

**CITY CLERK
ORIGINAL**

C-10329
10/13/2015

**LINKING AGREEMENT
BETWEEN
THE CITY OF GLENDALE, ARIZONA
AND
PROMIUM, LLC.**

THIS LINKING AGREEMENT (this "Agreement") is entered into as of this 13 day of ~~October~~, 2015, between the City of Glendale, an Arizona municipal corporation (the "City"), and Promium LLC., a limited liability company with offices located in Bothell, WA ("Contractor"), collectively, the "Parties."

RECITALS

- A. On February 16, 2012, under the S.A.V.E. Cooperative Purchasing Agreement, the City of Tucson entered into a contract with Contractor to purchase the goods and services described in the Laboratory Information Management System (LIMS) Contract, Contract No. 120349-01 which is attached hereto as Exhibit A. The LIMS Contract permits its cooperative use by other governmental agencies including the City. The LIMS Contract is hereinafter referred to as the Cooperative Purchasing Agreement.
- B. Section 2-149 of the City's Procurement Code permits the Materials Manager to procure goods and services by participating with other governmental units in cooperative purchasing agreements when the best interests of the City would be served.
- C. Section 2-149 also provide that the Materials Manager may enter into such cooperative agreements without meeting the formal or informal solicitation and bid requirements of Glendale City Code Sections 2-145 and 2-146.
- D. The City desires to contract with Contractor for supplies or services identical, or nearly identical, to the supplies or services Contractor is providing other units of government under the Cooperative Purchasing Agreement. Contractor consents to the City's utilization of the Cooperative Purchasing Agreement as the basis of this Agreement, and Contractor desires to enter into this Agreement to provide the supplies and services set forth in this Agreement.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing recitals, which are incorporated by reference, and the covenants and promises contained in this Linking Agreement, the parties agree as follows:

1. Term of Agreement. This City is purchasing the supplies and/or services from Contractor pursuant to Cooperative Purchasing Agreement. According to the Cooperative Purchasing Agreement award and rate sheet, which are attached hereto as part of Exhibit B, purchases can be made by governmental entities from the date of award, which was February 16, 2012, until the date the contract expires on December 31, 2017, unless the term of the Cooperative Purchasing Agreement is extended by the mutual agreement of the original contracting parties. The initial period of this Agreement therefore is the period from the Effective Date until

December 31, 2017. The City may give the Contractor written notice of its intent to renew no later than one (1) year before the expiration of the initial period. Thereafter, the City may similarly request annual renewals with a one (1) one month notice.

2. Scope of Work; Terms, Conditions, and Specifications.

- A. Contractor shall provide City the supplies and/or services identified in the Scope of Work attached hereto as Exhibit B.
- B. Contractor agrees to comply with all the terms, conditions and specifications of the Cooperative Purchasing Agreement. Such terms, conditions and specifications are specifically incorporated into and are an enforceable part of this Agreement.

3. Compensation.

- A. City shall pay Contractor compensation at the same rate and on the same schedule as the Cooperative Purchasing Agreement, unless the City and Contractor agree otherwise, as provided in Exhibit C hereto.
- B. The total purchase price for the supplies and/or services purchased under this Agreement shall not exceed one hundred and eighty five thousand dollars (\$185,000).

4. Cancellation. This Agreement may be canceled pursuant to A.R.S. §38-511.

5. Non-discrimination. Contractor must not discriminate against any employee or applicant for employment on the basis of race, color, religion, sex, national origin, age, marital status, sexual orientation, gender identity or expression, genetic characteristics, familial status, U.S. military veteran status or any disability. Contractor will require any Sub-contractor to be bound to the same requirements as state within this section. Contractor, and on behalf of any subcontractors, warrants compliance with this section.

6. E-verify. Contractor complies with A.R.S. §23-214 and agrees to comply with the requirements of A.R.S §41-4401.

[SIGNATURES APPEAR ON FOLLOWING PAGE.]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date and year set forth above.

"City of Glendale"

"Contractor"

City of Glendale, an Arizona
municipal corporation

Promium, LLC, a limited liability company

By: *Richard A. Bowers*
Richard A. Bowers
Acting City Manager

By: *Scott Cocanour*
Name: *Scott Cocanour*
Title: *CEO*

ATTEST:
Pamela Hanna
Pamela Hanna, City Clerk (SEAL)

APPROVED AS TO FORM

Michael D. Bailey
Michael D. Bailey, City Attorney

PRŌMIUM

We speak the language of your lab

**Element DataSystem[™]
Laboratory Information
Management System**

**The City of Tucson
Tucson Water Quality Laboratory
RFP #120349**

9. OFFER AND ACCEPTANCE

OFFER

TO THE CITY OF TUCSON:

The Undersigned hereby offers and shall furnish the material or service in compliance with all terms, scope of work, conditions, specifications, and amendments in the Request for Proposal which is incorporated by reference as if fully set forth herein.

For clarification of this offer, contact:

Promium, LLC
Company Name

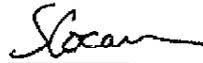
Name: David Riese

3350 Monte Villa Parkway, Suite 220
Address

Title: Sales Engineer

Bothell WA 98021
City State Zip

Phone: 425-408-3800



Fax: 800-878-7158

Signature of Person Authorized to Sign

Scot Cocanour
Printed Name

E-mail: driese@promium.com

Chief Executive Officer
Title

ACCEPTANCE OF OFFER

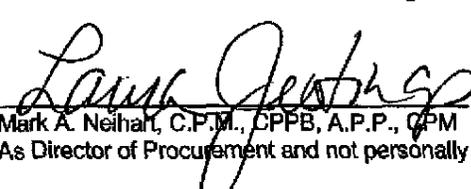
The Offer is hereby accepted. The Contractor is now bound to sell the materials or services specified in the Contract. This Contract shall be referred to as Contract No. 120349.

Approved as to form this 27th day of Feb, 2019.

CITY OF TUCSON, a municipal corporation

Awarded this 27th day of February 2019.


As Tucson City Attorney and not personally


Mark A. Neihar, C.P.M., CPPB, A.P.P., CPM
As Director of Procurement and not personally

CONTRACT #120349-01
Laboratory Information Management System (LIMS)

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1. Software License Agreement

SOFTWARE LICENSE AGREEMENT

BY AND AMONG

Promium, LLC

["COMPANY"]

AND

THE CITY OF TUCSON

["CITY"]

EFFECTIVE AS OF

February 16, 2012

SOFTWARE LICENSE AGREEMENT

THIS SOFTWARE LICENSE AGREEMENT (this "**License Agreement**"), is entered into as of February 16, 2012 (the "**Effective Date**") by and among City of Tucson, a municipal government existing under the Laws of Arizona with its principle office located at 255 W. Alameda, Tucson, Arizona, 85701 ("**CITY**") and Premium, LLC with its offices located at Bothell, WA. ("**COMPANY**"). **CITY** and **COMPANY** are sometimes individually referred to as a "**Party**" and collectively as "**Parties**" throughout this License Agreement.

RECITALS

WHEREAS, **COMPANY** and/or its Affiliates own or are authorized to license certain computer software programs and related documentation and the **COMPANY** is in the business of licensing such software programs and providing customization, development, implementation, maintenance and other support services with respect to such software programs to end user customers; and

WHEREAS, **CITY** has evaluated the software products described in Attachment A to the License Agreement ("**Products**") and desires to obtain from **COMPANY**, and **COMPANY** has reviewed the City's needs and represents and warrants that its Products meet these needs and **COMPANY** is willing to grant to **CITY**, a license to use the Products.

NOW, THEREFORE, for and in consideration of the mutual promises contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereto agree as follows:

1. DEFINITIONS

1.1 The following capitalized terms shall have the meaning set forth below for all purposes of this License Agreement:

"**Affiliate**" means, at any time, and with respect to any Person, any other Person that at such time directly or indirectly through one or more intermediaries Controls, or is Controlled by, or is under common Control with, such first Person.

"**Agreement**" shall mean the entirety of the City of Tucson Request for Proposal No. 120349, the **COMPANY**'s response thereto, and such additional documents and/or attachments as are referenced therein.

"**ASP**" means an application service provider providing another Person software-based application solutions that enables such other Person with transaction processing ability by remote access or other available means through the application software installed at such service provider's site.

"Attachment A" means the document attached hereto and designated as "Attachment A", entitled "PRODUCT COVERED BY THIS AGREEMENT" and dated February 16, 2012. **"Authorized User(s)"** means, CITY, Permitted Affiliates, their respective employees, officers or agents (as may be permitted by CITY to access and use the Licensed Material in accordance with the provisions set forth in this License Agreement solely in relation to the services they provide to CITY).

"BSP" means a provider of business processing services, including management of the associated business process as a service bureau, using software based application solutions.

"Claims" means any and all claims, third party claims, counterclaims, complaints, demands, proceedings, actions, causes of action and suits, and investigations of any nature or kind whatsoever and howsoever arising, whether in law or in equity or pursuant to contract or statute, and whether in any court of law or equity or before any arbitrator(s) or other body, board or tribunal.

"Company Deliverables" shall mean the Products described in Attachment A in the version set forth therein and applicable Documentation described in Attachment A and additional documents or items which may be delivered by COMPANY to CITY in furtherance of COMPANY'S obligations pursuant to this Software License Unless specifically stated, reference to Company Deliverables shall not apply to any Third Party Components and CITY Deliverables included in Company Deliverables in accordance with this License Agreement or Attachment.

"Confidential Information" shall mean all business strategies, plans and procedures, proprietary information, methodologies, data and trade secrets, and other confidential information and materials of the disclosing party, its clients or other persons or entities with whom they do business that may be obtained by the receiving party from any source. Confidential Information of COMPANY includes Licensed Material, and all information relating to Licensed Material. Confidential Information of CITY includes such information as may be protected by law or other confidentiality agreements concerning third parties such as citizens, customers or prospective customers of CITY or any of its Affiliates.

"Control" means, in respect of any Person, the possession, directly or indirectly, of (a) the power to direct or cause the direction of the management and policies of that Person, and (b) ownership of more than fifty percent (50%) of the voting securities of such Person.

"CITY Deliverables" shall mean the items identified in this License Agreement and its attachments (if any) to be delivered by CITY or its agents to COMPANY and any other items identified as deliverable(s) from CITY in an applicable Statement of Work or as may be agreed between the Parties from time to time in writing that are required to be provided to COMPANY by CITY for preparation of a COMPANY Deliverable or performance of Services by COMPANY in accordance with this License Agreement.

"CITY Material" shall mean CITY Deliverables, CITY'S Confidential Information, documentation, programs, specifications, requirements, concepts, processes, inventions, work product, and any other Intellectual Property developed or owned or licensed by CITY, which

it provides to COMPANY in connection with this License Agreement, a Attachment or applicable Statement of Work. Notwithstanding the foregoing, CITY Proprietary Material shall not include the Licensed Material.

"Derivative Works" means works that are based upon or derived from proprietary material, including without limitation, a revision, modification, translation, abridgment, condensation, expansion, or any other form in which such material or any proprietary portion thereof may be recast, transformed, or adapted, and which, if prepared without authorization of the owner of the Intellectual Property Rights in such material would constitute an infringement of any such proprietary right.

"Documentation" shall mean the User Manual, Operations Manual, and Installation Manual, described in Attachment A as well as any supplements thereto.

"Enhancement" means any customization, modification, addition, revision, enhancement, improvement, and all Maintenance Services work result.

"Intellectual Property Rights" means all past, present, and future rights in or to Intellectual Property, which may exist or be created under the laws of any jurisdiction in the world, including but not limited to: (a) rights associated with works of authorship, including exclusive exploitation rights, copyrights, moral rights, and mask works; (b) trademark and trade name rights and similar rights; (c) trade secret rights and rights in relation to breach of confidence; (d) patents and industrial property rights; (e) other proprietary rights in Intellectual Property of every kind and nature; and (f) rights in or relating to registrations, renewals, extensions, combinations, divisions, and reissues of, and applications for, any of the rights referred to in subsections (a) through (e) of this sentence.

"Intellectual Property" means all algorithms, APIs, apparatus, circuit designs and assemblies, concepts, data, databases and data collections, database schema, designs, diagrams, documentation, drawings, flow charts, formulae, gate arrays, ideas and inventions (whether or not patentable or reduced to practice), know-how, materials, marketing and development plans, marks (including registered and unregistered trademarks and service marks, brand names, product names, logos, and slogans), methods, models, net lists, network configurations and architectures, photo masks, procedures, processes, protocols, schematics, semiconductor devices, software code (in any form including source code and executable or object code), specifications, subroutines, techniques, test vectors, tools, uniform resource identifiers, user interfaces, web sites, works of authorship, and other forms of technology and intellectual property.

"License Agreement" shall mean this Agreement.

"License Fee" means: (a) for the licensed Products listed in Attachment A, the fees described in Attachment C; and (b) if CITY and COMPANY agree to license additional programs or material under this License Agreement, the applicable additional license fee in accordance with the applicable amendment to Attachment C.

"Licensed Material" means collectively: (a) the Products in the version described in Attachment B to be delivered to CITY by COMPANY in accordance with this License Agreement, (b) Deliverables in the versions delivered to CITY in accordance with a Statement of Work executed under Attachment A, and (c) any Upgrades and Documentation thereof received by CITY pursuant to the Maintenance Services.

"Losses" means any and all damages, liabilities, obligations, losses, deficiencies, penalties, interest, assessments, charges, costs and expenses, including without limitation reasonable legal fees and disbursements, and court costs, but excluding indirect, consequential and punitive damages.

"Maintenance Services" means the maintenance and support services described in Attachment C for annual maintenance services pursuant to the License Agreement.

"Object Code" means computer programming code, routines and programs in machine executable form.

"Permitted Affiliate" means an Affiliate of CITY with respect to whose business CITY has obtained an Add-on License pursuant to Section 2(1)(b) of this License Agreement.

"Permitted Site" shall mean CITY's premises identified and set out in the License Agreement, Request for Proposal or such other location owned or leased by or under the control of CITY that may be substituted or added in accordance with Section 2.4.

"Person" means any natural person, corporation, limited liability COMPANY, general partnership, limited partnership, proprietorship, other business organization, trust, union, association or Governmental Authority or any other legal entity.

"Product(s)" means the software product(s) or components described in Attachment A.

"Request for Proposal" ("RFP") means the document published by the City defining its needs, requirements, and form of contract, and any amendments or clarifications subsequently published by the CITY on its public web site.

"Services" shall mean the professional services described in the License Agreement, or Request for Proposal including without limitation, customization, development, delivery and installation of the Company Deliverables, testing and implementation support, maintenance and other services related to the Licensed Material.

"Statement of Work" or "SOW" shall mean the portions of the License Agreement, or Request for Proposal that define the specifications and deliverables to be provided by the COMPANY.

"Target Environment" shall mean CITY's production physical and logical environment as described in Attachment D.

"Upgrade" means any future releases of COMPANY's Product included in the Licensed Material planned and developed by COMPANY, from time to time, for general distribution

to its customers of the Products who purchase or subscribe to the annual maintenance services for the Products.

"Use" means operating the Licensed Material in the internal business operations of the CITY, including the acts of installing, executing, processing, transmitting, transferring, loading and storing of data by Authorized Users in connection with the business of the CITY.

1.2 Other Defined Terms. All other capitalized terms used in this License Agreement not otherwise defined in Section 1.1 above shall have the meanings assigned in the part of the License Agreement in which they are defined.

1.3 Interpretations

- 1.3.1 Where any payment falls due for payment on a non-Business Day, then payment shall be made by the paying party on the next succeeding Business Day.
- 1.3.2 Reference to a person includes any individual, firm, body corporate, association (whether incorporated or not) and authority or agency (whether government, semi government or local).
- 1.3.3 The singular includes the plural and vice versa.
- 1.3.4 A reference to any documents or agreements (and, where applicable, any of their respective provisions) means those documents or agreements as amended, notated, supplemented or replaced from time to time providing they are amended, notated, supplemented or replaced in the manner envisaged in the relevant documents or agreements.
- 1.3.5 A reference to any statute, regulation, rule or other legislative provision includes any amendment to the statutory modification or re-enactment or, legislative provisions substituted for, and any statutory instrument issued under that statute, regulation, rule or other legislative provision.
- 1.3.6 Reference to a party includes that party's employees, agents and/or consultants.
- 1.3.7 The term "or" shall include the conjugate form so that where appropriate, the use of the term "or" should be interpreted as "and/or".
- 1.3.8 In the event of any conflict between the provisions of this License Agreement and the provisions of the Schedules, Exhibits or Attachments hereto or the provisions of the License Agreement, or RFP, the provisions of this License Agreement shall prevail with respect to any matters relating to scope of license, ownership of Intellectual Property and Intellectual Property Rights, limitation of liability, warranties, indemnification and confidentiality obligations.

2. LICENSE

2.1 Grant of License.

- (a) Subject to the terms and conditions set forth in this License Agreement and payment of the applicable License Fees, effective upon the delivery by COMPANY to CITY of the Product, in return for payment of the License Fees and other charges agreed herein, COMPANY hereby grants to CITY and CITY hereby accepts, an irrevocable (except as provided in Section 11), non-exclusive, fully paid up (upon payment of the applicable License Fees), royalty free, non-transferable (except as specifically permitted under this License Agreement), right and license to Use and to permit its Authorized Users to Use the Licensed Material at Permitted Sites and on the Target Environment during the Term for CITY's and Permitted Affiliates business processes. The forgoing license does not (a) authorize installation of the Licensed Material at any site other than the Permitted Site(s), (b) permit access to and Use of the Licensed Material for any purpose other than as permitted under this License Agreement, or (c) permit access to and Use of the Licensed Material to any Person other than Authorized User. The License granted to the CITY is conclusively defined in this License Agreement and the relevant Appendices. Any extension or change of the contractual use of the License Material requires the COMPANY's prior written consent and authorization. CITY is responsible to ensure compliance with all license restrictions and other applicable terms and conditions of this License Agreement by each Authorized User. Any breach or non compliance of the terms and conditions of this License Agreement by any Authorized User shall be deemed to be a breach or non compliance by the CITY. The CITY will indemnify and defend the COMPANY in respect of any breach of this License Agreement by Authorized Users or in respect of any act (or failure to act) by the Authorized Users which would constitute breach of this License Agreement if carried out by the CITY.
- (b) Add-on License. The License granted herein does not authorize the Use of the Licensed Software for (a) processing any business of an Affiliates of CITY ("Affiliate's Business"), (b) the business of the CITY outside the United States and its protected territories ("Extra Territory Business") or (c) for additional business of CITY or an Affiliate resulting from or arising in connection with the acquisition by CITY or a permitted Affiliate of the assets or business of any other entity or merger of CITY or its permitted Affiliate with another entity ("Acquired Business"). Each Affiliate Business, Extra Territory Business and Acquired Business is referred to in this License Agreement as a "New Business." If at any time CITY desires that the COMPANY extend the license granted hereunder to permit a New Business to Use the Licensed Software, then, COMPANY and CITY will negotiate in good faith the terms and conditions and the additional license fee that would apply to an add-on license for each New Business. CITY agrees not to Use or permit a New Business to use the Licensed Software for processing the business of such New Business unless and until the COMPANY, CITY and the applicable New Business have executed an add-on license agreement ("Add-on License") and the applicable additional license fee ("Add-on License Fee) is paid to the COMPANY, COMPANY agrees that COMPANY's Add-on License Fee charged to CITY for each such Add-on License will not be higher than the license fee then charged to other customers of COMPANY. Upon

grant of an Add-on License by the COMPANY, CITY shall ensure that each permitted New Business will agree and abide by the terms and conditions of license hereunder. In any event, CITY assumes full responsibility for the actions or omissions of its permitted New Business with respect to the Use of the Licensed Software pursuant to the provisions of this License Agreement.

- (c) The licenses granted herein and the provisions of this License Agreement do not grant or convey to CITY any ownership rights, interest or title in or to the Licensed Material any Intellectual Property Rights therein nor do they permit CITY to make Derivative Works (other than by obtaining any Derivative Works from COMPANY under and in accordance with Attachment A) or to make copies of the Licensed Material except as specifically authorized under this License Agreement or with prior written permission of COMPANY. To the extent that Product and/or the Licensed Material consists of any software codes, such material, when delivered to CITY pursuant to this License Agreement, shall be delivered by COMPANY in Object Code form only and CITY shall not have any right or license with respect to the Source Code of the Product and/or the Licensed Material.

2.2 Customization and Maintenance Services. The Parties acknowledge and agree that this License Agreement and Attachment A are contemporaneous contracts requiring the CITY to obtain any and all services related to the Products and Licensed Material exclusively from the COMPANY, or such subsidiaries, contractors or resellers as may be specifically identified or approved by the COMPANY, unless otherwise agreed by COMPANY in a written amendment to this License Agreement. CITY hereby retains COMPANY, and COMPANY agrees to provide to CITY Services related to the customization, enhancement, implementation, maintenance and other services described in the Agreement. The CITY acknowledges that any modification, alteration, enhancement or customization to the Products or the Licensed Material may be carried out only by the COMPANY or with the prior written consent of and based on specific agreement with the COMPANY or licensor of the Product and no third party other than the COMPANY or the licensor of the Product or any party specifically authorized by them in writing may be allowed to do so. Before involving third parties in carrying out any modifications, alterations or enhancements to the Products, if permitted by the COMPANY, the CITY shall provide the COMPANY with a written, legally binding statement of the third party, whereby it assumes an undertaking towards the COMPANY and its licensors that it will observe the provisions of this Agreement.

2.3 Permitted Site(s) and Target Environment. The Licensed Material will be delivered and initially installed and maintained at the CITY's premises described in Appendix D ("Permitted Site"). CITY may, upon written advance notice to COMPANY, relocate the Licensed Material to another Permitted Site and may install or permit the installation of the Licensed Material at such new Permitted Site, provided that the Licensed Material shall not be installed in more than one Permitted Site at any given time. If CITY relocates the Licensed Material to a new Permitted Site, CITY will notify COMPANY of the address of the new Permitted Site. If the CITY desires to install or installs the Licensed Material in any additional Permitted Site for production purposes, the CITY

shall pay the COMPANY additional license fees, which shall be agreed between the parties.

2.4 CITY acknowledges and agrees that the Licensed Material is designed to operate only in the Target Environment as set out in the relevant Attachment D to the license Agreement and that Licensed Material may not operate, function or conform to Specifications if used on any system other than the Target Environment. Notwithstanding the above, COMPANY shall support and render installation assistance to the CITY for the implementation of the Licensed Material on virtual machines for the purposes of testing, staging, quality assurance, and/or training. It is a condition of this License that the Target Environment onto which all or part of the Licensed Software is copied, even for a short period, must be in the direct possession of the CITY and on the Permitted Site. Except as otherwise agreed in the relevant Appendix the Licensed Material may be transferred, upon written notice of one (1) month in advance to the COMPANY, to another Target Environment of like configuration as the Target Environment. The Target Environment and other permitted environments onto which all or part of the Licensed Material is stored or used must always be in a Permitted Site and in direct possession and control of CITY.

2.5 Permitted Environments. In addition to Use of the Licensed Material in the Target Environment in accordance with Section 2.3, CITY may separately install and Use the Licensed Material for the following purpose(s) and in the following environments:

- (a) disaster recovery, provided that such Use of the Licensed Material in a disaster recovery environment shall be limited to testing the readiness of the disaster recovery environment unless and until CITY's Target Environment becomes unavailable due to an event of Force Majeure, in which event CITY may use the Licensed Material in the disaster recovery environment for purposes agreed in this License Agreement subject to and in accordance with Sections 2.2, until such time CITY's Target Environment at the Permitted Site described in Section 2.4 is fully recovered;
- (b) testing, controlled staging, quality assurance and/or training installations, insofar as such installations are temporary or transitional in nature, are not used for production purposes, and otherwise comply with the provisions of section 2 of this Agreement.

CITY may also permit its technical and administrative personnel other than Authorized Users to access and Use the Licensed Material solely for administrative or technical support functions and not as part of production processing of live data

2.6 Documentation. COMPANY will deliver initial versions of Documentation for the Product to CITY in both hard copy and electronic forms at the time of delivery of the Product. Thereafter, COMPANY will deliver updated versions of the Documentation periodically as required in accordance with Attachment A.

- 2.7 Proprietary and Confidentiality Markings or Notices. The CITY shall retain all of the COMPANY's and/or its licensors' Logo, Trademark, Copyright notice and other proprietary markings or notice on the Licensed Material. CITY shall not permit any Authorized Users or other persons to, remove, alter or otherwise render illegible any of COMPANY's Logo, Trademark, Copyright notice or other proprietary or confidentiality markings that may be placed on the Licensed Material or components thereof provided to CITY hereunder. The CITY shall include on all copies of all or part of the Licensed Material including the Documentation, a reproduction of the COMPANY's and/or its licensors' Logo, Trademark, Copyright notice and other proprietary markings or notice.
- 2.8 Restrictions on Copying. Copying of the Licensed Material is prohibited unless expressly authorized in this Agreement or the relevant Appendix or otherwise in writing by the COMPANY. CITY is responsible for controlling the original Licensed Material and any copies thereof and ensuring that the Use thereof is in accordance with the terms of this Agreement. CITY may make a reasonable number of additional copies as back up. All software and hardware equipment onto which all or part of the Licensed Material is copied must always be in a Permitted Site and in direct possession and control of CITY. CITY is responsible to include reproduction of all of COMPANY's copyright notice and other COMPANY proprietary markings on every copy of the Licensed Material made by or on behalf of CITY as they appeared in the Licensed Material. Copies which are no longer needed must immediately be destroyed. Except as provided in this Agreement, CITY shall not, nor permit others to, make copies of the Licensed Material.
- 2.9 Other Restrictions. Neither CITY nor any Authorized User is authorized to sell, license, sublicense, distribute, assign, transfer or distribute or timeshare the Licensed Material or otherwise grant any right under this Agreement to any third party, without the prior written consent of COMPANY. Any attempted sale, licensing, sublicensing, distribution, marketing, assignment or time sharing including by interactive cable or remote processing services or otherwise (except as provided in Section 14.6) shall be null and void. CITY is not entitled to, and shall not make or permit others to, reverse engineer, disassemble, de-compile, recreate, enhance or modify the Licensed Material or any part thereof and except as permitted the CITY is not authorized to create Enhancements to or Derivative Works of the Licensed Material or any portions thereof. The above notwithstanding, the CITY maintains rights to the software as defined under the software Escrow provisions.
- 2.10 Third Party Software. CITY acknowledges and agrees that the operation and contractual Use of the Licensed Material require the Target Environment and the use of other third party software products (not listed in Attachment B) in the versions as specified in the applicable Statement of Work or as otherwise agreed to by the Parties in writing. CITY shall be responsible for acquiring the Target Environment and all appropriate licenses from the manufacturers or their authorized dealers for such third party software products. The CITY shall be responsible for the choice, installation, use and maintenance of the Target Environment and any third party software not forming part of the Licensed Material, which is used in relation to the Licensed Material.

- 2.11 ASP and/or BSP Use. CITY shall not use or permit any other Person to use the Licensed Material to provide any ASP or BSP services. CITY shall not use the Licensed Material to provide services for processing any data or information or material to any third parties as a processing service unrelated to the regular business of CITY, whether as a service bureau or otherwise.
- 2.12 Exportation. The CITY shall have no right to use, ship or export directly or indirectly the Licensed Material for Use or any other purposes in any of the countries or territories to which the United States Department of Commerce or other United States government agency prohibits shipment or exportation without first obtaining the written permission of the COMPANY and - if necessary - of the appropriate United States government agencies. CITY warrants that it, its Affiliates and their employees shall obey all applicable laws and regulations of the United States and any other countries in which the Licensed Material is used.
- 2.13 Trademarks. CITY will have no rights in any trademarks or service marks or trade names adopted by the COMPANY and/or its licensors for the Licensed Material or any part thereof. The CITY agrees to reproduce the COMPANY's or its licensor's trademarks, service marks or trade names intact to all copies of the Licensed Material.
- 2.14 Infringement. Should the Licensed Material be used beyond the license set out in this Section 2, without prejudice to any other rights the COMPANY may have, the COMPANY shall be entitled terminate the License granted hereunder in respect of such Licensed Material, without prejudice to any other rights or remedies the COMPANY may have under this Agreement or otherwise. Notwithstanding the above, before any termination of the License granted herein, COMPANY shall give City written notice of the specific infringement claimed and thirty (30) days to cure or seek an agreement with COMPANY not to terminate the License, or, if necessary, an injunction or other judicial order, preventing the termination of this License Agreement and the License(s) granted hereunder.

3. DELIVERY AND TESTING OF THE LICENSED MATERIAL

- 3.1 Delivery of the Licensed Material. The delivery of the Licensed Material shall be effected when the COMPANY transfers the appropriate data media to the CITY or transmits the Licensed Material by telecommunication facilities. This delivery must be acknowledged in writing by the delivery of a receipt via email or hard copy by the City in order for delivery to be effective. The data media are on loan to the CITY for the term of this Agreement. Partial deliveries are permitted. The Licensed Material shall be delivered in all parts to the CITY on the dates provided therefore in the Agreement. These dates shall be binding upon the COMPANY if an explicit statement to this effect is made in the Agreement. If the COMPANY has to wait for the CITY's assistance or if the COMPANY is otherwise prevented as a result of any act or omission on the part of the CITY from fulfilling the delivery obligation obligations under this Agreement, the COMPANY shall not have any liability resulting therefrom and the delivery date shall be deemed to be postponed by the duration of the impediment and a reasonable start-up period. The COMPANY shall inform the CITY of such impediments.

3.2 Choice, Installation and Use of the Licensed Material. Based upon the representations of COMPANY the CITY shall be responsible for choosing, installing and using the Licensed Material and for the results achieved therewith. The CITY is aware of the essential functional features of the Licensed Material and it is responsible for ensuring that the Licensed Material satisfies its requirements. When using the Licensed Material, the CITY shall observe the guidelines set down in the pertinent Documentation. The CITY agrees to install any Updates and New Versions of the Licensed Material in due time, but in any case not to exceed twelve months following the initial release date.

3.3 CITY Responsibilities: In addition to other responsibilities described as CITY responsibilities under this Agreement CITY agrees to:

- a. Provide to COMPANY personnel reasonable access to the Permitted Sites and Target Environment if the COMPANY requires such access for its work, including online access and authorizations therefore;
- b. Provide COMPANY personnel required computer time, data media, documentation, data, information and working resources required by the COMPANY for its work;
- c. Nominate and train the appropriate number of Authorized Users for managing the Help Desk;
- d. Insure that the Licensed Material is used in strict compliance with agreed guidelines and the guidelines set forth in the relevant Documentation concerning the Use of Licensed Material and maintain records of exceptional situations and program errors, timely notify any malfunction according to the agreed procedure.

3.4 The CITY undertakes to ensure that telecommunication lines are available and maintained between the CITY's designated Site and places of performance of Services by COMPANY or the COMPANY's central maintenance site as indicated in the applicable Statement of Work. The costs of those links and equipment and telecommunication costs shall be borne by the CITY. Any additional telecommunications expenses from the COMPANY's central maintenance site shall be borne by the COMPANY during the contractually agreed standby conditions for maintenance. If the COMPANY cannot have technically simple access to the Licensed Material by telecommunications facilities or if such is not permitted by the CITY, the latter shall be liable for the consequences thereof, especially any extra costs. The COMPANY shall have no liability or obligation for any failure of the COMPANY in complying with its maintenance obligations if such failure results due to failure of the telecommunication facilities or failure of the CITY to provide the telecommunication facilities. The COMPANY shall carry out its work on condition that the CITY has duly and fully fulfilled its obligations set out in this Section 3.

3.5 CITY's Obligation to Conduct Tests. Within reasonable limits, the CITY shall carefully test the Licensed Material supplied to it to ensure it can be used on the Target Environment before it begins to use the Licensed Material for processing its operations.

This shall also apply for parts of the Licensed Material which are supplied to the CITY as part of the warranty and maintenance services. The CITY shall also take reasonable precautions in case all or some of the Licensed Material supplied to it works incorrectly, such precautions being emergency procedures, data protection, regular back-up of data, virus checks, regular checks of results, etc. If the CITY uses the Licensed Material without test, such usage shall be deemed to be acceptance.

3.6 Acceptance. The Licensed Material shall for each module delivered (if in modules) be deemed to have been accepted one (1) month after delivery thereof to the CITY unless within that period the CITY makes a complaint to the COMPANY in relation to the Licensed Material by mail, fax or e-mail using the address and other communication information supplied in the agreement. Complete or partial commencement of the processing of its operations by the CITY using all or part of the any module of the Licensed Material shall be deemed to be immediate acceptance of all of that module's Licensed Material. Acceptance of one ore more modules of the Licensed Material shall not constitute or imply Acceptance of any other modules which have not been specifically Accepted.

4. FEES, EXPENSES, TAXES, INVOICING AND PAYMENT

4.1 License Fee. For the Products listed in Attachment B, CITY shall pay to COMPANY the License Fee in the amount and manner set forth in Attachment B. For any license fee applicable to additional programs or components agreed pursuant to an amendment of this Agreement, the applicable additional license fee shall be as set forth in such amendment.

4.2 Taxes. CITY shall be responsible for any sales, use, value added, service or other similar taxes that may be imposed by any applicable taxing jurisdictions upon CITY or COMPANY relating to the Product delivered hereunder or the License Fee payable therefore. COMPANY agrees to separately itemize such taxes on its invoices to CITY and to remit the tax amounts received from CITY to the appropriate taxing authority. COMPANY shall be solely responsible for any corporate taxes and income taxes based upon the income or revenue of COMPANY.

4.3 Invoices and Payment. COMPANY shall submit invoices for the License Fee upon delivery to CITY of the Product. Invoices shall be mailed to City of Tucson Finance Department/Accounts Payable Division, PO Box 27450, Tucson, AZ 85726-7450. Payment of invoices shall be made by CITY to COMPANY within 30 days following receipt of each such invoice.

5. CERTAIN REPRESENTATIONS, WARRANTIES AND COVENANTS

5.1 Mutual Representations, Warranties and Covenants. Each Party represents, warrants and covenants to the other that:

- (a) this Agreement constitutes the legal, valid and binding obligation of it, enforceable against it in accordance with its terms, except as such enforceability

may be limited by bankruptcy laws and other similar laws affecting creditors' rights generally and by general principles of equity;

- (b) the execution, delivery and performance of this Agreement by it does not and will not conflict with, or constitute a breach or default under, its charter documents or any agreement, contract, commitment or instrument to which it is a party; and
- (c) there is no action or proceeding pending or, in so far as it knows or ought to know, threatened in writing against it before any court, administrative agency or other tribunal that (i) could impact upon its right, power and authority to enter into this Agreement, to grant the rights and licenses granted by it to the other Party hereunder, or to otherwise carry out its obligations hereunder, or (ii) might have a material adverse effect on its business or condition, financial or otherwise that would materially impact a Party's ability to perform under this Agreement.

5.2 COMPANY's General Warranties and Covenants. COMPANY represents, warrants and covenants to CITY as follows:

- (a) COMPANY or its Affiliates own, and COMPANY is authorized to grant the rights and licenses to, the Licensed Material as set forth in this Agreement; and
- (b) COMPANY has not received any written notice or claim, and is not otherwise aware, that the Licensed Material and the Use thereof by CITY and the Authorized Users in accordance with this Agreement and the Documentation as contemplated hereunder, infringes or misappropriates, or would infringe or misappropriate the patent, copyright, trademark, trade secret or other Intellectual Property Rights of any third party.

5.3 COMPANY's Product Warranties and Covenants.

- (a) COMPANY represents and warrants that for a period of twelve (12) months from delivery of any copy of the Licensed Material to the CITY, (the "Warranty Period") the media in which the Licensed Material are delivered shall be free from defects in material and workmanship, assuming normal Use. The CITY may return any defective media to the COMPANY during this period for replacement free of charge.
- (b) COMPANY represents, warrants and covenants to CITY that, if properly used in the Target Environment in accordance with the Documentation and the terms and conditions of this Agreement, during the warranty period, if any, agreed and set forth in the Agreement (Warranty Period) the Product shall comply with, and achieve the performance and functionality in accordance with the Documentation. CITY agrees to promptly notify COMPANY in writing immediately upon discovery of any error or non-conformance of the Licensed Material. COMPANY will promptly correct or replace any error or defect in the Product reported by CITY during the Warranty Period without any additional charges to CITY for such correction or replacement.

- (c) The Licensed Material have been produced and distributed with strict procedures to protect them against viruses. If, in the CITY's opinion, there is a justified suspicion that a virus exists in his copy of the Licensed Material or if it finds a virus, the COMPANY shall assist the CITY in resolving the matter. If the COMPANY is responsible for the existence of the virus, it shall within a period of three (3) days from delivery of the copy by the COMPANY remove the virus from the Licensed Material or supply without charge a copy containing no virus. If the virus does not fall within the responsibility of the COMPANY, the CITY shall pay for the assistance provided by the COMPANY in keeping with the time and material and at the COMPANY's rates of charges valid from time to time.

5.4 CITY's Warranties and Covenants. CITY represents, warrants and covenants to COMPANY that:

- (a) CITY is responsible for selecting, installing, operating and using the Licensed Material as delivered by COMPANY and accepted by CITY and for the results achieved therewith. CITY shall also be responsible for the installation, use and maintenance of the Target Environment. CITY shall take reasonable precautions against loss of data due to any error or non-conformity in the operation or working of the Licensed material including without limitation, emergency procedures, data protection, regular back-up of data, virus checks, and regular checks of results.
- (b) The CITY is aware of the essential functional features of the Licensed Material. The CITY acknowledges that the Licensed Material has not been developed to meet the CITY's specific requirements and it is responsible for ensuring that the Licensed Material satisfies or meets its requirements. When using the Licensed Material, the CITY shall observe the guidelines set down in the pertinent Documentation. The CITY agrees to install any Updates, corrections and/or and New Versions of the Licensed Material in due time, but in any case not longer than twelve (12) months after the initial delivery date.

5.5 Warranty Disclaimers.

- (a) EXCEPT FOR THE EXPRESS REPRESENTATIONS AND WARRANTIES CONTAINED IN THIS AGREEMENT, NEITHER COMPANY NOR CITY MAKES ANY REPRESENTATIONS OR WARRANTIES TO THE OTHER, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ALL OTHER REPRESENTATIONS AND WARRANTIES ARE HEREBY DISCLAIMED.
- (b) Further, COMPANY does not represents or warrants that any of its respective Deliverables provided under this Agreement functions without interruption and without error or that such Deliverable will operate in every combination desired by the other Party with any data, computer systems and programs of its choice or

that the remedying of one program error does not result in the occurrence of other program errors.

5.6 Warranty Limitations and Release. COMPANY shall be released from its warranty obligations under Sections 5.2 and 5.3, subject to Section 2.14, to the extent that any infringement, errors, fault or non-compliance arises due to circumstances for which COMPANY is not responsible, including without limitation: (a) modification of the *Licensed Material after delivery to CITY, if such modification was not made or authorized by COMPANY*; (b) use of the Licensed Material contrary to the Documentation provided by COMPANY; or (c) use of the Licensed Material other than in Target Environment or use of the Licensed Material in combination with products and systems not contemplated in the applicable Documentation or Specification; or (d) infringing element or defects contained in any CITY provided Material. Further, COMPANY shall not be considered to be in breach of the warranties to the extent that COMPANY offered to CITY a correction or Upgrade and CITY failed to implement such correction or Upgrade within the timeframe defined in section 5.4. In such cases, the work put in by the COMPANY in order to determine the cause of the fault and to remedy the fault shall be invoiced in accordance with the COMPANY's current rates of charges. This shall also apply to consequential services or supply of products in relation to such work, including but not limited to the delivery of a corrective code or a corrected version of the defective part of the Licensed Material or for instructions as to how the error can be avoided. The COMPANY shall also be released from its warranty obligations if the CITY does not complain of a program error promptly or does not put into productive operation a corrective code provided by the COMPANY in fulfillment of its warranty obligations or a correct Update or Version of the pertinent part of Licensed Material which it has supplied.

6. CONFIDENTIALITY

6.1 Obligations of Confidentiality. Each Party (in such capacity, the "**Receiving Party**") acknowledges and agrees to maintain the confidentiality of Confidential Information (as hereafter defined) of the other Party (in such capacity, the "**Disclosing Party**") provided by the Disclosing Party or otherwise received by the Receiving Party hereunder as allowed by State Statute. The Receiving Party shall not disclose or disseminate the Disclosing Party's Confidential Information to any Person or entity other than those directors, officers, employees, agents, subcontractors, Permitted Affiliates, Authorized Users of the Receiving Party who have a need to know it in order to assist the Receiving Party in performing its obligations, or to permit the Receiving Party to exercise its rights, under this Agreement unless required by State Statute or Court Order. In addition, the Receiving Party shall (a) take all reasonable steps to prevent unauthorized access to the Disclosing Party's Confidential Information; (b) not use the Disclosing Party's Confidential Information, or authorize other Persons or entities to use the Disclosing Party's Confidential Information, for any purposes other than in connection with performing the Receiving Party's obligations or exercising the Receiving Party's rights hereunder; (c) upon the request of the Disclosing Party and a reasonable opportunity to

comply, comply with any legal and/or regulatory requirements applicable to the Disclosing Party or its vendors regarding security and data protection (and in such cases, the Disclosing Party will reimburse the Receiving Party for the reasonable, actual additional costs, if any, incurred by the Receiving Party in complying with such requirements); and (d) promptly advise the Disclosing Party in the event it learns or suspects that any of the Disclosing Party's Confidential Information in the Receiving Party's possession has been revealed or improperly acquired by any third party, and shall assist the Disclosing Party in its efforts to retrieve the material and mitigate the effects of the exposure or loss. As used herein, "reasonable steps" means steps that a Party takes to protect its own confidential or proprietary information of a similar nature, which steps shall in no event be less than a reasonable standard of care.

6.2 RESERVED

Section 6.2 is intentionally left blank.

6.3 Exclusions. The provisions of this Article 6 respecting Confidential Information shall not apply to the extent, but only to the extent, that such Confidential Information: (a) is already known to the Receiving Party free of any restriction at the time it is obtained from the Disclosing Party; (b) is subsequently learned by the Receiving Party from an independent third party free of any restriction and without breach of this Agreement; (c) is or becomes publicly available through no wrongful act or omission of the Receiving Party; or (d) is independently developed by or for the Receiving Party without reference to or use of any Confidential Information of the Disclosing Party. Further, Receiving Party shall not be in breach for disclosure to the extent required pursuant to an applicable law, rule, regulation, government requirement or court order, or the rules of any stock exchange or self regulatory agencies (provided, however, that to the extent practicable and lawfully permitted, the Receiving Party shall advise the Disclosing Party of such required disclosure promptly upon learning thereof in order to afford the Disclosing Party a reasonable opportunity to contest, limit and/or assist the Receiving Party in crafting such disclosure).

6.4 Privacy Compliance. Notwithstanding any other provision of this License Agreement, to the extent Nonpublic Personal Information is disclosed to or otherwise obtained by COMPANY in connection with the matters contemplated by this Agreement, COMPANY will keep such Nonpublic Personal Information strictly confidential and strictly limit COMPANY's use thereof to the purposes contemplated by this Agreement. For the purposes of this provision, the term "**Nonpublic Personal Information**" is defined as any non-public personally identifiable information of an individual, including, but not limited to, CITY's or its Affiliates' customers or employees, including Authorized Users.

6.5 Receiving Party's Employees and Others. The Receiving Party shall take reasonable steps to advise its employees, agents, contractors, subcontractors, Authorized Users of the Receiving Party's obligations of confidentiality and non-use under this Article 6.

6.6 Return or Destruction of Confidential Information. Upon the Disclosing Party's written request at any time, including following the expiration or termination of this Agreement, the Receiving Party promptly shall cease to use the Confidential Information and return to the Disclosing Party, or destroy, all Confidential Information of the Disclosing Party provided under or in connection with this Agreement, including all copies, portions and summaries thereof, and shall provide the Disclosing Party with a written statement certifying that all such material has been returned or destroyed. Notwithstanding the foregoing sentence, if and to the extent the license and rights granted to the Receiving Party with respect to any Confidential Information survive the termination of this Agreement, Receiving Party may retain Confidential Information of Disclosing Party and use such information to the extent that such information is reasonably necessary in connection with Receiving Party's exercise of the license and rights as permitted under this Agreement; provided, however, that all such Confidential Information retained by the Receiving Party shall remain subject to the provisions of this Article 6 for so long as it is so retained. For greater clarity, COMPANY and CITY each acknowledges and agrees that nothing in this Article 6 shall entitle either party to require the other party to return, or cease Use of, any material (including, in the case of CITY, the Licensed Material) so long as the license granted to such party under this Agreement remains in effect, including by survival after termination of this Agreement to the extent such survival may be expressly provided hereunder. If requested by the Disclosing Party, the Receiving Party shall certify in writing its compliance with the provisions of this Section 6.6.

6.7 Lawful exercise of license or rights. Notwithstanding anything to the contrary in this Agreement as between the Parties, the title and ownership of Confidential Information shall remain exclusively with the Disclosing Party. Disclosure of Confidential Information of a Party to the other Party shall not be construed as a grant of any license or other rights in or to the Confidential Information except as specifically set forth in this Agreement. Nothing contained in this Article 6 is intended nor shall anything herein be construed as restricting either Party from lawfully exercising the rights and licenses granted to such Party under this Agreement and any such use, copying or disclosure made by a Party in exercise of such Party's license rights and subject to the restrictions applicable to the license shall not be considered as a breach of this Article 6.

6.8 Survival of obligations. The obligations under this Article 6 shall survive the termination of this Agreement.

6.9 Cumulative Remedies. Each Party shall have and may cumulatively exercise all rights at law or in equity for the protection of its Confidential Information, including obtaining an injunction enjoining the breach or threatened breach of this Article 6.

7. OWNERSHIP AND PROPRIETARY RIGHTS

7.1 Product and the Licensed Material. CITY acknowledges and agrees that COMPANY does and will continue to own all Intellectual Property and Intellectual Property Rights in or attached to the Product and Licensed Material, including without limitation, in or attached to any Enhancement and Upgrades and any Derivative Works thereof even if

made by or on behalf of the CITY. Nothing contained herein shall be construed as a transfer, assignment or conveyance by COMPANY to CITY of the ownership, interest or title to the Intellectual Property or Intellectual Property Rights in or attached to the Licensed Material or any Enhancements, Upgrades or Derivative Works thereof. Subject to the provisions of this Agreement, CITY shall have the non-exclusive license and rights granted by COMPANY pursuant to Article 2 hereunder.

- 7.2 CITY Material. The ownership and title in any Intellectual Property and Intellectual Property Rights in or attached to any CITY Deliverables and CITY Proprietary Material that CITY provides to COMPANY in connection with the performance of Services or for incorporation in the Licensed Material shall remain with CITY and its applicable licensors and nothing contained in this Agreement is intended to nor shall be construed to effect any transfer of ownership rights or title of CITY or its licensors to COMPANY. To the extent any CITY Deliverables or CITY Proprietary Materials are used or incorporated in the Licensed Material, CITY hereby grants to COMPANY a non-exclusive, irrevocable, worldwide, fully paid up and royalty free right and license to use, copy, display, sublicense and distribute such material as part of Licensed Material and/or COMPANY's product(s) and to create Derivative Works thereof within any future Enhancement of or Upgrade to the Licensed Material, provided that such right and license shall exclude all Marks of CITY.
- 7.3 Trademarks. Nothing herein is intended to provide any Party any right to use or exploit any trademark, service mark, business name, trade dress or logo ("Mark") of the other Party, and neither Party shall utilize any such Mark of the other Party without the express written consent of the other Party unless it is obligated to reproduce such Mark under this Agreement.
- 7.4 COMPANY's Marketing Rights. Nothing in this License Agreement shall prevent COMPANY from transacting similar business either for itself or for any other Person or to offer same or similar products or services to any third parties.
- 7.5 Residual Knowledge. Nothing in this License Agreement is intended to prevent either Party from using the knowledge, skill and general experience gained by it or its employees in the performance of this License Agreement to the extent they are retained in the unaided memories of such Party's personnel. Such personnel's memory will not be considered to be unaided if such personnel makes reference to refresh his memory to documents containing Confidential Information belonging to the other Party or the Source Code of the other Party. Nothing contained in this Section 6.6 shall be construed as granting separate license to the Intellectual Property or Confidential Information by one Party to the other Party.
- 7.6 Ownership of Data. COMPANY acknowledges that all data related to this project (including but not limited to names, addresses, personal contact information of people involved in an incident; photographs; investigative materials; correspondence; identifying and tracking information; maps; and all other CITY records), either as provided initially by the CITY; in subsequent data transmittals; or as keyed, delivered, interfaced or otherwise created in the system, is the sole and exclusive property of the

CITY The COMPANY makes no claim on the data, and agrees to securely maintain the data, in such manner as is defined within this agreement; to freely release all data at the end of the agreement for any reason; and to permanently remove all data from their systems once the CITY has issued a written receipt for the data's return.

- (a) The COMPANY will make copies of all of the CITY's data within ten (10) days of receipt of the CITY's written request for such data. The data is to be delivered via electronic media, in a format mutually agreed upon by the CITY and the COMPANY. Proof of receipt of a request is constituted by the delivery acknowledgment provided by third party package handlers or by the US Postal Service. The CITY agrees to bear reasonable costs for extracting the data, not to exceed \$1,000 dollars.
- (b) If the COMPANY fails to deliver the data within ten (10) days of receipt of a request; or upon termination of the contract; or if the COMPANY fails to either securely maintain all data files while they are in possession of them, or to completely erase all the data from the COMPANY's possession after the data has been returned to the CITY upon termination of this agreement; then the COMPANY shall be liable for all costs, fees and damages incurred by the CITY as a result of the COMPANY's actions.

8. RESERVED

Section 8 is intentionally left blank.

9. INDEMNIFICATION

9.1 Infringement Indemnity by COMPANY.

- (a) To the extent a Party becomes aware, such Party shall promptly and fully notify the other Party of any Claim by any third party asserting that the Use by CITY or an Authorized User of the Licensed Material infringes or is likely to infringe the Intellectual Property Rights of such third party. COMPANY will defend, indemnify and hold harmless CITY, Authorized Users, and CITY's directors, officers, employees and agents (collectively, "CITY Indemnified Parties") from any and all Losses arising from any such Claim, provided that COMPANY shall have no obligations to CITY or CITY Indemnified Parties under this Section 9.1 or Section 9.2 below.

9.2 Additional Obligation of COMPANY. Subject to the forgoing provisions, in the event that any infringement Claim is initiated against COMPANY or a CITY Indemnified Party, or in COMPANY's sole opinion is likely to be initiated for the COMPANY is liable in terms of Section 9.1 above, then COMPANY shall have the option, at its expense, to either:

- (a) modify or replace the infringing part of the Licensed Material so that such part is no longer infringing, provided that the functionality and performance of the

Licensed Material continues to perform and operate at least in an equivalent manner and with equivalent functionality; or

- (b) procure for CITY, Permitted Affiliates, Authorized Users the right to continue using the infringing Licensed Material.

In either case, the COMPANY shall act as promptly as possible and in a manner which will avoid unreasonable disruption to CITY's operations. If neither of options (a) and (b) under Section 9.2 is reasonably possible or effective, COMPANY shall accept the return of the Licensed Material and terminate all rights and licenses granted to CITY under this Agreement and refund to CITY an amount equal to the unamortized balance of the License Fee paid by CITY under this Agreement, calculated on a straight line basis over a period of five years commencing on the Effective Date of this Agreement. The provisions of Section 9.1 and 9.2 state COMPANY's entire liability and CITY's sole remedies with respect to infringement.

9.3 CITY's Infringement Indemnity.

- (a) Subject to subsection 9.3(b), CITY shall defend, indemnify and hold harmless COMPANY and its directors, officers, employees and agents (collectively, "COMPANY Indemnified Parties") from and against any Losses arising from any third party Claim against one or more COMPANY Indemnified Parties in which it is alleged that the Use by COMPANY of any CITY Material in connection with this Agreement constitutes an infringement of or misappropriation of the Intellectual Property Rights of any third party, provided that CITY shall have no obligation to COMPANY and in such cases COMPANY shall defend, indemnify and hold the CITY Indemnified Parties harmless, to the extent such infringement Claim arises as a result of (i) modification of a CITY Material by or for COMPANY other than to perform the Services to be provided under this License Agreement, Attachments and Statement of Work or at the direction of CITY; (ii) use by COMPANY of the CITY Material other than in accordance with applicable documentation or instructions provided by CITY or use of the CITY Material by COMPANY in combination with products and systems not contemplated in this Agreement, a Statement of Work, the applicable Documentation or Specifications; (iii) COMPANY's failure to implement reasonable corrections, revisions or upgrades provided by CITY at CITY's cost, the use of which would have prevented any such Claim for infringement without materially impacting COMPANY's use of the CITY Material; or (iv) use of a CITY Material outside the scope of the Licensed Material or Services. CITY agrees not to perform actions which would result in a claim under the conditions in the preceding sentence.
- (b) Notwithstanding anything to the contrary herein, CITY makes no representation or warranty, and COMPANY expressly waives any obligation by CITY of indemnification, with respect to the use of a CITY Material by any Person other than COMPANY, and shall assume no liability with respect to any Claims or

Losses that may be made against or incurred by COMPANY, any COMPANY Indemnified Party or any other Person for the use of such materials beyond the Licensed Material provided to CITY hereunder or performance of the Services provided to CITY herein.

9.4 RESERVED

Section 9.4 is intentionally left blank.

9.5 Additional Provisions for Indemnification. A Party seeking indemnification shall provide the other Party with prompt written notice of any Claim or Losses for which such Party is seeking or may seek indemnification hereunder (provided that the failure of the Party seeking indemnification to promptly notify the indemnifying Party hereunder shall not relieve the indemnifying Party of any liability with respect to the Claim or Losses, except to the extent the indemnifying Party demonstrates that the defense of the Claim or the avoidance or mitigation of any Losses is prejudiced by such failure). An indemnifying Party shall: (a) keep the other Party fully informed concerning the status of any litigation, negotiations or settlements of any such Claim; and (b) allow the other Party, at its own expense, to participate in such litigation, negotiations and settlements with counsel of its own choosing. The indemnified Party shall tender defense of the Claim to the indemnifying Party and provide reasonable cooperation (at the indemnifying Party's expense) and full authority to defend or settle the Claim. Notwithstanding the forgoing, neither Party shall have the right to settle any Claim without the prior written consent of the other Party if such settlement contains a stipulation to, or an admission or acknowledgement of, any wrongdoing (whether in tort or otherwise) on the part of the other Party. The indemnifying Party shall have no obligation to indemnify any amount in settlement agreed by the Indemnified Party unless the indemnifying Party agreed to such settlement.

10. LIMITATION OF LIABILITY

10.1 SUBJECT TO THE SPECIFIC REMEDIES IF ANY SET FORTH IN THIS AGREEMENT WITH RESPECT TO ANY CLAIM CONCERNING PERFORMANCE OR NON PERFORMANCE OF THE LICENSED MATERIAL PURSUANT TO OR IN ACCORDNACE WITH THE TERMS OF THIS AGREEMENT AND THE DOCUMENTATION OR ANY CLAIM FOR BREACH OR DEFAULT OF THE COMPANY, THE CITY'S EXCLUSIVE REMEDY SHALL BE THE RECOVERY OF THE DIRECT DAMAGES ACTUALLY SUFFERED BY IT INCLUDING BUT NOT LIMITED TO ALL FEES PAID TO COMPANY.

10.2 GENERAL EXCLUSION. EXCEPT WITH RESPECT TO BREACH OF THE LICENSE CONDITIONS AS SET FORTH IN SECTION 2, BREACH OF CONFIDENTIALITY OBLIGATIONS AS SET FORTH IN SECTION 6 AND INDEMNIFICATION CLAIMS FOR INFRINGEMENT AS SET FORTH IN ARTICLE 9, UNDER NO CIRCUMSTANCES SHALL EITHER PARTY HAVE ANY LIABILITY TO THE OTHER FOR LOSS OF OR DAMAGE TO REVENUES,

PROFITS, OR GOODWILL OR OTHER SPECIAL, INDIRECT, CONSEQUENTIAL, EXEMPLARY, INCIDENTAL OR PUNITIVE DAMAGES, WHETHER IN CONTRACT, TORT OR ANY OTHER THEORIES IN LAW OR EQUITY, EVEN IF SUCH PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

- 10.3 Additional Liability Exception. The limitation of liability set forth in Section 10.2 shall not be applicable to liability for any unpaid fees due for the license under this Agreement.
- 10.4 Back up date. The CITY shall be responsible for daily backing up all data and databases used with the Licensed Material. The CITY assumes full responsibility for the use of the Licensed Material and any information entered, used and stored thereon, including, without limitation, protection of data from viruses, or any unintended modification, destruction or disclosure, and for the accuracy and integrity of the results. The COMPANY assumes no responsibility for CITY's negligence or failure to retain back up data at regular intervals or protect data from viruses, or any unintended modification, destruction, or disclosure of any data, software or other information.
- 10.5 The CITY acknowledges and agrees that the allocation of risk contained in this Section 10 is reflected in the fees and other charges under this Agreement and is a reasonable allocation of the risk between the parties.

11. TERM AND TERMINATION

- 11.1 Term. The term of this License Agreement shall commence as of the Effective Date and shall continue to remain in effect until the expiration of the initial term running until the end of the calendar year which contains the fifth anniversary its effective date, unless and until it is terminated in accordance with the provisions of this Agreement ("Term") and may be extended by the parties thereafter as per the procedure laid down below.
- 11.2 No later than one (1) year before the expiry of the initial term of the License Agreement the CITY may make a written request for extension of this Agreement by a further term of one (1) calendar year in return for payment of the applicable license and maintenance fee set down in the Appendix. Thereafter, the CITY may similarly request extension by further periods of one (1) calendar year, allowing one (1) month notice. The COMPANY may refuse extension only for a serious reason, i.e. if the COMPANY ceases to carry on its business or loses the license for distribution of the Licensed Material or the CITY commits any material breach of its obligations. Should the CITY fail promptly to extend the License Agreement, it shall end automatically upon the expiry of the then current term. The duration of the Appendices shall be determined by the arrangement made therein. In the absence of a special arrangement, the Appendices shall have the same duration as this License Agreement and shall be extended with it.

In every case, the termination of this License Agreement shall also occasion the termination of all its Appendices.

11.3 Termination for Material Breach.

11.3.1 In the event of a material breach of the provisions of the Agreement or this License Agreement by CITY, COMPANY may terminate this Agreement and all applicable licenses, upon written notice to the CITY, if the CITY fails to cure such breach within thirty (30) days following written notice thereof from COMPANY.

11.3.2 In the event of a material breach of the provisions of the Agreement or this License Agreement by COMPANY, CITY may terminate this Agreement and all applicable licenses, upon written notice to the COMPANY if the COMPANY fails to cure such breach within thirty (30) days following written notice thereof from CITY

11.4 Termination for Change of Control. In the event of a material change of ownership, control or business purpose by the COMPANY, the CITY shall at its sole discretion have the right to ascertain the ability of the new ownership to perform under the terms of this License Agreement. Such assessment shall include interviews discussions, and negotiations with the new ownership, and shall be completed in not more than 180 days from the time that the City is made aware of the change in ownership. Based on its assessment, the CITY shall either renew the License Agreement with the new owners under the then current terms, or if the CITY is unable to be satisfied that the terms and rights can be upheld by the new ownership, the CITY may seek such replacement of functionality ("replacement") as it believes serves its interest, such Replacement to be completed in not more than twelve (12) months. While the Replacement is in progress, CITY may continue to use the software, and for the period that the CITY continues to pay maintenance, receive the level of support provided under this License Agreement. At the end of the twelve month Replacement period, this License Agreement shall be terminated.

11.5 Effect of Termination:

- (a) In the event of termination of this Agreement for any reason whatsoever, the rights and licenses granted to the CITY will immediately terminate and the licensee will have no further right to use the software. Within thirty (30) days after the termination, CITY must return all the copies of the software, documentation and Confidential Information in its possession or control to the licensor, or permanently destroy or disable all such copies. If requested by the COMPANY, a duly authorized officer of the CITY will certify in writing to the licensor that the licensee has taken such action. The sole exception is the right of CITY to retain CITY'S data and the COMPANY shall grant CITY a limited licenses to use the associated schema for the database in which such data exists for the purposes of transition for a period not to exceed 12 months. CITY agreed to treat such Schema as the Confidential Information of COMPANY and shall not

disclose such schema to any third party without the prior written consent of COMPANY.

- (b) Termination shall be without prejudice to any other rights or remedies a party may be entitled to hereunder or at law and shall not affect any accrued rights or liabilities of either party nor the coming into force or continuation in force of any provision hereof which is expressly intended to come into force or continue in force on or after such termination.
- (c) In the event of this Agreement being determined by whichever party and for whatsoever reason, the CITY shall be liable to make payments of the entire amount due under this Agreement for the services rendered by the COMPANY up to the effective date of termination in terms of this Agreement.
- (d) Forthwith on the expiry or earlier termination of this agreement, each party shall, return to the other party all documents and materials and Confidential Information, belonging to the other party with regard to this Agreement, or shall at the option of the disclosing party destroy under written certification by an authorized officer of the other party all documents or materials in connection with this Agreement in a manner that the subsequent retrieval thereof is rendered impossible by any method

12. MISCELLANEOUS

- 12.1 Default and Other Remedies. Nothing herein shall preclude either Party from seeking money damages or injunctive relief to prevent unauthorized use of the Licensed Material or CITY Proprietary Material in the event of a breach of this Agreement.
- 12.2 Remedies. Except as otherwise provided herein, no right or remedy herein conferred on or reserved to either Party is intended to be exclusive of any other right or remedy, and each and every right and remedy will be cumulative and in addition to any other right or remedy under this Agreement or under applicable law, whether now or hereafter existing.
- 12.3 Injunctive Relief and Special Performance. COMPANY and CITY agree that a breach by either of them of its obligations under Article 2, Article 5, Article 6 or Article 11 may cause irreparable harm which cannot be compensated in money damages. Accordingly, COMPANY and CITY each agree that in the event either Party breaches any of the provisions in Article 2, Article 5, Article 6, or Article 11 the other Party shall be entitled to seek injunctive relief or specific performance in addition to its other remedies.
- 12.4 Relationship of Parties. The relationship of the Parties shall be that of independent contractors. Any employee, subcontractor or agent of COMPANY who is assigned to provide Services under this Agreement shall remain at all times under the exclusive direction and control of COMPANY and shall not be deemed to be an employee, subcontractor or agent of CITY. Neither Party will represent that it has any authority to assume or create any obligation, express or implied, on behalf of the other Party, or to

represent the other Party as agent, employee, or in any other capacity, except as specifically provided herein.

12.5 Binding Effect; Assignment.

- (a) This Agreement shall be binding on and inure to the benefit of the respective Parties and their permitted successors and assigns. Neither Party may sell, transfer or assign any right or obligation hereunder, except as expressly provided herein, without the prior written consent of the other Party. Any assignment in violation of this Section 12.4 shall be void.
- (b) CITY shall have the right to assign or transfer (including by merger or otherwise by operation of law) all of its rights, duties and obligations under this Agreement to (i) any entity that is an Affiliate of CITY in connection with an internal reorganization of the business of CITY; or (ii) a purchaser of all or substantially all of CITY's capital stock, assets and business involving the line of business that primarily utilizes the Licensed Material; provided that with respect to subsections (i) and (ii), the resulting assignment shall not expand the scope of the licenses granted hereunder. The foregoing assignment shall be valid only if (A) CITY provides prior written notice to COMPANY and (B) such assignee or transferee shall have expressly assumed in a written agreement with COMPANY, the rights, duties and obligations of CITY under this Agreement. No such assignment or transfer shall operate to release CITY of its duties or obligations under this Agreement, absent an express written release executed and delivered by COMPANY (it being understood and agreed that COMPANY shall not unreasonably withhold its consent to such a release if the assignee or transferee is the operator or successor to CITY's line of business involving the Licensed Material).
- (c) COMPANY shall have the right to assign or transfer (including by merger or otherwise by operation of law) its rights, duties and obligations under this Agreement with the consent of CITY. CITY agrees not to unreasonably withhold consent, subject to the terms of section 11.4.

12.6 No Waiver. Either Party's failure to exercise any right under this Agreement shall not constitute a waiver of any other terms or conditions of this Agreement with respect to any other or subsequent breach, or a waiver by such Party of its right at any time thereafter to require exact and strict compliance with the terms of this Agreement. In order to be effective, all waivers under this Agreement must be in writing and signed by the waiving Party.

12.7 Notices. All notices, as required by the contract, and other communications required under this Agreement shall be in writing and sent to the address stated below, or to such other address as shall be given by either Party to the other in writing, and shall be effective: (i) upon actual delivery if presented personally or sent by express overnight courier such as Federal Express (with a signature acknowledging receipt), or (ii) seven

days following deposit in the mail if sent by certified or registered mail, postage prepaid, return receipt requested.

If to COMPANY:

With a copy to:

If to CITY:

City of Tucson
255 W. Alameda, 6th Floor
Tucson, Arizona 85701
Attention: Department of Procurement
Telephone: 520-791-4217
Facsimile: 520-791-4735

With a copy to:

City of Tucson
IT Department
481 W Paseo Redondo
Tucson, Arizona 85701
Attention: Contracts Administrator
Telephone: _____
Facsimile: _____

Notwithstanding the foregoing, day-to-day communications between the Parties may be made by phone, facsimile transmission, e-mail or any other method agreed to by the Parties.

- 12.8 Applicable Law. This Agreement shall be governed by laws of the State of Arizona, without giving effect to the conflicts of law principles thereof.
- 12.9 Cooperation. Each Party to this Agreement agrees to execute and deliver all documents and to perform all further acts and to take any and all further steps that may be reasonably necessary to carry out the provisions of this Agreement and transactions contemplated thereby. Each Party shall perform its obligations hereunder acting in a fair and reasonable manner.
- 12.10 Headings. The various headings and subheadings in this Agreement are inserted for convenience only and shall not affect the meaning or interpretation of this Agreement or any provision hereof.
- 12.11 Severability. The invalidity of one or more phrases, sentences, sections, clauses or articles contained in this Agreement shall not affect the remaining portions of this

Agreement or any part thereof; and in the event that one or more phrases, sentences, sections, clauses or articles shall be declared void or unenforceable by any court of competent jurisdiction or by any government or regulatory agency, such provision will be deemed restated, in accordance with applicable law, to reflect as nearly as possible the original intentions of the Parties, and this Agreement shall be construed as if any such phrases, sentences, clauses and articles had not been inserted herein.

12.12 Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

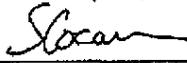
12.13 Enurement. This Agreement shall enure to the benefit of and be binding upon the Parties and their respective successors and permitted assigns.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed as of the day and year first written above.

CITY OF TUCSON

[COMPANY NAME]

By:		By:	Promium, LLC
Name:	Laura Jestings	Name:	Scot Cocanour
Title:	Contract Administrator	Title:	CEO
Date:	<u>2-27-12</u>	Date:	February 16, 2012



Attachment A
PRODUCT COVERED BY THIS AGREEMENT

Attachment B

LICENSED MATERIALS (INCLUDING THIRD PARTY OR ANCILLARY SOFTWARE)

Attachment C
MAINTENANCE AND SUPPORT AGREEMENT

Attachment D
TARGET ENVIRONMENT

2. Promium's Best and Final Offer and Clarification

From: David Riese <DRiese@promium.com>
To: "Nathan Daou (Nathan.Daou@tucsonaz.gov)" <Nathan.Daou@tucsonaz.gov>
Date: 1/20/2012 4:04 PM
Subject: Promium BAFO
Attachments: Promium TWQL Best and Final Price Offer 20Jan12.pdf

Greetings, Nathan.

It is my pleasure to offer the attached BAFO for the City of Tucson's consideration.

Please don't hesitate to contact me directly with any questions. Have a great weekend!

Best,

David B. Riese
Sales Engineer | Promium
O: 877.776.6486 x221
(877.PROMIUM x 221)
M: 425.408.3800

January 20, 2012

Nathan Daou
Principle Contract Officer
City of Tucson
255 W Alameda
Tucson, AZ 85726

Subject: Request for Proposal No. 120349-LIMS
Response to Best and Final Offer and Request for Clarification

Dear Nathan,

Thank you again for the opportunity to participate in TWQL's LIMS selection process. Please refer to the section below which provides clarification to your letter dated January 13, 2012. We look forward to our continued dialogue.

1. Promium will be responsible for the data migration tasks outlined in the RFP which includes
 - Migration Strategy
 - Data Source Analysis
 - Migration Design and Execution
 - Testing and Implementation

The City will be responsible for reviewing and approving the Migration Strategy and answering any questions that arise during the Data Source Analysis task. The questions during the analysis task typically involve clarification of the data fields and input on any required data transformations. Promium estimates that a City resource would be required for 6-16 hours. This is based on past data migrations projects of similar size and scope.

2. Promium's training will predominantly take place at the TWQ lab, not offsite. Some of the training will be conducted remotely over the internet. Promium offers a quarterly workshop on Advanced Crystal Reports formats. Clients are invited to bring specific reports relevant to their lab for completion during the course, which is held at our corporate headquarters in Bothell, WA.
3. Promium support staff frequently use GoToMeeting for remote support.
4. Promium has no objection with multiple contacts from the City. We recommend that your internal efforts are well-coordinated between individuals and departments for the most clear, expedient dialogue with Promium support staff.
5. Promium employs a multi-layered approach to support which includes:
 - First line is phone-based support. Primary support is provided by a live phone-based support desk staffed by individuals who have direct laboratory experience and extensive knowledge of Element. Immediately, the call is logged into an online ticketing system and all tickets are tracked from initiation through resolution. In the event that a customer is unable to reach a live technician, a tracking number is provided within an hour of the call and confirmation that their support ticket has been received.
 - Customers are provided with responses to all tickets within an hour and when appropriate, apprised of ongoing progress. The ticket log is reviewed regularly by members of the support and development teams. Problems are usually resolved within 4 hours of receiving the call. The resolution may involve transferring control of the user's desktop (ie: GoToMeeting) to the support team member via a web conferencing service (with the client's express permission).

- Users may also elect to directly enter a trouble ticket via the on-line ticketing system. The response for these events also follows the same response time as above.
 - Senior level support for escalations: Problems that cannot be rapidly addressed by the first line support team are escalated to individuals with a deeper knowledge of specific technical functionality or lab operations. This includes the department managers responsible for support, implementation, and/or development. These are escalated within 24 hours.
 - Management team for unresolved issues: Issues that cannot be resolved by the first and second line support team are escalated further to the management team for resolution. This includes senior executives in the company. We rarely reach this level but if it is needed it is with 4 days of the first support call.
 - On-line resources: On-line self-help resources are also available for troubleshooting and addressing known issues.
6. Element offers a simple package management system within the application. Users can easily scan documents directly from within Element, eliminating the need to install and use 3rd party scanning software.

PDF and image files can be attached to specific objects within Element, which allows the user and system to maintain appropriate context and clarity. Objects/features that offer document attachment include but are not limited to: clients, projects, work orders, analyses, batches, standards, and preparation procedures.

Attached files are stored in a user-defined shared folder on the network. To maintain optimal database performance, no attachments are stored in the database itself. Any attachment can be output to a paginated report. In short, any data that is stored within Element can appear on a report.

A specific folder is defined for Chain of Custody (CoC) documents. For high-volume environments, users can affix a bar code to each CoC and scan them to the CoC folder. Element will mine this folder on a routine basis, read the bar codes, and attach the CoC document to the appropriate Work Order.

Similar folders can be defined for instruments, which can be populated with chromatograms or other PDFs. Like the CoCs, these files are automatically mined and attached to the appropriate samples based on sample IDs.

Element currently does not offer versioning. Promium recommends using a file naming convention to assist with version control.



www.premium.com
1.877.PROMIUM

We at Premium appreciate the opportunity to participate in your LIMS selection process, and hope we've clearly demonstrated our commitment to the industry. We sincerely hope to become the LIMS of choice for the City of Tucson.

Please don't hesitate to contact me directly with any questions.

Kind Regards,

A handwritten signature in black ink, appearing to read "David B. Riese".

David B. Riese
Sales Engineer
Premium

BEST AND FINAL PRICE OFFER



5. Cost

Costs are evaluated on a fully loaded five-year cost of ownership. All costs must be itemized according to the proscribed table formats for details behind the summary line information. If the tables provided do not include a provision for a cost category, add it within the table.

Describe the costs to Tucson Water Quality Laboratory for the following scenarios. Provide costs for application acquisition, maintenance, and estimates of server hardware/software and telecommunications costs, both acquisition and on-going maintenance. In all approaches, include any other costs, such as data acquisition costs from previous database. Describe your assumptions for each scenario.

5.1 Cost Summary

Description	Total Cost \$
1. Base System Modules (excluding Maintenance) <i>Element is a COTs all features are included. Promium is providing a 10% discount on Element DataSystem® which is a savings of \$11,950</i>	\$119,500
2. Optional Modules in Suite (exc. Maintenance)	NA
3. Optional Software from Partners. <i>One license of Crystal Reports software is required not optional.</i>	\$699
4. Implementation Planning and Consulting	\$28,080
5. Data Migration	\$23,500
6. Training	\$18,720
7. Expenses	\$15,000
8. Software Maintenance & Support (for 5 years) <i>If the City opts to purchase 5 years of maintenance at the time of project initiation, we will provide a locked in discount of 10% off the total of the amount of maintenance purchased (\$81,000 discounted to \$72,900). Please refer to the chart in section 5.1.1.7 for details.</i>	\$72,900
9. Additional Software Tools or Utilities <i>Instruments or equipment that lack a network or RS232 port (i.e. Balances, pH meters) require a third party software package such as WinWedge (\$399 per license). However, currently TWQL has developed their own integrated software that should suffice for these instruments to be interpreted with DataTool.</i>	NA
10. Hardware	
HP SB DL380 G7 E5620 SFF (HP ProLiant DL 380)	\$ 2943
3 x HP SB 2GB RAM 2Rx8 PC3-10600R-0 KIT	\$ 138
8 x HP SB 146GB 6G SAS 10K 2.5IN DP ENT	\$ 3027
TOTAL	\$ 8108
Excluding Sales Taxes and Freight Costs are not included	

1. Additional Services			
WQDB Data Feed			
Task	Hours	Cost	
Data Feed Strategy	24	\$3960	
WQDB Analysis	16	\$2,640	
Data Feed Design and Development	80	\$13,200	
Testing and Implementation	45	\$7,425	
Total Data Feed	165		\$27,225
Customization of Required Reports in Section 8.1 of the RFP			
Report(s)	Estimated Hours		
8.1.1 DWAR Form 1 – Total Coliform Rule Distribution System Monitoring	16	\$2,880	
8.1.2 DWAR Form 1G – Ground Water Rule Reporting Form	16	\$2,880	
8.1.3 DWAR Form 3 – Synthetic Organic Chemical Analysis Report	12	\$2,160	
8.1.4 DWAR Form 4 – Volatile Organic Chemical Analysis Report	12	\$2,160	
8.1.5 DWAR Form 2 IN – Inorganic Chemical Analysis Report	12	\$2,160	
8.1.6 DWAR Form 9 – New Source Approval Report	40	\$7,200	
8.1.7 DWAR Form 8 – Lead and Copper Analysis Report	24	\$4,320	
8.1.8 DWAR Form 16 – Individual Sample Analysis Report – Disinfection Byproducts	8	\$1,440	
8.1.9 DWAR Form 16.2 – Annual Disinfection Byproduct Report	16	\$1,880	
8.1.10 DWAR Form 18A – Maximum Residual Disinfectant Level Report	16	\$2,880	
TOTAL	172 Hrs		\$30,960
SUBTOTAL			\$342,692
<i>10% discount provided on Element DataSystem Software</i> <LESS DISCOUNT>			\$11,950
TOTAL <i>(Excluding Sales Taxes and Freight Costs (not included above))</i>			\$330,742

5.1.1 Detailed Cost Schedules Supporting Cost Summary

Provide an itemized breakdown of all software being proposed from the core system, optional modules, and third party. NOTE: *If annual maintenance varies by year, provide detail in section 6.2.7 below.*

5.1.1.1 Core System Modules

- List the required modules for the base system and additional modules that are necessary to meet the City's core requirements as outlined in the Application Software section of the RFP.

Description	Software License Fee	Cost of Required Training	Annual Maintenance* (give details in #7, below)
Core System Modules			
Element DataSystem® (reflects 10% discount off the 2011 list price of \$119,500)	\$107,550	\$18,720	\$15,625
Total	\$107,550	\$18,720	\$15,625

5.1.1.2 Optional Modules in Suite

- List the modules contained in the product suite that are beyond the City's core system requirements, and are optional purchases.

Description	Software License Fee	Cost of Required Training	Annual Maintenance* (give details in #7, below)
Optional Modules in Suite			
None	0	0	0
Total	0	0	0

5.1.1.3 Software from Partner or Third Party

- List software being proposed that is provided by a third party.

Description	Software License Fee	Cost of Required Training	Annual Maintenance* (give details in #7, below)
Software from Partner or Third Party (list)			
Crystal Reports (One License)	\$699	0	0

Annual Maintenance is only required for Element DataSystem			
Total	\$699		

5.1.1.4 Implementation Planning and Consulting

- List recommended consulting services for Implementation. This should include all services that will be needed to install the modules, test, and review after go-live. Expand the description for each service if needed for clarification. Following the table, give the reasons for the recommendations.

Description and Amount of Recommended Consulting Services	Amount in Person-Time (e.g. Person-hours)	Total Costs
Planning	40	\$7,200
Implementation		
• Configuration	52	\$9,360
• Interfaces/Integration	24	\$4,320
• Testing (user, system)	40	\$7,200
Migration		
Migration Strategy	16	\$2,640
Data Source Analysis	24	\$3,960
Migration Design and Execution	60	\$9,900
Testing and Implementation	40	\$6,600
Other Consulting Services		0
Total		\$51,180

5.1.1.5 Training

- List training categories. Indicate if bundled or unbundled and state the cost in dollars. Be sure to break out technical training for IT support staff separately from user training costs.

Training Categories – List by Audience (Technical or User)	Days	Cost
City Specific Training development - User	8	\$11,520
City Specific Training development – Technical	2	\$2,880
City Specific Training development – Administrative	3	\$4,320
Total		\$18,720

5.1.1.6 Expenses

- List all relevant additional expenses such as travel supplies.

Expenses	Cost
Travel 30 days at \$500/Day	\$15,000
Total	\$15,000

5.1.1.7 Software Maintenance and Support

Provide detailed costs for each module or package included numbers 1, 2, and 3, above. Indicate any standard escalation rates.

List each installed or Supported application	Year 1	Year 2	Year 3	Year 4	Year 5
Element DataSystem® per single user	\$625	\$625	\$644	\$663	\$683
Element DataSystem® per 25 users	\$15,625	\$15,625	\$16,100	\$16,575	\$17,075

5.1.1.8 Additional Software Tools or Utilities

List all software that is being proposed to assist in product development, implementation, reporting, or maintenance.

Description	Software License Fee	Cost of Required Training	Annual Maintenance*
Crystal Reports (one License)	\$699	0	0
Total	\$699		

5.1.1.9 Hardware supplied (if applicable)

Description	Hardware Cost	Configuration Cost	Annual Maintenance *
Database Server (see detailed description in Item 10 above)	\$6108	Per RFP, TWQL will purchase and configure hardware independently	NA to Promium

5.1.1.10 Additional Software Tools or Utilities

- List all software that is being proposed to assist in product development, implementation, reporting, or maintenance.

Not applicable.

5.1.1.11 Additional services

- Please describe additional services offered (data migration, interface development, API for other programs, etc.) and provide pricing for each. Indicate whether each service will be one time or will be base-lined into the core application.

Service Description	One time vs. base-lined	Service cost
Interface Development: WQDB Data Feed Task Data Feed Strategy WQDB Analysis Data Feed Design and Development Testing and Implementation	165 hrs One Time	\$27,226
Total Data Migration	140 hrs One Time	\$23,100
Custom Report Development	172 Hrs One Time	\$30,960
Total	477 hrs	\$81,782

5.2 Cooperative Purchasing

1. The City of Tucson Department of Procurement facilitates a program through which contracts are made available to other agencies. The City markets these contracts on behalf of participating vendors. If interested in participating in this program, please see section 3.1.1 of Part A, and respond to the following questions. If you are not interested in this program, indicate that with a statement here and delete the remainder of 5.3.

Yes, Promium would like to participate.

2. How is pricing extended to the City of Tucson's Cooperative Purchasing agencies – i.e., what pricing is firm? What pricing is dependent upon the participating agency's needs? Also, describe how pricing is offered for the five-year term of this contract (i.e. if an agency uses this contract in its 3rd term, what kind of pricing can they expect, etc.)?

Promium will provide a discount of 8% off the price of the Element DataSystem Software current price list to participating Cooperative agencies. Promium provides a volume discount as the number of total concurrent licenses increases.

3. Provide information on available rebates. Discuss if the City of Tucson as the lead agency on this cooperative contract will receive an administrative fee based upon other agencies' usage of this contract. Offerors should state proposed percentage, state what the fee is based on (i.e., licensing fees, services, etc.), state how usage is tracked and reported to the City, and state how/when the administrative fee is to be paid to the City. Please offer any other additional information that will aid the City in our evaluation. See Part A, paragraph 3.1.1 Cooperative Purchasing for additional information.

Promium will provide a 2% fee to the City of Tucson on the amount of the software licensing fees for all purchases based on the cooperative agreement. This fee combined with the 8% discount to participating agencies totals 10% discount based on active list pricing. Usage will be tracked within our accounting office and fees will be paid on a quarterly basis.

4. Please provide your payment terms.

Revision of Section 5.3

Promium will consider milestone payments on services but not for the software.

Item #	Description	Price to be inserted after final contract negotiations are complete	Payment Schedule
1	Element DataSystem software license for 25 concurrent users and Crystal Reports		Once our software is shipped we require full payment of the software within 30 days of receipt of the software. Promium does not provide milestone payments for the Element DataSystem® software once it has been received.
2	Initial teleconference; Initial Project Team Meeting		10% after Element has been received by TWQL
3	On-site and Off-site Implementation costs		20% after Element has been loaded and onto server and all desktop clients and successful configuration of Element.
4	Train the Trainer LIMS Admin training End User Training and other Training sessions as needed for additional Users		10% after completion of required training.
5	Custom Reports & EDD Development		20% after custom development on required reports has been completed.
6	Data Migration And database integration of Wad feed.		30% after completion of legacy data migration and database integration of Wad.
7	Final Acceptance and "Go Live" of Element DataSystem		10% after completion of all final acceptance testing.
8	Initial 5 Year(s) of Annual Maintenance for Element DataSystem (25 concurrent users)		If paid in advance then 10% discount will apply to the total cost of 5 years of Annual Maintenance due Net 30 days. If paid on a yearly basis then the discount will not apply and each year TWQL will renew the contract which will be due Net 30.

5. Method of payment. TWQL can pay with check and or Credit Card. TWQL can electronically pay as well.

Yes 1. Do you have the ability to accept payment via Visa/MC credit cards is accepted, either for the product or for support?

No 2. Provide additional discounts for payment by credit card (i.e., does the use of the card entitle agencies to a deeper percentage discount off of a manufacturer's price list)?

6. If additional discounts do apply (above), please provide the amount of discount.

5.4 Warranty & Maintenance

1. Describe your provision to defer the start of warranty until after final acceptance of the system by the City. Promium and the City of Tucson will sign off on a Test Plan for Final System Acceptance. Once this has been completed the warranty period for Element DataSystem will begin for 90 days.

What level of customer technical support services and response times are provided as part of the product's basic license fees, and what additional cost services or extended warranties are available?

Promium's annual maintenance contract is all inclusive thus there are no additional cost services or extended warranties offered. Telephone support is available 24/7, 365 days a year. Online documentation and other support materials are available at www.promium.com/support. Promium website is available twenty-four hours per day, seven days per week unless undergoing maintenance or repair.

TWQL can designate numerous members for support from Promium. We just recommend that the lab shares their new information internally with other TWQL staff so that all can benefit from the same resource.

Support requests should be directed to:

Promium Customer Support (Help Desk)
425.286.9200 phone or toll free at 877-Promium (776-6486)
425.286.9201 fax or toll free at (800) 878-7158
support@promium.com

2. Describe your problem management and escalation procedures. Include information about logging and tracking calls, mean response time, and acknowledgment and confirmation to the customer.

Promium employs a multi-layered approach to support which includes:

- First line is phone-based support, provided by a live phone-based support desk staffed by individuals who have direct laboratory experience and extensive knowledge of Element. Immediately the call is logged into an online ticketing system and all tickets are tracked from initiation through resolution. Within an hour the customer is provided a tracking number and confirmation that their support ticket has been received.
- Customers are provided with responses to all tickets within an hour and when appropriate, apprised of ongoing progress. The ticket log is reviewed regularly by members of the support and development teams. Problem is usually resolved within 4 hours of receiving the call. The resolution may involve transferring control of the user's desktop (i.e. GoToMeeting) to the support team member via a web conferencing service.

- Users may also elect to directly enter a trouble ticket via the on-line ticketing system. The response for these events also follows the same response protocol as above.
 - Senior level support for escalations: Problems that cannot be rapidly addressed by the first line support team are escalated to individuals with a deeper knowledge of specific technical functionality or lab operations. This includes the department managers responsible for support, implementation, and/or development. These are escalated within 24 hours.
 - Management team for unresolved issues: Issues that cannot be resolved by the first and second line support team are escalated further to the management team for resolution. This includes senior executives in the company. We rarely reach this level but if it is needed it is with 4 days of the first support call.
 - On-line resources: On-line self-help resources are also available for troubleshooting and addressing known issues.
3. Are all enhancements and upgrades of licensed software delivered as part of the client's annual maintenance contract? Yes
- If not, explain what costs, including consulting costs, might be required. NA
- List the typical frequency of major upgrades, minor releases and bug fixes, and state whether upgrades are cumulative.
4. Describe any discount schedules or special entitlements for the maintenance agreement.
- If the City opts to purchase 5 years of maintenance at the time of project initiation, we will provide a locked in discount of 10% off the total of the amount of maintenance purchased.
5. Attach terms and conditions for the warranty and extended warranty in an appendix.
- Please refer to attachment.

5.4.1 Extended Service Agreement

1. Provide costs for optional extension of service support beyond the required five years.

	Year 6	Year 7	Year 8	Year 9	Year 10
Annual Maintenance on Element DataSystem® per user	\$703	\$725	\$746	\$769	\$792

Element DataSystem® Maintenance Agreement

1. For License Purchase or Lease

1.1.1.1 This Maintenance Agreement (the "Agreement") is a legal agreement between the customer listed on the Promium Order document ("you" or "Customer") and Promium, LLC ("Promium") for maintenance and support services for the Element DataSystem software (the "Software"). Maintenance and support are provided by Promium for the term of this Agreement. For license purchase customers, an initial one-year term is included as part of the Software license purchase. Thereafter, this Agreement shall automatically renew for subsequent one-year periods until terminated as described below. For lease customers, a Maintenance Agreement is in effect for the duration of the lease term.

1.1.1.2 Services not explicitly described in this document are not covered by the Maintenance Agreement or provided by Promium unless otherwise specified. Such items include conflicts that may cause Software failure due to firmware or device drivers or micro code problems introduced by the manufacturer or other parties; issues arising from software programs from other vendors; computer equipment, network equipment, database software, or any other product that may malfunction unless the malfunction is directly caused by the Software.

1.1.1.3 1. Technical Support Services:

a. Scope: Technical support services under this Agreement are limited to the two most recent major versions of the covered Software products and are available to customers who have a valid Maintenance Agreement.

b. Services: Unless otherwise communicated, telephone support is available Monday through Friday, 5:00am to 5:00pm Pacific Time, not including holidays recognized by Promium. At other times, a telephone or email message may be left and Promium personnel will respond within one business day. Emergency technical assistance provided outside of normal business hours may incur additional charges. Online documentation and other support materials are available at www.promium.com/support. Promium website is available twenty-four hours per day, seven days per week unless undergoing maintenance or repair.

Each Element DataSystem customer requiring support must designate at least one primary contact person to manage technical support requests.

Support requests should be directed to:

Promium Customer Support (Help Desk)

425.286.9200 phone or toll free at 877-Promium (776-6486)

425.286.9201 fax or toll free at (800) 878-7158

support@promium.com

1.1.1.4 2. Software Updates:

Software updates, including Software revisions, are provided at no additional charge to customers who have a valid Maintenance Agreement. Updated system components such as executables, libraries, controls, report formats and supporting files for the covered Software products and its companion applications are available from the Promium downloads section of the web site at www.promium.com/support. No additional tangible goods will be provided with the renewal of the maintenance subscription.

1.1.1.5 3. Custom Programming Services

Features, functions, reports, and other input or output not considered part of core Software or services by Promium is considered custom work. Deliverables including but not limited to, custom programming, custom reports, proprietary electronic deliverable programs, other special program functions on behalf of the user, and other custom services, outside the original purchase agreement, may incur additional charges as quoted by Promium. Up to eight hours of development resources will be provided to Contract Laboratory Program (CLP) labs for specialized support as part of standard maintenance coverage but additional charges will be incurred for work in excess of the eight hours.

1.1.1.6 4. Services Not Included

Promium reserves the right to charge for support or programming services that are unrelated to the direct operation of its Software products. This includes conflicts that may cause Software failure due to firmware or device drivers or micro code problems introduced by the manufacturer or other parties. This also includes other Software programs that may interfere with its Software products.

1.1.1.7 5. Term & Renewal

This Agreement is effective for one year for license purchase customers. The effective (service start) date is as set forth below. Upon the expiration of the initial one year term (and unless otherwise terminated), this Agreement shall automatically renew for successive one-year periods unless either party gives written notice of its intent to terminate the Agreement before the then-current term expires. For lease customers, this Agreement is effective for the period of the lease, and it shall continue automatically provided that lease payments are timely received by Promium.

1.1.1.8 6. Payment

For license purchase customers, annual maintenance payments shall be paid in advance. Costs for each renewal term are generally invoiced to you 45 days prior to the expiration of the renewal term and are due net 30 days from invoice date. Prices are subject to change. Payment not received on or before the Payment Deadline shall be subject to a one-and-one-half percent (1½%) monthly late fee. In the event that Customer fails to make timely payment under this Agreement, Promium reserves the right to terminate this Agreement and/or suspend the provision of services under it by providing Customer written notice of its election to do so. Maintenance for lease customers shall be paid in advance as provided in the Promium Software Lease Agreement.

1.1.1.9 7. Billing

Any services not covered under this Agreement will be billed at a rate set by Promium in its course of business. Payment for services billed shall be made within thirty (30) days of the date of Invoicing or shall be subject to a one-and-one-half percent (1½%) monthly late fee.

1.1.1.10 8. Warranty Disclaimer and Limitation of Liability

a. THE PROMIUM MAINTENANCE SERVICES ARE PROVIDED "AS IS" AND PROMIUM HEREBY SPECIFICALLY DISCLAIMS ALL WARRANTIES, CONDITIONS, AND/OR REPRESENTATIONS, WHETHER EXPRESS, IMPLIED, ORAL OR WRITTEN, THAT MAY ARISE EITHER BY THE PARTIES' AGREEMENTS OR BY OPERATION OF LAW, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT. PROMIUM MAKES NO OTHER REPRESENTATIONS OR WARRANTIES

INCLUDING, WITHOUT LIMITATION, REPRESENTATIONS OR WARRANTIES THAT (A) THE SOFTWARE WILL MEET YOUR REQUIREMENTS, (B) THE OPERATION OF THE SOFTWARE WILL BE UNINTERRUPTED OR ERROR FREE, OR (C) ANY DEFECTS IN THE SOFTWARE WILL BE CORRECTED. This disclaimer shall not apply to the extent that it is prohibited by applicable law.

b. We will not be liable for any loss or damage caused by delay in furnishing the Software or any other performance under this Agreement.

c. Our entire liability and your exclusive remedies for our liability of any kind (including liability for negligence except liability for personal injury caused solely by our negligence) for the Software covered by this Agreement and all other performance or nonperformance by us under or related to this Agreement are limited to the remedies specified by this Agreement. REGARDLESS OF WHETHER ANY REMEDY IN THIS AGREEMENT FAILS OF ITS ESSENTIAL PURPOSE, THE LIABILITY OF PROMIUM SHALL BE LIMITED TO DIRECT DAMAGES NOT TO EXCEED THE AMOUNT OF THE LICENSE FEES PAID TO PROMIUM FOR THE SOFTWARE. IN NO EVENT SHALL PROMIUM BE LIABLE FOR ANY SPECIAL, CONSEQUENTIAL, INDIRECT OR SIMILAR DAMAGES, INCLUDING PUNITIVE DAMAGES AND LOST PROFITS, RELATED TO THE SOFTWARE OR ANY ASSOCIATED SERVICES THAT PROMIUM MAY PROVIDE, EVEN IF PROMIUM HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

d. Some states or jurisdictions do not allow the exclusion of implied warranties or limitation of liability for consequential or incidental damages, so the above exclusion may not apply to you. In such situations, Promium's liability shall be limited to the extent permitted by law. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

1.1.1.11 9. General

If Customer breaches any of the terms of this Agreement, Promium, in addition to any other legal remedy it may have, may cancel this Agreement effective upon written notice to Customer. This Agreement or other proof thereof must be presented by Customer as valid Maintenance coverage upon request.

In any suit, proceeding or action to enforce this Agreement, the substantially prevailing party shall be entitled to recover from the other party reasonable attorneys' fees and costs and expenses in connection with such suit, proceeding or action, including appeal. This Agreement shall be governed by and construed under the laws of the State of Washington without regard to its conflict of laws principles. The jurisdiction and venue for any suit or action between the parties shall be the state and federal courts of King County, Washington.

Failure to enforce any rights granted herein shall not be deemed a waiver as to subsequent enforcement of such rights. If any part of this Agreement is found void and unenforceable, it shall be deemed severed from this Agreement and shall not affect the validity and enforceability of the balance of the Agreement. This Agreement is not assignable and the licenses granted hereunder may not be sublicensed, assigned or transferred in any manner without the prior written consent of Promium. Any such attempted sublicense, assignment or transfer shall be void.

This Agreement, together with its accompanying Quotation, Order, Maintenance Agreement and Payment Terms and Conditions, constitute the entire understanding and agreement of the parties with respect to its subject matter, and any and all prior agreements, understandings or representations with respect to its subject matter are merged herein. The terms and conditions of this Agreement prevail over the terms and conditions of any other order (such as a purchase order) submitted by Customer for maintenance services. This Agreement may be amended only by written instrument signed by both parties subsequent to the date hereof. Any terms of this Agreement which by their nature extend beyond the Agreement termination or expiration shall remain in effect until fulfilled. These include Sections 7, 8 and 9.

Maintenance Contract Coverage Period:

Start Date: _____

3. Request for Best and Final Offer and Clarification



**CITY OF
TUCSON**

DEPARTMENT OF
PROCUREMENT

January 13, 2012

Lee Otis
Promium, LLC
3350 Monte Villa Parkway, Suite 220
Bothell, WA 98021
Email: LOtis@promium.com

Sent via email, this day

**Subject: Request For Proposal No. 120349 -- Laboratory Information Management System (LIMS)
REQUEST FOR CLARIFICATION
REQUEST FOR BEST AND FINAL OFFER**

Dear Lee,

I wish to thank you, and your team, for the presentation on December 5, 2011. In order to proceed with the evaluation of Promium's proposal, I ask that you provide clarification on the following items:

1. In terms of mapping and migration, please clarify the City's responsibilities vs. Promium's responsibilities.
2. In regards to the training classes that Promium proposed in Section 4 of Part B of the RFP, please indicate whether Promium is proposing to hold the classes at the City of Tucson's Water Quality Laboratory or at Promium's facility. In Promium's response to Paragraph 1 under Section 4.1, it says that "all classes will be conducted onsite at the TWQ lab," but in Promium's response to Paragraph 6 under Section 4.1 it indicated that some classes will be offsite. Please clarify.
3. In terms of remote support, does Promium's support staff use a tool such as GoToMeeting for remote support?
4. In terms of support, Promium indicated under Paragraph 2 of Section 4.2.1 of Part B of the RFP that each customer requiring support must designate at least one primary contact person to manage technical support requests. Will there be any problem if the City wants to designate 4 or more people (2 or more people from the lab and 2 or more people from the Information Technology Department)?
5. During the demonstration, Promium talked about escalation procedures for problem resolution, including time frames for escalating unresolved problems to the next level. However, Promium's response to Paragraph 4 of Section 4.2.1 did not address timeframes. Please elaborate.

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6. Please provide a description of the document management functionality that was presented during the demonstration. Include all 3rd party tools that are required, guidelines for sizing the filesystem appropriately, and information about how versioning is handled.
7. The Gant Chart on Page 53 of Promium's submittal indicates less than 30 days for testing and acceptance. However, on Page 65 of Promium's submittal, Promium indicated their understanding of the fact that the system has to run for 60 days without a severe error in order to pass the 60-day acceptance testing period. Please adjust the Gant Chart accordingly to reflect a 60-day acceptance testing period.

In addition to clarification of the items above, I also wish to request Promium's Best and Final Offer. In order to submit your Best and Final Offer, I ask that you fill out a new Cost section, which is Section 5 of Part B of the RFP. Please consider extending any cost reductions to the City that would be possible. Additionally, I ask that you consider the following items when preparing your Best and Final Offer:

1. In regards to the administrative fee for the Cooperative Purchasing Program (Paragraph 3 under Section 5.2), Promium indicated that a 1% administrative fee "off the price of the discounted software to the City of Tucson." Please clarify. This seems to indicate that if another agency utilizes this cooperative contract, then Promium will apply a 1% discount to the amount that the City already paid for the software. Typically, and ideally, the administrative fee should be a percentage of the price that the participating agency paid for the software, as well as any annual maintenance.

The City typically receives a flat 2% administrative fee on purchases made by Cooperative Purchasing agencies under our cooperative contracts. In consideration of the benefit received by participating in this program, I believe a 2% administrative fee, applied to all system purchases and maintenance purchases, would be reasonable. Please consider this.

2. Promium's response to Paragraph 1 under Section 5.3 indicates that Promium was not clear on whether the City was asking about payment milestones for cooperative agencies or for the City's LIMS at the TWQL. This question pertains to the payment milestones for the City's LIMS at the TWQL. I would like to ask Promium to consider the following schedule of progress payments when submitting their Best and Final Offer:
 - 10% after the software package has been shipped and received by Tucson Water Quality Laboratory.

- 25% after the software has been loaded onto the server and all desktop clients, and after successful configuration of the LIMS software.
- 10% after installation and testing of customized DWAR reports listed in Section 3.2.11 of the RFP.
- 20% after successful completion of legacy data migration.
- 15% after successful completion of WQDb feed.
- 10% after completion of required training.
- 10% after completion of all final acceptance testing and the system goes live.

Please submit Promium's written response to this Request for Clarification and Request for Best and Final Offer by the close of the business day on January 20, 2012.

Please do not hesitate to contact me with questions at (520) 837-4136, or at Nathan.Daou@tucsonaz.gov.

Sincerely,



Nathan Daou, CPPB, C.P.M., A.P.P.
Principal Contract Officer

Attachment

cc: David Riese, Promium, DRiese@promium.com
File No. 120349

BEST AND FINAL PRICE OFFER

5. Cost

Costs are evaluated on a fully loaded five-year cost of ownership. All costs must be itemized according to the proscribed table formats for details behind the summary line information. If the tables provided do not include a provision for a cost category, add it within the table.

Describe the costs to Tucson Water Quality Laboratory for the following scenarios. Provide costs for application acquisition, maintenance, and estimates of server hardware/software and telecommunications costs, both acquisition and on-going maintenance. In all approaches, include any other costs, such as data acquisition costs from previous database. Describe your assumptions for each scenario.

5.1 Cost Summary

Description	Total Cost \$
1. Base System Modules (exc. Maintenance)	
2. Optional Modules in Suite (exc. Maintenance)	
3. Optional Software from Partners	
4. Implementation Planning, Consulting, and Data Migration	
5. Training	
6. Expenses	
7. Software Maintenance & Support (for 5 years)	
8. Additional Software Tools or Utilities	
9. Hardware	
10. Additional Services (specify)	
DO NOT APPLY SALES TAXES	
<LESS DISCOUNT>	
TOTAL	

5.1.1 Detailed Cost Schedules Supporting Cost Summary

Provide an itemized breakdown of all software being proposed from the core system, optional modules, and third party. NOTE: *If annual maintenance varies by year, provide detail in section 6.2.7 below.*

5.1.1.1 Core System Modules

- List the required modules for the base system and additional modules that are necessary to meet the City's core requirements as outlined in the Application Software section of the RFP.

Description	Software License Fee	Cost of Required Training	Annual Maintenance* (give details in #7, below)
Core System Modules			
Total			

5.1.1.2 Optional Modules in Suite

- List the modules contained in the product suite that are beyond the City's core system requirements, and are optional purchases.

Description	Software License Fee	Cost of Required Training	Annual Maintenance* (give details in #7, below)
Optional Modules in Suite			
Total			

5.1.1.3 Software from Partner or Third Party

- List software being proposed that is provided by a third party.

Description	Software License Fee	Cost of Required Training	Annual Maintenance* (give details in #7, below)
Software from Partner or Third Party (list)			
Total			

5.1.1.4 Implementation Planning and Consulting

- List recommended consulting services for implementation. This should include all services that will be needed to install the modules, test, and review after go-live. Expand the description for each service if needed for clarification. Following the table, give the reasons for the recommendations.

Description and Amount of Recommended Consulting Services	Amount in Person-Time (e.g. Person-hours)	Total Costs
Planning		
Migration & Implementation (Break down this category)		
Other Consulting Services		
Total		

5.1.1.5 Training

- List training categories. Indicate if bundled or unbundled and state the cost in dollars. Be sure to break out technical training for IT support staff separately from user training costs.

Training Categories – List by Audience (Technical or User)	Days	Cost
City Specific Training development - User		
City Specific Training development – Technical		
City Specific Training development – Administrative		
Total		

5.1.1.6 Expenses

1. List all relevant additional expenses such as travel supplies.

Expenses	Cost
Total	

5.1.1.7 Software Maintenance and Support

Provide detailed costs for each module or package included numbers 1, 2, and 3, above. Indicate any standard escalation rates.

List each Installed or Supported application	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Total						

5.1.1.8 Additional Software Tools or Utilities

List all software that is being proposed to assist in product development, implementation, reporting, or maintenance.

Description	Software License Fee	Cost of Required Training	Annual Maintenance*
Total			

5.1.1.9 Hardware Supplied (If applicable)

Description	Hardware cost	Configuration cost	3 years Maintenance
Total			

5.1.1.10 Additional Software Tools or Utilities

1. List all software that is being proposed to assist in product development, implementation, reporting, or maintenance.

Description	Software License Fee	Cost of Required Training	Annual Maintenance*
Total			

5.1.1.11 Additional services

1. Please describe additional services offered (data migration, interface development, API for other programs, etc.) and provide pricing for each. Indicate whether each service will be one time or will be base-lined into the core application.

Service Description	One time vs. base-lined	Service cost
Total		

5.2 Cooperative Purchasing

1. The City of Tucson Department of Procurement facilitates a program through which contracts are made available to other agencies. The City markets these contracts on behalf of participating vendors. If interested in participating in this program, please see section 3.1.1 of Part A, and respond to the following questions. If you are not interested in this program, indicate that with a statement here and delete the remainder of 5.3.
2. How is pricing extended to the City of Tucson's Cooperative Purchasing agencies – i.e., what pricing is firm? What pricing is dependent upon the participating agency's needs? Also, describe how pricing is offered for the five-year term of this contract (i.e. if an agency uses this contract in its 3rd term, what kind of pricing can they expect, etc.)?
3. Provide information on available rebates. Discuss if the City of Tucson as the lead agency on this cooperative contract will receive an administrative fee based upon other agencies' usage of this contract. Offerors should state proposed percentage, state what the fee is based on (i.e., licensing fees, services, etc.), state how usage is tracked and reported to the City, and state how/when the administrative fee is be paid to the City. Please offer any other additional information that will aid the City in our evaluation. See Part A, paragraph 3.1.1 Cooperative Purchasing for additional information.

5.3 Payment

1. Each milestone shall be separately accepted by the City. The City may request that progress payments be tied to milestones achieved, so indicate which milestone would have payments tied to them.
2. Please provide your payment terms.
3. Method of payment

_____ 1. Do you have the ability to accept payment via Visa/MC credit cards is accepted, either for the product or for support?

_____ 2. Provide additional discounts for payment by credit card (i.e., does the use of the card entitle agencies to a deeper percentage discount off of a manufacturer's price list)?

4. If additional discounts do apply (above), please provide the amount of discount.

5.4 Warranty & Maintenance

1. Describe your provision to defer the start of warranty until after final acceptance of the system by the City.
2. What level of customer technical support services and response times are provided as part of the product's basic license fees, and what additional cost services or extended warranties are available?
3. Are all enhancements and upgrades of licensed software delivered as part of the client's annual maintenance contract? If not, explain what costs, including consulting costs, might be required. List the typical frequency of major upgrades, minor releases and bug fixes, and state whether upgrades are cumulative.
4. Describe any discount schedules or special entitlements for the maintenance agreement.
5. Attach terms and conditions for the warranty and extended warranty in an appendix

5.4.1 Extended Service Agreement

1. Provide costs for optional extension of service support beyond the required five years.

	Year 6	Year 7	Year 8	Year 9	Year 10	Total

4. Information provided during Promium's Interview/Demonstration

**CREATING AN OPERATIONAL ADVANTAGE FOR
CITY OF TUCSON TWQL**



PRŌMIUM
Element Data System

• Increase test accuracy
• Increase test throughput
• Increase test consistency
• Increase test reliability

TWQL BUSINESS GOALS

- Replace current Seedpak LIMS
 - Modernize hardware, Oracle database
 - Web access
- Unite six functional laboratory units

Inorganics	QA/QC
Organics	CS/Sample Receiving
Microbiology	Field Sampling
- Facilitate certification compliance

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AGENDA FOR TODAY

- Background on Promium
- Introduce you to Element DataSystem LIMS
- Answer your questions
- Provide information that can help guide you through the selection process

Is there anything else YOU would like us to cover?

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TRANSLATES INTO BETTER PRODUCTS**

Thirteen years serving the laboratory community

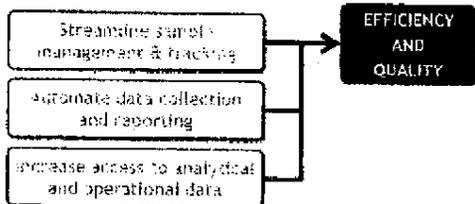
Roots in the laboratory

Over 3,000 users at 230 commercial and public sector labs

Only LIMS company solely focused on environmental and water/wastewater labs

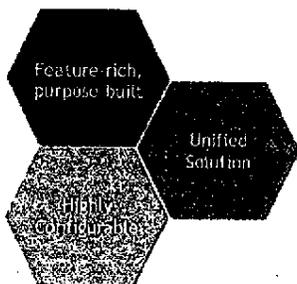
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**GIVING YOU AN OPERATIONAL ADVANTAGE
BY INCREASING EFFICIENCY AND QUALITY**



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UNIQUE ADVANTAGES OF ELEMENT-DATASYSTEM LIMS



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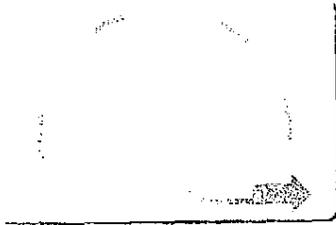
ELEMENT FEATURES ARE "PURPOSE-BUILT" FOR ENVIRONMENTAL AND WATER/WASTEWATER LABS

- Batch oriented to support EPA protocols
- Modeled around NELAP and other industry standards
- Embedded calculations and custom equations builder
- Pre-loaded test parameters

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ELEMENT IS A UNIFIED LIMS WITH ALL CORE COMPONENTS IN ONE CONFIGURABLE SOLUTION

no additional products needed



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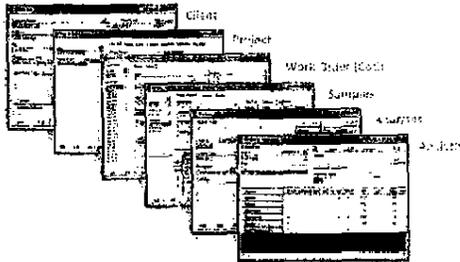
ELEMENT IS HIGHLY CONFIGURABLE IN ORDER TO ADDRESS YOUR UNIQUE BUSINESS NEEDS

- Provides flexible and cost-effective infrastructure
- Avoids a "one-of-a-kind" dead-end solution

• Configurable
 • Scalable
 • The price is right
 • Support and training
 • Easy to learn and use
 • Proven and tested
 • Proven and tested
 • Proven and tested

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A CASCADING INFORMATION MODEL PROVIDES DATA MANAGEMENT DISCIPLINE AND INTEGRITY.



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THE LIFE OF A SAMPLE

Product DEMO

PRIMUM

OUR LIMS SOLUTION IS MORE THAN SOFTWARE

IMPLEMENTATION <ul style="list-style-type: none">• Dedicated Project Manager• Basic & advanced training• Application configuration• Transition business policies and database.	SUPPORT <ul style="list-style-type: none">• Staffed by lab veterans• Regular software updates• Phone support• Online documentation• Knowledge Base and online groups
--	---

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TECHNICAL IMPLEMENTATION
Phase 1



Determine Current Work Flow

- Project Management
- Sample Control
- Laboratory Operations
- Reporting
- Invoicing

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TECHNICAL IMPLEMENTATION
Phase 2

Identify Requirements

- Objectives
- Methodology (e.g. ISO 15189)
- Business Processes (e.g. Laboratory Information System)
- Data Requirements
- Laboratory Information System (LIS) Requirements
- Data Management (e.g. LIS)
- Reporting and Invoicing



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TECHNICAL IMPLEMENTATION
Phase 3

Assign Responsibility for

- Data Management
- LIS and Reporting
- Laboratory Information System
- Quality Management
- Laboratory Management
- Documenting and Version Control
- LIS
- Reporting and Invoicing

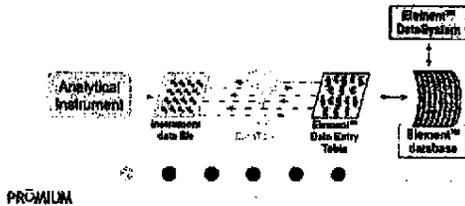
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TECHNICAL IMPLEMENTATION
Page 1

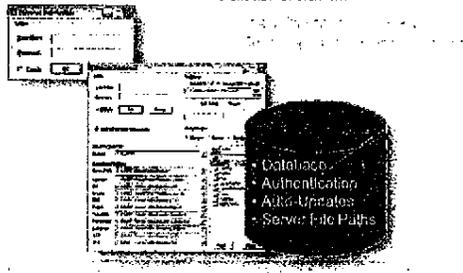
Data Tool Instrument Interface

- Manages user outputs for Data Tool Instruments
- Collects information from users as needed



TECHNICAL IMPLEMENTATION
Page 1

Installation of Element



TECHNICAL IMPLEMENTATION
Page 2

Administrator Training

- Installation
- Configuration
- User Management
- Data Management
- Reporting
- Troubleshooting
- Backup and Recovery



5. Promium's Response to RFP #120349

PROMIUM

We speak the language of your lab

Proposal for City of Tucson Water Quality Laboratory



For Laboratory Information Management System

Submitted by
PROMIUM

We speak the language of your lab

Due: 27 September 2011

3350 Monte Villa Parkway, Suite 220
Bothell, WA 98021
425.286.9200 Fax: 425.286.9201
Toll Free 877.PROMIUM Fax: 800.878.7158
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1. Introduction

Promium is pleased to submit this response to The City of Tucson's Request for Proposal (RFP) No. 120349 for a laboratory information management system (LIMS) for the Tucson Water Department's Water Quality Laboratory (TWQL).

In recognition of the City's goals to replace the existing Seedpak LIMS, Promium is proposing the implementation of our Element DataSystem[®], a unified LIMS that is specifically designed for water and environmental laboratories. The proposal includes a 25 concurrent-user license of Element to be implemented on-site at the TWQL location. Also included are our recommendations for hardware needed to support the Element installation. We are recommending specific hardware under the assumption the City of Tucson will procure the hardware through their existing IT contracts. We expect the system to be available to go live in six months from the start date.

Promium has a long history of implementing Element LIMS in laboratories similar to the TWQL. Element is already implemented in more than fifty public laboratories—including over twenty city and municipal districts. Promium is proud to have several customers in the State of Arizona and we are very familiar with the pertinent regulations governing the State such as the required Arizona Contaminate codes used in all the reports. We already have these codes as part of our standard reporting format for many of our Arizona clients. Most recently, Promium was selected as the preferred LIMS provider for Pima County. They selected Element based on the features that will assist the county in obtaining future NELAC accreditation.

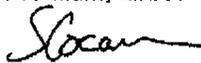
Element is a true commercial-off-the-shelf (COTS) system and offers configurability over customization. This design approach enables Element to meet most or all of the requirements spelled out by Tucson Water without extensive customization or integration of separate modules.

Element DataSystem LIMS meets the prescribed TWQL technical and business requirements and directly addresses the goals of Tucson Water including:

1. Replacing the existing Seedpak system with one comprehensive system
2. Implementing an open, standards-based solution that also provides the ability to utilize current technology platforms (including the Web, database compatibility, and relevant hardware)
3. Meeting the technical needs of the six functional groups Inorganic, Organic, Microbiology units, QA/QC officer, Client services/sample receiving group, and field sampling unit.

We look forward to working with the Tucson Water on this initiative to improve information management for the Water Quality Laboratory and to better serve the citizens of Tucson.

Regards,
Promium, L.L.C.



Scot Cocanour, CEO

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Introduction:

The City of Tucson has stated a need to replace the 1999 Seedpak system with one system that meets the needs of the Inorganic, Organic, and Microbiology units of the Tucson Water Quality Laboratory (TWQL). Promium proposes the implementation of Element DataSystem® LIMS to address the needs of the TWQL as described in this RFP. Element DataSystem is a Windows based software application that manages the flow of samples through the laboratory, from login to final report submission.

The benefits to TWQL of using Element include:

- **Increased efficiency:** Streamlining of workflow and automation of data collection reduce the amount of effort required to login samples, input test results, track progress through the lab, and assemble and distribute reports and electronic deliverables.
- **Increased quality:** Eliminating manual and redundant data entry, managing QC standards, and maintaining accurate electronic audit trails, strengthens the TWQL quality framework.
- **Increased access to information:** A centralized database and data repository provide real-time access to analytical and operational data.
- **Lower total cost of ownership:** Because Element is a unified system, data flows seamlessly from one function to another. There are no additional modules to purchase or integrate. And because Element is designed to be highly configurable, any changes can be made by the LIMS Administrator or authorized users without the need to customize code.

Promium has served the analytical laboratory market for over thirteen years and Element DataSystem LIMS has been selected by over 240 laboratories—including fifty Federal, State and Municipal labs (with implementations at seven of the ten EPA Regional labs). We have several customers in the State of Arizona but of particular relevance for the City of Tucson is the Pima County Regional Wastewater Reclamation agency/ Compliance Regulatory Affairs Office (CRAO) which selected Element to enable CRAO to achieve NELAC certification for the new Central Laboratory Complex. Element has been in deployed in many commercial labs in Arizona which electronically report to Arizona Department of Health Services, Arizona Department of Environmental Quality and U.S. EPA Region 9. Promium is already aware of the required reporting formats and understands that even though Arizona is not a NELAC accredited state they may want to follow similar regulatory requirements in case accreditation needs change.

To meet the City's needs, we are proposing a solution that includes 25 concurrent user licenses of Element DataSystem LIMS, selected hardware, user training, and software implementation. With a dedicated Project Management team assigned to this project, we expect to install, implement and train users within a four to six month time frame.

Element is designed and developed based on NELAC, ELAP and GALP regulations and standards such as ISO 17025 and other state and municipal regulatory frameworks. Element is designed to work with environmental compliance analytes, EPA and Standard Methods 20th Edition, as specified in 40 CFR Parts 136 and 141 of the Federal Register, and Physical/Chemical Methods, SW 846. CAS Registry Numbers and ADEQ contaminant codes. Utilizing a unified approach to product architecture Element includes all core functional components in one system. There are no additional modules to purchase, integrate or maintain. This approach not only creates a favorable total cost of ownership for the City, but makes it easier to implement and upgrade the system.

Element employs a centralized database and a data repository for information storage. The Element application is deployed to the desktop for lab technicians, project managers, QA, the management team, and other lab personnel. Element is also capable of transferring data to and from external systems as generally described in the technical requirements matrix.

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Using a widely adopted standards-based Microsoft platform technology, Element is highly configurable. Using tables and check-boxes, many modifications to the system can be implemented without changes to the software codebase. Element is compliant with commonly used versions of Microsoft software and supports the Oracle and Microsoft SQL database. Element also incorporates Crystal Reports from SAP, the industry standard report writing engine, to provide pre-defined and customized reports.

Element includes instrument interpreters for all major analytical instruments that create a digital output. These interpreters enable the DataTool functionality within Element to automatically upload instrument results for review. In addition to supporting the instruments listed in the RFP, Promium generally provides interpreters for new instruments at no additional charge as a benefit of the annual maintenance plan. At the pre-bid meeting on September 14, 2011 it was mentioned that there might be additional instruments added to the lab. Since our installation includes all instruments to be brought online we expect to add these as well. Promium will also offer different strategies for migrating Seedpak data into Element or into an historical database repository.

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2. Qualifications and Experience

Please provide the following information as the presenter of this proposal. Also, provide the same information for each business entity, other than the presenter, which serves as a primary developer/provider of the products, product implementation, and support services represented with this proposal.

2.1 Company Data

1. Name, corporate address, and number of years in business under current company organization.

Promium, LLC,
3350 Monte Villa Parkway, Suite 220, Bothell, WA 98021.
Established 1998

2. Documentation illustrating the company organization, segmentation and ownership (to be included in original copy, Appendix section).

Certificate of incorporation attached

3. Type and number of employees committed to the product and support being proposed.

All employees involved with Element DataSystem LIMS implementation, support, and development are chemists and/or IT professionals. Promium staff of 22 professionals come primarily from the laboratory environment.

Subcontractor Astrix employs an additional 190 professionals. Astrix is responsible for Data Migration and the WQDB Data Feed.

The resumes of all of key individuals involved in the project are provided in the proposal.

4. Audited financial statements for the three most recently reported years (to be included in original copy, Appendix section).

Information available as confidential only. See Appendix.

Promium is a privately held company and does not publish audited financial information. Estimated sales for 2011 will exceed \$3 million, and Promium has experienced successive years of growth and profitability. All other financial data is confidential.

5. Business and development plans for all product and support services proposed in connection with this submission (to be included in original copy, Appendix section).

6. Copies of the most recent financial rating report issued by an investment credit rating agency such as Moody's Investors Service, Standard and Poor's, etc. (if applicable - to be included in original copy, Appendix section).

Not applicable

7. Breakdown of revenue between new license fees, maintenance, and upgrade charges for last year for the product(s) being proposed.

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Note: Promium does not impose "upgrade charges." All build and version releases are available under the maintenance agreement.

Please note this information is confidential.

New License Fees	Maintenance	Implementation	Other
1,287,172	1,245,872	422,760	93,965

2.2 Product Data

1. What is the name and current version of the product(s) being proposed?

Element DataSystem LIMS, version 6.8.0.2024

2. How long has each product component/product suite being proposed been on the market and in production status at an organization of our size and/or line of business?

Product Component/Suite	Time on Market	Release date of most current version
Element	Over 13 years	9/15/11

3. Briefly list a three year history of software releases for the product being proposed (include dates, versions, and major enhancements for each release).

Product/Version	Date	Major Enhancements
Element 6.09	09/30/2011	Added ability to automatically post WO/Sx data to the repository from the Samples screen, added NELAC MethodID and NELAC Analyte ID fields, added functionality to create Monthly Invoices based on Billing Code instead of PO Number, added Work Order based pdfs, in addition to COC pdfs, Added context (right-click) menu to the Days / Weeks / Months frames on the Build Schedule tab with Check All and Uncheck All entries,
Element 6.08	06/06/2011	Enhancements to Bulk Edit import/export functionality, enhancements to Field Data import/export functionality added 'Reportable' and 'Reviewable' status to indicate which Analysis statuses are valid for Reportable and Reviewable Work Orders when automatically assigning these statuses, Execute action query defs for additional print databases, added option to automatically posted data to the repository from the data entry screen, Added functionality to create an Access table in the output.mdb from a SQL query created on the SQL Query dialog, Added the ability to open and create a Field Data batch from the Work Order dialog, Added ability to run a Preprocess EDD before creating a crystal report when spooling, Added support for

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		multi-page scanning, Added a Sync option for flag labels that keeps project-level flag labels sync'ed with analysis-matrix level flag labels
Element 6.07	01/21/2011	On the Route Sheet Spooling and Bottle Order Spooling dialogs reorganized the dialogs to provide more user friendly user interface. Added checkboxes to control whether specific reports and EDDs are run, On disposal dialog added direct entry text box for manual or scanned label input of container values, Added CRM Data button to Client screen. Button gives the user the option of Importing/Exporting the Client and Client Manager data between Element and CRM, Added support for scanning documents from TWAIN devices and saving them as database-stored images or file-based PDFs.
Element 6.06	09/20/2011	Added color information icons to Report, Sequence, Project dialogs, Added Help button and dialog explaining allowed variables and operators that can be used for building s UNC Equation, Added the ability to run a preprocess EDD that is executed after the output.mdb is created, but before any other reports or EDDs are executed, added admin functionality for renaming a Client Manager, Modified the behavior of the Data Entry process so that when a valid qualifier is detected in the InitialResult field of the Data Entry table, that qualifier is automatically posted to the database for its associated Analyte. A numeric data value BEFORE the qualifier is taken as the Result. Any text or value in the AnalyteInfo1 field is taken as the [Custom Value] for the Qualifier, Work Order dialog: Added a field which can contain one or more email addresses associated with the work order, Added the MDL button which allows DataTool produced MDL studies to be loaded and updated to the selected Analysis Analyte, Added a grid-based tool on the control chart dialog so users can review a large list of control limits,
Element 6.05	06/29/2011	Added an ordering tab to the Consumables dialog where the user may add, edit or delete orders and order items, added Field Data import/export functionality, added new Line Item type called Extended (percent).
Element 6.04	06/15/2010	Added Qualifier functionality to the Bid dialog similar to the existing qualifier functionality on the ProjectSample dialog, option added GSXPDFSERVERLOCATION option, which allows specification of a directory in which the GSLITE.exe, XPDF.zip and UNZIP.exe files may be found, the schedule settings are now saved to the new field ScheduleParms in the Project table,

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		The PDF processing repagination settings now have a set of unique document ID options. The interface of repagination settings has been modified to add an explicit Save button so the settings can be saved without executing a PDF Package, a new feature has been added that automatically renews project schedules on an annual basis.
Element 6.03	05/18/2010	Added support for multiple automatically assigned pre-analyses and post-analyses, Added a new feature to the Report dialog so users can select a date range along with multiple clients and projects to populate the WorkOrder list for the Report dialog. Once selected, the settings for the list can then be saved and recalled for later use, On the Disposal screen added browse buttons for client, project and work order, Added Bottle Order Due Date to project schedules, Added a checkbox CC PM to Project Report Options grid that, when checked, triggers the email to be copied to the project manager, Added a new popup dialog (palette picture on button) that is called from various screens to display the colors used on the associated dialog along with their meanings, Added a checkbox labeled "Allow Hard Copy" to control printing/non-printing of hard copy reports on a project basis.
Element 6.01	07/14/2009	Added display of tasks for Element6.exe under Application Info section of the Support area of the Promium website, Added PDF package management option to all print dialog functions, On the VersionUpdates tab of the Primary Database Setup screen added a Description of the Version Update, Added PDF Package functionality to PDF/Image processing form, On Route Sheet screen add "ALL" selection to Route Sheet dropdown, Project Limits allows for project based regulatory limits at the Analyte/Report Matrix level. Multiple limit sets may be defined for a single project (e.g. NPDES, NELAC, etc.), Added Audit Trails on the Bid screen, install GhostScript/XPDF utility packages and document package management code will use GhostScript/XPDF for processing if installed, Added a new 'Linear Range' field to the AnalysisAnalyte dialog and associated data tables throughout the program, Added 'Jump-To' features (hyper-link labels and dbl-click features) to the Bid and Invoice dialogs, Added Email button/functionality to PDF viewer, Added a new Limit of Detection (LOD) field to the program in support of DoD QSM4.1 compliance, Added ability to copy a schedule from another project,

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		Project Field Data allows you to enter field data unassociated with a sample (flow, rain fall, etc.), On Sequence screen added Export button to export sequence sample data to Excel or CSV file, Updated the Version processing logic in the report generation routines to 'distill' the Analyte Alias values from multiple versions within customized Projects so that an Analyte Alias can be assigned to Analytes on QC Samples, Added ability to copy Master Projects to the same or a different Client, added the Copy All button to Copy Master and Child Projects to a Different Client, Modified the Case Narrative template and Editing dialogs to include a text editor with formatting features such as bold, italic and justification, Upgraded the print engine within the program to Crystal Reports version XI, Included a new PDF viewer component which does not rely on Acrobat components, Added Operational Data screen for entering plant data, Added dual monitor support for Element main menu bar and all screens, Added hard copy printing of PDFs to Report Spooling,
Element 5.06	03/30/2009	Added MinimumInvoiceClient feature, added ability to use wildcards in email text and email subject, added ability to PostToRepository during spooling, added ability to reset control limits on data entry screen, added no rounding option to AnalysisMatrix dialog, added drag/drop case narrative builder, added batch, sequence and sample qualifiers, added Dashboard functionality
MintMiner 2.5.7	10/13/2010	Added automated scanning of multiple sequence (data) folders.
MessageManager 3.1.0	11/15/2010	Added csv output option
MessageManager 3.0.5	10/01/2010	Added optional zip specification for result files of query tasks.
MessageManager 3.1.4	09/10/2010	Enabled XML, Excel, PDF output options for attachments.
MessageManager 2.17	08/10/2010	Added option under Email Configuration to suppress the call to the MAPI function ResolveName
MessageManager 2.16	07/22/2010	Added support for FacilityCode specification.
MessageManager 2.15	06/15/2010	Added error field and modified handling of email address errors
MessageManager 2.14.510	02/18/2010	Added detection of previous instance running on same machine.
MessageManager 2.14.509	08/27/2009	Added support for trace logging of email send process
MessageManager 2.14.505	07/07/2009	Added text field to display SQL of selected query (SQL selection only)

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4. What are your plans for future releases?

Most development work is currently focused on the release of Element 7, which results in a change in the code base from VB 6 to VB.NET. Version 7 is expected to be released in approximately 12-18 months.

5. Indicate research and development spending for the product(s) being proposed over the past three years.

Please treat this information as confidential.

Element Development	2008	2009	2010
R&D \$	420,854	450,775	481,831
% of revenue	16.4	16.8	15.8

6. With what government standards/regulatory bodies do you comply?

NELAC, GLP, QSM4.1, DoD

7. What portion of the product being proposed was developed internally vs. acquired or contracted?

No outside contractors were used in the writing of Element. All development is done internally.

8. List any software companies that resell/repackage the product being proposed, and provide the name under which it is resold/re-packaged.

None

2.3 Reference Information

1. How many Municipal Laboratories/Environmental Labs are currently using the product being proposed?

All of our 240 clients are Municipal Laboratories and/or Environmental Labs. All of these clients use Element DataSystem.

Table E1 displays Promium installations for the last 12 months. The version for each client was Element DataSystem Version 6.0. Since then clients have had the opportunity to automatically upgrade to Version 6.08 which is included as part of their Annual Maintenance. The total number of clients contracted to date are approximately 240 clients.

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Table E1 Promium Installations Last 12 Months

Contact	Client	Phone
Edgar Morrison edgar@atiglobal.com	Advanced Technology Laboratories 3275 Walnut St. Signal Hill, CA 90807	562-989-4045
Emanuel Hignutt Emanuel.Hignutt@alaska.gov	Alaska Department of Environmental Conservation 5251 Hinkle Road Anchorage, AK 99507 (*)	907-375-8200
Jerry King jerry@midwestlabs.com	Midwest Laboratories – Omaha 13611 B Street Omaha, NE 68144	402-334-7770
Nick Fullerton nick.fullerton@cardinallabsnm.com	Green Analytical Laboratories 75 Suttle Street Durango, CO 81303	970-247-4220
Jac Padgett jpadgett@eclabs.org	Environmental Certification Labs, Inc. 11422 US Hwy 41 N. Farmersburg, IN 47850	812-696-5076
Jon Mink jmink@trace-labs.com	Trace Analytical Laboratories, Inc (*) 2241 Black Creek Road Muskegon, MI 49444	231-773-5998
Kathy Johnson kjohnson@oecusa.com	Oilfield Environmental & Compliance (*) 307 Roemer Way, Suite 300 Santa Maria, CA 93454	805-922-4772
Laura Bonjonia laurab@envirodyne.com	Envirodyne Laboratories, Inc 11011 Brooklet Dr Suite 230 Houston, TX 77099	281-568-7880
Robert Coleman colemanrl@ornl.gov	Oak Ridge National Laboratory PO Box 2008, Building 2008, MS -6041 Oak Ridge, TN 37831-6041	865-574-2925
Daniel Miguel dmiguel@accreditedanalytical.com	Accredited Analytical Resources (AAR) 20 Pershing Ave Carteret, NJ 07008	732-969-6112
Peggy Penner papenner@tecoenergy.com	Tampa Electric Company 5010 Causeway Blvd. Tampa, FL 33619	813-630-7490
Anne Norris anne.norris@rogersandcallcott.com	Rogers & Callcott Engineers, Inc. P.O Box 5655 Greenville, SC 29606	864-232-1556
Ewa King	Rhode Island Department of Health Laboratories 50 Orms Street Providence, RI 02904	401-222-1999
Mike Baumgardner m.baumgardner@mccoylelabs.com	McCoy & McCoy Laboratories, Inc. 825 Industrial Rd. Madisonville, KY 42431	270-824-2202
Cory Koons shamner@mdspectral.com	Maryland Spectral Services, Inc. 1500 Caton Center Dr Suite G Baltimore, MD 21227	410-247-7600
Sue Kon skon@rjlg.com	RJ Lee Group, Inc. (RJLG) 350 Hochberg Road Monroeville, PA 15146	509-545-4989

Scheduled For Implementation this Summer/Fall 2011:		
Barbara Escobar Barbara.Escobar@wwm.pima.gov	Pima County Regional Wastewater Dept 7101 North Casa Grande Highway Tucson, AZ 85743	520-579-6182
Lynn Adsit lla@lbwl.com	Lansing Board of Power Water and Light 830 E. Hazel Lansing, MI 48912	517-702-6372

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Erin Crafton awwsinc@gmail.com	AWWS 695 Shady Lane Hallsville, TX 75650	(903) 668-4133
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Table A2 Astrix Environmental Client List

Client	IT Contact	Project Contact
Hampton Roads Sanitation District 1436 Air Rail Avenue Virginia Beach, VA 23455-3002	Ronnie Combs 757-460-4212	Patty Lee 757-460-4213
Los Angeles County Sanitation Districts 1955 Workman Mill Road, P.O. Box 4998, Whittier, CA 90607	Kurt Rinaldi 562-908-4288	Chris Wissman 562-908-4288
City of Los Angeles, Environmental Monitoring Division 12000 Vista del Mar, Playa del Rey, CA 90293	Minh Nguyen 310-648-5120	Jeff Beller 310-648-5262
Washington Suburban Sanitation Commission 12245 Tech Rd. Silver Spring, MD 20904	Reggie Thorpe 301-206-8471	Clarence Beverhoudt 301-206-7575
Clark County Water Reclamation District 5857 Flamingo Road Las Vegas, NV 89122	Devon Morgan 702-285-0989	Devon Morgan 702-285-0989
Austin Water Utility P.O. Box 1088 Austin, TX 78767-8838	Susan Davis 512-972-1404	Susan Davis 512-972-1404
Anne Arundel County 437 Maxwell Frye Road, Millersville, MD 21108	Noelle Anuszkiewicz 410-222-7931	Noelle Anuszkiewicz 410-222-7931

- Please provide a list of all municipal laboratories (or comparable) installations, within the last three years, in metro areas over 250,000 in population, with contact names, positions, e-mail addresses, and telephone numbers. If there are any municipal laboratories that do not want to be a reference site, please so indicate. The City will select at least three references from this list to contact. (Offerors may submit the list of clients on the original copy only.) If the City is not able to reach a reference using the contact information provided, the contact will be considered an unfavorable reference.

Phone numbers and emails are provided for clients willing to field requests from prospective clients.

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Table E2 Premium Installations Last 12 Months

Contact	Client	Phone
Emanuel Hignutt Emanuel.Hignutt@alaska.gov	Alaska Department of Environmental Conservation 5251 Hinkle Road Anchorage, AK 99507 (*)	907-375-8200
Robert Coleman colemanrl@ornl.gov	Oak Ridge National Laboratory PO Box 2008, Building 2008, MS -6041 Oak Ridge, TN 37831-6041	865-574-2925
Peggy Penner papenner@tecoenergy.com	Tampa Electric Company 5010 Causeway Blvd. Tampa, FL 33619	813-630-7490
Ewa King	Rhode Island Department of Health Laboratories 50 Orms Street Providence, RI 02904	401-222-1999
Josh Kathrinus, Lab Manager joshk@americanbottoms.com	American Bottoms WWTP	618-337-1710
Aurora Shields ashields@ci.lawrence.ks.us	City of Lawrence, KS	785-832-7817
Charles Lytle, PhD charlesl@bes.ci.portland.or.us	City of Portland, OR	503-823-5568
Elizabeth Turner, Lab Manager eturner@ntnmwd.com	North Texas Municipal Water District	972 442-5405 Ext 535
Jeffrey Brenner, Environmental Laboratory Supervisor Jeffrey.Brenner@state.mn.us	Minnesota Department of Health	651- 201-5353
Therese Spence, LIMS Administrator tspence@cityofvacaville.com	City of Vacaville, CA	707- 469-6432
Lori Zboralski, Senior Analyst	City of Tacoma, WA	253- 502-2133
	City of Abilene, TX	
	Eugene Water & Electric Board, OR	
	Florida Power & Light, West Palm Beach, FL	
	Florida Power & Light, Miami, FL	
	Guam Waterworks Authority	
	Louisville Water Company	
	City of Bend, OR	
	City of Corvallis, OR	
	City of Delray Beach, FL	
	City of Jacksonville, FL	
	City of Lakeland, FL	
	City of San Diego, CA	
	City of St. Petersburg, FL	

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	City of Titusville, FL	
	City of Wichita Falls, TX	
	NJ DEP	
Barbara Escobar Barbara.Escobar@wwm.pima.gov (New Implementation)	Pima County Regional Wastewater Dept 7101 North Casa Grande Highway Tucson, AZ 85743	520-579-6182
Lynn Adsit lla@lbwl.com (New Implementation)	Lansing Board of Power Water and Light 830 E. Hazel Lansing, MI 48912	517-702-6372

3. What is the average size of municipal laboratory (population/employees) where the product being proposed is installed?

Approximate average population: 215,000

Average number of concurrent users: 22

2.4 Customer Feedback Process

1. Do you have a user group or groups for the product being proposed? If so, list the contact names, phone numbers, website, and addresses.

Weekly conference call meetings are held between the 7 EPA Regional Laboratories using Element DataSystem LIMS.

US EPA Regional User Group Manager: Robin Costas

Costas.Robin@epamail.epa.gov

EPA Region 3, Ft. Meade, Md, 410-305-2659.

For the remainder of our customer base, Promium plans four or more regional user groups annually, the cost of which is covered under the maintenance contract. There is no discrete membership – rather, invitations are offered to all Element users under maintenance agreement. The user group is facilitated by members of the Promium support team.

2. Is there an active Users' Group for clients that have your products installed?

Yes

3. Is the Users' Group managed independently?

Promium manages the User Groups.

4. Is your company represented at Users' Group meetings? YES

5. Does the Users' Group hold an annual meeting for all members? YES

6. Where are regional Users' Groups meetings held closest to the City?
We are planning one in Tucson, AZ Spring of 2012.

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7. What role do Users' Groups or Users play in modifications to the product?

All user groups generate dialog and input concerning product enhancements. To facilitate dialog, a representative from the development team is typically present in addition to members of the support and sales staff. Many Element enhancements were a result of the user group meetings.

These and other general customer suggestions are entered into a feature request database and reviewed as part of the normal support and product development process.

3. Application Requirements

This section includes the specific evaluation criteria that the City will consider in the evaluation of proposals received. Offerors shall respond to all requirements in the order in which they are presented. Response to requirements in each section will be requested in two formats: 1) a written, narrative response (one to two paragraphs) to questions/requests, with each answer to be inserted immediately after the corresponding question, and 2) a single letter response to an "Ability to/provision for" phrases. These appropriate single letter responses are: Y (Yes), N (No), M (Modification), F (Future) or T (Tool). The explanation of these response letters is:

- Y** Yes - the product has this ability in the current version.
- N** No - the product does not have this ability in the current version.
- M** **Modification** - The Offeror will make a modification (as opposed to a configuration) to current version capabilities to specifically address this requirement
- F** **Future** - there are explicit, documented plans to include this ability in future versions.
- T** **Tool** - there is a third party tool supplied with the product and/or database that can provide this ability in the current version.

If the response to a requirement needs an elaboration or explanation, a brief explanation may be inserted immediately after that requirement. All "N" and "M" responses must be explained. All "T" responses must describe the specific tool(s) required. All requirements refer to whether your system can perform or provide the function automatically or electronically.

3.1 General Requirements

Response to requirements are requested in two formats: 1) a written response to a question/request if present, and 2) a single letter response of Y, N, M, F, or T to the "ability to/provision for" phrases. Insert your responses to each question into an electronic copy of this document, using Arial Italic, font size 10.

1. For the product being proposed, when was it first designed, and if there has been a major re-design, when?

Promium has been in business for over 13 years and Element DataSystem LIMS was developed in 1998. Various platform and technology enhancement have been made over the years but the core architecture has been in place for over five years. The most recent major feature release was in July of 2009 when a broad array of functionality was added.

2. If the product being proposed has been re-designed, what were the tangible goals of re-design, and what are the resulting major improvements or changes? Be specific as to what has been re-designed to meet the missions of government entities today.

Element has not required a major re-design in recent years. While the continuity of the architecture has remained consistent, a number of new features have been added to keep pace with new regulations and client requests. Examples of major changes include the addition of parent/child projects, a data repository to allow quick access to older data, support for new standards from the Department of Defense, new web-based client access capabilities, and numerous additions to EDD/SEDD templates.

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3. Describe the method your development organization uses to periodically evaluate the business processes that the product supports.

Promium Sales Engineers, Support Engineers, and Development Engineers meet regularly with customers and prospects to gain input into new processes and potential product development priorities. In addition, Sales Engineers and Company Executives attend industry conferences (NEMC, TNI, ACIL, etc) to keep up to date on the latest discussions regarding laboratory operations and regulatory compliance. Further, because Element LIMS is installed in seven of the ten EPA regional laboratories, Promium is often at the leading edge of implementing functionality to satisfy new federal regulations.

4. What steps are taken by your development organization to ensure that regulatory changes from federal, state, and local government agencies and other regulatory organizations are addressed and distributed in software revisions as soon as possible?

Please see answer for #3.

5. Describe in terms of the overall system design the aspects of control and auditing. The system should not preclude, by way of its own design, the assessment of control aspects, compliance, electronic evidence, vulnerability, and data reliability.

Access to the Element application is controlled through user/password login. Database and Element user passwords are stored in the primary database in encrypted form. A combination of proprietary and industry standard encryption formats are used. Each user has an associated set of permissions which control access to individual menu items and screens in the application. A user's permission to a particular item can be set to View/Edit/Neither (no access). User permissions are set from a central location in the application under Database/Admin.

Changes to the majority of the data in Element are tracked in a set of Audit tables in the Element primary database. Audit records from these tables can be searched and view from the Audit Trail screen in the application. In addition the Audit records for individual screens can be viewed from each screen. Audit records include fields for the date of the change, the user's initials and the before and after values. Element's Audit Trail functionality is completely independent of and does not use or rely on any change tracking functionality inherently provided by RDBMS.

Additional product information such as product literature, brochures, web-site addresses, CD-ROM disks, user manuals, or system administrator manuals may be included in an Appendix.

3.1.1 Conformability

- Y 1. Ability for Tucson Water Quality Laboratory to create and define data fields to accommodate legal requirements or regulatory changes.
- Y 2. Ability to incorporate regulatory agency definition and rule changes in a highly responsive, non-intrusive and timely update process.

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3.1.2 Extensibility and Configuration

- 1. Ability to easily make changes using parameter tables without modifications to the source code.
- 2. Ability to allow for configuration to business rules, work flow, and user interfacing through the use of tables, templates, definition files, lists, parameter files, or other extensible data structures.
- 3. Ability to retain configuration performed using extensible provisions whenever new versions of the application software are installed.
- 4. Ability to control and configure system applications through user-definable and user-maintainable tables of codes.
- 5. Ability to ensure through version tracking and control that modules remain compatible as selected modules are upgraded.

3.1.3 Integration and Modularity

- 1. Ability to navigate from screen to screen with minimum keystrokes and mouse clicks, and with minimum difficulty.
- 2. Ability to navigate directly from any screen to any other screen required to complete an interactive process task without having to go through unused screens.
- 3. Ability to upgrade any component without having to upgrade components not affected by the upgrade
- 4. Ability to upgrade routines or sub-routines within a component without having to upgrade the entire component.

3.1.4 Consistency and Commonality

- 1. Provision for any single point of data collection where newly entered data is recorded in a way that make it reflected throughout the application without requiring re-entry of the same information.
- 2. Provision for consistent tools for configuration in all components.
- 3. Ability to easily define business rules that are shared throughout the application.
- 4. Ability for users to view consistent names, titles, and layouts on screens and reports.
- 5. Provision for all components to use consistent navigation features.
- 6. Provisions for screens and reports with similar organization in presentation of the data.

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3.1.5 Reporting

1. Include in the Appendix section a list of all standard reports, with select examples of reports.
2. Describe whether reporting is performed against a data warehouse or data mart, versus against a live or in-production table.

Reporting with the LIMS is done by extracting pertinent information from the main database into a local reporting database and then running the report against the local data.

3. Describe the report writers and reporting methods that are available for the proposed product(s).

Element uses SAP Crystal Reports as its report writer. This industry-standard program is smoothly integrated within Element to allow for any comprehensive report—including full GLP reports. Element may also export data into Microsoft® Word, Microsoft Excel or other reporting tools as the end user wishes.

- _Y_ 1 Ability to produce comprehensive management reporting for all areas within the organizational process
- _Y_ 2 Ability to produce both standard and ad hoc reports.
- _Y_ 3 Ability to allow for the use of standard statistical packages so that research and analysis can take place.
- _Y_ 4 Ability to design and implement both on-line ad hoc queries and batch reporting programs as required by user.
- _Y_ 5 Ability for report generator to allow user to select data, choose fields, and create calculated fields.
- _Y_ 6 Ability to reconcile reports from different components in the system.
- _Y_ 7 Ability to extract data to another tool, such as EXCEL or a report writer.

3.1.6 Documentation

- _Y_ 1 Provision for web-based online documentation
- _Y_ 2 Provision for all documentation to contain comprehensive troubleshooting flows, glossary, index, table of contents, example illustrations, and steps for important transactions a user or application administrator might conduct.
- _Y_ 3 Provision for well-written, comprehensive, and detailed documentation that serves as a complete technical and user reference library of the application.
- _Y_ 4 Provision for a documentation distribution service that includes on-line media and hard copy that match in content and the most recent version release.

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3.1.7 Quality Assurance and Security

1. Do you have a product development quality assurance/management program? Briefly describe.

The development group uses an internal application called ProDev to track development tasks and revisions. Each task has a description, status and developer associated with it, along with the projected release number. Progress on tasks associated with each release are monitored at a weekly development meeting.

The following testing is done prior to each release:

- Revision testing: each of the new features, modifications and bug fixes in the release is tested against the three supported database types (SQL Server, Oracle, Access). This testing is often performed by Support or Implementation. If a particular revision test fails, the revision/task is reopened and assigned to Development as a Debug task.
- Regression testing: the current release is tested using a standardized process to ensure that existing functionality has not been affected by the addition of new features, modifications and bug fixes. The standardized process is defined in a scripted spreadsheet which is used to define the test processes and record results of the testing. The regression tests begin with addition of a new Client and Project and go through all the steps necessary to login samples, enter data and generate reports. This testing is performed by Development. If a particular regression test fails, a new debug task is created and assigned to Development.
- Installation testing: When a new installation disk is compiled it is tested against several supported operating systems. Currently these include Windows XP Professional and Windows 7 Professional. This testing is performed by Development. A number of virtual machines with various operating systems are maintained for installation testing.

2. What methodologies do you use for security testing your products? Briefly describe.

Element is not a web-based application and is not tested for security vulnerabilities. ClientConnect (web based component) has been tested for security vulnerabilities.

- _N_ 1. Do you review security at each phase of the software development lifecycle?
No, security is not reviewed at each phase of the software development.
- _N_ 2. Do third parties conduct security assessments on your products?
No, Promium does this internally and does not employ a third party for this testing.
- _N_ 3. Do you have security squads that attack your products prior to release?
No, this is tested internally but not at every release or by a third party.
- _Y_ 4. Do you use automated tools for security testing or code review?

3.1.8 User Interface

- _Y_ 1. Ability to customize individual user menus to only show the options a user has the security to access.
- _Y_ 2. Ability for non-technical users to create ad hoc queries to extract data from all functional areas of the system at the same time.

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- 3. Ability to export data to standard PC applications for local analysis of data, desktop publishing, letter generation, and other local processing needs.
- 4. Ability to customize individual user functions, assigning to icons for repeated use.
- 5. Ability to customize individual user interface appearance to meet their own needs and preferences without compromising the standards for functionality and system access (e.g., screen colors).
- 6. Ability to maintain standard formats on reports including report id, date, and application id.
- 7. Ability to add pre-defined queries to the system for access by many users.
- 8. Provision for alternative methods to function keys, if function keys are used. Function keys are not used.
- 9. Ability to provide on-line help for screens to describe an overview of the current process within which the user is currently working.
- 10. Ability to provide on-line help for all fields to supply informational messages about the purpose of the field.
- 11. Ability to provide on-line help for all fields to supply a more complete explanation of the field and the applicable code table that supports that field.
- 12. Ability to provide on-line help for all fields to show the valid code table from which the user can select the desired code.
- 13. Ability to provide on-line help to describe the purpose of each screen's active function keys.
- 14. Ability to support a world-wide-web browser interface to the application.
- 15. Ability for non-technical users to create ad hoc queries to extract data from all functional areas of the system at the same time (i.e, menu or drop down selection querying, etc.).

3.1.9 Portal Capability

1. Does your product have an umbrella portal entrance into the various modules? If Yes, please describe, and respond to the following "ability to provide" points.

Element does not employ the use of modules. The "main entrance" is into all of Element. As such, the answers below are for Element as a unified LIMS and not as a modular system.

- 1 Ability to provide single sign-on to the total system, and all its component parts based on person's role
Login is required, granting access to the entire LIMS system (access is based on user-specific permissions). Premium recommends that the City authenticate against a domain or AD structure.

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- 2 Ability to customize which objects are displayed on the portal entry
 - Menu item visibility and a user-specific dashboard may be configured by the administrator.
- 3 Ability to add other applications to this portal
 - Links to external applications may be added to the Element menus by the administrator.

3.2 Functional Requirements

Response to requirements are requested in two formats: 1) a written response to a question/request if present, and 2) a single letter response of Y, N, M, F, or T to the "ability to/provision for" phrases. Enter your responses in Arial Italic, font size 10.

3.2.1 Sample Management and Tracking

- 1 Ability to track a sample from log-in, analysis, quality assurance, review and approval.
- 2 Ability to retrieve the status for a sample status quickly and efficiently.
- 3 Ability to record the following data (at a minimum) in the manual Sample Log-In function:
 - Name of sample collector
 - Sample collection date and time
 - Sample received by
 - Date and Time of sample receipt
 - Client Identifier field
 - Location Identifier field. Note: Location identifier should have an associated "look-up" table to ensure validated sample locations are being used. This will reduce login errors.
 - Project Identification Number - any sample location may be linked to more than one project number
 - Comment field
 - Required tests
 - Log-in functionality will also include:
- 4 Ability to log-in multiple similar samples in one operation. As part of this operation, individual samples can be edited/modified and/or copied at user's discretion, including assigned tests.
- 5 Ability to retrieve immediately after data entry to approved personnel
- 6 Ability to send immediate notification via email or instant message to lab personnel that samples have been received
- 7 Storage of static sample site information will include the following:
 - Client Identifier
 - Location Identifier
 - Site Description
 - Water System Identifier

3.2.2 Sample Scheduling

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	1	Ability to schedule and, if so desired, automatically log-in routine samples for the intervals listed below. For routine automatically logged samples the master schedule will include the required analyses.
	2	Ability to preview scheduled samples grouped in various ways such as by test or project, by day/week/month, in calendar report format.

- Daily Routine samples
- Specified Weekly Samples
- Monthly Routine Samples
- Quarterly Routine Samples
- Semi-Annual Routine Samples
- Annual Routine Samples

3.2.3 Sample Receiving

	1	Ability to assign unique Identification/login number for each sample. Sample login numbers to be assigned such that all samples collected on one COC will have a unique base identification number, and each individual sample within the login will contain a sequence number to uniquely identify each sample with the base login number (i.e. xxxxxx-01, -02, etc.).
	2	Ability to generate user definable sample labels and allow printing of sample labels with or without bar codes. To include flexible print options, such as number of labels, routing to multiple printers and multiple label size and type formats.
	3	Ability to prioritize samples upon log-in.
	4	Ability to generate and read bar code labels for identification and utilization on labels. Standard and custom bar code formats to be included and allow for sample point identification at a minimum.
	5	Ability to (at a minimum) capturing the following information at sample log-in: <ul style="list-style-type: none"> • Sample collector • Date and time of sample collection • Date and time of sample received • Person receiving the samples • Client Identifier • Location Identifier • Project Identification Number • Water System Identifier • Site Description • Required tests • Priority assignment • Comments
	6	Ability to enter receiving details on samples in multiple ways: <ul style="list-style-type: none"> • Log-in and receive ad-hoc or non-routine samples • Batch receiving and log in of samples on any single COC or multiple COCs collected on the same day for any given project.
	7	Ability to (at a minimum) collect and store the following information with each sample: <ul style="list-style-type: none"> • Required analyses and associated hold times for those analyses • Ability to add or delete assigned analyses • Associated Methods and Analyses with samples

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Y



- Required completion date for all samples associated with a specific COC/sampling event.

3.2.4 Test/Analysis Administration

Y

- 1 Ability to uniquely identify each analysis with a user defined test code, this test code will be capable of being related back to the required method.

Y

- 2 Ability to disable test codes that are no longer used without effecting the retention or recall of data associated with that disabled test code.

Y

- 3 Ability to support multiple test codes (children) to be associated with a single (parent) test code.

Y

- 4 Ability to associate CAS# or Storet Numbers with each analyte.

Y

- 5 Ability to develop and associate mathematical routines for designated test codes and components (i.e. Langelier Index is calculated from pH, Total Dissolved Solids, Temperature, Alkalinity and Calcium results. If sample is logged in for Langelier Index, the LIMS should be able to pull from the other tests and calculate the index.) and have those results stored in the LIMS.

Y

- 6 Ability to edit test data by authorized user with audit trail and required GALP comments.

Y

- 6 Ability to edit test data by authorized user with audit trail and required GALP comments.

Y

- 7 Ability to provide entry of test results in the following formats:

Y

- All results from one test performed on many samples.

Y

- All results from many tests performed on one sample.

Y

- All results from one test performed on one sample.

Y

- 8 Ability to allow for multiple results for an analyte or test (to allow for reruns and dilutions).

Y

- 9 Ability to re-run a single analyte within a multi-analyte test.

Y

- 10 Ability to record special results values such as non-detect, <, Null or other text type result values.

Y

- 11 Ability to record analyst.

Y

- 12 Ability to record data entry person if different from analyst.

3.2.5 Work Sheet/Work Assignment

Y

- 1 Ability to provide work assignment features for planning and scheduling the laboratory workload that take into account:

Y

- Hold time (shortest hold time samples in any one analytical group take priority). For certain analyses, such as 525.2, there is a hold time for sample prep and for the instrumental analysis. The system must be capable of tracking and accounting for both hold times.

Y

- Sample age

Y

- Due date.

Y

- Assigned priority

Y

- 2 Ability to provide work assignment reporting selectable by the following criteria:

Y

- Analysis (report sorted in order of hold time criteria, then by assigned due date, then by sample age)

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- | | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <ul style="list-style-type: none">• Workstation |
| <input type="checkbox"/> | <input type="checkbox"/> | <ul style="list-style-type: none">• Analyst |
| <input type="checkbox"/> | <input type="checkbox"/> | <ul style="list-style-type: none">• Date |
| <input type="checkbox"/> | 3 | Ability to generate work sheets upon request |
| <input type="checkbox"/> | 4 | Ability to reprint single and / or group selections of work sheets upon request |
| <input type="checkbox"/> | 5 | Ability to add additional samples, received after the original work sheet was created, to the work sheet. |
| <input type="checkbox"/> | 6 | Ability to delete a sample from the work sheet, edit the order of the samples and assign QC. |
| <input type="checkbox"/> | 7 | Ability to create bench sheets for one analysis and associate all samples assigned that analysis to that work sheet. |
| <input type="checkbox"/> | 8 | Ability to upload the worksheet data to the specified instrument for creation of the run sequence. |
| <input type="checkbox"/> | 9 | Ability to assign and store (at a minimum) the following information into a worksheet: <ul style="list-style-type: none">• Analysis description.• Log number• Client ID• Sample Location• Sample Date• Analysis Date• Name of Analyst• QC Samples |
| <input type="checkbox"/> | <input type="checkbox"/> | <ul style="list-style-type: none">• Analysis description.• Log number• Client ID• Sample Location• Sample Date• Analysis Date• Name of Analyst• QC Samples |
| <input type="checkbox"/> | 10 | Ability to generate Bench Sheets. These bench sheets would contain the following information: <ul style="list-style-type: none">• Sample Log number• Client ID• Result• User defined fields (by analysis). See 3.2.5.26 and 3.2.5.27 below.• Notes/Comments |
| <input type="checkbox"/> | <input type="checkbox"/> | <ul style="list-style-type: none">• Sample Log number• Client ID• Result• User defined fields (by analysis). See 3.2.5.26 and 3.2.5.27 below.• Notes/Comments |
| <input type="checkbox"/> | 11 | Ability to (for Gravimetric analysis such as TDS and TSS) record data on sample volume, initial weight and final weight, analysis date, analysts initials, oven temps., etc. These values would be manually entered onto the bench sheet and subsequently entered into the LIMS, manually, to then generate the final result. |
| <input type="checkbox"/> | 12 | Ability to (for sample Organic analysis sample prep, i.e. SOC analysis) record initial and final volumes as well as document spike lot numbers, surrogate and IS lot numbers and volumes added, etc. |

3.2.6 Status Monitoring

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | 1 | Ability to provide monitoring status of the sample throughout the sample lifecycle. |
| <input type="checkbox"/> | 2 | Ability to provide automatic updates of sample status based on events or transactions. Status updates must post immediately even during periods of high system usage |
| <input type="checkbox"/> | 3 | Ability to provide a method to monitor analysis data. |
| <input type="checkbox"/> | 4 | Ability to provide codes to monitor sample status for the following conditions: <ul style="list-style-type: none">• Sample expected or logged but not received. |
| <input type="checkbox"/> | <input type="checkbox"/> | <ul style="list-style-type: none">• Sample expected or logged but not received. |

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<p>_Y_</p> <p>_Y_</p> <p>_Y_</p> <p>_Y_</p> <p>_Y_</p> <p>_Y_</p>		<ul style="list-style-type: none"> • Sample received by the laboratory • Sample has tests assigned but not yet assigned to an analytical batch. • Sample has assigned tests in progress. • Sample analyses are complete. • Sample results have been reviewed and are complete and ready for reporting. • A re-sample is required.
	5	<p>Ability to provide user defined codes to monitor analysis status for the following conditions:</p>
<p>_Y_</p> <p>_Y_</p> <p>_Y_</p> <p>_Y_</p> <p>_Y_</p> <p>_Y_</p>		<ul style="list-style-type: none"> • Analysis is complete • Analysis failed QC • Sample requires re-analysis due to QC failure (should be capable of doing this down to the component level on multi-component analyses) • Analysis exceeded specified limits • Analysis is assigned to a work sheet and is in progress. • Analysis results have been reviewed
	6	<p>Ability to allow user definable regulatory limits or other limits with each sampling location.</p>
<p>_Y_</p>	7	<p>Ability to use result limits to check results and flag user of out of control conditions.</p>
<p>_Y_</p>	8	<p>Ability to permit multiple sets of limits per sample location.</p>
	9	<p>Ability to permit review of analytical results based on:</p>
<p>_Y_</p> <p>_N_</p> <p>_N_</p> <p>_Y_</p> <p>_Y_</p>		<ul style="list-style-type: none"> • Individual test code. • Analysis result date. Element is configured to review based upon analysis and bench sheet. • Individual and range of sample identification. Element is configured to review based upon analysis and bench sheet. • Bench sheet.
	10	<p>Ability to allow the user to view historical results for sample locations and analysis, by component for multi-component analyses. This would also include migrated historical data.</p>

3.2.7 Data Validation and Approval

<p>_Y_</p>	1	<p>Ability to define and allow for multiple levels (Bench, Peer and Supervisory at a minimum) of review and approval.</p>
<p>_Y_</p>	2	<p>Ability to, at each validation step, automatically update the current process to show it has been completed. The system must also allow for manual rollbacks of these approval steps by appropriate personnel, if necessary.</p>
<p>_Y_</p>	3	<p>Ability to (by the LIMS Administrator) set data validation levels and assign to specific individuals by work unit/dept.</p>
	4	<p>Ability to approve sample data by:</p>
<p>_Y_</p> <p>_Y_</p> <p>_N_</p>		<ul style="list-style-type: none"> • Analysis • Bench Sheet • Range of Dates Element is not set up to approve by range of date, only by bench sheet and analysis.
<p>_Y_</p>	5	<p>Ability to make sample analytical data available for reporting purposes when and only when all approval steps have been successfully completed.</p>

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- | | | |
|------------|---|---|
| <u>_N_</u> | 6 | Ability to allow for data correction/editing by users with appropriate user permissions only and must be accompanied by an appropriate GALP reason before changes can be committed.
Element does not require reasons; it only allows for them. |
| <u>_Y_</u> | 7 | Ability to provide a complete audit trail for any modifications made to data. |
| <u>_Y_</u> | 8 | Ability to record audit trail information at the time of data modification to include (at a minimum) date and time of change, name of person making the changes and GALP reason for making the change. |
| <u>_Y_</u> | 9 | Ability to view and optionally print the audit trail by test or sample log number. |

3.2.8 Chain of Custody Record

- | | | |
|---|---|--|
| <u>_Y_</u> | 1 | Ability to produce a COC document for each sample, or group of samples collected. |
| <u>_Y_</u> | 2 | Ability to print (and reprint on demand) the COC in conjunction with sample labels. |
|  | 3 | Ability for the COC to contain the following information: |
| <u>_Y_</u> |  | • Sample Log number |
| <u>_Y_</u> | | • Client ID |
| <u>_Y_</u> | | • Sample Location |
| <u>_Y_</u> | | • Sample Number In Bar Code format |
| <u>_Y_</u> | | • All requested analyses |
| <u>_Y_</u> | | • Calculate and display the type and number of sample containers associated with each sample |
|  | 4 | The COC document will include spaces to write: |
| <u>_Y_</u> |  | • Date and Time of Sample collection |
| <u>_Y_</u> | | • Samplers name and space for samplers signature |
| <u>_Y_</u> | | • Comments |
| <u>_Y_</u> | | • Multiple Received and Relinquish sign off areas |
| <u>_Y_</u> | | • Field test results |
| <u>_Y_</u> | 5 | Ability to modify the COC format (by authorized personnel only). |

3.2.9 Quality Control

- | | | |
|---|---|--|
|  | 1 | Ability to record, store and process all associated instrument and batch QC down to the component level on multi component analyses, to include, but not limited to the following: |
| <u>_Y_</u> |  | • For multi component analyses the system must allow for varying spike levels for each component and varying QC limits for QC Type (i.e. CCV vs. MRL vs. MS, etc.) |
| <u>_Y_</u> | | • Matrix Spike / Matrix Spike Duplicate |
| <u>_Y_</u> | | • Lab Control Sample / Lab Fortified Blank |
| <u>_Y_</u> | | • Method Blanks |
| <u>_Y_</u> | | • Instrument Blanks |

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<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none">• Minimum Reporting Limit Standards (MRL Std)• Surrogates and Internal Standards• Interference Check Standards• Instrument Initial and Continuing Calibration Verification
<input type="checkbox"/>	2	The LIMS will be Capable of performing the following statistical analysis of the QC data: <ul style="list-style-type: none">• Construct X and R charts per EPA protocols.• Calculate the Standard Deviation.
<input type="checkbox"/>	3	Ability to associate sample results with a set of QC data specific for the analytical batch the sample was analyzed in.
<input type="checkbox"/>	4	Ability to generate QC Summary tables as well as associated QC charts.
<input type="checkbox"/>	5	Ability to calculate percent recoveries. The calculation to determine % recoveries must be editable so that a dilution factor may be applied. This is critical for certain elements (such as Ca and Na) and analytes (such as sulfate). Having a more concentrated spiking solution may not allow a single spike analysis for all elements or analytes as this more concentrated solution may not allow for all elements to be in the same solution. The dilution factor varies by test. The dilution can also change for metals analysis depending on whether the spiked sample was digested or not.
<input type="checkbox"/>	6	Ability to perform trending analysis
<input type="checkbox"/>	7	Ability to calculate % Difference

3.2.10 Laboratory Data Queries

<input type="checkbox"/>	1	Laboratory personnel will be capable of querying sample results/information, on the LIMS based on the following information: <ul style="list-style-type: none">• Sample Log number• Client ID (sample location), sample date or project code• Test/Analyte Should be able to review any test data for any given sample without having to open separate modules for different areas of the lab. I.e. I would like to be able to easily view inorganic data and field data for any given sample.
<input type="checkbox"/>	2	<ul style="list-style-type: none">• Sample Status• Date Received• Analyst Name Ability to provide a query facility which supports nested query, table joins and outer join functionality.
<input type="checkbox"/>	3	Ability to provide standard queries for: <ul style="list-style-type: none">• All data associated with a specific sample log number• All data associated with a specific sample location• Sample Status• Status of tests being performed• All administrative or static data
<input type="checkbox"/>	4	Ability to display and/or print all queried results

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3.2.11 LIMS Reports

	1	Ability to generate the following ADEQ DWAR reports:
Y		• DWAR-1: Drinking Water Microbiological Analysis Report/Total Coliform
Y		• DWAR-1G: Drinking Water Microbiological Analysis Report/Ground Water Rule
Y		• DWAR-2IN: Drinking Water Inorganic Chemical Analysis Report
Y		• DWAR-3: Drinking Water Synthetic Organic Chemical Analysis Report
Y		• DWAR-4: Drinking Water Volatile Organic Analysis Report
Y		• DWAR-8: Drinking Water Lead and Copper Analysis Report
Y		• DWAR-9: Drinking Water New Source Approval Form
Y		• DWAR-16A: Individual Sample Analysis Report: Disinfection Byproducts TTHM HAA5
Y		• DWAR-16.2: Annual Report: Disinfection Byproducts-TTHM HAA5
Y		• DWAR 18A: Quarterly Report: Maximum Residual Disinfection Level (MRDL)-Chlorine/Chloramine - 1012/1006
		• Examples of the DWAR reports are included in Attachment I
Y	2	Ability for the LIMS administrator to create and modify reports using the vendor supplied and supported development tools.
	3	Ability to generate and print standard LIMS reports, including, but not limited to:
Y		• Samples received for a user specified time frame.
Y		• Test results report including comments
Y		• Work Status report by log number
Y		• Work Status report by Project
Y		• Work Status report by analysis
Y		• Work Status report by client
Y		• Quality Control sample report

3.2.12 Client Data Reporting

Y	1	Ability for clients to have access to data reporting via a web based system.
Y	2	Ability to provide only data that has been fully approved will be available for data reporting to clients outside the laboratory.
Y	3	Ability to secure access to web reporting to only clients with user profiles and proper access rights.
	4	Reporting tools will include, at a minimum, the following capabilities:
Y		• ODBC compliant
Y		• Clients will be able to customize their report using standard reporting tools
Y		• Data reporting format as an Excel file, ASCII or text delimited file will be available
Y		• Reporting function will be capable of merging text, graphics and charts in one report.
Y		• Cross Tab format will be available
Y		• Create bar charts, trend lines and pie charts with retrieved data.
Y		• Retrieve and integrate MS Access database as well as the LIMS data.

3.2.13 Instrument Interface Requirements

	1	Ability to provide bi-directional data exchange with the following analytical instruments (Analytical data, Quality Control Samples, Worksheet batch data):
<u>Y</u>		• Perkin Elmer ICP with Winlab32 ver 3.1.0.0107
<u>Y</u>		• Thermo-Fisher Scientific Unicam SOLAAR Atomic Absorption Spec with Data Station Version 9.12
<u>Y</u>		• Dionex Ion Chromatograph with Chromeleon version 6.80 SR7 Build 252B (148369)
<u>Y</u>		• Thermo-Orion 960 Autochemistry System Rev. 6.1
<u>Y</u>		• Shimadzu UV-Vis Spectrophotometer Shimadzu UV probe version 2.00
<u>Y</u>		• 2 Agilent GC/MSD with Chemstation Revision D.01.02
<u>Y</u>		• Agilent GC/MSD with Chemstation Revision E.02.00
<u>Y</u>		• OI Analytical 1030 Aurora TOC Analyzer with Version V1.2.3 TOC Reporter
<u>Y</u>	2	Ability to accept any type of data that is uploaded in a defined, text-delimited format (e.g. subcontract lab EDD data)
<u>N</u>	3	Ability for the LIMS administrator to create additional instrument interfaces as equipment needs change using the vendor supplied and supported development tools. <i>Promium reserves instrument interface development.</i>
<u>Y</u>	4	Ability to accept data uploads from field meters that have data logging capabilities.

3.2.14 Existing Data Migration/Integration

Integrating TWQL's existing LIMS data into a new system is critical to a successful implementation. Explain what services, resources and methodologies will be used to insure a complete and successful data migration.

Data Migration

The Promium team will follow a proven methodology to migrate the data from the current Seedpak system into the Element LIMS. The Element data structure contains tables to store legacy data and was specifically designed to allow organizations to easily access current and historical data from the same interface. The Element design combined with the migration methodology, assures that data migration portion of the project is completed correctly and according to the project schedule.

The data migration methodology is a multiple phase process. Each phase will contribute to a successful data migration and allow for the migrated data to be properly maintained. The phases are as follows:

- Migration Strategy
- Data Source Analysis
- Migration Design
- Building Structure
- Testing and Implementation
- Revisions
- Maintenance

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Migration Strategy

The focus of the overall data migration effort is determined in the strategy phase. Since most data migration projects result from system replacement, they often represent a small portion of the overall project.

Migrating data from the TWQL systems requires three major phases:

- Data Extraction
- Data Transformation
- Data Load

It is the core process that describes how the data is obtained, transformed, and loaded into the final repository. Each step of the process will be slightly different depending on the data source and where its data will ultimately be maintained.

Each of the three primary components of the data Extraction, Transformation, Load "ETL" process is discussed below:

Data Extraction

The data extraction step is responsible for extracting data from the source system. During extraction, data may be removed from the source system or a copy made and the original data retained in the source system. Extracted data is loaded into the data staging area (a relational database usually separate from the destination database), for manipulation by the remaining processes.

Data extraction is generally performed within the source system itself, especially if it is a relational database to which extraction procedures can easily be added. It is also possible for the extraction logic to exist in the data staging area and query the source system for data using ODBC, OLE DB, or other APIs. For legacy systems, the most common method of data extraction is for the legacy system to produce text files, although many newer systems offer direct query APIs or accommodate access through ODBC or OLE DB.

Data Transformation

The transformation phase is responsible for data validation, data accuracy, data type conversion, and business rule application. It is the most complicated of the ETL elements. It may appear to be more efficient to perform some transformations as the data is being extracted (inline transformation); however, an ETL system that uses inline transformations during extraction is less robust and flexible than one that confines transformations to the transformation step. Tools used in the transformation element vary. Some data validation and data accuracy checking can be accomplished with straightforward SQL code.

Data Load

The ETL loading step is responsible for loading transformed data into the destination database. The destination database is usually updated periodically rather than continuously, and large numbers of records are often loaded to multiple tables in a single data load. The data warehouse is often taken offline

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during update operations so that data can be loaded faster. The design of the loading element should focus on efficiency and performance to minimize the data warehouse offline time.

Data Source Analysis

The primary aim of the analysis phase in data migration projects is to identify the data sources that must be transported into the new system. Data sources are not limited to actual data processing systems, but can also include tools and/or formatted files created by users to accomplish their daily tasks outside the normal systems. The next important part of the analysis phase involves evaluating the actual data. The data will be examined for both data quality and to identify those data that should be migrated. The analysis may uncover errors such as incorrect or missing data. If so, the data will undergo a cleaning step prior to the migration. Promium will work with TWQL representative to determine the corrective action for each error type.

Migration Design

Once the high value legacy data sources have been evaluated, the process of data selection is initiated. Each targeted data source will be reviewed by examining each data element individually and determining if it will be moved into a data archive or become a component of the data warehouse. The design phase is essentially the act of making a checklist of the legacy data elements that must be migrated.

Once the migration design is complete, the actual mapping process can be initiated.

Data Migration Testing and Implementation

Testing and implementation are often combined into one phase since they occur at the same time in most projects. Testing breaks down into two core subject areas: logical errors and physical errors. Physical errors are typically associated with the scripts developed to extract, transform, and load data. Logical errors are best identified during implementation. The first step is to execute the mapping. Even if the mapping is completed successfully, we must still ask questions such as:

- How many records did we expect this script to create?
- Did the correct number of records get created? If not, why?
- Has the data been loaded into the correct fields?
- Has the data been formatted correctly?

After the data has been migrated, the goal is to verify the answers to these questions and to allow access to the data by a few designated users to assure that all high level data was included during the initial migration design phase and mapping.

Revisions

The revision phase is where any required cleanup is managed. Each and every data model modification, transformation rule adjustment, and script modification are essentially combined to form the revision phase. Once this phase is completed, all of the legacy data that was target for the migration will exist on the new platform either in an archive format or within the newly created data warehouse.

At this point, the legacy systems will no longer be required and all data going forward will be collected in the new LIMS. If the LIMS is not fully implemented, then an additional data migration event may occur

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later utilizing the same tools developed for the initial event. The tools at this point will be finalized and all revisions will have been incorporated.

Maintenance

The maintenance phase is put into place to assure that the scripts, mappings, and utilities developed are maintained in the event that additional migrations are required. In most cases, a second and final migration event may occur due to unanticipated delays in the actual roll out of the primary system. It also includes the continued up keep to both the archived data and the data warehouse.

	1	Ability to seamlessly access all existing LIMS data in the following manners:
<input type="checkbox"/>		• Using the standard applications interfaces
<input type="checkbox"/>		• With both interactive on-screen query and reporting processes
<input type="checkbox"/>		• With command line and ad hoc reporting tools (native or third party)

3.2.15 Other Required Functionality

	1	Ability to provide the following cost accounting functionality:
<input type="checkbox"/>		• Associate appropriate cost accounting codes with LIMS data
<input type="checkbox"/>		• Provide invoicing capabilities to allow for invoicing by Log In number or by project identifier and date range.

3.2.16 Regulatory Requirements

	1	Ability to maintain an audit trail for all data manipulation and meet the following regulatory requirements:
<input type="checkbox"/>		• NELAC/NELAP and TNI standards.
<input type="checkbox"/>		• 40 CFR Part 3 reporting requirements

3.3 Technical Requirements

Response to requirements are requested in two formats: 1) a written response to a question/request statement if present, and 2) a single letter response of Y, N, M, F, or T to the "ability to/provision for" phrases. Enter your written responses immediately below the question, using Arial Italic, font size 10. Insert additional rows in tables as needed.

3.3.1 Obsolescence Prevention Strategy

1. Describe the provisions of your strategy for implementing new technologies that will prevent current applications and functionality from becoming obsolete or orphaned?

Promium's applications are updated to provide compatibility with new Operating Systems and database versions. In addition we periodically upgrade our applications to use the newest versions of third-party

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controls such as Crystal Reports. In addition we are continually assessing the use of third party controls to find more cost effective alternatives which provide new capabilities and better performance.

3.3.2 System and Application Architecture

1. The underlying architecture of the application design is important to the Tucson Water Quality Laboratory. Please describe your system architecture model and explain the capabilities and features of this model that led to your use of it in developing this system.

Element maintains its roots as a client-server application. This architecture leverages the computing power of the local clients, placing much of the on-demand computational burden on the client machines. This leaves the database server able to operate efficiently and consistently as the number of active users scales upward.

2. Describe the design philosophy of your application. Include in your response the degree to which there is a common design philosophy across all modules, common programming languages and tools, and the extent of shared software code across all applications (e.g., the code to generate an address label should be the same code for that function in all components of the application).

The Element application is written in Visual Basic 6 and is structured using a number of forms, modules and classes. The forms provide the user interface elements of the program. Classes are used primarily as data containers and hold the functionality to retrieve and update records in the database. The classes may or may not directly reflect the structure of a particular table in the database. The modules contain code generally segregated by functional area (for example basDataOpsInvoices, basDataOpsOutput), as well as code that is commonly used by other code in the application. In as much as possible code in individual forms, modules and classes is structured similarly to that in other forms, modules and classes. This commonality makes troubleshooting and addition of new features much easier. Where possible forms and functions are reused, expanding their functionality by adding additional properties or variables where necessary. For example, the same print dialog form is called when printing from many different screens in Element.

3. Describe your approach to ensure scalability of the product. This includes transaction growth, upgrades and replacements of components of the architecture, technology, and application.

We address scalability in several ways. As our client databases grow and as we work with labs with very high sample through puts, we have bench marked performance and worked to improve the execution of many complex/process intensive queries used in our system. This assessment and improvement is ongoing.

Major releases of Element occur on an approximately 3 month cycle. Between releases updates to the current software (including bug fixes and minor modifications) are made on an approximately weekly

basis. To ensure that these updates are easy to install, Element features an automated download/install process. This process (initiated by the user) identifies and downloads current versions of the Element application and related software components to a central location. When a user next logs into Element the current versions of the software and components are copied to their local machine and registered. We are continually adding new software components to our system. Some of these are third party controls and some of these are .dlls developed in-house. These components are easily deployed or upgraded using the same download/update mechanism as the main application.

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4. List the special access capabilities for which you provide the customer the ability to augment your solution. These might include touch screen, imaging, voice response, computer integrated telephony, wireless, etc.

Customers have run Element on tablet PCs with wireless network connectivity.

Visual symbols are used to help color-blind users with color-coded indicators and flags.

5. What is the source language(s) of the product?

VB6 with .NET

6. Is the source code available and, if so, under what conditions/terms?

Source code may be deposited in escrow if required to allow for business continuity. Source code is not otherwise made available.

7. What is ability to support industry standards in areas such as communication protocols, security, EDI, object technology, user interfaces, etc. Please comment on any area where you do NOT support industry standards.

Element uses standard database connection/communication protocols. Connections to the primary database are available through the ELMNTDATA.dll.

Element uses standard encryption algorithms for database and application logon security.

Element supports a number of electronic COC import formats and a very large number of electronic data deliverable (EDD) output formats. We provide interpreters for importing data from instrument data files into Element. We do not provide bi-directional communication with any instrument hardware. We support some limited data import from several SCADA systems. We do not currently support any realtime, bi-directional EDI formats in the traditional sense of the term.

The Element user interface follows industry guidelines for design, functionality and layout as much as possible. More recently added features are more likely to conform to these guidelines. However, our goal is to provide a consistent look and feel and user experience across the application, as opposed to strict adherence to industry guidelines.

We do not provide an API for the Element application. An API for the ClientConnect application is provided through the ElementData.dll. An API for the older ElementWeb application is provided through the ELMNTDATA.dll.

8. Describe your ability to retain all user made changes to business rules, standard screens and standard reports when new releases of base software are installed.

Business rules, user access permissions and screen configurations are stored in the primary database and are not affected by installations of new software releases. Some dynamic user settings are stored in the registry. Again these are not affected by new software release.

3.3.3 Infrastructure

1. List all hardware/operating system platforms upon which your product is supported. Provide specifications in terms of processors, processor speed, memory requirements, and other sizing and

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capacity factors to assist the City in budgeting for and acquiring hardware. List which industry standard benchmarks or guidelines measures are you using to establish this recommendation.

Element DataSystem® Minimum System Recommendations

SERVER RECOMMENDATIONS:		
Configuration 1: Larger Labs (>20 concurrent users)	Configuration 2: Mid-Size Labs (11 – 20 concurrent users)	Configuration 3: Smaller Labs (1 – 10 concurrent users)
Hardware: <ul style="list-style-type: none"> Core 2 Duo or Xeon Processor (2.33 GHz or Better) 4GB (2x2GB) RAM RAID Disks (x8) 72GB each HotSpares (x2) 	Hardware: <ul style="list-style-type: none"> Core 2 Duo or Xeon Processor (2.33 GHz or Better) 4GB RAM 200GB HDD x2 RAID-1 or 100HDD x4 RAID-5 	Hardware: <ul style="list-style-type: none"> Core 2 Duo or Xeon Processor 2-4GB RAM 100GB HDD x2 RAID-1
Software: <ul style="list-style-type: none"> Microsoft® Windows Server 2003 Standard Edition (SP 2 or higher) with applicable number of client access licenses Microsoft® SQL Server 2005 Processor-specific License w/ Media 	Software: <ul style="list-style-type: none"> Microsoft® Windows Server 2003 Standard Edition (SP 2 or higher) with applicable number of client access licenses Microsoft® SQL Server 2005 Standard with appropriate number of client access licenses Automated Backup Solution (i.e. Backup Exec, etc.) 	Software: <ul style="list-style-type: none"> Microsoft® Windows Server 2003 Standard Edition (SP 2 or higher) with applicable number of client access licenses Microsoft® SQL Server 2005 Standard with appropriate number of client access licenses
CLIENT RECOMMENDATIONS:		
Minimum Requirements	Recommended System	Power User Recommended System*
Hardware: <ul style="list-style-type: none"> Pentium Dual core 2.33GHz or equivalent 512 MB RAM 3.0 GB Hard-disk space Video adapter and monitor with Super VGA (800 x 600 or higher resolution) 100 Base TX Network Card 	Hardware: <ul style="list-style-type: none"> PC with Intel® Core2 Duo Processor 1 – 2 GB RAM 10 GB Hard-disk space Video adapter and monitor with Super VGA (1024 x 768 resolution) 100 Base TX Network Card 	Hardware: <ul style="list-style-type: none"> PC with Intel® Core 2 Duo processor 4 GB RAM Video adapter and monitor with minimum (1024 x 768) resolution 100 Base TX Network Card
Software: <ul style="list-style-type: none"> Microsoft® Windows 2000 Microsoft® Windows XP Professional (SP2 or higher) Microsoft® Windows Vista Microsoft® Windows 7 	Printer Reports should be produced using a laser printer or a printer capable of using or emulating HP PCL 4 or higher. A high-volume printer such as Dell's 5100 series is recommended for larger labs. A thermal label-printer, dot-matrix printer or laser printer may be used for labels.	

- * This configuration is recommended for those users who review very large sets of data (i.e. GCMS sequences) or who routinely produce data packages and final reports

2. Indicate whether each configuration is actually in production at a municipality relatively our size.

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Server configuration 1 has been in use in various large municipal laboratories, as well as the various workstation configurations.

3. Describe what virtual server environments your application can be used on.

A number of customers have implemented their production database in the VMWare virtual environment.

4. List all desktop operating systems that you simultaneously support on a single installation/version of the application. Indicate hardware/operating system platform if that is a consideration for support. Examples of operating systems are Linux, Macintosh/OS 10.0, Windows 2000, Windows XP, Windows Vista, etc.

The Element client is a Windows application that runs on Windows 2000 or greater. A few customers have also been successful in running Element under the Wine emulator on a Linux desktop platform.

5. List all browsers that are certified for use with your application, and describe any required browser add-ons, function enablement, etc.

Browsers are used to access specific read-only reports and status via the Element ClientConnect portal. Full access is available through the Element DataSystem client application. No add-ons are required.

MSIE 6 or greater

Modern versions of Firefox and Chrome are supported as well.

3.3.4 Database

1. What technology does your relational database management system (RDMS) use to ensure integrity and completion of all transactions? Two-phase commit is one such technology.

Element supports SQL Server and Oracle RDBMS; both of these database systems support a Two-Phase Commit protocol. This protocol ensures that: either all transactions in a series of transactions are successful and committed; or all transactions are rolled back if any of the transactions fail.

Where appropriate and where a series of interdependent database queries must be run with an "all or nothing" mode of execution, Element uses transactions. If any of the queries in the series fail, the entire series of transactions are rolled back.

2. List all hardware/operating system platforms upon which your product's database(s) is/are supported. Indicate whether each configuration is actually in production at an institution relatively our size.

Database Name and Version(s)	Operating System(s)	Production Status (Y/N)
Oracle 9i or greater	Linux (various)	Y
Oracle 9i or greater	Windows Server 2003 or greater	Y
MS SQL Server 2005 or greater	Windows Server 2003 or greater	Y

3. Does your relational database management system (RDBMS) allow for providing selected data to another database residing on another server? If so, what methods are employed to maintain the consistency of the data and what are the system performance affects to the day to day operation of the system?

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The database repository is a specific set of database tables that contain final results and data with a relatively low level of granularity. The repository is designed to improve overall performance. It may reside in the primary database or can exist as an independent database for optimal performance.

Migrated data resides in the repository database. Final results can also be posted to the repository for performance improvements (this eliminates the need to calculate final results on-demand from the granular data in the primary database). Final results are calculated and inserted in the repository upon generation of the final report.

- 1. Ability to recover the database or a subset to a specific point in time.
This is a function of the database software.
- 2. Ability to purge and archive unneeded data.
- 3. Ability to distribute the application among multiple servers.
- 4. Ability to authorize user accounts/ids, passwords, and access rights from a single and central point of control.
- 5. Ability to attribute each transaction to a specific user.
- 6. Provision for reliable and secure method for user authentication that conforms to standard such as Kerberos, biometric ID, etc.
Promium recommends domain authentication against an AD server
- 7. Provision for encryption capability option that prevents unauthorized access to data.
Username and passwords are encrypted
- 8. Ability to backup and restore the entire database and subsets of the database while users are accessing the system.

Backup and restore functionality is provided by the database software, not by Element. The ability to restore the entire database or subsets while users are accessing the system is a function of the database software not Element.

- 9. Ability to update a remote database (either in batch or real-time) without significantly compromising overall system performance.

Updates to a remote database (such as the repository) can sometimes be off-loaded to a single workstation (report queue station) so that individual workstations are not burdened with performing this functionality.

3.3.5 Business Continuity

- 1. Describe the licensing requirements for redundant sites beyond the main site?

Element is licensed by the number of concurrent users, regardless of the site. Instruments and ClientConnect (web) users do not count against the number of available seats.

- 2. Identify the features of your product that support ease of movement to an alternative site for disaster recovery.

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All business rules and client application configuration are stored within the database. This helps simplify portability of the entire environment.

- Crash tolerance - assuming that a UPS system is available for the database but not necessarily each Element client, it is possible to lose the active transaction during a power failure (assuming the client goes down and the database remains active). Database integrity is otherwise preserved.
 - Restart/Recovery – in an orderly shutdown of the database server (no active transactions at the time the database is taken offline), no loss of data will occur.
 - Application administrator security can be limited per user on a feature-by-feature basis, granting access to view, edit, or neither. Database server security is managed by the server OS and database itself. Simultaneous transactions are handled and properly addressed at the database.
 - Hardware redundancy - for full-time database availability, Promium recommends RAID mirroring and/or a clustered database environment following the database vendor's recommendations.
2. Describe additional services that you offer to support and assist the City to restore functionality and capacity if an incident exceeds the City's capability to respond.

Promium offers support by remote desktop, allowing technical staff to directly assist administrators with DR activities.

3.3.6 System Management

1. Considering our transaction volumes, what hardware capacity recommendations can you make for the platforms you support that gives a user a one-second response for the simplest action of a single record retrieval?

A one-second response for the simplest action of a single record retrieval can be met with moderate workstation hardware. For example this response time can be met with a workstation running a Windows 7 O/S (64 bit), with an Intel Core i5 CPU (2.67 GHz) and 4.0 GB of RAM. Other hardware configurations with less capacity will also meet this requirement. The ability to meet this requirement is dependent on database server hardware/OS and network connection speed.

2. How does the solution being proposed provide the capability to run in a state of "graceful degradation" during a partial disaster where less than all hardware components are running?

The Element client is quite portable, compatible with Windows 2000 or greater. As long as the client can connect to the database, it is able to be automatically configured with the parameters within the database itself. Thus, replacement of a lost client machine is relatively simple.

More catastrophic would be the loss of a common network resource: essentially the database(s) or the network shares that are available for file storage and instrument data import. In the event of a lost shared folder, Element's configuration screen allows the administrator to easily point to a new backup share. A mirrored network share would virtually eliminate this potential failure point.

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Given that the database is the single most important entity of the system, Promium recommends a mirrored or clustered database. In the event of a complete database failure, the administrator can mount a backup database or point the clients to the proper backup database. Since all business rules and client machine configuration are stored in the database, it is relatively easy to restore the state of the entire system to the instance of the last nightly database backup.

Database	Local Paths	Server Paths
Central File Paths		
Base Path		C:\Program Files (x86)\Promium\Element\ServerFol
Updates		C:\Program Files (x86)\Promium\Element\ServerFol
Bid		C:\Program Files (x86)\Promium\Element\ServerFol
Invoice		C:\Program Files (x86)\Promium\Element\ServerFol
EDD		C:\Program Files (x86)\Promium\Element\ServerFol
Report		C:\Program Files (x86)\Promium\Element\ServerFol
TransferIn		C:\Program Files (x86)\Promium\Element\ServerFol
TransferOut		C:\Program Files (x86)\Promium\Element\ServerFol
Database		C:\Program Files (x86)\Promium\Element\ServerFol
SOP		C:\Program Files (x86)\Promium\Element\ServerFol
PDF		C:\Program Files (x86)\Promium\Element\ServerFol
BenchSheets		C:\Program Files (x86)\Promium\Element\ServerFol

Server path configuration tab

- Y
1. Ability to recover the database or a subset to a specific point in time.
 2. Ability to back-up and restore the entire database and subsets of the database while users are accessing the system.

This will depend on the database software and its available recovery models.

- Y
3. Ability to access all components of the job scheduling system, and manage all jobs from a single location in addition to control from the originating module.

A single workstation can be designated as a "report queue workstation" to execute report/edds automatically. This workstation can also be used to access all functionality in Element including Report Spooling, Bottle Order Spooling, Route Sheet Spooling, etc.

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4. Provision for one-job scheduling mechanism to be used and shared by all jobs from all modules.

Reports/EDDs/Automated emails can be automatically added to the Report Queue by setting the Project Report options AutoSpoolDraft and AutoSpoolFinal. The report/edd records are added to the Report Queue when the work order status changes to Reviewable or Reportable. The Report Queue can be set to Execute every 1-1440 minutes.)

5. Ability to run batch jobs while users are accessing the application without significantly compromising overall system performance.

A workstation can be designated as a report queue station for executing reports, adds and automated emailing. This transfers the burden of generating this type of information from the user's workstation to a central workstation dedicated to these tasks

6. Ability to record and track on-line versions between modules.
A record of the version of the various Element components is maintained. This is important, considering that the administrator has the authority update either part of all of the Element client application when software updates are available.

7. Ability to support automated on-line distribution of all files and software releases to all clients and servers from a designated server.

8. Ability to distribute the database among multiple servers.

9. Ability to monitor and tune the application to enhance response time and other performance metrics.

Performance monitoring and tuning is limited to that provided by the database software.

10. Ability to provide a suite of tools to monitor and control all production processes.

A number of screens and reports are provided throughout Element to monitor laboratory processes. These include: Bench Sheets, Query/Update Analysis Status, Query/Update Work Status, Work Count, TAT Charts and Control Charts. A number of preconfigured management reports are provided with Element and customized versions of these reports can be developed.

11. Provision for error logs and messages to assess performance related events.

Error logs and messages are provided through out Element. Performance messages are generally associated with query timeouts and database connection errors.

12. Ability to authorize user accounts/ids, passwords, and access rights from a single and central point of control.

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- _Y_ 13. Ability to delegate authorization of access to modules of the application to departments responsible for that level of authorization.
- _Y_ 14. Ability to attribute each transaction to a specific user.
- _Y_ 15. Provision for optional time-out and auto logout of an inactive application session.

3.3.7 Interfaces

1. List which standard data interface formats and methods you natively support (XML, CSV, EDI, etc.).

XML, CSV, DOC, XLS, MDB, TXT, COC

In addition, Element DataTool supports over 230 laboratory instruments. Element also offers invoice exporting to various accounting systems in native file format.

2. The application should have provision in the program for any subroutines on accepted data such aggregation, subtotaling, concatenation, etc. List what types of subroutine are supported in existing data interfaces.

The DataTool instrument interpreters provide subroutines for the four arithmetic operations to generate results for calculated analytes. Such results can be imported directly into Element as a calculated analyte.

Custom equations within Element can be used for complex calculations. Such calculations are performed on data that has either been manually entered or imported to Element.

Analyte-specific data options are also available in a checkbox format, simplifying data handling rules:

<input checked="" type="checkbox"/> Use extraction final/initial	<input type="checkbox"/> Use Custom Equation	Flags
<input type="checkbox"/> Report DET/ND results	<input type="checkbox"/> Use Cleanup Factor	
<input type="checkbox"/> Dry-weight correct results	<input type="checkbox"/> Use Cleanup final/initial	<input type="checkbox"/> B
<input type="checkbox"/> Dry-weight correct MDL/MRL	<input type="checkbox"/> Heated Purge	<input type="checkbox"/> D
<input type="checkbox"/> Use %Recovery for RPD	<input type="checkbox"/> Dual Column	<input type="checkbox"/> E
<input type="checkbox"/> Report results to MDL	<input type="checkbox"/> Use Extraction Solids	<input type="checkbox"/> J
<input checked="" type="checkbox"/> Report results to MRL	<input type="checkbox"/> Use Extraction pH	<input type="checkbox"/> U
<input type="checkbox"/> Report results to Zero	<input type="checkbox"/> Report %R and RPD as Integers	
<input type="checkbox"/> Simultaneous Prep/Analysis	<input type="checkbox"/> Append DL/RE/RP to Sample Name	
<input checked="" type="checkbox"/> Adjust MDL/MRL for prep ratio variation	<input type="checkbox"/> Use CLP Rounding Rules	
<input type="checkbox"/> Compensate for water-miscible solvent	<input type="checkbox"/> Report <u>////</u> Samples	
<input type="checkbox"/> Ignore dilution in result calculation	<input type="checkbox"/> E-Flag on Linear Range Value	
<input type="checkbox"/> Ignore dilution in MDL/MRL calculation	<input type="checkbox"/> E-Flag on Calibration Response	
<input checked="" type="checkbox"/> MDL Inclusive	<input type="checkbox"/> Exclude Unassociated Sequence QC	
<input checked="" type="checkbox"/> MRL Inclusive	<input type="checkbox"/> Compare unrounded values to MDL/MRL	
<input type="checkbox"/> Adjust MinMRL based on MDL	<input type="checkbox"/> Compare unrounded values to QC Limits	
<input type="checkbox"/> No Dry Wt. Correction Allowed		

Data Options tab

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- 3 The LIMS vendor shall also make available data feeds for an external database, separate from the LIMS data base, per the Addendum in Attachment II.

Promium will follow a methodology similar to that described for data migration. The methodology will allow Promium to fully assess the data feed requirements and develop a strategy to develop and maintain a data feed from LIMS to the WQDB. The data feed methodology is a multiple phase process. The phases are as follows:

- Data Feed Strategy
- WQDB Analysis
- Data Feed Design and Development
- Testing and Implementation

Promium will execute these phases to recommend a solution to transfer approved LIMS data to the WQDB staging tables. Data will be updated daily at a minimum though the solution will evaluate more frequent updates depending on system performance. The solution will also map data to the existing lookup tables to maintain ease of use with the WQNET and EMPACT systems.

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4. Support and Services

4.1 Training

1. What provision do you have for providing primary training for the proposed system? Training shall be adequate to the needs of the typical systems user and administrator.

Promium has a very comprehensive training program that is configured for the TWQ lab. All classes will be conducted onsite at the TWQ lab so that we can work with TWQL data to provide real-case scenarios. This method allows for a train the trainer approach, and for the trainer to simulate exactly how Element will work within the TWQL production environment. Hard copies/soft copies of training materials are provided.

2. What provision do you make for training the typical system user training to address those issues that will be encountered during day-to-day use? Be sure to include training on all system functionality—including screen and report use—and ad hoc report creation and use.

Training sessions are customized for users' specific responsibilities, allowing trainers to focus on relevant topics for day-to-day activity. Real-world situations, samples, instrument interpreters, reports, etc. are all used to simulate the production environment as accurately as possible, enabling trainees to get the most effective functional education possible.

3. What provision do you make for Administrator training to address those issues involved with the administration of the system? Should it be a separate training session?

As with the other training sessions, the LIMS Administrator training is conducted separately. The administrator training process begins with the initiation of the implementation process, and the administrator participates in various stages of the early implementation and configuration of the system.

4. Do you have the ability to provide web-based training?

Yes

5. What provision have you made for having a system environment available for training exercises?

Training is typically conducted on-site, enabling users to be educated in their own working environment, with their own instruments, data, client machines, etc. Training is typically conducted on a test database, which is typically a copy of the actual production database.

6. List in the following table each training module, its length, whether or not it is on-site, whether it is designed for technical or administrator/user level audience, and if optional or required.

Training Module	Class Days/Hours	On or Off Site	Audience	Optional or Required
See list below				

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End-User Training (all sessions are onsite at TWQL)

Conducted Onsite

Project Management – covers setting up and maintaining Client and Project record in Element DataSystem. Also included are Bids, Invoicing, creating Reports and EDDs. This training is broken into 4 Classes.

Project Management – 1: 1.5 hr (LIMS Admin, CSRs, Lab Management)

- Element Introduction, Data Hierarchy, and Status Paths
- Adding and editing Client records,
- Basic project setup,
- Logging Work Orders and Samples into the system. Generating backlog reports and querying the database for sample records and test results.

Project Management – 2: 1.5 hr (LIMS Admin, CSRs, Lab Management)

- Parent and Child Projects
- Customizing Analyses for Projects
- Defining samples and scheduling sample collection
- Report Options

Project Management – 3: 1.0 hr (LIMS Admin, CSRs, Accounting, Lab Management)

- Element Pricing
- Creating Bids for Clients and Projects
- Editing Prices
- Invoicing in Element

Project Management – 4: 1.5 hr (LIMS Admin, CSRs, Lab Management)

- Reports and EDDs
- Using EDD cross-tables
- Historical Data

Management Reports and SQL Queries Sample Control – 2 classes, Covers actions needed to log Work Orders and Samples into the system. Also covers bottle orders, route sheets, sample custody and disposal.

Sample Control-1: 1.5 hr (LIMS Admin, Sample Receiving Staff)

- Element Introduction, Data Hierarchy, and Status Paths
- Add Work Order, set Project Cooler Information
- Assign Samples to Work Order, Assign Analyses to Sample
- Editing Sample and Container information
- Printing Work Order reports, sample labels, Attaching COC to Work Order
- Using Quick Log, Bottle Order and Route sheets to login pre-logged samples
- Using the Bulk Sample Editor and Field Data sheet

Sample Control-2: 1.5 hr (LIMS Admin, Sample Receiving Staff)

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- Import/Export Work Order
- Subcontracting Analyses and Generating Subcontract forms
- Internal Sample COC and Sample Custody
- Sample Disposal
- Using Query Analysis/ Query Work Status dialogs
- Using the Update Work/Update Analysis status dialogs

Laboratory – Training for the laboratory personnel is divided into 5 classes. These will cover all laboratory activities in Element DataSystem and the Element DataTool functionality.

Laboratory-1: 2 hr (LIMS Admin, Laboratory Analysts and Technicians)

- Element Introduction 1, Data Hierarchy, and Status Paths
- Element Introduction 2, Analysis setup and how samples are logged into the system
- Creating Standards and Reagents in Element
- Using Query Analysis Status dialog to create backlog reports

Laboratory-2: 2 hr (LIMS Admin, Laboratory Analysts and Technicians)

- Creating Batches, Assigning Prep Methods and Analyses, reagents and surrogate standards
- Bench Sheets, Adding samples to the Batch. Defining QC samples, Standards and duplicates
- Spiking, Assigning spike amounts and determining spike types
- Rebatching, Creating Re-Extract samples and assigning to batches
- Exporting Bench Sheet information, printing prep labels and work sheets.
- Working with Leachates and Extracts

Laboratory 3: 2 hr (LIMS Admin, Laboratory Analysts and Technicians)

- Data Entry
- Manual Data Entry based upon Batched Samples
- Reviewing Data and Updating Analysis Status
- Assigning Qualifiers
- Audit Trail for results and qualifiers
- Final Review of Data

Laboratory 4 – Element DataTool Operations: 2 hr (LIMS Admin, Laboratory Analysts)

- DataTool Overview
- Cross Table, defined and purpose of
- Invoking DataTool from within Element data entry table dialog
- Browsing for Instrument file type.
- Using the Calculated analyte feature in DataTool
- Data Entry using DataTool
- Additional Features of DataTool

Laboratory 5 – Sequencing and Calibrations: 2 hr (LIMS Admin, Laboratory Analysts)

- Intro to Sequencing
- Creating Sequence from within Element
- Creating Sequence from DataTool file

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- Create Calibration from instrument data
- Attaching Calibrations to Sequence
- Creating Reshot and Re-extract samples from Sequence dialog

Quality Assurance – 1 class on QA procedures in Element: 1.5 hr (LIMS Admin, QA, Senior Chemists and supervisors)

- Setup of Analyses and Prep Methods
- Data Review using Data Review checklists
- Audit trail
- Creating and applying QC Control charts

Administrator and Core Group Onsite Training

Conducted On Site

Element Overview: 3hr (LIMS Admin, Core Group)

- Clients Projects, Work Orders and Samples
- Batching Data Entry and Sequencing
- DataTool operations
- Reviewing and Reporting Data

Installation of Element 1.5 hr (LIMS Admin, Core Group, IT)

- Installation of Software
- Creating the Element Server Files
- How Element file structure is maintained
- Managing related documents
- Updating Element and DataTool software

Setup of Element-1: 1 hr (LIMS Admin, Core Group)

- Lab Info and Code Patterns
- Users and Departments
- Static Tables

Setup of Element-2: 6 hr (LIMS Admin, Core Group)

- Setting up Analyses and Preparation Methods
- User-Defined fields

Setup of Element-3: 3 hr (LIMS Admin, Core Group)

- Creating Clients in Element
- Introduction to Projects

MessageManager for Email messages: 1 hr (LIMS Admin, IT)

- Installing MessageManager
- Linking to Email program and database
- How MessageManager works

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- Setting up SQL Queries and Report Options
- Using System Messages

Administrator and Core Group Offsite Training

Offsite Training will primarily be focused on the Core Group though others may be brought in as necessary.

Project Management – Project Management Training for Core Group

Project Management: 1. 2hr

- Adding and editing Client records,
- Basic project setup,
- Logging Work Orders and Samples into the system. Generating backlog reports and querying the database for sample records and test results.
- SubContracting Analyses

Project Management: 2. 2 hr

- Parent and Child Projects
- Customizing Analyses for Projects
- Defining samples and scheduling sample collection
- Project Report Options

Project Management: 3 2hr

- Reports and EDDs
- Using EDD cross-tables
- Historical Data
- Management Reports and SQL Queries

Laboratory Standards: 2hr

- Creating and managing standard and reagent records in Element
- Printing Standard Info and Labels
- Attaching Documents to Standard Records

Training Offered in Bothell, WA (offsite)

Element and Crystal Report Workshop: 3 days

The Element and Crystal Report Workshop is held quarterly at Promium offices in Bothell, WA. 3-Day Workshop focuses on creating SAP Crystal Report formats that can be run from within Element DataSystem. Included in the workshop are the following:

- Creating and maintaining report SQL queries in Element
- Working with output files
- Basic Crystal Reports
- Using Crystal Reports to create a laboratory report

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4.2 Implementation

1. The Tucson Water Quality Laboratory requires an aggressive implementation schedule (as described in section A of the RFP). Please state the assumptions that are implicit in your implementation timetable (City resources, your resources, third parties, etc.) and list the effect(s) of those assumptions not being met.

Please see #6 below.

2. The Tucson Water Quality Laboratory (TWQL) will perform overall project management. Describe what provisions you will make to provide a project manager for your staff who will support overall project objectives and work effectively with the TWQL project manager and staff.

Director of Implementation and Training John Albert will act as Promium's Project Manager for TWQL. John has extensive experience working with our new clients, resulting in a very high rate of successful Element implementations and loyal customers.

3. Briefly describe your own project management methodology.

Phased Implementation Methodology

Promium has celebrated its 12th year of successful implementation services to over 240 environmental laboratories. The Promium implementation plan will work in partnership with all stakeholders of the project, including laboratory managers and IT managers, to begin the LIMS contract and design the schedule.

As described in the schedule below, Promium and all stakeholders will first identify and document project goals and objectives, clearly define roles and responsibilities, and provide dedicated resources to the project. Specific deliverables once the contract is awarded will be outlined in an agreed-upon Gantt chart. Promium will begin bi-weekly team meetings via teleconference or in person with stakeholders as part of the communication management plan. A project management plan will also be agreed upon and implemented in concert with TWQL's Project Manager and IT department. A continuous and open dialogue between Promium and all stakeholders will ensure a timely and successful implementation.

Stakeholder reviews will be part of the meetings, and as outlined in the tables, Promium will provide deliverables, requesting that TWQL review and comment within five to seven days after receipt of a deliverable. If stakeholder reviews or changes to customization requests are delayed, then these will be reflected in a revised Gantt chart.

4. Please attach a high-level project schedule, with milestones from each implementation phase.

See # 6 below.

5. Describe your approach to project communication, the strategy, the calendar, and responsible parties.

Weekly conference call or onsite meetings take place through the entire implementation at a schedule that permits the inclusion of key personnel for both parties. Deliverables are reviewed and assigned, and the Gantt chart updated accordingly with schedule changes.

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6. List in recommended order of implementation the proposed solution's tasks as, their average or typical implementation time, the suggested number of vendor on-site consultants, suggested number of customer staff, and the tasks' dependency upon activity. Immediately following the table, include any assumptions upon which your suggestions are based.

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Task ID	Task Name	Timeline											
		10/10/07	10/27/07	11/3/07	11/20/07	11/27/07	12/4/07	12/11/07	12/18/07	12/25/07	1/1/08	1/8/08	1/15/08
1	City of Tucson, Tucson Water Quality Laboratory												
	Completed EEO Reporting	11/15/07	7/6/2012	100									
	Completed EEO Reporting	11/15/07	11/15/07	10									
	Water Technology Team Meeting	11/17/07	11/17/2011	10									
	Completed EEO Reporting	11/17/07	11/17/2011	10									
	Completed EEO Reporting	11/17/07	11/17/2011	10									
	Final RGS of Telephones	11/17/07	11/17/2011	10									
	Implementation, Installation and Data Migration	11/17/07	7/10/2012	100									
	Project Management	11/17/07	7/10/2012	100									
	Initial Oracle Test which included a one day shadowing session for Bessie Start of TWC, as LARS Admin for Train the Trainer support, and Internet Interface for data collection	12/1/2011	1/29/2011	50									
	High Detailed Implementation of Installments and confirm Invoice to Data Migration Team	12/1/2011	12/1/2011	50									
19	Oracle Progress Meeting with 30% completion tasks and deliverables	1/22/2012	1/22/2012	10									
	Promium develops new Detailed Implementation (if necessary) Promium BEO and EEO Programming Position Report Development	12/12/2011	3/22/2012	600									
	LARS Admin and Program, will Populate LARS Database with Element Data	1/10/2012	3/10/2012	400									
	Transfer Historical Support data (Data Database Population)	2/10/2012	3/10/2012	400									
	Initial Testing of Element, Reports and EEO Reports	2/16/2012	2/22/2012	50									
18	Water Quality Database configuration	2/22/2012	3/16/2012	70									
16	Oracle Progress Meeting with 80% completion of Installation and Implementation of Element	3/16/2012	3/16/2012	10									
17	Management of Data Migration of Support data from 2006 to present with all CMDC data	1/22/2012	3/17/2012	400									
	Train the Trainer classes with TWC, as Promium Trainee and Promium as Support. Classes include Sample of EEO User Training, Sample Contract, Project Management, Quality Assurance, Account Training, Database Administrator and DataControl.	2/22/2012	3/29/2012	100									
18	Project Management with completion of Installation and Migration of Data	4/17/2012	4/17/2012	10									
	Final Oracle Training and Assistance	5/22/2012	5/22/2012	100									
	Final Meeting with all teams to be completed.	6/12/2012	6/12/2012	50									

Gantt chart reflecting proposed implementation schedule

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A. Initial Site Conference	
On Conference Call:	TWQL LIMS Manager, IT, TWQL Contract Officer, Promium Project Manager, Implementation Engineer and Development Manager for Customization
Goal:	<ul style="list-style-type: none"> ✓ Determine project start date ✓ Review contract ✓ Identify all personnel involved

B. Initial Project Team Meeting	
Participants:	TWQL Project Manager, Promium Project Manager, IT, other LIMS stakeholders, and other Project Team Members with TWQL and Promium as requested
Goal:	<ul style="list-style-type: none"> ✓ Agree on project scope and timelines ✓ Revise Gantt chart for agreed-upon schedule ✓ Develop and determine communication plan ✓ Define expectations of deliverables and tasks from TWQL, IT and Promium ✓ TWQL will be responsible for configuring the hardware-Promium and client will determine as needed, training and data conversion/migration ✓ Promium, IT and TWQL will determine if all hardware and software within the laboratory meet optimum performance requirements ✓ Determine bi-weekly meeting dates and times
Deliverables:	<ul style="list-style-type: none"> ▪ Revised Gantt chart ▪ Provide final written work breakdown plan ▪ Communication plan outline ▪ List of all project team member roles, authority and contact information ▪ List of tasks for each team member and dates of expected completion ▪ Determine additional hardware/software needed for project ▪ Agree and document bi-weekly communication schedule

Section C is part of Initial Site visit

C. Optimized Process Flow	
Participants:	TWQL Project Manager and Promium Project Manager/Implementation Engineer
Goal:	<ul style="list-style-type: none"> ✓ Determine optimal process flow for the LIMS to meet TWQL goals and long term trends. Determine optimal Element features and functionality needed by TWQL. Implement changes as needed to complement existing reporting patterns ✓ Determine all user requirements ✓ Determine current, and possibly future, instrument interpretation ✓ Determine if "As Is" process flow is truly representative ✓ Determine if "To Be" Design is optimal for TWQL and Element ✓ Make suggestions as needed for improved LIMS design ✓ Provide stakeholder reviews of system configuration

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Deliverables:	<ul style="list-style-type: none"> ▪ Document user requirements ▪ Final instrument interpreter list (same as interface development) ▪ Finalize any agreed-upon opportunities for improvement
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D. Installation and Implementation Plan of Element	
Participants:	TWQL LIMS Administrator, IT Manager and Promium Project Managers/Implementation Engineers
Goal:	<ul style="list-style-type: none"> ✓ Determine all server and client hardware and operating systems ✓ Design agreed-upon custom formats for client reports and routine printing jobs ✓ Address bar code usage and equipment ✓ Determine existing and custom electronic data deliverables (EDDs) ✓ Interface instruments and data systems ✓ Requirements for any external accounting packages to which invoices will be exported ✓ Develop LIMS data conversion/migration path to be imported into Element ✓ Install working database and shared folders on designated Element server ✓ Include field sampling data entry communication information ✓ Install Element client-side interface on client computers ✓ Setup and configure MessageManager
Deliverables:	<ul style="list-style-type: none"> ▪ Sign off on Implementation Plan

E. LIMS Administrator Training	
Participants:	TWQL Project Manager, Promium Implementation Engineer/Training Specialist, TWQL Network Administrator and dedicated LIMS Administrator
Goal:	<ul style="list-style-type: none"> ✓ Train system administrators on administration features of Element ✓ Database/administration managers and possibly QA operations personnel will have two classes ✓ Admin users will learn Element vocabulary, interface, buttons, SQL query dialog, Crystal Reports, EDD customization and how to set up security features. Will also learn how to set up clients, projects, analytical and preparation methods and manage LIMS static tables
Deliverables:	<ul style="list-style-type: none"> ▪ Training syllabuses ▪ Completion of administrator training ▪ Documentation of completed training

F. Population of LIMS Databases and Development of EDD and Shared Elements	
Participants:	TWQL LIMS Administrator, Promium Project Managers/Implementation Engineers and Developers

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	Goal:	<ul style="list-style-type: none"> ✓ Populate static table information in database ✓ Import client list from current database ✓ Build analytical test methods and preparation methods ✓ Develop EDD and report formats ✓ Develop sample label formats and other print report formats ✓ Complete all custom programming
	Deliverables:	<ul style="list-style-type: none"> ▪ All static tables fully populated ▪ Analytical and prep methods established in LIMS ▪ Client table fully populated ▪ Report and EDD formats delivered to TWQL ▪ Label and other print report formats completed and delivered to TWQL

01. Initial Testing		
	Participants:	TWQL Project Manager, Promium Implementation Engineer and Network Administrator (if different from TWQL Project Manager)
	Goal:	<ul style="list-style-type: none"> ✓ Initial testing of Element DataSystem ✓ Create project and log samples into system ✓ Enter laboratory data manually and using DataTool ✓ Create an EDD in standard, or if applicable, client-specific format ✓ Create and print invoice and export invoice data (if applicable) into accounting package ✓ Send example email notification via MessageManager ✓ Develop schedule for acceptance test planning
	Deliverables:	<ul style="list-style-type: none"> ▪ Full test of Element on limited data set ▪ Identify and apply corrective actions as needed

02. Preparation for LIMS Training		
	Participants:	TWQL and potential LIMS users, Promium Implementation Engineer/Training Specialist and Administration
	Goal:	<ul style="list-style-type: none"> ✓ Set up classroom and training schedules ✓ Designate and set aside appropriate space at the laboratory to perform training classes for users ✓ Move training computers into the room and set up with Element LIMS training database ✓ Schedule users to attend various training sessions appropriate to their roles within the various laboratory divisions ✓ Access to internet while in training class
	Deliverables:	<ul style="list-style-type: none"> ▪ Training materials ▪ Training space and computers provided by TWQL ▪ List of TWQL users and type of classes to attend ▪ Schedule of classes and amount of time needed by TWQL users to attend

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	<ul style="list-style-type: none"> ▪ Classroom-style training specifically designed to address priorities of end users ▪ Personnel training documentation
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II. Training for End Users	
Participants:	TWQL Project Manager, Promium Implementation Engineer/Training Specialist, Laboratory End Users
Goal:	<ul style="list-style-type: none"> ✓ Train end users with hands-on training within dedicated space at TWQL on their computers ✓ Promium will use TWQL s laboratory database to demonstrate and walk through the various phases of end users' features and responsibilities ✓ End users will actually work with sample control personnel and start logging in live customer samples and verify client and project information ✓ End users will, at a minimum, learn import/export of COC, quick log, analysis set up, query analysis status, standards, batching bench sheets, diluted spikes, printing, audit trail, review and reporting ✓ Promium provides detailed instructions on selected features and tasks of Element that affect various users ✓ Training is an average of two hours per session ✓ Types of users to attend are: GC, GCMS, ICP, ICPMS, IC, LC users for DataTool instrument interface ✓ Laboratory Managers and Project Managers to attend project management class ✓ QA managers to learn about quality assurance administration ✓ Since Element is TNI driven, courses provide insurance needed to make sure TWQL is compliant ✓ Project managers and accounting personnel to learn additional accounting features ✓ Sample control personnel to learn about disposal and internal chain of custody ✓ MessageManager training and ClientConnect interface training
Deliverables:	<ul style="list-style-type: none"> ▪ Training manual ▪ Training syllabuses ▪ Documentation of completed training

III. Testing and Compliance	
Participants:	TWQL Project Manager, Promium Implementation Engineer, Network Administrator (if different from TWQL Project Manager)
Goal:	<ul style="list-style-type: none"> ✓ Begin parallel testing of Element with current LIMS (Sapphire) ✓ Create projects for laboratory testing and log samples as received by laboratory ✓ Print sample labels and sample receipt reports ✓ Create batches and enter data ✓ Import actual data from instrument using DataTool ✓ Report actual client data using client-specific report formats ✓ Create an EDD in standard, or if applicable, client-specific format ✓ Create, print and invoice an actual work order

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		<ul style="list-style-type: none"> ✓ Export invoice data (if applicable) into accounting package ✓ Send example email notification via MessageManager ✓ Schedule and produce automatic query and/or report via MessageManager ✓ Activate Element and "Go Live" ✓ Develop schedule for acceptance test planning ✓ Plan for parallel operation during warranty period
	Deliverables:	<ul style="list-style-type: none"> ▪ Promium and TWQL will be monitoring the life cycle of a sample through the TWQL laboratory on a daily basis ▪ Make any corrective actions as needed ▪ Review and approve all remote sample formats ▪ Sign off on final system acceptance ▪ Create transition plan for long term support

12. First Year of Annual Support		
	Participants:	TWQL Project Manager (if needed), Promium Technical Support Team, including Implementation Engineers who installed at TWQL's location and Developers that developed customizations
	Goal:	<ul style="list-style-type: none"> ✓ First year of annual support is included ✓ Provide excellent support for the first year and beyond with an annual maintenance agreement on Element ✓ Receive live on-line support ✓ Provide telephone support 24/7. ✓ TWQL to designate one contact person to handle technical support ✓ TWQL can also access an on-line knowledge forum with other users of Element, which provides peer group ideas on customizations and other technical features ✓ Provide software updates and support on system components such as executables, libraries, controls, report formats and supporting files
	Deliverables:	<ul style="list-style-type: none"> ▪ Provide technical support for Element through on-line database, email and voice mail and if needed onsite. ▪ On-line web-based support ▪ Provide detailed analysis of support questions to determine if additional training in a specific area needs to be addressed or refreshed

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Data Migration

The Promium team will follow a proven methodology to migrate the data from the current Seedpak system into the Element LIMS. The Element data structure contains tables to store legacy data and was specifically designed to allow organizations to easily access current and historical data from the same interface. The Element design combined with the migration methodology, assures that data migration portion of the project is completed correctly and according to the project schedule.

The data migration methodology is a multiple phase process. Each phase will contribute to a successful data migration and allow for the migrated data to be properly maintained. The phases are as follows:

- Migration Strategy
- Data Source Analysis
- Migration Design
- Building Structure
- Testing and Implementation
- Revisions
- Maintenance

Migration Strategy

The focus of the overall data migration effort is determined in the strategy phase. Since most data migration projects result from system replacement, they often represent a small portion of the overall project.

Migrating data from the TWQL systems requires three major phases:

- Data Extraction
- Data Transformation
- Data Load

It is the core process that describes how the data is obtained, transformed, and loaded into the final repository. Each step of the process will be slightly different depending on the data source and where its data will ultimately be maintained.

Each of the three primary components of the data Extraction, Transformation, Load "ETL" process is discussed below:

Data Extraction

The data extraction step is responsible for extracting data from the source system. During extraction, data may be removed from the source system or a copy made and the original data retained in the source system. Extracted data is loaded into the data staging area (a relational database usually separate from the destination database), for manipulation by the remaining processes.

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Data extraction is generally performed within the source system itself, especially if it is a relational database to which extraction procedures can easily be added. It is also possible for the extraction logic to exist in the data staging area and query the source system for data using ODBC, OLE DB, or other APIs. For legacy systems, the most common method of data extraction is for the legacy system to produce text files, although many newer systems offer direct query APIs or accommodate access through ODBC or OLE DB.

Data Transformation

The transformation phase is responsible for data validation, data accuracy, data type conversion, and business rule application. It is the most complicated of the ETL elements. It may appear to be more efficient to perform some transformations as the data is being extracted (inline transformation); however, an ETL system that uses inline transformations during extraction is less robust and flexible than one that confines transformations to the transformation step. Tools used in the transformation element vary. Some data validation and data accuracy checking can be accomplished with straightforward SQL code.

Data Load

The ETL loading step is responsible for loading transformed data into the destination database. The destination database is usually updated periodically rather than continuously, and large numbers of records are often loaded to multiple tables in a single data load. The data warehouse is often taken offline during update operations so that data can be loaded faster. The design of the loading element should focus on efficiency and performance to minimize the data warehouse offline time.

Data Source Analysis

The primary aim of the analysis phase in data migration projects is to identify the data sources that must be transported into the new system. Data sources are not limited to actual data processing systems, but can also include tools and/or formatted files created by users to accomplish their daily tasks outside the normal systems. The next important part of the analysis phase involves evaluating the actual data. The data will be examined for both data quality and to identify those data that should be migrated. The analysis may uncover errors such as incorrect or missing data. If so, the data will undergo a cleaning step prior to the migration. Promium will work with TWQL representative to determine the corrective action for each error type.

Migration Design

Once the high value legacy data sources have been evaluated, the process of data selection is initiated. Each targeted data source will be reviewed by examining each data element individually and determining if it will be moved into a data archive or become a component of the data warehouse. The design phase is essentially the act of making a checklist of the legacy data elements that must be migrated.

Once the migration design is complete, the actual mapping process can be initiated.

Data Migration Testing and Implementation

Testing and implementation are often combined into one phase since they occur at the same time in most projects. Testing breaks down into two core subject areas: logical errors and physical errors. Physical errors are typically associated with the scripts developed to extract, transform, and load data.

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Logical errors are best identified during implementation. The first step is to execute the mapping. Even if the mapping is completed successfully, we must still ask questions such as:

- How many records did we expect this script to create?
- Did the correct number of records get created? If not, why?
- Has the data been loaded into the correct fields?
- Has the data been formatted correctly?

After the data has been migrated, the goal is to verify the answers to these questions and to allow access to the data by a few designated users to assure that all high level data was included during the initial migration design phase and mapping.

Revisions

The revision phase is where any required cleanup is managed. Each and every data model modification, transformation rule adjustment, and script modification are essentially combined to form the revision phase. Once this phase is completed, all of the legacy data that was target for the migration will exist on the new platform either in an archive format or within the newly created data warehouse.

At this point, the legacy systems will no longer be required and all data going forward will be collected in the new LIMS. If the LIMS is not fully implemented, then an additional data migration event may occur later utilizing the same tools developed for the initial event. The tools at this point will be finalized and all revisions will have been incorporated.

Maintenance

The maintenance phase is put into place to assure that the scripts, mappings, and utilities developed are maintained in the event that additional migrations are required. In most cases, a second and final migration event may occur due to unanticipated delays in the actual roll out of the primary system. It also includes the continued up keep to both the archived data and the data warehouse.

LIMS Testing

Testing is critical to a successful LIMS implementation. The Promium team subscribes to a multi-tiered test strategy designed to identify and fix issues during the entire configuration and implementation process. The Promium test strategy includes unit testing during the population and configuration of the LIMS in addition to a comprehensive system test prior to acceptance and rollout. The testing will consist of the development of test reports that can be reviewed by TWQL.

Software Specification and Requirements

Promium is a configurable system that frequently does not require custom development. However in the unlikely event custom development is deemed necessary, the Promium team will follow an iterative approach to determine requirements and specifications. As necessary, the team will hold a series of meetings with representatives of stakeholder groups affected by the custom development. During these meetings the team will clarify objectives and functionality to be included in the customization. Following each meeting the findings will be incorporated into a requirements matrix and specification document. The matrix and specification will be refined during subsequent meetings with the same stakeholder groups.

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Once the requirements matrix and specification document has been finalized, it will serve as the formal scope for the development effort. The budget and timeline will be based on these documents. Aligning the budget, timeline, and scope prior to undergoing any significant development effort will help minimize rework and project risk. The requirements matrix and specification document will also serve as the basis for testing and acceptance activities prior to the customization being put into production.

Schedule

Based on the information provided by TWQL in the RFP and Promium experience implementing Element in similar environments, it is estimated that the project will take approximately 6 months. This is measured from contract approval to final acceptance. A final project plan will be developed as part of the Project Initiation phase. The final plan will list individual project team members for each task.

4.2.1 Technical Support

1. List your technical support service offerings, their rates or fixed costs, and whether or not the service is included in the base cost of the system or optional.

Description of Support Services	Rate	Bundled or Optional
Phone support		Bundled
Remote desktop support		Bundled
Email support		Bundled
Online knowledge base		Bundled
Online user forum		Bundled
Remedial training (onsite or web-based)	\$500/8 hours (plus travel)	Optional

2. Describe the terms and conditions of your technical support service contract.

Please reference the document "Promium Maintenance Agreement" in the appendix. Excerpts:

a. Scope: Technical support services under this Agreement are limited to the two most recent major versions of the covered Software products and are available to customers who have a valid Maintenance Agreement.

b. Services: Unless otherwise communicated, telephone support is available 24/7, 365 days a year. Online documentation and other support materials are available at www.promium.com/support. Promium website is available twenty-four hours per day, seven days per week unless undergoing maintenance or repair.

Each Element DataSystem customer requiring support must designate at least one primary contact person to manage technical support requests.

Support requests should be directed to:

Promium Customer Support (Help Desk)

425.286.9200 phone or toll free at 877-Promium (776-6486)

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425.286.9201 fax or toll free at (800) 878-7158

support@promium.com

3. List the locations of the nearest support offices in the Mountain and Pacific time zones, and the number of support people at each location.

We have a team of support professionals available 24 x 7 x 365 days a year. They are located in Bothell, WA (PST) with backup in Springfield, Missouri (CST).

4. Describe your problem management and escalation procedures. Include information about logging and tracking calls, mean response time, and acknowledgment and confirmation to the customer.

Promium employs a multi-layered approach to support including:

- 1) First line phone-based support: Primary support is provided by a live phone-based support desk (toll free number) staffed by individuals who have direct laboratory experience and extensive knowledge of Element. Each call is logged into an online ticketing system and all tickets are tracked from initiation through resolution. Customers are provided with responses in writing to all tickets and when appropriate, apprised of ongoing progress. The ticket log is reviewed regularly by members of the support and development teams. Problem resolution may involve transferring control of the user's desktop to the support team member via a web conferencing service. Users may directly enter a trouble ticket via the on-line ticketing system.

- 2) Senior level support for escalations: Problems that cannot be rapidly addressed by the first line support team are escalated to individuals with a deeper knowledge of specific technical functionality or lab operations. This includes the department managers responsible for support, implementation, and/or development.

- 3) Management team for unresolved issues: Issues that cannot be resolved by the first and second line support team are escalated further to the management team for resolution. This includes senior executives in the company.

- 4) On-line resources: On-line self-help resources are also available for troubleshooting and addressing known issues.

5. What percent of support calls requires a call back to the customer due to problem research, non-availability, or escalation? We estimate this to be less than 15%.
6. Is there an on-line database of questions and answers about service/support issues that is accessible to clients? Can clients access the database 24 hours a day? Yes, a modest amount of information is available but the Support team is in the process of implementing a more extensive Knowledge Base.

4.2.2 Hardware Estimates

1. Hardware cost estimates are needed. TWQL will procure the appropriate hardware separately, but must know vendor recommendations. TWQL does not want minimal recommendations, but optimal. TWQL wants assurance that the hardware specifications will support the transaction and access levels growth for a minimum of five years.

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2. Provide hardware recommendations in the table below; repeat the table (if necessary) to indicate different server options (ex. UNIX vs. Windows).

Specifications of our quoted server (HP ProLiant DL380)

CPU: Xeon E5620 2.4 GHz (quad-core)

HDD: 6 x 146GB in RAID 0, with two additional hot-swappable drives

RAM: 12GB

Element requires a single database server running either MS SQL or Oracle. The server OS is transparent to the Element client application. Thus, OS recommendations are best made by the database vendor.

A single dedicated server can be used for the database functions outlined in the table below.

Server Function	Stand Alone Required (Y or N)	Server Type/OS	Sizing Characteristics
Ex. Development	N	Per database vendor	6 x 146GB in RAID 0
Ex. Database	N	Per database vendor	6 x 146GB in RAID 0
Ex. Production	N	Per database vendor	6 x 146GB in RAID 0
Ex. Training	N	Per database vendor	6 x 146GB in RAID 0

4.3 Deliverables and Acceptance

Please indicate your agreement to the acceptance criteria below.

Deliverable	Acceptance Criteria
<input checked="" type="checkbox"/> Y Successful installation of the system on the Tucson Water Quality Laboratory Server.	An installation will be deemed successful if TWQL staff can access the system to conduct configuration activities and can execute a full range of transactions using sample data.
<input checked="" type="checkbox"/> Y Data Migration.	Data Migration will be deemed successful if TWQL staff can execute a full range of transactions using this migrated data.
<input checked="" type="checkbox"/> Y Training Services and materials and system documentation.	Successful completion of training events as determined in the proposal contract. Delivery of the system documentation as determined in the proposal and contract.
<input checked="" type="checkbox"/> Y Software and hardware support for a specified warranty period and proposed terms and conditions for the first five years of annual	Vendor to resolve all issues surfaced during the warranty period to the satisfaction of TWQL. TWQL to review and accept terms and conditions for annual support.

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software support.

Y

TWQL requires a minimum and error-free acceptance testing period of 60 working days to complete final acceptance testing after the Contractor(s) verifies the system is ready for acceptance testing to begin.

The system shall run without a high-severity error for sixty (60) days in order to be deemed, in writing by TWQL, that the system is accepted.

4.4 Acceptance Testing

1. Please describe what provision you will make for a testing plan to determine that the system is operating properly, including, at a minimum, that all required functionality specified herein, except as noted otherwise in your reply, is included and performs as required.

Please see the appendix document "TWQL Test Plan Sept 2011", which will be further populated during the early phases of the implementation.

2. Describe your data conversion testing process and how the customer will be presented with an acceptance of the conversion.

Testing and implementation are often combined into one phase since they occur at the same time in most projects. Testing breaks down into two core subject areas: logical errors and physical errors. Physical errors are typically associated with the scripts developed to extract, transform, and load data. Logical errors are best identified during implementation. The first step is to execute the mapping. Even if the mapping is completed successfully, we must still ask questions such as:

- How many records did we expect this script to create?
- Did the correct number of records get created? If not, why?
- Has the data been loaded into the correct fields?
- Has the data been formatted correctly?

After the data has been migrated, the goal is to verify the answers to these questions and to allow access to the data by a few designated users to assure that all high level data was included during the initial migration design phase and mapping.

3. Describe your provision for testing in a post-configuration environment. Include the time allowed for all severe errors to be corrected before final acceptance and any provision you make for testing to be extended in the event that all high-severity errors are not corrected in the test window.

System testing is a collaborative effort between TWQL and Promium implementers. During the implementation, the Test Plan (see appendix) will be defined and agreed upon. TWQL personnel will be responsible for testing specific items (ie. reports, instrument interpreters), and Promium

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implementers will examine other functionality of the system in an effort to test all configurable items. Testing results must be well documented, and schedules adjusted accordingly to compensate for any deviations.

The Gantt chart specifies the appropriate testing period, which should be sufficient enough for adequately resolving any errors. Promium implementers will extend testing if necessary to resolve all high-severity errors as agreed upon between Promium and TWQL.

The general testing outline is as follows:

Initial Testing	
Participants:	TWQL Project Manager, Promium Implementation Engineer and Network Administrator (if different from TWQL Project Manager)
Goal:	<ul style="list-style-type: none"> ✓ Initial testing of Element DataSystem ✓ Create project and log samples into system ✓ Enter laboratory data manually and using DataTool ✓ Create an EDD in standard, or if applicable, client-specific format ✓ Create and print invoice and export invoice data (if applicable) into accounting package ✓ Send example email notification via MessageManager ✓ Develop schedule for acceptance test planning
Deliverables:	<ul style="list-style-type: none"> ▪ Full test of Element on limited data set ▪ Identify and apply corrective actions as needed ▪ Review and approve all remote sample formats

4. Describe the process you propose for final acceptance.

Specifics of the final acceptance process are defined during the early implementation phases. Following is a general outline of the process:

Final Acceptance	
Participants:	TWQL Project Manager, Promium Implementation Engineer, Network Administrator (if different from TWQL Project Manager)
Goal:	<ul style="list-style-type: none"> ✓ Begin parallel testing of Element with current LIMS (Seedpak) ✓ Create projects for laboratory testing and log samples as received by laboratory ✓ Print sample labels and sample receipt reports ✓ Create batches and enter data ✓ Import actual data from instrument using DataTool ✓ Report actual client data using client-specific report formats ✓ Create an EDD in standard, or if applicable, client-specific format ✓ Create, print and invoice an actual work order ✓ Export invoice data (if applicable) into accounting package ✓ Send example email notification via MessageManager ✓ Schedule and produce automatic query and/or report via MessageManager ✓ Activate Element and "Go Live" ✓ Develop schedule for acceptance test planning ✓ Plan for parallel operation during warranty period
Deliverables:	<ul style="list-style-type: none"> ▪ Promium implementation engineers on site ▪ Promium and TWQL will be monitoring the life cycle of a sample through the TWQL laboratory on a daily basis ▪ Make any corrective actions as needed ▪ Review and approve all remote sample formats

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		<ul style="list-style-type: none">▪ Sign off on final system acceptance▪ Create transition plan for long term support
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4.5 Application Support

1. Describe the terms and conditions of your technical support service contract.

Please reference the document "Promium Maintenance Agreement" in the appendix.

2. List the locations of the nearest support offices in the Mountain and Pacific time zones and the number of support people at each location.

All support is provided out of our Bothell Washington office and seven individuals are capable of addressing support issues.

3. List the levels of technical support, times of the day each level is available, and method of contact.

1) First line phone-based support: Primary support is provided by a live phone-based support desk (toll free number) staffed by individuals who have direct laboratory experience and extensive knowledge of Element. Each call is logged into an online ticketing system and all tickets are tracked from initiation through resolution. Customers are provided with responses in writing to all tickets and when appropriate, apprised of ongoing progress. The ticket log is reviewed regularly by members of the support and development teams. Problem resolution may involve transferring control of the user's desktop to the support team member via a web conferencing service. Users may directly enter a trouble ticket via the on-line ticketing system.

2) Senior level support for escalations: Problems that cannot be rapidly addressed by the first line support team are escalated to individuals with a deeper knowledge of specific technical functionality or lab operations. This includes the department managers responsible for support, implementation, and/or development. These individuals are available by phone or email.

3) Management team for unresolved issues: Issues that cannot be resolved by the first and second line support team are escalated further to the management team for resolution. This includes senior executives in the company.

4) On-line resources: On-line self-help resources are also available for troubleshooting and addressing known issues.

4. Describe your problem management and escalation procedures. Include information about logging and tracking calls, mean response time, and acknowledgment and confirmation to the customer.

See above

5. Is there a toll-free telephone number for clients to call with questions or concerns about ongoing service and support? What times are available for its use?

Yes. Customers may call this number 24 x 7.

6. The Tucson Water Quality Laboratory requires a system availability of least 99.9% based on fourteen (14) hours per day, five (5) business days per week. Describe what methods you use to support the system remotely (e.g. VPN, etc.).

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Most problems are able to be resolved over the phone or through the use of desktop sharing software (with the client's explicit permission).

7. If the application is down for longer than one business day, are you willing to make a technician available for on-site troubleshooting? Be sure to specifically indicate the level of on site expertise.

On-site support is available, the cost of which is dependent on technical fault. Ideally, the on-site support visit would be provided by the most senior member of technical support.

8. In the event of an extended service outage, describe what provisions you make to compensate Tucson Water Quality Laboratory for direct costs incurred to compensate for the outage.

This unlikely situation would be elevated to the level of CEO Scot Cocanour for resolution.

9. List your technical support service offerings, their rates or fixed costs, and whether or not the service is included in the base cost of the system or optional.

Description of Support Services	Rate	Bundled or Optional
Phone support		Bundled
Remote desktop support		Bundled
Email support		Bundled
Online knowledge base		Bundled
Online user forum		Bundled
Custom Report generation	\$180/hr	Optional
Custom EDD generation	\$180/hr	Optional

4.6 Key Personnel

1. Describe the provisions that you will make to staff the project with adequate experienced personnel, capable of the successful accomplishment of work to be performed under this Contract. Include resumes of personnel who will be assigned.

See below.

2. Describe your ability to maintain key project personnel in place for the duration of the project.

Promium budgets time among key personnel based on current and upcoming projects, ensuring that they are able to remain available for the duration of their specific project assignments.

3. In the event that key personnel are not available for work under this Contract for a continuous period exceeding thirty calendar days, or are expected to devote substantially less effort to the work than initially anticipated, what provisions do you have to notify the City and, subject to the concurrence of the City, replace such personnel with personnel of substantially equal ability and qualifications?

In the unlikely event of this occurrence, Promium will notify the TWQL Project Manager as early as possible. Alternative veteran personnel with the appropriate (and significant) experience will be proposed and assigned as a replacement.

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A dedicated team will be assigned to the lab for full implementation of Element. All individuals assigned to this project have extensive experience relevant to water/wastewater and/or analytical analysis. The team will perform LIMS setup and implementation, analytical database configuration, system validations, data migration, customizations as directed by the contract, and training and long term support. The Promium team consists of experts in the fields of chemistry, computer sciences and software development.

TWQL Project		PROJECT TEAM	
Name	Title/Location	Experience	Responsibilities
John Albert	Implementation Manager (Bothell, WA)	15 years of experience in working with waste water laboratory based operations and assisting in the management of LIMS installation projects. Similar project include: Washington Suburban Sanitation Commission, Clark County Sanitation District, City of Los Angeles, County of Los Angeles, City of Austin, Hampton Road Sanitation District.	Responsible for the overall management of the project and will be the primary contact. Mr. Walla is responsible for planning, communication, schedule, budget and quality.
Julia Wilcox	Element LIMS Implementation Engineer (Bothell, WA)	20 years' experience in LIMS management and Laboratory data management. Installed Element in City of St. Petersburg, Fl; City of Lawrence, KS; City of Abilene, Texas; City of Portland and Tacoma, WA.	Executive overview and management of all operations of LIMS installation, implementation, training, support and long term maintenance.
Kortland Orr	Element LIMS Implementation Engineer (Bothell, WA)	5 years of experience working as a LIMS Project Manager. Similar project management experience are City of Los Angeles County of Los Angeles, City of Austin, Hampton Road Sanitation District installation, US Environmental Protection Agency	Responsible for developing project schedules, conducting project meeting, preparing project documentation and assisting with data migration and system integration plans. Mr. Young will be responsible the day-to-day management of the project.
Robert Walla	Data Migration Manager (Red Bank, NJ)	Julia has been implementing Element for the past 5 years. Similar installations include: Louisville Water Company, US EPA Regional labs, Minnesota Dept of Health, Rhode Island Dept of Health, Washington Dept of Ecology, and City of Portland.	Member of implementation team for installing, implementing and training of Element DataSystem
Frederick (Trey) Young	Migration Engineer (Kansas City, MO)	Kortland has been in the laboratory environment for 20 years. He worked in labs that utilized Element and is an excellent resource on our Training Team.	Manage implementation for installing, implementing and training of Element LIMS

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Jacob Pitzer	Element LIMS Implementation Engineer (Bothell, WA)	Jacob spent several years working in our Support program on Element and is now conducting training on Element at various installations across the US.	Manage implementation for installing, implementing and training of Element LIMS
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Promium is dedicated to customer service and providing unparalleled support not only during implementation but long after go-live. In addition to the core project team, an extensive support team is available to provide additional expertise to either the core team or directly to TWQL. Resumes for the support team will be provided upon request.

TWQL Project		PROMIUM SUPPORT TEAM	
Name	Title	Experience	Responsibilities
Bruce Bradburn	Director of Support	Bruce has been with Promium for 10 years and in that time has managed Implementation and Support teams. He has installed Element in numerous facilities across the United States including many of our Regional EPA Labs, such as Region 6 in Houston, Texas.	Manage Support team, provide escalation support, contribute to oversight of implementations and customizations, support upgrade process.
Ronnie Bryce	Technical Sales Engineer	Ronnie has been with Promium for 10 years and has over twenty years' experience in managing LIMS including laboratory experience. He has managed numerous installations of Element including North Texas Municipal Water District, City of Lawrence, American Water and many other commercial environmental labs.	Resolve technical questions and manage escalations
Doreen McIntosh	Technical Support Engineer	Doreen is responsible for providing first level support and managing development of user manual content. Doreen is a trained chemist and has many years' experience as an Element user.	Resolve technical issues and manage escalations.
Lee Otis and David Riese	Contract Support	Both Lee and David have 20 plus years' experience in the environmental Lab arena. Lee formerly a US EPA regulator. David is a former analyst, trainer, implementer, and sales manager.	Manage all aspects of the lab contract and or need to upgrade to more Element Licenses.

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Core Project Team Resumes

John Albert	Director of Implementation Services
Summary of Positions	
<ul style="list-style-type: none">• LIMS Administrator, Rayonier Research Center• Inorganic Chemistry Manager, ENCO Environmental Laboratories, Florida• Analyst, Clean Harbors Environmental Services, Florida	
Education	
<ul style="list-style-type: none">▪ B.S., Chemistry - Northern Arizona University	
Experience	
<ul style="list-style-type: none">▪ Manage the implementation team responsible for Implementation of Element DataSystem.▪ Personally installed Element DataSystem at multiple laboratories and conducted training of hundreds of users. John has developed Crystal Reports for numerous Element clients, developed and interpreted archive/historical databases, and interfaced hundreds of Instruments.▪ LIMS Administrator, Rayonier Research Center▪ He also developed and administered LIMS system for the research center and performed database administration functions.▪ Managed inorganic chemistry activities at ENCO Laboratories.▪ As a chemist, performed inorganic, physical and wet chemistry testing methods for the environmental testing laboratory▪ Active Member of American Chemical Society.	
Installations	
<p>Before John became the Implementation Manager, he was an Implementation Engineer with Promium for over 5 yrs. He managed the installations for many of our Florida clients such as City of St. Petersburg, City of Lakeland and City of Titusville. Currently John manages and coordinates the LIMS implementation teams.</p>	

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Julia Wilcox	Implementation Engineer
Summary of Positions	
<ul style="list-style-type: none">• Implementation Engineer, Promium• Project Assistant, Aspect Consulting• Technical Writer, AMSEC• Developer and Database Manager, EcoChem• Customer Service Director, Proposal manager, Quanterra Inc. Environmental Testing Laboratory.• Environmental Data Specialist, California Analytical Laboratory	
Education	
<ul style="list-style-type: none">• B.S., Chemistry - Northern Arizona University	
Experience	
<ul style="list-style-type: none">• Julia has installed, implemented and trained environmental laboratory personnel on Element DataSystem over the past two years. She is a great facilitator of knowledge on Element and its many functions. Her combined background in environmental testing and as a technical writer provides great insight into laboratory clients needs. She has recently completed numerous installations and contributes to the implementation of new software upgrades.• Directed laboratory subcontracting and data validation.• Translated and organized technical information for publication.• Responsible for database management, web development and data validation.• Responsible for managing proposals for Quanterra Inc. Environmental Testing Laboratory.• Environmental Data Specialist for California Analytical Laboratory	
Installations	
<p>Julia has completed over 30 installations with Promium. Ones that have been completed in the past three years include: City of Portland, State of Washington, Department of Ecology, Manchester Environmental Laboratory, Port Orchard, WA. S-F Analytical, New Berlin, WI, MAS LLC, 3945 Lakefield Ct., Suwanee, GA. City of Portland, WWTP. South Coast Air Quality Control Lab in LA, CA. City of Tacoma, WWTP, Tacoma, WA. American Bottoms, WWTP, MI.</p>	

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Kortland Orr	Implementation Engineer
Experience	
<ul style="list-style-type: none">• Implementation Engineer, Promium• Project Manager, Friedman & Bruya, Managed client projects within the laboratory, performed analyses in the organics and wet chem. laboratories, grew laboratory revenue through client development.• Business Development Director, Brooks Rand Labs Develop specific plans for achieving revenue goals, customer development, and development of existing and potential markets for both current and new services.• TestAmerica Laboratories (previously North Creek Analytical) Project Manager, Client Services Manager, Key Account Executive• Scientist, Weyerhaeuser Analysis and Testing Analyst in chromatography, wet chem, and physical testing labs.• Health Physics Technician, Newport News Reactor Services• Analyst, Intermountain Analytical Services	
Education	
<ul style="list-style-type: none">• B.S., Zoology, Idaho State University• B.S., Biology, Idaho State University	
Experience	
<p>In the past two years installations and implementations include in Portland OR – Alexin Labs, City of Portland, City of Tacoma, Tampa Bay FL – Southern Analytical, Edison NJ – EPA Region II, Louisville KY – Microbac, Durango CO – Green Analytical, Peoria IL – PDC, St Louis MO – PDC, Baltimore, MD – Maryland Spectral, Erie, PA – Microbac, Denver, CO – EPA Region 8, Los Angeles, CA – American Scientific Laboratories, Long Beach, CA – Advanced Technology Laboratory, Pennington, NJ – New Jersey Analytical.</p> <p>Kortland has been instrumental in developing training materials for many of courses that Promium provides. He is also involved in developing on-line manuals for refresher courses. He is experienced in providing thorough LIMSTraining to all different types of users.</p>	

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Jacob Pitzer	Implementation Engineer
Summary of Positions	
<ul style="list-style-type: none">• Implementation Engineer, Promium• LIMS Technical Support Representative, Promium• Laboratory Operations, Bio-Rad Laboratories	
Education	
<ul style="list-style-type: none">• B.S., Chemistry - Western Washington University	
Experience	
<ul style="list-style-type: none">• Recent LIMS installations and implementations include Tampa Electric, FL, Maryland Spectral Services, MD, City of Tacoma, WA, Green Analytical in CO, American Scientific, CA.• Jacob staffed the technical support desk for Promium for over 4 years and handled technical questions on Element DataSystem. He also has provided assistance to clients with upgrade questions or new instruments to interpret.• Trained in a laboratory setting to support production of commercial products, operated and maintained lab equipment, and utilized proficiency with computers and networks.	

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ROBERT D. WALLA	PROJECT DIRECTOR
Areas of Expertise	
<ul style="list-style-type: none">▪ Laboratory Information Management Systems▪ Requirements Assessment▪ Laboratory Reporting, Visualization and Mining Systems▪ Computer System Implementation▪ System Validation	
Education	
<ul style="list-style-type: none">• B.S., Chemistry, Rutgers University	
Experience	
Principal- Laboratory Informatics Division, Astrix Software Technology, Inc., 1995 - Present	
<p>Mr. Walla is responsible for the overall management, development, and implementation of laboratory automation systems. This includes process evaluation and mapping, collection/documentation of requirements, system architecture, product evaluation, system implementation, system validation, system training and business process re-engineering.</p>	
Laboratory Manager, ETC Corp., Edison, N.J. 1992- 1995	
<p>Responsible for directing the operation of ETC's Edison, NJ Laboratory Operations. Responsibilities include management of all technical and administrative personnel, business / financial management of group including meeting revenue goals and cost management, management of customer contracts, development and management of Quality Assurance Project Plans (QAPP's).</p>	
Director, Project Management, ETC Corp., Edison, NJ. 1990-1992	
<p>Responsible for directing the Project Management Staff at a large commercial contract laboratory. Interfaced with clients and regulatory agencies to ensure requirements were identified and executed.</p>	
<p>Mr. Walla also was a member of the design and development team that implemented a client contact database and Sales Forecast Production System. Mr. Walla's main responsibility was system implementation and validation of the final products.</p>	
Director, Project Support / Database Products, ETC Corp., Edison, NJ. 1987-1990	
<p>Directed the coordination of the ETC laboratory to provide government and clients with compliant analytical data in a highly regulated environment. Managed technical and administrative staff that acted as liaisons between the client and laboratory operations. Duties included financial forecasting for all analytical programs, management of product line encompassing over two thousand products, administration of proposal generation, pricing policies, and sales accounting. Designed and implemented client proposal generation and tracking database. Mr. Walla also directed operations of Database Products Group. Responsible for management of computer programming professionals and administrative staff, design and implementation of new products, management of analytical results and quality control database. Directed migration from enterprise database system to PC / Network architecture.</p>	

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Frederick (Trey) Young	Data Migration Specialist OR
Areas of Expertise	
<ul style="list-style-type: none">▪ Laboratory Information Management Systems▪ Data Migration▪ Computer System Implementation▪ System Validation	
Education	
<ul style="list-style-type: none">• B.S., Electrical Engineering, University of Missouri, Rolla	
Experience	
Technical Project Manager - Laboratory Informatics Division, Astrix Technology Group, Inc.	
<p>Astrix evaluates, develops and integrates applications to enhance the collection, processing and reporting of scientific data. Mr. Young specializes in business process assessment and design. He is an expert in developing and implementing data migration strategies. Mr. Young is also a specialist in network engineering and network design.</p>	
2002 –2006	
Project Lead, Black and Veatch Solutions, Overland Park, KS	
<p>Responsible for leading teams ranging from 5-15 technical staff responsible for process evaluation, process design, system requirements, system evaluation, system testing and production support. Provided technical project management functions for BV solutions, a wholly owned solutions provider of Black and Veatch, a privately held global engineering firm. Assisted in validation support and technical writing and designing custom web based help services.</p>	
2001 –2002	
Information Technology Lead, Black and Veatch Solution, Overland Park, KS	
Expanded data retention and reporting capabilities of internally-developed Customer Relationship	

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Management software. Created new standard reports and ad-hoc reports, as needed. Cleaned and imported new data from sales and marketing efforts. Responsible for all aspects of the management of software system testing, validation, documentation and packaging.

1996 - 2001 System Engineer, Sprint, Westwood, KS.

- **Project Management:** Oversaw renovation of physical and computing infrastructure at a Sprint technology research laboratory. Monitored activities of internal and external staff in updating lab capabilities to allow for easier access of computing and network assets.
- **Result:** Improved capabilities of laboratory in completing larger, more complex projects.
- **Network Systems Engineering:** Prepared engineering specifications and supported implementation team on networking projects. Reconciled planning goals with existing site and network limitations.

4.7 Defective Product

1. All defective products provided by the Contractor under this agreement shall be replaced and exchanged by the Contractor. The cost of transportation, unpacking, inspection, re-packing, re-shipping or other like expenses shall be paid by the Contractor. The City must receive all replacement products within seven (7) days of initial notification.

This is acceptable.

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5.1 Cost Summary

Description	Total Cost \$																								
<p>1. Base System Modules (exc. Maintenance)</p> <p>25 Concurrent User License of Element DataSystem® Element is a unified Commercial Off the Shelf (COTS) LIMS. All features are included such as:</p> <ul style="list-style-type: none"> - Project Management - Sample Control - Laboratory Operations - Quality Assurance - Reporting (standard reports and EDDs) - ClientConnect Application - Instrument Interface with lab equipment and field data (DataTool) - Bar Coding Capability - Off site and On site application of Element - ISO 17205 Compliant and NELAC (TNI) driven - Numerous Label Printing options - Invoicing - MessageManager alerts - Query of current and historical data after Migration <p>9% discount off Element DataSystem As part of our Agreement to participate in the Cooperative Purchasing Program with the City of Tucson.</p>	<p>\$ 119,500</p> <p>-\$10,755</p>																								
Subtotal of Element DataSystem Software after 9% discount is:	\$108,745																								
<p>2. Optional Modules in Suite (exc. Maintenance)</p> <p>Element DataSystem is a unified COTS - all of our features are included with the license. We do not price any software components individually.</p>	Included																								
<p>3. Optional Software from Partners</p> <p>A license of Crystal Reports is bundled with Element</p>	\$ 699																								
<p>4. Implementation Planning and Consulting (Detailed description of Implementation, Installation and consulting services are all outlined in the Proposal)</p>	\$35,000																								
<p>5. Data Migration</p> <table border="1"> <thead> <tr> <th>Task</th> <th>Rate (\$/Hr)</th> <th>Hours</th> <th>Cost</th> </tr> </thead> <tbody> <tr> <td>Migration Strategy</td> <td>\$165.00</td> <td>24</td> <td>\$3,960.00</td> </tr> <tr> <td>Data Source Analysis</td> <td>\$165.00</td> <td>24</td> <td>\$3,960.00</td> </tr> <tr> <td>Migration Design and Execution</td> <td>\$165.00</td> <td>60</td> <td>\$9,900.00</td> </tr> <tr> <td>Testing and Implementation</td> <td>\$165.00</td> <td>40</td> <td>\$6,600.00</td> </tr> <tr> <td>Total Data Migration</td> <td></td> <td>148</td> <td>\$24,420.00</td> </tr> </tbody> </table>	Task	Rate (\$/Hr)	Hours	Cost	Migration Strategy	\$165.00	24	\$3,960.00	Data Source Analysis	\$165.00	24	\$3,960.00	Migration Design and Execution	\$165.00	60	\$9,900.00	Testing and Implementation	\$165.00	40	\$6,600.00	Total Data Migration		148	\$24,420.00	\$24,420
Task	Rate (\$/Hr)	Hours	Cost																						
Migration Strategy	\$165.00	24	\$3,960.00																						
Data Source Analysis	\$165.00	24	\$3,960.00																						
Migration Design and Execution	\$165.00	60	\$9,900.00																						
Testing and Implementation	\$165.00	40	\$6,600.00																						
Total Data Migration		148	\$24,420.00																						

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<p>5. Training</p> <ul style="list-style-type: none"> • Train the trainer • End user • Technical for TWQL individuals who will be working with the Premium to configure the applications including establishing databases and interfaces, data conversion, customization, and upgrading the customized software. • System administration training for TWQL personnel who will be responsible for ongoing maintenance and administration of the system, including security 	<p>\$20,400</p>																								
<p>6. Expenses (Travel Expenses) \$500/day estimate 30 onsite days</p>	<p>\$15,000</p>																								
<p>Subtotal</p>	<p>\$204,264</p>																								
<p>7. Software Maintenance & Support (for 5 years) There is no charge for Annual Maintenance in the first year which begins upon Element Installation. After the first year the Annual Maintenance will be \$625/per user x 25 licensed users= \$15,625 x 5 yrs = \$71,825 If the City wants to purchase 5-10 years in advance we will provide a locked in discount of 10% off the total of the amount of years purchased in advance.</p>	<p>\$71,825</p>																								
<p>8. Additional Software Tools or Utilities: Instruments or equipment that lack a network or RS232 port (ie. Balances, pH meters) require a third party software package such as WinWedge (\$399 per license). However, currently TWQL has developed their own integrated software that should suffice for these instruments to be interpreted with DataTool.</p>	<p>N/A</p>																								
<p>9. Hardware</p> <table border="0" style="width: 100%;"> <tr> <td>HP SB DL380 G7 E5620 SFF (HP ProLiant DL 380)</td> <td style="text-align: right;">\$2815</td> <td></td> </tr> <tr> <td>3 x HP SB 4GB RAM 1Rx4 PC3-10600R-9 KIT</td> <td style="text-align: right;">\$413</td> <td></td> </tr> <tr> <td>3 x HP SB 146GB 6G SAS 10K 2.5IN DP ENT</td> <td style="text-align: right;">\$2103</td> <td></td> </tr> <tr> <td>TOTAL</td> <td style="text-align: right;">\$5331</td> <td></td> </tr> </table>	HP SB DL380 G7 E5620 SFF (HP ProLiant DL 380)	\$2815		3 x HP SB 4GB RAM 1Rx4 PC3-10600R-9 KIT	\$413		3 x HP SB 146GB 6G SAS 10K 2.5IN DP ENT	\$2103		TOTAL	\$5331		<p>\$5,331</p>												
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Customization of Required Reports in Section 8.1 of the RFP			
Report	Estimated Hours	Estimated Cost (\$180/hr)	
8.1.1 DWAR Form 1 – Total Coliform Rule Distribution System Monitoring	16	\$ 2,880	
8.1.2 DWAR Form 1G – Ground Water Rule Reporting Form	16	\$ 2,880	
8.1.3 DWAR Form 3 – Synthetic Organic Chemical Analysis Report	12	\$ 2,160	
8.1.4 DWAR Form 4 – Volatile Organic Chemical Analysis Report	12	\$ 2,160	
8.1.5 DWAR Form 2 IN – Inorganic Chemical Analysis Report	12	\$ 2,160	\$30,960
8.1.6 DWAR Form 9 – New Source Approval Report	40	\$ 7,200	
8.1.7 DWAR Form 8 – Lead and Copper Analysis Report	24	\$ 4,320	
8.1.8 DWAR Form 16 – Individual Sample Analysis Report – Disinfection Byproducts	8	\$ 1,440	
8.1.9 DWAR Form 16.2 – Annual Disinfection Byproduct Report	16	\$ 2,880	
8.1.10 DWAR Form 18A – Maximum Residual Disinfectant Level Report	16	\$ 2,880	
TOTAL	172	\$ 30,960	
DO NOT APPLY SALES TAXES			
		Subtotal	\$340,925
		TOTAL	TBD

5.1.1 Detailed Cost Schedules Supporting Cost Summary

Provide an itemized breakdown of all software being proposed from the core system, optional modules, and third party. NOTE: *If annual maintenance varies by year, provide detail in section 6.2.7 below.*

5.1.1.1 Core System Modules

1. List the required modules for the base system and additional modules that are necessary to meet the City's core requirements as outlined in the Application Software section of the RFP.

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Description	Software License Fee	Cost of Required Training	Annual Maintenance* (give details in #7, below)
Core System Modules			
25 Concurrent User License of Element DataSystem® Including 9% discount	\$ 119,500 -\$10,755	\$14,500	\$15,625
Total	\$108,745	\$14,500	\$15,625

5.1.1.2 Optional Modules In Suite

- List the modules contained in the product suite that are beyond the City's core system requirements, and are optional purchases.

Description	Software License Fee	Cost of Required Training	Annual Maintenance* (give details in #7, below)
Optional Modules in Suite			
Element is a Commercial Off the Shelf (COTS) LIMS	NA	NA	NA
NO additional Modules are needed or required			
(NA) Not Applicable			
Total	0	0	0

5.1.1.3 Software from Partner or Third Party

- List software being proposed that is provided by a third party.

Description	Software License Fee	Cost of Required Training	Annual Maintenance* (give details in #7, below)
Software from Partner or Third Party (list)			
(1) License of Crystal Reports	\$699	Included	NA
Total	\$699	Included	NA

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5.1.1.4 Implementation Planning and Consulting

- List recommended consulting services for implementation. This should include all services that will be needed to install the modules, test, and review after go-live. Expand the description for each service if needed for clarification. Following the table, give the reasons for the recommendations.

Description and Amount of Recommended Consulting Services	Amount in Person-Time (e.g. Person-hours)	Total Costs
Planning/Project Management (\$180/hr)	100	\$18,000
Implementation (\$180/hr) <ul style="list-style-type: none"> Services to implement Element include: <ul style="list-style-type: none"> Configuration Interfaces/Integration Testing (user, system) 	95	\$17,000
Total		\$87,965

5.1.1.5 Training

- List training categories. Indicate if bundled or unbundled and state the cost in dollars. Be sure to break out technical training for IT support staff separately from user training costs.

Training Categories – List by Audience (Technical or User)	Days	Cost
Train the Trainer of Senior TWQL Staff	3	\$4500
City Specific Training development - User	4	\$5700
City Specific Training development – Technical	4	\$5700
City Specific Training development -- Administrative	3	\$4500
Total		\$20,400

Upgrades and new versions to the system that affect end-user functionality include training at no additional cost (e.g. classroom or online training, training filer, release features, etc.)

Training is provided in a variety of formats for product installation, use, and administration for a variety of levels (e.g. basic, advanced, refresher, etc.)

All training manuals, training plans and other documentation provided become the property of the State.

Expenses

- List all relevant additional expenses such as travel supplies.

Expenses		Cost
Travel \$500/day includes Air, Rental Car, Lodging, Per Diem	30	\$15,000
Total	30	\$15,000

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5.1.1.7 Software Maintenance and Support

Provide detailed costs for each module or package included numbers 1, 2, and 3, above. Indicate any standard escalation rates.

List each installed or Supported application	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Software Maintenance and Support on Element DataSystem LIMS®	Included	\$15,625	\$15,625	\$15,625	\$15,625	\$62,500
-10% if purchased all 5-10 years in advance						-\$6250
Total						\$56,250

5.1.1.8 Additional Software Tools or Utilities

List all software that is being proposed to assist in product development, implementation, reporting, or maintenance.

Description	Software License Fee	Cost of Required Training	Annual Maintenance*
(2) License of Crystal Reports	\$699	Included	NA
Total	\$699	Included	NA

5.1.1.9 Hardware Supplied (If applicable)

Description	Hardware cost	Configuration cost	3 years Maintenance
HP SB DL380 G7 E5620 SFF (HP ProLiant DL 380)	\$2815		
3 x HP SB 4GB RAM 1Rx4 PC3-10600R-9 KIT	\$413		
3 x HP SB 146GB 6G SAS 10K 2.5IN DP ENT	\$2103		
TOTAL	\$5331	NA	NA
Total	\$5,331	NA	NA

5.1.1.10 Additional Software Tools or Utilities

- List all software that is being proposed to assist in product development, implementation, reporting, or maintenance.

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Description	Software License Fee	Cost of Required Training	Annual Maintenance*
No Additional Software needed			
Total	NA	NA	NA

5.1.1.11 Additional services

- Please describe additional services offered (data migration, interface development, API for other programs, etc.) and provide pricing for each. Indicate whether each service will be one time or will be base-lined into the core application.

Service Description	One time vs. base-lined	Service cost																		
Data Migration (\$165/hr) <table border="0"> <tr> <td>Task</td> <td>Hours</td> <td>Cost</td> </tr> <tr> <td>Migration Strategy</td> <td>24</td> <td>\$3,960.00</td> </tr> <tr> <td>Data Source Analysis</td> <td>24</td> <td>\$3,960.00</td> </tr> <tr> <td>Migration Design and Execution</td> <td>60</td> <td>\$9,900.00</td> </tr> <tr> <td>Testing and Implementation</td> <td>40</td> <td>\$6,600.00</td> </tr> <tr> <td>Total Data Migration</td> <td>148</td> <td>\$24,420.00</td> </tr> </table>	Task	Hours	Cost	Migration Strategy	24	\$3,960.00	Data Source Analysis	24	\$3,960.00	Migration Design and Execution	60	\$9,900.00	Testing and Implementation	40	\$6,600.00	Total Data Migration	148	\$24,420.00	One-time	\$24,420
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Total		\$52,965																		

5.2 Cooperative Purchasing

- The City of Tucson Department of Procurement facilitates a program through which contracts are made available to other agencies. The City markets these contracts on behalf of participating vendors. If interested in participating in this program, please see section 3.1.1 of Part A, and respond to the following questions. If you are not interested in this program, indicate that with a statement here and delete the remainder of 5.3.

Promium would be pleased to participate in the "Cooperative Purchasing Program". We currently have a LIMS contract with Pima County as well. We know that our contract with Pima County is available to other agencies including the City of Tucson. However, if it helps both the State of Arizona and Promium to provide our LIMS under the City of Tucson's "Cooperative Purchasing Program" we will participate assuming the two contracts are not in conflict with each other.

Our 2011 LIMS software price reflected under this contract is for a licensing volume of 25 concurrent users. If an agency requests a smaller number of users then the per licensing volume pricing does

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not apply but if an agency is to purchase more than 25 Concurrent users the volume discount will apply. We will provide a 9% discount on the software based on the per concurrent price of the volume requested.

2. How is pricing extended to the City of Tucson's Cooperative Purchasing agencies – i.e., what pricing is firm? What pricing is dependent upon the participating agency's needs? Also, describe how pricing is offered for the five-year term of this contract (i.e. if an agency uses this contract in its 3rd term, what kind of pricing can they expect, etc.)?

Promium has provided a 9% discount on our LIMS Element DataSystem software under this contract. Our Federal GSA clients under (GSA Contract #24F0064M) receive 10%. According to our GSA contract we cannot offer a 10% discount in another cooperative contract for our LIMS system because according to our GSA contract Promium is to maintain (Most Favored Customer, MFC) pricing for the federal government. However, if a client in the state of Arizona has received federal funds to procure a LIMS system then Promium can offer a 10% discount for that client under our current GSA contract.

The software prices are firm with a 9% discount. Our hourly rates for implementation and development will follow the same rate as proposed in this RFP. The five year term of this contract will also continue to provide the 9% discount off for Element DataSystem software.

Implementation services and custom development costs applied during a new installation of Element DataSystem for a cooperative purchasing agency may see hourly rates increase as a result of cost living adjustments.

3. Provide information on available rebates. Discuss if the City of Tucson as the lead agency on this cooperative contract will receive an administrative fee based upon other agencies' usage of this contract. Offerors should state proposed percentage, state what the fee is based on (i.e., licensing fees, services, etc.), state how usage is tracked and reported to the City, and state how/when the administrative fee is paid to the City. Please offer any other additional information that will aid the City in our evaluation. See Part A, paragraph 3.1.1 Cooperative Purchasing for additional information.

Promium will provide a 1% administrative fee off the price of the discounted software to the City of Tucson as the lead agency on this cooperative contract. This fee will apply only if the cooperative agency sole sources to Promium. This essentially provides a total of a 10% discount with the 9% discount going to the Cooperative Agency and the 1% fee to the City of Tucson for managing the Cooperative Contract.

5.3 Payment

1. Each milestone shall be separately accepted by the City. The City may request that progress payments be tied to milestones achieved, so indicate which milestone would have payments tied to them.

If these milestones are associated with the Cooperative Purchasing Contract, payments would begin once the contract is final and Element is shipped and paid for. Once a contract is signed the first milestone is to ship Element to the client which will have an invoice with a discount of 9% to be paid within 30 days upon receipt of invoice. Once the software is paid then Promium will pay the City of Tucson a 1% administrative fee from the software invoice.

If Section 5.3 refers to the contract between Promium and the City of Tucson for the TWQL installation of Element DataSystem then we would propose to invoice the City per the Payment Schedule below.

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This table provides a sample of milestones that would apply to our TWQL LIMS schedule:

Item #	Description	Price to be inserted after final contract negotiations are complete	Payment Schedule
1.	Element DataSystem software license for 25 concurrent users		Due upon receipt of software; install will not take place until payment is received.
2.	Crystal Reports		Due upon receipt of software.
3.	Initial teleconference; Initial Project Team Meeting		Due Net30 days from Project Team Meeting
4.	On-site and Off-site Implementation costs		Due Net30 days from install of software on clients —or—Due net 30 days from each on-site visit.
5.	Train the Trainer LIMS Admin training End User Training and other Training sessions as needed for additional Users		Due Net 30 days from end of each on-site training visit.
6.	Travel Expenses		Due Net 30 days from end of each on-site visit.
7.	Custom Reports & EDD Development		Invoices will be issued bi-monthly for hours worked and due net 30 days.
8.	Data Migration		Invoices will be submitted by contractor bi-monthly for hours worked and due Net30 days.
9.	Initial 5 Year(s) of Annual Maintenance for Element DataSystem (25 concurrent users)		If paid in advance then 10% discount will apply to the total cost of 5 years of Annual Maintenance due Net 30 days. If paid on a yearly basis then the discount will not apply and will be due Net30 days.

2. Please provide your payment terms. (30 days after receipt of payment from Cooperative Agency)

3. Method of payment

1. Do you have the ability to accept payment via Visa/MC credit cards is accepted, either for the product or for support?

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X

2. Provide additional discounts for payment by credit card (i.e., does the use of the card entitle agencies to a deeper percentage discount off of a manufacturer's price list?)
We can negotiate these terms during a BAFO. We have not provided this in the past but are willing to negotiate terms that will work for the City of Tucson.

2. If additional discounts do apply (above), please provide the amount of discount.
If payment on services and software are received within 14 days of invoice we will apply another 2% off the invoice.

5.4 Warranty & Maintenance

1. Describe your provision to defer the start of warranty until after final acceptance of the system by the City.

This is acceptable.

Promium warrants, for a period of ninety (90) days after access is first provided to you, that the Software will operate in conformance with the documentation supplied with the Software. Promium's sole obligation under this warranty is to, at Promium's sole option, correct or replace the Software so that it will perform as above warranted or refund a prorated portion of the related license fee. This warranty is void if any unauthorized modifications are made to the Software or if the Software is not used in compliance with its documentation.

2. What level of customer technical support services and response times are provided as part of the product's basic license fees, and what additional cost services or extended warranties are available?

Promium offers the same level of support to all customers. Response is typically made within 60 minutes of initial contact (voice mail or internet).

Additional training services are available for \$500/day (either web-based or onsite).

3. Are all enhancements and upgrades of licensed software delivered as part of the client's annual maintenance contract? If not, explain what costs, including consulting costs, might be required. List the typical frequency of major upgrades, minor releases and bug fixes, and state whether upgrades are cumulative.

Yes, all updates are available per the maintenance agreement. Updates are cumulative.

Major releases are made approximately twice per year. Minor builds are released as needed throughout the year.

4. Describe any discount schedules or special entitlements for the maintenance agreement.

A 2% discount applies for maintenance agreements paid in advance beyond year 2.

5. Attach terms and conditions for the warranty and extended warranty in an appendix

Please see the EULA and Warranty Agreement document in the appendix.

5.4.1 Extended Service Agreement

1. Provide costs for optional extension of service support beyond the required five years.

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	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Annual maintenance costs for 25 users	\$15,525	\$15,836	\$16,152	\$16,805	\$17,141	\$82,409

6. Additional Information

If there are any additional points you would like to make regarding your product that you feel have not been adequately covered by the preceding sections, please describe. This section is included in the page count total of the RFP.

7. Appendices

7.1 Vendor Materials

This section is provided to insert hard copy information and materials that are requested in several sections of the proposal response. These documents do not count toward the page count total of the RFP. These hard copies should only be included in the single original hard copy proposal response and inserted with that original in a three ring binder. Include your materials under the following headings.

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7.1.1 Vendor Qualifications

Promium / Astrix Partnership

Both Promium and Astrix were founded with a specialization in the environmental testing industry by principals who owned or worked for the largest independent testing company throughout the 1980's and into the early 1990's. This focus is reflected in every aspect of the company, from the design of Element DataSystem to the approach to implementation and project management.

Promium's expertise is in the development and implementation of Element, a state-of-the art, COTS LIMS specifically designed for the environmental analysis performed in the water and wastewater organizations. Astrix's experience in performing complex data migration and integration bring best-practices to the TWQL project. We believe the experience and unique strengths of this team provides a competitive advantage to foresee and avoid obstacles that other LIMS vendors would not address.

Promium Background

Promium LLC is a leading provider of laboratory information management systems (LIMS) for commercial and public sector testing laboratories. We focus exclusively on labs that primarily test soil, water and air. Because of that focus, we are able to tightly align our products and services with the needs of our customers. Over 200 laboratories have implemented our Element DataSystem LIMS and we support facilities that range in size from two to over one hundred users.

Promium has served the analytical laboratory market for over thirteen years and Element DataSystem LIMS has been selected by over 240 laboratories—including fifty Federal, State and Municipal labs (with implementations at seven of the ten EPA Regional labs). We have several customers in the State of Arizona but of particular relevance for the City of Tucson is the Pima County Regional Wastewater Reclamation agency/ Compliance Regulatory Affairs Office (CRAO) which selected Element to enable CRAO to achieve NELAC certification for the new Central Laboratory Complex. Element has been deployed in many commercial labs in Arizona which electronically report to Arizona Department of Health Services, Arizona Department of Environmental Quality and U.S. EPA Region 9. Promium is already aware of the required reporting formats and understands that even though Arizona is not a NELAC accredited state they may want to follow similar regulatory requirements in case accreditation needs change.

Element is designed and developed based on NELAC, ELAP and GALP regulations and standards such as ISO 17025 and other state and municipal regulatory frameworks. Element is designed to work with environmental compliance analytes, EPA and Standard Methods 20th Edition, as specified in 40 CFR Parts 136 and 141 of the Federal Register, and Physical/Chemical Methods, SW 846. CAS Registry Numbers and ADEQ contaminant codes. Utilizing a unified approach to product architecture Element includes all core functional components in one system. There are no additional modules to purchase, integrate or maintain. This approach not only creates a favorable total cost of ownership for the City, but makes it easier to implement and upgrade the system.

Element employs a centralized database and a data repository for information storage. The Element application is deployed to the desktop for lab technicians, project managers, QA, the management team, and other lab personnel. Element is also capable of transferring data to and from external systems as generally described in the technical requirements matrix.

Using a widely adopted standards-based Microsoft platform technology, Element is highly configurable. Using tables and check-boxes, many modifications to the system can be implemented without changes to the software codebase. Element is compliant with commonly used versions of Microsoft software and supports

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the Oracle and Microsoft SQL database. Element also incorporates Crystal Reports from SAP, the industry standard report writing engine, to provide pre-defined and customized reports.

Element includes instrument interpreters for all major analytical instruments that create a digital output. These interpreters enable the DataTool functionality within Element to automatically upload instrument results for review. In addition to supporting the instruments listed in the RFP, Promium generally provides interpreters for new instruments at no additional charge as a benefit of the annual maintenance plan. At the pre-bid meeting on September 14, 2011 it was mentioned that there might be additional instruments added to the lab. Since our installation includes all instruments to be brought online we expect to add these as well. Promium will also offer different strategies for migrating Seedpak data into Element or into an historical database repository.

Astrix Background

Astrix is a recognized leader in helping organizations digitize the collection and management of scientific and operational data. Our innovative technologies allow our clients to deploy systems that turn data into knowledge, increase organizational efficiency, improve quality and reduce costs.

Astrix's services are organized along the following business lines:

Consulting

As a vendor and product independent expert in scientific data management systems, Astrix assists clients in the evaluation and implementation of both commercial off-the-shelf (COTS) and custom solutions. Astrix can manage the entire life cycle of a technology project from business case preparation through deployment or provide Project Support Services to augment internal resources.

Integration

Many organizations have invested considerable resources in point source solutions but have yet to integrate them with other applications to create a comprehensive solution. Astrix can integrate disparate systems to create an enterprise approach to data collection, management and reporting.

Astrix History

Astrix introduced its first product, Aquarius®, in 1983. Aquarius, a data processing and reporting package for environmental testing laboratories, was licensed to the Hewlett Packard Company in 1983 for marketing and distribution. Aquarius was installed in over 700 analytical laboratories worldwide and became the de-facto industry standard for chromatographic system data acquisition. Throughout the 1980's Astrix continued to develop commercial software solutions for high throughput analytical laboratory environments.

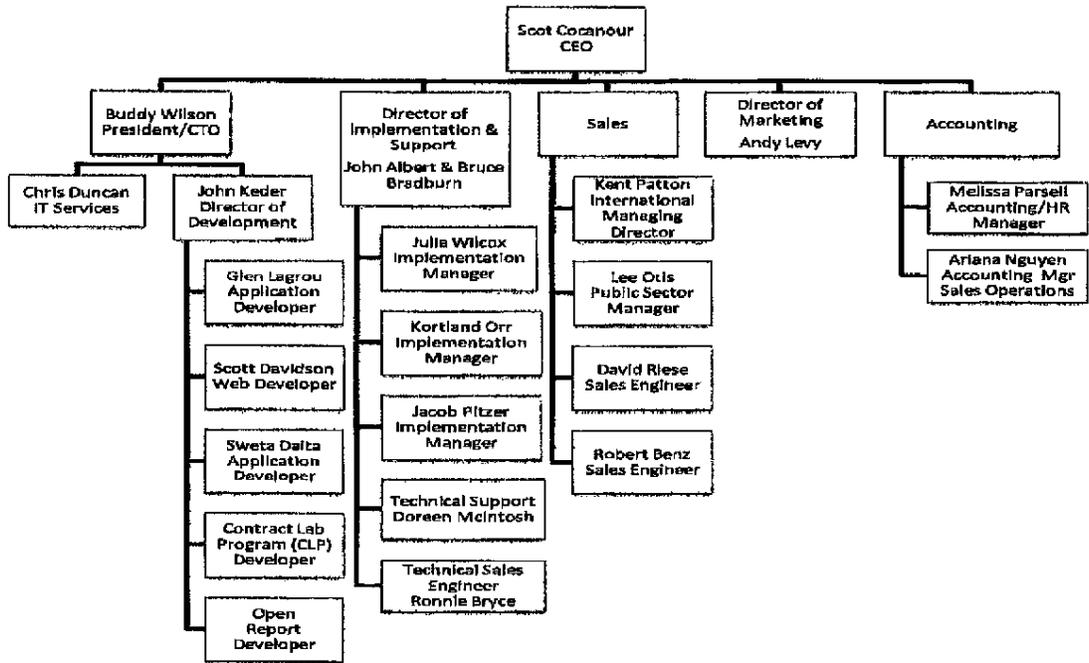
In 1991, Applied Bioscience International (NASDAQ:APBI), an international life sciences company with a portfolio of clinical, environmental, toxicology, and agrichemical expertise providers purchased Astrix. Astrix expanded its system development capabilities to service these corporate affiliates and broadened its market. The firm's focus expanded from laboratory information management systems (LIMS) to broader scientific data processing solutions.

In 1995, management purchased Astrix in an asset purchase agreement with APBI, forming a privately held corporation organized in the State of Delaware overseen by the original managing principals with oversight from an independent Board of Directors. The company expanded through a series of strategic acquisitions servicing various market segments.

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7.1.2 Company Organization and Segmentation



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7.1.3 Financial Statements

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7.1.4 Business and Development Plans

General Business and Development Plans

Promium is a closely held private entity that treats proprietary information confidentially. We can share high level business and development plans with a prospective customer if the City agrees to not disclose the data with any parties outside of the review committee.

Element DataSystem™ LIMS is one of the nation's leading LIMS for testing applications in both commercial and public entity laboratories. Our core strengths are in the scientific disciplines of water/wastewater, air, soil, and hazardous materials testing. By focusing on these specialties and not pursuing a "all things to all labs" strategy, we have produced a solid record of profitable growth and customer satisfaction. Philosophically, we do not believe that a true commercial-off-the-shelf (COTS) LIMS can offer the breadth, depth and specificity to effectively manage both environmental type laboratories and life-science / pharmaceutical type facilities. Promium excels in the water/wastewater LIMS segment because of our tight focus on EPA regulatory compliance rather than FDA protocol.

To complement our business segment niche, we are actively engaged in international expansion by supplying leading LIMS technologies to testing laboratories in our market segment throughout Europe and Southeast Asia. This 'broad geography, market specific' strategy will provide ample runway to continue Promium's 13 year history of growing profits and revenue and satisfied users with little to no debt load.

Promium is and will continue to be a Microsoft partner. Our development team is proficient in understanding and utilizing the broad selection of tools provided by the world's largest software firm to its certified partners. Version 7 of Element, currently under development, is the latest iteration of that evolution. Significant reliance upon experienced user suggestions, filtered through our chemist-developer team promotes a continuous stream of new features and system improvements. This strategy is critical to why approximately half of the most productive testing laboratories in the industry use Element DataSystem.

Promium's business model, from Sales to Support, relies heavily upon customer referrals and word-of-mouth advertising. We believe the 4,000 users from over 240 laboratories who use Element provide the best advertising available.

Research and Development Activities

Promium is dedicated to the continued improvement of existing products and the development of new technologies to enhance the quality and productivity of our clients. Currently, our research and development activities are focused on the next generation of the Element DataSystem that includes:

- Conversion of Element DataSystem and supporting applications and components from a Visual Basic 6 code base to a Visual Basic.NET code base.
- Redesign of primary database structure to support new features, provide a more normalized structure and take advantage of inherent features of major RDBM's.
- Continual improvement and addition of new features to Element DataSystem including support of new client feature requests support of new operating systems, automation of core features for login, report and EDD production.

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Promium invests \$470,000 annually on research and development which is 15.4% of total revenue.

Strategic Direction

The current and future R&D efforts over the next several years will concentrate on converting our current applications from a Visual Basic 6 code base to a Visual Basic.NET code base. This conversion will permit us to more easily install, configure and support our software on new and future operating systems. This conversion will allow us to take advantage of features available in .NET that are currently not available in Visual Basic 6. As part of this conversion significant redesign and update of the database structure will be made in order to add new features, overcome some program/feature limitations related to our current database/table design and provide a more normalized/relational database structure. In addition the conversion will provide long term improvements in code structure, standardization and maintenance.

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7.1.5 Financial Rating Reports

Not applicable

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7.2 List of Standard Reports and Examples of Key Reports

The primary report design tool for Element is Crystal Reports. A license for this industry-standard program is included with the purchase of Element and is installed during the Element installation. The full version of Crystal Reports is used to modify the existing formats supplied with Element and create new report templates. However, report modifications are not necessarily required when Element is installed. Many laboratories satisfactorily run Element using the standard reports packaged with the "off-the-shelf" version of Element.

Crystal Reports provides a wide array of report functionality with a relatively simple-to-use design interface.

- Fields on the report can be dragged/dropped and modified with simple mouse clicks and limited command usage.
- Reports that incorporate charts and graphs can be designed within the Crystal Report interface using snapshots of real data from the Element LIMS system.
- Client reports can be generated on a Work Order basis or they can be grouped by client and/or project for batch reporting.
 - During the reporting process, the user can elect to do a 'modified' report. The user can override the default reporting parameters for the analyses in their report. These parameters include options such as decimal places, significant figures, wet/dry reporting, and final units.

Element LIMS report options include:

- a) Stock report formats are customizable with respect to borders, fonts, margins, colors, etc..
- b) An advanced reporting tool for system administrator and developers to design reports is provided.
- c) Reports are all available in hard copy, on screen and available to e-mail, fax or publish on the web.
- d) Reports are exportable in HTML and PDF.
- e) The following result output formats are included: XML, ASCII, CSV (comma separated value) and space delimited value files and XML.
- f) Access to certain reports and to a particular content item of certain reports or access to certain data can be restricted for non-authorized users.
- g) Reports exclude certain data based upon the value of approval status and QC status. This is done through the Options Menu on the Reporting screen. In addition four types of reports can be run: Draft, Modified Draft, Final, Modified Final. The modified report functionality provides additional filtering capabilities to control what is output to a report.

Element Provides the following pre-written reports:

- Work Order/Sample Summary
- Subcontract Order
- Custody Log
- Route Sheet
- SDG Summary
- Bottle Order
- Standards Page
- Bench Sheet
- Sequence List
- Analysis Info Report
- Client Info Report

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- Project Info Report
- Maintenance Log
- Data Entry Review Report
- Calibration Report
- Work List Reports (by sample, analysis and department)
- Historical Data Report
- Bid Report
- Analytical Reports (several standard formats)
- Invoices
- Work Order Status Report
- Audit Trail Report
- Control Chart Report
- Numerous Label Formats

Promium is knowledgeable and experienced in working with Environmental Compliance analytes, EPA and standard methods 20th Edition, as specified in 40 CFR parts 136 and 141 of the Federal Register. Element conforms to test methods for evaluating solid wastes, physical and chemical methods, SW 846, CAS registry numbers. In addition many of our clients in Arizona use ADEQ contaminant codes for reporting. This is further described in Exhibit 5: Responsiveness, Essay Responses.

Promium has a relatively large market share of the environmental laboratory segment in Arizona. Our implementers and support staff have worked closely with our customers to configure their Element database and design reports for ADEQ compliance. Following is a list of Arizona references who are familiar with the use of Element to meet the reporting requirements of the State:

Arizona Client	Contact Name, Address and phone number
Pima County Compliance and Regulatory Affairs Office	Barbara Escobar Barbara.Escobar@wrm.pima.gov and Regulatory Compliance Lab Director Belinda Gamboa-Felix Regulatory Compliance Data Coordinator Compliance and Regulatory Affairs Office 7101 N. Casa Grande Highway Tucson, Arizona 85743 Office: 520-443-6007 Cell: 520-730-2025
Global Water I	Kiera Hunter: 22590 North Power Parkway, Maricopa, AZ 85238 (520) 233-9210 and/or (520) 568-6367
Legend Technical Services	Robert Vertefeuille: 17631 North 25th Avenue, Phoenix, AZ 85023 (602) 324-6100 and/or (602) 324-6101
TestAmerica - Phoenix	Ann Bousquet: 4625 East Cotton Center Boulevard Suite 189, Phoenix, AZ 85040 (602) 437-3340
Turner Laboratories, Inc.	Terri Garcia: North Coyote Drive Suite 104, Tucson, AZ 85745 (520) 882-5880 and/or (520) 882-9788
U.S. Army Yuma Proving Ground	Douglas Hankins: 301 C Street, Yuma, AZ 85385-9498 (928) 328-6912

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ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
Individual Sample Analysis Report
Disinfection Byproducts
TTHM HAAS

<u>System ID</u>	<u>Sample A Client</u>
<u>05/12/08 9:00</u> (24 hr clock)	<u>System Name</u>
Sample date Sample time	
<u>Sample name goes here</u>	<u>Non-Maximum Residence Time</u>
<u>Collection Point (TTHM/HAAS)</u>	<u>Maximum Residence Time</u>
<u> Yes No</u>	<u>Sampling Type</u>
<u>Reduced Monitoring</u>	

Analysis Method	Contaminant Name	Cont. Code	Analysis Run Date	Result	
524.2	Chloroform	2041	02/04/08	<1.00	ug/L
524.2	Bromoform	2042	02/04/08	<1.00	ug/L
524.2	Dibromochloromethane	2044	02/04/08	<1.00	ug/L
524.2	Dibromodichloromethane	2043	02/04/08	5800	ug/L
524.2	TTHM	2050		<1.00	ug/L
524.2	Monochloroacetic Acid	2050	02/04/08	5.00	ug/L
524.2	Dichloroacetic Acid	2051	02/04/08	3.00	ug/L
524.2	Trichloroacetic Acid	2052	02/04/08	<1.00	ug/L
524.2	Monobromoacetic Acid	2053	02/04/08	<1.00	ug/L
524.2	Dibromoacetic Acid	2054	02/04/08	<1.00	ug/L
524.2	HAAS	2056		<1.00	ug/L

>>>> **LABORATORY INFORMATION** <<<<
 To be filled out by laboratory personnel

Specimen Number: 0810001-00(16)

ID Number: _____

Comments: _____

Authorized Signature: _____

Date Public Water System Notified: _____

Arizona Department of Environmental Quality
 Water Quality Data Unit 5415B-1
 1110 West Washington Street, Phoenix, Arizona 85007
 For Questions Call: (602) 771-4648 or within AZ (800) 234-5677 ext. 771-4624

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PERMITTEE NAME/ADDRESS:

Name: _____

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

1234567 76543 2
 PERMIT NUMBER DISCHARGE NUMBER

FORM APPROVED

OMB No. 2040-0047

Facility: CityLife WWTP

CityLife, WA 12345

MONITORING PERIOD

FROM 11/04/01 TO 11/04/01

*** NO DISCHARGE () ***

ATTN: Lemi Aksoze, WWTP Director

NOTE: Read Instructions before completing this form.

PARAMETER (Sec 4)	SAMPLE MEASUREMENT	(1 Cont Only)		Frequency or Loading (Sec 5)	(4 Cont Only)		Quality or Concentration (Sec 6)	Units (Sec 7)	NO. EX (Sec 8)	Frequency of analysis (Sec 9)	Sample Type (Sec 10)
		Average	Maximum		Min/Max	Average					
Biological Oxygen Demand (BOD5) FIVE-DAY CROSS VALUE	MEASUREMENT	0.00	0.00	LB/DAY	0.00	11.000	11.000	mg/L	0	FIVE / WEEK	Composite
Biological Oxygen Demand (BOD5) FIVE-DAY CROSS VALUE	PERMIT REQUIREMENT									FIVE / WEEK	Composite
Biological Oxygen Demand (BOD5) FIVE-DAY CROSS VALUE	MEASUREMENT	0.00	0.00	LB/DAY	0.00	72.000	72.000	mg/L	0	FIVE / WEEK	Composite
Biological Oxygen Demand (BOD5) FIVE-DAY CROSS VALUE	PERMIT REQUIREMENT									FIVE / WEEK	Composite
Total Suspended Solids (TSS) ESTIMATE CROSS VALUE	MEASUREMENT	0.0	0.0	LB/DAY	0.00	21.57	21.57	mg/L	0	THREE / WEEK	Composite
Total Suspended Solids (TSS) ESTIMATE CROSS VALUE	PERMIT REQUIREMENT									THREE / WEEK	Composite
Total Suspended Solids (TSS) ESTIMATE CROSS VALUE	MEASUREMENT	0.00	0.00	LB/DAY	0.00	215000	215000	mg/L	0	THREE / WEEK	Composite
Total Suspended Solids (TSS) ESTIMATE CROSS VALUE	PERMIT REQUIREMENT									THREE / WEEK	Composite
Total Suspended Solids (TSS) ESTIMATE CROSS VALUE	MEASUREMENT	0.00	0.00	LB/DAY	0.00	305	305	%	0	THREE / WEEK	GRC
Total Suspended Solids (TSS) ESTIMATE CROSS VALUE	PERMIT REQUIREMENT									THREE / WEEK	GRC
	MEASUREMENT										
	PERMIT REQUIREMENT										
	MEASUREMENT										
	PERMIT REQUIREMENT										
LABORATORY PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF PERJURY THAT THE INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I AM A duly licensed professional engineer in the State of Washington. My license number is 12345. I am the duly authorized representative of the permittee. I have read and understand the instructions for the completion of this form. I have signed and dated this report. I have provided a true and accurate copy of this report to the appropriate authority. I have provided a true and accurate copy of this report to the appropriate authority. I have provided a true and accurate copy of this report to the appropriate authority.								TELEPHONE	DATE	
Lemi Aksoze									(252) 565-1212	11/04/19	
WWTP Director									SIGNATURE OF PERMITTEE EXECUTIVE		
TYPED OR PRINTED									OFFICIAL OR AUTHORIZED AGENT	AREA COORDINATOR	YEAR MO DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS

(Department of Ecology Form 100-001)

Appendix A Laboratory Data Package Cover Page

This data package consists of:

- This signature page, the laboratory review checklist, and the following reputable data:
- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - a) Data consistent with NRELAC 5.13 or ISO/IEC 17025 Section 5.10
 - b) dilution factors,
 - c) preparation methods,
 - d) cleanup methods, and
 - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - a) Calculated recovery (%R), and
 - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - a) LCS spiking amounts,
 - b) Calculated %R for each analyte, and
 - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spikes/matrix spike duplicates (MS/MSDs) including:
 - a) Samples associated with the MS/MSD clearly identified,
 - b) MS/MSD spiking amounts,
 - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - d) Calculated %Rs and relative percent differences (RPDs), and
 - e) The laboratory's MS/MSD QC limits.
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - a) the amount of analyte measured in the duplicate,
 - b) the calculated RPD, and
 - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies.
- The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problem anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: This laboratory is an in-house laboratory controlled by the permittee responsible for the data. The official signing the cover page of the data-required report (for example, the APER) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement in true.

Name (Printed)

Signature

Official Title (Printed)

Date

EG-366/TRRP-13 December 2002

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ORGANIC ANALYSIS DATA SHEET

EPA 8270C

DRAFT: Effluent1

Laboratory: Premium SDG: DRAFT
 Client: ABBA Engineering Project: E2345
 Matrix: Water Laboratory ID: P104011-01 File ID:
 Sampled: 04/12/11 00:00 Prepared: 04/12/11 13:59 Analyzed: 04/12/11 14:11
 Solids: Preparation: EEA 3520 Initial/Final: 1000 mL / 1 mL
 Batch: 1041202 Sequence: Calibration: Instrument: Inst

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
88-06-2	2,4,6-Trichlorophenol	1	1.00	U
591-35-5	3,5-Dichlorophenol	1	1.00	U
95-77-2	3,4-Dichlorophenol	1	1.00	U
935-95-5	2,3,5,6-Tetrachlorophenol	1	1.00	U
1011-91-1	2,3,4,5/2,3,4,6-Tetrachlorophenol	1	2.00	U
3011-93-3	3,4,5-Trichlorophenol	1	1.00	U
2011-92-2	Pentachloronitrobenzene	1	1.00	U
87-86-5	Pentachlorophenol	1	1.00	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
2-Fluorophenol		0.00		30 - 150	*
Phenol-d6		0.00		10 - 150	*
Nitrobenzene-d5		0.00		30 - 150	*
2-Fluoronitrobenzene		0.00		30 - 150	*
2,4,6-Trichlorophenol		0.00		30 - 150	*
Toluene-d14		0.00		30 - 150	*

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
1,4-Dichlorobenzene					
Naphthalene-d8					
Acenaphthene-d10					
Phenanthrene-d10					
Chrysene-d12					

* Values outside of QC limits

Element DataSystem Default Reports

Template Filename	Report Description
adt_default.rpt	Default Audit Trail Report
adt_sampleanalysis.rpt	Sample Analysis Audit Trail Report
adt_samplequalifier.rpt	Sample Qualifier Audit Trail Report
ain_default.rpt	Analysis Info Report (Project)
axi_default.rpt	Analysis Details (Print) Report
axi_validation.rpt	Analysis Validation Report (Print)
bch_byanalysis.rpt	Bench Sheet by Analysis Report
bch_code128.rpt	Bench Sheet with Code 128 Bar Codes Report
bch_code39.rpt	Bench Sheet with Code 39 Bar Codes Report
bch_default.rpt	Default Bench Sheet (Landscape) Report
BCH_XMPL.vba	Bench Sheet macro code
bid_default.rpt	Default Bid Report
bid_default_tax.rpt	Default Bid Report Including Tax
btl_default.rpt	Default Bottle Order Report
cal_default.rpt	Default Calibration Report
cct_default.rpt	Default Control Chart Report
cct_dop_report.exe	Demonstration of Proficiency Executable
cct_dop_report.rpt	Demonstration of Proficiency Report
cln_default.rpt	Client Information Report
con_default.rpt	Default Consumables Report
cub_default.rpt	Default Cleanup Batch Report
dot_ammonia.vba	Ammonia Data Entry Example Spreadsheet Macro
det_TSS.vba	TSS Data Entry Example Spreadsheet Macro
det_X@TSS.vba	TSS Data Entry Example Spreadsheet Macro
dsp_default.rpt	Default Disposal Report
hst_default.rpt	Default Historical Data Report
ico_default.rpt	Default Internal Chain of Custody Report
inv_default.rpt	Default Invoice Report
inv_TestEXE.exe	Invoice Test Program
lbl_default.rpt	Default Bottle Order Labels Report
lbx_default.rpt	Default Extract Labels Report
lcn_zebra.cmd	File to support Zebra printer for printing bar code labels for Consumables. (1 of 3)

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lcn_zebra.exe	File to support Zebra printer for printing bar code labels for Consumables. (2 of 3)
lcn_zebra.tmp	File to support Zebra printer for printing bar code labels for Consumables. (3 of 3)
lex_default.rpt	Default Dot-matrix Extract Labels Report
lex_m@analysis.rpt	Single Page Multiple Extract Labels Including Analysis Report
lex_m@default.rpt	Single Page Multiple Extract Labels Report
lsq_default.rpt	Sequence Sample Labels Report
lst_default.rpt	Default Standard Labels Report
lst_m@default.rpt	Single Page Multiple Standard Labels Report
lsx_analysis.rpt	Sampe Labels Including Analysis Report
lsx_analysisvalid.rpt	Sampe Labels Including Analysis on Valid Containers Report
lsx_code128.rpt	Dot-matrix Sample Labels with Code 128 Bar Codes Report
lsx_code39.rpt	Dot-matrix Sample Labels with Code 39 Bar Codes Report
lsx_default.rpt	Dot-matrix Default Sample Labels Report
lsx_m@5160.rpt	Avery 5160 Single Page Multiple Sample Labels Report
lsx_m@8253.rpt	Avery 8253 Single Page Multiple Sample Labels Report
lsx_m@Av5162.rpt	Avery 5162 Single Page Multiple Sample Labels Report
lsx_m@datamatrix.rpt	Single Page Large and Small Sample Labels Report
lsx_m@default.rpt	Single Page Multiple Sample Labels Report
lsx_m@quick.rpt	Sample Labels Including Sample Number and Designator Only Report
lsx_zebra.exe	Zebra Executable File for Sample Labels
mnt_default.rpt	Default Maintenance Report
mnt_downtime.rpt	Maintenance Downtime Report
mnt_overdue.rpt	Maintenance Overdue Report
PASDWAXLS_Reports.zip	Crystal Report formats for PASDWAXLS odd in odd library.
prj_default.rpt	Default Project Information Report
rev_default.rpt	Default Data Review Report
rte_default.rpt	Default Route Sheet Report
sco_default.rpt	Default Sub-contract Work Order Report
sco_excel.exe	Sub-contract Work Order Export Program
sdg_default.rpt	Default Sample Delivery Group Report
seq_default.rpt	Default Sequence Report
SEQ_Export.exe	Sequence Export Program
std_default.rpt	Default Standard I log Book Page Report
tcd_default.rpt	Default Thermocouple Report
tcd_overrange.rpt	Thermocouple Overrange Report

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usr_default.rpt	Default User Report
usr_overdue.rpt	User Overdue Report
wcl_default.rpt	Default Waste Container Report
wcl_summary.rpt	Waste Container Summary Report
wkl_default.rpt	Default Work List (landscape) Report
wkl_dept.rpt	Work List by Dept Report
wko_CH2MHILL_EDD_V4.exe	Program to create CH2MHILL V4 Electronic Login Deliverable (csv file). Uses XCH2MHILL.mdb cross table. Run from Print, Work Order.
wko_default.rpt	Default Work Order Report
wko_TestEXE.exe	Work Order Test Program
wko_withcntr.rpt	Work Order with Container Report
wko_withdept.rpt	Work Order with Department Sub-sections Report
wko_withpres.rpt	Work Order with Preservation Confirmation Form Report
wko_withrush.rpt	Work Order with Rush Notices Report
wkw_default.rpt	Project Status List (landscape) Report

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7.3 List of Exceptions

None

Exhibit B
Scope of Work
City of Glendale LIMS Technical Specifications

Ref #	Description	B, O, T, C, A, F, N	Explain or describe proof of compliance with this regulation
1.0	Mandatory Requirements		
1.1	Supports clients running on Windows 7 or higher.	B	Supports Windows XP or greater, x86 or x64
1.2	Supports and is compatible with Microsoft Office 2010 or later.	B	For backward compatibility, Element LIMS utilizes the .xls format for both import and export throughout the software.
1.3	Software proposed is the latest release and the Vendor is authorized to license and support the proposed software.	B	The latest production release will be installed at the time of implementation.
1.4	Software proposed is currently functioning in a production environment.	B	Premium has implemented Element LIMS in over 290 facilities
1.5	Proposed solution is not hosted off-site. Software and databases for proposed system will be housed on City of Glendale servers.	B	On-premises hosting is our standard implementation plan
1.6	Proposed solution is commercial off-the-shelf (COTS) software application designed for water and wastewater labs.	B	Element LIMS has been a COTS from inception, designed specifically for commercial environmental laboratories and water/wastewater laboratories.
1.7	LIMS is compatible with data warehousing.	C	A small custom program must be written by Premium or Glendale developers to exchange data between the LIMS and the data warehouse. Direct SQL exchange or the use of an intermediate file is anticipated.
1.8	LIMS uses a centralized server housed at Pyramid Peak Water Treatment Plant.	B	Element LIMS utilizes a 2-tier client/server architecture. The database server may be centralized at the PPWTP. It may also double as the file server.
1.9	LIMS must permit data to be stored on lab computers then transferred to server by user.	B	Assuming the appropriate permissions, both internal to the application and to the local directory.
1.10	LIMS is capable of importing data directly from lab instruments.	B	Utilizing the DataTool library of instrument interpreters.
2.0	General Requirements		
2.1	Supports Microsoft SQL Server 2012 with plans to support subsequent versions.	B	Recommend SQL Server 2012 R2 or greater, Standard Edition
2.2	Compatible with VM Ware 5.5.	B	VM Ware compatibility is a function of SQL Server, which runs well under VM Ware 5.5. Many of our clients utilize a VM for their database server.
2.3	Communicates via TCP/IP network protocol only - ability to turn back all others.	B	Element LIMS uses TCP/IP protocol

Exhibit B
Scope of Work
City of Glendale LIMS Technical Specifications

2.4	Integrates with Microsoft Office 365.	B	Assumes Microsoft Office 365 is downloaded to the desktop. Integrates with Microsoft Exchange for email delivery.
2.5	System provides a GUI interface.	B	Utilizes a Windows Multiple Document Interface (MDI), which allows many different objects to be open simultaneously
2.6	System supports running on clients via Windows Terminal Server.	B	Terminal Server or Windows Remote App are typically used for remote deployments
2.7	Context sensitive online help is available within the system.	N	Help is available through the Element LIMS User Guide, a bookmarked PDF available from the "Help" menu.
2.8	System does not require dedicated hardware (e.g., PCs used to access LIMS can be used for other purposes).	B	It is expected that LIMS client machines will be used for other purposes
2.9	System allows a minimum of 8 concurrent users.	B	Licensing ranges from 2 to over 100 concurrent users
2.10	System allows for a minimum of 30 seats.	B	There is no limit to the number of workstations onto which the client application may be loaded
2.11	Ability to import/export data to ASCII command delimited, CSV, Microsoft Excel file, Microsoft Access file, and XML format.	B	Import/export functionality is available from many screens, with MS Excel being used most frequently as the output format (xls). CSV, MDB, and XML are also supported in various screens
2.12	Vendor will preload the City's existing library of sample identifications (standard sampling locations) into the LIMS. Table containing sampling location identifications should be capable of containing 45 fields for use in both the LIMS and report generation.	B	Table must fit into Element data hierarchy. Premium Implementation will format the data received by the City lab staff into file that can be imported to Element
2.13	The LIMS supports importing data from subcontract labs with little to no re	B	The degree of data file reformatting depends on the format received from the subcontract lab and whether the lab uses Element LIMS as their LIMS. Preferably, subcontractors will receive a Work Order generated by Element LIMS in a specifically-formatted Excel workbook that is to be populated by the subcontractor.
2.14	Identify the user interface of the proposed software.	B	Windows MDI interface

Exhibit B
Scope of Work
City of Glendale LIMS Technical Specifications

3.0	Communications			
3.1	Ability to have remote control/access for administration.		B	Remote access is typically done using Terminal Services or Remote App in conjunction with a VPN tunnel.
4.0	User Interface			
4.1	Ability to provide on-line inquiry to audit files.		B	The administrator's audit trail provides various query tools from the Element LIMS client.
4.2	Ability to query historical and current audit files.		B	Analyst audit tools allow context-sensitive querying. Administrator audit tools provide in-depth querying.
5.0	Test Information			
5.1	The LIMS has pre-loaded into a database all environmental compliance analytes, EPA and Standard Methods 20th Edition (or future edition), as specified in 40 CFR Parts 136 and 141 of the Federal Register, Test Methods for Evaluating Solid Waste, Chemical/Physical Methods, SW 846. CAS Registry Numbers, ADEQ contaminant codes and regulator limits are linked to all analytes and each test is linked to the appropriate analytes for each test in the above referenced methods.		C	Premium implementation will begin with a blank data base that will then be populated with Glendale SOPs and methods. A hyperlink to .pdf documents will be provided within the system; this link can be updated as documents are updated.
5.2	The LIMS has the ability to establish and define information for commonly used tests for environmental analyses. Information is stored/linked to individual tests includes a customizable analyte list, reporting units, number of significant figures for reporting (up to 10 significant figures), precision to which analyte will report (decimal places), and the following specifications for each analyte: minimum detection limit (MDL), minimum repeate level (MRL), practical quantitation limit (PQL), and maximum contaminant level (MCL).		B	These are all standard features of Element LIMS, which is designed with granularity sufficient for ISO 17025 and NELAC compliance.
5.3	Ability for the user to add and delete analytes to customize the test methods for the laboratory's requirements.		B	Given the appropriate permissions.
5.4	For convenience of defining projects and logging in samples, tests can be grouped into user defined test groups or batches. All tests associated with a test group or batch are then included in a project if added at log-in when the test group or batch is selected.		O	Tests can be grouped into user defined test groups or batches. Tests can be assigned to samples at login even if they are not defined in the project. Adding an analysis to a sample at login does not automatically add the same test to the project.

Exhibit B
Scope of Work
City of Glendale LIMS Technical Specifications

5.5	Each prep test code includes default prep factors based upon initial volume or weight of sample and the final volume or weight after prep phase is completed. Such prep factors are then applied to the analytical results to correct for the prep factor in calculating the final reporting value.	B	Prep methods may be defined as prerequisites for analytical tests. Both are populated with appropriate defaults per the relevant project.
5.6	The user has the ability to change these prep factors at the time the prep phase of testing is performed if the default values are not used for any individual sample. The LIMS would correct the final result for the data entered during the prep phase for the samples.	B	Given the appropriate permissions.
6.0	Management Reports		
6.1	The LIMS is capable of generating Backlog reports and the user is able to pull these reports based on each of the following sample/test characteristics: Sample Number, Due Date, Test Group ID, Analyte Name, and Department.	B	This is the function of the Query Work Status filter tool.
6.2	The LIMS is capable of creating other reports such as short holding times work list, sample log-in record, sample/test received by department, and sample/test completed by department.	B	The Basic report catalog is included off the shelf. Please see http://www.promium.com/main/element-report-catalogue for details. Additional reports may be designed using Crystal Reports.
6.3	The LIMS is capable of creating other user defined reports that will query data by various sample parameters such as date of collection, sample ID, project name, analyte name, test name, test group ID, etc. The user is able to export the queried data to a spreadsheet format (Microsoft Excel).	B	Querying is performed within Element LIMS, with the output directed toward a specific Crystal Reports template or EDD for xls generation. The Custom EDD Builder allows user to create EDDs of their own design, in addition to the default EDD library.
7.0	Analytical Data Management		

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<p>7.1</p>	<p>LIMS shall provide a means for analytical tests to be associated with a sample when samples are created. These analytical tests 'orders' or 'products' will be used to associate price and cost information, workflow, analytical method information, matrix, collection vessel type and size, label size, and preservative information. These 'test orders' or 'products' require the following information:</p> <ol style="list-style-type: none"> 1. Unique identifier 2. Name 3. Matrix 4. Label Type and Size 5. Typical Turn-Around Time for analysis 6. Preservative 7. Bottle Type and Size 8. Maximum Holding Time 9. Analytical Method Reference 10. One or more Workpaths with one as a default. 	<p>B</p> <p>These are all characteristics of the "Project" and "Work Order" levels of Element LIMS. Note that Work Orders are nested under Projects, inheriting project or child project characteristics.</p>
<p>7.2</p>	<p>LIMS shall allow analytical test order (products) to be combined into B groups based on similarity of matrix, preservative, and bottle type.</p>	<p>This is done at the batch and bench sheet levels, which allow like matrices, etc. to be grouped across Work Orders.</p>

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7.3	<p>LIMS shall allow pertinent information to be described for analytical methods. The method descriptions must include at minimum the following information:</p> <ol style="list-style-type: none"> 1. Unique ID 2. Method Name 3. Matrix 4. List of Analytes measured by method including: <ol style="list-style-type: none"> a. Method detection limits for each analyte b. Significant figure and rounding rules for each analyte c. Units of measurement for each analyte. d. ADEQ Parameter Codes for each analyte f. Effective date of Method instance g. Inactivation date of method instance (if superseded by new instance) h. Flag indicating whether method instance is active or inactive i. Instrument type used by method j. Standard Operating Procedure (SOP) reference <p>A full audit trail shall be supplied for Method descriptions.</p>	B	<p>These are standard within Element LIMS, with the following exceptions:</p> <ul style="list-style-type: none"> - Rounding, measurement units, and sig fig rules are defined for the analysis/matrix as a whole and are not defined at the analyte level. - There is no capacity to define an instrument for a test method nor is there an effective date for new or retired instances. <p>The Analysis instrument is where instruments can be associated to different analyses. An instrument can have more than one analysis, and an analysis can be denoted on more than one instrument. For test codes with multiple matrixes, the instrument will need to be added to each matrix.</p> <p>Instruments that are available to add to analyses are populated through the instrument static table. Inactive instruments cannot be added to an analysis.</p>
7.3.1	<p>LIMS shall allow SOP documents to be associated with methods in LIMS. SOP should be stored external to the LIMS as it is annually revised or updated. Hyperlink needs to be able to be revised reflecting the revision ID. The association can be accomplished by storing the file path name with the method.</p>	B	<p>SOP documents may be attached to analyses as PDF files. The PDFs are stored in a network directory, with a pointer to the file stored within the database.</p>

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7.3.2	<p>Each analytical result in LIMS will require the following:</p> <ol style="list-style-type: none"> 1. Analyst ID 2. Sample ID 3. Analysis measurement date and time 4. ADEQ Parameter Codes for each analyte 5. Analyte name 6. Analyte units of measurement 7. Data entry date and time 8. Data Entry user's ID 9. Date and Time of last modification 10. User ID of last modifier 11. Method ID 12. Method Detection Limit 13. Reporting Level Limit 14. Dilution Factor 15. Replicate ID (for samples run in duplicate, triplicate, etc.) 16. Analytical values which shall allow: <ol style="list-style-type: none"> a. Numeric values b. Text values (e.g. 'Present', 'Absent') c. Qualifying values (e.g. '<', '>', '+/-') 17. Comments Field. 	B	<p>These are all standard fields associated with each project, work order, and sample.</p>
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7.3.3	<p>In addition the following analytical values are required:</p> <ol style="list-style-type: none"> Final Numeric, Text and Qualifying value fields. These values can be used to store results based on logic such as dilutions (e.g. Original Numeric value multiplied by Dilution Factor) or after other operations are applied such as comparison to a Method Detection Limit (MDL) value (e.g. a numeric result of 1.89 with a corresponding MDL of 2 would be changed to '< 2'). The original values would be preserved. Where no dilutions or comparisons are required, these final result fields would just be a copy of fields. Rounded Result fields to hold string representation of results from image files after significant figures, rounding, and/or other formatting has been applied. Reporting Result fields to hold string representation of results from image files after application of significant figures, rounding, and/or other formatting has been applied as well as comparisons for Reporting Levels. (e.g. an initial result of 2.892 with MDL of 2, 2 significant figures, and a Reporting level of 3 would result in '< 3'. 2.892 to 2 significant figures is 2.9. It is greater than the MDL of 2 so would be preserved as a value of 2.9, but is less than the Reporting level of 3 so would be represented as '<3' in the Reporting Result field(s). These fields would be used for final reporting. Comment field. In addition, embedding of binary or text document file or storage of path to document is desirable. Footnoting at the parameter level is required using a code that corresponds to verbiage regarding the footnote. Approval Status. QC Status - flag data as OK, out-of-control, rejected, invalid, etc. Calculation ID (reference to any auditable calculations) 	B	All of this is provided except that there are no comment identifier or calculation IDs
7.4	LIMS shall properly update Reporting Limits to reflect any Dilutions for a given sample.	B	Dilution factors are tracked and may be applied to final results.
7.5	A full audit trail including value auditing shall be provided for all analytical results. Any changes to data must be accompanied by a reason in accordance with Good Automate Laboratory Practices. Audit trail shall identify changes by ID of user making changes.	B	Included are the original value, new value, user ID, date/time, and free-form comments.

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7.6	LIMS shall provide a means to perform calculations on analytical data and store the result as another analytical data row with an appropriate analyte name. For example, it should be possible to calculate and store an NO3-N value based upon an NO3 value multiplied by the constant 0.2259. All calculations shall have the following information associated with them: 1. A unique ID 2. Name of calculation 3. Creation date 4. Expiration date 5. Creator's user ID 6. Status flag indicating whether a calculation version is current.	B/C/N	It is possible to define calculations in Element. The following items are tracked in the system: Calculation Identifier, Name of calculation, Creation/Expiration dates, Creator's user ID, Status flags; the system can do some calculations automatically. Wet chemistry calculations can be incorporated by interface. External lab data not included; those calculations must take place outside of the LIMS.
7.7	All calculations shall have a full audit trail.	B	
8.0	Sample Log-in and Scheduling		
8.1	The LIMS is capable of generating customized sample numbers in the format 9606051530CHFM where: o 960605 represents the sample date June 5, 1996 o 1530 represents the sample collection time o CH represents the sample location (Cholla) o F represents the treatment plant location suffix (F=finished, R=Raw) o M represents the parameter type (M=Micro).	C	All of this information can be stored independently and then concatenated to create an ID to match Glendale's existing nomenclature. This can be used to create a SQL view from the back end.
8.2	The LIMS is capable of assigning a unique sample number in the format described in 8.1 to each sample and each bottle within the sample set.	N	The LIMS will assign a unique sample ID to each sample and bottle in the sample set (Work Order) but the format described in 8.1 is not feasible with our system
8.3	It is mandatory that the LIMS provide drop-down boxes receiving data from tables to populate fields for Sample Site Location, Sampler, and Project. This will limit choices and misspellings and will be useful in queries in the retrieval of data.	B	These fields are available.
8.4	The LIMS is capable of tracking whether the sample is/is not for compliance, the sample container, and the preservative used.	B	This is recorded upon sample receipt.

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8.5	The user has the ability to indicate in the LIMS if a particular analyte is/is not for compliance purposes.	B		
8.6	The LIMS has the ability to assign a bottle type and preservative to a sample at the time of log-in.	B		Valid bottle types and kits may be defined at the matrix level and assigned at various stages of the workflow.
8.7	The LIMS is capable of tracking the individual who collects each sample.	B		Sample collector is recorded at the sample level.
8.8	The LIMS has the ability to generate and print a chain of custody for any sample being logged-in.	B		Yes, but generally a chain of custody needs to be created prior to sample login
8.9	The LIMS has the ability to generate and print a subcontracting chain of custody.	B		This form is a Crystal Report template that may be modified by COG.
8.10	The user has the ability to easily replicate or copy a sample to generate a new sample with the same information (project, sample date, sampler's initials, logged in by, received date, received time, received by initials, delivered by, delivery date, delivery time). Fields must be designated as 'required' or 'not required'. Fields that are not required must be allowed to be blank.	B		Using the copy/paste feature.
8.11	The LIMS has the ability to create 'Projects' for recurring samples. The 'Project' would contain all analytes of interest and sample information. The projects must be contained in a table accessed by users in a dropdown on a form that does not allow entry of new projects. New projects shall be added exclusively by the LIMS administrator.	B		Projects can be created as defined here. Users can be given view only rights to the project screen which will prevent them from adding new projects or modifying existing ones.

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8.12	<p>If the LIMS has the ability to generate sample labels for each bottle received, labels should include:</p> <ol style="list-style-type: none"> 1. Sample Site name 2. Project name 3. Analysis 4. Preservative 5. Date _____ (This field should be blank to allow hand-written entry.) 6. Time _____ (This field should be blank to allow hand-written entry.) <p>Sample ID should indicate Sample Site Name (i.e. Well 22, Grid 5). This information should be available from a drop-down box when logging in sample.</p>	B	Label formats can be defined to include all these parameters
8.13	<p>The LIMS contains a bar-coding feature that allows the generation of unique sample labels, identification of sample locations, and sampler ID.</p>	B	Wedge-type barcode readers are supported throughout the software. Labels are defined as Crystal Reports templates.
8.14	<p>LIMS shall provide an 'auto-fill' capability for sample-login user-interfaces so that redundant values can be distributed to multiple samples.</p>	B	A bulk edit feature is available to block copy values across samples, meaning the LIMS does have auto-fill capability, including drop downs and "quick fill" for some items. Examples include route starts and bottle order.
8.15	<p>It is desirable, but not mandatory that LIMS provide a sample scheduler capable of 'pre-logging' (adding samples to the database in advance of their expected collection date) samples.</p>	B	The integrated Schedule Builder creates schedules with a graphical interface. The resulting schedule worksheet may then be edited as needed.
8.16	<p>The sample scheduler, if included, shall be able to be invoked both manually and automatically at pre-determined dates and times.</p>	B	Schedules may be used to auto-log samples.
8.17	<p>The scheduler, if included, must be able to consolidate samples into 'collection lists' by date. It must also print hard-copies of collection lists and bar-code labels.</p>	B	

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<p>8.18</p>	<p>The scheduler, if included, shall offer the following data fields for each record:</p> <ol style="list-style-type: none"> 1. Sample Site ID 2. Project ID 3. Account ID 4. Number of Bottles 5. Price Level 6. Analytical Test Grouping ('Product') 7. Sample Matrix 8. Schedule — a collection of specific dates and an optional time or a description of a recurrence pattern with starting date, optional ending date or maximum repetitions (for example: 1st Monday of the Third Month of every Quarter, starts today, lasts forever; Monday — Thursday Every Week, starts November 1, 2002, last for 9 repetitions; every 10 days between now and end of year). Recurrence patterns for times shall also be available. 9. Creation Date/Time 10. Inactivation Date/Time 11. Date/Time last updated 12. Flag indicating whether entry is currently active or inactive 13. Schedule Requestor User ID 14. Schedule Data-entry User ID 15. Collection List Grouping or Route number. 	<p>B</p>	<p>All of this is provided except for the following: Creation Date/Time Inactivation Date/Time Schedule Requestor User ID Schedule Creator User ID</p>
<p>8.19</p>	<p>The scheduler, if included, must allow grouping of various schedule entries under a user-defined group name.</p>	<p>B</p>	<p>The schedules are defined for projects - this is the grouping</p>

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8.20	<p>The scheduler, if included, shall offer ability to add or edit schedule entries by:</p> <ol style="list-style-type: none"> 1. Test Group (Product) and Matrix 2. Account ID 3. Project ID 4. Sample Site ID 5. Schedule Grouping 	B	
8.21	<p>The scheduler, if included, shall have a full audit trail on all schedule definition activities.</p>	B	
8.22	<p>The scheduler, if included, must have available a table of user-entered holidays. In addition a table of holidays and alternate sampling dates by a combination of any or all Test Group, Product, Account, Project, Site, and Schedule Grouping must be available. The scheduler must take into account any of these 'holiday shifts' before inserting new sample records into the database.</p>	N	<p>The scheduler will not avoid holidays - though these can be factored into due dates and turn-around-times. The person creating the schedule must be cognizant as to when a holiday when creating the schedule. The system will not flag them.</p>
8.23	<p>The scheduler, if included, must allow creation of new scheduled entries by copying existing entries. Such entries should differ by value from the original entries by at least one of the fields listed in 8.16 above.</p>	B	<p>Yes, except that all the fields in 8.16 are not available</p>
9.0	Sample Tracking		
9.1	<p>It is mandatory that the LIMS provide a unique identifier for every sample entered into system. Identifier shall use Year, Month, Day, Time, Sample Site Code, Analysis Type Code, and Location Code in creating the unique Identifier (See 8.1 for format).</p>	C	<p>See response to 8.1</p>

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9.2	<p>It is mandatory that for purpose of Ground Water Rule, the following fields must be in the chain of custody table along with being on data log-in form with the following data types:</p> <ol style="list-style-type: none"> 1. OriginalViolatingSpecimenId - Text field 2. RepeatOriginalLocation - Yes/No Field 3. RepeatOtherLocation - Yes/No Field 4. RepeatDownstreamLocation - Yes/No Field 5. RepeatUpstreamLocation - Yes/No Field 6. SampleMonitoringTypeCode - Text 7. SampleRepeatLocationCode - Text. <p>This is important in producing a required report.</p>	B	<p>These fields will be defined during implementation and the initial configuration of the system.</p>
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9.3	<p>LIMS shall provide, at minimum, the following information fields for each sample:</p> <ol style="list-style-type: none"> 1. Sample collection and receiving date and time 2. Date and time of entry into LIMS 3. <i>Flag indicating sample shipped to external party (such as another laboratory)</i> 4. Shipping destination; identifier for samples shipped to external party 5. Data fields to identify the persons responsible for: Sample collection, Sample receipt, Data entry into LIMS, Shipping samples to external laboratories, Requesting the Sample 6. A comment field for each sample for field conditions, flow status, or other comments 7. A description field to denote an optional description of sample 8. A field to describe condition of sample upon arrival (pick-list) 9. A field to categorize by COG-specific sample types 10. Sample field data: Temperature of sample at collection time; Temperature of sample at receipt time; Free chlorine residual; Total chlorine residual; pH value 11. Client identifier field (to identify client if a non-COG sample) 12. Client sample number field (client's unique ID number for sample — for cross-reference purposes) 13. Project Identifier (used for internal management) 14. Storage Location of sample (once received) 15. Test or test groupings for which the sample will be analyzed 16. Number of bottles collected. Each bottle should have a unique identifier associated with it to distinguish replicate bottles from one another 	B	
9.4	LIMS shall feature full audit trail on all sample definition activities, sample receiving activities, and sample shipping activities. Changes to any sample tracking data following receipt shall require user to give a reason for the change.	B/N	Comments/reasons are not mandatory
9.5	The LIMS has the ability to track holding times for individual tests for each sample.	B	Two holding times are available: receipt to prep, and prep to analyze.

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9.6	Holding time for the prep phase of an analysis is linked to the analytical phase of the analysis and tracked independently. Holding times for second or subsequent phases of any analysis do not start tracking until the initial or preceding phase is completed. Holding times are tracked from the sample collection date and time.	B	All analyses can have one or two hold times defined. Hold times can be defined as Sampled to Prepared and Prepared to Analyzed.
9.7	The maximum date and time for sample holding must be calculated properly using the analytical method's holding time and the date and time of sample collection. An option shall be provided to use the sample receiving date and time or post-receiving preparation date and time (instead of the collection date and time) to calculate the maximum holding date and time.	B	Each analysis/matrix combination can have up to 2 hold times associated with it but only one is necessary according to most methods. By default, hold times are based on sample collection date/time to analyzed date/time but the hold time can be configured to received date/time, prepared date/time, etc.
9.8	LIMS shall feature a means to group related samples together (Accession Number) for collection purposes. A list of samples (a 'collection list') should be available for printing on demand. LIMS shall offer a means to easily re-group samples or edit pertinent sample information (such as collection dates or test groupings) upon demand.	B	<p>When samples are logged into the system they are assigned to a work order. This is the primary grouping for samples that are received together. The work order is assigned to a project and client.</p> <p>It is possible to switch a work order to a different project or client and project if necessary.</p> <p>It is not possible to move a sample to a client or project that differs from the client/project the work order is assigned to.</p> <p>It is also not possible to switch a sample to a different work order once it has been logged in.</p>

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9.9	Bar-coded labels are required for every sample bottle. Two labels sizes shall be available as appropriate for the bottle size. Information displayed on bar-code labels must include the sample identifier, date of collection, collection site (location), and sample receiving department (intended destination). Labels shall be customizable for content and formatting. LIMS shall be able to use currently available label stock. Labels compatible with system must have been tested for adhesion, being waterproof, removability, and ability to be written on in ink and printed upon using direct transfer printing.	B	Bar code labels can be developed. You have a lot of information that you want to include on your sample labels. While all the information can be included on a sample label you will be restricted as to what can be placed onto a label by the size of the label itself and the size of the container the label is to fit on.
9.10	LIMS shall have the ability to accept Field data measurements (temperature, chlorine residual, etc.) manually or by electronic transfer (from a portable instrument) prior to sample receipt in LIMS.	A	Field data measurements can be collected in the field and imported into the system after the samples are logged in.
9.11	Turn around times (TAT) are tracked by the LIMS for each test logged in for a sample. The user is able to assign default TAT for each project and is able to assign TAT for each sample or test at the time of sample log-in. The LIMS tracks TAT based on the date of sample receipt.	B	
10.0 Workflow Management			
10.1	LIMS shall provide workflow management. Workflow must allow tracking of progress and status of samples and all related analyses from creation through final analytical data approval.	B	Workflow is limited to linking prep method with analyses, and analyses with follow-up tests.
10.2	LIMS shall provide workflow based on functional areas. It is necessary to be able to define different analytical functional areas, external entities such as contract laboratories, functional areas for data approval, and functional areas for data measurements in the field.	B	This is usually setup by department/or user. Contract laboratories can be setup but not sure as to what the lab requires for data approval and field data measurements. Most labs will have a Field department that is used for the field data.

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<p>10.3</p>	<p>Status fields shall be provided for each sample at each department to facilitate tracking of the progress of samples through the laboratory. Statuses shall include 'received', 'work in progress', 'data entered', 'data approved', 'completed', or equivalents. Administrators shall be able to define new statuses.</p>	<p>B/N</p>	<p>Samples do not have status in Element. Analyses and work orders do. The statuses listed here would all apply to analyses - not samples. Different tests proceed through the lab at different rates. So the status must be defined for the analyses and not the sample as a whole.</p>
<p>10.4</p>	<p>LIMS shall allow a user to select an alternate workflow path from the one initially assigned at sample creation. For example, a sample assigned a workflow path that should take it through COG's Gas Chromatography department might instead be re-directed to an external contract laboratory, thus requiring assignment of an appropriate alternate path.</p>	<p>B/N</p>	<p>Administrators can create new statuses. The statuses listed here can all be created and assigned to an analysis.</p> <p>Element has no capacity to define a workflow path. It is possible to subcontract any analysis assigned to a sample during login to a subcontract lab.</p> <p>This is done without having to change a work flow path.</p>
<p>10.5</p>	<p>LIMS shall provide on-screen and hard-copy departmental reports (worklists) so that users can assess the workload of their department and view the status of the samples assigned to it. Sample collection date and time and calculated maximum holding time shall be displayed.</p>	<p>B</p>	<p>These are provided with the system. The format of these worklists can be easily customized for the laboratory.</p>
<p>10.6</p>	<p>LIMS shall permit users to select samples currently in their department and available for analysis to be grouped for analysis as a batch or 'workgroup'. A unique group identifier must be created for the group and assigned to each sample in the group. The availability flag for samples in the group should be toggled to 'unavailable' (see MD above). LIMS shall also allow the creation of Quality Control (QC) samples in a workgroup, cross-referenced to the appropriate sample identifier and, where applicable, the appropriate reference standard, spiking solution and concentration.</p>	<p>B</p>	<p>Analyses are added to a batch prior to data being entered for the test. The batch will also have the QC samples that pertain to the analyses that are being tested in the batch.</p> <p>Each batch is assigned a unique identifier.</p>
<p>10.7</p>	<p>LIMS shall allow creation of a new batch or workgroup from an existing batch or workgroup (or individual samples therein) for the purpose of re-analysis.</p>	<p>B</p>	

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10.8	LIMS shall provide on-screen and hard-copy status reports for sample history. Said reports shall include all department statuses and dates and times of status changes. Sample audit history reports shall also be provided.	N	
10.9	LIMS shall provide a means to assign unique identifiers and bar-coded labels for non-sample laboratory items (reagents, standards, empty bottles, etc.) shipped to other COG laboratories or other external destinations. A shipping list or manifest shall be provided.	O	Labels can be created for bottle orders. Labels can also be created for standards and reagents. There will be no shipping order created by the system
11.0	Laboratory Automation and Instrumentation		
11.1	LIMS shall provide unique identifiers for all laboratory instruments entered into the system. LIMS shall provide data fields to adequately describe all instruments including instrument manufacturer, type, model, and serial number.	B/N	Each instrument will have a lab created identifier. The system will not autogenerated instrument IDs. All fields described here are included.
11.2	LIMS shall provide means to record calibration, maintenance, and service information for each instrument. These items must be editable by users.	B	These items are included. Records must be established and maintained by the users.
11.3	LIMS must provide a means for data from instruments or the instrument vendor's software to be transferred to LIMS and inserted into the LIMS database. LIMS must also provide a means to export workgroup information to instrument software so that instrument 'sequences' (batches) can be created using an ordered list of LIMS sample identifiers. Exporting and importing shall use accepted standards such as comma separated value files. For each instrument interface, analysts must also have the ability to enter and edit data manually.	B	The import of IDs from Element to the instrument is possible but the format provided by the system may or may not be importable into the instrument software depending on the format required by the instrument manufacturer.
11.4	LIMS shall provide a means to integrate data from all of the instruments and instrument software packages in Appendix A. Support for additional instrument software packages is highly desirable as current software vendors may change in the future.	B	Interpreters are available for all instruments specified. Additional interpreters that are not part of the current DataTool library will be available at no extra cost, assuming an active maintenance contract.

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11.5	LIMS shall allow instrument-generated image files such as chromatograms to be associated with analytical results in LIMS. The association can be accomplished either by storing the file path name with the LIMS data, or by storing the binary image file with the LIMS data.	B	Files must be in PDF format. A link to the PDF document will be established.
11.6	LIMS shall be able to buffer transferred data to allow comparison with calculated Quality Control limits and statistics before transferred data is committed to LIMS. Buffered data and the calculated Quality Control information shall be available for display to the analyst so that they may approve or reject the data.	N	There is no buffering. Data must be saved to the system before QC is evaluated.
11.7	LIMS shall employ bar coding for samples IDs. Other laboratory items such as reagents and standards may have bar codes.	B	
11.8	LIMS shall utilize bar code scanners to scan sample bottles when delivered to the sample receiving department. Such scanning shall be used to populate data entry screens for sample receiving.	B	Bar code scanners are not provided with the system. The lab can use the bar code scanners as described here but will have to purchase them separately.
11.9	LIMS shall also use bar code scanners to aid users in querying sample statuses, and to assist analysts with workgroup assignments	B	Bar code scanners can be used for these purposes. The scanners themselves will not be provided with the software.
11.10	LIMS shall allow use of portable pH field meters and other portable instrumentation and subsequent transfer of data captures to LIMS.	O	The instrument must produce a data file of format such that it can be imported into the system.
11.11	LIMS shall support other portable data entry devices such as the Pocket PC. A user should be able to download a list of samples to the device, enter data and perform operations on the device, and later upload the results back to LIMS.	O	Highly dependent on the file output by the pocket PC and what operations are being performed. EnviroChain EA is a complementary online chain of custody service that runs on many web-enabled devices. EnviroChain is sold as a subscription, with electronic chains considered a consumable item.

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11.12	Wireless technology support for interchanging data and messages with remote portable device users in the field is highly desirable.	N	Not a feature of the LIMS, but would be available to Windows 8.x tablet devices capable of utilizing a mobile internet connection. Such devices must have the full Element LIMS client loaded, and a network connection to the database to utilize the Element LIMS dashboard.
11.13	Technology such as magnetic strip readers for analyst identification is desirable.	N	There is no capacity for this in the current system of Element.
11.14	Bench-top data entry stations that utilize tablet PCs, touch screens, bar code scanners, magnetic strip readers, or other technology that lends itself to ease-of-use and an ergonomic environment for laboratory analysts are desirable.	O	These are not provided with the system. Windows 8.x tablet/hybrid devices may run the Element LIMS client.
12.0	Data Entry		
12.1	The LIMS user has the ability to create custom data entry sheets by sample number, batch, test group, or test.	B/N	The data entry sheet in Element is not configurable by the user. Data entry sheets can be created in MS Excel and be of such format that data is entered on to the work sheet and then uploaded into the system. These Excel worksheets can be customized to user preference.
12.2	Data entry screen must accommodate fields for sample site and project.	B	Sample site and project are always associated with the sample
12.3	All date and time fields must be separate fields.	C	Creating a separate date and time field is possible with customization. Premium can create a view for a phantom table that will allow the single field to be separated into date and time fields to create an alternate view. Premium can assist in creating multiple views. Much of this can be accomplished during implementation.
12.4	Data entry screen must be customizable to allow inclusion of checkboxes for special situations such as re-sampling upstream or downstream of a high total coliform sample and re-sampling of the same site.	C	The desire to log resamples at the original location and upstream/downstream is possible; however, it will not be accomplished using a check box. It can be tracked with user defined fields. Should a sample exceed an allowance it will be flagged which could activate the need for a resample with the three subsequent results.

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12.5	The LIMS has the ability to receive and report alpha test results (i.e. ND, Present, Not Present).	B	Done through the use of retained qualifiers, which replace numeric results with text on reports.
12.6	The LIMS has the ability to flag the analyst at the time of data entry when an analyte is above the Maximum Contaminant Level (MCL), trigger, or other permit level.	B	5 user-defined flags are available.
12.7	The LIMS has the ability to check sample trends by test and sample ID at the time of data entry.	B	Historical charts and data are available.
12.8	The LIMS includes user-definable import specifications for automated import of data from computerized analytical instruments within the lab. These specifications would allow the user to manually or automatically import results from instrumentation files on the network. File types include parsing of text file reports, comma-delimited files, Microsoft Excel files, and Microsoft Access files.	N	Data imported from an analytical instrument is defined by the DataTool interpreter which contains over 300 instrument software systems. These interpreters are not changeable by the users. Data import may be configured to be automatic, but we recommend import by the user as a quality control measure (to avoid importing garbage data into the database).
12.9	Data import includes the importing of test codes, sample IDs, sample types, analyte names, PQLs, MDLs, and final results.	B	Except for sample types which are defined at login. PQL and MDL are also not imported as these are defined as part of the analysis and not the data itself. The MDL and PQL (MRL) are adjusted for prep volume variation, dilution factors and dry-weight correction where applied.
12.10	The LIMS contains fields in which to enter the date and time the analysis is completed.	B	
12.11	Users are able to access status information by project, date, type, samplesite. Users are able to access pending and completed data.	B	
12.12	The LIMS is capable of importing data electronically from sub-contracting labs.	B	Files must be converted into format that can be imported directly into Repository tables. Subcontract lab that use Element LIMS will send a file that can be imported directly.
12.13	The LIMS is capable of accommodating peer and QC reviews of laboratory data and documenting peer and QC reviews of the peer and QC review occurrence.	B	

Exhibit B
Scope of Work
City of Glendale LIMS Technical Specifications

12.14	It is mandatory that the LIMS contains a data qualifier library and the user is able to apply qualifiers to the data at the time of data entry. Qualifiers should be applicable to both the entire analysis or to a single analyte within the analysis.	B	There is a configurable qualifier table
12.15	When rounding, the LIMS database must use the rounding rules as listed in Quality Assurance of Chemical Measurements. The rules are as follows: 1. When the digit immediately following the one to be retained is less than 5, the retained figure stays the same. Example: 3.542 becomes 3.5 to two significant figures. 2. When the digit immediately following the one to be retained is greater than 5, the retained figure is increased by one. Example: 3.562 becomes 3.6 to two significant figures. 3. When the digit immediately after the one to be retained is exactly 5 and the retained digit is even, it is left unchanged. If the retained digit is odd, the number is rounded up. Example: 3.450 becomes 3.4 but 3.550 become 3.6 to 2 sig. figs. 4. When two or more figures are to the right of the last figure to be retained, they are considered as a group in rounding decisions. Example: 2.4501, the group (501) is considered to be >5 and the number becomes 2.5, while for 2.5499, the (499) is considered to be < 5 and the number remains 2.5 to two significant figures.	B	Element will follow the rules listed here but it will evaluate all of the numbers that are entered before rounding. In other words, the system will not truncate the numbers before the rounding rules are applied.
12.16	The LIMS has the ability to report variance ranges in the numerical result (i.e. 4.5 ± 0.5)	B	
13.0	Reports		
13.1	LIMS shall provide standard reports for departmental Worklist summaries by status, Workgroup summaries by status and result, and instrument Run list summaries by status and result. Chain of Custody reports shall be provided. Analytical reports by Instrument, Analyst, Project, Account, Site ID, Method, Test Group, in conjunction with date range, shall also be provided.	B	All except for Chain of custody can be by department. The lab will pay for all report development

Exhibit B
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City of Glendale LIMS Technical Specifications

13.2	LIMS shall be capable of scanning chain of custody records and associating samples with chain of custody records.	B	Paper CoCs may be scanned and attached to Work Orders, which contain samples, but not to samples themselves.
13.3	Projected Workload reports by department (pending samples for a department) shall be provided. Pending samples for the laboratory as a whole shall be provided.	B	Samples must be prelogged to be included on pending list
13.4	Summaries of number of samples run in a given time period by project, account, department, and/or test shall be provided.	B	
13.5	Quality Control reports including control charts and reports by exception shall be available.	B	
13.6	Reports targeting a particular value for any analytical result (including field measurements) shall be available. (For example, all samples in a given month with free chlorine values < 0.2 mg/L).	C	Will have to develop a custom Crystal Report template format
13.7	A report of currently scheduled samples by Site ID, project, date, and/or schedule originator shall be provided.	C	Will have to develop a custom Crystal Report template format
13.8	The following features are also required for native LIMS reports: 1. Stock report formats must be customizable with respect to borders, fonts, margins, colors 2. A reporting tool for users to design their own reports shall be provided 3. Reports must be available in hard copy and on screen. In addition, export of reports in HTML format is highly desirable. The following additional formats for export of reports and data are also desirable: text, comma-separated value files, Excel, XML, and PDF 4. Access to certain reports, or access to a particular content item of certain reports, must not be allowed for non-authorized users 5. Reports must be able to exclude certain data based upon the value of Approval Status and QC Status.	B	Reports are modifiable using Crystal Reports

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Scope of Work
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13.9	LIMS shall provide a means to conduct ad-hoc queries of LIMS data. User should not need to know SQL. A query by example as seen in Access would be acceptable.	B	Various query tools are available the utilize radio buttons, drop down boxes, and calendars for user-friendly querying. These queries may also be saved for later use. More sophisticated queries may also be written using SQL query syntax.
13.10	The LIMS has the ability to attach word processing documents or spreadsheets to a specific sample or work order (i.e. cover letter, case narrative).	B	Attachment is at work order level - not sample. The attached file must be a PDF document
13.11	The LIMS includes multiple examples of analytical reports (report including/excluding QC data, formatted by department or by method alphabetically, sample data printed individually per page or continuously without page breaks between samples). Please provide samples of all standard report formats.	B	Several default reports are provided that include QC and are formatted by Report group header and list the analytes in alphabetical order within each report group. The report groups work similar to grouping by department.
13.12	The user has the ability to easily create reports and customize existing reports by adding text fields, moving fields within the report, and adding additional fields. Non-programming personnel have the ability to modify the report format and the knowledge of writing code is not a requirement for customizing reports.	B	All reports must be built using Crystal reports - the user must have knowledge of Crystal Reports
13.13	The LIMS has the ability to print data on ADEQ Drinking Water Report Forms.	B	These are available at cost
13.14	Results table must include ADEQ parameter code for each parameter analyzed.	B	The lab will provide these parameter codes
13.15	System must generate XML files in which tags can be modified to match ADEQ SDWIS.	B	Available at cost
13.16	The user has the ability to select distinct analytes for reporting. (i.e. selecting only nitrate or arsenic on state reporting forms).	B	Generally this is not necessary as the forms are already setup to include the pertinent information.

Exhibit B
Scope of Work
City of Glendale LIMS Technical Specifications

13.17	The administrator has the ability to export data easily into multiple formats including Microsoft Access or Excel, XML, and comma-quote-delimited files. The administrator is able to select fields to export, the sort order of export fields, and export to any of the above file types specifically by date range, test, sample identification, or other test/sample characteristic. This can be done by a non-programmer.	B	Can be done by a non-programmer but the administrator will need to be versed in writing SQL statements
13.18	The user is able to send the report to a printer, fax, or email.	B	Fax requires the use of a 3rd party fax emulator
13.19	The LIMS generates a viewable print version on screen, which the user can then send to a printer or other device.	B	
13.20	Identify the software's reporting tool.		Crystal Reports
14.0	Quality Control		
14.1	LIMS shall provide a means to associate QC samples with a sample workgroup and instrument run.	B	
14.2	LIMS shall allow the types of QC samples, their relative position in an instrument run, and the frequency or spacing of certain types of QC samples (such as a blank at the start and end of every run, and after every tenth sample) to be defined and saved with a method definition.	B	These can be saved but initially have to be defined by the users
14.3	LIMS shall provide manual and automatic calculations for spike recoveries, replicate deltas, and known standard deltas.	B	
14.4	LIMS shall provide manual and automatic generation of control charts.	B	
14.5	LIMS shall be able to automatically flag out-of-control data and present it to the analyst prior to commitment of analytical results.	B/N	Data is flagged as out of control only after it has been saved. The data can be deleted or flagged by user depending on what the lab practice is. Once data has been subject to final review - it cannot be edited by users who are not reviewers.
14.6	LIMS shall be able to perform routine statistical analysis of analytical data for QC purposes.	B	Average (mean) 1s, 2s and 3s for each analyte are calculated with the control charts
14.7	LIMS shall provide notifications of QC exceptions to the user and subscribing parties.	B	Notifications of QC failures to outside parties not automatic.

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14.8	The LIMS is capable of implementing all quality control tracking required by the USEPA and State of Arizona programs. The LIMS will track and report Continuing Calibration Blanks, Continuing Calibration Verifications, RPD for sample duplicates, Matrix Spike, Fortified Blanks, Method Blanks, and Surrogates.	B	
14.9	The LIMS provides control charting per analyte for the following QC parameters: initial calibration verification, sample duplicates, laboratory control spike, continuing calibration verification, surrogates, field blanks, and field duplicates.	B	All of this but not including field blanks or field duplicates. These are treated as regular (non-QC) samples.
14.10	The LIMS links all samples in a prep batch to each other and to the associated QC parameters such as Method Blank, Fortified Blank, Matrix Spike, and Duplicate. Surrogates are linked to each sample Matrix Spikes and Matrix Spike Duplicates are linked to sample to calculate recoveries, but also to each other to calculate relative percent deviation (RPD). These calculations are done manually and automatically.	B	The calculations are done automatically. Not sure what the lab means by manually as the system is doing the calculation.
14.11	The user is able to enter QC parameters at the time of data entry and has the ability to modify them. The user is able to update acceptance criteria as needed.	B	User edits to the QC acceptance criteria are tracked in the audit trail.
14.12	The LIMS is able to generate individual Quality Control Reports per sample for all of the above referenced QC parameters with the ability to modify parameters reported. All reports are generated based upon either individual work orders or a batch scenario. The LIMS is able to track all of these quality control samples to their respective batches, work orders, or test codes as appropriate.	B/N	Reports are based on work orders - not batches. Batches can have a combination of samples from different clients, projects, work orders, etc. QC sample results are included on reports.
14.13	The LIMS is capable of printing the QC acceptance ranges for all QC parameters on the QC report.	B	
14.14	The LIMS includes a validation procedure for each test, batch, or analytical run. Security requires validation from authorized personnel. The LIMS prevents the reporting of data until validation has been completed.	B/N	There is no validation procedure defined - not a function of a LIMS. The lab must define and execute the validation of all data. Unvalidated data is excluded from final reports but can be included on a draft report.

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Scope of Work
City of Glendale LIMS Technical Specifications

14.15	The LIMS is able to calculate Method Detection Limits (MDLs) and import them into the database.	B	Method detection limits are established for each analysis/matrix combination. These are not imported into the system as they are already there. The final MDL is modified based on prep variations, dilution factors and dry-weight corrections. The MDL calculation is done automatically by the system
14.16	The LIMS automatically adjusts Method Reporting Limits (MRLs) based on dilution factors.	B	Configurable at the matrix level
14.17	The LIMS is able to track standards by vendor, lot, preparation, and expiration dates. The LIMS is able to link this information to analytical data and warn the analyst of potential problems.	B	Configured in the standards log. Expired standards appear "greyed out" clearly displaying their expiration date, but are still available for selection by the analyst.
14.18	The LIMS has activate/inactive audit trail capabilities showing what data has been changed, who changed it, and when the data was changed.	B	
15.0	Other Quality Control and Quality Assurance		
15.1	LIMS shall provide means to track analytical instrument calibration, maintenance, and tuning, and certification of instruments such as balances, pH meters, thermometers, etc.	B	Thermometer, balance, and pipette calibration record tracking is rudimentary. The rest are standard features of Element LIMS.
15.2	LIMS shall provide a means to track laboratory reagents including lot number, batch number, expiration date, preparation date, and preparer ID.	B	Tracked in the "Standards" log, which allows solutions to be identified as standards, reagents, spike solutions, etc.
15.3	LIMS shall provide tracking of laboratory supplies subjected to quality assurance tests such as sterile bottles, bacteriological media, etc.	B	Supplies may be tracked in the Inventory Management feature. Analytical tracking of QA tests for bottles and media is done under a properly configured "Project".

**Exhibit B
Scope of Work**

City of Glendale LIMS Technical Specifications

15.4	LIMS shall provide logs for tracking important equipment information such as refrigerator and incubator temperatures.	A	Element Data System software (Element) can acquire temperature data directly from Omega's OMB-DAQ-54 USB Data Acquisition hardware. At this time, only the Omega OMB-DAQ-54 hardware is supported and must use Type J thermocouples. The OMBDAQ- 54 hardware can read up to five thermocouples (five different temperatures/channels can be monitored simultaneously). The OMB-DAQ-54 hardware is connected through a USB port to a computer that has Element installed on it.
15.5	It is highly desirable that standards, reagents, and other laboratory supplies tracked by LIMS be assigned bar coded labels. In addition, it is highly desirable to link reagents and standards to Safety Data Sheet (SDS) information where applicable.	B	
16.0	Security		
16.1	Security should be provided through Active Directory of the City's Windows Enterprise Operating System.	B	
16.2	LIMS shall allow administrator to delete sample management and analytical result rows before they are committed to the database.	B	There are several ways to prevent blank entries. If data is coming from an instrument, there is a holding area where data is kept before it is posted to the data base. There is a primary data base and a repository data base. An administrator can fix things before data is transferred to the repository. There is an audit trail for things that are changed. In the case of bench top chemistry or manual entry, the data can be changed before it is uploaded. Once it is uploaded and deleted, it will create a blank record.
16.3	LIMS shall employ full audit trails on all analytical, sample management, and quality assurance data.	B	
16.4	System integrates with Windows log-in.	B	Users will still have to login to Element separately from logging into Windows. Their User ID and password can be the same as what they login to Windows with.

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16.5	The LIMS Administrator is able to restrict access by user to sensitive areas of the LIMS.	B	Users can be restricted by not allowing view or edit rights to particular screens and functional areas.
16.6	LIMS has remote access capability through modem or Internet/Intranet.	B	
16.7	The LIMS Administrator has the ability to restrict access of users to defined areas of responsibility.	B	Users can be restricted by not allowing view or edit rights to particular screens and functional areas.
16.8	Transaction management is implemented to enable recoverability up to the point of failure.	B	A function of the database. Depends on the backup and recovery strategy employed by the lab. It is recommended that the lab do a full database backup at least once every 24 hours and incremental backups during the day
16.9	LIMS has the option of read-only users.	B	
16.10	LIMS provides administrator the capability to manage users and their access.	B	Users are granted view and edit rights by the administrator. These can be updated as necessary by the administrator
16.11	LIMS supports individual, group, and role-based security at all levels.	B	Security is individual and group (Department) based
16.12	LIMS records user ID, date, and time stamp for each entry for audit of all	B	All audit trail entries are recorded with the user ID, date and time
17.0	Inventory		
17.1	The LIMS has the ability to track chemical inventory including chemical formula, SDS information, and proper disposal instructions and use.	B/N	Chemical formula, disposal instructions not available
17.2	The LIMS tracks every chemical or standard logged into the LIMS by manufacturer, vendor, catalog number, and lot number. Manufacturer and vendor names should be contained in an editable dropdown list.	B	Standards and reagents used in the lab can be logged in via the Standards screen. Each standard or reagent is given a unique ID generated automatically by the system. Fields for catalog number, expiration date, received and open date, lot number, etc are available on the Standards screen. The user can select vendor via editable drop-down list.
17.3	The LIMS is able to link solvents, chemicals, and standards to laboratory batches and analytical run sequences linking the above referenced information.	B/N	Analytical run sequence does not include reagent information though it does include standards for QC

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17.4	The LIMS is able to track expiration dates and warn analysts when inventory is expired.	B	
18.0	Additional Features		
18.1	The LIMS is capable of tracking and tabulating data necessary for the federally mandated Consumer Confidence Report.	A	This would have to be determined.
18.2	The database has the ability to archive data records by various criteria (i.e. sample ID, test, etc.). Please explain archiving capabilities.	N	Archiving is a function of the database. There is a truncation feature in Element LIMS, but no physical archiving feature. Element LIMS employs "virtual archiving" to maintain performance even with large databases. A default date range is used upon login, limiting users queries, etc. to a specific date range. Users may also adjust the active date range for their session, allowing them to query across a broader time range.
18.3	The database has the ability to retrieve archived data easily and quickly.	B	Archiving is a function of the database. Data is kept in the system as long as possible without archiving. Normally, archiving occurs every five years or so. Older data bases are kept separate from the active data base repository.
18.4	Users have the ability to make changes in-house without development resources. Changes should include: nomenclature, editing/adding data fields, modifying/adding equations, menu configuration, setting/creating alerts and flags, modifying report formats, and contents, distribution list and frequency of reports, modifying program settings, changing default values.	B	Element LIMS is highly configurable, allowing users to modify such items without the need for coding.
18.5	LIMS shall utilize a server-based Relational Database Management System (RDBMS) (i.e., a non-desktop, non-ISAM (indexed sequential access method), non-proprietary database) using SQL.	B	Oracle versions greater than 8i and MS SQL-Server versions greater than 7.0 can be used in conjunction with Element LIMS
18.6	The LIMS application and/or database shall stringently enforce referential integrity.	B	Referential integrity is enforced by the application
18.7	A data dictionary with clear definitions down to the column level, and entity-relationship diagrams shall be provided.	B	

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18.8	Source-code for the application is highly desirable as is source code for any database operations such as stored procedures and triggers. In the absence of source code, thorough documentation in the form of data-flow model diagrams, Unified Modeling Language (UML) model diagrams, Object Role Modeling (ORM) model diagrams, and/or other documentation acceptable to COG shall be provided. It is highly desirable that vendor put their code in an escrow account.	N	Source code is not available to clients, but may be placed in an escrow account.
18.9	LIMS shall have the capability to be customized or extended by COG. This capability can include source code, application programming interfaces (API), Component Object Model interfaces, a vendor-supplied scripting language, or other such means acceptable to COG.	C	External applications may be mounted on the Element LIMS menu, allowing system expansion without the risk of compromising the code base.
18.10	The LIMS vendor shall provide data conversion and data loading assistance under COG's guidance in order to migrate a portion of COG's legacy LIMS data to the vendor's LIMS system.	O	Available at cost; \$14,500 flat rate for data migration.
18.11	The LIMS vendor shall provide assistance with installation qualification (validation) of the LIMS in development, testing, and production environments.	B	Validation is a standard part of the implementation
18.12	The LIMS vendor shall provide assistance in testing the completed LIMS in parallel with COG's legacy LIMS. Vendor's LIMS will be placed into production only after COG staff deems all tests satisfactory.	B	
18.13	The LIMS application shall have no incompatibilities with Microsoft's Active Directory.	B	Active Directory authentication is recommended for most installations.
18.14	The LIMS must be open for integration with other systems such as safety data sheet (SDS) systems. LIMS must also allow retrieval of all necessary information from LIMS into a data warehouse. It is highly desirable to have a checkbox or tracking to confirm when data are copied to data warehouse.	B/C	There are many ways to integrate with other systems. For Safety Data Sheets (SDS), these can be linked to a .pdf. For the transfer of data, it can be tracked through an intermediate step before it reaches the repository; this can indicate when data is moved.
18.15	The LIMS vendor shall supply all pertinent documentation in both printed and electronic forms for end-users, administrators, and information technology support personnel.	B	All information is available in a cohesive single document, the Element LIMS User Guide

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18.16	The LIMS shall include an on-line help system and live remote assistance/troubleshooting.	B	The User Guide is available from the help menu. Remote assistance is preferred by Promium support staff.
18.17	The vendor shall provide training to all end-users and support staff. The vendor shall provide training materials such as manuals, workbooks, and tutorials.	B	
18.18	The LIMS vendor shall provide continuing support and updates for the LIMS to ensure continued usability.	B	
18.19	The LIMS vendor shall include unlimited technical support at no charge for no less than one year after the date that LIMS has officially been placed in production at COG. This includes all laboratory instruments being connected to the LIMS and successfully tested.	B	
18.20	The vendor shall provide documentation describing their source code control, change management documentation, and quality assurance process policies.	B	Promium developers employ scrum software development methodology.

B = Base, O = Optional, T = Third Party, C = Custom, A = API/DSK, F = Future, N = Not Supported

COST PROPOSAL - EXHIBIT C

Element LIMS®

Laboratory Information Management

Prepared for:

City of Glendale

Douglas E. Kupel, Ph.D.

Prepared by:

Rick Persichitte

August 13, 2015

Promium, LLC

3350 Monte Villa Parkway, #220

Bothell, WA 98021-8963

1.877.PROMIUM

www.promium.com

PRŌMIUM

General Overview

This document describes the software and services available to implement and operate Element LIMS[®] laboratory information management system (LIMS) from PROMIUM[®].

Element LIMS is available as a desktop and enterprise software system and also as a subscription-based hosted application service (with data storage). For software customers, a perpetual license to use is purchased or leased. For subscription-based hosted service customers, a renewable on-demand license is granted for use in exchange for periodic payments.

1. Software Components

Element LIMS includes functionality to manage the receipt, processing, and disposition of samples in an analytical testing laboratory. The major components of the system enable laboratory personnel to perform project management, sample control, laboratory analysis, quality assurance and reporting. For license purchase or lease, software deliverables include base software, and 3 utilities (MessageManager, DataTool, PackageManager). Available separately for installation but included in the purchase of an Element LIMS license, is the Element ClientConnect web access application (reporting capability only; ClientConnect sample submission capability which is treated as an EnviroChain transaction is billed separately).

Element runs on a Microsoft Windows[®] operating system. The database for Element LIMS may be contained in a Microsoft SQL Server, Microsoft Jet/Ace, or Oracle Server. Database licensing is not included with Element LIMS unless specifically described in the proposal. For the hosted application offering, purchase of third-party database and server software is generally not required.

2. Implementation and Training Services

Purchase, lease or subscription of Element LIMS generally includes initial implementation and configuration of software and basic training of laboratory personnel and administrators, with charges as noted in this proposal. Subsequent configuration, customization and training may incur additional charges.

Implementation generally consists of five phases and a variable number of site visits, conference calls, web-based interaction, and off-site development. The Planning phase includes analyzing the current workflow of the laboratory and requirements for the new system, and scheduling project deliverables and milestones. The Design Phase includes mapping the system architecture, detailing how the software will be installed and operate, and establishment of a testing and training plan. The Execution Phase includes installation of Element LIMS software, initial database configuration and population, report and EDD development, user and administrator training, and testing and validation. In the Go-Live phase, use of the legacy system will cease, data migration (if required) will be completed, and the system will be considered ready for production. The Project Acceptance phase will close out all remaining project activities and the administration of the system will be transferred to your team. Support for the account is transferred to the Promium Customer Support department.

3. Ongoing Maintenance and Support

For purchase of a license, maintenance and support for the first twelve months are included in the initial purchase agreement at no additional charge. Subsequent maintenance and support are charged separately and renewed annually unless otherwise specified. For lease or subscription customers, maintenance is included as part of the lease or subscription for the term of the respective contract.

A valid maintenance agreement includes download availability of major and minor product releases, including executable files, libraries, controls, report formats, and supporting files. Also included in the maintenance contract is telephone-based and web-based technical support. Telephone-based technical support is scheduled to be available Monday through Friday from 5:00am to 5:00pm Pacific Time, not including holidays recognized by Promium. Exceptions or changes to this time frame will be noted on the Promium support website at www.promium.com/support.

4. License Structure

Promium, L.L.C. grants licenses for Element based on the number of concurrent users. For license purchase or lease, unless otherwise specified in writing by Promium, you may use an unlimited number of copies of the Software on an unlimited number of computers; provided however, that they may be used by a single business or government entity only. For subscription, unless otherwise specified in writing by Promium, you may access and use the hosted version of the Software on an unlimited number of computers; provided however, that they may be used by a single business or government entity only. The number of concurrent users of the Software shall be limited as described in your Promium Quotation form. Laboratory facilities connected by network and sharing a single Element LIMS Production Database may share a single license, as long as all such facilities are both owned and operated by a single business or government entity. The Software may not be loaned or shared with any other business or government entity, including any affiliated companies; any such entity would need to purchase its own license to use the Software.

5. Hardware and Software Minimum Requirements

Minimum hardware and software requirements are published on the Promium website at www.promium.com/documents/ElementMinimumRequirements.pdf.

PROMIUM		QUOTATION	
Proposal for:		Effective: 17-Aug-15	
City of Glendale		Prepared by:	
Douglas E. Kupel, Ph.D.		Rick Persichitte	
		Currency: USD	

Element LIMS™					
SOFTWARE	License: Purchase	Qty	Price	Total	
BASE SOFTWARE					
Configuration: Advanced					
Application Components		Concurrent Users	8	\$ 6,694	\$ 53,554
- Project Management					Included
- Sample Control					Included
- Laboratory Analysis (including DataTool)					Included
- Quality Assurance					Included
- Reporting (Basic reports)					Included
- ClientConnect Reporting Application*					Included
Software Subtotal					\$ 53,554
HOSTING - ClientConnect Reporting*					
Setup - ClientConnect	Instances				
Network Assessment	Hours				
Application Hosting					
3rd PARTY HARDWARE AND SOFTWARE					
SAP Crystal Reports		1	\$ 699	\$ 699	
IMPLEMENTATION SERVICES					
IMPLEMENTATION & TRAINING					
Advanced					
Dependent on requirements but generally 4-6 on-site visits for setup and					\$ 49,999
REPORTS AND EDDs					
EDDs and Reports		11		\$ 7,000	
Standard (Specialized) Report Packages		1		\$ 9,800	
>> See attached list of Report/EDDs					
<i>Estimate only; Specifications may be required for custom work</i>					
ADDITIONAL SERVICES					
Data Migration					\$ 14,500
TAXES					
Arizona estimated tax (billed at current tax rate at time of service)					\$ 4,991
(9.2% of Software Subtotal and SAP Crystal Reports)					
TOTAL SOFTWARE AND SERVICES					\$ 140,543

MAINTENANCE	Users	Price Per	Total
1st Year Annual Maintenance	8	Included	Included
2nd Year Annual Maintenance - For Reference Only	8	\$ 873	\$ 6,985
3rd Year Annual Maintenance - For Reference Only	8	\$ 899	\$ 7,195
4th Year Annual Maintenance - For Reference Only	8	\$ 926	\$ 7,411
5th Year Annual Maintenance - For Reference Only	8	\$ 954	\$ 7,633
Total Maintenance - For Budgeting Purposes			\$ 29,224
<i>Subject to sales tax</i>			

ELEMENT LIMS TOTAL SOFTWARE, SERVICES, MAINTENANCE	\$ 169,767
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PRŌMIUM		QUOTATION - Element LIMS [®] EDD & REPORT LIST	
Proposal for: City of Glendale Douglas E. Kupel, Ph.D.		Effective: 24-Jul-15	Prepared by: Rick Persichitte
EDD and REPORT LIST		Price	
AZDEQGW - Arizona Department of Environmental Quality Groundwater Data Submittal Guidance Document Version 3.3 EDD		\$	600
• DWAR-1 Drinking Water Microbiological Analysis Report / Total Coliform Rule		\$	600
• DWAR-1G: Drinking Water Microbiological Analysis Report / Ground Water Rule		\$	600
• DWAR-2A: Water Quality Parameters Report (WQP)		\$	600
• DWAR-2IN: Drinking Water Inorganic Chemical Analysis Report		\$	600
• DWAR-4: Drinking Water Volatile Organic Chemical Analysis Report		\$	600
• DWAR-8: Drinking Water Lead and Copper Analysis Report		\$	600
• DWAR-9: Drinking Water New Source Approval Form (Revised 2004)		\$	1,000
• DWAR 20: Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) Monthly Reporting Form for Crypt		\$	600
• DWAR 32: Stage 2 Disinfection By-products (TTHM & HAA5), Individual Sample Report		\$	600
• DWAR 33: Stage 2 Disinfection By-products (TTHM & HAA5), Quarterly Report		\$	600
TOTAL EDDS AND REPORTS		\$	7,000
SPECIALIZED REPORT PACKAGES (SEE DETAILS ON PRICE LIST)		Price	
Contract Laboratory Program Discharge Monitoring Department of Defense QSM CLP-Level 4 Advanced (Custom)		\$	9,800
TOTAL SPECIALIZED REPORT PACKAGES		\$	9,800

Quotation Terms & Conditions

This pricing in this proposal remain effective for: 90 days from date quoted.

Some implementation and system configuration may be performed off-site.

*Includes reporting functionality only. Sample submission capability billed separately.

**Estimates of any customization are subject to further analysis of requirements and may change.

Note: A 3% processing fee may be applied to credit card transactions.

IMPORTANT NOTICE: Even if we do not collect sales tax from you, you may owe sales tax on your purchase. Unless you live in Alaska, Delaware, Montana, New Hampshire, or Oregon, your state most likely requires purchasers to report and pay tax on all purchases that are not taxed at the time of sale. The tax may be reported and paid on your individual income tax return or by filing a consumer use tax return. For more information, please visit your state's department of revenue web site. PROMIUM LLC COLLECTS SALES TAX in states where we have physical presence (or nexus), including Washington. Promium LLC also collects sales tax in Arizona, California, Florida, Hawaii, Illinois, Maryland, Michigan, Minnesota, Missouri, New Jersey, New York, Pennsylvania, Rhode Island, Tennessee, Texas, and Wisconsin. **FOR OUR TAX-EXEMPT CUSTOMERS: PROMIUM LLC DOES NOT COLLECT SALES TAX if we have your exemption certificate on file.**

OPTIONAL PRODUCTS AND SERVICES

EnviroChain EA - Online Chain of Custody Service	Qty	Price	Total
Advantage Plan (Billed separately from Element LIMS via credit card)	CoCs 1,500	\$ 1.29	\$ 1,935

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City of Glendale

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