

Sealed bids must be received in the State Purchasing Bureau by the date and time of the bid opening per the Schedule of Events. No late bids will be accepted.

It is the responsibility of the bidder to check the website for all information relevant to this solicitation to include addenda and/or amendments issued prior to the opening date. Website address is as follows: <http://das.nebraska.gov/materiel/purchasing.html>

By signing the "ITB" form, the Bidder guarantees compliance with the provisions stated in this ITB.

T. EMAIL SUBMISSIONS

The SPB will not accept bids by email except for one-time purchases under \$50,000.00. .

U. BID CORRECTIONS

A bidder may correct a mistake in a bid prior to the time of opening by giving written notice to the State of intent to withdraw the bid for modification or to withdraw the bid completely. Changes in a bid after opening are acceptable only if the change is made to correct a minor error that does not affect price, quantity, quality, delivery, or contractual conditions. In case of a mathematical error in extension of price, unit price shall govern.

V. LATE BIDS

Bids received after the time and date of the bid opening will be considered late bids. Late bids will be returned unopened, if requested by the Bidder and at Bidder's expense. The State is not responsible for bids that are late or lost regardless of cause or fault.

W. BID OPENING

Anyone may attend the opening. It is considered a public opening. The Buyer will read the names of the respondents. Depending upon the complexity of the bid, the buyer may read the bids aloud or allow bids be available for viewing by the public during the bid opening. Once the bid opening has concluded, the bids will not be available for viewing until the Intent to Award has been posted. An initial bid tabulation will be posted to the website as soon as feasible. Information identified as proprietary by the submitting vendor, in accordance with the RFP/ITB and state statute, will not be posted. If the state determines submitted information should not be withheld, in accordance with the [Public Records Act](#), or if ordered to release any withheld information, said information may then be released. The submitting bidder will be notified of the release and it shall be the obligation of the submitting bidder to take further action, if it believes the information should not be released.

X. BID TABULATIONS

Bid tabulations are available on the website at: <http://www.das.state.ne.us/materiel/purchasing/bidtabs.htm>.

Y. BEST AND FINAL OFFER

The State reserves the right to request Best and Final Offers. However, a Bidder should provide its best offer in its original bid. Bidders should not expect that the State will request a best and final offer.

Z. REFERENCE AND CREDIT CHECKS

The State reserves the right to conduct and consider reference and credit checks. Reference or credit checks may be grounds to reject a bid, or withdraw an intent to award or award of a contract. The State reserves the right to use third parties to conduct reference and credit checks.

AA. REJECTION OF BIDS

The State reserves the right to reject any or all bids, wholly or in part, in the best interest of the State.

BB. RESIDENT BIDDER

Pursuant to Neb. Rev. Stat. §§ 73-101.01 through 73-101.02, a Resident Bidder shall be allowed a preference against a Non-resident Bidder from a state which gives or requires a preference to Bidders from that state. The preference shall be equal to the preference given or required by the state of the Nonresident Bidders. Where the lowest responsible bid from a resident Bidder is equal in all respects to one from a nonresident Bidder from a state which has no preference law, the resident Bidder shall be awarded the contract. The provision of this preference shall not apply to any contract for any project upon which federal funds would be withheld because of the provisions of this preference.

CC. AWARD

All purchases, leases, or contracts which are based on competitive bids will be awarded according to the provisions in the ITB. The State reserves the right to reject any or all bids, in whole or in part, or to award to multiple Bidders in whole or in part, and at its discretion, may withdraw or amend the ITB at any time. The State reserves the right to waive any deviations or errors that are not material, do not invalidate the legitimacy of the bid, and do not improve the Bidder's competitive position. All awards will be made in a manner deemed in the best interest of the State. The ITB does not commit the State to award a contract. If, in the opinion of the State, revisions or amendments will require substantive changes in bids, the bid opening date may be extended.

By submitting a bid in response to this ITB, the Bidder grants to the State the right to contact or arrange a visit in person with any or all of the Bidder's clients.

Once the Intent to Award decision has been made, an Intent to Award will be posted to the Internet at:

<http://das.nebraska.gov/materiel/purchasing.html>

The protest procedure is available on the Internet at:

[http://das.nebraska.gov/materiel/purchase_bureau/docs/vendors/protest/ProtestGrievanceProcedureForVendors%20\(2\).pdf](http://das.nebraska.gov/materiel/purchase_bureau/docs/vendors/protest/ProtestGrievanceProcedureForVendors%20(2).pdf)

Any protests must be filed by a vendor within ten (10) business days after the Intent to Award is posted to the Internet.

The State reserves the right to award contracts in a manner, and utilizing methods, selected in the State's best interest and discretion. The State may waive informalities or irregularities in bids if the waiver is in the best interest of the

State and such waiver does not prejudice other Bidders in the State's discretion. After evaluation of the bids, the State may take, in the State's discretion, one or more of the following actions:

Accept or reject a portion of or all of a bid;
Accept or reject all bids;
Withdraw the ITB;
Elect to rebid the ITB;
Award single lines or multiple lines to one or more Bidders; or,
Award one or more complete contracts.

The State reserves the right to make awards that are in the best interest of the State. The State may consider, but is not limited to, one (1) or more of the following award criteria:

Price;
Location;
Quality;
Delivery time; and,
State contract management requirements and/or costs.

II. TERMS AND CONDITIONS

Bidders should complete Section II. through VI. as part of their bid. Bidder is expected to read the Terms and Conditions and must initial either accept, reject, or reject and provide alternative language for each clause. The Bidder should also provide an explanation of why the Bidder rejected the clause or rejected the clause and provided alternate language using 'Track Changes'. Upon request an electronic copy of the bid with 'Track Changes' must be submitted in an editable Word format. By signing the ITB Bidder is agreeing to be legally bound by all the accepted terms and conditions, and any proposed alternative terms and conditions submitted with the bid. The State reserves the right to negotiate rejected or proposed alternative language. If the State and Bidder fail to agree on the final Terms and Conditions, the State reserves the right to reject the bid. The State is soliciting bids in response to the ITB. The State reserves the right to reject bids that attempt to substitute the Bidder's commercial contracts and/or documents for this ITB.

The Bidder should submit with their bid any license, user agreement, service level agreement, or similar documents that the Bidder wants incorporated in the Contract. Upon notice of Intent to Award, the Bidder must submit a copy of these documents in an editable Word format. The State will not consider incorporation of any document not submitted with the Bidder's bid. These documents shall be subject to negotiation and will be incorporated as addendums if agreed to by the Parties.

If a conflict or ambiguity arises after the addendums have been negotiated and agreed to, the addendums shall be interpreted as follows:

1. If only one (1) Party's document has a particular clause then that clause shall control;
2. If both Party's documents have a similar clause, but the clauses do not conflict, the clauses shall be read together;
3. If both Party's documents have a similar clause, but the clauses conflict, the State's clause shall control.

A. GENERAL

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

The contract resulting from this ITB shall incorporate the following documents:

1. Invitation to Bid and Addenda;
2. Amendments to the ITB;
3. Questions and Answers;
4. Contractor's bid (ITB);
5. Award;
6. The executed Contract and any Addenda; and,
7. Amendments to the Contract

These documents constitute the entirety of the contract.

Unless otherwise specifically stated in a future contract amendment, in case of any conflict between the incorporated documents, the documents shall govern in the following order of preference with number one (1) receiving preference over all other documents and with each lower numbered document having preference over any higher numbered document: 1) Amendment to the executed Contract with the most recent dated amendment having the highest priority, 2) executed Contract and any attached Addenda, 3) Amendments to ITB and any Questions and Answers, 4) the original ITB document and any Addenda, and 5) the Contractor's submitted Bid.

Any ambiguity or conflict in the contract discovered after its execution, not otherwise addressed herein, shall be resolved in accordance with the rules of contract interpretation as established in the State.

B. NOTIFICATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

C. NOTICE (POC)

The State reserves the right to appoint a Buyer's Representative to manage [or assist the Buyer in managing] the contract on behalf of the State. The Buyer's Representative will be appointed in writing, and the appointment document will specify the extent of the Buyer's Representative authority and responsibilities. If a Buyer's Representative is appointed, the Contractor will be provided a copy of the appointment document, and is expected to cooperate accordingly with the Buyer's Representative. The Buyer's Representative has no authority to bind the State to a contract, amendment, addendum, or other change or addition to the contract.

D. GOVERNING LAW

Notwithstanding any other provision of this contract, or any amendment or addendum(s) entered into contemporaneously or at a later time, the parties understand and agree that, (1) the State of Nebraska is a sovereign state and its authority to contract is therefore subject to limitation by the State's Constitution, statutes, common law, and regulation; (2) this contract will be interpreted and enforced under the laws of the State of Nebraska; (3) any action to enforce the provisions of this agreement must be brought in the State of Nebraska per state law; (4) the person signing this contract on behalf of the State of Nebraska does not have the authority to waive the State's sovereign immunity, statutes, common law, or regulations; (5) the indemnity, limitation of liability, remedy, and other similar provisions of the final contract, if any, are entered into subject to the State's Constitution, statutes, common law, regulations, and sovereign immunity; and, (6) all terms and conditions of the final contract, including but not limited to the clauses concerning third-party use, licenses, warranties, limitations of liability, governing law and venue, usage verification, indemnity, liability, remedy or other similar provisions of the final contract are entered into specifically subject to the State's Constitution, statutes, common law, regulations, and sovereign immunity.

The Parties must comply with all applicable local, state and federal laws, ordinances, rules, orders, and regulations.

E. BEGINNING OF WORK

The Contractor shall not commence any billable work until a valid contract has been fully executed by the State and the successful Contractor. The Contractor will be notified in writing when work may begin.

F. CHANGE ORDERS OR SUBSTITUTIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

The State and the Contractor, upon the written agreement, may make changes to the contract within the general scope of the ITB. Changes may involve specifications, the quantity of work, or such other items as the State may find necessary or desirable. Corrections of any deliverable, service, or work required pursuant to the contract shall not be deemed a change. The Contractor may not claim forfeiture of the contract by reasons of such changes.

The State or Contractor may prepare a written description of the work required due to the change and the Contractor shall prepare an itemized cost sheet for the change. Changes in work and the amount of compensation to be paid to the Contractor shall be determined in accordance with applicable unit prices if any, a pro-rated value, or through negotiations. The State shall not incur a price increase for changes that should have been included in the Contractor's bid, were foreseeable, or result from difficulties with or failure of the Contractor's bid or performance.

No change shall be implemented by the Contractor until approved by the State, and the Contract is amended to reflect the change and associated costs, if any. If there is a dispute regarding the cost, but both parties agree that immediate implementation is necessary, the change may be implemented, and cost negotiations may continue with both Parties retaining all remedies under the contract and law.

Vendor will not substitute any item that has been awarded without prior written approval of SPB.

G. BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

Either Party may terminate the contract, in whole or in part, if the other Party breaches its duty to perform its obligations under the contract in a timely and proper manner. Termination requires written notice of default and a thirty (30) calendar day (or longer at the non-breaching Party's discretion considering the gravity and nature of the default) cure period. Said notice shall be delivered by Certified Mail, Return Receipt Requested, or in person with proof of delivery. Allowing time to cure a failure or breach of contract does not waive the right to immediately terminate the contract for the same or different contract breach which may occur at a different time.

In case of breach by the Contractor, the State may, without unreasonable delay, make a good faith effort to make a reasonable purchase or contract to purchased goods in substitution of those due from the contractor. The State may recover from the Contractor as damages the difference between the costs of covering the breach. Notwithstanding any clause to the contrary, the State may also recover the contract price together with any incidental or consequential damages defined in UCC Section 2-715, but less expenses saved in consequence of Contractor's breach.

The State's failure to make payment shall not be a breach, and the Contractor shall retain all available statutory remedies. (See Indemnity - Self-Insurance and Payment)

H. NON-WAIVER OF BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

The acceptance of late performance with or without objection or reservation by a Party shall not waive any rights of the Party nor constitute a waiver of the requirement of timely performance of any obligations remaining to be performed.

I. SEVERABILITY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
SB			

If any term or condition of the contract is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the contract did not contain the provision held to be invalid or illegal.

**Addendum 1 to State of Nebraska Purchasing Bureau Solicitation No. 5987 OF
Sequential XRF Spectrometer Equipment with External Water Recirculating System**

Section II. Terms and Conditions.

Vendor requests the addition of the following clauses to Section J, Indemnification:

5. Save in respect of liability arising from Contractor's fraud, fraudulent representation or related to death or personal injury to the extent such is caused by the Contractor's negligence and only to the maximum extent allowed under applicable law, in no event shall Contractor's liability to the State or any third party for any and all claims arising out of or related to Items or Services or otherwise relating to this agreement, whether in contract, tort (including negligence), strict product liability or otherwise, exceed \$1,000,000.

To the maximum extent allowed by applicable law, in no event, regardless of the form of action (whether in contract, tort (including negligence), strict product liability or otherwise), shall Contractor be liable for any special, indirect, incidental, consequential, punitive or exemplary losses or damages arising out of the sale of Items or Services to the State or otherwise arising out of this Agreement, including, but not limited to, losses or damages arising out of claims for loss of use, business, goodwill, or profits, regardless of whether such claims, losses, or damages were reasonably foreseeable to the State or Contractor

J. INDEMNIFICATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
		JB See Addendum	mp accepts Section J 1-4 with the addition of "5". See Addendum 1 for proposed additional Language.

1. GENERAL

The Contractor agrees to defend, indemnify, and hold harmless the State and its employees, volunteers, agents, and its elected and appointed officials ("the indemnified parties") from and against any and all claims, liens, demands, damages, liability, actions, causes of action, losses, judgments, costs, and expenses of every nature, including investigation costs and expenses, settlement costs, and attorney fees and expenses ("the claims"), sustained or asserted against the State for personal injury, death, or property loss or damage, arising out of, resulting from, or attributable to the willful misconduct, negligence, error, or omission of the Contractor, its employees, Subcontractors, consultants, representatives, and agents, resulting from this contract, except to the extent such Contractor liability is attenuated by any action of the State which directly and proximately contributed to the claims.

2. INTELLECTUAL PROPERTY

The Contractor agrees it will, at its sole cost and expense, defend, indemnify, and hold harmless the indemnified parties from and against any and all claims, to the extent such claims arise out of, result from, or are attributable to, the actual or alleged infringement or misappropriation of any patent, copyright, trade secret, trademark, or confidential information of any third party by the Contractor or its employees, Subcontractors, consultants, representatives, and agents; provided, however, the State gives the Contractor prompt notice in writing of the claim. The Contractor may not settle any infringement claim that will affect the State's use of the Licensed Software without the State's prior written consent, which consent may be withheld for any reason.

If a judgment or settlement is obtained or reasonably anticipated against the State's use of any intellectual property for which the Contractor has indemnified the State, the Contractor shall, at the Contractor's sole cost and expense, promptly modify the item or items which were determined to be infringing, acquire a license or licenses on the State's behalf to provide the necessary rights to the State to eliminate the infringement, or provide the State with a non-infringing substitute that provides the State the same functionality. At the State's election, the actual or anticipated judgment may be treated as a breach of warranty by the Contractor, and the State may receive the remedies provided under this ITB.

3. PERSONNEL

The Contractor shall, at its expense, indemnify and hold harmless the indemnified parties from and against any claim with respect to withholding taxes, worker's compensation, employee benefits, or any other claim, demand, liability, damage, or loss of any nature relating to any of the personnel, including subcontractor's and their employees, provided by the Contractor.

4. SELF-INSURANCE (Statutory)

The State is self-insured for any loss and purchases excess insurance coverage pursuant to Neb. Rev. Stat. § 81-8,239.01 (Reissue 2008). If there is a presumed loss under the provisions of this agreement, Contractor may file a claim with the Office of Risk Management pursuant to Neb. Rev. Stat. §81-8,829 through 81-8,306 for review by the State Claims Board. The State retains all rights and immunities under the State Miscellaneous (Section 81-8,294), Tort (Section 81-8,209), and Contract Claim Acts (Section 81-8,302), as outlined in Neb. Rev. Stat. § 81-8,209 et seq. and under any other provisions of law and accepts liability under this agreement to the extent provided by law.

K. ATTORNEY'S FEES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

In the event of any litigation, appeal, or other legal action to enforce any provision of the contract, the Parties agree to pay all expenses of such action, as permitted by law and if order by the court, including attorney's fees and costs, if the other party prevails.

L. ASSIGNMENT, SALE, OR MERGER

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

Either party may assign the contract upon mutual written agreement of the other party. Such agreement shall not be unreasonably withheld.

The Contractor retains the right to enter into a sale, merger, acquisition, internal reorganization, or similar transaction involving Contractor's business. Contractor agrees to cooperate with the State in executing amendments to the contract to allow for the transaction. If a third party or entity is involved in the transaction, the Contractor will remain responsible for performance of the contract until such time as the person or entity involved in the transaction agrees in writing to be contractually bound by this contract and perform all obligations of the contract.

M. CONTRACTING WITH OTHER POLITICAL SUB-DIVISIONS OF THE STATE OR ANOTHER STATE

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

The Contractor may, but shall not be required to, allow agencies, as defined in Neb. Rev. Stat. §81-145, to use this contract. The terms and conditions, including price, of the contract may not be amended. The State shall not be contractually obligated or liable for any contract entered into pursuant to this clause.

The Contractor may, but shall not be required to, allow other states, agencies or divisions of other states, or political subdivisions of other states to use this contract. The terms and conditions, including price, of this contract shall apply to any such contract, but may be amended upon mutual consent of the Parties. The State of Nebraska shall not be contractually or otherwise obligated or liable under any contract entered into pursuant to this clause. The State shall be notified if a contract is executed based upon this contract.

N. FORCE MAJEURE

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

Neither party shall be liable for any costs or damages, or for default resulting from its inability to perform any of its obligations under the contract due to a natural or manmade event outside the control and not the fault of the affected party ("Force Majeure Event"). The Party so affected shall immediately make a written request for relief to the other party, and shall have the burden of proof to justify the request. The other Party may granted the relief requested; relief may not be unreasonably withheld. Labor disputes with the impacted party's own employees will not be considered a Force Majeure Event.

O. CONFIDENTIALITY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

All materials and information provided by the Parties or acquired by a Party on behalf of the other Party shall be regarded as confidential information. All materials and information provided or acquired shall be handled in accordance with federal and state law, and ethical standards. Should said confidentiality be breached by a Party, the Party shall notify the other Party immediately of said breach and take immediate corrective action.

It is incumbent upon the Parties to inform their officers and employees of the penalties for improper disclosure imposed by the Privacy Act of 1974, 5 U.S.C. 552a. Specifically, 5 U.S.C. 552a (i)(1), which is made applicable by 5 U.S.C. 552a (m)(1), provides that any officer or employee, who by virtue of his/her employment or official position has possession of or access to agency records which contain individually identifiable information, the disclosure of which is prohibited by the Privacy Act or regulations established thereunder, and who knowing that disclosure of the specific material is prohibited, willfully discloses the material in any manner to any person or agency not entitled to receive it, shall be guilty of a misdemeanor and fined not more than \$5,000.

P. EARLY TERMINATION

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
B			

The contract may be terminated as follows:

1. The State and the Contractor, by mutual written agreement, may terminate the contract at any time.
2. The State, at its sole discretion, may terminate the contract for any reason upon thirty (30) calendar day's written notice to the Contractor. Such termination shall not relieve the Contractor of warranty or other service obligations incurred under the terms of the contract. In the event of termination the Contractor shall be entitled to payment, determined on a pro rata basis, for products or services satisfactorily performed or provided.
3. The State may terminate the contract immediately for the following reasons:
 - a. if directed to do so by statute;
 - b. Contractor has made an assignment for the benefit of creditors, has admitted in writing its inability to pay debts as they mature, or has ceased operating in the normal course of business;
 - c. a trustee or receiver of the Contractor or of any substantial part of the Contractor's assets has been appointed by a court;
 - d. fraud, misappropriation, embezzlement, malfeasance, misfeasance, or illegal conduct pertaining to performance under the contract by its Contractor, its employees, officers, directors, or shareholders;
 - e. an involuntary proceeding has been commenced by any party against the Contractor under any one of the chapters of Title 11 of the United States Code and (i) the proceeding has been pending for at least sixty (60) calendar days; or (ii) the Contractor has consented, either expressly or by operation of law, to the entry of an order for relief; or (iii) the Contractor has been decreed or adjudged a debtor;
 - f. a voluntary petition has been filed by the Contractor under any of the chapters of Title 11 of the United States Code;
 - g. Contractor intentionally discloses confidential information;
 - h. Contractor has or announces it will discontinue support of the deliverable; and,
 - i. In the event funding is no longer available.

Q. CONTRACT CLOSEOUT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

Upon termination of the contract for any reason the Contractor shall within thirty (30) days, unless stated otherwise herein:

1. Transfer all completed or partially completed deliverables to the State;
2. Transfer ownership and title to all completed or partially completed deliverables to the State;
3. Return to the State all information and data, unless the Contractor is permitted to keep the information or data by contract or rule of law. Contractor may retain one copy of any information or data as required to comply with applicable work product documentation standards or as are automatically retained in the course of Contractor's routine back up procedures;
4. Cooperate with any successor contractor, person or entity in the assumption of any or all of the obligations of this contract;
5. Cooperate with any successor contractor, person or entity with the transfer of information or data related to this contract;
6. Return or vacate any state owned real or personal property;

Nothing in this Section should be construed to require the Contractor to surrender intellectual property, real or person property, or information or data owned by the Contractor for which the State has no legal claim.

III. CONTRACTOR DUTIES

A. INDEPENDENT CONTRACTOR / OBLIGATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

It is agreed that the Contractor is an independent contractor and that nothing contained herein is intended or should be construed as creating or establishing a relationship of employment, agency, or a partnership.

The Contractor is solely responsible for fulfilling the contract. The Contractor or the Contractor's representative shall be the sole point of contact regarding all contractual matters.

The Contractor shall secure, at its own expense, all personnel required to perform the services under the contract. The personnel the Contractor uses to fulfill the contract shall have no contractual or other legal relationship with the State; they shall not be considered employees of the State and shall not be entitled to any compensation, rights or benefits from the State, including but not limited to, tenure rights, medical and hospital care, sick and vacation leave, severance pay, or retirement benefits.

By-name personnel commitments made in the Contractor's bid shall not be changed without the prior written approval of the State. Replacement of these personnel, if approved by the State, shall be with personnel of equal or greater ability and qualifications.

The Contractor warrants that all persons assigned to the project shall be employees of the Contractor or a Subcontractor, and shall be fully qualified to perform the work required herein. Personnel employed by the Contractor or a subcontractor to fulfill the terms of the contract shall remain under the sole direction and control of the Contractor or the subcontractor respectively.

With respect to its employees, the Contractor agrees to be solely responsible for the following:

1. Any and all pay, benefits, and employment taxes and/or other payroll withholding;
2. Any and all vehicles used by the Contractor's employees, including all insurance required by state law;
3. Damages incurred by Contractor's employees within the scope of their duties under the contract;
4. Maintaining Workers' Compensation and health insurance that complies with state and federal law and submitting any reports on such insurance to the extent required by governing law;
5. Determining the hours to be worked and the duties to be performed by the Contractor's employees; and,
6. All claims on behalf of any person arising out of employment or alleged employment (including without limit claims of discrimination alleged against the Contractor, its officers, agents, or subcontractors or subcontractor's employees).

If the Contractor intends to utilize any subcontractor, the Subcontractor's level of effort, tasks, and time allocation must be clearly defined in the Contractor's bid. The Contractor shall agree that it will not utilize any Subcontractors not specifically included in its bid in the performance of the contract without the prior written authorization of the State.

The State reserves the right to require the Contractor to reassign or remove from the project any Contractor or Subcontractor employee.

Contractor shall insure that the terms and conditions contained in any contract with a sub-contractor does not conflict with the terms and conditions of this contract.

The Contractor shall include a similar provision, for the protection of the State, in the contract with any Subcontractor engaged to perform work on this contract.

B. EMPLOYEE WORK ELIGIBILITY STATUS

The Contractor is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of employees physically performing work within the State. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal

program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of an employee.

If the Contractor is an individual or sole proprietorship, the following applies:

1. The Contractor must complete the United States Citizenship Attestation Form, available on the DAS website at <http://das.nebraska.gov/materiel/purchasing.html>

The completed United States Attestation Form should be submitted with the ITB response.

2. If the Contractor indicates on such attestation form that he or she is a qualified alien, the Contractor agrees to provide the U.S. Citizenship and Immigration Services documentation required to verify the Contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program.
3. The Contractor understands and agrees that lawful presence in the United States is required and the Contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. § 4-108.

C. COMPLIANCE WITH CIVIL RIGHTS LAWS AND EQUAL OPPORTUNITY EMPLOYMENT / NONDISCRIMINATION (Statutory)

The Contractor shall comply with all applicable local, state, and federal statutes and regulations regarding civil rights laws and equal opportunity employment. The Nebraska Fair Employment Practice Act prohibits Contractors of the State, and their Subcontractors, from discriminating against any employee or applicant for employment, with respect to hire, tenure, terms, conditions, compensation, or privileges of employment because of race, color, religion, sex, disability, marital status, or national origin (Neb. Rev. Stat. §48-1101 through 48-1125). The Contractor guarantees compliance with the Nebraska Fair Employment Practice Act, and breach of this provision shall be regarded as a material breach of contract. The Contractor shall insert a similar provision in all Subcontracts for goods or services to be covered by any contract resulting from this ITB.

D. COOPERATION WITH OTHER CONTRACTORS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

Contractor may be required to work with or in close proximity to other contractors or individuals that may be working on the same or different projects. The Contractor shall agree to cooperate with such other contractors or individuals, and shall not commit or permit any act which may interfere with the performance of work by any other contractor or individual. Contractor is not required to compromise Contractor's intellectual property or proprietary information unless expressly required to do so by this contract.

E. PERMITS, REGULATIONS, LAWS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

The contract price shall include the cost of all royalties, licenses, permits, and approvals, whether arising from patents, trademarks, copyrights or otherwise, that are in any way involved in the contract. The Contractor shall obtain and pay for all royalties, licenses, and permits, and approvals necessary for the performance of the contract. The Contractor must guarantee that it has the full legal right to the materials, supplies, equipment, software, and other items used to execute this contract.

F. OWNERSHIP OF INFORMATION AND DATA / DELIVERABLES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

The State shall have the unlimited right to publish, duplicate, use, and disclose all information and data developed or obtained by the Contractor on behalf of the State pursuant to this contract.

G. NOTICE OF POTENTIAL CONTRACTOR BREACH

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

If Contractor breaches the contract or anticipates breaching the contract the Contractor shall immediately give written notice to the State. The notice shall explain the breach or potential breach, and may include a request for a waiver of the breach if so desired. The State may, at its discretion, temporarily or permanently waive the breach. By granting a temporary waiver, the State does not forfeit any rights or remedies to which the State is entitled by law or equity, or pursuant to the provisions of the contract. Failure to give immediate notice, however, may be grounds for denial of any request for a waiver of a breach.

H. ANTITRUST

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

The Contractor hereby assigns to the State any and all claims for overcharges as to goods and/or services provided in connection with this contract resulting from antitrust violations which arise under antitrust laws of the United States and the antitrust laws of the State.

I. CONFLICT OF INTEREST

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

By submitting a bid, Contractor certifies that there does not now exist a relationship between the Contractor and any person or entity which is or gives the appearance of a conflict of interest related to this ITB or project.

The Contractor certifies that it shall not take any action or acquire any interest, either directly or indirectly, which will conflict in any manner or degree with the delivery of its goods hereunder or which creates an actual or an appearance of conflict of interest.

The Contractor certifies that it will not employ any individual known by Contractor to have a conflict of interest.

The Parties shall not knowingly, for a period of two years after execution of the contract, recruit or employ any employee or agent of the other Party who has worked on the ITB or project, or who had any influence on decisions affecting the ITB or project.

J. STATE PROPERTY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

The Contractor shall be responsible for the proper care and custody of any State-owned property which is furnished for the Contractor's use during the performance of the contract. The Contractor shall reimburse the State for any loss or damage of such property; normal wear and tear is expected.

K. SITE RULES AND REGULATIONS

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

The Contractor shall use its best efforts to ensure that its employees, agents, and Subcontractors comply with site rules and regulations while on State premises. If the Contractor must perform on-site work outside of the daily operational hours set forth by the State, it must make arrangements with the State to ensure access to the facility and the equipment has been arranged. No additional payment will be made by the State on the basis of lack of access, unless the State fails to provide access as agreed to in writing between the State and the Contractor.

L. ADVERTISING

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

The Contractor agrees not to refer to the contract award in advertising in such a manner as to state or imply that the company or its goods are endorsed or preferred by the State. Any publicity releases pertaining to the project shall not be issued without prior written approval from the State.

M. NEBRASKA TECHNOLOGY ACCESS STANDARDS (Statutory)

Contractor shall review the Nebraska Technology Access Standards, found at <http://nitc.nebraska.gov/standards/2-201.html> and ensure that products and/or goods provided under the contract are in compliance or will comply with the applicable standards to the greatest degree possible. In the event such standards change during the Contractor's performance, the State may create an amendment to the contract to request the contract comply with the changed standard at a cost mutually acceptable to the parties.

N. DISASTER RECOVERY/BACK UP PLAN

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

The Contractor shall have a disaster recovery and back-up plan, of which a copy should be provided upon request to the State, which includes, but is not limited to equipment, personnel, facilities, and transportation, in order to continue delivery of goods as specified under the specifications in the contract in the event of a disaster.

O. DRUG POLICY

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

Contractor certifies it maintains a drug free work place environment to ensure worker safety and workplace integrity. Contractor agrees to provide a copy of its drug free workplace policy at any time upon request by the State.

IV. PAYMENT

A. PROHIBITION AGAINST ADVANCE PAYMENT

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

Payments shall not be made until contractual deliverable(s) are received and accepted by the State.

B. TAXES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

The State is not required to pay taxes and assumes no such liability as a result of this solicitation. The Contractor may request a copy of the Nebraska Department of Revenue, Nebraska Resale or Exempt Sale Certificate for Sales Tax Exemption, Form 13 for their records. Any property tax payable on the Contractor's equipment which may be installed in a state-owned facility is the responsibility of the Contractor.

C. INVOICES

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

Invoices for payments must be submitted by the Contractor to the NDOT Materials and Research Division requesting the services with sufficient detail to support payment. Invoices must reference the purchase order number. The terms and conditions included in the Contractor's invoice shall be deemed to be solely for the convenience of the parties. No terms or conditions of any such invoice shall be binding upon the State, and no action by the State, including without limitation the payment of any such invoice in whole or in part, shall be construed as binding or estopping the State with respect to any such term or condition, unless the invoice term or condition has been previously agreed to by the State as an amendment to the contract.

D. INSPECTION AND APPROVAL

Accept (Initial)	Reject (Initial)	Reject & Provide Alternative within ITB Response (Initial)	NOTES/COMMENTS:
JB			

Final inspection and approval of all work required under the contract shall be performed by the designated State officials.

The State and/or its authorized representatives shall have the right to enter any premises where the Contractor or Subcontractor duties under the contract are being performed, and to inspect, monitor or otherwise evaluate the work

being performed. All inspections and evaluations shall be at reasonable times and in a manner that will not unreasonably delay work.

If a simple inspection of the goods would reveal nonconformity, notice of nonconformity should be provided to the vendor as soon as reasonably practical, but not to exceed thirty (30) days from receipt of goods. This includes visual inspection of product to ensure packaging is not damaged, dented or compromised.

E. PAYMENT (Statutory)

State will render payment to Contractor when the terms and conditions of the contract and specifications have been satisfactorily completed on the part of the Contractor as solely determined by the State. (Neb. Rev. Stat. Section 73-506(1)). The State may require the Contractor to accept payment by electronic means such as ACH deposit. In no event shall the State be responsible or liable to pay for any services provided by the Contractor prior to the Effective Date of the contract, and the Contractor hereby waives any claim or cause of action for any such services.

F. LATE PAYMENT (Statutory)

The Contractor may charge the responsible agency interest for late payment in compliance with the State of Nebraska Prompt Payment Act (See Neb. Rev. Stat. §§ 81-2401 through 81-2408).

G. SUBJECT TO FUNDING / FUNDING OUT CLAUSE FOR LOSS OF APPROPRIATIONS (Statutory)

The State's obligation to pay amounts due on the Contract for a fiscal years following the current fiscal year is contingent upon legislative appropriation of funds. Should said funds not be appropriated, the State may terminate the contract with respect to those payments for the fiscal year(s) for which such funds are not appropriated. The State will give the Contractor written notice thirty (30) calendar days prior to the effective date of termination. All obligations of the State to make payments after the termination date will cease. The Contractor shall be entitled to receive just and equitable compensation for any authorized work which has been satisfactorily completed as of the termination date. In no event shall the Contractor be paid for a loss of anticipated profit.

H. RIGHT TO AUDIT (Statutory)

The State shall have the right to audit the Contractor's performance of this contract upon a thirty (30) day written notice. Contractor shall utilize generally accepted accounting principles, and shall maintain the accounting records, and other records and information relevant to the contract (Information) to enable the State to audit the contract. (Neb. Rev. Stat. §84-304 et seq.) The State may audit and the Contractor shall maintain the information during the term of the contract and for a period of five (5) years after the completion of this contract or until all issues or litigation are resolved, whichever is later. The Contractor shall make the Information available to the State at Contractor's place of business or a location acceptable to both Parties during normal business hours. If this is not practical or the Contractor so elects, the Contractor may provide electronic or paper copies of the Information. The State reserves the right to examine, make copies of, and take notes on any Information relevant to this contract, regardless of the form or the Information, how it is stored, or who possesses the Information. In no circumstances will contractor be required to create or maintain documents not kept in the ordinary course of contractor's business operations, nor will contractor be required to disclose any information, including but not limited to product cost data, which is confidential or proprietary to contractor.

The Parties shall pay their own costs of the audit unless the audit finds a previously undisclosed overpayment by the State. If a previously undisclosed overpayment exceeds three percent (3%) of the total contract billings, or if fraud, material misrepresentations, or non-performance is discovered on the part of the Contractor, the Contractor shall reimburse the State for the total costs of the audit. Overpayments and audit costs owed to the State shall be paid within ninety (90) days of written notice of the claim. The Contractor agrees to correct any material weaknesses or condition found as a result of the audit.

V. SCOPE OF WORK

The Bidder must provide the following information in response to this ITB.

A. SCOPE

It is the intent of this bid invitation to establish a contract to supply **Sequential XRF Spectrometer Equipment with External Water Recirculating System** per the attached specifications from date of award for a period of five (5) years with the option to renew for an additional five (5) one (1) year periods when mutually agreeable to the vendor and the State. The State reserves the right to extend the period of this contract beyond the end date when mutually agreeable to the vendor and the State.

Complete specifications, manufacturer's current descriptive literature and/or advertising data sheets with cuts or photographs must be included with the bid for the IDENTICAL items proposed. Any information necessary to show compliance with these specifications not given on the manufacturer's descriptive literature and/or advertising data sheets must be supplied in writing on or attached to the bid document. If manufacturer's information necessary to show compliance with these specifications is not attached to the bid document, the Bidder may be required to submit requested information within three (3) business days of a written request. Failure to submit requested descriptive literature or advertising data sheets may be grounds to reject the bid.

B. AMENDMENT

This Contract may be amended in writing, within scope, upon the agreement of both parties.

C. REVISIONS

In the event any product is discontinued or replaced upon mutual consent during the contract period, the State reserves the right to amend this contract to include the alternate product at the same price.

VI. INVITATION TO BID - TECHNICAL SPECIFICATIONS

A. BIDDER INSTRUCTIONS

Bidder must respond to each of the following statements. Specifications listed are minimum conditions that must be met in order for a Bidder to qualify for the award.

"YES" response means the Bidder guarantees they can meet this condition.

"NO" response means the Bidder cannot meet this condition and will not be considered.

"NO & PROVIDE ALTERNATIVE" responses should be used only with a narrative response in the NOTES/COMMENTS section explaining in detail any deviation from the Bidder's ability to meet the condition, and an explanation of how this would be determined to be an acceptable alternative to meeting the condition. Alternatives must be detailed in such a way that allows such deviations to be fully evaluated. The State shall determine at its sole discretion whether or not the Bidder's alternative is an acceptable alternative.

B. NON-COMPLIANCE STATEMENT

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. Read these specifications carefully. Any and all exceptions to these specifications must be written on or attached to quotation request. Any noncompliance may void your quotation. Non-compliance to any single specification can void your quotation.
X			2. It is the responsibility of Bidders to obtain information and clarifications as provided below. The State is not responsible for any erroneous or incomplete understandings or wrongful interpretations of this ITB by any Bidder.
X			3. No interpretation related to the meaning of bid specifications or other pre-bid documents will be made orally to any Bidder by the State. Any ITB interpretation must be put in writing and faxed by the Bidder to: the State Purchasing Bureau, Fax (402) 471-2089 or e-mailed to AS Materiel Purchasing as.materielpurchasing@nebraska.gov by the last day to submit written questions that is specified in the Schedule of Events. (Inquiries received after the last day to submit written questions may not be addressed).
NOTES/COMMENTS:			

C. SEQUENTIAL XRF SPECTROMETER EQUIPMENT

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. Equipment bid shall be new and the latest current models in production as of the date of the ITB and be of proven performance.
X			2. Equipment shall be under standard design, complete as regularly advertised and marketed.
X			3. Equipment shall be delivered fully operational, complete with all necessary parts, specified accessories, tools, and special features, whether or not they may be specifically mentioned below.
X			4. Used, demonstrator, prototype, or discontinued equipment is not acceptable.

NOTES/COMMENTS:

D. RADIATION SAFETY

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. The Spectrometer must conform to all applicable state and federal radiation regulations. Current regulations may be obtained from the links: <ul style="list-style-type: none"> • http://dhhs.ne.gov/Pages/reg_t180.aspx • https://www.nrc.gov/about-nrc/radiation.html
X			2. The manufacturer must provide a lamp that will indicate when the x-ray tube is energized. It shall be of a "fail-safe" design in which the power to the x-ray tube will be shut down if the lamp fails to operate.
X			3. The manufacturer must provide an emergency shut down system to protect the operator and the spectrometer in the event of a power failure or any unsafe condition.
NOTES/COMMENTS:			

E. X-RAY SYSTEM:

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. The bidder shall provide full and detailed specification(s), literature, and brochures describing the X-Ray Fluorescence Spectrometer as bid with the Invitation to Bid.
X			2. The spectrometer shall be in a temperature controlled sealed cabinet.
X			3. The spectrometer shall be equipped with castors to allow movement and access.
X			4. The x-ray tube shall be an end-window design with a rhodium anode.
X			5. The x-ray tube shall be positioned below the sample.
X			6. The beryllium window thickness of the x-ray tube shall be 50 microns or less.
X			7. The x-ray generator shall be of solid state high frequency design.
X			8. The x-ray system power shall be at least 2 kW.
X			9. The x-ray system shall require an external water cooling system.
X			10. The output voltage shall be at least 60 kV and output current shall be at least 120 mA.
X			11. The goniometer shall provide angular accuracy (θ and 2θ) of at least $\pm 0.01^\circ$ on LiF crystals and angular reproducibility (θ and 2θ) of at least $\pm 0.0002^\circ$.

X			12. The goniometer θ and 2θ axes shall have independent control.
X			13. The goniometer components shall be fully enclosed in a temperature controlled vacuum environment.
X			14. The spectrometer shall be equipped with at least two collimators: one for high resolution and one for high sensitivity.
X			15. The instrument shall be equipped with collimator masks with the ability to automatically switch to at least three different aperture openings appropriately selected to correspond with the applications stated in F.9.
X			16. The spectrometer shall be equipped with at least four primary beam filters selected to optimize analyses as stated in F.9. One shall be a beryllium filter to protect the tube during analysis.
X			17. An automatic crystal changer, with a minimum of 8 crystal positions, shall be included with the system.
X			18. A pre-mounted LiF 200 crystal, optimized for analyzing elements from potassium to uranium, shall be provided.
X			19. A pre-mounted PET crystal, optimized for analyzing elements from aluminum to chlorine, shall be provided.
X			20. A pre-mounted synthetic multilayer crystal, optimized for analyzing elements from oxygen to magnesium, shall be provided.
X			21. A pre-mounted, curved Ge crystal, optimized for analyzing elements phosphorous, sulfur, and chlorine, shall be provided.
X			22. A pre-mounted LiF 220 crystal, optimized for analyzing elements for vanadium to uranium, shall be provided.
X			23. A pre-mounted crystal, optimized for analyzing high concentrations of aluminum and silicon, shall be provided.
X			24. A pre-mounted synthetic multilayer crystal or detector with greater sensitivity for analyzing potassium to uranium, shall be provided.
X			25. The x-ray spectrometer shall be equipped with a flow proportional detector with linearity of at least 2000 kcps and a scintillation detector with linearity of at least 1500 kcps.
X			26. The detectors shall have a combined angular range of at least 8 to 148 degrees.
X			27. All detectors shall be in vacuum.
X			28. The temperature of the spectrometer environment shall be controlled to at least $\pm 0.5^{\circ}\text{C}$ within the temperature setting.
X			29. The instrument shall be able to operate under vacuum or helium. A helium flushing system for the analysis of liquids and loose powders shall be included.
X			30. A vacuum pump compatible with the system shall be included.
X			31. Accessories for connecting P-10 gas and helium gas to the spectrometer shall be provided.
X			32. The spectrometer shall be equipped with a sample changer capable of holding at least 48 samples for automatic remote loading.
X			33. A minimum of 30 sample holders shall be provided that are capable of holding 40 mm pressed pellets, 40 mm fused beads, and film cups for liquid and powder samples. Guides and spring loaded holders shall also be provided for each sample holder for stabilizing odd-shaped samples.
X			34. Drift monitors and QC standards for ASTM C114 cement analysis shall be included.

NOTES/COMMENTS:

F. COMPUTER SYSTEM AND SOFTWARE

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. The contractor shall provide within seven (7) business days of contract award the type of minimum computer requirements needed to successfully operate the Sequential XRF Spectrometer Equipment.
X		Please see notes	2. The contractor shall provide within seven (7) business days of contract award the type of minimum computer requirements needed to access the State of Nebraska's network.
X			3. The software shall have functionality to export data for replication purposes. It shall ideally connect to a standard or enterprise edition SQL server 2016 or above database.
X			4. The software shall support spectrometer operation and data handling under Windows 10 x64.
X			5. The contractor shall guarantee software updates throughout the functional life of the product in order to interface with Windows OS and/or Microsoft package upgrades.
X			6. After equipment and computer installation, any software licensing, upgrades and update costs shall be included, at no additional cost to NDOT during the initial warranty period as defined in Section Z.3.
X			7. The Contractor shall ensure any licenses, upgrades and updates of the Spectrometer Software will be made available as a Catalog/Non-Core item (see Section U.5) by the manufacturer throughout the functional life of the product. This includes new versions released that would correct any functionality problems and/or that would add or upgrade operational features.
X			8. The software shall be able to manage analysis setup selection, parameter selection, simple routine measurement and procedures for reporting and printing results.
X			9. The software shall have the capabilities for qualitative and quantitative analysis. It shall allow calibration, drift correction, and re-calibration. The calibration of the spectrometer must meet the ASTM C114 requirements for cement testing. It shall have the capability to accurately and precisely measure TiO2 in traffic paint according to ASTM D4764, phosphorus in binders according to ASTM D6443, heavy metals in glass beads according to AASHTO TP106, calcium carbonate according to ASTM C25, and distinguish SO3 from S2- in cement according to ASTM C114.
X			10. The software shall have the capability to add Agency-defined fields to assist in interfacing with other Agency systems.
X			11. The software shall allow for editing of sample identification information after analysis.
X			12. The software shall have password protection so that unauthorized personnel will not have access to instrument operation.
X			13. The spectrometer shall be calibrated for standard-less analysis by drift monitors included as part of the package software.
X			14. The software shall provide automatic standard-less analysis for a wide variety of sample materials, including solids, liquids, loose powders, and thin films/foils. All samples shall be analyzed by a single calibrated measuring program.
X			15. The equipment shall be capable of printing from a network printer or a direct-attached printer.

NOTES/COMMENTS: #2: Specifications on the static Network are unknown and must be provided prior to access information can be specified.

G. INSTALLATION AND TRAINING

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. Complete on-site installation and instrumentation start-up of the spectrometer by a contractor certified service engineer will be included in the bid.
X			2. The contractor shall provide at no additional cost to NDOT, three (3) days of on-site training by a certified service engineer and an applications specialist at the time of installation to give a basic orientation of the instrument.
X			3. During the training, the service engineer and/or the application specialist shall provide on-site calibration of the spectrometer to meet ASTM C114 certification requirements with fused bead and pressed pellet preparations as well as accuracy and precision verification of the standard-less analysis by drift monitors included in the standard-less XRF software package.
X			4. Upon completion of installation, and at no additional cost to NDOT, the service engineer and/or the application specialist shall, within 30 days, also provide on-site or remote assistance for the calibration of the following: Limestone (CaCO3) and Hydrated Lime (ASTM C25), TiO2 in Traffic Paint (ASTM D4764), SO3 and S2- (ASTM C114), Phosphorus in Bituminous Binders (ASTM D6443), and aggregates high in Aluminum and Silicon.
X			5. During the training, and at no additional cost to NDOT, the service engineer and/or application specialist shall set up the instrument for the primary application, including method set-up and validation, and demonstrate various features directly related to the primary applications.

NOTES/COMMENTS:

H. SYSTEM WARRANTY:

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. A minimum of one (1) year warranty after the date of installation is required. This shall cover all parts, labor, travel, and living expenses.
X			2. The x-ray tube shall come with a minimum warranty of two (2) years without hours or proration limitations. This warranty must also apply to all purchased replacement tubes during the contract term.

NOTES/COMMENTS:

I. TECHNICAL SUPPORT:

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. Hardware and software for remote diagnostics shall be provided for service and support throughout the life of the contract.
X			2. Operation and safety manuals for the spectrometer and software shall be included.
X			3. Troubleshooting, diagnostics, performance checks, and application technical support by telephone or through remote access shall be provided during regular working hours at no additional charge to NDOT.
X			4. Requests for technical support shall be answered within at least a twenty-four hour (24) period from placement of request.
NOTES/COMMENTS:			

J. PREVENTATIVE MAINTENANCE SERVICE PLAN:

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. The contractor shall provide as a Core item (see Section U.5.) an annual flat-rate preventative maintenance plan. This must include all expenses of travel, mileage, food, lodging, parking, fuel, labor, and next day preventative maintenance parts kit shipping costs/delivery fees.
X			2. The preventative maintenance shall include cleaning, all work performed with a preventative maintenance parts kit, verification the equipment is in safe working order, minor repairs, if needed, and performing testing for the presence of radiation outside the spectrometer.
X			3. Upon completion of a preventative maintenance service, the contractor shall provide, at no additional cost to NDOT, an inclusive service report and certification detailing all work/repairs conducted to document the equipment is in safe working order.
NOTES/COMMENTS:			

K. SERVICE CALLS:

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. The contractor shall provide as a Core Item (see Section U.5.) an hourly rate for service calls during normal working hours (Monday through Friday, 8:00 AM to 5:00 pm) not covered by any purchased service plans. This rate shall include all expenses (travel, mileage, food, lodging, parking, fuel, labor, next day service parts shipping costs/delivery fees) associated with the service call.
X			2. The contractor shall provide as a Core Item (see Section U.5.) an hourly rate for service calls during weekend and holiday hours not covered by any purchased service plans. This rate shall include all expenses (travel, mileage, food, lodging, parking, fuel, labor, next

X			day service parts shipping costs/delivery fees) associated with the service call.
X			3. For service calls worked greater than eight (8) hours in a work day, not covered by a purchased service plan, the awarded bid hourly rate for service calls will be applied. No overtime rates will be applied. See Section K.1. and K.2.
X			4. Any contractor service calls completed in under four (4) hours, NDOT will apply the service call hourly rate of only four (4) hours.
X			5. Upon completion of a service call, the contractor shall provide, at no additional cost to NDOT, an inclusive service report and certification detailing all work/repairs conducted to document the equipment is in safe working order.
			6. If it is determined a service call is required, the response time shall be three (3) business days or less.
NOTES/COMMENTS:			

L. METHOD DEVELOPMENT:

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. The contractor shall provide at least up to forty (40) hours of remote and/or on-site method development assistance at no additional cost to NDOT for each new analysis NDOT requires. Method development would include assistance in selecting standards, sample preparation recommendations, software parameters set-up, calibration, and/or any other services the contractor chooses to provide.
X			2. The contractor may provide an hourly rate for remote method development assistance that exceeds forty (40) hours and is not covered by any purchased service plans.
X			3. The contractor may provide an hourly rate for on-site method development assistance that exceeds forty (40) hours and is not covered by any purchased service plans. This rate shall include all expenses (travel, mileage, food, lodging, parking, fuel, labor) associated with the method development rate.
NOTES/COMMENTS:			

M. TRADE-IN:

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. Is there a trade-in option available for Sequential XRF Spectrometer and External Water Recirculating System?
NOTES/COMMENTS:			

N. REMOVAL OF EXISTING XRF SPECTROMETER EQUIPMENT:

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. The contractor shall de-commission and take possession of the existing spectrometer (Bruker S4 Pioneer) and the External Water Recirculating System within ten (10) business days.
	X		2. If trade-in option is not available, Section N.1. will not apply to this Invitation to Bid.
NOTES/COMMENTS:			

O. ANNUAL USAGE, ESTIMATED

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. Annual usage figures provided are estimates and are not to be construed as either a minimum or maximum purchase quantity. The orders shall be for the actual quantities of each item ordered by or for any agency during the life of the contract. Vendor shall not impose minimum order requirements.
NOTES/COMMENTS:			

P. DELIVERY ARO

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. Delivery shall be within 120 days after receipt of order. A successful Bidder will maintain sufficient inventory to process and deliver within twenty (20) calendar days ARO for Non-Core catalog items. There will be no minimum order requirements for all Core/ Non-Core items.
X			2. At the time of delivery, a designated State employee will sign the "invoice/packing slip." This signature will only indicate that the order has been received and that the items actually delivered agree with the delivery invoice. This signature does not indicate all items were received in good condition and/or that there is not possible hidden damage.
X			3. The bid price shall include the delivery/shipping charges FOB destination of the X-Ray Fluorescence Spectrometer System.
X			4. All Deliveries are to be FOB destination to NDOT location specified on the purchase order or as directed by NDOT at the time of purchase in accordance with this Invitation to Bid.
X			5. Contractor shall be responsible for the shipping cost of returning and replacing defective and/or damaged products received.
X			6. Deliveries must be clearly marked with the purchase order number.
X			7. Deliveries shall be made during normal working hours between the hours of 8:00 A.M. and 5:00 P.M., Monday through Friday (excluding State holidays and / or as otherwise directed).

X			8. If an emergency exists, delivery may be made through prior arrangements with receiving personnel.
X			9. If delays in delivery are anticipated, the Contractor will immediately notify the NDOT Materials and Research Division of the expected delivery date. Nebraska Department of Roads Materials and Research Division Chemistry Laboratory 1400 Hwy. 2 Lincoln, NE 68502 Phone – 402-479-4874
X			10. The order may be canceled if the delivery time is unsatisfactory, and the State may procure item(s) from other sources and the Contractor will be held responsible for any/all excess cost.
NOTES/COMMENTS:			

Q. PACKAGING

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. Cartons are to be clearly marked with size, weight, color, quantity, and the purchase order number. Cartons must be of suitable size and of sufficient strength to protect the contents during shipping, handling and storage.
NOTES/COMMENTS:			

R. ORDERS

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. Orders will be placed either by, phone, fax, e-mail or Internet (if available and not to the exclusion of the other methods).
X			2. All orders must reference a purchase order number and the purchase order number must be referenced on the packing slip, and invoice.
X			3. Invoices are to be sent to the "Invoice to" address on the purchase order.
NOTES/COMMENTS:			

S. QUALITY

YES	NO	NO & PROVIDE ALTERNATIVE	

X			1. Product quality must meet specifications and be consistent for the term of the contract.
X			2. A guarantee of satisfactory performance by the supplier and meeting delivery dates are considered to be an integral part of the purchase contract resulting from this bid invitation.
X			3. All materials must be of first quality, under standard production by the manufacturer and be of standard design, complete as regularly advertised and marketed and be of proven performance.
X			4. Products are to be fully guaranteed and may be returned for full credit or replacement (at the State's option) for any reason during the initial warranty period with no additional charges for shipping or restocking.
NOTES/COMMENTS:			

T. CORE LIST AND CATALOG/NON-CORE: PRICES

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. Core List prices quoted shall be net, including transportation and delivery charges fully prepaid by the vendor, FOB Destination to the ordering state facility/agency. Core List pricing is to remain firm for the initial one (1) year of the contract.
X			2. Any request for increased pricing must be submitted in writing to the SPB a minimum of thirty (30) days prior to proposed effective date of increase and be accompanied by any/all supporting documentation such as a notification letter from the manufacturer indicating the percentage of increase. The supporting information must clearly establish the increase is for all customers, not to the State alone. Further documentation may be required by the State, to authenticate the increase (such as manufacturer invoices). Failure to supply any requested supporting documentation may be grounds to cancel the contract.
X			3. Catalog/Non-Core item purchases shall be net, including transportation and delivery charges fully prepaid by the vendor, FOB Destination to the ordering state facility/agency.
X			4. Discount bid off of manufacturer's suggested list price shall remain fixed for the duration of the contract.
X			5. During the life of the contract, there may be new manufacturer's list price schedules published. In the event this occurs, it will be necessary for the Contractor to supply the SPB and any requesting agencies with one (1) copy of each as applicable.
X			6. New catalog and/or price list(s) will be incorporated into the contract thirty (30) days after receipt by the SPB.
X			7. Discounts for Catalog/Non-Core items shall be applied to products as presented as Catalog/Non-Core items in the ITB.
X			8. Bidder shall include each manufacturer's list price schedule to coincide with manufacturers presented as Catalog/Non-Core items in the ITB.
X			9. Prices quoted for products on the Core List and Catalog/Non-Core items shall be inclusive of all costs, to include but not limited to storage, processing and/or delivery throughout the State. Vendor cannot impose any additional service fees. Vendor shall inform the

X			SPB in the event of any unanticipated or overlooked contingency affecting pricing or contract performance.
X			<p>10. NO price increases are to be billed to the State facilities without prior written approval by the SPB.</p> <p>The State further reserves the right to reject any proposed price increase(s), cancel the contract and re-bid if determined in the best interest of the State.</p>
X			<p>11. It is understood and agreed that in the event of a reduction in the manufacturer's published standard price list for all or any portion of the proposed items, the State will be given full benefit of such decline in price immediately, including any promotional allowances offered to the balance of the trade during the contract period.</p>
NOTES/COMMENTS:			

U. CORE LIST and CATALOG/NON-CORE: CORE LIST PRICING

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. Any quantities stated are estimated annual quantities and shall not be construed to be either a minimum or a maximum. The State will not accept substitutions.
X			2. A manufacturer's model/number has been provided for each item.
X			3. All bid units should match exactly. NOTE: If contractor fails to provide a price on any items, those items for that contractor will be adjusted to the highest quoted price for those items.
X			4. In those cases where items may have more than one brand name, the contractor may bid on either brand. Please indicate which brand was bid. Bidder must complete Core and Non-Core List. Please pay special attention to the unit of measure.
X			<p>5. Core Items have been identified as follows:</p> <ul style="list-style-type: none"> ■ Sequential XRF Spectrometer Equipment with External Water Recirculating System. ■ Annual Flat Rate Preventative Maintenance Plan. ■ Hourly Rate for Service Calls (Regular Working Hours). ■ Hourly Rate for Service Calls (Weekend/Holiday Hours).
NOTES/COMMENTS:			

V. CORE LIST AND CATALOG/NON-CORE: CATALOG/NON-CORE PRICING/PERCENTAGES

YES	NO	NO & PROVIDE ALTERNATIVE	
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X			1. Prices for Catalog/Non-Core items shall be determined by applying the quoted discount for the item to the manufacturer's current catalog or price list. The percentage discount for the items shall remain firm for the duration of the contract period. Bidder must clearly state the date of the catalog or price list used and provide a copy of the catalog to the SPB upon request.
X			2. The pricing structure, consisting of all pricing formulas and pertinent information, for all non-core items must be clearly defined and documented for future auditing purposes.
X			3. The percentage discount rate for Catalog/Non-Core items or categories will not decrease during the life of the contract.
X			4. A firm percentage rate must be quoted--a range of percentages will not be considered.
X			5. Catalog/ Non-Core Categories have been identified as follows (excluding core items): a) XRF Spectrometer Equipment parts & accessories. b) Service plans. c) Software, Hardware, and Firmware updates/upgrades. d) Method Development. e) Diagnostic, Repair, and Maintenance Training at Contractor Facility.
NOTES/COMMENTS:			

W. CORE LIST and CATALOG/NON-CORE: ADDITIONAL PRICE LISTS AND CATALOGS

YES	NO	NO & PROVIDE ALTERNATIVE	
X	X		1. After award of the contract(s), the contractor(s) shall supply additional copies of the current catalog or price list used for this ITB for distribution to any requesting state agency at no charge, within ten (10) business days of request.
X	X		2. Additional catalogs and/or price lists may be required and shall be provided without charge.
X	X		3. Any catalog or price list revisions which occur during the duration of the contract shall be provided upon request without charge.
NOTES/COMMENTS:			

X. CORE LIST and CATALOG/NON-CORE: USAGE REPORTS

YES	NO	NO & PROVIDE ALTERNATIVE	
X			1. Usage reports may be requested by the SPB. The reporting period may be determined based on need and may include the following: <ul style="list-style-type: none"> ■ Fill rate information for core and non-core items, statewide and by agency to include the number of orders received, orders processed, back orders, and partially filled orders.

<input checked="" type="checkbox"/>			3. The manufacturer's standard warranty shall apply and be in effect for at least one (1) year from the date the equipment was placed in service.
NOTES/COMMENTS:			

BB. SUBSTITUTIONS

YES	NO	NO & PROVIDE ALTERNATIVE	
<input checked="" type="checkbox"/>			1. Vendor will not substitute any item that has been awarded without prior written approval of SPB.
NOTES/COMMENTS:			

X			<ul style="list-style-type: none"> ■ Usage reports by agency and statewide indicating the numbers of each core item and non-core item sold. ■ Any additional report the SPB may deem necessary.
NOTES/COMMENTS:			

Y. GRAY MARKET PRODUCTS PROHIBITION

YES	NO	NO & PROVIDE ALTERNATIVE	
X			<ol style="list-style-type: none"> 1. The State will not accept Gray Market Products for this solicitation. Gray Market is defined as the trade of a commodity through distribution channels which, while legal, are unofficial, unauthorized, or unintended by the original manufacturer. Gray Market items are not designed to be sold in a particular market and cannot be supported by the authorized importer because of various reasons.
NOTES/COMMENTS:			

Z. AUTHORIZED DEALER & WARRANTY

YES	NO	NO & PROVIDE ALTERNATIVE	
X			<ol style="list-style-type: none"> 1. To the extent required by the manufacturer, the Bidder shall be an authorized dealer.
X			<ol style="list-style-type: none"> 2. Bidder may be required to substantiate that he/she is an authorized dealer. Proof, if required, must be submitted to the SPB within three (3) days of the request and prior to the award of any contract.
X			<ol style="list-style-type: none"> 3. The terms of the original manufacturer's standard warranty shall apply to all equipment acquired from this solicitation for the entire warranty period.
NOTES/COMMENTS:			

AA. WARRANTY

YES	NO	NO & PROVIDE ALTERNATIVE	
X			<ol style="list-style-type: none"> 1. Contractor must warrant the average life expectancy supplies hereunder to be not less than that stated in the manufacturer's price list and agree to replace, without cost, all supplies failing to meet this requirement, except where the reduced life is due to conditions beyond the control of the Contractor.
X			<ol style="list-style-type: none"> 2. Defective parts or those damaged in shipment must be replaced by the Contractor at no charge to the State.

CC. SECRETARY OF STATE REGISTRATION REQUIREMENTS

CHOOSE "YES" TO BEST ANSWER ONLY, CHOOSE "NO" FOR REMAINING LINES

YES	NO	*Prior to contract award and/or upon request of SPB, potential award recipient(s) will be asked to certify compliance with Nebraska Secretary of State Registration by providing a true and exact copy of current (dated within 90 days) valid Certificate of Good Standing or Letter of Good Standing.
	X	<p>1. Bidder is a SOLE PROPRIETORSHIP (in which case, no Letter of Good Standing/Certificate of Good Standing is required)</p> <p>If the Bidder is an Individual or Sole Proprietorship, the following applies:</p> <ul style="list-style-type: none"> ■ The Bidder must complete the United States Citizenship Attestation Form, available on the Department of Administrative Services website at http://das.nebraska.gov/materiel/purchasing.html <p>The completed United States Attestation Form should be submitted with the Invitation to Bid response.</p> <ul style="list-style-type: none"> ■ If the Bidder indicates on such attestation form that he or she is a qualified alien, the Contractor agrees to provide the U.S. Citizenship and Immigration Services documentation required to verify the Contractor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program. ■ The Bidder understands and agrees that lawful presence in the United States is required and the Contractor may be disqualified or the contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. § 4-108.
	X	<p>2. Bidder is a GENERAL PARTNERSHIP (in which case, no Letter of Good Standing/Certificate of Good Standing is required).</p>
	X	<p>3. Bidder is a FOREIGN or DOMESTIC CORPORATION or BUSINESS and a copy of current Letter of Good Standing/Certificate of Good Standing from the Nebraska Secretary of State is provided within bid submission documents.</p>
X		<p>4. Bidder is a FOREIGN or DOMESTIC CORPORATION or BUSINESS and a copy of current Letter of Good Standing/Certificate of Good Standing from the Nebraska Secretary of State will be provided in a timely manner upon request prior to award.</p>

Form A
Bidder Contact Sheet
Invitation To Bid Number 5987 OF

Form A should be completed and submitted with each response to this ITB. This is intended to provide the State with information on the Bidder's name and address, and the specific person(s) who are responsible for preparation of the Bidder's response.

Preparation of ITB Contact Information	
Bidder Name:	Malvern Panalytical, Inc.
Bidder Address:	117 Flanders Rd Westborough MA 01581
Contact Person & Title:	SCOTT KRANE / ACCT MGR
E-mail Address:	SCOTT.KRANE@MALVERN.COM
Telephone Number (Office):	630-608-7084
Telephone Number (Cellular):	
Fax Number:	508-768-6403

Each Bidder shall also designate a specific contact person who will be responsible for responding to the State if any clarifications of the Bidder's response should become necessary.

Communication with the State Contact Information	
Bidder Name:	SAME AS ABOVE
Bidder Address:	
Contact Person & Title:	
E-mail Address:	
Telephone Number (Office):	
Telephone Number (Cellular):	
Fax Number:	

QUOTATION

State Purchasing Bureau
Att: Rene Botts
1526 K Street Suite 130
Lincoln NE 68508

PANalytical Incorporated

117 Flanders Road
Westborough, MA 01581
Fax: 508-647-1115
www.panalytical.us

Date
1/7/2019

Sales contact:
Scott Krane
East Dundee IL 60118
Tel: 630-608-7084
Fax: 508-768-6403
email :scott.krane@panalytical.com

Quotation Number:	Your reference	Page
US1901070838 - 0	Solicitation Number 5987OF	1 of 18

Dear Ms Botts ,

This price quotation is compiled at your request and is configured as specified.

Please contact me with any questions.

Kind regards,



Scott Krane
Account Manager – Midwest
Malvern Panalytical, Inc.

DETAILED DESCRIPTION

Minerals edition of Zetium

Pos	Qty.	Item number	Description	Price USD
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BASIC PACKAGE

1	1	9430 654 00011	Zetium XRF Spectrometer	
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This, the starting point for any Zetium configuration, includes but is not limited to the following:

- spectrometer cabinet with thermal stability control system
- integrated X-Y-Z sample changer for unattended batch analysis
- turret-style sample loading mechanism with an airlock chamber allows the tube to remain at full power while samples are changed, maximizing stability and minimizing the risk of tube window damage
- sophisticated vacuum system which, in combination with the sample airlock, eliminates the need to evacuate the entire optical chamber before each measurement
- sample spinner minimizes the effects of sample surface inconsistencies
- PANalytical-made, 1 kW, Super Sharp X-ray Tube (SST) and a high-quality programmable generator for optimal excitation of the sample
- soft power down functionality when UPS systems take over power supply
- 4 filters to maximize the sensitivity of the spectrometer to the elements of interest
- fixed collimator mask to match the size of the sample
- one collimator included to match the analytical requirements
- 3 crystals for the analysis of elements across the periodic table
 - PX-1 crystal for the analysis of O to Mg
 - PE002 crystal for the analysis of Al to Cl
 - LiF200 crystal for the analysis of K to Am
- integrated flow detector
- digital Dual Multi-Channel Analyzer (DMCA) counting electronics deliver exceptional performance at high count rates
- high-precision goniometer positioning with DOPS2 (Direct Optical Position Sensor) eliminates drift associated with wear and tear
- PANalytical's SuperQ Analytical Software with integrated Statistical Process Control
- Remote Assistance Suite for easy, quick and and secure

Pos	Qty.	Item number	Description	Price USD
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hardware, software and applications support

- two 37 mm aperture sample holders with 41 mm centering inserts
- heavy-duty wheels for easy mobility and an umbilical cord for power, gasses and water supplies interfacing with a wall unit for easy installation and maintenance
- pre-installation kit, which can be shipped in advance

Note: Items listed below which have no part number but indicate 'Included' are part of the Zetium package.

PACKAGE INDUSTRY

2 1 9430 654 00061

Minerals edition

MINERALS
edition

The Minerals edition package includes hardware and application templates, which upgrades the system to a specification tailored to the Minerals industry. These include:

- hardware upgrades, which deliver enhanced sensitivity and reduced measurement times for medium-throughput environments, including:
 - power upgrade from 1 kW to 2.4 kW
 - second collimator
 - Ge111 crystal for enhanced sensitivity to P to Cl
 - LiF220 crystal for enhanced resolution to V to Am
 - scintillation detector for enhanced sensitivity to elements > Mn
- WROXI SuperQ application template for the analysis of majors and minors in a wide range of oxide materials including (but not limited to):
 - phosphates · limestone
 - slags · gypsum
 - mineral ores · soils
 - ceramics · cements
 - clays · glass

WROXI calibration standards or certification of 25 customer samples is also included as part of the Minerals edition package.

Please note: the inclusion of this package requires the addition of an external chiller.

3 1 9430 655 63002

WROXI Calibration Standards

The WROXI calibration set includes 20 multi-element standards for the analysis of the following majors and

Pos	Qty.	Item number	Description	Price USD
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minors in geological materials:

Na2O -> 0 to 58 %	Mn3O4 -> 0 to 80 %
MgO -> 0 to 78 %	Fe2O3 -> 0 to 81 %
Al2O3 -> 0 to 78 %	NiO -> 0 to 12 %
SiO2 -> 0 to 80 %	CuO -> 0 to 8 %
P2O5 -> 0 to 40 %	ZnO -> 0 to 10 %
SO3 -> 0 to 59 %	SrO -> 0 to 20 %
K2O -> 0 to 40 %	ZrO2 -> 0 to 43 %
CaO -> 0 to 80 %	BaO -> 0 to 43 %
TiO2 -> 0 to 40 %	HfO2 -> 0 to 10 %
V2O5 -> 0 to 10 %	PbO -> 0 to 10 %
Cr2O3 -> 0 to 10 %	

PACKAGE APPLICATION

4	1	9430 654 52921	Omnian Standardless Analysis Software	
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Omnian is the market-leading "standardless" analysis package for the characterization of unknown samples or in situations where certified standards that match specific sample characteristics are not available. Important applications include sample quantification, screening, failure analysis as well as the comparison of different materials. Omnian makes no compromises in data quality by using scan based data collection, allowing:

- both qualitative and quantitative analysis for a quick visual screening and/or full quantification of all elements present
- an accurate background profile, superior to the estimations obtained from fixed background positions
- a view of all peaks and backgrounds across the periodic table, reducing the chance of incorrect element identification
- advanced determination of background profiles
- search and match of all peaks
- line overlap corrections

Scan based programs can be augmented with peak measurements for higher precision and lower detection limits for key elements.

With Omnian, standardless analysis is brought to the next level by incorporating the latest innovations of PANalytical's advanced FP algorithm:

- finite thickness and Fluorescence Volume Geometry (FVG) corrections for the accurate analysis of deeper layers in light matrix samples
- calculation of unmeasured "Dark Matrix" compounds by using the Compton scatter for an accurate quantification

Pos	Qty.	Item number	Description	Price USD
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of the total sample composition
Another unique feature is Adaptive Sample Characterization (ASC), which automatically selects the calibration line that best corrects for sample-specific effects.

5	1	9430 654 51891	Omnian Drift Monitor Sample	
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Drift monitor sample (40mm) for Omnian, required for maintenance of the Omnian set-up. Note that this monitor sample is also included the in the Omnian standards set.

PACKAGE HARDWARE

6	1	9430 654 64442	Helium Package	
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The Helium Package allows for the analysis of liquids and loose powders on the Zetium platform. This gas purge system recognizes the incoming sample and, when required, automatically switches from vacuum to helium or nitrogen as analysis medium. The package includes

- the hardware required for helium (or nitrogen) purging of the optical chamber
 - 2 x liquid sample holders for P2 cups
 - 1000 x disposable P2 liquid cups
 - 1500 x pre-cut Mylar foils with a thickness of 3.6 µm
- a P2 assembly tool

OPTICS

7	1	9430 655 18101	100 µm Cu Filter for LLD improvement (20-30 keV)	
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Primary Beam Filter: Brass 100 micron thickness for lower limit of detection improvement in the energy range of 20-30 keV.

8	1	9430 655 18201	200 µm Al Filter for LLD improvement (6-10 keV)	
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Primary Beam Filter: Aluminium 200 micron thickness for lower limit of detection improvement in the energy range of 6-10 keV.

9	1	9430 655 18401	400 µm Cu Filter for Rh K tube lines	
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Primary Beam Filter: Brass 400 micron thickness for Rh K tube lines

Pos	Qty.	Item number	Description	Price USD
10	1	9430 655 18751	750 µm Al Filter for LLD improvement (13-17 keV) Primary Beam Filter: Aluminium 750 micron thickness for lower limit of detection improvement in the energy range of 13-17 keV.	
11	1	9430 654 20031	3-Position Programmable Collimator Mask 3 position programmable collimator mask assembly, including sample viewing diameters of 27, 30 and 37mm	
12	1	9430 655 78151	High-resolution Collimator (150 µm) Primary collimator, 150 micron, optimized for high resolution.	
13	1	9430 655 78701	Collimator for O - Cl (700 µm) Primary collimator, 700 micron, optimized for longer wavelengths in the elemental range O - Cl.	
14	1	9430 654 78301	Medium-resolution Collimator (300 µm) Primary collimator, 300 micron, optimized for medium resolution and general purpose use.	
15	1	9430 654 15361	LiF200 to PX10 Crystal Upgrade PX-10 crystal. This crystal provides enhanced performance in the elemental range K - U. The PX10 is a higher performance alternative to the LiF200 crystal	
16	1	INCLUDED	PE CRYSTAL PE (002) crystal, 2d = 0.874 nm. This monochromator is used for the elemental range Al - Cl. It is recommended for routine analysis.	
17	1	INCLUDED	LIF220 CRYSTAL LiF 220 crystal. This monochromator is used for the elemental range V - U. It's reflectivity is approximately 40% of the LiF200 crystal but it has a greater dispersion than the LiF 200	
18	1	INCLUDED	GE CRYSTAL Ge (111) crystal, 30 mm wide, 2d = 0.653 nm. This monochromator is used for P, S and Cl analysis, having a higher dispersion than PE (002) and eliminates second order interferences.	

Pos	Qty.	Item number	Description	Price USD
19	1	9430 654 15081	G111 Flat to Curved Crystal Upgrade The Ge (111) Curved crystal upgrade, provides for the replacement of the default Ge flat crystal by a transversely curved Ge crystal at the point of assembly in the factory. This monochromator (crystal) is used for P, S and Cl analysis. This transversely curved monochromator produces higher intensity and sharper peaks than the flat crystal.	
20	1	INCLUDED	PX1 CRYSTAL PX1 synthetic multilayer monochromator, 2d = 5.1 nm approx. This monochromator is used in the element range O - Mg. It has higher reflectivity than TIAP, is non-toxic and does not deteriorate with age. It is recommended for routine analysis.	
CHANNEL				
21	1	INCLUDED	Scintillation Detector Scintillation counter for the Zetium spectrometer. This detector is optimal for the analysis of elements heavier than Zn.	
SAMPLE TRAYS				
22	1	INCLUDED	Tray for 8 Sample Holders 8 position sample tray for solid or liquid sample holders	
23	1	9430 655 28001	Tray for Samples or Cups 8 position sample tray designed for both samples holders and samples not mounted in a sample holder. Staggered concentric rings ensure the self-centering of samples and protection of the analytical surface of the sample when not mounted in a sample holder.	
24	2	9430 654 28001	Tray for Samples or Cups 8 position sample tray designed for both samples holders and samples not mounted in a sample holder. Staggered concentric rings ensure the self-centering of samples and protection of the analytical surface of the sample when not mounted in a sample holder.	

Pos	Qty.	Item number	Description	Price USD
SAMPLE HOLDERS				
25	8	9430 654 29511	Spring-loaded Steel Sample Holder with a 37 mm Aperture (x4) A set of 4 stainless steel sample holders with a 37 mm sample viewing aperture. The sample holders have a spring loaded backing plate to hold the sample in position.	
26	4	9430 654 11411	Steel Insert with a 41 mm Opening (x4) Set of 4 stainless steel sample holder inserts for centering samples with approximately a 41mm diameter	
27	8	9430 654 27941	P2 Liquid Sample Holders (x4) Set of 4 Stainless steel liquid holders for use with the P2 disposable plastic sample cups	
28	1	9430 500 00671	P2 DISPOSABLE CUPS WITH HOLES P2 45mm disposable liquid cells with extra holes for improved He flushing. Set of 1000	
29	1	9430 654 31201	P2 Liquid Cup Assembly Tool Tool designed for the easy assembly of disposable P2 liquid sample cells	
INSTALLATION				
30	1	9430 655 02301	Connection to 230V Connection to 230V	
ADDITIONAL REQUIRED				
31	1	9430 015 30301	LIF200 CRYSTAL LiF 200 crystal. This monochromator can be used in the elemental range K - U.	
32	1	9200 130 09591	WATER COOLED WATER CHILLER (LX3-W2 WITH M115 ACCESSORY KIT) LX3-W2 Haskris refrigerated water recirculating system equipped with a water cooled condenser capable of providing 6,500 watts of cooling capacity. This unit is equipped with a robust turbine water pump for extra	

Pos	Qty.	Item number	Description	Price USD
			<p>durability and a high temperature thermostat cut-off system designed to de-energize pump if the inlet water temperature increases to unsafe levels. The unit is also equipped with hand operated shut-off valves for easy isolation during servicing.</p> <p>The M115 Accessory Kit includes:</p> <ul style="list-style-type: none"> • 1/2 " Hand Shut-Off Valves • Y- Strainer: a cleanable screen filter used to filter the tap water cooling the chiller • Hose Kit <p>All LX Series Chillers are UL Listed. This chiller is not to be used in combination with a UPS.</p>	
33	1	9425 011 90000	<p>HELIUM ADAPTER</p> <p>An adaptor to allow the European helium regulators shipped with the XRF instruments to connect to U.S. supplied helium tanks. This adaptor is required for all XRF systems equipped with helium flush systems that are to be delivered to U.S. locations.</p>	
34	1	9430 500 70291	<p>MONITOR SAMPLE CEMENT</p> <p>Monitor sample for cement</p>	
35	1	9425 038 70320	<p>XRF ON SITE EXPERTISE, 2 DAYS</p> <p>Two days (16 hours) of on-site expertise comprising of in-depth training and/or application (module) setup. The expertise will be provided by a PANalytical Application Specialist. Includes travel and lodging. The development of company specific Standard Operating Instructions (SOPs) and calibration standards is not included. The PANalytical application specialist will contact the customer to discuss the content of the expertise and to ensure the requirements are feasible within the total amount of time purchased. PANalytical may deliver as one full day (8 hour) plus 2 half days (2x4 hours), all contiguous.</p>	
36	1	9425 038 70330	<p>XRF ON SITE EXPERTISE, ADDITIONAL DAY</p> <p>Additional day (8 hours) of on-site expertise comprising of in-depth training and/or application (module) setup. The expertise will be provided by a PANalytical Application Specialist. Includes travel and lodging. The development of company specific Standard Operating Instructions (SOPs) and calibration standards is not included. The PANalytical</p>	

Pos	Qty.	Item number	Description	Price USD
			<p>application specialist will contact the customer to discuss the content of the expertise and to ensure the requirements are feasible within the total amount of time purchased. PANalytical may deliver as 2 successive half days (2x4 hours).</p> <p>This item can only be ordered in combination with 9425 038 70310 or 9425 038 70320.</p>	
37	40	9200 130 09721	<p>XRF Remote Expertise 1 Hour</p> <p>One hour of remote expertise comprising in-depth training, application setup, deployment of application modules and solutions or combinations of the above. The expertise will be provided by PANalytical Application Specialists. Requires internet access to the instrument PC. During these training sessions, control of the software and desktop applications can be handed back and forth between the user and instructor to allow a truly interactive training session. This item can be purchased in one hour increments. Remote expertise purchases are valid for 1 year from delivery or hardware installation, whichever is longer, up to 16 months in any case. If left unused please note this item has no cash value and cannot be exchanged, refunded or returned.</p>	
38	1	9200 130 08801	<p>WARRANTY FOR NEW PANALYTICAL WD XRF SYSTEMS</p> <p>One year system warranty is included. The warranty includes all labor, travel and living costs for PANalytical Customer Support Engineers (CSE) on PANalytical business days, business hours. Additional coverage is available. All PANalytical service parts necessary for repair due to manufacturers defect are covered - parts are shipped at PANalytical expense.</p> <p>One Preventative Maintenance (PM) visit will be provided approximately 9 months after installation - any required consumables for PM are additional.</p> <p>Third party items have a separate manufacturer warranty, during the initial PANalytical system warranty period PANalytical takes first call responsibility.</p> <p><u>PANalytical X-ray Tube Warranty with new WD XRF Systems</u> All PANalytical Ceramic SST X-ray Tubes, 2.4kW and higher have a separate 2 year "X-rays on" item replacement warranty (not prorated). When the optional CHI-BLUE tube window protection is purchased, an additional one year of tube warranty is included. Total tube warranty is then 3</p>	

Pos	Qty.	Item number	Description	Price USD
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years. All PANalytical 1kW Ceramic SST X-ray tubes (with or without CHI-BLUE) have a separate 3 year "X-rays on" item replacement warranty (not prorated).

For additional warranty information see section 12. .

39 1 9430 020 90151

XRF IN THE WORKPLACE

Book with title: XRF in the Workplace; A guide to practical XRF Spectrometry. Authors: James Willis, Ken Turner, Gary Pritchard. ISBN 978-0-620-50665-6

40 1 9425 030 42200

XRF THEORY AND SUPERQ COURSE, WESTBOROUGH

The fundamental and practical aspects of X ray fluorescence analysis using sequential wavelength dispersive spectrometers are treated in this course. Emphasis is placed on the setting up applications, calibration and daily use of SuperQ and Omnian standardless software. Practical and theoretical aspects of parameter selection, matrix effects, sample preparation, quantitative analysis, standardless analysis, calibration and calibration update, monitor correction and results analysis are treated in detail. The course is composed of lectures and hands-on sessions using the Axios spectrometers available in our Application Laboratory in Westborough MA, USA.

Two versions of this course exist, one based on Super version 6 (Zetium), and one based on SuperQ version 5 (Axios, Axios mAX, MagiX, MagiX PRO).

The following aspects will be covered during the course:

- Basic theory of X-ray fluorescence and instrumentation
- Qualitative and Quantitative analysis
- Application Setup
- Calibration, Matrix effect and Sources of errors
- Omnian standardless analysis
- Drift monitors, their implementation and practical use
- Sample preparation of fused beads, pressed pellets, loose powders and liquids

Course duration: 3 days.

Travel and lodging expenses are not included.

Important note: As two versions of this course exist, always refer to the course overview on the PANalytical Website at www.PANalytical.com to enroll for the course that is

Pos	Qty.	Item number	Description	Price USD
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applicable to your situation. Course dates and availability are subject to change.

41	1	9200 130 08691	INSTALLATION OF FLOOR STANDING SYSTEMS	
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The installation of floor standing x-ray systems will be performed free of charge by a factory trained service engineer after notification by the purchaser that the shipment has arrived and that all pre-installation work is completed. Upon delivery, it is the purchaser's responsibility to bring the items in their original packaging to the job site. Final placement of the system is supervised by a factory trained Installation Engineer.

A pre-installation survey is provided at no charge and is required by PANalytical. This on-site survey is to identify preparation work required to be completed before installation. The water chiller (if purchased) is to be installed by the purchaser.

Installation sign-off procedure

When the installation is completed, the installation engineer performs the Factory Acceptance Test (FAT). The FAT is a series of electrical and mechanical tests that duplicate the quality and performance tests done in the factory prior to shipment. When the system passes the FAT, the customer then signs the FAT results form, acknowledging that the system successfully duplicated or exceeded all functional requirements. At this point the system is handed off to the customer and warranty begins.

42	1	9200 130 08711	SHIPPING FOR ZETIUM	
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Insured shipping to destination is included

Total Price	297,850.00
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Discount	81,862.00
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Total Net Price	215,988.00
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Quotation number:
Date: 1/7/2019
Page: 13 of 18

US1901070838-0



Payment and delivery conditions.



Delivery terms

Delivery 120 Days after receipt of the order
Validity 120 Days after date of this quotation

Payment Conditions

50.00 % Order confirmation
45.00 % Before Shipment
5.00 % Installation acceptance

Payment terms

14 days after invoice date net

Inco Terms

CIP - Carriage Insurance Paid to <(Air-)port of destination>

Prices Do Not Include Taxes or Shipping

PANalytical Incorporated

117 Flanders Road
Westborough, MA 01581
Fax: 508-647-1115
www.panalytical.us



Ref.: Q-05480-1
Date: 10/24/2018

TERMS AND CONDITIONS FOR SALE AND SUPPLY OF GOODS AND SERVICE ("CONDITIONS")

1. INTERPRETATION

For the purposes of these Terms and Conditions of Sale and Supply ("Conditions"):

"Buyer" - the person, firm or company which places an order for purchase of Products and/or Services as identified in any such order or Quotation as the case may be.

"Conditions" - these terms and conditions of sale and supply as from time to time varied by Supplier.

"Contract" - the agreement between Supplier and Buyer arising as a result of Buyer's submission of an order for Supplier's Products and Supplier's written acceptance and/or, in the case of Services, an agreement between such parties for the provision of Services by Supplier, as initiated by a Quotation. Such Contract shall be deemed to incorporate and be governed by these Conditions.

"Products" - goods as agreed to be supplied by Supplier to Buyer under any Contract including, Software if any.

"Quotation" - a document provided by Supplier describing Products and/or Services offered to Buyer, subject to these Conditions.

"Services" - means any services which Supplier has agreed to provide using reasonable care and skill under any Quotation or Contract, as applicable.

"Supplier" - Malvern Analytical Inc. or any of its Affiliates as named in any Quotation. In this context, an "Affiliate" means any other entity directly or indirectly controlled by Spectris Plc.

2. BASIS OF SALE

THESE CONDITIONS SHALL TAKE PRECEDENCE OVER ANY TERMS AND CONDITIONS WHICH APPEAR IN BUYER'S ORDER OR IN ANY DOCUMENTS INCORPORATED BY REFERENCE IN BUYER'S ORDER. No term or condition of Buyer's order additional to or different from these Conditions shall become part of any Contract unless explicitly agreed to in writing by Supplier. Retention by Buyer of any Products delivered by Supplier, receipt by Buyer of any Services performed by Supplier or payment by Buyer of any invoice rendered hereunder, shall be conclusively deemed acceptance of these Conditions. Supplier's failure to object to any provision contained in any communication from Buyer shall not be construed as a waiver of these Conditions nor as an acceptance of any such provision.

3. QUOTATIONS

Prices, specifications and delivery date referenced in Supplier's Quotations are for Information only and shall not be binding on Supplier until all technical requirements have been agreed and Supplier has accepted Buyer's order. Quotations terminate if Buyer does not place an order with Supplier within any express period indicated by Supplier or after 60 days, whichever comes first.

4. ORDERS

By submitting an order to Supplier, Buyer agrees to be subject to these Conditions in their entirety. No order, whether or not submitted in response to a quotation by Supplier, shall be binding upon Supplier until accepted in writing by Supplier.

5. PRICES AND TAXES

The prices for Products and Services will be as set out in the Quotation or as otherwise agreed between the parties in writing. As and when applicable to the Products sold and/or Services supplied under any Contract, prices do not include taxes, transport charges, insurance and export and/or import charges or duties, including without limitation sales, value added tax, use or excise taxes, which taxes and other charges may, in Supplier's discretion, be added by Supplier to the price or billed separately and which taxes and other charges shall be paid by Buyer unless Buyer provides Supplier with any necessary tax exemption certificate. Buyer shall pay for taxes, transport charges, insurance, export/import charges and duties unless agreed otherwise in writing.

6. SHIPMENT AND DELIVERY

6.1 Unless otherwise agreed by both parties in writing, Supplier shall arrange for delivery of Products Free Carrier (FCA Incoterms 2010) to Supplier's manufacturing facility (or an (international) airport close to Supplier's manufacturing facility) as agreed between the parties. Any dates quoted or agreed for delivery of Products or provision of Services are approximate only and Supplier shall not be liable for any delay howsoever caused and time is not of the essence.

6.2 Supplier reserves the right to make delivery of Products and provision of Services by instalments and to issue a separate invoice in respect of each instalment. When delivery is to be by instalments or Supplier exercises its right to deliver by instalments or if there is delay in the delivery of any one or more instalments for whatever reason Buyer shall not be entitled to treat the Contract as a whole as repudiated.

7. RISK AND PASSING OF TITLE

Title to, and risk of loss and damage to the Products shall pass to Buyer on delivery in accordance with Section 6 unless agreed otherwise by the parties in writing. Any claims for loss, damage or misdelivery shall be filed with the carrier and notified to Supplier within 5 days of the date of delivery. If installation is a requirement of the Contract and such installation is delayed by more than 28 days from the agreed delivery date for reasons not attributable to Supplier, then, to the extent allowed by applicable law, the Products shall be deemed accepted and Supplier shall be entitled to invoice the remaining balance of the Contract in full. Invoicing the remaining balance does not relieve Supplier from its installation obligations in accordance with the applicable term in the Contract.

8. SERVICES

8.1 Supplier shall provide Services in accordance with these Conditions and the terms of the relevant Contract.

8.2 Buyer shall, upon Supplier's reasonable request and otherwise as required, provide Supplier with all necessary information and materials to enable Supplier to provide Services in accordance with the terms of any relevant contract. Buyer will be responsible for the completeness and accuracy of all such information and materials provided, and will ensure that it is and remains entitled to provide the same to Supplier for use in connection with provision of the Services.

9. TERMS OF PAYMENT

9.1 Each shipment of Products shall be a separate transaction and Buyer will be invoiced on delivery. Notwithstanding the foregoing, if the Products are to be installed by Supplier or a third party acting on its behalf, Buyer may (at Supplier's discretion) be invoiced in accordance with the following payment scheme:

- 60% of the price upon Buyer's receipt of Supplier's order confirmation;
- 30% of the price upon delivery of the Products in accordance with Section 6;
- 10% of the price after acceptance of the Products in accordance with Section 11.

9.2 In the event of a delay in the delivery or acceptance that is not attributable to Supplier, the payment scheme shall not be affected and Buyer shall pay the installments based upon the initially agreed upon delivery or acceptance date.

9.3 Supplier shall be entitled to invoice Buyer, in respect of Services, yearly or monthly in advance. Terms of payment shall be net thirty (30) days from date of invoice for Products and Services unless agreed otherwise.

9.4 All amounts due under a Contract shall be paid in full by Buyer without deduction, withholding, set-off or counterclaim for any reason whatsoever, whether arising in contract, tort (including negligence), breach of statutory duty or otherwise, save as may be required by law.

9.5 Supplier may, in its sole discretion, determine at any time that Buyer's financial condition requires full or partial payment in advance or the provision of security for payment by Buyer in a form satisfactory to Supplier.

9.6 If Buyer fails to make any payment when due then, without prejudice to any other rights and remedies available to Supplier, Supplier shall (at its option) be entitled: (i) to treat the Contract as repudiated by Buyer, to suspend or cancel further delivery of Products and/or the provision of Services or any part thereof under that Contract or any other Contract between them and claim damages and/or receive reasonable cancellation fees; (ii) to affirm the Contract and claim damages from Buyer; and (iii) to recover, in addition to the payment, interest on the unpaid amount (both before and after judgement) at the rate of 6% per annum above the Royal Bank of Scotland's prevailing base lending rate from time to time, until payment in full is made. Such interest shall be calculated daily.

10. PRODUCTS

10.1 Supplier may modify specifications provided the modifications do not adversely affect the performance of the Products. In addition, Supplier may furnish suitable substitutes for materials used.

10.2 All descriptions, illustrations and any other information relating to the Products contained in Supplier's catalogues, brochures, price lists, advertising material and any sales or other particulars or literature are made by way of general description, are approximate only and for the general guidance and information of Buyer. They shall not constitute warranties or representations by Supplier nor shall they form part of any Contract.

11. INSTALLATION AND MAINTENANCE OF THE PRODUCTS

11.1 In the event of installation of the Products or the provision of maintenance, the following conditions shall apply and Supplier's price and provision of installation or maintenance are subject to the fulfilment of the following conditions at the expense and responsibility of Buyer:

- i. safe and secure climate controlled on-site storage so that Products and Supplier's tools (as applicable) are protected against theft and any damage or deterioration; any item lost or damaged during the storage period shall be repaired or replaced at Buyer's sole expense;
- ii. the timely and sufficient execution and completion of the preparatory works in accordance with all applicable safety, electrical and building codes as well as with Supplier's requirements;
- iii. the availability of Buyer's site to Supplier without obstacles in due time to enable Supplier to start installation or maintenance at the scheduled date;
- iv. the availability of the manpower and equipment necessary to place the Products in their final location or to provide the scheduled maintenance;
- v. the acquisition of all permits, licenses, rights of way, etc. of the pertinent authorities required for or in connection with installation or maintenance to be performed; and
- vi. the availability of all visas or any other permits necessary for Supplier's personnel and for the import and export of tools, equipment, and materials necessary for installation or maintenance to be performed.

11.2 In case any or all of the above conditions are not, not properly or not timely complied with, or Supplier has to interrupt its installation or maintenance works, subsequent testing for reasons not attributable to Supplier, the period of completion shall be extended accordingly and any and all additional costs resulting therefrom shall be for Buyer's account.

11.3 Supplier neither assumes liability nor offers any warranty for the fitness or adequacy of the premises or the utilities available at the premises in which the Products are to be installed, used or stored.

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Date: 10/24/2018

12. ACCEPTANCE OF INSTALLATION

12.1 In case of Installation of the Products, Supplier shall notify Buyer when the Products installed will be ready for testing and acceptance, inviting Buyer to attend Supplier's standard tests or such tests as may have been agreed upon in the Contract to demonstrate compliance with the agreed specifications and/or to inspect the installation work.

12.2 If Buyer fails to attend the testing on the date notified, Supplier will commence with the tests according to Supplier's standard test procedures and these tests shall be considered performed in the presence of Buyer and acceptance shall in such case take place on the basis of the results stated in the test certificate signed by Supplier.

12.3 In case Buyer rejects the Products installed it should submit to Supplier the reasons for such rejection in detail and in writing within 10 days after completion of the acceptance tests concerned. If, within Supplier's reasonable opinion, the rejection is justified, Supplier shall as a sole remedy correct the shortcomings as soon as possible and the relevant parts of the acceptance test shall be repeated within a reasonable period of time in conformity with the procedures outlined above.

12.4 Upon acceptance of the Products, Buyer will sign the acceptance certificate. If within 10 days after completion of the acceptance test Supplier shall not have received the acceptance certificate signed by Buyer or a report with a justified rejection, the Products installed shall then be considered as having been accepted by Buyer.

12.5 Minor defects or deviations not affecting the operational use of the Products installed shall be stated in the acceptance certificate, but shall not obstruct or suspend acceptance. Supplier undertakes to remedy such defects as soon as reasonably possible.

13. WARRANTIES

13.1 Supplier warrants that all Products shall be free from defects in material and workmanship under normal use for a period of (twelve) 12 months from delivery. In the event of installation this warranty period shall be for (twelve) 12 months from installation or eighteen (18) months from dispatch, whichever comes first, save that Supplier does not warrant that operation of the Software (defined in Section 15) will be uninterrupted or error free or that all program errors will be corrected. This warranty does not include any consumables such as filaments, lamps, fuses or other parts, which fail as a result of normal usage. Buyer shall be responsible for determining that the Product is suitable for Buyer's use and that such use complies with any applicable law. Provided that Buyer notifies Supplier in writing of any claimed defect in the Product immediately upon discovery and any such Product is returned at Buyer's risk to Supplier, transportation charges prepaid, within the warranty period in accordance with Section 13.1 and upon examination Supplier determines to its satisfaction, after a reasonable period to inspect such Products, that such Product is defective in material or workmanship, Supplier shall, at its option, repair or replace the Products, shipment to Buyer prepaid.

13.2 Supplier shall have a reasonable time to make such repairs or to replace such Product. Any repair or replacement of Products shall not extend the period of warranty. The warranty is limited to a period in accordance with Section 13.1, without regard to whether any claimed defects were discoverable or latent on delivery.

13.3 Supplier shall not be liable for any breach of the warranty or payment of damages in respect of Products supplied if: (i) Buyer makes further use of such Products after giving the notice required in Section 13.1; (ii) the defect or failure arises from Buyer's own fault; (iii) the defect arises from any drawing, design or specification supplied by Buyer or from other materials or other property supplied by Buyer or from any parts or items that have not been completely manufactured by Supplier; (iv) the defect arises other than out of manufacture, including without limitation improper installation, misuse by Buyer or a third party, neglect or accident; (v) the defect arises out of the use of the Products in conjunction with products or materials not reasonably contemplated by Supplier; (vi) the failure or defect results from Buyer's unauthorised addition to or modification of, or failure to comply with Supplier's written instructions relating to, the Products or Services; and (vii) the failure or defect arises out of any breach by Buyer of its obligations to provide information to Supplier under these Conditions or Contract.

13.4 If Buyer fails to pay when due any portion of any payment due from Buyer to Supplier under a Contract or otherwise, all warranties and remedies granted under this Section may, at Supplier's option, be terminated.

13.5 The foregoing warranties are exclusive and exclude all other warranties, terms and conditions, express or implied by statute or otherwise, to the extent permitted by law, including without limitation warranties of quality or fitness for a particular purpose. Supplier's sole and exclusive liability, and Buyer's sole and exclusive remedy for breach of the warranties in this Section 13 shall be as set forth in Section 13.1.

14. LIABILITY

14.1 Nothing in these Conditions or Contract shall exclude or limit Supplier's liability for fraud or death or personal injury caused by its negligence or any other liability to the extent that the same may not be excluded or limited as a matter of law.

14.2 Subject to Section 14.1, in relation to Products, Supplier's maximum aggregate liability under or arising out of any Contract, whether arising in contract, tort (including negligence) or otherwise, shall in no event exceed 100% of the total amount payable by Buyer in respect of Products under that Contract.

14.3 Subject to Section 14.1 in relation to Services, Supplier's maximum aggregate liability under or in connection with the supply, non-supply or purported supply of Services under any Contract, whether arising in contract, tort (including negligence) or otherwise, shall in no event exceed 100% of the total amount payable by Buyer in respect of Services under that Contract and in respect of Services continuing beyond one year, shall in no event exceed in any year 100% of the total amount payable by Buyer in respect of Services in that year.

14.4 Subject to Section 14.1, Supplier shall be under no liability to Buyer for any loss of profit, loss of income, loss of use, loss of business, loss of revenue, loss of goodwill, or for any indirect or consequential loss or damage of any kind, in each case, howsoever arising, whether such loss or damage was foreseeable or in the contemplation of the parties and whether arising in tort (including negligence), contract or otherwise.

14.5 Any claim arising out of or in connection with a Contract must be commenced against Supplier within one year from the date upon which Buyer became aware of or should have become aware of Supplier's infringement of Buyer's rights, unless otherwise specified under applicable law.

15. SOFTWARE

Supplier or its suppliers (as the case may be) shall at all times have and retain title and full ownership of all software, firmware, programming routines, and documentation relating to such software supplied by Supplier for use with the Products, and of all copies made by Buyer or the end user of the Products (collectively "Software"). A non-exclusive, non-transferable and non-sublicensable licence to use such Software will be granted to the end user solely for use with the Products.

16. INTELLECTUAL PROPERTY RIGHTS

16.1 Notwithstanding delivery of and the passing of title in any Products and subject to section 15 and 16.3, nothing in these Conditions or any Contract shall have the effect of granting or transferring to, or vesting in, Buyer any intellectual property rights in or to any Products and/or Services.

16.2 Buyer acknowledges and agrees that all property, copyright and other intellectual property rights in any work or tangible deliverable item arising from or created, produced or developed by Supplier under or in the course of provision of any Services (the "Works"), wherever in the world enforceable, including without limitations all right title and interest in and to the Services and all documents, data, drawings, specifications, articles, sketches, reports, inventions, improvements, modifications, discoveries, tools, scripts and other items relating thereto shall immediately upon creation or performance vest in and shall be and remain the sole and exclusive property of Supplier and Buyer shall acquire no right, title or interest in or to the same except as expressly stated in these Conditions.

16.3 The Supplier grants to the Buyer a non-exclusive, non-transferable and non-sublicensable licence to use such of the Works as are necessary, and to the extent necessary, for the end user to obtain and utilise the intended benefit of the Services.

16.4 If any claim is made against Buyer that the Products or Services infringe the patent, copyright or other intellectual property rights of any third party, Supplier shall indemnify Buyer against all losses, damages, costs and expenses awarded against, or incurred by, Buyer in connection with the claim or paid, or agreed to be paid, by Buyer in settlement of the claim provided that: (i) Supplier is given full control of any proceedings or negotiations in connection with any such claim; (ii) Buyer shall not make any admission of liability and shall give Supplier all reasonable assistance for the purposes of any such proceedings or negotiations; (iii) except pursuant to a final award, Buyer shall not pay or accept any such claim, or compromise any such proceedings without the consent of Supplier; (iv) Buyer shall do nothing which would or might vitiate any insurance policy or cover which Buyer may have in relation to such infringement and shall use its best endeavours to recover any sums due thereunder and this indemnity shall not apply to the extent that Buyer recovers any sums under any such policy or cover; (v) Supplier shall be entitled to the benefit of, and Buyer shall accordingly account to Supplier for, all damages and costs (if any) awarded in favour of Buyer which are payable by, or agreed with the consent of Buyer (which consent shall not be unreasonably withheld) to be paid by, any other party in respect of any such claim; and (vi) without prejudice to any duty of Buyer, Supplier shall be entitled to require Buyer to take such steps as Supplier may reasonably require to mitigate or reduce any such loss, damages, costs or expenses for which Supplier is liable to indemnify Buyer under this section 16.4, which steps may include (at Supplier's option) terminating use of the Product or Service, accepting from Supplier non-infringing, modified or replacement Products or Services.

16.5 Supplier shall have no obligation or liability under Section 16.4 insofar as the infringement arises from: (i) any additions or modifications made to the Products and/or Services in question, otherwise than by Supplier or with its prior written consent; (ii) any information provided by Buyer to Supplier including without limitation any specification; (iii) performance by Supplier of any work required to any Products, or performance of any Services, in compliance with Buyer's requirements or specification; (iv) a combination with or an addition to equipment not manufactured or developed by Supplier; or (v) the use of Products beyond that scope established by Supplier or approved in writing by Supplier.

16.6 Without prejudice to Section 14.1, this Section 16 states the entire liability of Supplier and the exclusive remedy of Buyer with respect to any alleged infringement of intellectual property rights belonging to a third party arising out of or in connection with the performance of any Contract. This Section 16 shall be subject to the limits of liability in Sections 14.2.

17. FORCE MAJEURE

Notwithstanding anything to the contrary in these Conditions, Supplier shall not be liable to Buyer for any loss or damage which may be suffered by Buyer as a direct or indirect result of the supply of Products or Services being prevented, delayed or rendered uneconomic by reason of circumstances or events beyond Supplier's reasonable control. If due to such circumstances or events Supplier has insufficient stocks to meet all its commitments Supplier may apportion available stocks between its customers at its sole discretion.

18. CONFIDENTIAL INFORMATION

Each party undertakes to keep confidential, not use for its own purposes outside the agreed scope and not without the prior written consent of the other party disclose to any third party, any information of a confidential nature belonging or relating to the other party which may become known to it unless such information is or becomes public knowledge (other than by breach of this Section) or is required to be disclosed by order of a competent authority.

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19. CANCELLATION, RESCHEDULING AND TERMINATION

19.1 Orders for Products accepted by Supplier may be cancelled or rescheduled by Buyer only with the written consent of Supplier (which consent Supplier may withhold for any reason) and Buyer shall indemnify Supplier against the cost of all labour and materials used in connection with the order so cancelled or varied and against all loss, damage cost, charges and expenses suffered or incurred by Supplier as a result of that cancellation or variation. Contracts for Services shall commence on the commencement date identified in the relevant Contract and, subject to earlier termination in accordance with Section 19.2, shall continue in force for the initial term as prescribed in such Contract and thereafter for any renewal period (if any) set out in the Contract and thereafter without limit of period unless or until terminated by either party in accordance with 19.2.

19.2 Either party may terminate a Contract for Services immediately at any time by written notice to the other party if the other party commits a material breach of the Contract for Services which is incapable of remedy or which fails to be remedied. Notwithstanding the foregoing, either party may terminate a Contract for Services by giving ninety (90) days written notice to the other party.

19.3 Upon termination or expiry of any Contract, for Services, each party shall except to the extent permitted or required to exercise or perform its continuing rights, or obligations hereunder, return to the other party all property of the other party then in its possession, custody or control and shall not retain any copies of the same.

19.4 Termination of any Contract in accordance with these Conditions shall not affect the accrued rights or liabilities of the parties at the date of termination.

20. INSOLVENCY OF BUYER

If: (i) Buyer becomes insolvent, has a receiver, administrative receiver, administrator or manager appointed of the whole or any part of its assets or business, makes any composition or arrangement with its creditors, takes or suffers any similar action in consequence of debt or an order or resolution is made for its dissolution or liquidation (other than for the purpose of solvent amalgamation or reconstruction) or carries out or undergoes any analogous act or proceedings under an applicable foreign law; or (ii) Buyer ceases, or threatens to cease to carry on business then, without prejudice to any other right or remedy available to Supplier, Supplier may treat any Contract as repudiated and/or withhold any further supply of Products and/or Services without any liability to Buyer and, if any Products and/or Services have been supplied but not paid for, the price or fees shall become immediately due and payable notwithstanding any previous agreement or arrangement to the contrary.

21. EXPORT CONTROL

21.1 Buyer understands that where Supplier's obligations under the Contract to supply any Products or Services are subject to governmental export control laws and regulations, the performance of this Contract and Buyer's use or export of any Products delivered by Supplier shall be conditional upon the grant of all necessary permits or licences. Buyer shall provide all information and documentation, including where necessary end user certification, not in Supplier's possession and required by the relevant application procedure to enable Supplier to make the necessary applications for permits or licences required for deliveries to Buyer. Supplier shall be relieved from its obligations to Buyer to supply any Products or Services to the extent that applications for permits or licences for the same are refused by a relevant governmental authority. To the fullest extent permitted by law, Buyer shall have no right to claim compensation for damages, loss of business or otherwise arising from such a refusal or Contract termination.

21.2 Buyer shall not, directly or indirectly, sell, provide access to, export, re-export, transfer, divert, loan, lease, consign, tranship (including stop in port), transport, or otherwise dispose of any Supplier's Product, material, Software (including source code) or technology to, via, or for: (i) any entity known to be headquartered in, or owned or controlled by a national of, any country or region subject to comprehensive sanctions at any time; (ii) any other individual or entity identified on a denied or restricted party list; or (iii) any activity or end-use restricted by applicable laws without first obtaining all required government authorisations.

21.3 Supplier shall have the right, at its option, to suspend performance under or terminate any Contract if: (i) applicable comprehensive sanctions are imposed; (ii) the Buyer is designated as or determined to be a denied or restricted party under applicable law; or (iii) where the Supplier's obligations under these Conditions or any Contract to supply items or Services are subject to governmental export control laws and regulations, the performance of any Contract and Buyer's use or export of any item delivered by Supplier shall be conditional upon the grant of all necessary permits or licences.

22. GENERAL

22.1 These Conditions and any Contract shall be governed by the laws of the commonwealth of Massachusetts, USA. The parties agree that the United Nations Convention on Contracts for the International Sale of Goods is specifically excluded from application to these Conditions. The parties shall agree to settle any claims or disputes arising out of or in connection with these Conditions or any Contract by amicable negotiations. If no settlement can be reached through negotiations within sixty (60) days after either party has served written notice to the other requesting such negotiations, then the dispute shall be submitted to the exclusive jurisdiction of state or federal courts in Massachusetts.

22.2 Failure by Supplier to exercise or enforce any rights hereunder shall not be deemed to be a waiver of any such right.

22.3 If any Conditions are found to be invalid, this shall not affect the rest of the Contract, which shall remain in full force and effect.

22.4 Buyer may not assign, transfer, novate or otherwise dispose of all or any of its rights or obligations, in whole or in part without the written consent of Supplier.

22.5 These Conditions constitutes the entire agreement and supersedes any prior agreement, understanding, representations or arrangements between the parties with respect to its subject matter.

22.6 Variation to any Contract must be in writing and signed by the parties.

22.7 All notices given under these Conditions shall be sent to the address of the other party set forth in the Quotation or in Contract. Notice shall be regarded as properly given if sent in writing and shall be deemed to have been served on the next working day from delivery if sent by email or fax, and on the day of receipt if sent by express courier or by registered mail.

May 2018 US edition

QUOTATION

**State Purchasing Bureau
Att: Rene Botts
1526 K Street Suite 130
Lincoln NE 68508**

PANalytical Incorporated

117 Flanders Road
Westborough, MA 01581
Fax: 508-647-1115
www.panalytical.us

Date
1/7/2019

Sales contact:
Scott Krane
East Dundee IL 60118
Tel: 630-608-7084
Fax: 508-768-6403
email :scott.krane@panalytical.com

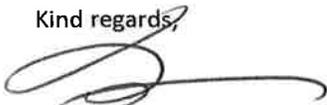
Quotation Number:	Your reference	Page
US1901070838 - 0	Solicitation Number 5987OF	1 of 18

Dear Ms Botts ,

This price quotation is compiled at your request and is configured as specified.

Please contact me with any questions.

Kind regards,



Scott Krane
Account Manager – Midwest
Malvern Panalytical, Inc.

DETAILED DESCRIPTION

Minerals edition of Zetium

Pos	Qty.	Item number	Description	Price USD
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BASIC PACKAGE

1	1	9430 654 00011	Zetium XRF Spectrometer	
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This, the starting point for any Zetium configuration, includes but is not limited to the following:

- spectrometer cabinet with thermal stability control system
- integrated X-Y-Z sample changer for unattended batch analysis
- turret-style sample loading mechanism with an airlock chamber allows the tube to remain at full power while samples are changed, maximizing stability and minimizing the risk of tube window damage
- sophisticated vacuum system which, in combination with the sample airlock, eliminates the need to evacuate the entire optical chamber before each measurement
- sample spinner minimizes the effects of sample surface inconsistencies
- PANalytical-made, 1 kW, Super Sharp X-ray Tube (SST) and a high-quality programmable generator for optimal excitation of the sample
- soft power down functionality when UPS systems take over power supply
- 4 filters to maximize the sensitivity of the spectrometer to the elements of interest
- fixed collimator mask to match the size of the sample
- one collimator included to match the analytical requirements
- 3 crystals for the analysis of elements across the periodic table
 - PX-1 crystal for the analysis of O to Mg
 - PE002 crystal for the analysis of Al to Cl
 - LiF200 crystal for the analysis of K to Am
- integrated flow detector
- digital Dual Multi-Channel Analyzer (DMCA) counting electronics deliver exceptional performance at high count rates
- high-precision goniometer positioning with DOPS2 (Direct Optical Position Sensor) eliminates drift associated with wear and tear
- PANalytical's SuperQ Analytical Software with integrated Statistical Process Control
- Remote Assistance Suite for easy, quick and secure

Pos	Qty.	Item number	Description	Price USD
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hardware, software and applications support

- two 37 mm aperture sample holders with 41 mm centering inserts
- heavy-duty wheels for easy mobility and an umbilical cord for power, gasses and water supplies interfacing with a wall unit for easy installation and maintenance
- pre-installation kit, which can be shipped in advance

Note: Items listed below which have no part number but indicate 'Included' are part of the Zetium package.

PACKAGE INDUSTRY

2 1 9430 654 00061

Minerals edition

**MINERALS
edition**

The Minerals edition package includes hardware and application templates, which upgrades the system to a specification tailored to the Minerals industry. These include:

- hardware upgrades, which deliver enhanced sensitivity and reduced measurement times for medium-throughput environments, including:
 - power upgrade from 1 kW to 2.4 kW
 - second collimator
 - Ge111 crystal for enhanced sensitivity to P to Cl
 - LiF220 crystal for enhanced resolution to V to Am
 - scintillation detector for enhanced sensitivity to elements > Mn
- WROXI SuperQ application template for the analysis of majors and minors in a wide range of oxide materials including (but not limited to):
 - phosphates · limestone
 - slags · gypsum
 - mineral ores · soils
 - ceramics · cements
 - clays · glass

WROXI calibration standards or certification of 25 customer samples is also included as part of the Minerals edition package.

Please note: the inclusion of this package requires the addition of an external chiller.

3 1 9430 655 63002

WROXI Calibration Standards

The WROXI calibration set includes 20 multi-element standards for the analysis of the following majors and

Pos	Qty.	Item number	Description	Price USD
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minors in geological materials:

Na2O -> 0 to 58 %	Mn3O4 -> 0 to 80 %
MgO -> 0 to 78 %	Fe2O3 -> 0 to 81 %
Al2O3 -> 0 to 78 %	NiO -> 0 to 12 %
SiO2 -> 0 to 80 %	CuO -> 0 to 8 %
P2O5 -> 0 to 40 %	ZnO -> 0 to 10 %
SO3 -> 0 to 59 %	SrO -> 0 to 20 %
K2O -> 0 to 40 %	ZrO2 -> 0 to 43 %
CaO -> 0 to 80 %	BaO -> 0 to 43 %
TiO2 -> 0 to 40 %	HfO2 -> 0 to 10 %
V2O5 -> 0 to 10 %	PbO -> 0 to 10 %
Cr2O3 -> 0 to 10 %	

PACKAGE APPLICATION

4	1	9430 654 52921	Omnian Standardless Analysis Software
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Omnian is the market-leading "standardless" analysis package for the characterization of unknown samples or in situations where certified standards that match specific sample characteristics are not available. Important applications include sample quantification, screening, failure analysis as well as the comparison of different materials. Omnian makes no compromises in data quality by using scan based data collection, allowing:

- both qualitative and quantitative analysis for a quick visual screening and/or full quantification of all elements present
- an accurate background profile, superior to the estimations obtained from fixed background positions
- a view of all peaks and backgrounds across the periodic table, reducing the chance of incorrect element identification
- advanced determination of background profiles
- search and match of all peaks
- line overlap corrections

Scan based programs can be augmented with peak measurements for higher precision and lower detection limits for key elements.

With Omnian, standardless analysis is brought to the next level by incorporating the latest innovations of PANalytical's advanced FP algorithm:

- finite thickness and Fluorescence Volume Geometry (FVG) corrections for the accurate analysis of deeper layers in light matrix samples
- calculation of unmeasured "Dark Matrix" compounds by using the Compton scatter for an accurate quantification

Pos	Qty.	Item number	Description	Price USD
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of the total sample composition
 Another unique feature is Adaptive Sample Characterization (ASC), which automatically selects the calibration line that best corrects for sample-specific effects.

5	1	9430 654 51891	Omnian Drift Monitor Sample	
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Drift monitor sample (40mm) for Omnian, required for maintenance of the Omnian set-up. Note that this monitor sample is also included in the Omnian standards set.

PACKAGE HARDWARE

6	1	9430 654 64442	Helium Package	
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The Helium Package allows for the analysis of liquids and loose powders on the Zetium platform. This gas purge system recognizes the incoming sample and, when required, automatically switches from vacuum to helium or nitrogen as analysis medium. The package includes

- the hardware required for helium (or nitrogen) purging of the optical chamber
- 2 x liquid sample holders for P2 cups
- 1000 x disposable P2 liquid cups
- 1500 x pre-cut Mylar foils with a thickness of 3.6 µm

a P2 assembly tool

OPTICS

7	1	9430 655 18101	100 µm Cu Filter for LLD improvement (20-30 keV)	
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Primary Beam Filter: Brass 100 micron thickness for lower limit of detection improvement in the energy range of 20-30 keV.

8	1	9430 655 18201	200 µm Al Filter for LLD improvement (6-10 keV)	
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Primary Beam Filter: Aluminium 200 micron thickness for lower limit of detection improvement in the energy range of 6-10 keV.

9	1	9430 655 18401	400 µm Cu Filter for Rh K tube lines	
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Primary Beam Filter: Brass 400 micron thickness for Rh K tube lines

Pos	Qty.	Item number	Description	Price USD
10	1	9430 655 18751	750 µm Al Filter for LLD improvement (13-17 keV) Primary Beam Filter: Aluminium 750 micron thickness for lower limit of detection improvement in the energy range of 13-17 keV.	
11	1	9430 654 20031	3-Position Programmable Collimator Mask 3 position programmable collimator mask assembly, including sample viewing diameters of 27, 30 and 37mm	
12	1	9430 655 78151	High-resolution Collimator (150 µm) Primary collimator, 150 micron, optimized for high resolution.	
13	1	9430 655 78701	Collimator for O - Cl (700 µm) Primary collimator, 700 micron, optimized for longer wavelengths in the elemental range O - Cl.	
14	1	9430 654 78301	Medium-resolution Collimator (300 µm) Primary collimator, 300 micron, optimized for medium resolution and general purpose use.	
15	1	9430 654 15361	LiF200 to PX10 Crystal Upgrade PX-10 crystal. This crystal provides enhanced performance in the elemental range K - U. The PX10 is a higher performance alternative to the LiF200 crystal	
16	1	INCLUDED	PE CRYSTAL PE (002) crystal, 2d = 0.874 nm. This monochromator is used for the elemental range Al - Cl. It is recommended for routine analysis.	
17	1	INCLUDED	LIF220 CRYSTAL LiF 220 crystal. This monochromator is used for the elemental range V - U. It's reflectivity is approximately 40% of the LiF200 crystal but it has a greater dispersion than the LiF 200	
18	1	INCLUDED	GE CRYSTAL Ge (111) crystal, 30 mm wide, 2d = 0.653 nm. This monochromator is used for P, S and Cl analysis, having a higher dispersion than PE (002) and eliminates second order interferences.	

Pos	Qty.	Item number	Description	Price USD
19	1	9430 654 15081	G111 Flat to Curved Crystal Upgrade The Ge (111) Curved crystal upgrade, provides for the replacement of the default Ge flat crystal by a transversely curved Ge crystal at the point of assembly in the factory. This monochromator (crystal) is used for P, S and Cl analysis. This transversely curved monochromator produces higher intensity and sharper peaks than the flat crystal.	
20	1	INCLUDED	PX1 CRYSTAL PX1 synthetic multilayer monochromator, 2d = 5.1 nm approx. This monochromator is used in the element range O - Mg. It has higher reflectivity than TIAP, is non-toxic and does not deteriorate with age. It is recommended for routine analysis.	
CHANNEL				
21	1	INCLUDED	Scintillation Detector Scintillation counter for the Zetium spectrometer. This detector is optimal for the analysis of elements heavier than Zn.	
SAMPLE TRAYS				
22	1	INCLUDED	Tray for 8 Sample Holders 8 position sample tray for solid or liquid sample holders	
23	1	9430 655 28001	Tray for Samples or Cups 8 position sample tray designed for both samples holders and samples not mounted in a sample holder. Staggered concentric rings ensure the self-centering of samples and protection of the analytical surface of the sample when not mounted in a sample holder.	
24	2	9430 654 28001	Tray for Samples or Cups 8 position sample tray designed for both samples holders and samples not mounted in a sample holder. Staggered concentric rings ensure the self-centering of samples and protection of the analytical surface of the sample when not mounted in a sample holder.	

Pos	Qty.	Item number	Description	Price USD
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SAMPLE HOLDERS

25	8	9430 654 29511	Spring-loaded Steel Sample Holder with a 37 mm Aperture (x4) A set of 4 stainless steel sample holders with a 37 mm sample viewing aperture. The sample holders have a spring loaded backing plate to hold the sample in position.	
26	4	9430 654 11411	Steel Insert with a 41 mm Opening (x4) Set of 4 stainless steel sample holder inserts for centering samples with approximately a 41mm diameter	
27	8	9430 654 27941	P2 Liquid Sample Holders (x4) Set of 4 Stainless steel liquid holders for use with the P2 disposable plastic sample cups	
28	1	9430 500 00671	P2 DISPOSABLE CUPS WITH HOLES P2 45mm disposable liquid cells with extra holes for improved He flushing. Set of 1000	
29	1	9430 654 31201	P2 Liquid Cup Assembly Tool Tool designed for the easy assembly of disposable P2 liquid sample cells	

INSTALLATION

30	1	9430 655 02301	Connection to 230V Connection to 230V	
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ADDITIONAL REQUIRED

31	1	9430 015 30301	LIF200 CRYSTAL LiF 200 crystal. This monochromator can be used in the elemental range K - U.	
32	1	9200 130 09591	WATER COOLED WATER CHILLER (LX3-W2 WITH M115 ACCESSORY KIT) LX3-W2 Haskris refrigerated water recirculating system equipped with a water cooled condenser capable of providing 6,500 watts of cooling capacity. This unit is equipped with a robust turbine water pump for extra	

Pos	Qty.	Item number	Description	Price USD
			<p>durability and a high temperature thermostat cut-off system designed to de-energize pump if the inlet water temperature increases to unsafe levels. The unit is also equipped with hand operated shut-off valves for easy isolation during servicing.</p> <p>The M115 Accessory Kit includes:</p> <ul style="list-style-type: none"> • 1/2 " Hand Shut-Off Valves • Y- Strainer: a cleanable screen filter used to filter the tap water cooling the chiller • Hose Kit <p>All LX Series Chillers are UL Listed. This chiller is not to be used in combination with a UPS.</p>	
33	1	9425 011 90000	<p>HELIUM ADAPTER</p> <p>An adaptor to allow the European helium regulators shipped with the XRF instruments to connect to U.S. supplied helium tanks. This adaptor is required for all XRF systems equipped with helium flush systems that are to be delivered to U.S. locations.</p>	
34	1	9430 500 70291	<p>MONITOR SAMPLE CEMENT</p> <p>Monitor sample for cement</p>	
35	1	9425 038 70320	<p>XRF ON SITE EXPERTISE, 2 DAYS</p> <p>Two days (16 hours) of on-site expertise comprising of in-depth training and/or application (module) setup. The expertise will be provided by a PANalytical Application Specialist. Includes travel and lodging. The development of company specific Standard Operating Instructions (SOPs) and calibration standards is not included. The PANalytical application specialist will contact the customer to discuss the content of the expertise and to ensure the requirements are feasible within the total amount of time purchased. PANalytical may deliver as one full day (8 hour) plus 2 half days (2x4 hours), all contiguous.</p>	
36	1	9425 038 70330	<p>XRF ON SITE EXPERTISE, ADDITIONAL DAY</p> <p>Additional day (8 hours) of on-site expertise comprising of in-depth training and/or application (module) setup. The expertise will be provided by a PANalytical Application Specialist. Includes travel and lodging. The development of company specific Standard Operating Instructions (SOPs) and calibration standards is not included. The PANalytical</p>	

Pos	Qty.	Item number	Description	Price USD
			<p>application specialist will contact the customer to discuss the content of the expertise and to ensure the requirements are feasible within the total amount of time purchased. PANalytical may deliver as 2 successive half days (2x4 hours).</p> <p>This item can only be ordered in combination with 9425 038 70310 or 9425 038 70320.</p>	
37	40	9200 130 09721	<p>XRF Remote Expertise 1 Hour</p> <p>One hour of remote expertise comprising in-depth training, application setup, deployment of application modules and solutions or combinations of the above. The expertise will be provided by PANalytical Application Specialists. Requires internet access to the instrument PC. During these training sessions, control of the software and desktop applications can be handed back and forth between the user and instructor to allow a truly interactive training session. This item can be purchased in one hour increments. Remote expertise purchases are valid for 1 year from delivery or hardware installation, whichever is longer, up to 16 months in any case. If left unused please note this item has no cash value and cannot be exchanged, refunded or returned.</p>	
38	1	9200 130 08801	<p>WARRANTY FOR NEW PANALYTICAL WD XRF SYSTEMS</p> <p>One year system warranty is included. The warranty includes all labor, travel and living costs for PANalytical Customer Support Engineers (CSE) on PANalytical business days, business hours. Additional coverage is available. All PANalytical service parts necessary for repair due to manufacturers defect are covered - parts are shipped at PANalytical expense.</p> <p>One Preventative Maintenance (PM) visit will be provided approximately 9 months after installation - any required consumables for PM are additional.</p> <p>Third party items have a separate manufacturer warranty, during the initial PANalytical system warranty period PANalytical takes first call responsibility.</p> <p><u>PANalytical X-ray Tube Warranty with new WD XRF Systems</u> All PANalytical Ceramic SST X-ray Tubes, 2.4kW and higher have a separate 2 year "X-rays on" item replacement warranty (not prorated). When the optional CHI-BLUE tube window protection is purchased, an additional one year of tube warranty is included. Total tube warranty is then 3</p>	

Pos	Qty.	Item number	Description	Price USD
			years. All PANalytical 1kW Ceramic SST X-ray tubes (with or without CHI-BLUE) have a separate 3 year "X-rays on" item replacement warranty (not prorated). For additional warranty information see section 12. .	
39	1	9430 020 90151	XRF IN THE WORKPLACE Book with title: XRF in the Workplace; A guide to practical XRF Spectrometry. Authors: James Willis, Ken Turner, Gary Pritchard. ISBN 978-0-620-50665-6	
40	1	9425 030 42200	XRF THEORY AND SUPERQ COURSE, WESTBOROUGH The fundamental and practical aspects of X ray fluorescence analysis using sequential wavelength dispersive spectrometers are treated in this course. Emphasis is placed on the setting up applications, calibration and daily use of SuperQ and Omnian standardless software. Practical and theoretical aspects of parameter selection, matrix effects, sample preparation, quantitative analysis, standardless analysis, calibration and calibration update, monitor correction and results analysis are treated in detail. The course is composed of lectures and hands-on sessions using the Axios spectrometers available in our Application Laboratory in Westborough MA, USA. Two versions of this course exist, one based on Super version 6 (Zetium), and one based on SuperQ version 5 (Axios, Axios mAX, MagiX, MagiX PRO). The following aspects will be covered during the course: <ul style="list-style-type: none">• Basic theory of X-ray fluorescence and instrumentation• Qualitative and Quantitative analysis• Application Setup• Calibration, Matrix effect and Sources of errors• Omnian standardless analysis• Drift monitors, their implementation and practical use• Sample preparation of fused beads, pressed pellets, loose powders and liquids Course duration: 3 days. Travel and lodging expenses are not included. Important note: As two versions of this course exist, always refer to the course overview on the PANalytical Website at www.PANalytical.com to enroll for the course that is	

Pos	Qty.	Item number	Description	Price USD
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applicable to your situation. Course dates and availability are subject to change.

41 1 9200 130 08691 INSTALLATION OF FLOOR STANDING SYSTEMS

The installation of floor standing x-ray systems will be performed free of charge by a factory trained service engineer after notification by the purchaser that the shipment has arrived and that all pre-installation work is completed. Upon delivery, it is the purchaser's responsibility to bring the items in their original packaging to the job site. Final placement of the system is supervised by a factory trained Installation Engineer.

A pre-installation survey is provided at no charge and is required by PANalytical. This on-site survey is to identify preparation work required to be completed before installation. The water chiller (if purchased) is to be installed by the purchaser.

Installation sign-off procedure

When the installation is completed, the installation engineer performs the Factory Acceptance Test (FAT). The FAT is a series of electrical and mechanical tests that duplicate the quality and performance tests done in the factory prior to shipment. When the system passes the FAT, the customer then signs the FAT results form, acknowledging that the system successfully duplicated or exceeded all functional requirements. At this point the system is handed off to the customer and warranty begins.

42 1 9200 130 08711 SHIPPING FOR ZETIUM

Insured shipping to destination is included

Total Price 297,850.00

Discount 81,862.00

Total Net Price 215,988.00

Payment and delivery conditions.

Delivery terms

Delivery 120 Days after receipt of the order
Validity 120 Days after date of this quotation

Payment Conditions

50.00 % Order confirmation
45.00 % Before Shipment
5.00 % Installation acceptance

Payment terms

14 days after invoice date net

Inco Terms

CIP - Carriage Insurance Paid to <(Air-)port of destination>

Prices Do Not Include Taxes or Shipping

PANalytical Incorporated

117 Flanders Road
Westborough, MA 01581
Fax: 508-647-1115
www.panalytical.us

Ref.: Q-05480-1
Date: 10/24/2018

TERMS AND CONDITIONS FOR SALE AND SUPPLY OF GOODS AND SERVICE ("CONDITIONS")

1. INTERPRETATION

For the purposes of these Terms and Conditions of Sale and Supply ("Conditions"):

"Buyer" - the person, firm or company which places an order for purchase of Products and/or Services as identified in any such order or Quotation as the case may be.

"Conditions" - these terms and conditions of sale and supply as from time to time varied by Supplier.

"Contract" - the agreement between Supplier and Buyer arising as a result of Buyer's submission of an order for Supplier's Products and Supplier's written acceptance and/or, in the case of Services, an agreement between such parties for the provision of Services by Supplier, as initiated by a Quotation. Such Contract shall be deemed to incorporate and be governed by these Conditions.

"Products" - goods as agreed to be supplied by Supplier to Buyer under any Contract including, Software if any.

"Quotation" - a document provided by Supplier describing Products and/or Services offered to Buyer, subject to these Conditions.

"Services" - means any services which Supplier has agreed to provide using reasonable care and skill under any Quotation or Contract, as applicable.

"Supplier" - Malvern Panalytical Inc. or any of its Affiliates as named in any Quotation. In this context, an "Affiliate" means any other entity directly or indirectly controlled by Spectris Plc.

2. BASIS OF SALE

THESE CONDITIONS SHALL TAKE PRECEDENCE OVER ANY TERMS AND CONDITIONS WHICH APPEAR IN BUYER'S ORDER OR IN ANY DOCUMENTS INCORPORATED BY REFERENCE IN BUYER'S ORDER. No term or condition of Buyer's order additional to or different from these Conditions shall become part of any Contract unless explicitly agreed to in writing by Supplier. Retention by Buyer of any Products delivered by Supplier, receipt by Buyer of any Services performed by Supplier or payment by Buyer of any invoice rendered hereunder, shall be conclusively deemed acceptance of these Conditions. Supplier's failure to object to any provision contained in any communication from Buyer shall not be construed as a waiver of these Conditions nor as an acceptance of any such provision.

3. QUOTATIONS

Prices, specifications and delivery date referenced in Supplier's Quotations are for information only and shall not be binding on Supplier until all technical requirements have been agreed and Supplier has accepted Buyer's order. Quotations terminate if Buyer does not place an order with Supplier within any express period indicated by Supplier or after 60 days, whichever comes first.

4. ORDERS

By submitting an order to Supplier, Buyer agrees to be subject to these Conditions in their entirety. No order, whether or not submitted in response to a quotation by Supplier, shall be binding upon Supplier until accepted in writing by Supplier.

5. PRICES AND TAXES

The prices for Products and Services will be as set out in the Quotation or as otherwise agreed between the parties in writing. As and when applicable to the Products sold and/or Services supplied under any Contract, prices do not include taxes, transport charges, insurance and export and/or import charges or duties, including without limitation sales, value added tax, use or excise taxes, which taxes and other charges may, in Supplier's discretion, be added by Supplier to the price or billed separately and which taxes and other charges shall be paid by Buyer unless Buyer provides Supplier with any necessary tax exemption certificate. Buyer shall pay for taxes, transport charges, insurance, export/import charges and duties unless agreed otherwise in writing.

6. SHIPMENT AND DELIVERY

6.1 Unless otherwise agreed by both parties in writing, Supplier shall arrange for delivery of Products Free Carrier (FCA Incoterms 2010) to Supplier's manufacturing facility (or an (international) airport close to Supplier's manufacturing facility) as agreed between the parties. Any dates quoted or agreed for delivery of Products or provision of Services are approximate only and Supplier shall not be liable for any delay howsoever caused and time is not of the essence.

6.2 Supplier reserves the right to make delivery of Products and provision of Services by instalments and to issue a separate invoice in respect of each instalment. When delivery is to be by instalments or Supplier exercises its right to deliver by instalments or if there is delay in the delivery of any one or more instalments for whatever reason Buyer shall not be entitled to treat the Contract as a whole as repudiated.

7. RISK AND PASSING OF TITLE

Title to, and risk of loss and damage to the Products shall pass to Buyer on delivery in accordance with Section 6 unless agreed otherwise by the parties in writing. Any claims for loss, damage or misdelivery shall be filed with the carrier and notified to Supplier within 5 days of the date of delivery. If installation is a requirement of the Contract and such installation is delayed by more than 28 days from the agreed delivery date for reasons not attributable to Supplier, then, to the extent allowed by applicable law, the Products shall be deemed accepted and Supplier shall be entitled to invoice the remaining balance of the Contract in full. Invoicing the remaining balance does not relieve Supplier from its installation obligations in accordance with the applicable term in the Contract.

8. SERVICES

8.1 Supplier shall provide Services in accordance with these Conditions and the terms of the relevant Contract.

8.2 Buyer shall, upon Supplier's reasonable request and otherwise as required, provide Supplier with all necessary information and materials to enable Supplier to provide Services in accordance with the terms of any relevant contract. Buyer will be responsible for the completeness and accuracy of all such information and materials provided, and will ensure that it is and remains entitled to provide the same to Supplier for use in connection with provision of the Services.

9. TERMS OF PAYMENT

9.1 Each shipment of Products shall be a separate transaction and Buyer will be invoiced on delivery. Notwithstanding the foregoing, if the Products are to be installed by Supplier or a third party acting on its behalf, Buyer may (at Supplier's discretion) be invoiced in accordance with the following payment scheme:

- 60% of the price upon Buyer's receipt of Supplier's order confirmation;
- 30% of the price upon delivery of the Products in accordance with Section 6;
- 10% of the price after acceptance of the Products in accordance with Section 11.

9.2 In the event of a delay in the delivery or acceptance that is not attributable to Supplier, the payment scheme shall not be affected and Buyer shall pay the instalments based upon the initially agreed upon delivery or acceptance date.

9.3 Supplier shall be entitled to invoice Buyer, in respect of Services, yearly or monthly in advance. Terms of payment shall be net thirty (30) days from date of invoice for Products and Services unless agreed otherwise.

9.4 All amounts due under a Contract shall be paid in full by Buyer without deduction, withholding, set-off or counterclaim for any reason whatsoever, whether arising in contract, tort (including negligence), breach of statutory duty or otherwise, save as may be required by law.

9.5 Supplier may, in its sole discretion, determine at any time that Buyer's financial condition requires full or partial payment in advance or the provision of security for payment by Buyer in a form satisfactory to Supplier.

9.6 If Buyer fails to make any payment when due then, without prejudice to any other rights and remedies available to Supplier, Supplier shall (at its option) be entitled: (i) to treat the Contract as repudiated by Buyer, to suspend or cancel further delivery of Products and/or the provision of Services or any part thereof under that Contract or any other Contract between them and claim damages and/or receive reasonable cancellation fees; (ii) to affirm the Contract and claim damages from Buyer; and (iii) to recover, in addition to the payment, interest on the unpaid amount (both before and after judgement) at the rate of 6% per annum above the Royal Bank of Scotland's prevailing base lending rate from time to time, until payment in full is made. Such interest shall be calculated daily.

10. PRODUCTS

10.1 Supplier may modify specifications provided the modifications do not adversely affect the performance of the Products. In addition, Supplier may furnish suitable substitutes for materials used.

10.2 All descriptions, illustrations and any other information relating to the Products contained in Supplier's catalogues, brochures, price lists, advertising material and any sales or other particulars or literature are made by way of general description, are approximate only and for the general guidance and information of Buyer. They shall not constitute warranties or representations by Supplier nor shall they form part of any Contract.

11. INSTALLATION AND MAINTENANCE OF THE PRODUCTS

11.1 In the event of installation of the Products or the provision of maintenance, the following conditions shall apply and Supplier's price and provision of installation or maintenance are subject to the fulfilment of the following conditions at the expense and responsibility of Buyer:

- i. safe and secure climate controlled on-site storage so that Products and Supplier's tools (as applicable) are protected against theft and any damage or deterioration; any item lost or damaged during the storage period shall be repaired or replaced at Buyer's sole expense;
- ii. the timely and sufficient execution and completion of the preparatory works in accordance with all applicable safety, electrical and building codes as well as with Supplier's requirements;
- iii. the availability of Buyer's site to Supplier without obstacles in due time to enable Supplier to start installation or maintenance at the scheduled date;
- iv. the availability of the manpower and equipment necessary to place the Products in their final location or to provide the scheduled maintenance;
- v. the acquisition of all permits, licenses, rights of way, etc. of the pertinent authorities required for or in connection with installation or maintenance to be performed; and
- vi. the availability of all visas or any other permits necessary for Supplier's personnel and for the import and export of tools, equipment, and materials necessary for installation or maintenance to be performed.

11.2 In case any or all of the above conditions are not, not properly or not timely complied with, or Supplier has to interrupt its installation or maintenance works, subsequent testing for reasons not attributable to Supplier, the period of completion shall be extended accordingly and any and all additional costs resulting therefrom shall be for Buyer's account.

11.3 Supplier neither assumes liability nor offers any warranty for the fitness or adequacy of the premises or the utilities available at the premises in which the Products are to be installed, used or stored.



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12. ACCEPTANCE OF INSTALLATION

12.1 In case of installation of the Products, Supplier shall notify Buyer when the Products installed will be ready for testing and acceptance, inviting Buyer to attend Supplier's standard tests or such tests as may have been agreed upon in the Contract to demonstrate compliance with the agreed specifications and/or to inspect the installation work.

12.2 If Buyer fails to attend the testing on the date notified, Supplier will commence with the tests according to Supplier's standard test procedures and these tests shall be considered performed in the presence of Buyer and acceptance shall in such case take place on the basis of the results stated in the test certificate signed by Supplier.

12.3 In case Buyer rejects the Products installed it should submit to Supplier the reasons for such rejection in detail and in writing within 10 days after completion of the acceptance tests concerned. If, within Supplier's reasonable opinion, the rejection is justified, Supplier shall as a sole remedy correct the shortcomings as soon as possible and the relevant parts of the acceptance test shall be repeated within a reasonable period of time in conformity with the procedures outlined above.

12.4 Upon acceptance of the Products, Buyer will sign the acceptance certificate. If within 10 days after completion of the acceptance test Supplier shall not have received the acceptance certificate signed by Buyer or a report with a justified rejection, the Products installed shall then be considered as having been accepted by Buyer.

12.5 Minor defects or deviations not affecting the operational use of the Products installed shall be stated in the acceptance certificate, but shall not obstruct or suspend acceptance. Supplier undertakes to remedy such defects as soon as reasonably possible.

13. WARRANTIES

13.1 Supplier warrants that all Products shall be free from defects in material and workmanship under normal use for a period of (twelve) 12 months from delivery. In the event of installation this warranty period shall be for (twelve) 12 months from installation or eighteen (18) months from dispatch, whichever comes first, save that Supplier does not warrant that operation of the Software (defined in Section 15) will be uninterrupted or error free or that all program errors will be corrected. This warranty does not include any consumables such as filaments, lamps, fuses or other parts, which fail as a result of normal usage. Buyer shall be responsible for determining that the Product is suitable for Buyer's use and that such use complies with any applicable law. Provided that Buyer notifies Supplier in writing of any claimed defect in the Product immediately upon discovery and any such Product is returned at Buyer's risk to Supplier, transportation charges prepaid, within the warranty period in accordance with Section 13.1 and upon examination Supplier determines to its satisfaction, after a reasonable period to inspect such Products, that such Product is defective in material or workmanship, Supplier shall, at its option, repair or replace the Products, shipment to Buyer prepaid.

13.2 Supplier shall have a reasonable time to make such repairs or to replace such Product. Any repair or replacement of Products shall not extend the period of warranty. The warranty is limited to a period in accordance with Section 13.1, without regard to whether any claimed defects were discoverable or latent on delivery.

13.3 Supplier shall not be liable for any breach of the warranty or payment of damages in respect of Products supplied if: (i) Buyer makes further use of such Products after giving the notice required in Section 13.1; (ii) the defect or failure arises from Buyer's own fault; (iii) the defect arises from any drawing, design or specification supplied by Buyer or from other materials or other property supplied by Buyer or from any parts or items that have not been completely manufactured by Supplier; (iv) the defect arises other than out of manufacture, including without limitation improper installation, misuse by Buyer or a third party, neglect or accident; (v) the defect arises out of the use of the Products in conjunction with products or materials not reasonably contemplated by Supplier; (vi) the failure or defect results from Buyer's unauthorised addition to or modification of, or failure to comply with Supplier's written instructions relating to, the Products or Services; and (vii) the failure or defect arises out of any breach by Buyer of its obligations to provide information to Supplier under these Conditions or Contract.

13.4 If Buyer fails to pay when due any portion of any payment due from Buyer to Supplier under a Contract or otherwise, all warranties and remedies granted under this Section may, at Supplier's option, be terminated.

13.5 The foregoing warranties are exclusive and exclude all other warranties, terms and conditions, express or implied by statute or otherwise, to the extent permitted by law, including without limitation warranties of quality or fitness for a particular purpose. Supplier's sole and exclusive liability, and Buyer's sole and exclusive remedy for breach of the warranties in this Section 13 shall be as set forth in Section 13.1.

14. LIABILITY

14.1 Nothing in these Conditions or Contract shall exclude or limit Supplier's liability for fraud or death or personal injury caused by its negligence or any other liability to the extent that the same may not be excluded or limited as a matter of law.

14.2 Subject to Section 14.1, in relation to Products, Supplier's maximum aggregate liability under or arising out of any Contract, whether arising in contract, tort (including negligence) or otherwise, shall in no event exceed 100% of the total amount payable by Buyer in respect of Products under that Contract.

14.3 Subject to Section 14.1 in relation to Services, Supplier's maximum aggregate liability under or in connection with the supply, non-supply or purported supply of Services under any Contract, whether arising in contract, tort (including negligence) or otherwise, shall in no event exceed 100% of the total amount payable by Buyer in respect of Services under that Contract and in respect of Services continuing beyond one year, shall in no event exceed in any year 100% of the total amount payable by Buyer in respect of Services in that year.

14.4 Subject to Section 14.1, Supplier shall be under no liability to Buyer for any loss of profit, loss of income, loss of use, loss of business, loss of revenue, loss of goodwill, or for any indirect or consequential loss or damage of any kind, in each case, howsoever arising, whether such loss or damage was foreseeable or in the contemplation of the parties and whether arising in tort (including negligence), contract or otherwise.

14.5 Any claim arising out of or in connection with a Contract must be commenced against Supplier within one year from the date upon which Buyer became aware of or should have become aware of Supplier's infringement of Buyer's rights, unless otherwise specified under applicable law.

15. SOFTWARE

Supplier or its suppliers (as the case may be) shall at all times have and retain title and full ownership of all software, firmware, programming routines, and documentation relating to such software supplied by Supplier for use with the Products, and of all copies made by Buyer or the end user of the Products (collectively "Software"). A non-exclusive, non-transferable and non-sublicensable licence to use such Software will be granted to the end user solely for use with the Products.

16. INTELLECTUAL PROPERTY RIGHTS

16.1 Notwithstanding delivery of and the passing of title in any Products and subject to section 15 and 16.3, nothing in these Conditions or any Contract shall have the effect of granting or transferring to, or vesting in, Buyer any intellectual property rights in or to any Products and/or Services.

16.2 Buyer acknowledges and agrees that all property, copyright and other intellectual property rights in any work or tangible deliverable item arising from or created, produced or developed by Supplier under or in the course of provision of any Services (the "Works"), wherever in the world enforceable, including without limitations all right title and interest in and to the Services and all documents, data, drawings, specifications, articles, sketches, drawings, reports, inventions, improvements, modifications, discoveries, tools, scripts and other items relating thereto shall immediately upon creation or performance vest in and shall be and remain the sole and exclusive property of Supplier and Buyer shall acquire no right, title or interest in or to the same except as expressly stated in these Conditions.

16.3 The Supplier grants to the Buyer a non-exclusive, non-transferable and non-sublicensable licence to use such of the Works as are necessary, and to the extent necessary, for the end user to obtain and utilise the intended benefit of the Services.

16.4 If any claim is made against Buyer that the Products or Services infringe the patent, copyright or other intellectual property rights of any third party, Supplier shall indemnify Buyer against all losses, damages, costs and expenses awarded against, or incurred by, Buyer in connection with the claim or paid, or agreed to be paid, by Buyer in settlement of the claim provided that: (i) Supplier is given full control of any proceedings or negotiations in connection with any such claim; (ii) Buyer shall not make any admission of liability and shall give Supplier all reasonable assistance for the purposes of any such proceedings or negotiations; (iii) except pursuant to a final award, Buyer shall not pay or accept any such claim, or compromise any such proceedings without the consent of Supplier; (iv) Buyer shall do nothing which would or might vitiate any insurance policy or cover which Buyer may have in relation to such infringement and shall use its best endeavours to recover any sums due thereunder and this indemnity shall not apply to the extent that Buyer recovers any sums under any such policy or cover; (v) Supplier shall be entitled to the benefit of, and Buyer shall accordingly account to Supplier for, all damages and costs (if any) awarded in favour of Buyer which are payable by, or agreed with the consent of Buyer (which consent shall not be unreasonably withheld) to be paid by, any other party in respect of any such claim; and (vi) without prejudice to any duty of Buyer, Supplier shall be entitled to require Buyer to take such steps as Supplier may reasonably require to mitigate or reduce any such loss, damages, costs or expenses for which Supplier is liable to indemnify Buyer under this section 16.4, which steps may include (at Supplier's option) terminating use of the Product or Service, accepting from Supplier non-infringing, modified or replacement Products or Services.

16.5 Supplier shall have no obligation or liability under Section 16.4 insofar as the infringement arises from: (i) any additions or modifications made to the Products and/or Services in question, otherwise than by Supplier or with its prior written consent; (ii) any information provided by Buyer to Supplier including without limitation any specification; (iii) performance by Supplier of any work required to any Products, or performance of any Services, in compliance with Buyer's requirements or specification; (iv) a combination with or an addition to equipment not manufactured or developed by Supplier; or (v) the use of Products beyond that scope established by Supplier or approved in writing by Supplier.

16.6 Without prejudice to Section 14.1, this Section 16 states the entire liability of Supplier and the exclusive remedy of Buyer with respect to any alleged infringement of Intellectual property rights belonging to a third party arising out of or in connection with the performance of any Contract. This Section 16 shall be subject to the limits of liability in Sections 14.2.

17. FORCE MAJEURE

Notwithstanding anything to the contrary in these Conditions, Supplier shall not be liable to Buyer for any loss or damage which may be suffered by Buyer as a direct or indirect result of the supply of Products or Services being prevented, delayed or rendered uneconomic by reason of circumstances or events beyond Supplier's reasonable control. If due to such circumstances or events Supplier has insufficient stocks to meet all its commitments Supplier may apportion available stocks between its customers at its sole discretion.

18. CONFIDENTIAL INFORMATION

Each party undertakes to keep confidential, not use for its own purposes outside the agreed scope and not without the prior written consent of the other party disclose to any third party, any information of a confidential nature belonging or relating to the other party which may become known to it unless such information is or becomes public knowledge (other than by breach of this Section) or is required to be disclosed by order of a competent authority.



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19. CANCELLATION, RESCHEDULING AND TERMINATION

19.1 Orders for Products accepted by Supplier may be cancelled or rescheduled by Buyer only with the written consent of Supplier (which consent Supplier may withhold for any reason) and Buyer shall indemnify Supplier against the cost of all labour and materials used in connection with the order so cancelled or varied and against all loss, damage cost, charges and expenses suffered or incurred by Supplier as a result of that cancellation or variation. Contracts for Services shall commence on the commencement date identified in the relevant Contract and, subject to earlier termination in accordance with Section 19.2, shall continue in force for the initial term as prescribed in such Contract and thereafter for any renewal period (if any) set out in the Contract and thereafter without limit of period unless or until terminated by either party in accordance with 19.2.

19.2 Either party may terminate a Contract for Services immediately at any time by written notice to the other party if the other party commits a material breach of the Contract for Services which is incapable of remedy or which fails to be remedied. Notwithstanding the foregoing, either party may terminate a Contract for Services by giving ninety (90) days written notice to the other party.

19.3 Upon termination or expiry of any Contract, for Services, each party shall except to the extent permitted or required to exercise or perform its continuing rights, or obligations hereunder, return to the other party all property of the other party then in its possession, custody or control and shall not retain any copies of the same.

19.4 Termination of any Contract in accordance with these Conditions shall not affect the accrued rights or liabilities of the parties at the date of termination.

20. INSOLVENCY OF BUYER

If: (i) Buyer becomes insolvent, has a receiver, administrative receiver, administrator or manager appointed of the whole or any part of its assets or business, makes any composition or arrangement with its creditors, takes or suffers any similar action in consequence of debt or an order or resolution is made for its dissolution or liquidation (other than for the purpose of solvent amalgamation or reconstruction) or carries out or undergoes any analogous act or proceedings under an applicable foreign law; or (ii) Buyer ceases, or threatens to cease to carry on business then, without prejudice to any other right or remedy available to Supplier, Supplier may treat any Contract as repudiated and/or withhold any further supply of Products and/or Services without any liability to Buyer and, if any Products and/or Services have been supplied but not paid for, the price or fees shall become immediately due and payable notwithstanding any previous agreement or arrangement to the contrary.

21. EXPORT CONTROL

21.1 Buyer understands that where Supplier's obligations under the Contract to supply any Products or Services are subject to governmental export control laws and regulations, the performance of this Contract and Buyer's use or export of any Products delivered by Supplier shall be conditional upon the grant of all necessary permits or licences. Buyer shall provide all information and documentation, including where necessary end user certification, not in Supplier's possession and required by the relevant application procedure to enable Supplier to make the necessary applications for permits or licences required for deliveries to Buyer. Supplier shall be relieved from its obligations to Buyer to supply any Products or Services to the extent that applications for permits or licences for the same are refused by a relevant governmental authority. To the fullest extent permitted by law, Buyer shall have no right to claim compensation for damages, loss of business or otherwise arising from such a refusal or Contract termination.

21.2 Buyer shall not, directly or indirectly, sell, provide access to, export, re-export, transfer, divert, loan, lease, consign, tranship (including stop in port), transport, or otherwise dispose of any Supplier's Product, material, Software (including source code) or technology to, via, or for: (i) any entity known to be headquartered in, or owned or controlled by a national of, any country or region subject to comprehensive sanctions at any time; (ii) any other individual or entity identified on a denied or restricted party list; or (iii) any activity or end-use restricted by applicable laws without first obtaining all required government authorisations.

21.3 Supplier shall have the right, at its option, to suspend performance under or terminate any Contract if: (i) applicable comprehensive sanctions are imposed; (ii) the Buyer is designated as or determined to be a denied or restricted party under applicable law; or (iii) where the Supplier's obligations under these Conditions or any Contract to supply items or Services are subject to governmental export control laws and regulations, the performance of any Contract and Buyer's use or export of any Item delivered by Supplier shall be conditional upon the grant of all necessary permits or licences.

22. GENERAL

22.1 These Conditions and any Contract shall be governed by the laws of the commonwealth of Massachusetts, USA. The parties agree that the United Nations Convention on Contracts for the International Sale of Goods is specifically excluded from application to these Conditions. The parties shall agree to settle any claims or disputes arising out of or in connection with these Conditions or any Contract by amicable negotiations. If no settlement can be reached through negotiations within sixty (60) days after either party has served written notice to the other requesting such negotiations, then the dispute shall be submitted to the exclusive jurisdiction of state or federal courts in Massachusetts.

22.2 Failure by Supplier to exercise or enforce any rights hereunder shall not be deemed to be a waiver of any such right.

22.3 If any Conditions are found to be invalid, this shall not affect the rest of the Contract, which shall remain in full force and effect.

22.4 Buyer may not assign, transfer, novate or otherwise dispose of all or any of its rights or obligations, in whole or in part without the written consent of Supplier.

22.5 These Conditions constitutes the entire agreement and supersedes any prior agreement, understanding, representations or arrangements between the parties with respect to its subject matter.

22.6 Variation to any Contract must be in writing and signed by the parties.

22.7 All notices given under these Conditions shall be sent to the address of the other party set forth in the Quotation or in Contract. Notice shall be regarded as properly given if sent in writing and shall be deemed to have been served on the next working day from delivery if sent by email or fax, and on the day of receipt if sent by express courier or by registered mail.

May 2018 US edition



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ZETIUM

Minerals edition





Elemental innovation

Continuous development, improved customer experience

Scientifically-sound, benefits-driven innovations implemented in the Minerals edition of the Zetium spectrometer make it the most powerful tool for the analysis of a wide range of minerals and concentrates.

Elemental intelligence

Advanced analytical software for advanced analytical hardware

A quantum step for our renowned SuperQ software gives access to new technology combinations and analytical possibilities. Starring the Virtual Analyst, it enhances the user experience in setting up and operating the system.



The Minerals edition of the Zetium spectrometer is a complete, dedicated tool for minerals analysis. It delivers ultimate sensitivity, versatility, robustness and speed for mineral exploration, mine management, beneficiation and quality control in application areas from antimony to zinc.

Elemental technology

60 years of experience and heritage, the ideal starting point

The Minerals edition of the Zetium spectrometer represents the next generation of a remarkably successful series of WDXRF platforms, including the Axios, MagiX and PW2400. Proven technology has been refined and brought forward onto the Zetium platform, infusing a level of heritage and prestige.

Elemental support

Transparent and reliable support in your neighborhood

From service to expertise, training to laboratory analysis the Minerals edition of the Zetium spectrometer is supported from every angle. With a worldwide network of experienced engineers and application specialists and a full suite of remote support possibilities, we ensure that your spectrometer operates at its best regardless of the location.

Superior performance, spe

The Minerals edition of the Zetium XRF spectrometer delivers unrivalled analytical performance, speed and robustness through the seamless amalgamation of PANalytical's core and innovative technologies.

1 Measure the element that makes your profit

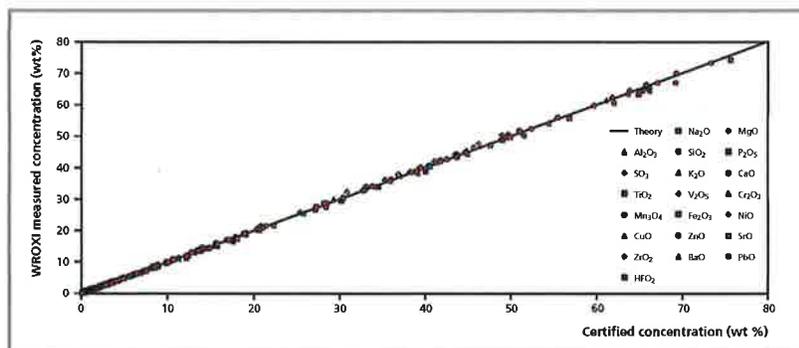
The Hi-Per scint detector delivers unrivalled linearity at count rates of up to 3.5 Mcps, enabling the measurement of high concentrations of elements, that would usually be treated as part of the balance, making it ideal for the analysis of major mineral concentrates in production and quality control.

2 In-house expertise with Virtual Analyst

The Virtual Analyst, delivered with our latest version of SuperQ analytical software, ensures that specialist-level expertise is available to you 24/7, for the development of new applications. The Virtual Analyst actively calculates the ideal measurement conditions, taking into account the configuration of the spectrometer, sample preparation information, the required analytical range, detection limits and required precision.

3 Struggling to find standards? Use WROXI!

Finding enough standards to set up reliable calibrations can be difficult and costly, that is why we have developed WROXI. The WROXI package consists of 20 synthetic standards, reliable fusion recipes, application templates and monitor samples, making it an out-of-the-box solution for the analysis of major and minor elements in geological materials and mineral concentrates.



WROXI measured vs. certified concentrations in a wide range of geological CRMS

ed & robustness



4

Analyze more samples per shift

The Zetium platform features a new high-speed sample changer, which reduces overhead time by up to 30%, maximizing sample throughput in standard laboratory environments. The Zetium platform can also be fully integrated into automation environments, from container laboratories, that you can deploy anywhere in the world, to sophisticated central laboratories, that set the benchmarks for process and quality control.

5

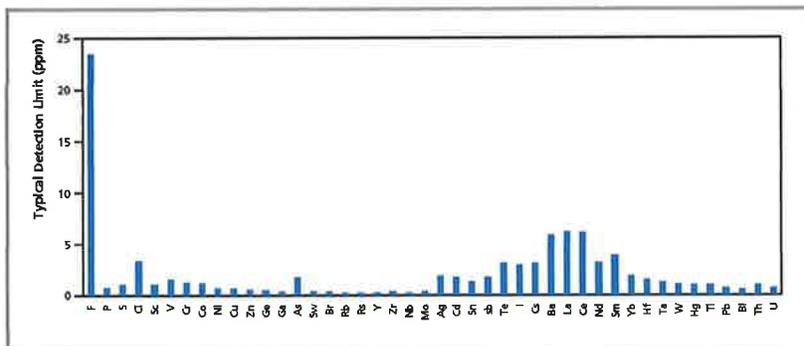
Maximize instrument uptime, stability and precision

Unique drift-free SST R-mAX X-ray tubes eliminate the largest source of drift. Direct optical position sensing (DOPS) technology maximizes precision. Advanced technologies minimize sample contamination including automatic sample-type recognition, turret-style sample loading, preloading dust removal, and CHI-BLUE tube window protection.

6

Interested in trace elements? Use Pro-Trace!

The analysis of trace elements is becoming increasingly important in geological applications from exploration to tails evaluation. Pro-Trace delivers unrivalled trace analysis of up to 44 elements in geological materials, without the need to determine major elements first.



Typical detection limits for trace elements in Pro-Trace using the Zetium spectrometer



SumXcore, revolutionary results

Analysis of iron ores, prepared as fused beads, using SumXcore technology

In large-volume environments, like those in the mining industry, any time savings that can be made, without a loss in accuracy and precision, results in higher sample throughput and faster turnaround times for fast-moving commodities.

Integration of the revolutionary ED core into the Zetium spectrometer sees two technologies, namely WD- and EDXRF, converging to make a unique and powerful analytical heart that we call SumXcore, which delivers unique benefits for mining applications.

In this example, 19 iron ore certified reference materials (CRMs) were used to set up applications using the WD core (conventional sequential WDXRF) and the SumXcore to demonstrate the achievable time savings with SumXcore technology.

The applications contained calibration lines for 18 oxides. All 18 oxides were measured sequentially, using optimal settings, on the WD Core.

In the SumXcore application, 11 of the 18 oxides were measured sequentially using the WD core and the remaining 7 oxides were measured simultaneously using the ED core.

Table 1 provides a summary of the measurement times. It can be seen that the combination of the WD and ED cores within the SumXcore delivered a 36 % reduction in total analysis time, due to time savings in both measurement time and overhead time (the time required to change crystals, collimators filters, etc.). Table 2 demonstrates the accuracy of the SumXcore application when measuring Japanese Standard Sample JSS 830-3.

WD core + ED core = SumXcore

- Reduce analysis times by up to 50 %
- Identify and flag unexpected elements
- Fast sample screening
- Spectrum archiving

Table 1. Achievable time savings with SumXcore technology

Iron ores as fused beads	WD core	SumXcore
Oxides measured with WD core	18	11
Oxides measured with ED core	0	7
Measurement time (s)	216	136
Overhead time (s)	122.5	80
Total analysis time (s)	338.5	216
Time saving with SumXcore	36%	

Table 2. Accuracy of the SumXcore application

WD/ED	Element/ compound (as per certificate)	Certified concentration (wt%)	SumXcore measured (wt%)
ED	Total Fe	60.57	60.52
	Mn	0.61	0.62
	SiO ₂	2.26	2.19
	TiO ₂	6.33	6.34
	V	0.30	0.30
WD	Zn	0.075	0.075
	MgO	2.15	2.24
	Al ₂ O ₃	2.75	2.75
	P	0.124	0.124
	S	0.005	0.006
	CaO	0.68	0.71
	Cr	0.018	0.016
	Cu	0.011	0.009
Ni	0.006	0.006	

Elemental support



1. SERVICE

Worldwide network of experienced engineers backed by regional and headquarter specialists

Tailor-made support packages with three tiers of support by phone, by remote connection, or on site

Performance certificates after every service

Rapid dispatch of spare parts

Guaranteed 10 year replacement of parts after production of your instrument

Software and hardware upgrades are available if your requirements change or if new innovations arise.

2. EXPERTISE

Access to the industry's largest pool of application specialists either by phone, remote connection or on-site visit.

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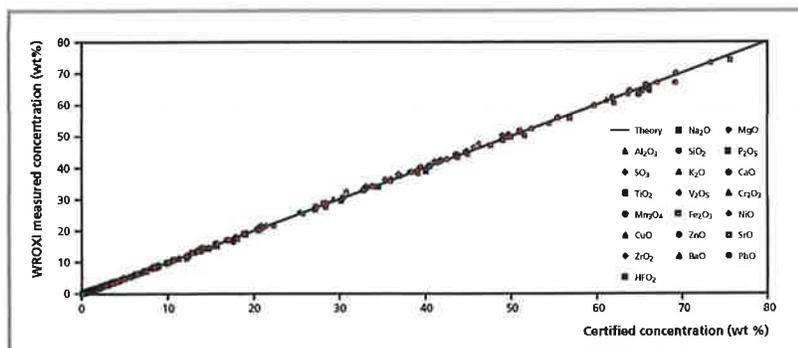
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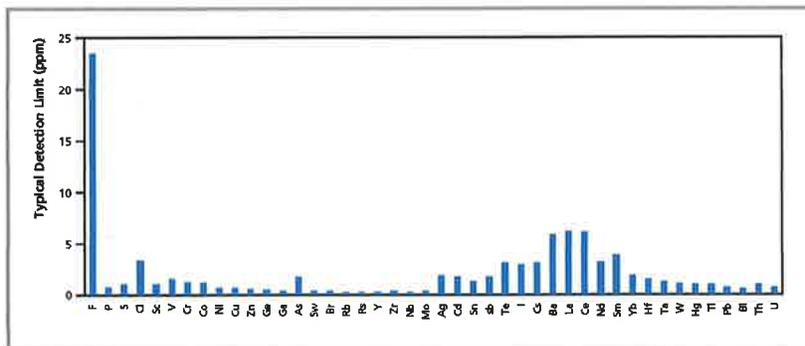
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Production of customized standards

About PANalytical

PANalytical's mission is to enable people to get valuable insight into their materials and processes. Our customers can be found in virtually every industry segment, from building materials to pharmaceuticals and from metals and mining to nanomaterials. The combination of our software and instrumentation, based on X-ray diffraction (XRD), X-ray scattering, X-ray fluorescence (XRF) and near-infrared (NIR) spectroscopy as well as pulsed fast thermal neutron activation (PFTNA), provides our customers with highly reliable and robust elemental and structural information on their materials and is applied in scientific research and industrial process and quality control.

PANalytical employs over 1,000 people worldwide. The company's headquarters are in Almelo, the Netherlands. Fully equipped application laboratories are established in Japan, China, the US, Brazil, and the Netherlands. Supply and competence centers are located on two sites in the Netherlands: Almelo (X-ray instruments) and Eindhoven (X-ray tubes), in Nottingham, UK (XRF applications and standards), in Quebec, Canada (fusion sample preparation) and in Boulder CO, US (near-infrared instruments). A dedicated research activity is located on the campus of the University of Sussex in Brighton (UK).

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The company is certified in accordance with ISO 9001 and ISO 14001.

Visit www.panalytical.com for more information about our activities.

PANalytical is part of Spectris plc, the productivity-enhancing instrumentation and controls company. Since 1 January 2017 PANalytical has merged its activities with Malvern Instruments, a UK-based provider of materials and biophysical characterization technology and also an operating company within the Materials Analysis segment of Spectris.

Expertise

We take care of your analytical challenges

Industry's largest pool of specialists to create analytical solutions that are crucial for your processes and add value to your business and activities.

- On-site training
- Training courses
- Performance optimization and validation
- Analysis services and customized reference materials
- Multi-laboratory standardization

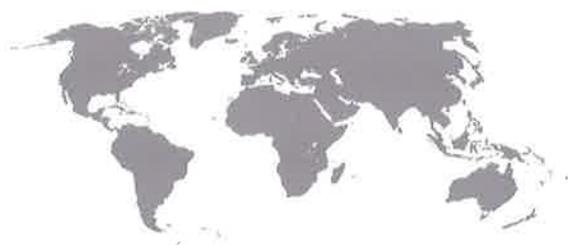
Support

Support for a life time

Worldwide network of experienced engineers to ensure rapid response and maximum uptime.

- Phone and remote support
- Preventive maintenance and check-ups
- Flexible Care Agreements
- Performance certificates
- Hardware and software upgrades
- Local presence
- Local stock of spare parts

Global and near



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