



Rigaku Americas Corporation
Response to the State of Nebraska

Invitation to Bid 5987 OF
Sequential XRF Spectrometer Equipment with External Water
Recirculating system

for the

Nebraska Department of Transportation (NDOT)
Materials and Research Division

NEBRASKA

Good Life. Great Service.

DEPT. OF ADMINISTRATIVE SERVICES

ATTENTION:

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

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

Closing Date:

Closing: January 15th 2:00 PM Central Time



January 8, 2019

René Botts
C.L.S.S.Y.B.
Nebraska Department of Administrative Services
Buyer III, Materiel Division, State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, NE 68508
402-471-0971
rene.botts@nebraska.gov

Re: Invitation to Bid, Number 5987 OF
Due: January 15th, 2019 at 2:00pm CDT

Dear Ms. Botts:

Rigaku Americas Corporation is pleased to respond to the **Invitation to Bid, Number 5987 OF** and provide a quotation for a state-of-the-art Wavelength Dispersive X-ray Fluorescence Spectrometer, the XSZ Primus, and corresponding external water chiller/recirculating system. The offered XSZ Primus fully meets and exceeds the requirements set forth in the **Invitation to Bid, Number 5987 OF**.

As the Worldwide leader in X-ray instrumentation Rigaku is committed to providing innovative and comprehensive customer support. We are dedicated to customer support with an extensive network of Service Engineers and Application Scientists to support your instrumentation and analytical needs.

We, at Rigaku look forward to working with Jasmine Dondlinger and all the personnel at Nebraska Department of Transportation. Should you have any questions please feel free to contact me directly.

Sincerely,

A handwritten signature in black ink, appearing to read 'Richard' followed by a stylized flourish.

Richard "Al" Larsen
Rocky Mountain Regional Account Manager
Rigaku Americas Corporation

NEBRASKA

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DEPT. OF ADMINISTRATIVE SERVICES



December 11, 2018

Dear Prospective Vendor:

The State of Nebraska Purchasing Bureau is issuing the following solicitation:

Solicitation Number: 5987 OF
Commodity: Sequential XRF Spectrometer Equipment
With External Water Recirculating System
Opening Date: January 10, 2019, 2:00 p.m. Central Time
Buyer: Rene Botts

Copies of 5987 OF and all information relevant to this solicitation to include addenda and/or amendments may be obtained from the State Purchasing Bureau web site at:

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

It is the responsibility of the bidder to check this site for other pertinent information and any mandatory requirements. All information relevant to this solicitation to include addenda and/or amendments that may be issued prior to the opening date will be posted to the web site.

Solicitation responses must be in a sealed envelope that indicates the Solicitation Number and Opening Date. Sealed responses must be received in the State Purchasing Bureau on or before the date and time indicated in the Schedule of Events, at which time responses will be publicly opened. Solicitation responses should be sent to:

State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, NE 68508

Any problems accessing the website regarding the above solicitation should be e-mailed to the State Purchasing Bureau at as.materielpurchasing@nebraska.gov.

Sincerely,

A handwritten signature in blue ink, reading "Rene A. Botts", is written over a horizontal line.

Rene Botts, Buyer
State Purchasing Bureau

David Zwart - Materiel Administrator

Department of Administrative Services | MATERIEL DIVISION

1526 K Street, Ste. 130
Lincoln, Nebraska 68508

OFFICE 402-471-6500
FAX 402-471-2089

das.nebraska.org

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)

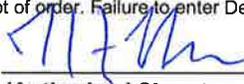
INVITATION

Line	Description	Quantity	Unit of Measure	Unit Price	Extended Price
1	SEQUENTIAL XRF SPECTROMETER EQUIPMENT WITH EXTERNAL WATER RECIRCULATING SYSTEM	1.0000	EA	<u>183,767</u>	<u>183,767</u>
2	TRADE IN VALUE FOR BRUKER S4 PIONEER AND EXTERNAL WATER CIRCULATING SYSTEM. DEDUCTION AMOUNT	1.0000	EA	<u>(0)</u>	<u>0</u>
3	ANNUAL FLAT RATE PREVENTATIVE MAINTENANCE PLAN	1.0000	EA	<u>\$16,700</u>	<u>\$16,700</u>

BIDDER MUST COMPLETE THE FOLLOWING

DISCOUNT PAYMENT TERMS: 0 % DAYS

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 150 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)

Enter Contact Information Below

VENDOR# _____
VENDOR: Rigaku Americas Corporation
Address: 9009 New Trails Drive
The Woodlands, TX 77381

Contact Thomas F. McNulty
Telephone 281-362-2300
Facsimile 281-364-3628
Email bid-request@rigaku.com

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	2 of 2
Solicitation Number	5987 OF		
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DESTINATION OF GOODS

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

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>\$235/hr</u>	<u>\$11,750</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>N/A</u>	<u>N/A</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>0</u> %
OPTIONAL ITEMS					
7	HOURLY RATE FOR REMOTE METHOD DEVELOPMENT THAT EXCEEDS THE NO CHARGE 40 HOURS ASSISTANCE	20.0000	HR	<u>\$225/hr</u>	<u>\$4,500</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>\$425/hr</u>	<u>\$8,500</u>

INVITATION TO BID

Number 5987-OF

The State of Nebraska (State), Department of Administrative Services (DAS), Materiel Division, State Purchasing Bureau (SPB), is issuing this Invitation to Bid (ITB) for a commodity contract, ITB Number 5987 OF for the purpose of selecting a qualified Bidder to provide **Sequential XRF Spectrometer Equipment with External Water Recirculating System for Nebraska Department of Transportation (NDOT) Materials and Research Division**. Specifications can be found in **Section VI. Invitation to Bid Technical Specifications**. The resulting contract may not be an exclusive contract as the State reserves the right to contract for the same or similar goods from other sources now or in the future.

The term of the contract will be five (5) years commencing upon execution of the contracts by the State and the Bidder. The Contract includes the option to renew for five (5) additional one (1) year periods upon mutual agreement of the Parties. The State reserves the right to extend the period of this contract beyond the termination date when mutually agreeable to the Parties.

INFORMATION PERTINENT TO THIS INVITATION TO BID CAN BE FOUND ON THE INTERNET AT:

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

IMPORTANT NOTICE: Pursuant to Neb. Rev. Stat. § 84-602.04, State contracts in effect as of January 1, 2014, and contracts entered into thereafter, must be posted to a public website. The resulting contract, the ITB, and the successful Bidder's bid or response will be posted to a public website managed by DAS, which can be found at:

<https://statecontracts.nebraska.gov/>

In addition and in furtherance of the State's public records statute (Neb. Rev. Stat. § 84-712 et seq.) all bids or responses received regarding this ITB will be posted to the SPB website.

These postings will include the entire bid or response. Bidders must request that proprietary information be excluded from the posting. The Bidder must identify the proprietary information, mark the proprietary information according to state law, and submit the proprietary information in a separate container or envelope marked conspicuously using an indelible method with the words "PROPRIETARY INFORMATION". The Bidder must submit a **detailed written document showing** that the release of the proprietary information would give a business advantage to named business competitor(s) and explain how the named business competitor(s) will gain an actual business advantage by disclosure of information. The mere assertion that information is proprietary or that a speculative business advantage might be gained is not sufficient. (See Attorney General Opinion No. 92068, April 27, 1992) **THE BIDDER MAY NOT ASSERT THAT THE ENTIRE BID OR RESPONSE IS PROPRIETARY. COST WILL NOT BE CONSIDERED PROPRIETARY AND IS A PUBLIC RECORD IN THE STATE OF NEBRASKA.** The State will then determine, in its discretion, if the interests served by nondisclosure outweighs any public purpose served by disclosure. (See Neb. Rev. Stat. § 84-712.05(3)) The Bidder will be notified of the agency's decision. Absent a State determination that information is proprietary, the State will consider all information a public record subject to release regardless of any assertion that the information is proprietary.

If the agency determines it is required to release proprietary information, the Bidder will be informed. It will be the Bidder's responsibility to defend the Bidder's asserted interest in non-disclosure.

To facilitate such public postings, with the exception of proprietary information, the State of Nebraska reserves a royalty-free, nonexclusive, and irrevocable right to copy, reproduce, publish, post to a website, or otherwise use any contract, bid, or response to this ITB for any purpose, and to authorize others to use the documents. Any individual or entity awarded a contract, or who submits a bid or response to this ITB, specifically waives any copyright or other protection the contract, bid, or response to the ITB may have; and, acknowledges that they have the ability and authority to enter into such waiver. This reservation and waiver is a prerequisite for submitting a bid or response to this ITB, and award of a contract. Failure to agree to the reservation and waiver will result in the bid or response to the ITB being found non-responsive and rejected.

Any entity awarded a contract or submitting a bid or response to the ITB agrees not to sue, file a claim, or make a demand of any kind, and will indemnify and hold harmless the State and its employees, volunteers, agents, and its elected and appointed officials 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, sustained or asserted against the State, arising out of, resulting from, or attributable to the posting of the contract or the bids and responses to the ITB, awards, and other documents.

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GLOSSARY OF TERMS

AASHTO: American Association of State Highway and Transportation Officials.

Acceptance Test Procedure: Benchmarks and other performance criteria, developed by the State or other sources of testing standards, for measuring the effectiveness of products or goods and the means used for testing such performance.

Addendum: Something to be added or deleted to an existing document; a supplement.

After Receipt of Order (ARO): After Receipt of Order

Agency: Any state agency, board, or commission other than the University of Nebraska, the Nebraska State colleges, the courts, the Legislature, or any other office or agency established by the Constitution of Nebraska.

Agent/Representative: A person authorized to act on behalf of another.

Amend: To alter or change by adding, subtracting, or substituting.

Amendment: A written correction or alteration to a document.

Appropriation: Legislative authorization to expend public funds for a specific purpose. Money set apart for a specific use.

ASTM: American Society for Testing and Materials

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, wholly or in part, or to award to multiple Bidders in whole or in part. 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.

Best and Final Offer (BAFO): In a competitive bid, the final offer submitted which contains the bidder's (vendor's) most favorable terms for price.

Bid/Proposal: The offer submitted by a vendor in a response to written solicitation.

Bid Bond: An insurance agreement, accompanied by a monetary commitment, by which a third party (the surety) accepts liability and guarantees that the vendor will not withdraw the bid.

Bidder: A vendor who submits an offer bid in response to a written solicitation.

Business: Any corporation, partnership, individual, sole proprietorship, joint-stock company, joint venture, or any other private legal entity.

Business Day: Any weekday, except State-recognized holidays.

Calendar Day: Every day shown on the calendar including Saturdays, Sundays, and State/Federal holidays.

Cancellation: To call off or revoke a purchase order without expectation of conducting or performing it at a later time.

Central Processing Unit (CPU): Any computer or computer system that is used by the State to store, process, or retrieve data or perform other functions using Operating Systems and applications software.

Change Order: Document that provides amendments to an executed purchase order.

Collusion: An agreement or cooperation between two or more persons or entities to accomplish a fraudulent, deceitful, or unlawful purpose.

Commodities: Any equipment, material, supply or goods; anything movable or tangible that is provided or sold.

Commodities Description: Detailed descriptions of the items to be purchased; may include information necessary to obtain the desired quality, type, color, size, shape, or special characteristics necessary to perform the work intended to produce the desired results.

Competition: The effort or action of two or more commercial interests to obtain the same business from third parties.

Confidential Information: Unless otherwise defined below, "Confidential Information" shall also mean proprietary trade secrets, academic and scientific research work which is in progress and unpublished, and other information which if released would give advantage to business competitors and serve no public purpose (see Neb. Rev. Stat. §84-712.05(3)). In accordance with Nebraska

Attorney General Opinions 92068 and 97033, proof that information is proprietary requires identification of specific, named competitor(s) who would be advantaged by release of the information and the specific advantage the competitor(s) would receive.

Contract: An agreement between two or more parties creating obligations that are enforceable or otherwise recognizable at law; the writing that sets forth such an agreement.

Contract Administration: The management of the contract which includes and is not limited to contract signing, contract amendments and any necessary legal actions.

Contract Management: The management of day to day activities at the agency which includes and is not limited to ensuring deliverables are received, specifications are met, handling meetings and making payments to the Contractor.

Contract Period: The duration of the contract.

Contractor: Any individual or entity having a contract or awarded purchase order to furnish commodities or goods.

Cooperative Purchasing: The combining of requirements of two or more political entities to obtain advantages of volume purchases, reduction in administrative expenses or other public benefits.

Copyright: A property right in an original work of authorship fixed in any tangible medium of expression, giving the holder the exclusive right to reproduce, adapt and distribute the work.

Core List: Identifies the most commonly purchased items from contractor.

Critical Program Error: Any Program Error, whether or not known to the State, which prohibits or significantly impairs use of the Licensed Software as set forth in the documentation and intended in the contract.

Customer Service: The process of ensuring customer satisfaction by providing assistance and advice on those products or goods provided by a Contractor.

Default: The omission or failure to perform a contractual duty.

Deviation: Any proposed change(s) or alteration(s) to either the terms and conditions or deliverables within the scope of the written solicitation or contract.

Evaluation: The process of examining an offer after opening to determine the vendor's responsibility, responsiveness to requirements, and to ascertain other characteristics of the offer that relate to determination of the successful award.

Evaluation Committee: Committee(s) appointed by the requesting agency that advises and assists the procuring office in the evaluation of bids/s (offers made in response to written solicitations).

Extension: Continuance of a contract for a specified duration upon the agreement of the parties beyond the original Contract Period. Not to be confused with "Renewal Period".

Free on Board (F.O.B.) Destination: The delivery charges are included in the quoted price and prepaid by the vendor. Vendor is responsible for all claims associated with damages during delivery of product.

Free on Board (F.O.B.) Point of Origin: The delivery charges are not included in the quoted price and are the responsibility of the agency. Agency is responsible for all claims associated with damages during delivery of product.

Foreign Corporation: A foreign corporation that was organized and chartered under the laws of another state, government, or country.

Installation Date: The date when the procedures described in "Installation by Contractor", and "Installation by State", as found in the ITB, ITB (written solicitation) or contract are completed.

Invalid Bid: i.e., a fax or email response for a term contract.

Invitation to Bid (ITB): A written solicitation utilized for obtaining competitive offers.

Late Bid: An offer received after the Opening Date and Time.

Licensed Software Documentation: The user manuals and any other materials in any form or medium customarily provided by the Contractor to the users of the Licensed Software which will provide the State with sufficient information to operate, diagnose, and maintain the Licensed Software properly, safely, and efficiently.

Mandatory/Must: Required, compulsory, or obligatory.

May: Discretionary, permitted; used to express possibility.

Module (see System): A collection of routines and data structures that perform a specific function of software.

Must: See Shall/Will/Must.

NA: Not Applicable.

National Institute for Governmental Purchasing (NIGP): National Institute of Governmental Purchasing – Source used for assignment of universal commodity codes to goods and goods.

NDOT: Nebraska Department of Transportation.

Non-Core List: Identifies additional items available from contractor not listed as part of the Core-List.

Open Market Purchase: Authorization may be given to an agency to purchase items above direct purchase authority due to the unique nature, price, quantity, location of the using agency, or time limitations by the AS Materiel Division, State Purchasing Bureau.

Opening Date and Time: Specified date and time for the public opening of received, labeled, and sealed formal bids.

Operating System: The control program in a computer that provides the interface to the computer hardware and peripheral devices, and the usage and allocation of memory resources, processor resources, input/output resources, and security resources.

Outsourcing: The contracting out of a business process which an organization may have previously performed internally or has a new need for, to an independent organization from which the process is purchased back.

Payroll & Financial Center (PFC): Electronic procurement system of record.

Performance Bond: An insurance agreement, accompanied by a monetary commitment, by which a third party (the surety) accepts liability and guarantees that the Contractor fulfills any and all obligations under the contract.

Platform: A specific hardware and Operating System combination that is different from other hardware and Operating System combinations to the extent that a different version of the Licensed Software product is required to execute properly in the environment established by such hardware and Operating System combination.

Point of Contact (POC): The person designated to receive communications and to communicate

Pre-Bid/Pre-Proposal Conference: A meeting scheduled for the purpose of clarifying a written solicitation and related expectations.

Product: Something that is distributed commercially for use or consumption and that is usually (1) tangible personal property, (2) the result of fabrication or processing, and (3) an item that has passed through a chain of commercial distribution before ultimate use or consumption.

Program Error: Code in Licensed Software which produces unintended results or actions, or which produces results or actions other than those described in the specifications. A program error includes, without limitation, any Critical Program Error.

Program Set: The group of programs and products, including the Licensed Software specified in the ITB, plus any additional programs and products licensed by the State under the contract for use by the State.

Project: The total scheme, program, or method worked out for the accomplishment of an objective, including all documentation, commodities, and goods to be provided under the contract.

Proposal: See Bid.

Proprietary Information: Proprietary information is defined as trade secrets, academic and scientific research work which is in progress and unpublished, and other information which if released would give advantage to business competitors and service no public purpose (see Neb. Rev. Stat. § 84-712.05(3)). In accordance with Attorney General Opinions 92068 and 97033, proof that information is proprietary requires identification of specific named competitor(s) advantaged by release of the information and the demonstrated advantage the named competitor(s) would gain by the release of information.

Protest/Grievance: A complaint about a governmental action or decision related to an ITB or resultant contract, brought by a vendor who has timely submitted a bid response in connection with the award in question, to AS Materiel Division or another designated agency with the intention of achieving a remedial result.

Public Bid Opening: The process of opening correctly submitted offers at the time and place specified in the written solicitation and in the presence of anyone who wished to attend.

Recommended Hardware Configuration: The data processing hardware (including all terminals, auxiliary storage, communication, and other peripheral devices) to the extent utilized by the State as recommended by the Contractor.

Release Date: The date of public release of the written solicitation to seek offers

Renewal Period: Optional contract periods subsequent to the original Contract Period for a specified duration with previously agreed to terms and conditions. Not to be confused with Extension.

Request for Information (RFI): A general invitation to vendors requesting information for a potential future solicitation. The RFI is typically used as a research and information gathering tool for preparation of a solicitation.

Responsible Bidder: A Bidder who has the capability in all respects to perform fully and lawfully all requirements with integrity and reliability to assure good faith performance.

Responsive Bidder: A Bidder who has submitted a bid which conforms to all requirements of the solicitation document.

Shall/Will/Must: An order/command; mandatory.

Should: Expected; suggested, but not necessarily mandatory.

Software License: Legal instrument with or without printed material that governs the use or redistribution of licensed software.

Sole Source – Commodity: When an item is available from only one source due to the unique nature of the requirement, its supplier, or market conditions.

Sole Source – Service: A service of such a unique nature that the vendor selected is clearly and justifiably the only practical source to provide the service. Determination that the vendor selected is justifiably the sole source is based on either the uniqueness of the service or sole availability at the location required.

Specifications: The detailed statement, especially of the measurements, quality, materials, and functional characteristics, or other items to be provided under a contract.

Statutory: These clauses are controlled by state law and are not subject to negotiation.

Subcontractor: Individual or entity with whom the contractor enters a contract to perform a portion of the work awarded to the contractor.

System (see Module): Any collection or aggregation of two (2) or more Modules that is designed to function, or is represented by the Contractor as functioning or being capable of functioning, as an entity.

TBA: To Be Announced

Termination: Occurs when the contract expires or either party, pursuant to a power created by agreement or law puts an end to the contract prior to the stated expiration date. All obligations which are still executory on both sides are discharged but any right based on prior breach or performance survives.

Third-Party: Any person or entity, including but not limited to fiduciaries, shareholders, owners, officers, managers, employees, legally disinterested persons, and sub-contractors or agents, and their employees. It shall not include any entity or person who is an interested Party to the contract or agreement.

Trade Secret: Information, including, but not limited to, a drawing, formula, pattern, compilation, program, device, method, technique, code, or process that (a) derives independent economic value, actual or potential, from not being known to, and not being ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and (b) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy (see Neb. Rev. Stat. §87-502(4)).

Trademark: A word, phrase, logo, or other graphic symbol used by a manufacturer or vendor to distinguish its product from those of others, registered with the U.S. Patent and Trademark Office.

Upgrade: Any change that improves or alters the basic function of a product of service.

Vendor: An individual or entity lawfully conducting business in the State, or licensed to do so, who seeks to provide goods or goods under the terms of a written solicitation.

Vendor Performance Report: A report issued to the Contractor by SPB when products or goods delivered or performed fail to meet the terms of the purchase order, contract, and/or specifications, as reported to SPB by the agency. The SPB shall contact the Contractor regarding any such report. The vendor performance report will become a part of the permanent record for the Contractor. The State may require vendor to cure. Two such reports may be cause for immediate termination.

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.materielpurchasing@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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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.

J. INDEMNIFICATION

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

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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.htm> 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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:
TM			

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:

E11. The Rigaku ZSX Primus spectrometer meets the stated specification of an angular accuracy better than 0.01% on the LiF crystals. The ZSX Primus goniometer has an angular reproducibility, on θ and 2θ of 0.0005%. This angular reproducibility is significantly higher than required by all the WDXRF applications detailed under F9.

NOTES/COMMENTS: E25. The Rigaku ZSX Primus spectrometer is equipped with a state-of-the-art scintillation detector, which is linear to 1000cps. This count rate is more than sufficient, and meets all the ASTM methods.

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			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:

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		See note	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		See note	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 (CaCO ₃) and Hydrated Lime (ASTM C25), TiO ₂ in Traffic Paint (ASTM D4764), SO ₃ and S ₂ - (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: G3: Customer should have proper equipment for both, fusion and pressed pellets.

G4: Remote Assistance only for Calibration of Limestone, Hydrated Lime, TiO₂, SO₃, S₂, Phosphorus and aggregates. Customer is responsible for supply of standards.

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 prorated 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

			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.
X			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: M1: Customer must de-install/de-commission and move Sequential XRF Spectrometer and External Water Recirculating System to the Loading Dock			

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: N1: Customer must de-install/de-commission and move Sequential XRF Spectrometer and External Water Recirculating System to the Loading Dock			

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

			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> <p>a. Sequential XRF Spectrometer Equipment with External Water Recirculating System.</p> <p>b. Annual Flat Rate Preventative Maintenance Plan.</p> <p>c. Hourly Rate for Service Calls (Regular Working Hours).</p> <p>d. Hourly Rate for Service Calls (Weekend/Holiday Hours).</p>
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			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			2. Additional catalogs and/or price lists may be required and shall be provided without charge.
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: a. 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.

X			<p>b. Usage reports by agency and statewide indicating the numbers of each core item and non-core item sold.</p> <p>c. Any additional report the SPB may deem necessary.</p>
NOTES/COMMENTS:			

Y. GRAY MARKET PRODUCTS PROHIBITION

YES	NO	NO & PROVIDE ALTERNATIVE	
X			<p>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.</p>
NOTES/COMMENTS:			

Z. AUTHORIZED DEALER & WARRANTY

YES	NO	NO & PROVIDE ALTERNATIVE	
X			<p>1. To the extent required by the manufacturer, the Bidder shall be an authorized dealer.</p>
X			<p>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.</p>
X			<p>3. The terms of the original manufacturer's standard warranty shall apply to all equipment acquired from this solicitation for the entire warranty period.</p>
NOTES/COMMENTS:			

AA. WARRANTY

YES	NO	NO & PROVIDE ALTERNATIVE	
X			<p>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.</p>
X			<p>2. Defective parts or those damaged in shipment must be replaced by the Contractor at no charge to the State.</p>

X			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	
X			1. Vendor will not substitute any item that has been awarded without prior written approval of SPB.
NOTES/COMMENTS:			

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> <p style="padding-left: 40px;">a. 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> <p>The completed United States Attestation Form should be submitted with the Invitation to Bid response.</p> <p style="padding-left: 40px;">b. 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.</p> <p style="padding-left: 40px;">c. 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.</p>
	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:	Rigaku Americas Corporation
Bidder Address:	9009 New Trails Drive The Woodlands, TX 77381
Contact Person & Title:	Thomas F. McNulty, Sr. VP, GM MABU
E-mail Address:	bid-request@rigaku.com
Telephone Number (Office):	281-362-2300
Telephone Number (Cellular):	281-362-2300 x 207
Fax Number:	281-364-3628

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:	Rigaku Americas Corporation
Bidder Address:	11622 N. 91st Way Scottsdale, AZ 85260
Contact Person & Title:	Richard (Al) Larsen, Rockies Regional Account Manager
E-mail Address:	al.larsen@rigaku.com
Telephone Number (Office):	480-699-7784
Telephone Number (Cellular):	480-321-5739
Fax Number:	281-364-3628

ADDENDUM TWO SCHEDULE CHANGE

Date: January 3, 2019

To: All Bidders

From: Rene Botts, Buyer
AS Materiel State Purchasing Bureau

RE: Addendum for Invitation to Bid Number 5987 OF to be opened January ~~4~~ **15**, 2019
at 2:00 p.m. Central Time

Questions and Answers

Schedule change for Invitation to Bid Number 5987 OF.

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 January 15, 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
8.	Contract finalization period	TBA
9.	Contract award	TBA
10.	Contractor start date	TBA

This addendum will become part of the ITB and should be acknowledged with the Invitation to Bid.



**QUOTATION XF23843
ITB 5987 OF
Due January 15, 2019**

Issued To: Rene A. Botts
Nebraska Department of
Transportation
State Purchasing Bureau
1526 K Street, Suite 130
Lincoln, NE 68508

Phone: 402-471-6500
Facsimile:
Email: As.materialpurchasing@nebraska.gov

Date: January 15, 2019
Validity: March 15, 2019
Delivery: 120-150 days A.R.O.
Shipment: FOB Destination to
Customer's Loading Dock;
Freight Included - Title
transfers to Buyer at FOB points.
Risk of loss transfers to Buyer at
FOB points.

Installation: Included
Warranty: One Year Parts and Labor
Payment Terms: 100% on Delivery – Net 30
(pending credit approval)



Rigaku ZSX Primus X-ray Fluorescence Spectrometer

The ZSX Primus is a fully automated, sequential X-ray spectrometer, incorporating a smaller footprint and the most advanced design in the WDXRF industry. The inverted optics of the ZSX Primus, coupled with the 30µm end-window Rh target X-ray tube, guarantees reliability, flexibility and ease of use. Micro Analysis (down to 500 microns) and Mapping is now a field upgradeable option. The ZSX software has the most advanced FP program available, enabling experienced and novice users accurate solutions to complex challenges.

ZSX Primus

Commercial Summary

Section 1: ZSX Primus Sequential WD-XRF Spectrometer	\$ 290,282
System Discount:	-\$106,515
Total Purchase Price of Section 1:	\$ 183,767

Section 2: Options Available **See Section 2 for Itemized Pricing**



**QUOTATION XF23843
ITB 5987 OF
Due January 15, 2019**

Notes for Purchasing Manager:

Taxes (for: Arizona, California, Colorado, Connecticut, Florida, Georgia, Hawaii, Illinois, Indiana, Maryland, Massachusetts, Michigan, New Jersey, New York, North Carolina, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, Wisconsin) will be added to invoice if applicable. If Buyer claims tax exempt status, Buyer agrees to provide Rigaku (Seller) with a tax exemption certificate acceptable to local taxing authorities in the jurisdiction concerned.

Seller offers to sell to Buyer, and Buyer agrees to purchase from Seller, the goods and services described below, subject to the terms and conditions stated on the face of this Quotation and Seller's standard terms and conditions, attached. Seller hereby objects to any additional or different terms stated in Buyer's request for quotation, purchase order, or any other document of Buyer. Any modification of these terms of sale must be specifically agreed to in writing by Seller.

Payment terms beyond Net 30 days for work completed is considered a loan subject to a 7.5% interest charge. This contract is binding upon Seller's receipt of Buyer's Purchase Order for same. Please address Purchase Order to Rigaku Americas Corporation to the address at the bottom of this page or e-mail to purchaseorder@rigaku.com.

Prices are listed in U.S.A. dollars.

Prices are based on quoted payment terms.

Prices and specifications subject to change without notice.

Quotation validity subject to compliance with US Government export regulations for Analytical X-ray instrumentation.

Inside delivery is not included. If inside delivery is required, an additional charge will apply. When accepting delivery, please note on transport documents any shortage or damage, and advise Rigaku immediately at: support@Rigaku.com

A handwritten signature in black ink, appearing to read 'Richard Larsen', written over a light blue grid background.

Richard 'Al' Larsen
Rockies Regional Account Manager
Rigaku Americas Corporation
480-699-7784
Al.Larsen@Rigaku.com



QUOTATION XF23843
ITB 5987 OF
Due January 15, 2019

ITEM	QTY	PART NUMBER	DESCRIPTION	PRICE
Section 1			ZSX Primus WD-XRF Spectrometer	
1	1	3008A009	ZSX Primus Sequential Wavelength-Dispersive XRF Spectrometer <ul style="list-style-type: none"> • 4kW X-ray Generator with 2m Control and HV Cable • High Precision Goniometer • Flow-Proportional Counter (F-PC) Detector • Scintillation Counter (SC) Detector • Standard High Resolution SC Receiving Slit • Windows Applications Software • Integrated Heat Exchanger • Helium Gas Flush Attachment • Standard Accessories 	Included
		SUBKIT-PRIMUS	Including: Subkit <ul style="list-style-type: none"> • Radiation Safety Handbook by NBS • Periodic Table of Elements • Ion Exchange Cartridge Assembly with Replacement Filters • P-10 Gas Regulator 	
2	1	3006B079	Casters for Primus	Included
3	1	Included with 3008A009	4kW, Rh Target, 30µm End Window, X-ray Tube <ul style="list-style-type: none"> • 30µm Ultrathin End Be Window is thinnest in the industry with highest sensitivity • Tube below the sample for flexible sample handling for all sample types. • High stability with long life times. 	Included
			Note: 2 Year Warranty on X-ray Tube	
4	1	Included with 3008A009	48-Position Automatic Sample Changer	Included
5	4	Included with 3008A009	Sample Tray with 12 Sample Positions	Included
6	1	Included with 3008A009	Sample Spin Capability Sample spinning is provided to improve sampling statistics when required.	Included
7	36	3399B008	S/H w/30mm Fixed Mask, SS,XRF Primus	Included
8	36	3399F013	Center Ring, 35mm for 30mm Mask	Included

ITEM	QTY	PART NUMBER	DESCRIPTION	PRICE
9	1	3006B108	Powder Trap Attachment <ul style="list-style-type: none"> Recommended for loose powders and pressed pellets 	Included
10	1	Included with 3008A009	Be Filter for X-ray Tube Protection Be filter is included in the primary beam filter mechanism and may be used with dirty samples to protect the x-ray tube and optics from dust or contamination.	Included
11	1	Included with 3008A009	Primary Beam Filters Mechanism <ul style="list-style-type: none"> Ni(400) – used for Cd or Rh measurement Al(25) – used for Cd measurement Al(125) – used for Cr, Co, Ti, V and La measurement Ni(40) – used for Pb and As measurement 	Included
12	1	Included with 3008A009	6 Position Diaphragm Exchanger <ul style="list-style-type: none"> 0.5,1,10,20,30,35mm with 1/10 Attenuator 	Included
13	1	Included with 3008A009	Slit Exchanger Mechanism <ul style="list-style-type: none"> Fine Resolution Slits (For resolving atomic neighbors) Coarse Resolution Slits (Standard position for optimum performance) 	Included
14	1	3008B101	Extra Coarse Slits <ul style="list-style-type: none"> Ultra-light Elements (Be-F) 	Included
15	1	Included with 3008A009	10 Crystal Exchanger <ul style="list-style-type: none"> LiF(200) Crystal for Ti-U Analysis PET Crystal for Al-Ti Analysis Ge Crystal for P-Ca Analysis RX-25 Crystal for O-Mg Analysis 	Included
16	1	3008B023	LiF(220) Crystal <ul style="list-style-type: none"> Higher resolution than LiF(200) for Cr-U Analysis 	Included
17	1	3006B038	LiF200 High Sensitive Type	Included
18	1	3006B039	PET Crystal High Sensitive Type	Included
19	1	3006B040	Ge Crystal High Sensitive Type	Included
20	1	3008B026	RX35 Crystal <ul style="list-style-type: none"> High Sensitivity Crystal for O, F, Na, Mg Analysis 	Included

ITEM	QTY	PART NUMBER	DESCRIPTION	PRICE
21	1	Included with 3008A009	Rapid Vacuum System with Automatic Pressure Control (APC) <ul style="list-style-type: none"> Provides ultimate stability for the measurement of ultra-light elements 	Included
22	1	SOFTWARE	Control, Measurement, & Analysis Software <ul style="list-style-type: none"> EZ Scan – simple operation for qualitative analysis Empirical regression analysis (5 matrix correction models) Fundamental Parameters (FP) Analysis Bulk/Thin Film) Thin Film Software for FP for up to 10 Layers Automated PHA adjustment and F-PC center wire cleaner Complete off-line qualitative, semi-quantitative and quantitative programs Password control to protect sensitive information 	Included
23	1	3008B121	Programmable Operation <ul style="list-style-type: none"> Energy Saver Preset Analysis Auto Power Off 	Included
24	1	3008B114	SQX Semi-Quantitative Analysis Software <p>SQX software allows for the qualitative identification of elements present in the sample and accurate semi-quantitative results without the need for standards.</p> <ul style="list-style-type: none"> SQX performs a combination of scan and fixed angle measurement methods to quantify the measured elements by the full Fundamental Parameter method. SQX provides reliable detection using best background selection and subtraction. Spectral Charts are given as evidence of elemental detection as required by RoHS/WEEE and ELV directives Accurate quantitative analysis results are calculated for an unknown sample where no standards are available. SQX can be calibrated and corrected for both vacuum and helium atmospheres, various sample support films, and bulk solid, pressed pellet, fused bead, loose powder, and liquid sample types. SQX can be combined with the Primus/Primus II Micro Analysis & Mapping System to provide semi-quantitative analysis capability for small spot size analysis down to 0.5mm. Drift correction standards are provided. 	Included

ITEM	QTY	PART NUMBER	DESCRIPTION	PRICE
25	1	3008B115	SQX Matching Library <ul style="list-style-type: none"> Improves accuracy for semi-quantitative analysis by matching the unknown sample with standard(s) from a user established Matching Library. Matching Library automatically searches for the best matched standard and applies matrix corrections for higher accuracy SQX results. 	Included
26	1	3008B117	Quantitative Scatter FP Method <ul style="list-style-type: none"> Theoretical matrix correction for scatter ratio Method and Automatic Background Subtraction using theoretical intensities of background 	Included
27	1	3008B119	Fusion Disk Correction <ul style="list-style-type: none"> Theoretical matrix correction containing LOI & Flux Evaporation Correction 	Included
28	1		Quantitative Method – Cement Analysis by Pressed Powder Method, ASTM C114-11 Rigaku will calibrate the ZSX Primus for cement analysis by pressed powder method according to ASTM C114-11, "Standard Test Methods for Chemical Analysis of Hydraulic Cement". Includes <ul style="list-style-type: none"> NIST Standard Reference Materials (SRM) standards Calibrated method installed on ZSX Primus Customer is responsible for to supply proper sample preparation equipment and supplies for pressed powders.	Included
29	1	8L-580	He Gas Regulator	Included
30	2	RP-BOC-RV12-3PH	Vacuum Pumps	Included
31	1	HAS-PENDING	Heat Exchanger <ul style="list-style-type: none"> Liquid Level Alarm 	Included



QUOTATION XF23843
ITB 5987 OF
Due January 15, 2019

ITEM	QTY	PART NUMBER	DESCRIPTION	PRICE
32	1	PC-XRF	<p>Computer Configuration for X-Ray Fluorescence PC Computer for instrument control and data processing.</p> <p>Specifications</p> <ul style="list-style-type: none"> • 8.0 GB RAM • Dual-band 802.11ac Wi-Fi with Bluetooth 5 • Internal Audio Speaker • 24" Dell Flat Panel LCD • Dual Monitor Capability • 2x 500 GB hard drive, RAID 1 mirror • 8X DVD+/-RW, 9.5 Optical Disk Drive • 4 USB ports, 2 on the front, 2 on back • 6 USB3 ports 2 on the front, 4 on the back • Keyboard, USB 2 Button Scroll Mouse and Pad • Microsoft Windows 10 PRO, 64 bit • MS Office 2016 Home and Business • Adobe Acrobat Reader • Color Printer with Cable • USB Battery Backup System (XRF only) • Two (2) Ethernet Ports required • 3 yr Basic Limited Warranty, 3 yr NBD On-Site Service from Dell <p><i>Notes: Above configuration to be provided. Customer to ensure networking capabilities provided to facilitate installation. Includes software integration and testing</i></p>	Included
33	1		<p>Disposal of existing Sequential XRF Spectrometer and External water Recirculating System</p> <p><i>Note: Customer must de-install/de-commission and move XRF system and Recirculating System to the loading dock.</i></p>	Included
34	1	TRAIN-CUST-SITE	<p>Applications Training at the Customer's Site On-site applications training at the customer's site after installation is completed. Training will be conducted by a trained and qualified Rigaku XRF Applications Specialist.</p> <ul style="list-style-type: none"> • Three (3) days for up to three (3) people • Travel and living expenses for visiting Rigaku XRF Applications Specialist are included • Training must be completed within 90 days of system installation 	Included

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QUOTATION XF23843
ITB 5987 OF
Due January 15, 2019

ITEM	QTY	PART NUMBER	DESCRIPTION	PRICE
35	1	TRAIN-TEXAS	Basic XRF Theory and Applications Support Training at Rigaku in The Woodlands, Texas <ul style="list-style-type: none"> • Three (3) days for up to one (1) person at one our regularly scheduled XRF Schools – visit web site • Travel and living expenses are the customer's responsibility • Training must be completed within 90 days of system installation 	Included
36	1	903773REMOTE	Up to 40 hours of Remote Method Development Assistance	Included
Total Section 1				\$ 290,282
System Discount				\$-106,515
Total Purchase Price of Section 1				\$ 183,767

Notes:

1. X-ray tube carries a 2 year non-prorated warranty.
2. If the customer accepts the disposal of the existing Sequential XRF Spectrometer system and External Water Recirculating System, then ownership of the XRF system and recirculating system will be transferred to Rigaku. Rigaku will be granted permission to remove the XRF system and recirculating system from the company loading dock.
3. Some States, Counties, Municipalities or Provinces require Radiation Meters to be present at the time of installation. If so, this can purchased from Rigaku Americas Corporation for \$2,015.

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QUOTATION XF23843
ITB 5987 OF
Due January 15, 2019

ITEM	QTY	PART NUMBER	DESCRIPTION	PRICE
Section 2			Options Available for ZSX Primus	
WDXRF Micro Area & Mapping Options				
37	1	3008B017	WDXRF Micro Area & Mapping Analysis System <ul style="list-style-type: none"> Spectrometer employs a CCD camera observation system that provides the ability to view and analyze small and irregularly-shaped samples or small areas on large samples at a spot size down to 500 microns Useful in determining the uniformity or thickness of coatings or thin films on a substrate. Micro-Mapping Sample Holder with 30mm Mask 	\$ 25,000
			<i>Discount Purchase Price with System Sale</i>	\$ 16,667
38	1	3006B142	Micro-Mapping Sample Holder with 30mm Mask	\$ 698
			<i>Discount Purchase Price with System Sale</i>	\$ 500
39	1	3006B143	Micro-Mapping Sample Holder with 20mm Mask	\$ 1,000
			<i>Discount Purchase Price with System Sale</i>	\$ 717
40	1	3006B144	Micro-Mapping Sample Holder with 10mm Mask	\$ 1,140
			<i>Discount Purchase Price with System Sale</i>	\$ 817
Software Options				
41	1	3008B139	SQX Scatter FP Software A new Fundamental Parameter method that uses Compton and Thomson scattered tube spectral line intensities for the accurate determination of the total composition of unmeasured light elements as a whole. This contributes greatly to increased accuracy of semi-quantitative analysis compared to simple balance methods. Requires: <ul style="list-style-type: none"> SQX Scattering FP Method Kit LiF(220) Crystal Includes:	\$ 2,306
	1	3008B140	SQX Scattering FP Method Kit	
42	1	3006B118	Quantitative Scatter FP Method <ul style="list-style-type: none"> Theoretical matrix correction for scatter ratio method and automatic background subtraction using theoretical intensities of background 	\$ 645



QUOTATION XF23843
ITB 5987 OF
Due January 15, 2019

ITEM	QTY	PART NUMBER	DESCRIPTION	PRICE
Service Contract Options				
43	1	SERVICECONTRACT 1YR	<p>One (1) Year Standard Service Contract for Primus (after Standard One-Year Warranty)</p> <p style="text-align: right;"><i>If purchased with the system at the time of order</i></p> <p>Coverage Type: "Parts and Labor, Preventive Maintenance and Repair Service"</p> <p>Coverage includes:</p> <ul style="list-style-type: none"> • Primus • Haskris Chiller <p>Performance of Service: Includes 72 hour best effort on site service response. Business Hours are Monday through Friday 8:00 A.M. to 5:00 P.M., excluding Saturdays, Sundays and Rigaku Recognized Holidays. (X-Ray Tubes are sold separately)</p> <ul style="list-style-type: none"> • All on-site labor and repair travel and living expenses for one (1) Preventive Maintenance service visit per contract period. • Onsite Emergency repair service as deemed necessary by a qualified Rigaku Service Representative. • Technical Telephone Support During Business Hours, 8am to 5pm Monday through Friday CST • Standard System Parts (no consumables) and Shipping included. Parts to be shipped FOB destination, to nearest airport via economy international shipping (one way). • Return of defective part required in some cases. Defective parts to be shipped FOB destination, to Seller's loading dock via economy international shipping (or 3 day domestic shipping). • Fixed Rate for Additional PM Service calls @ \$2,500. <p>**Coverage for additional equipment or attachments must be requested separately.</p>	<p style="text-align: right;">\$ 16,700</p> <p style="text-align: right;">\$ 15,865</p>
44	1	SERVICECONTRACT 2YR	<p>Two (2) Years Standard Service Contract for Primus (after Standard One-Year Warranty)</p> <ul style="list-style-type: none"> • Same coverage as listed in item #43 <p style="text-align: right;"><i>If purchased with the system at the time of order</i></p>	<p style="text-align: right;">\$ 33,400</p> <p style="text-align: right;">\$ 28,390</p>

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QUOTATION XF23843
 ITB 5987 OF
 Due January 15, 2019

ITEM	QTY	PART NUMBER	DESCRIPTION	PRICE
45	1	SERVICECONTRACT 3YR	Three (3) Years Standard Service Contract for Primus (after Standard One-Year Warranty) <ul style="list-style-type: none"> • Same coverage as listed in item #43 <i>If purchased with the system at the time of order</i>	\$ 50,100 \$ 42,585
46	1	SERVICECONTRACT 4YR	Four (4) Years Standard Service Contract for Primus (after Standard One-Year Warranty) <ul style="list-style-type: none"> • Same coverage as listed in item #43 <i>If purchased with the system at the time of order</i>	\$ 66,800 \$ 56,780
47	1	SERVICECONTRACT 5YR	Five (5) Years Standard Service Contract for Primus (after Standard One-Year Warranty) <ul style="list-style-type: none"> • Same coverage as listed in item #43 <i>If purchased with the system at the time of order</i>	\$ 83,500 \$ 70,975
Hourly Rates for Remote Training and/or assistance				
48	1		Hourly rate for remote method development assistance	\$ 225/hr
49	1		Hourly rate for on-site method development	\$ 425/hr



Standard Terms and Conditions of Sale

This entire agreement supersedes any other oral and/or written communication on this subject. This document and any other documents specifically referred to as being a part hereof constitute the entire agreement on the subject matter and shall not be modified except in writing signed by both parties.

1. PRICE

Purchase price for each item of equipment is guaranteed until midnight Central Time on the date shown in the "Valid Until" block on page one. Prices designated as "List Prices" are subject to change without notice. Prices are stated in currency listed and do not include taxes of any kind.

2. TAXES & DUTIES

If Seller is required by law to collect taxes on any amount subject to this contract, Seller will include such taxes on each applicable invoice and those amounts shall be due on Buyer's receipt of the invoice. If Buyer claims tax-exempt status, Buyer shall provide Seller a tax exemption certificate or other documentation acceptable to the appropriate taxing authority.

Unless otherwise stated, Buyer is solely responsible for all other taxes which Seller is not required by law to collect, and any other charges imposed on shipment of the purchased goods. Seller shall not be liable for any delay, loss, or indirect, special, liquidated, incidental, or consequential damages resulting from Buyer's failure to timely pay amounts for which it is responsible.

Buyer is responsible for all duties including customs clearance charges, as applicable, outside of the United States and/or European Community, unless otherwise stated.

3. PAYMENT TERMS

Payment shall be made in accordance with the terms stated on page one of this contract. In the event that delivery is delayed at Buyer's request, Buyer shall pay Seller 90% of the total contract amount on the original delivery date.

4. SOFTWARE LICENSE

Any software which is used in conjunction with the goods sold by this contract is transferred pursuant to a separate license agreement. Unless otherwise stated, the software is not sold to Buyer and title to the software shall not pass to Buyer.

5. SHIPMENT

Shipment shall be made in accordance with the terms stated on page one. If inside delivery is required and not expressly made a part of this contract, an additional charge will apply.

6. DELIVERY

Delivery shall be made in accordance with the terms stated on page one. In the event that delivery is delayed at Buyer's request: (1) the equipment warranty period will commence on the original delivery date, and (2) Seller may store the goods at Seller's facility or at such other location as Seller may choose at Seller's sole discretion, and Buyer shall be responsible for all storage and incidental charges, regardless of the location at which the goods are stored.

7. TITLE

Buyer grants, and Seller retains, a security interest in all goods to secure payment therefore until all amounts due are paid, and Buyer agrees that it shall execute all documents necessary to secure such interest to Seller. Buyer shall not grant to any third party a security or other interest in the goods purchased pursuant to this contract which is in conflict with this paragraph.

8. EQUIPMENT WARRANTY

New goods, except expendables and supplies, are warranted against defects in materials and workmanship that materially affect the functionality of the goods until the earlier of twelve months from installation or fourteen months from delivery. Seller's sole obligation under this warranty shall be to repair or replace defective components, including the cost of shipping parts and providing labor for installation, if applicable.

This warranty does not extend to other vendors' products that are supplied to Buyer in conjunction with this contract. Those products are warranted by their respective manufacturer's or vendor's warranties in effect on the date of shipment to Buyer. Seller assigns to Buyer all rights it may have in such warranties. All warranties are contingent upon proper use of the goods and operation of the same within manufacturer's specifications.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND CONSTITUTES THE ONLY WARRANTY OF SELLER WITH RESPECT TO THE GOODS.

9. LIMITATION OF LIABILITY

Seller shall not be liable for any incidental, consequential or special damages, including, but not limited to any loss of business, income or profits, Buyer's expenses for downtime, or for making up downtime, and any labor costs of Buyer related to the functioning of components covered by this Agreement. Seller's liability on any claim of any kind of loss, injury, or allocated damages shall not exceed the fraction of the purchase price allocable to the component giving rise to such claim. The foregoing states the exclusive remedy of the Buyer and the exclusive liability of Seller. Seller agrees to indemnify and hold harmless Buyer and Buyer's employees, officers, directors, affiliates, partially or wholly owned subsidiaries, agents, successors and assigns from all claims arising from or connected with the Seller's performance of this contract, except for claims arising from the negligence, recklessness, or willful misconduct of Buyer or Buyer's employees, officers, directors, affiliates, partially or wholly owned subsidiaries, agents, successors, and assigns. In the event such a claim is asserted, Buyer will

notify Seller immediately, and Seller's counsel will represent Buyer. If Buyer elects to be represented through its own counsel in addition to Seller's counsel, Buyer is responsible for its attorney's fees and associated expenses.

10. DELAYS

If Seller suffers delay in performance due to any cause beyond its reasonable control including, but not limited to, acts of God, act or failure to act of government, act or omission of Buyer, war, fire, flood, strike or labor trouble, sabotage, or delay in obtaining from others suitable services, materials, components, equipment, or transportation, the time for Seller's performance shall be extended a period of time equal to the period of the delay and its consequences. Seller will give the Buyer written notice within a reasonable time after Seller becomes aware of any such delay.

11. SITE PREPARATION

Buyer shall prepare the installation site at Buyer's expense; provide utilities in accordance with Seller's pre-installation instructions and specifications; furnish uncrating, rigging, electrical (including step-up or step-down transformer if needed), plumbing, or other assistance, as required, and furnish materials and labor for connecting specified utilities to the purchased goods.

It is the Buyer's sole responsibility to comply with X-ray registration, and satisfy all federal, state, and local X-ray radiation safety regulations with appropriate regulatory authorities.

12. INSTALLATION

On-site installation and instrumentation start up are provided by Seller at no additional charge unless otherwise stated in the quotation. Software applications training is offered per specifications and options in the body of the quotation.

13. CANCELLATION & DAMAGES

Buyer may not cancel or terminate this contract for convenience, nor may it direct suspension of Seller's manufacture of the purchased goods or delivery of the same, except with Seller's written consent and then only with tender of payment to Seller sufficient to compensate Seller for all direct and consequential costs incurred as a result of Buyer's agreement to this contract and subsequent cancellation, plus a reasonable amount for profit. Buyer understands and agrees that the goods sold pursuant to this contract may be customized and not re-sellable to other customers, and that Seller's loss due to Buyer's cancellation may be the entire contract price and, in such cases, agrees that Seller may reasonably require the payment of 100% of the contract price notwithstanding Buyer's desire to cancel.

14. OBJECTIONS TO CHANGES

Seller objects to any changes to these terms and conditions, which Buyer seeks to impose by means of terms stated in Buyer's request for quotation, purchase order, or any other document of Buyer. Issuance of a purchase order hereto by Buyer constitutes Buyer's assent to Seller's terms and conditions. Acceptance of the quotation is expressly limited to the terms and conditions set forth herein. Any modification of these terms of sale must be specifically agreed to in writing by Rigaku.

15. AMENDMENT IN WRITING

These standard terms and conditions may not be amended except by a separate written agreement signed by both the Buyer and Seller. Alteration of the text of this document shall not constitute modification of the terms and conditions of this contract.

16. GOVERNING LAW

This contract shall be enforced pursuant to the law of the jurisdiction of the Seller's office which issued this quotation, i.e. Texas, Massachusetts, Canada or the UK.

17. ASSIGNMENT

Buyer's obligations pursuant to this contract may not be assigned without the express, written agreement of Seller.

18. SEVERABILITY

In the event that a court of competent jurisdiction shall hold any portion of this contract to be void or unenforceable, that portion of this contract shall be severed and the remainder shall remain in full force and effect.

19. TRADE COMPLIANCE TERMS/OBLIGATIONS

U.S. export controls regulate the shipment of U.S.-origin Rigaku products that are exported or reexported to foreign countries. If Buyer exports or reexports products or technology of U.S. origin, or containing U.S. origin, it is the Buyer's responsibility to ascertain its compliance obligations under the U.S. export laws and regulations, as well as any foreign export laws and regulations that may apply. The U.S. maintains economic sanctions against certain countries, including but not limited to, Cuba, Iran, North Korea, Sudan, and Syria. The export, reexport, sale, supply, or service, directly or indirectly, from the U.S. or by a U.S. person, wherever located, to any sanctioned countries is strictly prohibited without prior authorization by the U.S. Government. Buyer shall not sell, transfer, export or reexport Rigaku products to prohibited countries, or individuals listed on U.S. Government denied party lists, or for prohibited end-uses.

20. COMPLIANCE WITH THE FOREIGN CORRUPT PRACTICES ACT

Buyer acknowledges and agrees to comply with the U.S. Foreign Corrupt Practices Act, which prohibits the corrupt offer, payment, promise to pay or authorization of payment of anything of value, directly or indirectly, to a foreign official, political party or official thereof, or candidate for political office for the purpose of influencing any official act or inducing the official to use his influence to obtain or retain business.

Rigaku Americas Corporation • 9009 New Trails Drive • The Woodlands, TX 77381 • T: 281-362-2300 • F: 281-364-3628 • I: info@Rigaku.com

Leading With Innovation





Service Rate Schedule-SCX/XRD/XRF

LABOR

Labor Hours \$235.00 / hour
Monday – Friday, 8 am – 5 pm

Labor Hours \$470.00 / hour
Hours after technician has spent more than 8 hours in a day on site
on a holiday

TRAVEL

Travel Hours \$165.00 / hour

EXPENSES

Automobile \$.55 / mile
Automobile Rental Actual cost
Airfare Actual cost
Living Expenses Actual cost
Lodging Actual cost
Meals Actual cost
Ground transportation Actual cost

PARTS

Parts Current list price

Delaware

PAGE 1

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY "RIGAKU AMERICAS CORPORATION" IS DULY INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND HAS A LEGAL CORPORATE EXISTENCE SO FAR AS THE RECORDS OF THIS OFFICE SHOW, AS OF THE TWENTY-FIRST DAY OF NOVEMBER, A.D. 2013.



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131332299

You may verify this certificate online
at corp.delaware.gov/authver.shtml


Jeffrey W. Bullock, Secretary of State
AUTHENTICATION: 0915627

DATE: 11-21-13



ZSX Primus Series

Sequential wavelength dispersive X-ray fluorescence

Elemental analysis by WDXRF spectroscopy



Leading the World with Technology



Fast, precise elemental analysis of beryllium (Be) through uranium (U)

The Rigaku ZSX® Primus series of sequential wavelength dispersive X-ray fluorescence spectrometers provide unequalled flexibility, sensitivity and reliability – the three core requirements that underlie the superior value inherent in all Rigaku XRF instrumentation. Since the introduction of our first sequential WDXRF – the Rigaku GF-S – in 1962, we have incorporated this essential philosophy into all aspects of our instrument design, development and manufacture. Through continued focus on scientific innovation and ongoing partnerships with the world's leading research institutions and industrial laboratories, Rigaku has changed the face of XRF analysis and broadened the scope of XRF applications deployed throughout the world.

Flexibility

ZSX Primus series of elemental analyzers offers a choice of tube-above or tube-below optical configurations for maximum flexibility.

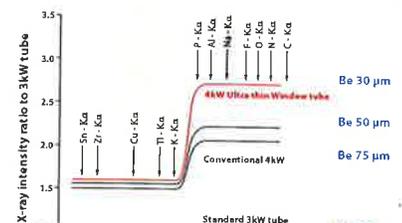


Reliability

Rigaku XRF spectrometers are the most reliable in the world. Each ZSX Primus series spectrometer includes automatic pressure control and a dual pump vacuum system. Our robust X-ray tube cooling system is internal, and the ZSX Primus series sample chambers are designed for easy cleaning. Furthermore, automatic cleaning of the proportional counter detector center wire ensures

Sensitivity

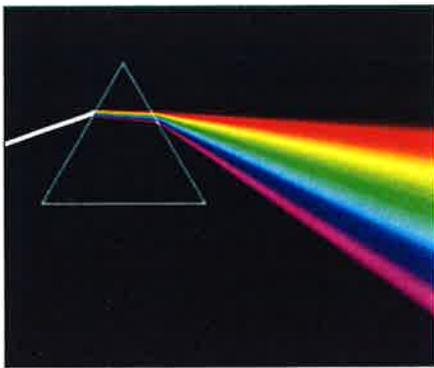
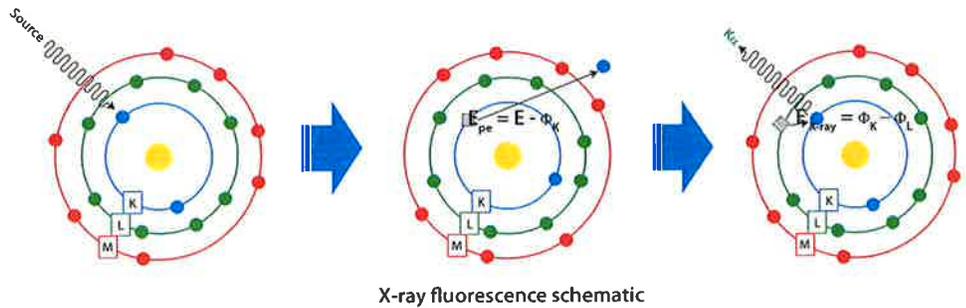
At the heart of an XRF spectrometer is the X-ray tube. The available Super-Trace™ 30 4.0 kW end window X-ray tube delivers unparalleled performance.



Flexibility • Reliability • Sensitivity

What is XRF?

In X-ray fluorescence (XRF), an electron can be ejected from its atomic orbital by the absorption of X-rays (photons) from an X-ray tube. When an inner orbital electron is ejected (middle image), a higher energy electron transfers to fill the vacancy. During this transition, a *characteristic* photon may be emitted (right image) that is of a unique energy for each type of atom. The number of *characteristic* photons per unit time (counts per second or cps) is proportional to the amount of that element in a sample. Thus, qualitative and quantitative elemental analysis is achieved by determining the energy of X-ray peaks in a sample spectrum and measuring their associated count rates.



Analyzing crystals disperse radiation in the X-ray spectral region in the same way that a prism spreads the spectrum of visible light

How WDXRF works

Wavelength dispersive X-ray spectroscopy (WDXRF) is a method used to separate and measure the *characteristic* fluorescent X-rays emitted from a sample. The technique employs an analyzing crystal to spatially spread the X-ray light, much like a prism spreads visible light into its component colors. The wavelength of the impinging X-ray and the crystal's lattice spacings are related by Bragg's law and produce constructive interference when they satisfy the Bragg equation. The X-rays emitted by the sample are collimated by parallel metal blades (Soller slit) and irradiate an automatically selected analyzing crystal at a precise angle. X-ray light diffracted by the analyzing crystal is spatially spread out, so that *characteristic* photons may be collected by a detector positioned at a precise angle to record the X-ray intensity of a specific element.

X-ray optics

In WDXRF, the sample, analyzing crystal and detector are all mounted on a variable angle optical mechanism called a goniometer. As illustrated (at right), the goniometer precisely varies the angles so that the detector can record X-ray fluorescence from any element of interest. The entire X-ray optical mechanism is contained within a vacuum chamber to eliminate absorption of soft radiation (low-energy photons) by the air.

The ZSX Primus series of spectrometers contain up to ten analyzing crystals that can be automatically selected depending on the wavelength being analyzed, enabling elements from almost the entire periodic table to be analyzed.

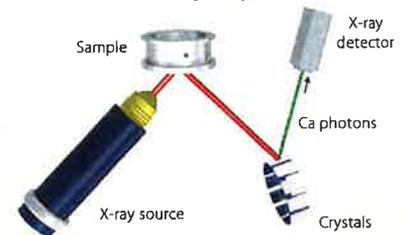
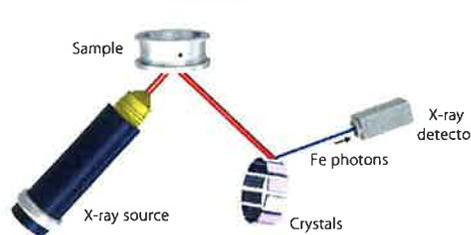
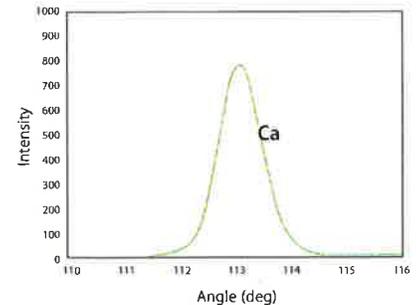
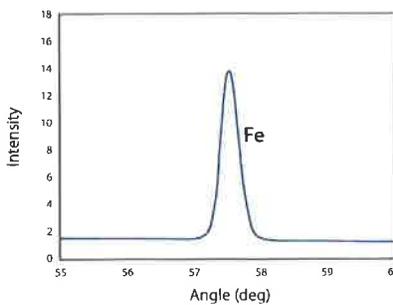
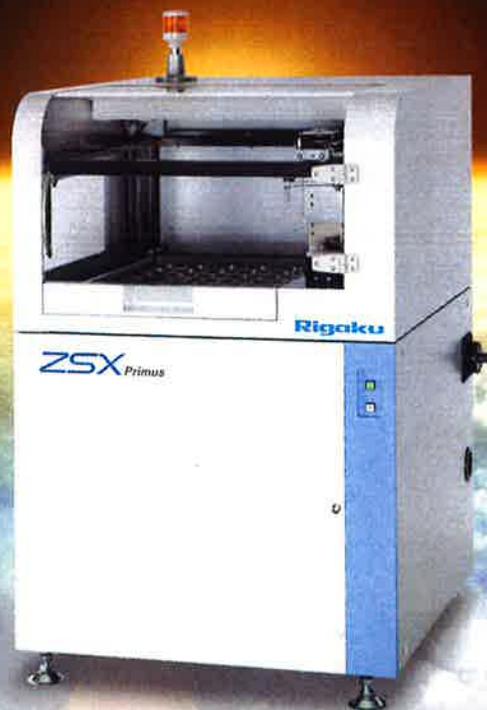


Illustration of how different analyzing crystals and angles allow various elements to be measured

ZSX Primus



ZSX Primus with traditional *tube-below* configuration

The Rigaku ZSX Primus sequential WDXRF spectrometer delivers rapid quantitative determination of major and minor atomic elements, from beryllium through uranium, in the widest possible variety of sample types — with or without standards. The smallest footprint instrument in the ZSX series, the ZSX Primus continues the tradition of delivering accurate results in a timely and seamless manner, with unsurpassed reliability, flexibility, and ease of use to meet any challenges in today's laboratory. With its traditional tube-below-the-sample configuration, it is recommended for liquid samples and fused beads, as well as metal and alloy coupons.



Superior low-Z performance

Providing superior performance with the flexibility for analyzing the most complex samples, the ZSX Primus is optionally available with the SuperTrace 30, an X-ray tube equipped with a 30 micron Be end-window. This is the thinnest end-window tube available in the industry, providing unsurpassed light element (low-Z) sensitivity and faster low-Z element analysis times.

Mapping and micro-spot analysis

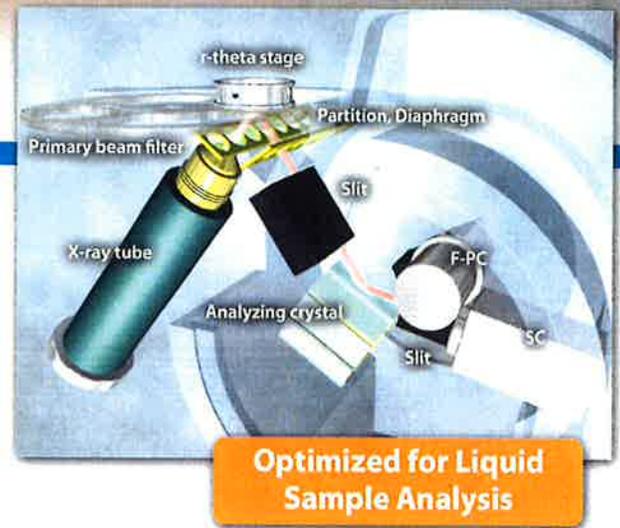
Micro-spot capability, combined with the (optional) advanced r - θ stage and mapping package, allows the ZSX Primus to easily perform detailed investigation of samples to provide analytical insights, such as homogeneity and inclusions, not easily obtained by other analytical methodologies.

Conventional X-ray optics

Designed for throughput

Thanks to a dual pump vacuum system, the goniometer chamber is always maintained under a constant vacuum. Samples may be loaded and pumped down while another is being analyzed. For liquids and other samples run under He-purge conditions, an available special partition – between the sample chamber and the goniometer chamber – is employed to dramatically increase sample throughput while keeping the optics under a constant vacuum.

The standard 48-position automatic sample changer features an X-Y random access robot. Up to four 12-position trays may be loaded at any given time. Each tray may be pre-loaded with samples to enhance sample setup and throughput. The analysis queue can easily be edited at any time, so priority samples do not impact preset workflows.



Sample chamber was specially designed for easy cleaning

Schematic of the ZSX Primus

Sample table and holders – The 12- to 48-position sample table with movable trays are ideal for any lab. Rigaku sample holders are versatile – easily used for liquids, solids and loose powders. Various mask sizes are available, ranging from 5 mm to 38 mm.

PHA – Pulse height reference sample is located on sample turret.

Beam filters – Choose filters to eliminate characteristic tube lines or enhance the signal-to-noise ratio.

Soller slits – Slits range from extra coarse (for B – O) to coarse (for F – U) to fine (for greater resolution).

X-ray tube – The 4 kW tube, with the thinnest window in the industry (30 μm), has been proven to be reliable with no loss of tube life for the enhanced performance of light elements. The ZSX Primus, with its tube-below optics and 4 kW tube, will provide years of trouble-free excitation.

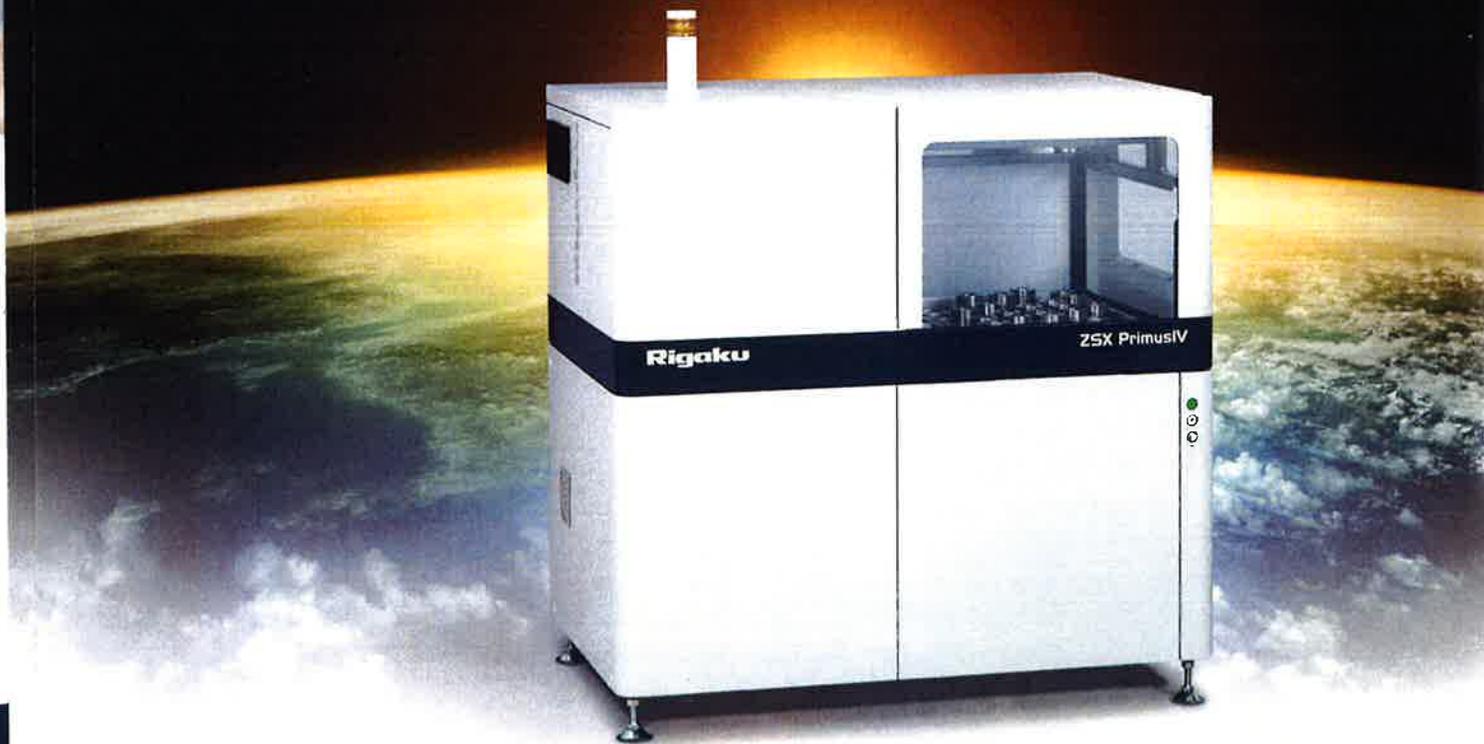
Diaphragm exchanger – With the 6-position diaphragm exchanger, choose from 35 mm, 30 mm, 20 mm, 10 mm, 1 mm, and 500 μm . The He/vacuum seal allows the goniometer chamber to stay under constant vacuum.

Detectors – Rigaku's unique wire cleaner on the F-PC reduces maintenance time. Both detectors are inside the goniometer chamber, allowing for enhanced stability and precision.

Crystal changer – Rigaku offers a crystal changer with a total of 10 positions for maximum flexibility and elemental coverage.

Size – Lab space today is always at a premium. The ZSX Primus solves that problem with an internal chiller, and a small footprint.

ZSX Primus IV



ZSX Primus IV with special *tube-above* configuration

The NEW Rigaku ZSX Primus IV sequential WDXRF spectrometer delivers the same elemental range coverage as the ZSX Primus but with tube-above (inverted) optics for enhanced reliability and durability. ZSX Primus IV features the new ZSX Guidance "expert system" software with the built-in XRF know-how of a skilled spectroscopist to automatically take care of sophisticated settings. Throughput has been greatly improved by high-speed sample transportation, high-speed goniometer drive, high speed data processing and effective driving control. Measurement time has been reduced by 40% for qualitative analysis and 20% for quantitative analysis (in-house comparison), resulting in the highest-possible throughput.

Engineered for maximum confidence

While this configuration offers superior performance for all applications and sample types, the tube-above design is strongly recommended for powder applications. With the tube-above design, accidental contamination of the goniometer or inadvertent damage to the X-ray tube is minimized. The inherent design of the ZSX Primus IV contributes to maximum reliability and uptime.

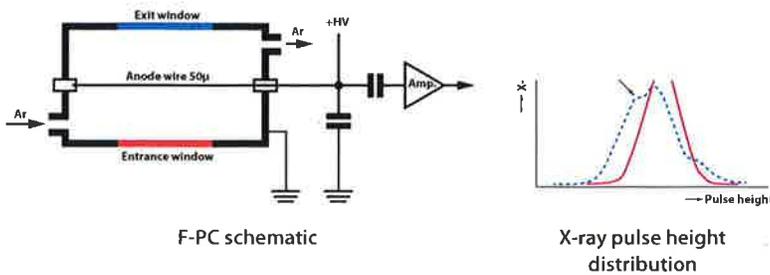


Standard 48-position autosampler deck

Inverted X-ray optics

Automatic center wire cleaning

ZSX Primus series instruments are fitted with a flow proportional counter detector (F-PC) that features automatic center wire cleaning to reduce routine maintenance.



Superior analyzing crystals

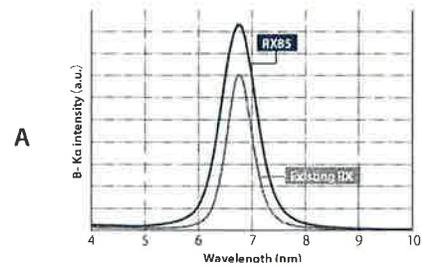
A new analyzing crystal, the RX85, dramatically improves sensitivity for boron (below, A). For cementitious materials, the new RX25 improves magnesium performance by eliminating interference from the Ca-K α third line (below, B).

Primary beam filters

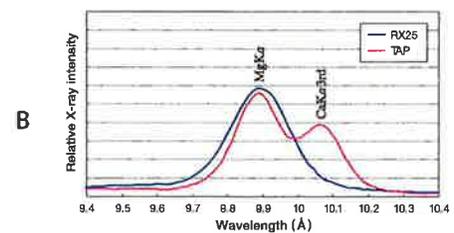
ZSX Primus series instruments are equipped with four standard primary beam filters to eliminate tube target lines or reduce background noise.

Primary beam filters	
Filter	Function and analyzing elements
Ni 400	Eliminates the scattering peaks from Rh target; Rh, Ru, Cd, Ag...
Ni 40	Reduces background; Pb, As, Mo, Zr, Nb...
Al 125	Reduces background; Ti, Co, Fe, Ce, Pr, Nd...
Al 25	Reduces background and reduces scattering from the Rh-target (L lines); Cl, Cd (L), Ag (L)...
Be	X-ray tube protection from powder/liquid (ZSX Primus option)

Comparison of sensitivity for B-K α



Cement reference sample NBS1884



Automatic pulse height adjustment

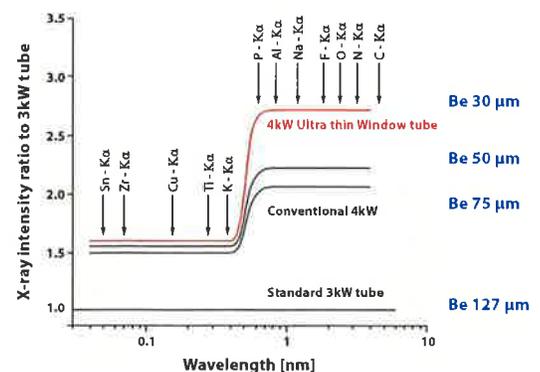
ZSX Primus series instruments are equipped with a pulse height analyzer in the detector electronics circuit to discriminate and filter the signal from higher order peaks and other noise. This circuit is automatically adjusted using a PHA sample to ensure optimal performance.

Thinness wins

Standard in the ZSX Primus IV is the SuperTrace 30 X-ray tube equipped with a 30 micron Be end-window. This is the thinnest end-window tube available in the industry, providing unsurpassed light element (low-Z) sensitivity and faster low-Z element analysis times. Minimal long-term drift and wear characteristics are embodied in the design.



SuperTrace 30 X-ray tube



Analyze from beryllium through uranium

ZSX Primus Series

A periodic table of elements with a red box highlighting the range from Beryllium (Be) to Uranium (U). The highlighted elements include: Be, Na, Mg, Al, Si, P, S, Cl, Ar, K, Ca, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, As, Se, Br, Kr, Rb, Sr, Y, Zr, Nb, Mo, Tc, Ru, Rh, Pd, Ag, Cd, In, Sn, Sb, Te, I, Xe, Cs, Ba, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Hf, Ta, W, Re, Os, Ir, Pt, Au, Hg, Tl, Pb, Bi, Po, At, Rn, Fr, Ra, Ac, Th, Pa, U, and the actinide series (Ac, Th, Pa, U, Np, Pu, Am, Cm, Bk, Cf, Es, Fm, Md, No, Lr).

- **EZ Analysis**

Qualitative, semi-quantitative and quantitative analysis all in a single easy-to-use interface.

- **Flowbar based GUI**

Provides guidance through the calibration process and random access to interface windows. Flowbar represents a "best practice" in analytical software design.

- **r- θ stage for elemental mapping**

Provide valuable information about sample uniformity and/or surface contamination.

- **Micro-spot analysis**

Allows quantification of small regions of a sample and multi-point analysis of anisotropic samples.

- **Self-cleaning F-PC detector / Sealed PC***

Flow proportional counter detector (F-PC) features automatic center wire cleaning to reduce routine maintenance. *An optional sealed PC is available on the ZSX Primus IV to eliminate the need for P10 gas.

- **Reduced sample surface curvature effects**

Unique optics can minimize the change in intensity caused by distance variation. This is particularly important when measuring fused beads are measured.

- **ZSX Guidance software**

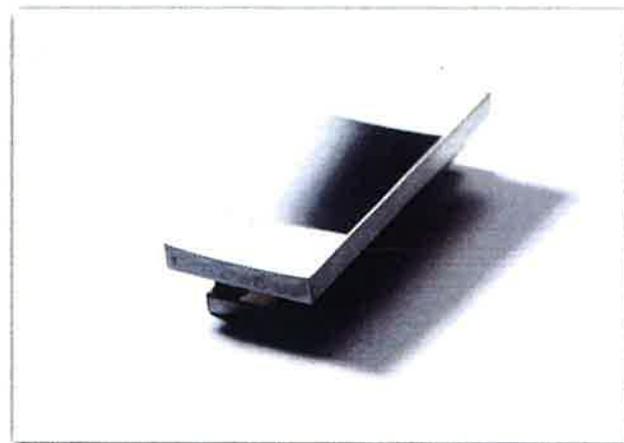
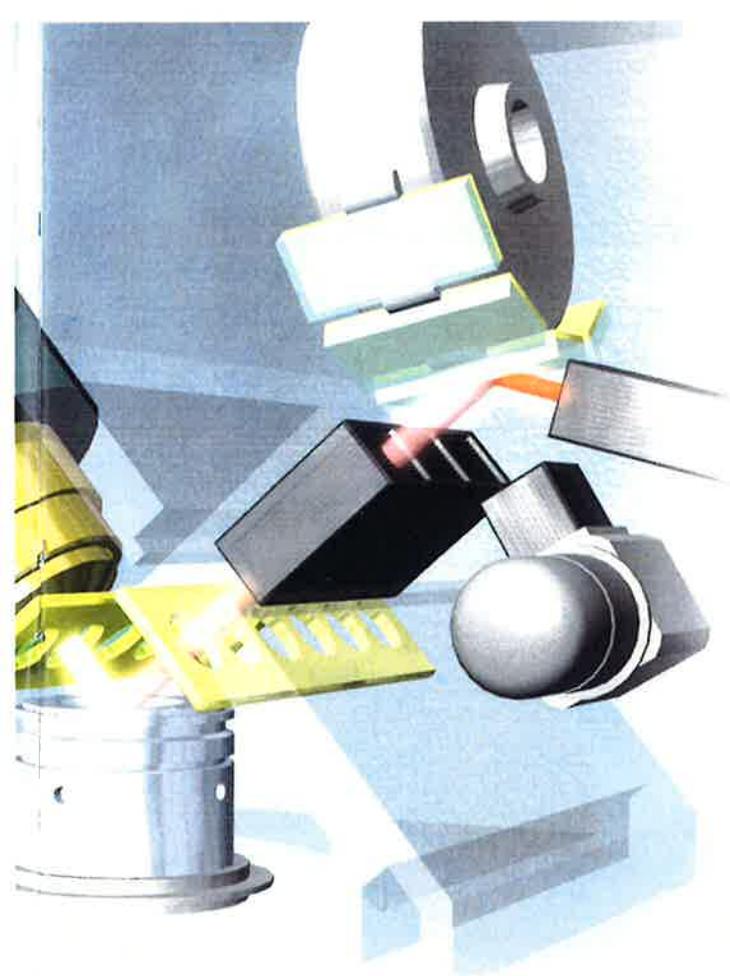
ZSX Primus IV features the new ZSX Guidance "expert system" software with the built-in XRF know-how of a skilled spectroscopist to automatically take care of sophisticated settings.

- **Highest-possible throughput**

ZSX Primus IV measurement times have been reduced by 40% for qualitative analysis and 20% for quantitative analysis resulting in the highest-possible throughput.

Rigaku

ZSX Pri



Curved Ge crystal

- **Highly sensitive curved crystals**

Curved PET and Ge crystals are incorporated in the standard configurations for the ZSX Primus IV. The intensity for P and S by curved Ge increases by 30% compared with flat Ge. The intensity for Al and Si by curved PET increases by 30% compared with flat PET.

- **Tube-above X-ray optics**

Rigaku offers a choice of optical configurations to provide the best fit for any specific application or environment.

- **Self-calibrating PHA**

The pulse height analyzer (PHA) is automatically adjusted using a PHA sample to ensure optimal performance.

- **30 μm Be end-window X-ray tube**

SuperTrace 30, the thinnest end-window tube available in the industry, provides unsurpassed light element (low-Z) sensitivity and faster low-Z element analysis times.

- **Photo-electron correction**

Patented FP correction considers the effect of photo-electron excitation for ultra-light elements.

- **Fixed-angle (FA) analysis**

SQX semiquant fundamental parameters feature automatic background point selection to eliminate errors in net peak intensity.

- **Scattering FP**

Accurate analysis without analyzing major light element (low-Z) components is now possible. Monte Carlo simulations consider the distribution of scattering angles for each geometrical location of the sample.

- **UltraCarry® for trace analysis**

Unlike with ICP or AA instrumentation, anyone can quickly learn to use UltraCarry to perform routine trace element analysis of aqueous liquids. No acids, no plumbing, no filtering, no gases, no digestion and nothing to clean.



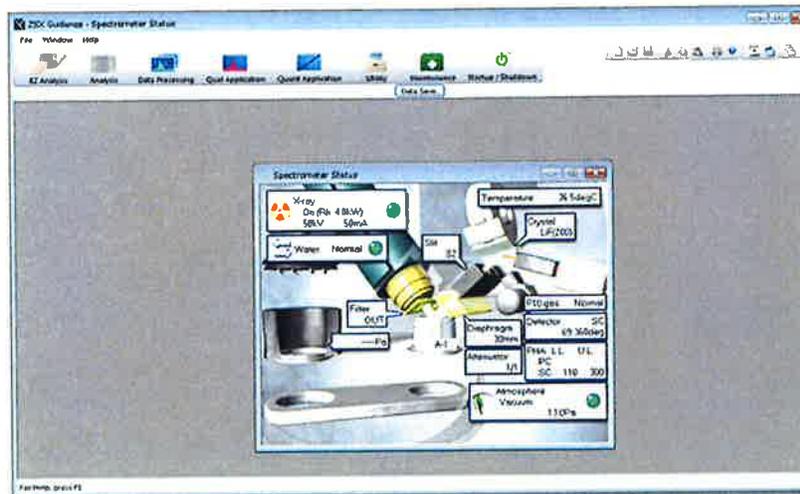
Graphical user interface

Powerful software that is easy-to-use

With an eye toward the future, Rigaku has combined extensive experience in applications development and unsurpassed technical knowledge to create the world's best XRF analytical software. With a firm belief that knowledge is power, Rigaku has developed software that is not only user-friendly, but sophisticated and powerful enough for the most complex analysis. The ZSX Primus series Windows® based software was conceived and built with end-user needs and requirements in mind.

ZSX Guidance for ZSX Primus IV

ZSX Primus IV features the new ZSX Guidance "expert system" software with the built-in XRF know-how of a skilled spectroscopist to automatically take care of sophisticated settings. Operators simply input basic information about samples, analysis components and standard composition. Measuring lines with less overlapping, optimum backgrounds and correction parameters – including line overlaps – are automatically set with aid of qualitative spectra.



ZSX Guidance software showing spectrometer status window

Graphical spectrometer status display

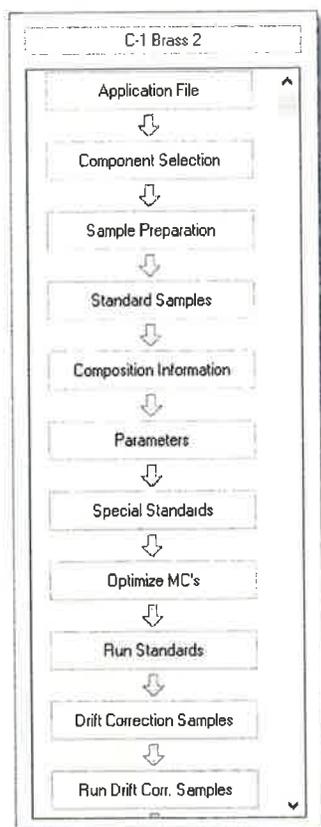
Another famous Rigaku innovation is the graphical instrument status window. Real time display of key parameters allows users to assess the condition of the spectrometer at a glance. This feature saves the operator time and increases situational awareness.

EZ Analysis for routine operation

EZ Analysis is a "best practice" design feature that makes everyday routine operation intuitive. A single interface contains everything you need to know about the status of your samples, what your data measurement parameters are, and a running output of your results.

Flowbar guidance makes it easy

Based on the famous Rigaku easy-to-use flowbar interface, ZSX Primus series software walks the user through the steps required to set up either an empirical or a fundamental parameters application. For empirical calibrations, the flowbar covers every detail, from setup of an application file to the selection of a template and the components to be measured. The user is then guided through acquisition parameters setup, the setup of standards and drift correction, through calibration and reporting.

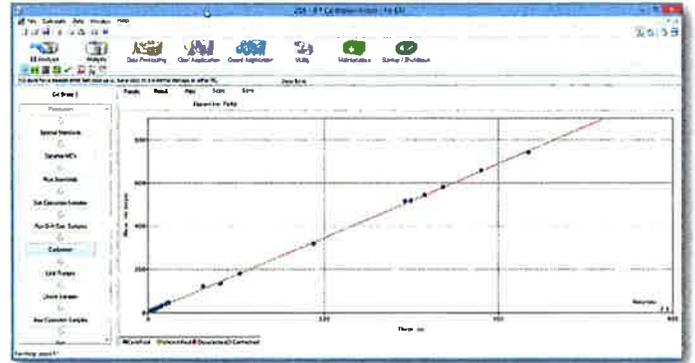


Flowbar

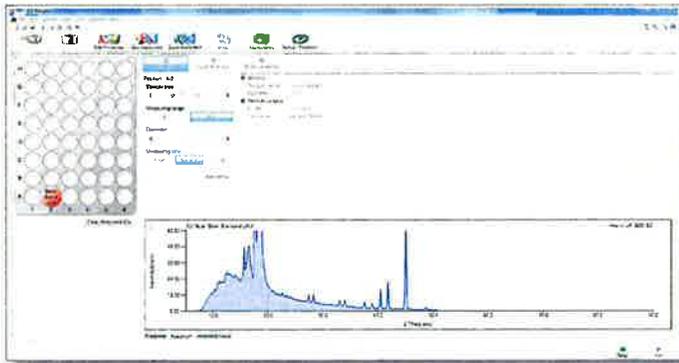




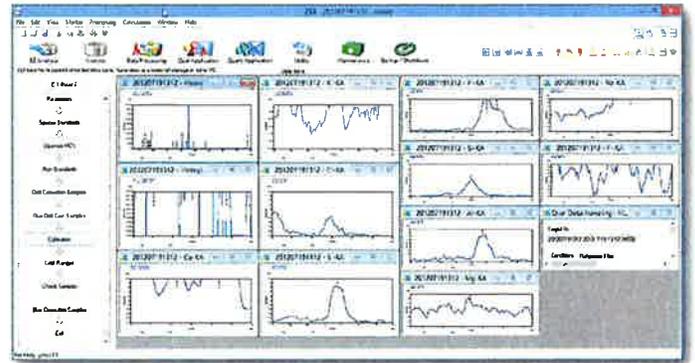
Templates for qualitative and quantitative applications guide you through each setup



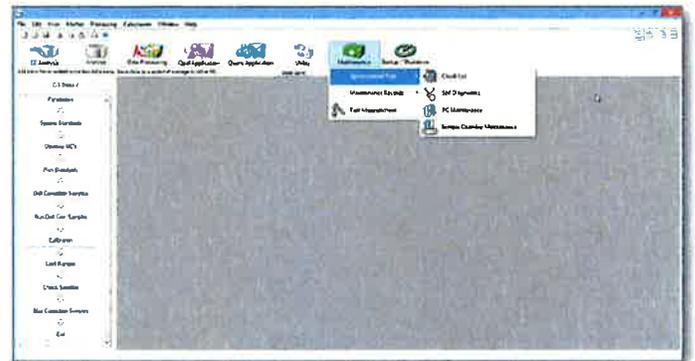
Calibration windows are clear and easy to understand



EZ Analysis window



Qualitative scans are organized for easy interpretation and automatically list potential interfering elements

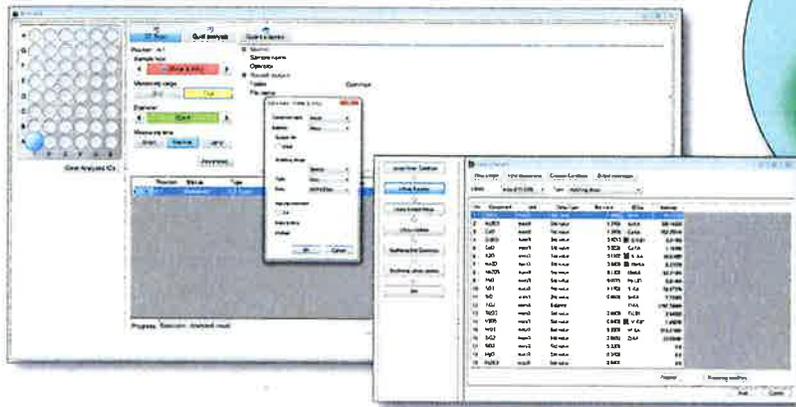


Built-in diagnostics maximize uptime and reliability

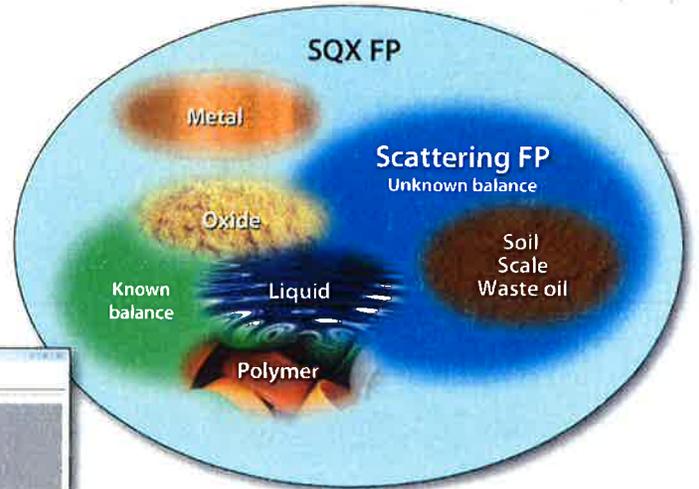


The "Optimize" window allows the adjustment of a variety of





Scan using Matching Libraries



Matching libraries

SQX Matching Libraries can be created to match your sample type. By integrating a few standards of a similar matrix to unknown sample types, and creating a semi-quantitative library for each, far greater accuracy can be realized for the unknowns. Analysts can create as many matching libraries as needed to provide turn-key, accurate semi-quantitative results for their materials. With SQX Matching Libraries, semi-quantitative analysis by FP becomes truly quantitative.

SQX FP features and benefits

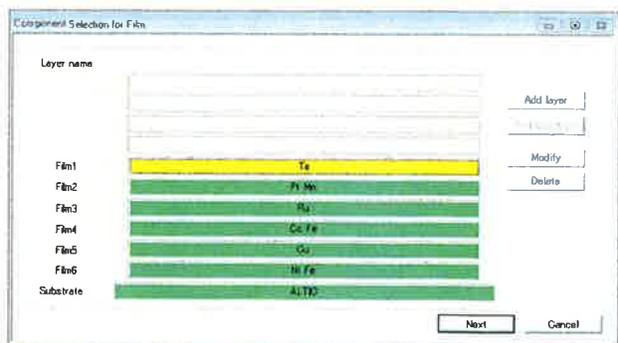
- Matching Libraries turns semiquantitative analysis into quantitative analysis**
 Use Rigaku's Matching Libraries or build a custom library with your standards
- Scattering FP and photo-electron correction for superior matrix modeling**
 Reliably accounts for effects of the unanalyzed low-Z element portion of the sample
- Fundamental parameters based line overlap correction for complex spectra**
 Overlap factors conveniently adapted to both bulk and thin film samples using theoretical intensities

Quant fundamental parameters

Rigaku quantitative FP software has a variety of unique functions for applications like thin films, geological samples, and fused beads.

Coatings and multi-layer thin films

Thin film materials play an important role in many of today's core industries. Applications to determine thin film composition and thickness are vital in the production of semiconductor devices, industrial coatings, and solar energy conversion devices. XRF measurements offer precise, non-destructive elemental analysis capabilities that can be used across the broad spectrum of application requirements.



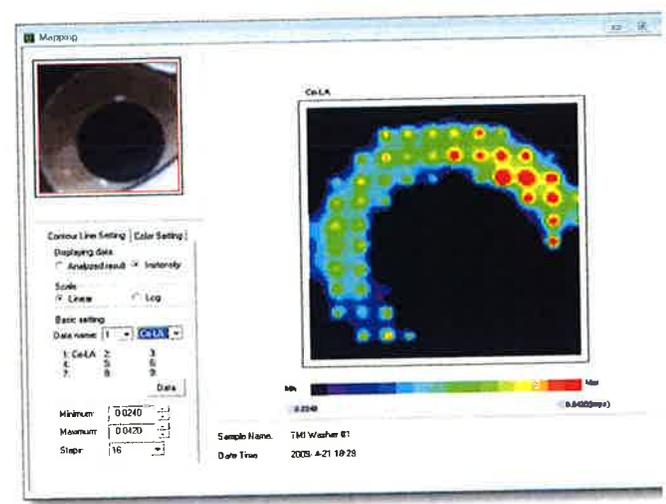
Quant FP features and benefits

- Advanced matrix correction works synergistically with Compton scatter**
 Enhanced accuracy for heavy elements in rocks, ores and other geological samples
- Matrix, dilution, and evaporation corrections for fused beads**
 Mathematically account for flux or sample LOI without pre-ignition of samples

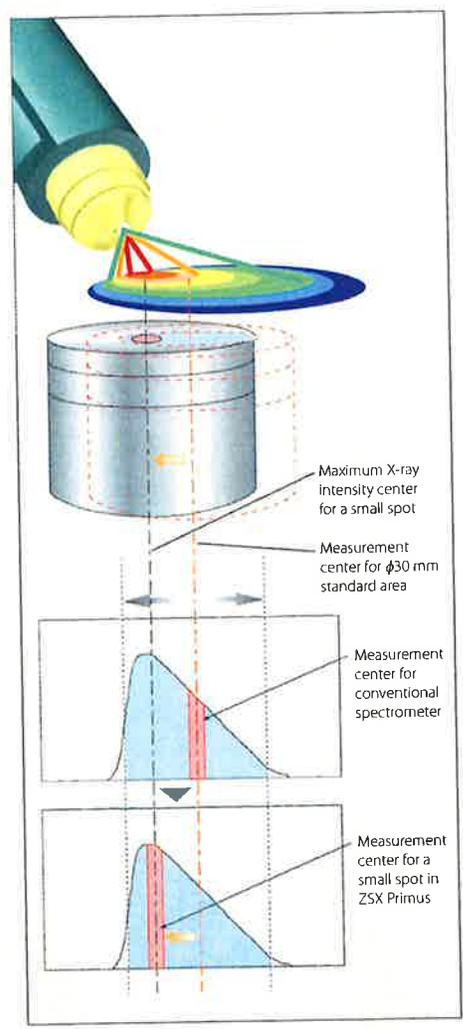
Micro-spot, multi-point analysis and mapping

Elemental mapping for anisotropic samples

ZSX Primus series spectrometers can be configured with micro-mapping capabilities, allowing the user to measure areas as small as 500 microns on the surface of a sample. The ability to elementally map a sample surface (100 μm mapping resolution) can provide valuable information about sample uniformity, allow quantification of small regions of a sample, and examine surface contamination. An automated (r- θ) sample stage, a CCD camera system, and intelligent software position the sample so the brightest portion of the X-ray beam is centered on the small spot.



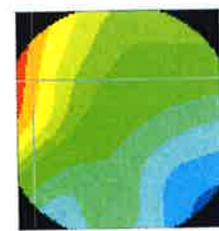
2D map showing cerium (Ce) distribution in ceramic coated hydrogen fuel cell washer



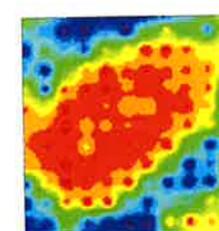
The r- θ positioning stage ensures that the "hot spot" of the X-ray beam is aligned with the region of interest, vastly improving the sensitivity for small areas



2D carbon (C) map of phase segregation in electrical paste



2D map revealing sodium (Na) gradient in photovoltaic film



Aluminum (Al) as mapped in granite

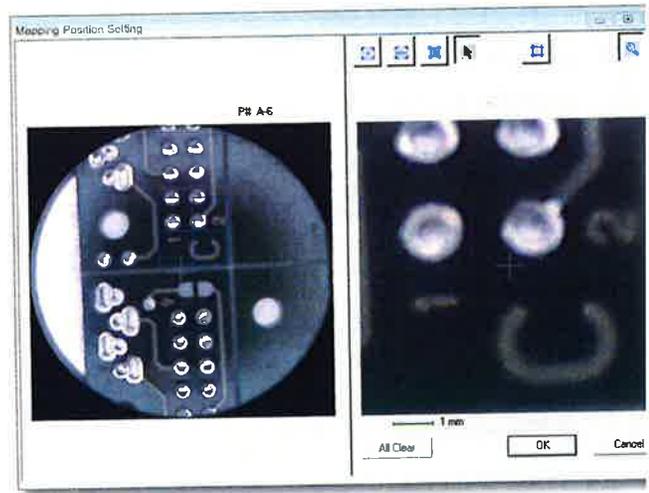
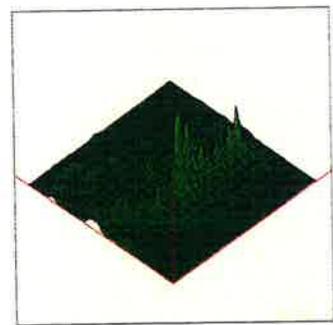


Illustration of CCD camera views of a printed circuit board



3D map revealing of sulfur-rich zone in laminated sedimentary rock



3D phosphorus map of scratch region of zinc phosphate proof coating

UltraCarry for PPB-level aqueous analysis

Patented sample preconcentration system

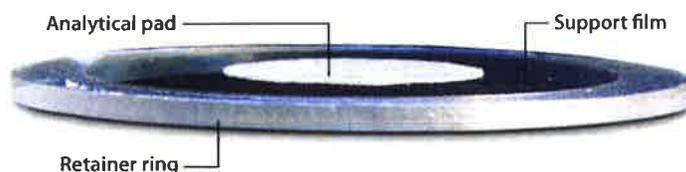
UltraCarry is a novel disposable (single-use) sample retainer for X-ray fluorescence (XRF) analysis used to preconcentrate an aqueous liquid sample onto a uniform sample carrier optimized for the suppression of background noise. This approach dramatically improves the signal-to-noise ratio, resulting in up to two orders of magnitude improvement in the Lower Limit of Detection (LLD or LOD) and Limit of Quantification (LOQ) for both light and heavy elements.

Simple 3-step procedure

Unlike with ICP or AA instrumentation, anyone can quickly learn to use UltraCarry to perform routine trace element analysis. No acids, no plumbing, no filtering, no gases, no digestion and nothing to clean.

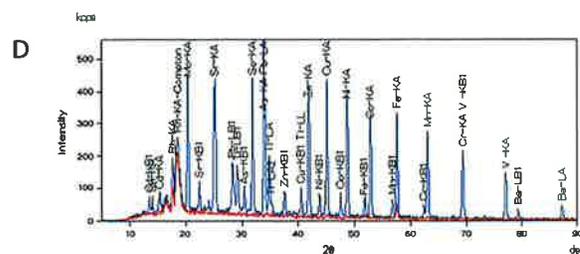
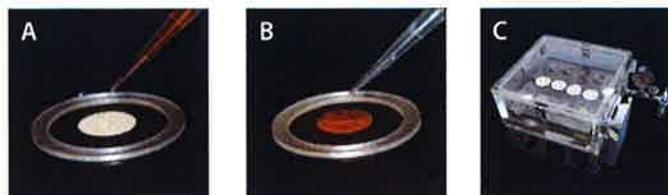
1. **Pipette** your samples onto UltraCarry (A and B)
2. **Dry** multiple samples simultaneously with Rigaku UltraDry™ vacuum hotplate with special metal disks for rapid drying (C)
3. **Analyze** with Rigaku Primus series spectrometer (D)

For routine analysis, the Rigaku UltraDry vacuum hotplate (C) is recommended for rapid desiccation.



Detection limits for UltraCarry

Elements	LLD, ppb	Elements	LLD, ppb
As	16	Fe	18
Pb	76	Co	17
Cr	26	Ni	20
Se	24	Cu	19
F	1 ppm	Zn	18
B	32 ppm	Sr	25
Cd	182	Mo	27
Na	76	Ag	152
P	56	Sn	40
K	12	Sb	43
V	34	Ba	105
Mn	16	Ti	81



App-Pak™ application specific configurations

Rigaku's approach to helping users develop productive, easy-to-use analysis methods is centered around the concept of the App-Pak. App-Paks are unique combinations of instrument configurations, analysis standards and application specific software. Developed to provide turnkey solutions for many of today's most demanding applications, App-Paks reduce start-up time, maximize productivity and ensure accuracy of results when bringing a new analysis application online.

Available App-Paks include: oils, polymers, refractories, nickel alloys, ferro alloys, and cement.



Applications span global industries

Cement



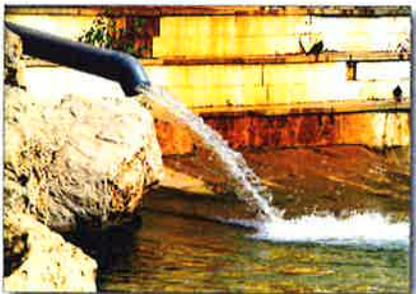
WDXRF has long been the tool of choice to control cement production, from raw material to clinker to finished product. The tube-above geometry of the ZSX Primus IV provides a robust configuration for the cement plant environment, mitigating instrument contamination and extending instrument service intervals. Rigaku software enhances tool value 1) fusion bead correction software eliminates the need for pre-ignition and dramatically improves throughput, 2) ratio functions express calcium silicates, calcium aluminates and calcium ferrites as quantifiable fractions of clinkers, 3) calculations of clinker minerals such as C_3S and other factors using the process parameter calculation function. When combined with the Rigaku MiniFlex benchtop X-ray diffractometer, free lime and direct phase measurements may also be obtained. Ask for applications notes XRF5005 and XRF5006, for finished cement and raw meal respectively.

Education and R&D



Governments and industry collectively invest billions of dollars every year into both high education and the research and development of new and advanced materials. This work involves study of the characteristics and uses of various substances, such as metals, ceramics, and plastics, that are employed in applications ranging from aerospace and defense technology to consumer products. WDXRF spectroscopy is a primary technique for the study of such materials, with applications ranging from solids and alloys to liquids, powders and thin films.

Environmental



Air, soil and water are the essential environmental building blocks that sustain life. The ability to identify and quantify contaminant elements at low concentration levels is essential. With the patented Rigaku UltraCarry, you can use your Rigaku spectrometer to quantify trace elements in aqueous liquids down to parts-per-billion (ppb) concentration levels. Routine elemental analysis of contaminated water or industrial wastewater can now be performed without an Atomic Absorption (AA) or Inductively Coupled Plasma (ICP) spectrometer. UltraCarry based trace element analysis is suitable for use by non-technical personnel. In addition to aqueous samples, directly measure trace elements in other environmental applications, such as sediments, soils and sludges – without digestion – down to low or parts-per-million (ppm) concentrations.

Coatings and thin-films



The manufacture of thin films and coatings requires flexible, robust instrumentation able to quickly provide precise information in support of production lines. The ZSX Primus series with micro-spot analysis and mapping capabilities, allows defect mapping and precise determination of surface film uniformity. And the 30 μm thin Be end-window of the SuperTrace 30 X-ray tube provides the ultimate light element sensitivity for measurement of BPSG dielectrics. Intelligent software includes theoretical line overlap corrections for complex spectra arising from multi-component thin film stacks. Our flexible modeling capabilities allow the use of bulk materials, single element thin films, and variable substrates as standards for multicomponent sample stacks. For large samples, Rigaku offers the AZX 400, which allows for the measurement of wafers up to 400 mm diameter.



Metals and alloys

Manufacturing of metals and alloys requires accurate, highly precise analysis, with quick turnaround, to ensure continuous production on the melt shop floor. ZSX Primus IV employs a tube-above design that is ideal for situations where environmental conditions may not be optimal. Quantitative analysis methods allows input for C, S and other elements measured by combustion methods. Theoretical overlap correction addresses complex spectral interferences in alloys and small area measurements, and allow analyses on small metal fragments, turnings, rods, and wires. Ask for applications notes: XRF5009 - low alloy steel, XRF5017 - cast iron, XRF5021 - stainless steel, XRF5024 - blast furnace slag, XRF5026 - ferrosilicon, XRF5027 - metals in Cu concentrate, and XRF5028 - Be/Cu alloy.



Mining and minerals

XRF has historically played a vital role in helping the development of profitable mining models and is the mainstay of most mining operations with respect to grade control and process control parameter optimization. ZSX Primus IV employs a tube-above design that is ideal for situations where environmental conditions may not be optimal. And the 30 μm thin Be end-window of the SuperTrace 30 X-ray tube provides the ultimate light element sensitivity. Fusion disk correction mathematically calculates LOIs, eliminating the need to weigh the flux and corrects for flux evaporation in fused disk sample measurements. Micro-mapping capability allows elemental imaging of whole rock samples. Ask for applications note: XRF5018 - silicate rock by fusion method.



Petroleum

XRF continues to be a core analytical technology for the petroleum industry, from crude and heavies to refined fuels and lubrication oils. The tube-below configuration of the ZSX Primus is optimized for the measurement of liquids and is recommended for most petroleum applications. ZSX Primus may be configured with Petro-Pak for turnkey, optimized analysis of petrochemical samples. SQX Scattering FP uses scatter based corrections for unanalyzed light elements in greases, sludges, and other complex mixtures where knowledge of light element composition is limited. Ask for applications notes: XRF5012 - sulfur in petroleum products, XRF5015 - low concentration sulfur in oils, XRF5016 - sulfur in crude and high-sulfur fuels, and XRF5003 - lube oil analysis.



Polymers and plastics

During development and production, the compounds in polymers have to be strictly controlled to meet national and international regulations, by avoiding potential dangers due to hazardous and toxic substances. Restrictions exist for the use of certain elements, including cadmium, mercury, lead, chromium and bromine. Standardless SQX Scattering FP uses scatter based corrections to provide superior semiquantitative elemental analysis of all types of plastics. For all tasks in polymer R&D and production, ZSX Primus series spectrometers can identify and quantify concentrations of the aforementioned additives - as well as antimony, barium, calcium, copper, phosphorus, titanium, zinc and all other elements from beryllium through uranium.

Options

UltraDry

A vacuum hotplate (Cat. # RS-P1100) specifically designed for routine analysis using MicroCarry and UltraCarry, the Rigaku UltraDry is available as an XRF accessory. Up to ten (10) UltraCarry samples may be processed simultaneously.



AZX 400 – large sample WDXRF

Rigaku's unique AZX 400 sequential WDXRF spectrometer was specifically designed to handle very large and/or heavy samples. Accepting samples up to 400 mm diameter, 50 mm thick and 30 kg weight, this system is ideal for analyzing sputtering targets, magnetic disks, or for multilayer film metrology or elemental analysis of large samples. The optional wafer autoloader enables handling of multiple wafers from a 300 mm FOUP or 200 mm open cassette.



Supermini200 – benchtop WDXRF

As the world's only high-power benchtop sequential WDXRF spectrometer for elemental analysis of oxygen through uranium of almost any material, the Rigaku Supermini200 uniquely delivers low cost-of-ownership (COO) with high resolution and lower limits-of-detection (LLD). With a 200 W X-ray tube, Rigaku Supermini200 delivers high sensitivity for light elements and superior spectral resolution.



MiniFlex™ – benchtop XRD

The 5th generation MiniFlex is a general purpose X-ray diffractometer that can perform qualitative and quantitative analysis of polycrystalline materials. Ideally-suited for today's fast-paced XRD analyses, the MiniFlex delivers speed and sensitivity through innovative technology enhancements such as the optional D/teX high speed detector coupled with the new 600 W X-ray source.



Crystal	Atomic number									
	1	10	20	30	40	50	60	70	80	90
LiF (200)			19K							
PET*1		11Al					21Sc			
Ge*1			15P				21Sc			
RX25		8O					12Mg			
LiF (220)							24Cr			
LiF (420)							30Zn			
RX4			14Si							
RX9			15P				17Cl			
RX35		9O					12Mg			
RX40		7N					14O			
RX45			7N				14O			
RX61F			6C							
RX61			5B				6C			
RX75		4Be					5B			
RX85*2		4Be					5B			

*1 PET, GE Intensity improved by 30% by curved crystal
*2 RX85 high intensity, RX75 high resolution

Available analyzing crystals with their elemental coverage



Small samp



Y mask



Scatter elimi



Liquid cell



UltraCa



Small volume cell



Oil solidifica



Loose powder



MicroCa



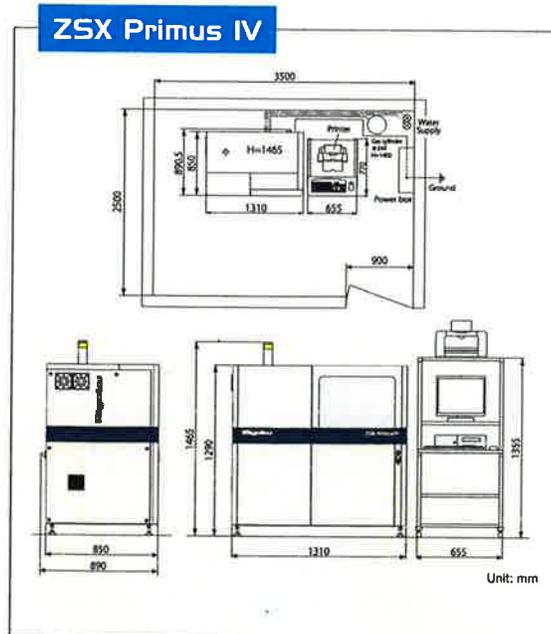
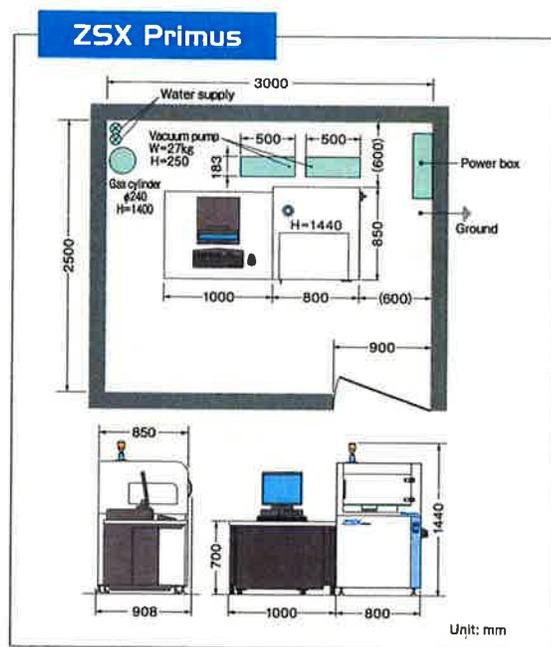
Specifications

		ZSX Primus IV	ZSX Primus
General	Element application	${}^4\text{Be} \sim {}_{92}\text{U}$	
	Optics	Wavelength dispersive	
X-ray generator	X-ray tube	End window type, Rh target	
		4 kW or 3 kW	
	High voltage generator	High frequency inverter system	
		Max rating: 4 kW	
		60 kV - 150 mA	
Cooling device	Energy saving operation (optional)		
		Water-to-water heat exchanger (built-in)	
Spectrometer	Geometry	Tube-above	Tube-below
	Mapping	r- θ stage (optional) Sample observation system	
	Sample changer	Expandable sample changer (maximum 48 samples)	
	Sample inlet	Air lock system	
	Maximum sample size	51.5 mm ϕ x 30 mm	51 mm ϕ x 40 mm
	Sample rotation	30 rpm	
	Primary X-ray filter	Al25, Al125, Ni40, Ni400	
		Be30 for tube protection (optional)	
	Analysis area diaphragm	6 sizes automatic exchange mechanism 35, 30, 20, 10, 1, and 0.5 mm ϕ	
	Primary Soller slit	3 positions automatic exchange mechanism Standard and high resolution slits Ultra coarse slit (optional)	
	Secondary Soller slit	2 slits for SC and F-PC	
	Goniometer	θ - 2θ independent driving mechanism	
	Angular range	SC: 5 - 118°, F-PC: 13 - 148°	
	Continuous scan	0.1 - 400° /min (2 θ)	0.1 - 240° /min (2 θ)
	Crystal exchanger	10 crystal automatic exchange mechanism	
	Analyzing crystals	LiF(200), Ge-, PET-, RX25	LiF(200), Ge, PET, RX25
	Optional analyzing crystals	Ge, PET, RX4, LiF(220), LiF(420), RX9, RX35, RX40, RX45, RX61, RX61F, RX75, RX85	Ge-, PET-, RX4, LiF(220), RX9, RX35, RX40, RX45, RX61, RX61F, RX75
	Vacuum system	High speed vacuum system (2 pumps) Powder trap attachment (optional for ZSX Primus)	
	Gas flushing system	He flushing with partition (optional)	
	Counting system	Detector	SC for heavy elements F-PC for light elements Heating-type center-wire automatic cleaning S-PC for light elements (optional for ZSX Primus IV only)
Attenuator		In-out automatic attenuator exchanger Attenuation factor: 1/10 for 30 mm ϕ	

*Special curved analyzing crystal available

Backed by Rigaku

Since its inception in 1951, Rigaku has been at the forefront of analytical and industrial instrumentation technology. Today, with hundreds of major innovations to our credit, the Rigaku Group of Companies are world leaders in the field of analytical X-ray instrumentation. Rigaku employs over 1,400 people worldwide in operations based in Japan, the U.S., Europe, South America and China.

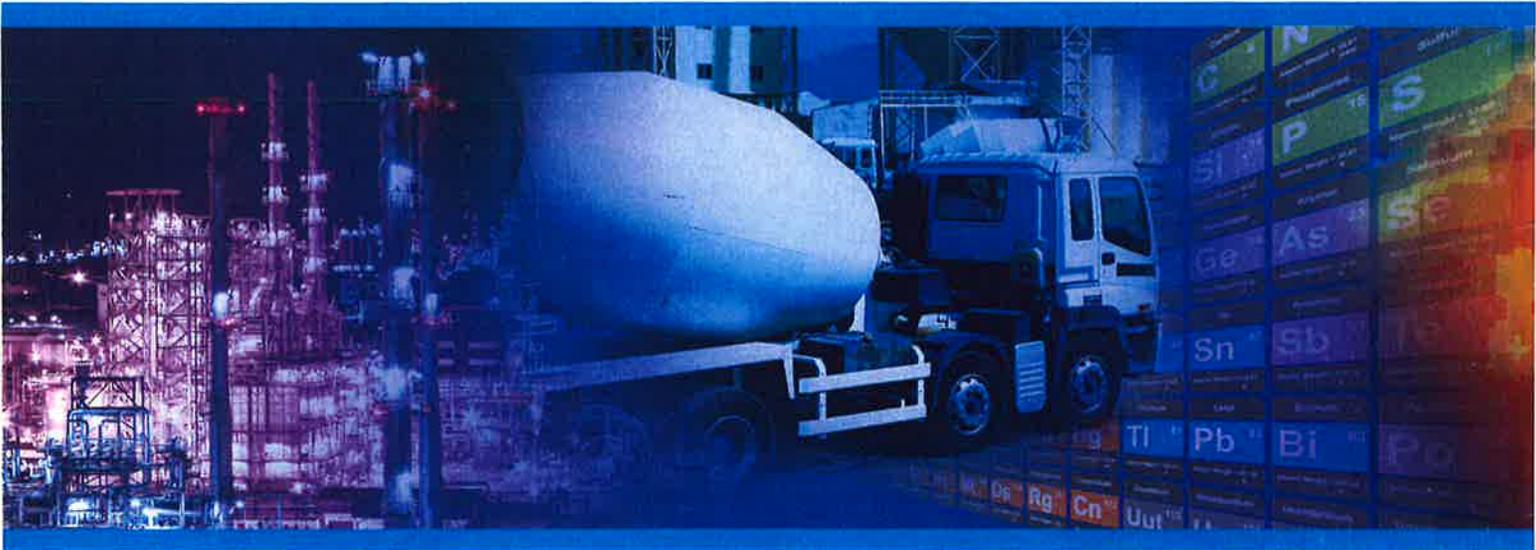


ZSX Primus Series

Sequential wavelength dispersive X-ray fluorescence



Rigaku.com/products/xrf



Rigaku Corporation and its Global Subsidiaries

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