

**Questions & Answers on
Solicitation No.: DACA45-01-R-0018**

The answers to these questions are considered to be correct at this point in time, but future amendments may render the Government's responses incorrect. No attempt will be made to revisit these questions and answers. The RFP will govern in any instances of discrepancy between the answers given and the RFP.

Question 1: On the Fm 33 the delivery date is 2 Apr 2002 on page L.11 of 28 (Section L, Paragraph 1.4) the date is referenced as 29 Mar 2002. If there is an amendment to the RFP, could you clarify the desired date.

Answer 1: *The correct due date for the proposals and for the Owner/Client Past Performance Survey Forms to be received at the address specified on Page 11 of 28 of Section L is 02 April 2002 at 1530 hours. This administrative error has been corrected in Amendment 0001.*

Question 2: Reference Section J, pg. 32 of 37, Project Experience Form, the question "Was the project terminated early or were cure/show cause letters reviewed? Should the word reviewed be interpreted instead as received?"

Answer 2: *Yes, the word reviewed should be received and has been changed in Section J via Amendment 0002.*

Question 3: Reference Section L, 2.2, pg. 12 of 28, it is stated that the page size of the offeror's proposal shall not exceed an 8 ½ x 11-inch sheet of paper. The next paragraph then states "When included, foldout pages shall fold entirely within the volume. Each 8 ½ x 11-inch section of foldout shall count as one page." Does this mean we are allowed to use 11 x 17-inch size paper, as long as it is folded to 8 ½ x 11-inch size? And is so, will that sheet count as 2 pages?

Answer 3: *Yes, the offeror is allowed to use 11 x 17-inch size paper as long as it is folded to 8 ½ x 11-inch sheets. Each 11 x 17-inch sheet used will count as 2 pages if only one side of the sheet is used. If both sides of the sheet are used, it will count as 4 pages.*

Question 4: Reference Section L, p. 13, Table 1, Volume 1, Section II - Past Performance, and pp 20, 21, 22, para 3.2, 3.2.1, 3.2.2, Past Performance Project Narrative With Points of Contact, and Past Performance with Regulators Including Points of Contact. It is unclear what you require under Volume 1, Section II, Tabs 1 and 2. The Previous Experience Forms from Section J apparently go in Volume 1, Section 1, Tab 1, and will include a detailed project summary. For Section II, Tabs 1 and 2 are you looking for a summary of the experience summaries we are already providing in Volume 1, Section 1, Tab 1 along with narratives relating to our Regulatory Experience? Please clarify.

Answer 4: *For Volume I, Section II, Tab 1 – The offeror shall provide Owner/Client Past Performance Survey Forms to the customers of the projects identified in Volume I, Section I, Tab 1 of their proposal. These forms will be incorporated into Volume I, Section II, Tab 1 by the Contract Specialist upon receipt of proposals. The offeror shall incorporate any additional information as deemed necessary, as long as page limitations are not exceeded, to explain their past performance in addition to providing their POCs for each project. Please see the specific information that the Government wishes to have clarification on as stated in Paragraph 3.2.2. The Government does not require a summary of the Previous Experience information provided in Volume I, Section I, Tab 1. It is left up to the offeror as how they want to cross-reference appropriately so as to not confuse the evaluation team on how they performed on an individual project. Do not forget that each page of the Owner/Client Past Performance Survey Form will be counted in the total page count for this section. If the 25-page total is exceeded when the Contract Specialist inserts the completed forms into the proposal, only those that are within the page limits will be considered during the evaluation process.*

Under Volume I, Section II, Tab 2 – Past Performance with Regulators including Points of Contact, the offeror shall provide a POC and explain by narrative how it worked with the regulators under the projects described in Volume I, Section I, Tab 1. The offeror shall address the all concerns stated in Paragraph 3.2.3 - Past Performance with Regulators including Points of Contact. (Note: There is an administrative error and has been corrected in Amendment 0002. There are two paragraphs listed as 3.2.1 and 3.2.2. These were renumbered appropriately. Please replace all of Section L with the revised Section L attached to Amendment 0002.)

Question 5: 2. Reference Section L, p. 24, para. 3.4.2.1, Small Business Subcontracting Plan - The 10% Goal for HBCU/MI's appears to be out of the ordinary especially as it relates to the type of work under this contract; the fact that it is almost the same as the combined goals for Woman-Owned Business, HUBZone and Service Disable Veteran Owned Small Business; and the Liquidated Damages Clause for Subcontracting Plans in Section I. Please review and advise.

Answer 5: *The 10% goal for HBCU/MI is correct and published for your information. Like all subcontracting goals, it is a negotiable item. Unlike other subcontracting goals, the HBCU/MI goal is applicable only when you contract or obtain services from other institutions of higher learning.*

For more information pertaining to the HBCU/MI programs, you may visit the Department of the Army web site at www.hqda.army.mil/sadbu/hbcu.htm and/or the Minority ON-line Information Service at Sciencewise.com/molis/index. Both sites are excellent sources of information and available resources and worthy of bookmarks! Further inquiries into the capabilities of small businesses can be obtained by using the SBA's Procurement Marketing and Access Network (PRO-Net) system (<http://pro-net.sba.gov/>). PRO-Net is a free, Internet-based search engine and provides access to information on more than 200,000 small businesses.

Lastly, we encourage your firms to make any subcontracting opportunities public in the Federal Business Opportunities (FedBizOpps), Commerce Business Daily, Subcontracting Network (SUB-Net). The SUB-Net Web site (<http://web.sba.gov/subnet/>) provides a free forum where prime contractors post subcontracting opportunities.

Question 6: In Section L, Item 3.4, Utilization of Small Business Concerns, a table lists goals established for small business (etc.) under the small business subcontracting plan. These total 91%. Are these percentages for the entire contract value, or for any subcontracted portions of the contract? Also, are these firm, fixed goals or recommendations?

Answer 6: *The total utilization of small business concerns is 61.4%. The specific categories listed under "Small Business" are incorporated (rolled-up) into this total 61.4%. The percentages given are for the entire contract value of \$14.9 Million. These goals are negotiable as stated in a previous answer to Question 5 above, but are goals that the USACE Omaha District would like to achieve. However, a subcontracting plan must be approved prior to contract award.*

Question 7: Reference Section I, p. 22, 52.228-16, Performance and Payment Bonds - Other Than Construction - Is it the intent of the USACE to allow for the additional costs for these bonds to be (1) recovered on a project specific basis or (2) to be included in our development of the pricing in Section B, Tables 1 and 2?

Answer 7: *These costs for Bonds will be recovered on a project specific basis. It is the intent that the USACE Contracting Officer will make the final decision on the need for Bonding on a Task Order by Task Order basis and will be specified in the RFP letter or Scope of Services at that time.*

Question 8: Reference Section L, Paragraph 3.1.1, specifically the requirement for submission of five to ten examples of completed projects. We are not sure what constitutes a "project" under your definition. Would it be acceptable for us to submit a federal ID/IQ contract with multiple delivery orders as an example of a single project? Or is a project more narrowly defined as a single delivery order under an ID/IQ contract or a stand-alone contract?

Answer 8: *This definition of a "Project" has been added to Paragraph 3.1.1. of Section L. A "Project" is defined as a stand-alone contract or a task order under a specific ID/IQ contract. See Revised Section L attached to Amendment 0002.*

Question 9: As a follow-up to the question above, we are not sure what constitutes a "completed" project under your definition. If submission of a federal ID/IQ contract with multiple delivery orders as a single project example is acceptable, does the entire contract have to be administratively closed out? Or would it be acceptable to include projects where the work is substantially completed but not administratively closed out? If the requirement is for the entire contract to be administratively closed out, this would eliminate many relevant long-term contracts such as TERCs from consideration.

Answer 9: *This definition of a Completed Project has been added to Paragraph 3.1.1. of Section L. "Completed" projects are defined as contracts or task orders that are physically complete and have been accepted by the customer. See Revised Section L attached to Amendment 0002.*

Question 10: As a follow-up to question 8 above, if submission of a federal ID/IQ contract with multiple delivery orders fits the definition of a project, then some of the information requested on the "Previous Experience Form" included in Section J would be inapplicable. For example, information on original and actual contract completion dates, explanation of late finish, interim schedule milestones, contract amount at award, final contract amount, cost growth, would be inapplicable for a contract with multiple individual delivery orders. If ID/IQ contracts are acceptable as "projects" can we mark the appropriate blanks on the Previous Experience Form as "Not Applicable?" Or, in lieu of that, can we fill in the blanks with contract start and finish dates, cost ceilings, etc. rather than individual delivery order information, because individual delivery order information will be extremely difficult to assemble and evaluate for contracts with numerous individual delivery orders?

Answer 10: *For clarification: Individual Task Orders (Delivery Orders) under an ID/IQ contract are considered separate projects, as are stand-alone contracts. Provide the information for each as appropriate. For example: start and finish dates; the contractor shall put in the dates that the award was made on the individual task order or stand alone contract and when it was completed as defined by the definition above in Answer 9.*

Question 11: Reference Section L, Paragraph 3.2.1, specifically the requirement to provide client points of contact (POCs) with our completed past experience forms along with the owner survey forms. Our question is, do the past experience forms provided to the client POCs have to be identical to those provided in our proposal to the government, or can the past experience forms provided to the client POCs contain an abbreviated description of the services performed?

The reason for the question is that if the past experience forms provided to the client POCs have to be identical to those included in our proposal, it creates a problem in timely submission of the survey forms by the client POCs. Since past experience is an important selection criterion, we typically expend a considerable amount of time and effort preparing and editing our past experience descriptions in order to demonstrate relevance to the proposed work. These past experience descriptions are typically not completed until late in the proposal process, which means if we have to submit identical forms to the client POCs as those that go into the proposal, the client survey forms may be delayed.

Answer 11: *The Past Experience Forms provided with the Owner/Client Past Performance Survey should be identical to what is provided in Section J. The purpose of providing these Past Experience Forms to the Owner/Client is to describe the actual work done on the project that the Owner/Client will be providing an evaluation on. The information provided will help the Owner/Client evaluate the Offeror's Past Performance on the project thoroughly and accurately. Therefore, the information provided to the Owner/Client on these forms should be as accurate and very similar to what is on the Past Experience Forms that the offeror submits with its proposal. The Owner/Client (not the offeror) has the option of mailing in their evaluation to the Contract Specialist (Michael Duffy) or emailing it to him as stated in Paragraph 3.2.1.1. of the Revised Section L.*

Question 12: Section L, paragraph 3.6.2.2 p25 of 28 makes reference to V-II, Sec I, Tab 4, should this reference be Tab 3 since there is no Tab 4?

Answer 12: *Yes, this was referenced incorrectly and has been corrected in Amendment 0002. The sentence should read: "If the letter used in Volume II, Section I, Tab 3 contains the same information required here, the offeror shall cross-reference the letter there in Volume II, Section II, Tab 2."*

Question 13: Reference Section B Labor Rates. Can we propose multiple category levels for the Chemist, Geologist, Biologist, and Hydrogeologist using the same methodology as the Engineer categories? Engineer categories are specified as three levels, Level 1 - general education, Level 2 - education + 3 years experience + professional registration, Level 3 - education + 7 years experience + profession registration.

Answer 13: *See the Tables in Revised Section B. The offeror shall use the categories provided. The offeror is instructed to replace Tables 1 and 2 with the Tables in the Revised Section B as instructed in Amendment 0002. Any further labor categories (or divisions within categories) will be negotiated as needed.*

Question 14: Are any of the following sections available electronically (Word/Excel not PDF): SF33, Section B - Rate Table, Section K Reqs/Certs, Previous Experience Form, Owner/Client Past Performance Survey, Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions, and Lobbying Certificate?

Answer 14: *No. The offeror is instructed to type or print neatly where required.*

Question 15: Are authentic price quotes from non-team subcontractors required for the hypothetical sample task costing exercise? Many of the subcontracts required for the sample task would not be for the type of firms we would propose as team members. We typically do not like to request quotes from our subcontractors if there is no potential for work because it damages our working relationships.

Answer 15: *Yes. The cost proposal should be as complete and accurate as possible. All subcontracting work should be competed with a minimum of three contractors with their quotes/proposals submitted as back-up material in the cost proposal. If the Prime will be using a team-sub, they should provide clear evidence that the costs of the team-sub are reasonable and the "best value" for the Government.*

Question 16: For the Project Experience Form, can the Contracting Officer reference name, address, phone and fax be a Contracting Officer's Representative (COR)?

Answer 16: *Yes, but this should be clarified on the form by the offeror. This person should have working experience with the contractor on the project(s) being identified.*

Question 17: For the Project Experience Form, can "Representative of Owner" be the site or installation manager?

Answer 17: *Yes if they are knowledgeable of the project and of the contractor that performed the work. This person should have working experience with the contractor on the project(s) being identified.*

Question 18: Section C, page 1 indicates that work will generally fall under task orders using Performance Based statement of works. The rationale and goals for PBCs are stated on pages 1 and 2 of Section C; however, no examples of performance based objectives are provided. Can you provide examples of performance based objectives in order for our company to evaluate the level of risk involved with performing work for the Omaha District under this contract? An example of a performance based objective for Site Characterization, Design, and Remediation type work would be helpful.

Answer 18: *Examples of each are as follows without the major assumptions that would be provided with each objective at time of request for proposal:*

Site Characterization –

Performance Objective – Characterize the Contaminates and Extent of Contamination at Site A

Design –

Performance Objective – Design a study for the analysis of the current groundwater remediation taking place at Site B

Remediation –

Performance Objective – Remove all Lead-Based Paint from Site C

Question 19: Will performance based objectives be defined for all projects? If not, what type of work (e.g., Site Characterization, Design, Remediation) will likely have performance based objectives in the statement of work?

Answer 19: *Projects that are Firm-Fixed Price will use performance-based objectives when appropriate as per AFARS Part 5137-1 - Service Contracts - General. This does not mean that Cost Reimbursable Task Orders may not have performance-based objectives.*

"Solicitations for services must be performance based and fixed price (firm fixed price, fixed price with award fee, fixed price incentive, fixed price with economic price adjustment). Specifically excluded from this requirement are all research and development, architect-engineer, environmental remediation and restoration, emergency services acquisitions, and procurements conducted pursuant to Office of Management and Budget (OMB) Circular A-76. Deviations (both individual and class) with supporting justification in writing may be granted by PARCs up to \$10 million, HCA's up to \$50 million, and the DASA(P&P) over \$50 million. Copies of all approved deviations are to be provided to SAAL-PP on a quarterly basis."

Question 20: For any given work assignment, will performance based objectives be defined with input from the contractor. i.e., Will the contractor be allowed to negotiate/define the performance based objectives with the Corps?

Answer 20: *The Omaha District wants to make sure its customers are given the "best value" for their money and this will be done through defining the performance objectives and milestones as clearly as possible. This may be done with input from the contractor and other possible sources on a Task Order by Task Order basis. The Objectives may also be refined in the Task Order negotiation and will be stated in the Final Scope of Services after the negotiation and provided to the contractor.*

Question 21: We noted that under this contract, it is possible to conduct work under either fixed price or cost-reimbursable payment terms. What type of work assignments (e.g., studies, design, remediation) are likely to be based on cost-reimbursable payment terms versus fixed price payment terms?

Answer 21: *The type of work, the level of difficulty, the amount of unknowns, or the characterization of the site will determine whether a Task Order is Cost Reimbursable or Firm-Fixed Price. It can be assumed that most studies, investigations and designs will generally fall under a Firm-Fixed Price Task Order.*

Question 22: Are there any current contracts administered by the Omaha District that are based on achieving performance based objectives? If so, which contracts?

Answer 22: *Not currently.*

Question 23: After reviewing the solicitation/specification on the web site we were curious as to whether a pre-bid meeting was anticipated for this procurement?

Answer 23: *There will not be a pre-proposal conference scheduled for this solicitation.*

Section C – Page 1 of 18, Subsection 1. Contract Procurement and Objective Overview – Paragraph 2 states: "Work will generally fall under task orders using performance-based statements of work." Payment is made "only when the results meet or exceed these objectives."

Question 24: Please clarify how performance-based statements of work will apply in the context of what appears to be fixed price clauses in the contract (e.g., changes clauses, request for equitable adjustment, etc.). How can the offeror be "accountable for the end results" in a site investigation, remedial action or EOD removal if the site conditions are materially different than those anticipated at the time of the bid based on limited information developed by outside sources over which the contractor had no control and who has no liability to the contractor for the accuracy or completeness of the data?

Answer 24: *Clarification: For Firm-Fixed Price Task Orders, when appropriate, work will fall under Performance-Based Statements of Work. USACE has been instructed to use Performance-Based Statements of Work as much as possible, when and where it is appropriate. See examples of some Performance Objectives in Answer 18.*

Question 25: Does this mean that no payments are made on such task orders until the work is complete? What about the cost of money associated with the payment of subcontractors? How does this apply (if at all) to cost reimbursable task orders?

Answer 25: *For Firm-Fixed Price Task Orders using Performance-Based Objectives/Statements of Work, payments will be made when the performance objective/milestone is reached, as long as the performance objective has been met or exceeded by the contractor. The objectives/milestones will not be so large that they can not be reached within a reasonable period of time. It is not the intent of the Government to place undue burden on or withhold payments from the Contractor. Payments on Cost Reimbursable Task Orders will be made as costs are incurred.*

Section C - Page 12 of 18

In Section C, Paragraph 7.3 it is stated that Confirmation Notices shall be attached to weekly reports "on matters relative to this contract or the work."

Question 26: Is this intended to apply to each Task Order, rather than the contract as a whole?

Answer 26: Confirmation notices shall be provided as required for specific issues on specific task orders. Reference Paragraph 7.3 of Revised Section C via Amendment 0002.

Section L – Page 1 of 28

Section L, Subsection 52.204-6 states “The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation “DUNS”...”

Question 27: Please verify if “cover page” is referring to including the DUNS number on the proposal cover or on the title page.

Answer 27: Cover Page is referring to the Title Page of Each Volume. If Title Pages are not used, put the DUNS number on the Proposal Cover.

Section L – Page 12 of 28

Section L, Subsection 2.1 (b) states “The prime, consortium, or joint venture’s name, address, a signature of the official that can bind the firm, and a telephone number shall appear in the lower left corner of the cover page and table of contents of any document/volume to be evaluated.”

Question 28: Please verify if “cover page” is referring to proposal cover or the title page.

Answer 28: Here “Cover Page” is referring to the Proposal Cover. All Title Pages, if used, shall also contain this information, as clarified in Revised Section L via Amendment 0002. See also Answer 30 below.

Question 29: Please verify if the information is required on the table of contents pages as well as the cover page.

Answer 29: Yes. Include the Information on the Table of Contents pages as well.

Section L – Page 12 of 28

Section L, Subsection 2.1 (d) states “List of tables/figures, volume number, section and date submitted shall appear in the bottom right corner of each page.”

Question 30: Is it correct to assume that the list of tables/figures is not required to appear in the bottom right corner of each page?

Answer 30: Yes. Clarification via revision of Section L Paragraph 2.1 in Amendment 0002- As part of the basic proposal information that should be provided “The volumes shall include, as a minimum, the following:

(a) Volume number on proposal cover.

(b) The prime, consortium, or joint venture’s name, address, a signature of the official that can bind the firm, and a telephone number shall appear in the lower left corner of the proposal cover, title page and table of contents of any document/volume to be evaluated. Proposal volume cover format is at the offerors discretion so long as the information required by this paragraph and subsequent paragraphs are met.

(c) Table of contents and a cross-reference to the solicitation paragraphs.

(d) List of tables/figures.

(e) Volume number, section and date submitted shall appear in the bottom right corner of each page (along with the revision number for the amended page, if necessary)."

Section L – Page 12 of 28

Section L, Subsection 2.2 states "NOTE: The items that are excluded from the page count are the Proposal Cover; the Table of Contents; the List of Tables/Figures; Separator Tabs; and all of Volume II."

Question 31: Is it correct to assume that the title page, cross-reference to the solicitation paragraphs, and an acronym list are included in the page count?

Answer 31: *Title pages, cross-reference to the solicitation paragraphs, and an acronym list are not included in the page counts. This has been updated in the Revised Section L under Paragraph 2.2.*

Section L - Page 14 of 28

3.1.1 Volume I, Section I, Tab 1, Previous Experience - HTRW and OE Projects Fourth line, Second Sentence: "The projects must have been **completed** within the last three years."

Question 32: Does this mean that we cannot use any active contract or that we can use active contracts with individual Task Orders that are, say 90% complete?

Answer 32: *See Answer 9 for the definition of "Completed" projects.*

Section L - Page 14 of 28

3.1.1 Volume I, Section I, Tab 1, Previous Experience - HTRW and OE Projects Eighth Line, Fifth Sentence: "It is suggested that the offeror include their past performance information in their proposal in case one or more of the owner/client(s) does not respond with past performance information in a timely manner."

Question 33: Does this mean that copies of the blank Owner/Client Survey Forms should also be included in the proposal or are you just looking for the Previous Experience Forms?

Answer 33: *No, do not provide blank Owner/Client Survey Forms in the proposal under Volume I, Section I, Tab 1. All Past Performance Information should be provided in Volume I, Section II. For clarification, the Government suggests that the offeror provide as much information as possible, especially a POC, (as long as the page limitations are not exceeded when all surveys are incorporated into the proposal) concerning its Past Performance in Volume I, Section II, Tab 1. This is in the event that the Owner/Clients do not return the Survey Forms to the Government Contract Specialist on or before the Proposal Receipt Date and Time.*

Section L - Pages 20 and 21 of 28

3.2.1. Owner/Client Past Performance Survey Forms Eighth line: "The offeror shall distribute copies of the offeror's completed project experience forms and the blank owner survey forms (provided in Section J of this solicitation). The owner survey form shall be distributed to the owner/client (of that particular project) by the offeror."

Question 34: Please clarify if the completed "previous experience forms" in Section J that will be provided in the proposal are required to be sent to the owner/client along with the blank "owner/client past performance survey".

Answer 34: *See Answer 11.*

Section L - Page 22 of 28

3.3.3 Volume I, Section III, Tab 3 - Safety and Health Program Fifth line: "For the OE Element, the offeror shall provide an example of a Conventional Explosives Safety Submission as described in DID OE-060...."

Question 35: Is it correct to assume that you are looking for an ESS, which is relevant to a project the offeror performed and was submitted for an actual site? A typical Conventional Explosives Safety Submission is 20 to 40-pages in length. Is this submission included in the page count?

Answer 35: *Yes. The page count has been increased to satisfy this requirement. The Page Limitation is now 60-pages for both Large and Small Business under Volume I, Section III.*

Section L - Page 23 of 28

3.4.1 Volume I, Section IV, Tab 1 - Small Business Subcontracting Past Performance Last sentence of first paragraph: "This requirement may be supported by using copies of the U.S. Government Standard Form 294, filled out completely."

Question 36: Does the use of SF 294 meet the requirement of the required "letters/memorandums that document or record subcontracting performance, compliance or surveillance visits" or are the SF 294's intended to meet the requirements of the entirety of paragraph 3.4.1?

Answer 36: *No. The SF294's if used, are to be used as supplemental information supporting the information that is provided in the proposal concerning small business subcontracting past performance. It is not necessary to provide the SF294's.*

Question 37: If included, are the SF294's part of the page count?

Answer 37: *Yes. If submitted, they will count in the page limitation.*

Section H - Page 1 of 1 and Section L - Page 25 of 28

Section H - Page 1 of 1

4.1. - Base Period Rates

"The offeror shall submit its most recent (within one year) audited rates or provisional rates, if available, when proposing its rates for the base period. If the offeror does not have recent audited rates, the offeror is instructed to submit the breakdown of each of its cost pools as described in Section L of this solicitation.

Section L - Page 25 of 28

3.6.2. Volume II, Section II, Tab 2 - Supplies or Services and Cost/Prices (Section B) & Cost Pool Information, Subsection 3.6.2.2

Eighth Line: "If the offeror has had an audit within the last year, the offeror is instructed to provide a copy of the audit, include if available, any other rate information received from the Administrative Contracting Officer of the cognizant audit agency and will not be required to provide the breakdown of each of their cost pools...If the offeror does not have a recent audit, the offeror shall provide detailed information showing cost accounts included in each of their cost pools in order to explain all overhead rates, G&A markups, labor burden (fringes), and any other pools."

Question 38: With regard to the rate information requested in the two sections above, we would like clarification on when cost pool breakdown is required. Specifically, DCAA issued their audit report for our FY 1998 Indirect Rates on 19 September 2001. The ACO approved provisional FY 2001 bidding/billing rates on November 15, 2001. Since the provisional 2001 rates were approved within the last year, does this approval satisfy the requirement above for an audit within the last year or should complete detail be submitted regarding each cost pool?

Answer 38: *The DCAA Approved Provisional Rates will satisfy this requirement and no further breakdown/detail will be necessary to clarify the cost pools. If there are no Approved Rates or Approved Provisional Rates, the offeror shall provide the necessary breakdown of all cost pools as directed in Section L. The offeror shall include the documentation that shows that they have Approved Provisional Rates..*

Section L – Page 25 of 28

Section 3.6.2.1 states that "The offeror shall fill out in its entirety Section B."

Question 39: Please clarify which of the following regarding the completion of Tables 1 and 2 in Section B the USACE is expecting to see:

- One Table 1 and one Table 2 for the offeror only,
- Multiple Tables 1 and 2, providing the rates for the offeror and each team subcontractor that will be performing cost-reimbursable task orders,
- Multiple Tables 1 and 2, providing the rates for the offeror and all team subcontractors including those that are operating under firm fixed price subcontracts, or
- One Table 1 and one Table 2 that somehow merges the rates of the offeror and all team subcontractors.

Answer 39: *The offeror shall fill out one Table 1 and one Table 2 only. These shall show the rates of the offeror and all subcontractors. The offeror may not have all personnel on staff. Therefore, if those personnel are subcontracted, their rates shall be provided in the Tables as well. All subcontracted personnel shall be identified in the tables by the following "(SUB)" after the title of the subcontracted personnel. For example, UXO Technician III (SUB). All the cost pools of the firm(s) that will be providing the subcontracted personnel shall be included in the Table as well to show the mark up on those labor categories.*

Note: If during the Contract Period of Performance, the Contractor's original subcontracted personnel are no longer available to the Prime, the Prime shall find a subcontractor that has, at the minimum, the same qualifications as the previous subcontracted personnel. The Prime shall be responsible for negotiating the labor rates for those personnel that have been provided in this RFP. Those rates provided are the maximum that will be paid by the Government for any replacement personnel.

Question 40: In some cases, the offeror and a team subcontractor may have a rate (with different overhead structures) for the same discipline depending on whether it is a field or office position. How shall we differentiate that in the completion of Tables 1 and 2 in Section B?

Answer 40: *If the discipline is specified as field or site personnel, use the appropriate field overhead rate. If it is not specified, yet the position normally requires the personnel to be in the field the majority (greater than 50%) of the time, use the field rate vs. the office rate (i.e., UXO Sweep Personnel would be a field rate, where the Program Manager primarily will work in the office and have the office rate).*

Question 41: May we include supplemental disciplines in Tables 1 and 2 in Section B for labor disciplines we would typically utilize for remedial activities that are not included in Tables 1 and 2, e.g. site superintendent?

Answer 41: *No, no other disciplines may be added to Tables 1 or 2. Tables 1 and 2 have been revised. The offeror is instructed to replace Tables 1 and 2 with the revised tables in Section B.*

Question 42: Section L, Page 22, paragraph 3.3.2 states: "The offeror shall also include the types of analyses each laboratory can perform with the Method Detection Limits (MDLs) and the Laboratory

Reporting Limits (LRLs), the sample capacity available..." The question is, can the requested MDL and LRL list for each laboratory be inserted as an attachment not counting toward the page limitation? The lists are rather lengthy and will take up many of the allotted pages.

Answer 42: *Yes. The MDL and LRL lists will not be counted in the total page count under Volume I, Section III, Tab 2.*

Question 43: What is the meaning of the word "completed" in Section L, paragraph 3.1.1, second sentence? For a project completed for the Corps of Engineers, does that mean that the delivery order the project is included in must be closed out? In this case, what if the delivery order has been extended by mod to add additional projects/scope? If the delivery order must be closed out, will the Government not consider/score a Government project that is part of a delivery order or contract that have been closed out?

Answer 43: *See Answers 8 and 9.*

Question 44: The RFP (Sect L - 3.3.3) requires that we "provide an example of a Conventional Explosives Safety Submission as described in DID OE-060..." Since our typical Explosives Safety Submissions typically exceed 20 pages, can we include an example ESS as an attachment (outside of the page count limitation), or can we just provide an annotated outline of an example Explosives Safety Submission?

Answer 44: *See Answer 35.*

Question 45: RFP Section L, Sub-section 3.6.2.1 states "The offerer shall fill out in its entirety Section B." This includes Tables 1 and 2. Do you want separate Tables 1 & 2 for each subcontractor, or subcontractor information incorporated into the tables, with the estimated number of hours for each labor discipline divided between the prime and subs? And if the firm has a field overhead rate for some of the disciplines in Table 1 & 2, should we show it on a separate table?

Answer 45: *See Answer 39.*

Question 46: On Section L, Page 20 of 28, there's seems to be a duplication of section numbering for 3.2.1. and 3.2.2. Please verify that the numbering should be as follows:

3.2. Volume I, Section II, - Past Performance

3.2.1. Volume I, Section II, Tab 1 - Past Performance Project Narrative With Points Of Contact

3.2.1.1. Owner/Client Past Performance Survey Forms

3.2.1.2. Past Performance Evaluation

3.2.2. Volume I, Section II, Tab 2 - Past Performance With Regulators Including Points Of Contact

Answer 46: *Yes, this administrative error has been corrected via Amendment 0002 in Revised Section L.*

Question 47: Section L, Page 14 of 28, Section 3.1. As a contractor that has many ongoing contract with the Government, we would like to present our most favorable experience to demonstrate our capabilities for performing work under this contract. Therefore, would you allow us to discuss completed task orders under an ongoing contract that is not yet complete?

Answer 47: *Yes, see Answers 8 and 9 for more clarification.*

Question 48: Section L, Page 12 of 28, Section 2.1. Is the “cross-reference to solicitation paragraphs” as noted in (c) considered to be part of the Table of Contents, and is it also excluded from the page count.

Answer 48: See Answer 31.

Question 49: Section L, Page 12 of 28, Section 2.1. Please confirm that the “cover page” as described in (b) is excluded from the page count.

Answer 49: Correct, it is not included in the page count. See Answer 31.

Question 50: Section L, Page 12 of 28, Section 2.1 (d). Please confirm that the list of tables/figures do not need to appear in the bottom right hand corner of each page.

Answer 50: See Answer 30 for clarification

Question 51: Section L, Page 13 of 28, Section 2.2. A recent USACE TERC specified that: “A smaller type may be used on charts, graphs, figures, diagrams, and schematics to accommodate a “make to fit” software capability, however all text must be legible and easily read.” Will the Omaha District allow the same?

Answer 51: Yes, this is clarified in the Revised Section L by Amendment 0002.

Question 52: Section L, Page 13 of 28, Section 2.2. Further, would the USACE consider relaxing the text requirement for a 12-point proportional font to an 11-point proportional font?

Answer 52: No. The text in all sections except on charts, graphs, figures, diagrams, and schematics shall be in 12-point proportional font.

Question 53: Section L, Page 14 of 28, Section 3.5.2. Please confirm that the offeror can retype or reformat the Previous Experience Form contained on Page 31 of 37 in Section J as long as it contains the same information and is in the same order as in the RFP.

Answer 53: Yes, the offeror may retype/reformat the form. The Owner/Client Form may also be retyped/reformatted if the offeror so wishes. **NOTE: The offeror shall provide the same information in the Previous Experience Form and the Owner/Client Past Performance Survey and it shall be in the same order as in the RFP.**

Question 54: Section L, Page 24 of 28, Section 3.5.2. Please confirm that Section K, Representations and Certifications, is required only from the Prime Contractor.

Answer 54: Yes, only the Prime shall submit the Representations and Certifications.

Question 55: Section L, Page 27 of 28, Section 3.6.3 and Section B. Paragraph 3.6.3.1 indicates that the offeror should use the direct rates it would normally use unless they fall below the Service Contract Rates or the Davis Bacon Rates. This implies that the rates in the sample problem would use representative direct rates, such as those provided in column 2, direct rates, in Tables 1 and 2 in Section B. Page 2 of 6 in Section B indicates that for cost reimbursable tasks, as in the sample problem, the offeror should use their actual labor rates. Please confirm that the USACE is seeking representative direct rates such as those in Table 1 and 2 (which were developed from the proposed personnel) versus actual salaries for those proposed in the sample problem. Please note that normal pricing practices involve the use of weighted average labor rates.

Answer 55: *Clarification: USACE is looking for the offeror to use Column 8 of Table 1 (or Table 2, if in Option Period) when proposing on any Firm-Fixed Price Task Orders. For the Sample Project and Cost Reimbursable Task Orders issued in the Base Period, the rates used shall be those that follow the DCAA Approved (Audited or Provisional), other cognizant government audit agency, or the breakdown that was provided in their Proposal, if approved and accepted by USACE. Therefore, the rates for labor that the offeror should use when proposing on the sample project are the fully loaded rates (excluding profit) for the personnel who would be performing the work.*

Question 56: Section L, Page 25 of 28, Section 3.6.2. and Section B, Pages 3, 4, 5, and 6. Please clarify the requirement to provide Tables 1 and 2 for subcontractors. Does the district desire to have separate Tables for the Prime and for each major subcontractor, or the Prime only? Or is the USACE looking for only additional titles for the Prime or Subcontractors?

Answer 56: *See Answer 39.*

Question 57: Section B, Page 1 of 6, Section 5.0. The first paragraph states that profit will be negotiated on each individual task order issued. Section L, page 27 of 28, Section 3.6.3. In the second paragraph of this section, the bidder is requested to identify its profit separately. Please confirm that proposed profit should be calculated on the contractor's total proposed costs for the sample project priced under this solicitation, and will be calculated on the total proposed cost for each individual task order to be negotiated.

Answer 58: *The contractor should not include profit in Tables 1 and 2 of Section B, but on its total proposed costs. In the cost proposal, the contractor shall apply what it feels is a fair and reasonable profit for the work that would be performed on this Sample Project. The offeror is instructed to provide the basis for its proposed profit on the Sample Project. After contract award, profit on each Task Order will be negotiated on a Task Order by Task Order basis.*

Question 59: Section B, Page 2 of 6, Section 5.0. The third sentence states that the indirect rates proposed herein shall be included in the CMPs and applied to all projects/task orders executed in the Base Period. Please confirm whether the indirect rates proposed will be fixed for the base period or subject to adjustment based on actual indirect costs incurred?

Answer 59: *The indirect rates will be fixed and the cost pools capped at the rates proposed by the offeror in the Base Period (Table 1) and the Option Period (Table 2) for the personnel categories listed in the Tables. The offeror will have the ability before the time of the Option Period being exercised, if it is in the Government's best interest to exercise the Option Period, to provide/propose new overhead, G&A, or other cost pool rates for Cost Reimbursable Task Orders Only. These new rates, if accepted, would be used on any new Cost Reimbursable Task Orders that are issued in the Option Period.*

Question 60: Section B, Table 1 and 2, Laborer Title. Please clarify the requirement to provide a rate for the laborer position. Should this be applicable to Davis Bacon or Service Act Rates that will vary by locality?

Answer 60: *The Laborer Title should bear in mind the Service Contract Act Wage Rates and The Davis-Bacon Wage Rates are a minimum that the Contractor is expected to pay. The Contractor shall be a responsible bidder and provide labor rates that are reasonable so as not to create a materially unbalanced bid (see FAR Part 9.104-1 for the definition of "responsible"). This applies to all labor categories and pricing. The Contractor should keep in mind the areas for where the work under this Contract may take place when proposing.*

Question 61: Section L, Page 22 of 28, Section 3.3.3. Will the USACE consider excluding the Conventional Explosives Safety Submission from the page count.

Answer 61: *No, the page count has been adjusted appropriately. See Answer 35.*

Question 62: Regarding Section H, Page 1, Item 2 (Bonding) - Will bonding be required on all remediation projects or just on a case by case basis?

Answer 62: *See Answer 7.*

Question 63: Regarding Section H, Page 1, Item 2 (Bonding) - Will bonding be required on A/E type projects (i.e., non remediation or construction in nature)?

Answer 63: *Refer to Answer 7. Bonding will more likely be required on Task Orders, for example, that require construction type activities verses groundwater monitoring activities.*

Question 64: Regarding Section H, Page 1, Item 2 (Bonding) - If you are teaming with a firm that will provide remediation/construction services, can the bonding be acquired via the remediation subcontractor as opposed to the prime contractor obtaining the bond?

Answer 64: *No.*

Question 65: Are the page limitations per section firm or can we use unused pages from other sections to help satisfy other areas that may be short, as long as the total page limitation has not been exceeded?

Answer 65: *The page limitations per section are not firm. They are the recommended/suggested number of pages for each individual section. However the total number of pages for the proposal submitted **may not exceed one hundred forty (140) pages**. In addition, large business is allowed up to ten (10) additional pages for a total of one hundred fifty (150) pages for the additional requirement that large business submit small business utilization information as required in this Section L. **The only page limitations that are firm are the pages designated for small business utilization information, which may only be used for Volume I, Section IV and excess pages cannot be used to present other information.***

Question 66: With reference to questions and answers provided in Amendment 2, we interpret the answers to questions 8, 9, and 10 to mean that submission of an ID/IQ contract with multiple delivery orders as a "project" is not acceptable. Is this correct, and can we assume that if a contractor submits an ID/IQ contract with multiple delivery orders as a "project" it will not be considered because it does not fit the definition of a "project?"

Answer 66: *Correct. There can be multiple "projects" under an ID/IQ Contract. USACE is interested in more specific project details than general details about projects that would likely be provided if using your definition above. There is no reason that different task orders under the same contract could not be discussed separately. They should not be lumped together under one "project".*

Question 67: As a follow-up to number 1 above, for individual delivery orders under ID/IQ contracts, some of the information requested on the Previous Experience Form is potentially not applicable. Specifically, we do not report small business utilization on a delivery order basis, but report on a contract-wide basis. Also, we believe that small business utilization on a contract-wide basis is a more reliable indicator of success in meeting goals than small business utilization on a delivery order basis. Would it be acceptable for us to use contract-wide small business goals and actuals to fill in the blanks for individual delivery orders?

Answer 67: Yes. Task Orders fall under a ID/IQ Contract that should have these goals listed for the overall contract. It is those goals and actuals that USACE is looking to see. If the information does not apply to the Task Order, it should be assumed that it applies to the contract.

Question 68: Section B, Paragraph 5. The 1st paragraph of the section appears to contain an incomplete sentence: "Such consideration shall constitute compete payment for services performed under this contract including all expenditures which may be made and expenses incurred except as are otherwise". What should follow the word "otherwise" in order to complete this sentence?

Answer 68: This error is fixed in Amendment 0003. The sentence should read: "Such consideration shall constitute compete payment for services performed under this contract including all expenditures which may be made and expenses incurred except as are otherwise expressly provided herein."

Question 69: Section B, Tables 1 & 2. May offerors modify the columns on Table 1 and Table 2 of Section B to match their disclosed accounting practices and pools regarding the application of overhead?

Answer 69: Please use the Tables as provided.

Question 70: Section B and Section H: Section H, paragraph 5 specifies that appropriate SCA or DBA wage rates will be incorporated into each new task order upon award. Does this mean that adjustments to the labor rates included in Section B, Table 1 and Table 2 will be allowed to compensate for SCA or DBA wages that are higher than the wage rates used to develop the Section B, Table 1 and Table 2 rates?

Answer 70: The SCA and DBA wage rates are minimums. If the rates are below those of the SCA or DBA wage rates, it is the law that these rates will be paid and therefore the rates will be adjusted. The wage rates provided in Section J are not respective of the areas in which work will be performed. They are there as minimums for the work up of the cost proposal for the Sample Project. The Contractor shall be a responsible bidder and provide labor rates that are reasonable so as not to create a materially unbalanced bid (see FAR Part 9.104-1 for the definition of "responsible"). This applies to all labor categories and pricing. The Contractor should keep in mind the areas for where the work under this Contract may take place when proposing.

Question 71: Section L, Page 1. Section L contains the FAR Clause 52.207-2 – Notice of Cost Comparison that applies to a situation where the government is evaluating whether to keep a function in house and is preparing their own independent price proposal. Was this clause included in the solicitation in error? If so, we request the clause be deleted.

Answer 71: This clause has been deleted via Amendment 0003.

Question 72: Section L. If the table of contents is more than one page long, on which page of the table of contents should the binding official's signature be provided?

Answer 72: The last page.

Question 73: Section L. Conventional Explosives Safety Submissions can be quite lengthy. Is this included in the page count? If so, may the title page, table of contents, list of figures and list of tables be excluded from the page count?

Answer 73: See Answer 35. This submission should be complete and as with the rest of the proposal the title page, table of contents and list of figures/tables shall be excluded from the page count.

Question 74: Section L. This section states that letters/memorandums that document or record subcontracting performance, compliance or surveillance visits and SF 294's may be provided. Since these would take multiple pages, are these to be provided as attachments excluded from the page count? Or will they be included as part of the page count?

Answer 74: *They are included in the page count.*

Question 75: Section L. Are offerors to use their DCAA approved forward pricing labor rates in pricing the sample task, or are the rates and categories from Table 1 in Section B to be used in pricing the sample task?

Answer 75: *If available, the offerors should use their DCAA approved forward pricing labor rates in pricing the Sample Project. The rates and categories in Table 1 in Section B are for Firm-Fixed Price Task Orders, not Cost Reimbursement Task Orders. The Sample Project is to be done as a Cost-Reimbursement Task Order.*

Question 76: Section M. Regarding the statement, "The criteria is listed in descending order of importance: ", does this mean that Volume I is weighted higher than Volume II, and that within Volume I, Section I is weighted higher than Section 2, etc.? Please clarify.

Answer 76: *Correct: The total value of Volume I is greater than the total value of Volume II. Within each Volume, the criteria are listed in descending order of importance. Therefore, in Volume I, Section I, is weighted more than Section II, etc. Within each Section there are Tabs and Tab 1 is weighted more than Tab 2, etc.*

Question 77: Section L. We understand that the Previous Experience forms are to be included in Volume I, Section I, Tab 1 – Previous Experience, HTRW & OE Projects. However, we are unclear about what is being requested for Volume I, Section II, Tab 1 – Past Performance Project Narrative With Points of Contact. Are we to duplicate the Previous Experience forms here? We cannot include the Owner/Client Past Performance Survey Forms in this section since these forms (when completed) are to be sent by the owner/client directly to the Contracting Specialist. Please provide clarification on the expected contents of Volume I, Section I, Tab 1 and Volume I, Section II, Tab 2.

Answer 77: *See Answer 4. There should not be any duplication of forms.*

Question 78: 3.6.3. Volume II, Section II, Tab 3 - Cost Proposal and 3.6.3.1. The offeror should apply the actual labor rates on each task..... Does that mean to use the rates on Table I or the actual rates of the personnel working on the task orders?

Answer 78: *The cost proposal on the Sample Project should be using actual costs, as it is a Cost Reimbursable Task Order. Therefore, the labor rates should be the actual rates with the DCAA (or other cognizant government audit agency) approved audited/provisional cost pool rates or the cost pool rates proposed through the back up material provided as required in Section L. Profit/Fee should not be included in the labor costs.*

Question 79: Since this is a full and open solicitation and there is need for large businesses to have a subcontractor plan; if there is a bid made up of several small and disadvantaged entities, will the small business groupings receive a percentage preference (commonly seen 5-15%)? Your advice on this issue would be greatly appreciated.

Answer 79: *No.*

Question 80: As the Prime, we have in-house all of the "Disciplines" listed in Table 1. Therefore, we do not intend to list any Subcontractor rates for any of these disciplines, although they could supply some of the man-hours for any particular discipline under a firm fixed price subcontract. Is this correct? If we need to show subcontractor disciplines, do we proportion out the "Estimated # of Hours for Base Period" to the prime and subcontractor for the same disciplines, e.g. Scientist 1 (Prime) 2,000 hours; Scientist 1 (Sub) 400 hours?

Answer 80: *Just submit your firm's rates if you have all the disciplines in-house. Do not proportion out the estimated number of hours for the Prime and the Subcontractor. If a firm does not have a discipline, and is going to subcontract that discipline out, that offeror shall follow the directions provided in Section B by Amendment 0002.*

Question 81: In pricing the Sample Task, we are going to apply our overhead rate to our own in-house "Labor Classification Pools", e.g. Senior Project Manager, not to the actual salaries of the individuals proposed to do the work, e.g. John Jones who makes \$39.32/hour. Is this correct?

Answer 81: *Correct.*

RFP Reference – Section L, paragraph 3.3.3 Volume I, Section III, Tab 3 – Safety and Health Program states "...For the OE element, the offeror shall provide an example of a Conventional Explosives Safety Submission (ESS) as described in Data Item Description OE-060 which can be found at the following web address..."

Comment: The U.S. Army Engineering and Support Center Huntsville's OE Center of Expertise has provided verbal guidance to OE contractors that the ESS should directly follow OE-060 and should not include extraneous information. Its length should be 10 to 12 pages, but no greater than 20 pages.

Question 82: Will Omaha District evaluate each ESS that is submitted based on its content and relevance to OE-060 rather than its size?

Answer 82: *Yes that is correct. It is the content and relevance to DID OE-060 and DDESB Guidance and Clearance Plans that we will be evaluating. See Amended Section L and M.*

RFP Reference – Section M, paragraph 5.5.5 Volume I, Section I, Tab 1 – Summary of Previous Experience states "...The Government places a higher value on large projects and projects with multiple sites. The Government places a higher value on more complex, yet successful projects."

Comment: Question and Answer #66 of Amendment 003 seems to be at odds with Section M evaluation criteria by prohibiting contractors who have a successful, large and complex project with multiple sites from using it because it is a ID/IQ type contract.

Question 83: Can Omaha District leave it to the discretion of the offeror to select its projects that best fits the proposal guidance of Section L and the evaluation criteria of Section M and let the offeror have the challenge to provide the right balance of detail? For example, an offeror with a successful, large and complex ID/IQ project with multiple sites can report on the overall contract and also provide very specific examples of the most pertinent task order projects. Since this procurement is a large, multi-site, multiple task order ID/IQ contract, this flexibility may give the offeror the best opportunity to provide the most relevant and meaningful project information.

Answer 83: *The Offeror shall comply with the solicitation and all amendments issued.*

Question 84: Amendment 2, Section B, Pages 3 -6, Tables 1 and 2: We have noted that Hydrogeologist is listed in Table 1 but deleted from Table 2. Please confirm that no rate for Hydrogeologist is needed for the Option Period (Table 2).

Answer 84: *The Hydrogeologist is deleted from both Tables 1 and 2 as it is a subcategory of Scientist I, II, and III as stated in the Revised Section C in Amendment 0002. The Offeror shall replace Table 1 with the Table 1 in Amendment 0004.*

Question 85: Amendment 2, Section B, Pages 3 and 4, Table 1: Adding the estimated hours for the base period for each discipline totals 84,532 hours. This differs from the total presented in Table 1 of 77,331 hours. The difference appears to be that the Clerical hours (7,201) are not included in the total. Should we revise the Table 1 total hours for the base period to reflect the correct number?

Answer 85: *Replace Table 1 with Table 1 in Amendment 0004.*

Question 86: Section C.9, Page 16 of 18, Chemistry Technical Requirements section states: The general chemistry requirements for this Contract are described in the *General Chemistry Supplement to the Scope of Services for Studies* dated January 2000 or the latest version. Where can offerors locate this document for reference?

Answer 86: *The latest version of this document is dated November 2001 (currently under revision) and has been attached to the end of this section for your reference.*

Question 87: Reference Amendment 0003, Question 66

We respectfully request further clarification to your response to question 66. The definition of a project has now been further clarified to mean either a single project under a separate contract or a single project as a delivery order under an ID/IQ contract. As expressed in an earlier question, we are concerned that large TERC (\$10-15M) Delivery Orders typically contain studies to remediation and cover the Section "C" more comprehensively than a smaller, more focused HTRW Delivery Order. This question relates to how these up-to-10 projects will be evaluated.

Clarification: A "Project" is defined as a stand-alone contract or a task order under a specific ID/IQ contract.

If a project covers say two or three elements of the work statement, will it be scored lower under the "breadth and depth" criteria than a more "full service" project that covers more elements of the work statement? Does the Corps intend to penalize a project that doesn't cover the "full scope" of activities anticipated under the contract?

Clarification: A single "project" may or may not cover every type of work that is anticipated under the contract. USACE will evaluate the breadth and depth of each project as stated in Section M.

If the Corps scores individual projects using a scoring checklist that rewards statement of work element coverage, it appears there would be an inherent bias toward offerors who submit TERC delivery orders as these projects. If the Corps, on the other hand, intends to score how the total list of projects covers the elements of the work statement, then that would provide adequate contractor capability to cover the entire contract scope while promoting more competition. This section is primarily intended to evaluate past performance, such as project execution and client satisfaction. There are qualified non-TERC contractors which should be scored fairly on the basis of ability to perform this contract, not on how well each project write-up covers all elements of total contract scope.

Clarification: USACE is not evaluating Past Performance in Volume I, Section I. Past Performance is evaluated in Volume I, Section II. USACE is evaluating each contractor's previous experience for its breadth and depth for each project and for all projects collectively.

Question 88: With reference to questions and answers provided in Amendment 3, we are concerned that the response to question 66 will limit competition on this procurement. Specifically, by limiting a contractor' ability to present multiple, completed task orders under a single ID/IQ contract or "project," we feel you are unintentionally providing an advantage to TERC contractors that can provide multidisciplinary, "program" size task orders, i.e., \$10-20M, for individual "projects," and limiting the ability of non-TERC contractors to effectively compete that may only have task orders in the \$1-5M range.

Further, based on the fact that the first line of the evaluation criteria states that: "The contractor's previous experience will be examined for breadth and depth," those TERC contractors will be able to provide significantly more information on their "breadth and depth" than non-TERC contractors, i.e., we may need to present 4 "projects" to equal 1 of their "program" size projects. Therefore, would you consider relaxing this requirement, and allow us to use a "project" that includes multiple, completed task orders, as long as we provide all cost/schedule information for each of those task orders?

Answer 88: No. The definition remains as stated in Section L and in Answer 8 above.

**U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT**



**GENERAL CHEMISTRY
SUPPLEMENT TO THE
SCOPE
OF
SERVICES for STUDIES**

**Revision
November 2001**

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Acronym List

AA	Atomic Absorption
ACC	US Air Force Air Combat Command
ADP	Analytical Data Package
A-E	Architect Engineer
AFB	Air Force Base
ARAR	Applicable or Relevant and Appropriate Requirements
ASTM	American Society for Testing and Materials
BNA	Base-Neutral-Acid Extractable
CDLT	Contractor Data Loading Tool
CENWO	Corps of Engineers Northwest River Omaha
CENWO-PM	Corps of Engineers Northwest River Omaha Program Manager
CERCLA	Comprehensive, Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
COC	Chain-of-Custody
CQAR	Chemical Quality Assurance Report
CV	Cold Vapor
DA	Design Analysis
DQCR	Daily Quality Control Report
DQO	Data Quality Objectives
ECB	Environmental Chemistry Branch Laboratory
ECD	Electron Capture Detector
EDM	Electronic Data Management
EPA	Environmental Protection Agency
ER	Engineering Regulation
ERP	Environmental Restoration Program
ERPIMS	Environmental Resources Program Information Management System
FCS	Field Control Sample
FID	Flame Ionization Detector
FS	Feasibility Study
FSP	Field Sampling Plan
GC	Gas Chromatography
GF	Graphite Furnace
GIS	Graphical Information System
HPLC	High Performance Liquid Chromatography
HTRW	Hazardous, Toxic, and Radioactive Waste
ICP	Inductively Coupled Plasma
IDW	Investigation Derived Waste
IMAP	ACC Information Management Action Plan

IR	Infra-red
LIMS	Laboratory Information Management System
LRL	Laboratory Reporting Limit
MCL	Maximum Contaminant Levels
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Mass Spectrometry
MS/MSD	Matrix Spike/Matrix Spike Duplicate
MSDS	Material Safety Data Sheet
NAPL	Non-Aqueous Product (Phase) Liquid
NIOSH	National Institute for Occupational Safety and Health
NWO	Northwest Region, Omaha
OSWER	Office of Solid Waste and Emergency Response
PA	Preliminary Assessment
PARCC	Precision, Accuracy, Representativeness, Comparability, and Completeness
PA/SI	Preliminary Assessment/Site Investigation
Pest/PCB	Pesticides and Polychlorinated Biphenyls
PID	Photo Ionization Detector
PM	Preventive Maintenance
PMS	Preventive Maintenance Schedule
POC	Point-of-Contact
POL	Petroleum, Oil and Lubricants
PP	Priority Pollutant (13 metals)
PPE	Personnel Protective Equipment
PQL	Practical Quantitation Limits
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QASD	Quality Assurance Support Document
QC	Quality Control
QCSR	Quality Control Summary Report
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RPD	Relative Percent Difference
SAP	Sampling and Analysis Plan
SARA	Superfund Amendments and Reauthorization Act
SI	Site Investigation
SSRL	Site Specific Reporting Limit
SOP	Standard Operating Procedures
SOS	Scope of Services

SW-846	<u>Test Methods for Evaluating Solid Waste, Physical/Chemical Methods</u> , SW-846, 3rd edition and Updates
TAL	Target Analyte List (23 Metals and cyanide)
TCL	Target Compound List (VOC, BNA, Pest/PCB)
TCLP	Toxicity Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbons (GC Method)
TRPH	Total Recoverable Petroleum Hydrocarbons (IR Method)
UV	Ultraviolet
TSD	Treatment, Storage, and Disposal
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
VIS	Visible
VOC	Volatile Organic Compounds

- 1 Introduction to General Chemistry Supplement to the Scope of Service for Studies
 - 1.1 Purpose. This General Chemistry Supplement to the Scope of Services for Studies serves the purpose of providing a collection for other, non-project-specific, Omaha District (CENWO) general-chemistry requirements. These general-chemistry requirements are necessary to accomplish the chemistry related tasks identified in the Site Specific Scope of Services, and to ensure that legally defensible data are obtained.
 - 1.2 Overview of The General Chemistry Supplement. The General Chemistry Supplement to the Scope of Services for Studies describes some necessary requirements for compliance with Federal guidance and CENWO needs.
 - 1.2.1 EPA Regulations Sections 2, 3, and 4. Most CENWO HTRW work falls under EPA environmental regulations, which mandate the preparation of a plan to assure sufficient chemical data quality, so guidance for the preparation of a Quality Assurance Project Plan (QAPP) is provided herein. This guidance outlines the necessary format for preparing a QAPP, and describes the USACE expectations/requirements for the QAPP=s content. Additionally, the explanations of the QAPP=s content requirements describe for a particular procedure, or piece of equipment, etc. the CENWO criteria for acceptable performance of such operations or necessary equipment etc.
 - 1.2.2 USACE Engineering Regulations Section 5. Other CENWO requirements mandated by USACE Engineering Regulations (reference 1) are presented in these sections.
 - 1.3 Applicability. This scope=s requirements are applicable to CENWO, to Architect Engineer Contractors (hereafter referred to as A-E), and to any A-E subcontractors. Further it is understood by all A-Es, all sub-contractors, and anyone performing work on CENWOs behalf that this scope of services is contractually binding. All work shall be performed in accordance with the General Chemistry Supplement unless otherwise specified in the Site Specific Scope of Services. If there are any differences between this supplement and the Site Specific Scope of Services, the A-E shall implement the Site Specific instructions. If there are any questions regarding this supplement, the A-E shall contact the CENWO Project Chemist for clarification.
- 2 Introduction to the Quality Assurance Project Plan (QAPP)
 - 2.1 Purpose of the QAPP In order to obtain data of sufficient quality to satisfy data quality objectives for legally defensible data, the EPA requires a Quality Assurance Project Plan (QAPP) for all environmental measurements that will be used for environmental regulatory compliance. This QAPP describes how environmental data-collection operations are planned, carried out, and assessed. Accordingly, the purpose of the QAPP is to document in detail all aspects of quality assurance (QA) and quality control (QC) to be done during a project's field and laboratory activities. Additional guidance for the preparation of QAPPs

can be found in EPA QA/R-5 (see reference 2). The QAPP is to provide information in sufficient detail regarding sample types, location, sampling methodology, and sample handling to collect data that meets the project objectives. The QAPP also describes the organization and quality assurance objectives for field sampling and laboratory efforts, and the necessary analytical requirements for them. The QAPP serves as a mechanism for planning and approving field activities to be conducted during the investigation.

- 2.2 Functional Equivalence (1) The QAPP is required to be included in the RCRA Facility Investigation (RFI) Workplan for RCRA investigations (reference 3). (2) The Sampling and Analysis Plan (SAP) mandated by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 40 CFR Part 300 Subpart E-Hazardous Substance Response, is functionally equivalent to the EPA QA/R-5 promulgated QAPP. The CERCLA required SAP has two major subsections, the field-sampling plan (FSP), which deals only with field activities, and the Quality Assurance Project Plan (QAPP). For CENWO projects requiring a SAP, the content requirements for an EPA QA/R-5 QAPP, presented below, may be separated into two documents: the SAP QAPP and the FSP.
- 2.3 QAPP Requirement Criteria A QAPP is required when conducting environmental measurements for regulatory purposes. If the environmental measurements are being obtained for CERCLA, RCRA, TSCA, CAA, or CWA etc. a QAPP or SAP is required.
- 2.4 Numbering System The outline numbering system for the EPA QA/R-5 is in parentheses, i.e. () for the convenience of locating electronic word processing used for private clients and for the regulator=s review.

3 General Administrative Requirements - Quality Assurance Project Plan

- 3.1 Introduction. During the evolutionary stages of a QAPP=s development and utilization, several administrative requirements must be fulfilled. Their ramifications are on the preparation, approval, implementation and revisions of QAPPs, and they will be discussed, further, below.
- 3.2 QAPP Preparation Responsibilities and QAPP Approval Authority. The A-E is responsible for preparing a QAPP according to the EPA guidance presented in EPA QA/R-5 (See reference 2) and the CENWO "Shell for Analytical Chemistry" (See reference 5a) and any additional specific guidance presented herein. All procedures and activities required for the acquisition of data shall be presented in the QAPP for approval by the CENWO technical team, State, and EPA authorities, as necessary, prior to initiation of any field work. In limited circumstances, CENWO may grant conditional approval to the QAPP to permit some work to begin while non-critical deficiencies in the QAPP are being resolved. But for this exception,, it is the responsibility of the A-E performing the work to assure that no environmental data are acquired before the QAPP is approved and received by project personnel.

- 3.3 QAPP Implementation. All QAPPs shall be implemented as approved for the intended work. The A-E performing the work is responsible for implementing the approved QAPP and to ensure that all personnel involved in the work have access to the appropriate portion or to copies of the approved QAPP, before work begins.
- 3.4 QAPP Revision. The final decision to modify or revise the QAPP shall be initiated by the CENWO, if it is determined that conditions exist such that the technical or data quality objectives of the project cannot be obtained with the original QAPP. When a decision is reached to change the QAPP, the originator shall modify the QAPP, and then shall submit the revised QAPP to the same approval authorities that approved the original QAPP. As with the original QAPP implementation and approval process, no revisions shall be implemented until the approved QAPP revisions have been received by project personnel.
- 4 QAPP and CENWO General Chemistry Requirements. Listed below are the elements that the A-E shall incorporate into a QAPP or into any sampling and analysis plan. Further these elements describe the CENWO requirements that the A-E shall comply with during all phases of a projects execution.
- 4.1 (A1) Title and Approval Sheet. The A-E shall include a Title and Approval Sheet in the front of the QAPP to include:
- Title of the plan
 - Titles, names, signatures of appropriate approving officials, and their approval dates for the following officials:
 - A-E=s Project Manager
 - A-E=s QA Manager
 - CENWO QAPP Quality Manager
 - Regulators= Project Manager (e.g., State, EPA, authorized substitutes)
- 4.1.1 (A2) Table of Contents. The A-E shall outline the content requirements of the QAPP to include references, appendices, a list of acronyms, and a list of tables and figures.
- 4.1.2 (A3) Distribution List. The A-E shall list the individuals and the organizations that will receive copies of the approved QAPP and any subsequent revisions. Include on the distribution list all managers who are responsible for implementing the plan, all persons responsible for implementation, and the QA managers and representatives of all groups involved.
- 4.1.3 (A4) Project/Task Organization. The project organization for the A-E and any subcontractors shall be clearly defined with a discussion of quality control responsibilities for both laboratory and field operations. CENWO requires a chemist and a Quality Assurance Officer to be integral to the A-E=s project organization. Additionally, since most

environmental compliance is based on chemical measurements, the QAPP and the A-E's organization shall include a chemist who has environmental clean-up experience and who works directly for the primary A-E. The A-E Quality Assurance (QA) Officer shall report to a responsible senior officer of the company and shall not be functionally involved in data generation, data use, or decision making. A list of all individuals by name and organizations shall be provided, and it shall include their roles, their responsibilities, QC officers for the various components, those responsible for initiating and carrying out corrective actions, those involved in the data reporting sequence, those involved in system and performance audits, and any chemistry support. The A-E shall also discuss the specific responsibilities and qualifications of key project personnel (i.e. training, college degree etc.). This information will be presented as narrative and in an organizational chart showing the relationships and the lines of communication among all project participants.

4.1.4 (A5) Problem Background/Definition.

4.1.4.1 Problem Background. This section shall present the background information that is pertinent to the investigation and provide a summary of the problem background information to include:

- X a site description-topographical, geological, and hydrological
- X a site history narrative detailing prior site uses and occupants
- X known or suspected site contaminant releases, and the cause of such releases
- X a summary of previous investigations at the site including past multi-media chemical data of significance
- X site specific sampling and analysis problems

4.1.4.2 Problem Definition. State the specific problems to be solved or decisions to be made.

4.1.5 (A6) Project/Task Description. The A-E shall describe the technical scope of work to be performed. The description of the technical scope of work shall elaborate on the types of samples to be collected, methods of sample analysis, any ARARs, and special personnel or equipment required. The A-E shall describe in general terms their project technical review/QA program. The A-E shall name and briefly describe the types of reports (see section 5) to be generated. The A-E shall provide a project schedule that focuses on the major milestones associated with the project such as initiation and completion of field activities, deliverables, the CENWO and Agency review periods, and identify the primary objectives of the investigation. The A-E shall provide in this section a description of the work site and any unusual conditions. The locations of site(s) to be investigated shall be shown on a detailed location map. Further, the A-E shall present the environmental setting of the areas by providing a general description of the physiography, topography, geology, hydrogeology, climate, ecology, demography and land use.

4.1.6 (A7) Quality Objectives and Criteria for Measurement Data. The A-E shall re-state the objectives of the project, define the types of decisions that will be made, and identify the

intended use of the data, as specified in the Scope of Services, in the "Shell" and in this section of the QAPP. The A-E shall design a data collection program that addresses the Precision, Accuracy, Representativeness, Completeness, Comparability (the PARCC parameters), the quantity, and the quality of data required to support the project=s quality objectives. For a decision, use the Data Quality Objectives Process (DQO) (reference 4) to state the problem, identify the decision, identify inputs to the decision, define the study boundaries, and develop a decision rule. Explain the full development of each of these steps in the DQO Process. This use of the Data Quality Objectives (DQO) process shall assist in determining the appropriate quantitation, detection and reporting limits, analytical methods, Quality Control (QC), sample collection, handling procedures, and analytical data submittals. The DQOs presented in the Site Specific Scope of Services shall also be addressed for all disciplines and expanded where necessary. The QAPP shall address the EPA level of data quality (definitive or non-definitive) appropriate for the project=s needs.

4.1.7 (A8) Project Narrative. The narrative should demonstrate, to technical or QA reviewers, that the project or task will achieve its stated quality objectives.

4.1.8 (A9) Special Training Requirements/Certifications.

4.1.8.1 Laboratory Requirements. Any laboratory performing chemical analysis must be approved by USACE Omaha District. NELAC certification and/or Corps laboratory validation is a base requirement. The determination of acceptability of the laboratory will be at the discretion of the USACE Project Chemist. If the laboratory fails the meet project specific requirements at any time, the USACE Project Chemist may request use of the laboratory be discontinued and analytical services be procured from a laboratory which can meet project specific requirements. Samples may not be subcontracted to another laboratory without the approval of the CENWO Project Chemist, and the second laboratory must be validated by USACE for the parameters of concern. The period typically required for the USACE laboratory approval is 3 to 6 months.

4.1.8.2 Personnel. Identify and describe any specialized training or certification requirements needed by personnel, in order to complete the project or task successfully. Further discuss in this section how such training or skills are assured and documented. For examples discuss any field-sampling training, Hazardous Waste Operations and Emergency Response 40-Hour training, etc.

4.1.9 (A10) Documentation and Records. Listed below are the data-deliverables, field-logs, and reports, which must be prepared and described in this section according to the instructions below. Itemize the information and records which must be included in the required data-deliverables, field-logs, and reports, and specify the required reporting formats. Discuss the frequency of data-deliverable and report generation, and state to which organization or personnel to which they are delivered. Additionally, specify any requirements for the final disposition of records and documents, including location and length of retention period. The actual data-deliverables are not to be included here. The data-deliverables, field-logs,

and reports must be prepared and delivered to the appropriate agencies, with the required frequency and content requirements, as stated for each particular data-deliverable or report. These documents, reports, and electronic-deliverables are mandated by USACE ERs, and detailed instructions on their preparation are presented in the referenced sections.

4.1.9.1 Field Logs. All field logs shall follow the guidelines presented in the General Geology Scope of Services. Sample collection data as well as visual observations shall be documented in the field log book. Any sample collection equipment, field analytical equipment, and equipment used to make physical measurements shall be identified in the field log book. Calculations, results, and calibration data for field sampling, field analytical, and field physical measurements equipment shall also be recorded.

4.1.9.2 Data Deliverables

- 4.1.9.2.1 Analytical Data Package (ADP) (see section 6.1.1)
- 4.1.9.2.2 Quality Assurance Support Document (QASD) (see section 6.1.2)
- 4.1.9.2.3 Electronic Data Management (see section 6.1.3)
- 4.1.9.2.4 Reports
- 4.1.9.2.5 Daily Quality Control Report (DQCR) (see section 6.2.1)
- 4.1.9.2.6 Quality Control Summary Report (QCSR) (see section 6.2.2)

4.2 (B) Measurement/Data Acquisition. This group of QAPP elements covers all aspects of measurement systems design and implementation, which ensures that appropriate methods for sampling, analysis, data handling, and QC are employed and documented.

4.2.1 (B1) Sampling Process Design. The A-E shall develop a conceptual understanding of the site based on the evaluation of existing data, monitoring wells, and topographical features (drainage patterns etc.). The A-E shall provide a site map that identifies the boundaries, and road. The A-E shall develop and elaborate upon their sampling scheme for each type of matrix encountered at the site. The A-E shall describe the sampling locations and rationale for the sampling selection. The location of each sampling point shall be identified on a site map. These locations shall be identified by the A-E after a visual inspection if they are not already specified. The site specific details and requirements for the field work shall be discussed and the Standard Operating Procedures (SOP) provided. The A-E shall also summarize the types of field activities required by the project. Summary tables that list matrices, parameters, sample collection frequency, and the distribution of QA/QC samples shall be provided. The A-E shall also include a discussion on the purpose of sample selection (e.g., samples collected from background locations or to provide data for risk assessment). The A-E shall specify the criteria for field sample selection when using field screening techniques. All measurements shall be classified as critical (i.e., required to achieve project objectives) or non-critical (informational purposes only). Summarize the methods used for sample analysis. For standard methods state the method numbers for the analysis and extraction, the regulatory citation or methods reference with the date and edition number, and state precisely the actual methodology (surrogates, internal standards, detectors, etc.) utilized. For non-standard methods or unusual matrices provide references for the

method validation study. To aid in the conduct of field-activities, the A-E shall prepare a Field Sampling Plan (FSP), which shall be excerpts from the QAPP, concerning field-activities for the use of field-workers. The FSP shall have the contents and the format organized as in the appropriate sections of EM-200-1-3 (reference 5) concerning FSPs. The contents of the FSP shall be the appropriate sections copied from the QAPP, and the FSP shall not describe actions or procedures that are contrary to those in the QAPP. If the QAPP references the FSP for portions of its content, the FSP shall be appended to the QAPP as an attachment.

4.2.2 (B2) Sampling Methods Requirements. In general, the A-E shall provide and describe the procedures for field-screening and collecting samples from each type of matrix encountered at the site and for each sampling method used. These descriptions shall include, as appropriate, any special implementation requirements or support facilities needed, calibrations, any specific performance requirements for the method, and a description of the sampling equipment (brand, model, serial number). The A-E shall provide detailed Standard Operating Procedures (SOPs) for any field sampling instruments, field laboratories, or sampling procedures. The A-E shall discuss appropriate corrective-action procedures, and who is responsible for corrective action, which will be implemented as needed. Discuss for each sampling method the decontamination procedures (attachment 2). Further CENWO requirements appropriate for this section, such as the equipment and procedures for soil boring and monitoring well installation, can be found in the >General Geology Scope of Services=; these requirements shall also be addressed in the QAPP. Listed below are the CENWO sampling guidance requirements for each particular type of environmental matrix. Further, explanation of sampling procedures and equipment can be found in the appropriate sections of EM-200-1-3 (reference 5).

4.2.2.1 Field Control Samples. Field Control Samples (FCS) must be collected in a similar manner to the environmental samples, according to the appropriate methods listed below. The number and location of the field control samples to be collected shall be detailed in the QAPP.

4.2.2.2 Quality Assurance Samples (QA) QA samples are collocated or homogenized replicates of field samples, except that the samples are sent to the ECB laboratory for analysis. QA samples must be collected in a similar manner to environmental samples, according to the appropriate methods listed below. Air or Aqueous QA samples will be collocated replicates of environmental samples. Sediment/Soil QA samples will be a homogenized replicate of a field sample. The number and location of the QA samples to be collected shall be detailed in the QAPP.

4.2.2.3 Soil Sampling Procedure. The CENWO recommends the following soil sampling procedure. Use stainless steel or Teflon sampling equipment to remove enough soil at a specified depth to fill the required number of containers (see Attachment 1- sections F-1 and F-2 for containers, preservatives and holding times). The volatile organic samples should be removed first with as little mixing as possible. When the type of sample (e.g., sludge or

sediment) could interfere with rapid and complete filling (no voids) of 40 ml septa vials, CENWO recommends using short wide-mouth 125 ml (4-oz) septa jars, with threaded lids. The remaining soil should be placed in a clean stainless steel bowl and mixed thoroughly with stainless steel implements (spoons, spades, etc.) until homogenized. The homogenized soil is then divided into equal parts, and the sample containers are filled by scooping material alternatively from each part. Once the containers are full, they must be properly preserved. When Field Control Samples (FCS) and / or Quality Assurance (QA) samples are required, their sample containers shall be filled from the same soil mixture as one of the environmental samples, in the manner described above. If other sampling methodologies are warranted to fulfill the DQOs, they must be clearly defined in the QAPP.

4.2.2.4 Water Sampling Procedure. The CENWO recommends the following water sampling procedure (see Attachment 1- sections F-1 and F-2 for containers, preservatives and holding times). An attempt should be made to obtain the most representative water samples, which includes ground water and source water etc., by low-flow sampling techniques where appropriate. Containers whose contents will be analyzed for volatiles should be filled first allowing no headspace and with little as possible disturbance of the water. If preservatives are added to the bottles before shipment to the field, care must be taken not to overfill the containers, and the pH must be measured in the field for all samples, which require a specific pH for preservation. The A-E shall not measure the sample pH by inserting any object (pH paper or probe etc.) into the sample container; instead CENWO recommends the use of a separate sacrificial 40-ml septa vial per sample location to be used for pH measurement. The A-E shall describe in the QAPP how the preservation (pH) of water samples will be verified in the field without risking the loss of volatile organics. For shipping, one set of trip blanks shall be included per shipping cooler containing water samples to be analyzed for volatile organics.

4.2.2.5 Air Samples. Sampling methods and equipment used shall meet the requirements of appropriate EPA methods. The CENWO does not require QA sample collection for air samples.

4.2.2.6 Other Sampling/Planning Requirements. Listed below are other sampling/planning requirements to be addressed in the QAPP.

4.2.2.6.1 Source Water Analysis. The A-E shall identify the source water required for the site activities (i.e., steam-cleaning and decontamination), and the analysis of the source water shall be included in the analytical tables. The samples shall be collected from the delivery vehicle once at the beginning of field investigations and analyzed for the same contaminants of concern as those found or suspected at the site.

4.2.2.6.2 Risk Assessment Schematic. The A-E shall develop a simple schematic outlining the actual and potential 1) source area(s) for all contaminated media, 2) intermediate release mechanisms; air dispersion, infiltration, and water runoff, 3) transport pathways, 4) exposure

routes for potential human and environmental receptors contact by ingestion, inhalation, and dermal and 5) exposed receptor populations.

- 4.2.2.6.3 Field Screening Procedures. The A-E shall describe all field screening methods employed to select samples for analyses. The General Geology Scope of Services contains the recommended field soil volatile vapor headspace screening procedure.
- 4.2.2.6.4 Decontamination. The A-E shall summarize the decontamination procedures to be implemented at the site. Attachment 2 is the CENWO recommended decontamination procedure.
- 4.2.2.6.5 Investigative Derived Waste (IDW) shall be handled in accordance with applicable federal, state and local regulations or guidance. Drill cuttings, well development water, well purge water, and decontamination water should be left in the area of contamination (AOC) whenever possible. Used PPE is often not a hazardous waste and can often be disposed as non-hazardous waste. If the PPE is determined to be hazardous waste it shall be placed in a secure location, as directed by the CENWO.
- 4.2.3 (B3) Sample Handling and Custody Requirements. The A-E shall maintain adequate sample custody by means of approved field and analytical documentation. All sample handling, labeling, packing, transportation and chain-of-custody (COC) procedures shall follow the CENWO Sample Handling Protocol (Attachment 1). The majority of samples collected for CENWO projects are considered low-level environmental samples for packaging and shipping purposes, but the A-E is responsible for determining the proper shipping/packaging appropriate for the samples. All field documentation shall be done in indelible ink.
- 4.2.3.1 Sample Chain of Custody. Describe in this section the Sample Custody system to be implemented for identifying and tracking the samples from the point of field-collection to final disposition. Further present a table and narrative describing each type of custody document (label, log-book, chain-of-custody etc.) and their interrelation to each another, and describe who is responsible for each. All documentation shall be done in indelible ink. Upon request of the CENWO project chemist, the A-E shall provide copies of any chain-of-custody document.
- 4.2.3.2 Sample Numbering Scheme. The A-E shall detail the sample numbering system to be implemented during the investigation. Each sample shall be assigned a unique number which will be alpha-numeric but no longer than 20 characters. The identity of field duplicate/split samples (if any) shall be kept blind to the laboratory by assigning sample numbers which indicate they were collected from separate sample locations. Samples collected for MS/MSDs shall be clearly identified as such by adding an appropriate suffix to the sample number assigned to the corresponding environmental sample.
- 4.2.3.3 Sample Handling and Preservation Procedures. The A-E shall specify the composition and

volume of sample containers along with a description of their preparation and cleaning. Sampling equipment directly contacting the sample shall be stainless steel, PVC or Teflon. The Sample Handling Protocol (Attachment 1) presents the required sample containers, preservatives and holding times for environmental samples. The A-E shall include a table that lists the sampling locations, type of sample matrix (waste, soil, sediment, groundwater, surface water, etc.), number of primary environmental samples, number of field-control samples (trip-blanks, field-replicates etc.), number of QA samples, and the number of Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples.

4.2.3.4 Coordination of Sample Shipment to the Government QA Laboratory. The A-E shall notify the QA Laboratory one (1) week before the first delivery of QA samples and provide at least 24 hours notice for Saturday sample delivery. The A-E shall denote on the chain-of-custody sheet, when the final shipment of samples shipped, at the completion of field sampling activities.

4.2.3.5 Quality Assurance Sample Handling and Custody Requirements. All QA sample handling and custody requirements shall be administered by the A-E similar to the environmental samples. The QA samples shall be sent to the ECB Laboratory shown below, by overnight delivery, for Governmental contract compliance monitoring. The A-E shall include the below named Government QA laboratory in the QAPP.

U.S. Army Corps of Engineers
Environmental Chemistry Branch Laboratory (ECB)
ATTN: (Sample Custodian)
420 South 18th Street
Omaha, NE 68102
Telephone: (402) 444-4314

4.2.3.6 CENWO Project Identification for QA Samples. The A-E shall be responsible for inscribing the Project ID "CENWO LIMS #" onto the labels and chain-of-custody records for all QA samples shipped to ECB Lab. The CENWO Project Chemist will set up an account and LIMS # during project scope development, and depending upon the size and duration of the sampling effort, several LIMS #s may be set up initially or throughout the sampling effort to avoid excessively large or delayed data deliverables. If the CENWO LIMS # is not provided in the site specific scope of services, the CENWO Project Chemist shall be notified by the A-E.

4.2.3.7 Sample Handling and Custody Requirements of Field Control Samples. All field control samples shall be collected and handled by the A-E similar to the environmental samples, and they shall be analyzed by the validated contract laboratory. The identity of all field control samples collected (except for trip-blanks) must be held blind to the laboratory.

4.2.3.8 Sample Handling and Shipping Policy The A-E shall explain in this section how the

required CENWO Sampling Handling Protocols (attachment 1) will be implemented. Further, the A-E shall be responsible for arranging and procuring a means of delivering samples to the appropriate laboratories such that all samples are delivered at the proper temperature and sufficiently within holding times to allow the laboratory time to analyze or to perform an extraction on the sample. In the event that samples do not meet holding times or samples are observed to not be properly preserved upon inspection by the contract laboratory or the Quality Assurance Laboratory, the CENWO project chemist shall be notified immediately, and re-sampling may be warranted at no additional expense to the Government.

4.2.4 (B4) Analytical Methods Requirements. EPA SW-846 methods shall be used whenever possible (reference 7), and summarized in Attachment 3 are the EPA SW-846 matrix-specific analytical and extraction methods recommended by CENWO. In special cases that require the consideration of nonstandard methods, the contract laboratory shall be prepared to provide method validation data, and the use of proposed nonstandard methods requires prior approval of the CENWO Project Chemist. If the A-E or contract laboratory does not follow the approved methods identified in the QAPP, the A-E or contract laboratory shall be required to re-sample and re-analyze at their own expense. The following tables shall be presented in this section: A table shall be included which lists for each sample matrix, the sample preparation/extraction method number and the analytical method number to be used. Include tables that shall list for each analytical method utilized the detectable analytes, and for each analyte list its associated Method Detection Limit (MDL), Laboratory Reporting Limit (LRL), and Site-Specific Reporting Limit (SSRL). For each analytical/extraction method, the A-E shall include a SOP to be attached to the QAPP as an appendix, which describes the apparatus utilized and describes any specific performance requirements associated with it. Further, this SOP shall describe the procedures used to clean/decontaminate such equipment, and sample waste disposal shall be documented. Included in the SOP, the A-E shall elaborate on the procedures for corrective action on this laboratory equipment and analysis method.

4.2.5 (B5) Quality Control Requirements. Quality Control (QC) is necessary to evaluate the laboratory's ability to perform consistently from day to day and to verify that the method used is applicable to the matrix of the field samples submitted. Because of the importance of this, the A-E shall describe the Quality Control Procedures implemented to assure the precision and accuracy of analytical measurements. In this section, the laboratory's established procedures for including QC samples among the samples analyzed and any additional controls required by the present project shall be described. The number and types of internal laboratory QC checks (e.g., method blanks, field-replicates, matrix-spike, matrix-spike duplicates, surrogates, Laboratory Control Samples (LCS), and reference standards, etc. as applicable) and samples proposed shall be described herein this section. For the analysis of organic parameters the contract

laboratory shall use project samples for matrix spike/matrix spike duplicate (MS/MSD) analyses. For the analysis of inorganic parameters the contract laboratory shall use project samples for matrix spike and internal laboratory duplicate analyses. Through proper sample management, incorporation of site specific samples should allow no disruption to the laboratory's operation. All of these quality control checks, described above, shall be included with each batch of samples processed in the laboratory. At a minimum, these must be run at the rates prescribed in the individual methods, as described in Chapter 1 of SW-846 and as specified in the site specific scope of services, and these QC checks shall be included with each batch of samples processed in the laboratory. At a minimum, internal quality control samples shall be analyzed at rates specified in the specific methods or at higher rates, if required to meet project specific Data Quality Objectives Herein this section present the number and type of samples, including quality control samples, that constitutes a batch. All controls and samples shall then be identified as belonging to a specific batch. The A-E shall ensure that results from the laboratory internal quality control checks are reported with the analytical data, and that the sample results and the QC results can be easily correlated. Further, when reporting QC results, any QC result out of acceptable parameters shall be identified or flagged, as appropriate. The A-E shall be aware that should the results exceed the QC limits of acceptability that samples shall be rerun at no additional cost to the Government. The A-E shall prepare the following tables summarizing the QC protocols required.

- A) For each analytical/extraction method prepare a table describing the types of QC checks and their frequency per batch.
- B) Tabulate the spiking compounds, the levels used, and the acceptance criteria.
- C) Tabulate the surrogate compounds, the levels used, and the acceptance criteria.
- D) Tabulate the LCS compounds, the levels used, and the acceptance criteria.
- E) Tabulate the acceptance criteria for field-replicates.
- F) Tabulate the acceptance criteria for method-blanks.

4.2.5.1 Corrective Action. The A-E shall propose and describe the corrective actions to be taken when results appear unusual, questionable, or the limits of acceptability are exceeded. When the limits of acceptability are exceeded, information justifying the poor recovery or precision shall be documented, and when QA/QC problems are identified the A-E shall notify the CENWO Project Chemist as soon as possible. If holding times are exceeded the justification shall also be documented, and notification of the Project Chemist will normally be expected to occur within 48 hours. Further, the A-E shall propose and describe how re-establishment of control is demonstrated. Should the results exceed the limits of acceptability, samples shall be rerun at no additional cost to the Government. The A-E shall describe or reference to an appendix the procedures used to calculate all of

the, above, QC statistics. Formulas must be included along with the definitions of all variables. Additionally, describe the corrective-actions used to calculate the QC statistics under conditions of missing data, incomplete data, unreproducible data, and estimated data-values.

- 4.2.6 (B6) Instrument/Equipment Testing, Inspection, and Maintenance Requirements. The A-E shall describe the implementation of their Preventive Maintenance (PM) system and their Preventive Maintenance Schedule (PMS) to be used to ensure the proper functioning of all laboratory and field apparatus used to garner or analyze environmental samples. The A-E shall identify the equipment by the manufacturer's name, model number, and accessories etc., which will be on the PMS. The A-E shall discuss the types of inspections, documentation, and testing procedures, etc. required for all equipment on the PMS. Preventive maintenance shall be performed only by qualified personnel, and any records of repairs, adjustments, and calibrations, etc. shall be maintained and made available for inspection by the CENWO on request.
- 4.2.7 (B7) Instrument Calibration and Frequency. The laboratory shall perform MDL studies on an annual basis, as a minimum, and whenever the basic chemistry of the procedures are changed. MDLs shall be determined in at least two interference-free matrices; reagent water and a purified solid matrix (i.e., sand, etc.). Method detection limits shall be estimated for each method target analyte using the procedures presented in 40 CFR, Part 136, Appendix B and the "Shell". These MDLs shall be extraction/digestion method specific and instrument specific and shall include any clean-up methods used. The determination of method detection limits in site-specific matrices may be required for certain projects. For organics and explosives typically analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), Gas Chromatography (GC), or Liquid Chromatography (LC) analyses, a five point initial calibration curve shall be produced, and for inorganic analysis by ICP, AA, or cold-vapor AA, a calibration curve shall be established by analyzing a minimum of three standards and a calibration blank. The low level standards used for the calibration shall be set at approximately ten times the standard deviation as determined from the MDL study. for each analyte; the values of these low-level standards are then the Laboratory Reporting Limit (LRL) or the Method Quantitation Limit (MQL) for the particular analytes. All target analytes reported, as positive hits, shall be bracketed by appropriate calibration standards. The A-E's contract laboratory shall then report all detected analytes as positive hits (unqualified detections), which are detected above the laboratory's LRL and below the upper calibration standard. Analytes detected below the LRL but above the Method Detection Limit (MDL) shall be reported as estimated values. Further, all analytes shall be appropriately qualified. Target analytes detected above the upper calibration standard shall be diluted and re-analyzed. For all instruments used in the laboratory or in the field, the A-E shall describe the procedure used for calibrations and the frequency and types of checks required. These shall be consistent with the requirements of the scope of services and of the analytical

method. The A-E shall indicate how the records of calibrations shall be maintained, and they shall be traceable to the instrument.

- 4.2.8 (B8) Inspection/Acceptance Requirements for Supplies and Consumables. The A-E shall document the inspection and acceptance requirements for supplies and consumables. Supplies and Consumables include sample bottles, calibration gases, reagents, hoses, etc.
- 4.2.8.1 Supplies and Consumables Custody Procedures. The A-E shall document by whom and how the project's supplies and consumables will be inspected and accepted.
- 4.2.8.2 Supplies and Consumables Acceptance Criteria. The A-E shall document in this section the acceptance criteria for such supplies and consumables. Containers used for submitting samples for chemical analysis shall meet or exceed the criteria specified for either I-CHEM QUALITY ASSURED⁹ (formerly referred to as the 200 Series), or Eagle-Picher Level 2, or equivalent. The manufacturer and quality of containers shall be specified in the QAPP for CENWO approval. These brand-names are not intended to be a CENWO endorsement for these products. Instead, the brand names products are presented as being typical of the acceptable criteria for containers, because of the lack of applicable regulation pertaining to sample containers.
- 4.2.9 (B9) Data Acquisition Requirements (Non-direct Measurements). The A-E shall identify any type of data acquired from non-measurement sources such as computer data bases, spreadsheets, programs, and literature files, etc. The A-E shall define the acceptance criteria for the use of such data in this project. The A-E shall discuss any limitations on the use of the data based on the uncertainty in the quality of the data and the nature of that uncertainty.
- 4.2.10 (B10) Data Management. The A-E shall implement a data management system and describe its operation and organization herein this section. The data management system implemented shall manage the data from its generation in the field or laboratory to its final use and storage. The contract laboratory or the A-E (specify in the QAPP which party) shall hold and make available all the project's raw data for a minimum period of ten years after samples have been analyzed. The data management system will include, but not be limited to, the use of standard record-keeping practices, standard document control systems, and the ERPIMS electronic data management system. All formats, procedures, and forms etc. for data management must meet CENWO approval. All data handling equipment and procedures used to compile, process, and analyze the data must be discussed. This discussion must include procedures for addressing data generated or referenced from other sources (i.e., databases, prior studies, literature references etc.). The A-E shall also describe the procedures or methods used to maintain control of this data management system and the control mechanisms for detecting and correcting errors. Further, the A-E shall describe how to prevent loss of data during data reduction, data reporting, and data entry to forms, reports and databases. The A-E shall also present, in a flow-chart format, a conceptual overview of the data management scheme to include to

whom or which organization documents are presented and at what frequency. This chart will include the field, the laboratory, the A-E, and CENWO, and it will also depict the flow of data/documents between the A-E and the contract laboratory and the A-E's sub-contractors.

4.2.10.1 Electronic Data Management. The A-E shall include separate descriptions for data handling/processing ERPIMS or other electronic media (i.e. software and hardware used for data analysis, compilation, word processing etc.). The A-E shall describe the types of hardware/software used for all electronic data management, and demonstrate that they can implement such an electronic data management system.

4.2.10.2 ERPIMS. CENWO has adopted the ERPIMS electronic data requirements as the operative policy for all projects. The contractor shall establish a strategy that will devote the necessary resources to the task of electronic data management. This proposed strategy shall be stated in detail in the QAPP. The ERPIMS requirements are discussed in detail in section 5.1.3.

4.2.10.3 Forms. The A-E shall present herein this section copies of the actual forms.

4.3 (C) Assessment/Oversight.

4.3.1 (C1) Assessments and Response Actions. The A-E shall be responsible for overseeing the contractor laboratory and the field-sampling efforts, and for proposing and implementing a system to assess their effectiveness. The assessment activities required to be performed by the A-E, to ensure that the provision of the QAPP and this scope of services are implemented, shall be identified and discussed by the A-E. The A-E shall describe the acceptance criteria for each assessment activity, and the A-E shall provide a schedule of such assessments. The A-E shall address the system-audit protocols for field and laboratory operations and for any deliverables produced. All performance audits for measurement systems, field-activities, and Performance and Evaluation (PE) samples shall be identified, and their frequency shall be provided. Further, the A-E shall identify the appointed assessor by name, identify the assessors relationship to the A-E, delineate the assessors authority to affect the A-E, and define explicitly the unsatisfactory conditions under which the assessors are authorized to act. The A-E shall describe how and to whom the results of the assessments will be reported. The A-E shall discuss how response actions to unsatisfactory conditions will be addressed, by whom, and the system for documenting such response actions. The A-E shall maintain communication with the Contract laboratory and oversee their performance to ensure that the proper analytical methodologies and QA/QC protocols are being followed. As part of the assessment and oversight requirements, the A-E shall propose solutions to any laboratory or field sampling problems that may arise. For field work the A-E shall staff or supervise the field sampling teams, and ensure that the sampling SOPs are being correctly executed. The A-E shall ensure that any field laboratory or field instrumentation is being correctly performed, and the A-E shall ensure that samples are being collected in accordance with

the approved workplan. Further the A-E shall ensure that the sample handling procedures are being implemented as described in this supplement.

- 4.3.2 (C2) Reports to Management. The A-E shall identify the types, frequency, and the recipients of Assessment/Oversight reports generated internally (for A-E use) and required externally (outside of the A-E's organization). The content of the reports should include the following: status of the project, results of performance and system audits, results of periodic data quality assessments, significant quality assurance problems, and recommended solutions. The A-E, upon request of CENWO, shall be provided any type of internally generated document or report concerning the project. Other types of reports and data deliverables not expressly concerning Assessment/Oversight, but required for reporting data and project information are presented in section 5.
- 4.4 (D) Data Validation and Usability. The A-E shall be responsible for ensuring the subcontract laboratory produces usable data by overseeing the subcontract laboratory. Further, the A-E shall be responsible for ensuring that the contract laboratory extensively reviews all data prior to release of that data to the A-E. After the laboratory releases its report to the A-E, the A-E shall conduct its own independent data validation of the laboratory's results.
- 4.4.1 (D1) Data Review, Validation, and Verification Requirements. All criteria used to validate and review data by the laboratory and by the independent A-E data validation shall be described herein in this section. Equations, including units, that are required to calculate the concentration or value of the measured parameter shall be included. If statistical procedures are used for data review before reporting, descriptions shall be included. All data flags to be used shall be identified and defined in the QAPP. The criteria to be used to review and validate data shall be the most current editions of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (reference 8), the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (reference 9) and the "Shell", as appropriate. Described below are some of the criteria and procedures to be used for such laboratory and independent A-E data validations.
- 4.4.1.1 Laboratory Data Verification. The laboratory data verification process shall entail three levels of documented review: Level 1 Analyst Review, Level 2 Technical Review, and Level 3 Administrative Data Review. For a further explanation of these levels of review see Reference 5, page B-11.
- 4.4.1.2 Independent A-E Data Validation. The A-E shall follow the criteria in the National Functional Guidelines to review and validate the contract laboratory's results based on the evaluation of the following: Holding Times, Blanks, Surrogate Recovery, Matrix Spike/Matrix Spike Duplicates, Field Replicates, Laboratory Control Samples, Completeness of Data Package, Reporting Limits, and an Overall Assessment of Data for

the Project. Should the Laboratory have difficulties meeting the QC acceptance limits, the A-E's Laboratory shall promptly contact the A-E, and the A-E shall discuss the problems with the CENWO Project Chemist. The A-E shall be actively involved in overseeing the Contract Laboratory's performance and in resolving QA/QC problems with the CENWO Project Chemist. Further, the A-E shall meet the required QA/QC acceptance limits, and if they are exceeded the A-E shall provide an adequate explanation and implement corrective action to resolve any problems.

4.4.2 (D2) Validation and Verification Methods. The A-E shall discuss the process, procedures, and organization to be used for validating and verifying data. This discussion shall cover the three levels of laboratory data verification, as well as an in-depth discussion of the A-E's data validation procedures. Further, the A-E shall discuss the procedures to be followed for resolution of problems or issues associated with the laboratory data, A-E reports or with the CENWO interpretation of such data and reports. The A-E shall understand that the CENWO project chemist will be the final decision maker regarding resolution of issues or problems between any party involved with this project. The contract laboratory or the A-E (specify in the QAPP which party) shall hold and make available all project raw data for a minimum period of ten years after samples have been analyzed.

4.4.3 (D3) Reconciliation with User Requirements The A-E shall describe how the results obtained shall be reconciled with the results of the DQO process and the DQO. Further, discuss how limitations on the use of the data will be reported.

5 Data Deliverables and Reports to CENWO. This section of the General Chemistry Supplement describes the additional CENWO documents, in addition to a QAPP (whose format and content are presented above) that the A-E must generate periodically throughout the course of this HTRW project. For each of the data-deliverables and reports, the guidance presented below outlines the CENWO expectations/requirements for preparing these data-deliverables and reports. Included with the guidance are instructions on the necessary generation frequency of such documents and the CENWO personnel or organization to whom they are to be delivered. Upon receipt of such documents, the CENWO Project Chemist will review them, the Project Chemist will then make oral or written comments on the documents that must be addressed in a timely written manner by the A-E.

5.1 Data Deliverables

5.1.1 Analytical Data Package (ADP). The contract laboratory's analytical data associated with each LIMS number must be submitted in one complete package to the CENWO PM within forty-five (45) days after the last sample is submitted to the laboratory. The data shall be

submitted in three ring binder(s) with bound edge punched with large holes. The ADP is designed to allow the CENWO project chemist to evaluate the contract laboratory's sample receipt conditions, custody documentation, and analytical results for all primary field samples, QC duplicates/splits, sampling equipment rinsate blanks, trip blanks, MS/MSD and associated QC analyses.

- 5.1.1.1 ADP Minimum Data Reporting Requirements. The ADP shall include all sample and internal quality control results such as method blanks, spike and surrogate recoveries, and replicate analyses which shall meet or exceed the HTRW minimum data reporting (MDR) requirements. Interim data reports may be requested if the project warrants. The following are minimum data reporting requirements:
- 5.1.1.2 Cover Letter. The cover letter shall identify the project identification number (the Environmental Chemistry Branch Laboratory=s (ECB) LIMS # assigned to the project), the date when the last sample was collected under the assigned LIMS #, and that the sampling activity under that LIMS # is complete. This notification is important as it serves as the signal for ECB to prepare the Chemical Quality Assurance Report (CQAR, see attachment 5) and to close that LIMS number. A copy of the cover letter shall also be sent to the CENWO PM on the same day that the QASD is sent to the ECB Lab.
- 5.1.1.3 Sample Identification. The A-E shall prepare a tabular presentation which shall identify all the QA samples which were split and sent to the contract laboratory and to the ECB Lab. This table shall match the contract laboratory=s sample identifications to the ECB Lab=s sample.
- 5.1.1.4 Sample Receipt. The A-E shall include all Cooler Receipt Forms and Chain-of- Custody forms associated with the required sample results.
- 5.1.1.5 General Organic And Inorganic Reporting. For each analytical method run, the A-E shall report all analytes for each sample as a detected concentration or as less than the specific limits of quantitation. Each analytical method run shall be clearly identified as belonging to a specific analytical batch. All samples must be reported with dates of collection, preparation, and analysis. Summary reports may be used to supplement but not replace individual data reports. Generally, all samples with out-of-control spike recoveries being flagged for matrix interferences shall be designated as such. Appropriate data flags such as National Functional Guidelines shall be used, and the flag designations used for the project shall be given. All soil samples shall be reported on a dry-weight basis with percent moisture also reported unless otherwise approved. The A-E shall also report dilution factors for each sample as well as the date of extraction (if applicable) and date of analysis.
- 5.1.1.6 Internal Quality Control Reporting. A complete set of Quality Control results shall be reported for each analytical batch. The QC results shall include but not limited to laboratory blanks, surrogate and matrix spike recoveries, laboratory duplicates and/or matrix spike

duplicate pairs.

- 5.1.1.6.1 Laboratory Blanks (Method Blanks and Instrument Blanks). All analytes shall be reported for each laboratory blank. All sample results shall be designated as corresponding to a particular laboratory blank in terms of analytical batch processing.
- 5.1.1.6.2 Surrogate Spike Samples. Surrogate Spike Recoveries shall be reported with all organic method reports where appropriate (i.e. when the method requires surrogate spikes). The report shall also specify the control limits for surrogate spike results as well as the spiking concentration. Any out-of-control recoveries as defined in the specified method shall result in the sample being rerun (both sets of data are to be reported) at no additional cost to the government.
- 5.1.1.6.3 Matrix Spike Samples. Matrix Spike Recoveries shall be reported for all organic and inorganic analyses. All general sample results shall be designated as corresponding to a particular matrix spike sample. The report shall indicate what field sample was spiked. The report shall also specify the control limits for matrix spike results for each method for each matrix.
- 5.1.1.6.4 Laboratory Duplicates and/or Matrix Spike Duplicate Pairs. Relative Percent Difference shall be reported for all duplicate pairs as well as analyte/matrix specific control limits. Report all control limit ranges for all QA/QC samples (specifically those that may have changed from the original QAPP). The report shall also indicate which field sample was spiked.
- 5.1.1.6.5 Laboratory Control Samples. Laboratory Control Sample (LCS) data shall be reported for all organic and inorganic analyses. The purpose of the LCS is to provide a consistent matrix with which baseline performance data can be generated. To ensure that analytical control is provided with each batch of samples, an LCS sample shall be prepared along with each batch of samples which requires a pre-treatment step for the analyses. Report all control limit ranges for all QA/QC samples (specifically those that may have changed from the original QAPP).
- 5.1.1.6.6 Other Method Quality Control. Additional Quality Control checks such as method of standard additions and serial dilutions for the analysis of metals, analytical spikes for metals, initial and continuing calibration data for all analytes, internal standard areas and tunes shall be reported. The A-E shall also report all control limit ranges for all QA/QC samples (specifically those that may have changed from the original QAPP).
- 5.1.2 Quality Assurance Support Document (QASD). The A-E shall submit a Quality Assurance Support Document to the ECB Laboratory within forty-five (45) days after the last sample is submitted to the laboratory. The QASD reports to the ECB Laboratory a subset of the data reported in the ADP, which is designed to expedite the comparison of the A-E=s Quality

Assurance (QA) duplicates/splits analytical results with the ECB Laboratory=s QA results. Additionally, the QASD allows the ECB Laboratory to evaluate the sample receipt conditions, custody documentation, and associated QC analyses.

- 5.1.2.1 QASD Minimum Data Reporting Requirements. The following are the QASD minimum data reporting requirements:
- 5.1.2.2 Cover letter. The cover letter shall identify the project identification number (the ECB Laboratory's LIMS # assigned to the project), the date when the last sample was collected under the assigned LIMS #, and that the sampling activity under that LIMS # is complete. This notification is important as it serves as the signal for ECB Laboratory to prepare the Chemical Quality Assurance Report (CQAR, see attachment 5) and to close that LIMS number. A copy of the cover letter shall also be sent to the CENWO PM on the same day that the QASD is sent to the ECB Laboratory.
- 5.1.2.3 Sample Identification. The A-E shall prepare a tabular presentation which shall identify all the QA samples which were split and sent to the contract laboratory and to ECB laboratory. This table shall match the contract laboratory=s sample identifications to the QA laboratory=s sample identifications.
- 5.1.2.4 Sample Receipt. The A-E shall include all Cooler Receipt Forms and Chain-of-Custody forms associated with the required sample results.
- 5.1.2.5 Laboratory Case Narrative. The associated laboratory case narratives shall be included in the results if the reported sample results are affected.
- 5.1.2.6 Analytical Results. That portion of the primary field sample results (laboratory data sheets such as EPA Form I or equivalent) and associated batch QC results which correspond to the QA samples submitted to ECB Laboratory for analysis. Results from field QC duplicate/split samples (if any) shall also be included only when such samples match QA duplicate/split samples submitted to ECB Laboratory for analysis. Results from trip blanks (corresponding to aqueous samples for VOCs analysis) and field blanks (if any) shall also be included only when an associated QA sample is submitted.
- 5.1.2.7 QASD QC Reporting Requirements. A complete set of QC results shall be reported for each analytical batch associated with the specific sample results described for the QASD. The batch QC results shall include, but is not limited to, laboratory blanks, surrogate and matrix spike recoveries, laboratory duplicates and/or matrix spike duplicate pairs, and control standards. At a minimum, internal QC samples shall be analyzed at rates specified in the specific methods or higher rates if required to meet project specific Data Quality Objectives.
- 5.1.3 Electronic Data Management. CENWO has adopted the ERPIMS electronic data requirements as the operative policy for all projects. The contractor shall establish a strategy

that will devote the necessary resources to the task of electronic data management. This proposed strategy shall be stated in detail in the QAPP. The Contractor shall submit a cost proposal for the ERPIMS requirements in a detailed task by task format. Data management activities that are part of the creation of a specific deliverable shall be included in that section of the cost proposal. This proposal will include the disciplines involved and the number of hours for each. The Contractor will designate an Electronic Data Management Point-of-Contact (EDM POC) for this task. The EDM POC must be accessible via INTERNET E-mail. If the Contractor does not already have an E-mail connection they may obtain a Defense Environmental Network Information Exchange (DENIX) account. The Contractor can obtain information on how to apply for a no cost DENIX account through the CENWO Program Manager.

The Contractor must submit non-ERPIMS electronic files associated with all spatial data or modeling, electronic files corresponding to any graphic figures included in the hard copy report deliverables, and text files corresponding to the word processed portion of the hard copy deliverable. The Contractor shall utilize whichever GIS or CADD-based system they select to generate the files; however, the Contractor must submit metadata identifying software type used, version, file format type, date, and other information required to catalog those files with sufficient specificity to allow satisfactory transfer to other ERP users. Guidelines for metadata contents can be obtained from the CENWO Technical Manager. All spatial data should be consistent with the most current installation map. This map should be obtained by contacting the PETRO Response Line at 402-221-7752.

The Contractor will adhere to the electronic deliverable time frames for ERPIMS submissions as listed below. These ERPIMS data submissions will be made to USACE Omaha District directly. Two complete copies of the submittal as specified in Appendix E of the ERPIMS >98 Data Loading Handbook (DLH) Version 4.0 [October 1997] (reference 10), should be mailed to the PETRO Service Center, ATTN Michael Watson CENWO-ED-GC. A copy of the transmittal letter should be sent to the USACE Program Manager to confirm submission receipt. USACE will forward acceptable Air Force project data files to the AFCEE central archive. Projects conducted at locations other than active Air Force installations will be maintained at the Omaha District.

The ERPIMS deliverable time frames are as follows:

Project.sg1: This submission group containing the CON, LDI, SCC, SLX, WCI, WINT, WMI, ZDI, ZLX, LOCALIAS, and SITEALIAS information, must be submitted no later than 30 days after site and sampling location assignments have been determined or after borehole installations have been completed, whichever is later

Project.sg2: This submission group containing the ATI, CALC, GWD, HSU, LTD, OWL, PUMPINT, PUMPRATE, STU, TOW, TRI, and TWI information, must be submitted no later than 40 days after sample collection has taken place in the field or after field tests have been performed, whichever is later.

Project.sg3: This submission group containing EMI, RES, SAMP, and TEST information, must be submitted no later than 30 days after obtaining analytical results from the laboratory.

The Contractor must send a copy of all Chain-of-Custodies for a given calendar week to the CENWO Program Manager as part of the Daily Quality Control Reports prior to close of business Friday of the subsequent week. A second copy of the LDI and SAMP files from Project.sg1 and Project.sg3, and copies of

the Chain-of-Custody documentation must be made to the CENWO Project Chemist at the time of the Project.sg3 deliverable. The Project.sg3 deliverable must be accompanied by a cover letter stating the Contractor Organization, contract number, delivery order number, and CENWO Project LIMS number.

USACE Omaha District will enforce strict compliance with these not-to-exceed deliverable deadlines and will look favorably upon quicker turnaround of electronic submissions. The electronic submissions are considered to be part of the analytical data package, and failure to meet these deliverable deadlines will be construed as a failure to meet appropriate standards of project performance, and will result in withholding payment for the analytical data package until such time as the package is complete.

At the time of the Final hard copy deliverable, Contractor will resubmit in aggregate all ERPIMS submissions from the project. This final electronic data set should reflect the full complement of qualifiers and corrections that result from the dialogue between the Contractor, CENWO and other stakeholders at the installation during the course of the project review phase. This aggregate resubmission should also purge the data set of key field duplicates or other errors that may arise from incremental submission of data.

In all other respects, the ERPIMS deliverables will be consistent with the requirements of the ERPIMS >98 Data Loading Handbook (DLH) Version 4.0 [October 1997] (reference 10), and the requirements of the DLH are incorporated by reference in this Scope of Services. CENWO expects the Contractor to perform their own automated or semi-automated quality checks on electronic data submissions above and beyond the Aformat-based≅ screening provided by ERPTools/PC v.2.0. Especially when bringing a new subcontract laboratory on line, the Contractor must check the *contents* of the data files to ensure that they accurately reflect the hard copy reports, report correct analyte lists, units, etc., and provide the complete set of QC sample results specified in the Quality Assurance Project Plan. CENWO can assist Contractors who have concerns or questions about their electronic deliverables. This assistance can be obtained by calling the PETRO Response Line 402-221-7752.

5.2 Reports.

5.2.1 Daily Quality Control Report (DQCR). During the field investigation activities, the A-E shall provide Daily Quality Control Reports (DQCRs) to the Government. These reports shall be compiled and sent to the CENWO-Program Manager (PM) once every week in the event that no problems or deviations from the schedule arise. However, should problems arise the A-E shall notify the CENWO-PM immediately and send the DQCRs by telefax or express mail on a daily basis until the problem has been corrected. These reports shall include, but not be limited to, the following list of topics:

- X Date (and corresponding sequential report number);
- X Location of the work (including installation, site, boring, etc.);
- X Weather information (including temperature, wind speed and direction, humidity, precipitation, etc.);
- X Work performed;
- X Sampling performed (including specifics such as location, type of samples, log number, etc.);

- X Field analysis performed (including results, instrument checks and calibration, problems, etc.);
- X Problems encountered and corrective actions taken (including specifics regarding sampling problems and alternate sampling methods utilized);
- X Quality control activities;
- X Verbal or written instructions from government personnel;
- X Calibration procedures and recording;
- X Names of all personnel on-site (including their corporate, government, or other affiliations, their job titles, and their job functions and/or reasons for being on-site);
- X equipment used;
- X Health and Safety considerations (including site control measures, levels of personal protection required, on-site monitoring activities and results, accidents, etc.);
- X Deviations from approved workplan;
- X General and specific remarks;
- X Expected activities for the next working day;
- X Distribution list for the DQCR's;
- X Signature and job title of the DQCR's preparer;
- X Drill logs completed as outlined in the General Geology Scope of Work;
- X Chain-of-Custodies completed during the reporting period.

5.2.2 Quality Control Summary Report (QCSR). This document addresses quality control practices employed and summarizes the problems identified in the DQCR which are likely to impact the quality of the data. Issues covered in this report shall include a discussion of all data points which may have been influenced or compromised and their impact on the Data Quality Objectives or remedial decisions. An example of the elements required for this level of effort are presented below, but are not limited to the following items.

5.2.2.1 Project Description. The A-E shall include report organization, background information and site description.

5.2.2.2 Sample Collection. The A-E shall provide a summary of sampling procedures, sample packaging and transportation and decontamination procedures.

5.2.2.3 Laboratory Quality Control Activities. The A-E shall provide a summary of laboratory analytical methods, detection limits, quality control activities, a summary of any deviations from planned activities, and a summary of the evaluation of the data quality for each analysis and matrix.

5.2.2.4 Field Quality Control Activities. The A-E shall provide a summary of any deviations from planned activities, and a summary of the evaluation of the quality of the sampling.

- 5.2.2.5 Data Presentation and Evaluation. The A-E shall provide an assessment of sampling and analysis techniques, an evaluation of the data quality of each matrix and parameter, and an evaluation of the usability of the data. The ADP Minimum Data Reporting Requirements shall serve as a basis for evaluating and discussing impacted data. The assessment of data quality indicators (PARCC parameters) shall also be addressed.
- 5.2.2.6 Lessons Learned. The A-E shall include a summary of field or analytical procedures that could be changed or modified to better characterize chemical contamination in future work efforts.
- 5.2.2.7 DQCR Consolidation. The A-E shall include a summary and consolidation of the deficiencies found in the Daily Quality Control Reports.
- 5.2.2.8 Conclusions/Recommendations. The A-E shall include a discussion of the quality of the environmental data collected during the investigation and state whether it meet the project objectives.

REFERENCES

1. Engineer Regulation 1110-1-263 Chemical Data Quality Management for Hazardous Waste Site Remedial Activities October 1, 1990.
2. EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations, Interim final, August 1994, EPA QA/R-5.
3. EPA RCRA Facility Investigation (RFI) Guidance, Volume 4, EPA/530/SW-89/031, May 1989.
4. EPA Data Quality Objectives Process for Superfund, Interim final guidance, September 1993, EPA/540/R-93/071.
5. USACE Requirements for the Preparation of Sampling and Analysis Plans, September 1994, EM-200-1-3.
- 5a. Shell for Analytical Chemistry, 1998. To be added to the Revised EM-200-1-3.
6. Annual Book of ASTM Standards, American Society for Testing and Materials, 1990.
7. EPA SW-846, Test Methods for Evaluating Solid Waste Physical/Chemical Methods, 3rd Edition, Final Update I (September 1994).
8. USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, February 1994, EPA/540/R-94/012.
9. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, February 1994, EPA/540/R-94/013.
10. ERPIMS >98 Data Loading Handbook, Version 4.0, October 1997.

ATTACHMENT 1

APPENDIX F TO ER 1110-1-263 (1 October 1990)

SAMPLE HANDLING PROTOCOL FOR LOW, MEDIUM AND HIGH CONCENTRATION SAMPLES OF HAZARDOUS WASTE

1. Purpose. This protocol provides guidance on sample volumes, containers, packing, and shipping for low, medium, and high concentration environmental samples taken for chemical analysis.
2. Applicability. The guidance in this appendix applies to all samples taken by CENWO for HTRW chemical analysis. The requirements are consistent with those of the Environmental Protection Agency and all standard chemical methods generally used are included.
3. Low Concentration Samples. Low level samples are considered to be those collected off-site, around the perimeter of a waste site, or in areas where hazards are thought to be significantly reduced by normal environmental processes.
 - a. Waters.
 - (1) Organics.
 - (a) Bottle and Preservative Requirements.
 - Φ Four 1-liter amber glass bottles (Teflon-lined caps), iced to 4°C (may not be held at site over 24 hours). Remember: Leave some headspace!
 - Φ Two 40 ml glass VOA vials (with Teflon septa), iced to 4°C (may not be held at site over 24 hours). Fill completely! All air bubbles must be excluded. Add HCl (4 drops of concentrated HCl) or NaHSO₄ to pH < 2.
 - Φ The samples above are needed when Method 8240 is used to analyze volatile (or purgeable) organics, when Methods 8250 or 8270 are used to analyze for Base/Neutral /Acid (B/N/A) extractable organics, and when Method 8080 is used to analyze for pesticides and PCB's. Two of the 1-L bottles are needed for 8250 or 8270 and two for 8080.

Φ Oil and Grease, Total Organic Carbon (TOC) or TRPH. For each analyte, two 1-liter glass bottles (Teflon-lined cap), 5 ml 1:1 HCl (to pH. < 2), and 4°C. Leave headspace.

(b) Paperwork/Labels.

Φ (ENG Form 5021-R) Chain of Custody Record. It is important to note that only one site may be listed per form even if the sites have the same project number. Top original goes with the samples; a copy should be saved for the sampler's files.

Φ Receipt for Samples. This form complies with the requirements that the owner, operator, or agent-in-charge is legally entitled to : (1) a receipt describing the samples obtained from the site and; (2) a portion of each sample equal in volume or weight to the portion retained, if requested. The original form is retained for the Project Coordinator and a copy is given to the owner, operator, or agent-in-charge.

Φ Sample Labels/Tags. You must label the sample with a date, time of collection, site name, and brief description on a label that will not float/soak off - no masking tape, please. Use only indelible ink on all labels. Numbered sample labels should be used on all samples. Some projects may also require the use of sample tags in addition to labels.

(c) Packaging and Shipping.

Φ Waterproof metal (or equivalent strength plastic) ice chests or coolers only.

Φ After filling out the pertinent information on the sample label and tag, put the sample in the bottle or vial and screw on the lid. For bottles other than VOA vials, secure the lid with strapping tape. (Tape on VOA vials may cause contamination.) Then, secure the string from the numbered approved tag around the lid.

Φ Mark volume level on bottle with grease pencil.

Φ Place about 3 inches of inert cushioning material such as vermiculite in the bottom of the cooler.

Φ Enclose the bottles in clear plastic bags through which sample tags and labels are visible, and seal the bag. Place bottles upright

in the cooler in such a way that they do not touch and will not touch during shipment.

Φ Put in additional inert packing material to partially cover sample bottles (more than halfway). Place bags of ice around, among, and on top of the sample bottles. If chemical ice is used, it should be placed in a plastic bag.

Φ Fill cooler with cushioning material.

Φ Put paperwork (chain of custody record) in a waterproof plastic bag and tape it with masking tape to the inside lid of the cooler.

Φ Tape the drain shut.

Φ Secure lid by taping. Wrap the cooler completely with strapping tape at a minimum of two locations. Do not cover any labels.

Φ Attach completed shipping label to top of the cooler.

Φ Put "This Side Up" labels on all four sides and "Fragile" labels on at least two sides.

Φ Affix numbered and signed custody seals on front right and back left of cooler. Cover seals with wide, clear tape.

Remember that each cooler cannot exceed the weight limit set by the shipper.

(2) Inorganics.

(a) Bottle and Preservative Requirements.

Φ Metals. One 1-liter high density polyethylene bottle (Teflon-lined cap), adjust to pH < 2 with 1:1 HNO₃ (usually 3 ml).

Φ Cyanides. One 1-liter high density polyethylene bottle (Teflon-lined cap), adjust to pH > 12 with NaOH (usually 2 ml of 10N NaOH or 4 pellets), and 4°C.

Φ Sulfide. One 1-liter high density polyethylene bottle (Teflon-lined cap), 4 ml 2.0 N zinc acetate and adjust pH > 9 with NaOH, and 4°C.

Φ Fluoride. One 1-liter high density polyethylene bottle (Teflon-lined cap), no preservative, and 4°C.

Φ pH. No preservative. Must be measured twice immediately in field. Do not ship.

Φ Ammonia, Total Kjeldahl Nitrogen, Nitrate/Nitrite. For each analyte, one 1-liter high density polyethylene bottle (Teflon-lined cap), adjust to pH. < 2 with H₂SO₄ (usually 4 ml 1:1 H₂SO₄), and 4°C.

(b) Paperwork/Labels.

Φ Inorganic Paperwork is the same as described for organics (see Section 3.a.(1).(b). above) and includes the Chain of Custody Record, Receipt for Samples, and Labels/Sample Tags. See previous examples and explanations.

(c) Packaging and Shipment.

Φ Follow packaging and shipping requirements listed for organics (see Section 3.a.(1).(c). above). "Fragile" labels are optional for coolers not containing glass bottles. In cases where ice is not required (metals), fill cooler with only packing material. Once again, remember that the cooler must not exceed the shipper's weight limit.

b. Soils/Sediments (Organics and Inorganics).

(1) Bottle and Preservative Requirements.

Φ Two 8-ounce glass wide mouth jars at least 3/4 full (Teflon-lined caps), iced to 4°C - one jar for organics (non-VOA) and one jar for inorganics. For analysis of volatiles in soil, two 40 ml VOA vials or two 125 ml jars with Teflon septa are used. These should be completely filled and iced to 4°C.

(2) Paperwork/Labels.

Φ Follow paperwork requirements listed for water samples in Section 3.a.(1).(b). above.

(3) Packaging and Shipping.

Φ Follow packaging and shipping requirements in Section 3.a.(1).(c). above. Be sure that the shipping cooler does not exceed the shipper's weight limits.

4. Medium Concentration Samples. Medium level samples are most often those collected on-site, in areas of moderate dilution by normal environmental processes.

a. Water/Liquids (Organics and Inorganics).

Note: Samples are not known to contain highly toxic compounds.

(1) Bottle and Preservative Requirements.

Φ Four 32-ounce wide mouth glass jars (Teflon-lined caps), no preservatives, and iced to 4°C for B/N/A extractable organics and PCB/Pesticides (two jars for each method). Remember: Leave some headspace.

Φ Two 40 ml glass VOA vials (Teflon septa), Iced to 4°C. Fill completely. No headspace.

Φ Two 16-ounce wide mouth glass jars nearly full (Teflon-lined caps) one for metals and one for cyanides. (Preserved as for low level. See Section 3.a.(2).(a).)

(2) Paperwork/Labels.

Φ See previous examples. Follow paperwork requirements in Section 3.a.(1).(b). for low concentration samples.

(3) Packaging and Shipping.

Φ Secure sample jar lids with strapping tape or evidence tape. At the same time secure string from USEPA numbered tag around lid.

Φ Mark volume level of bottle with grease pencil.

Φ Position jar in Ziploc bag so that tags may be read.

Φ Place about 1/2 inch of cushioning material in the bottom of metal can.

Φ Place jar in can and fill remaining volume of can with cushioning material.

Φ Close the can using three clips to secure lid.

Φ Write sample number on can lid. Indicate "This Side Up" by drawing an arrow and place "Flammable Liquid N.O.S." label on can. Personnel who ship samples must be sure to comply with DOT shipping regulations and not knowingly over-classify a sample prior to shipment. If the person shipping a sample knows that the sample is not a "Flammable Liquid" (i.e., a water phase sample or a soil sample), he should not classify it as "Flammable Liquid."

Φ Place about 1 inch of packing material in bottom of cooler.

Φ Place cans in cooler and fill remaining volume of cooler with packing material. Add ice bags if required.

Φ Put paperwork in plastic bags and tape with masking tape to inside lid of cooler.

Φ Tape drain shut.

Φ After acceptance by shipper, tape cooler completely around with strapping tape at two locations. Secure lid by taping. Do not cover any labels.

Φ Place lab address on top of cooler.

Note: Write "Flammable Liquid N.O.S." on side of cooler if this is not marked on the margin of your DOT label.

Φ For all medium and high concentration shipments, complete shipper's hazardous material certification form.

Φ Put "This Side Up" labels on all four sides, "Flammable Liquid N.O.S." and "Danger-Peligro" on all sides.

Note: "Danger-Peligro" labels should be used only when net quantity of samples in cooler exceeds 1 quart (32 ounces) for liquids or 25 pounds for solids. In other words, for our purposes "Danger-Peligro" labels will never be used for Flammable Solids N.O.S.

Φ Affix number custody seals on front right and back left of cooler. Cover seals with wide, clear tape.

b. Soils/Sediments/Solids (Organics and Inorganics).

(1) Bottles and Preservatives Requirements.

Φ For analysis of volatiles, two 40 ml VOA vials or two 125 ml jars with Teflon septa are used. These should be completely filled and iced to 4°C.

Φ Two 8-ounce wide mouth glass jars, 3/4 full (Teflon-lined caps), no preservatives, one jar for organics (non-VOA) and one jar for inorganics (metals and cyanide) or

Φ Four 4-ounce wide mouth glass jars each 3/4 full (Teflon-lined caps), no preservative; two jars for organics (non-VOA) and two jars for inorganics.

(2) Paperwork/Labels.

Φ See previous examples. Follow paperwork requirements listed in Section 3.a.(1).(b). for low concentration samples.

(3) Packaging and Shipping.

Φ Follow packaging and shipping requirements listed in Section 3.a.(1).(c). for medium concentration water/liquids above substituting "Flammable Liquid N.O.S." with "Flammable Solid N.O.S."

5. High Concentration Samples (Hazardous: Determined Not to be D.O.T.-Defined Poison A). High concentration samples include those from drums, surface impoundments, direct discharges, and chemical spills, where there is little or no evidence of environmental dilution. High concentration (or high hazard) samples are suspected to contain greater than 15% concentration of any individual chemical constituent.

a. Liquids (Organics and Inorganics).

(1) Bottle and Preservative Requirements.

Φ One 8-ounce wide mouth glass jar filled 1/2 to 3/4 full (Teflon-lined cap). No preservative.

(2) Paperwork/Labels.

Φ See previous examples. Follow paperwork requirements listed in Section 3.a.(1).(b). above.

Φ Shipper may require special forms to be completed before shipment of high hazard concentration samples.

(3) Packaging and Shipping.

Φ Follow packaging and shipping requirements listed in Section 3.a.(1).(c). above for medium concentration water/liquids.

b. Soils/Sediments/Solids (Organics and Inorganics).

(1) Bottle and Preservative Requirements.

Φ One 8-ounce wide-mouth glass jar filled 1/2 to 3/4 full (Teflon-lined cap). No preservative.

(2) Paperwork/Labels.

Φ Follow paperwork requirements in Section 3.a.(1).(b). above.

(3) Packaging and Shipping.

Φ Follow packaging and shipping requirements listed in Section 3.a.(1).(c). for medium concentration water/liquids, substituting "Flammable Liquid N.O.S." with "Flammable Solid N.O.S."

TABLE F-1

SAMPLE CONTAINERS, PRESERVATIVES, AND HOLDING TIMES

Low Concentration Samples

<u>Matrix Parameter</u> ¹	<u>Container</u> ²	<u>Preservation</u> ³	<u>Extraction</u> ⁴	<u>Maximum Holding Times:</u> <u>Analysis</u>	
Water Volatiles	2 x 40 mL ⁸ G, Septa vial	Ice to 4°C 4 drops con. HCL or NaHSO ₄ to pH<2	---	14 d	
Water B/N/A	2 x 1 L ^{5,8} amber G	Ice to 4°C		7 d	40 d
Water PCBs, Pesticides	2 x 1 L ^{5,8} amber G	Ice to 4°C		7 d	40 d
Water Metals ⁶	1 x 1 L P	HNO ₃ to pH<2		---	6 mo ⁶
Water TRPH	2 x 1 L G	Ice to 4°C		---	28 d
Water Common	1 x 1 L ⁷ G	Ice to 4°C		---	28 d ⁷
Water Explosives	2 x 1 L G (amber)	Ice to 4°C		7 d	40 d
Water Cyanide	1 x 1 L P	NaOH to pH>12 Ice to 4°C		---	14 d
Soils/ Sediments Volatiles	2 x Encore samplers or 2 x 125 mL G, Septa vial	Ice to 4°C		---	14 d
Soils/ Sediments B/N/A,PCBs, Pesticides	1 x 8 oz G	Ice to 4°C		14 d	40 d
Soils/ Sediments Metals, Cyanide	1 x 8 oz G	Ice to 4°C (Cyanide & TRPH)	---	6 mo ⁶ (TRPH: 28d)	
Soils/ Sediments Explosives	1 x 4 oz G	Ice to 4°C		14 d	40 d

TABLE F-2

SAMPLE CONTAINERS AND PRESERVATIVES⁹

Medium Concentration Samples

<u>Matrix</u>	<u>Parameter</u> ¹	<u>Container</u> ²	<u>Preservation</u> ³
Water/Liquid	Volatiles	2 x 40 mL G,	Ice to 4°C ⁸
Water/Liquid	B/N/A ⁵	2 x 32 oz wide mouth jars, G	Ice to 4°C ⁸
Water/Liquid	PCBs ⁵ , Pesticides	2 x 32 oz wide mouth jars, G	Ice to 4°C ⁸
Water/Liquid pH<2	Metals	1 x 16 oz wide mouth jar, G	HNO ₃ to
Water/Liquid	Cyanide	1 x 16 oz wide mouth jar, G	Ice to 4°C
Water/Liquid	Explosives	2 x 1 L G (Amber)	Ice to 4°C
Soils/ Sediments	Volatiles	2 x Encore sampler or 2 x 125 mL G	Ice to 4°C
Soils/ Sediments	B/N/A, PCBs, Pesticides	1 x 8 oz wide mouth jar, G	---
Soils/ Sediments	Metals, Cyanide, TRPH	1 x 8 oz wide mouth jar, G	Ice to 4°C (Cyanide & TRPH)
Soils/ Sediments	Explosives	1 x 4 oz wide mouth jar, G	Ice to 4°C

High Concentration Samples

<u>Matrix</u>	<u>Parameter</u> ¹	<u>Container</u> ²	<u>Preservation</u>
Liquid	All organic and inorganic analyses	1 x 8 oz wide mouth jar, G	----
Solid	All organic and inorganic analyses	1 x 8 oz wide mouth jar, G	----

1. B/N/A = Base/Neutral/Acid extractables; TRPH = Total Recoverable Petroleum

Hydrocarbons.

2. All containers must have Teflon-lined seals (Teflon-lined septa for VOA vials). G = Glass; P = High Density polyethylene.
3. Sample preservation will be done in the field immediately upon sample collection. If water samples are filtered in the field, differential pressure methods using 45 micron filters will be used, and preservatives added after filtration. VOA samples should never be filtered.
4. When only one holding time is given, it implies total holding time from sampling until analysis.
5. Three bottles are required on at least 5-10% (but at least one) sample so that the laboratory can perform all method QC checks for SW-846 method.
6. Total Recoverable Metals for water samples. Holding time for Hg is 28 days in glass; for Cr(VI) is 24 hours.
7. Cl^- , Br^- , F^- , NO_3^- , NO_2^- , PO_4^{3-} , SO_4^{2-} ; 1 L for each method; orthophosphate requires filtration. Holding time for extraction is 48 hours for NO_2^- , NO_3^- , and PO_4^{3-} if not preserved with H_2SO_4 to $\text{pH} < 2$.
8. Samples with residual chlorine present will be dechlorinated with sodium thiosulfate as specified in SW-846 (Third edition).
9. Holding times for medium concentration samples are the same as those specified for low concentration samples.

ATTACHMENT 2 DECONTAMINATION PROTOCOL

The decontamination area shall be established in an area of the site considered free from contamination. Equipment and personnel decontamination activities shall be centralized in this area. Decontamination water shall be collected and allowed to evaporate. At project completion, any remaining water that has not evaporated shall be disposed of in an environmental safe manner. Prior to arrival on-site, all heavy equipment shall be steam cleaned. Equipment used for excavation and sampling shall be decontaminated prior to use in accordance with the following cleaning procedures:

1. The backhoe and all support equipment shall be free from excess grease, oils, and caked-on soils from previous work prior to arrival at the site. Equipment which leaks fuel, coolant, and lubricants shall be removed from the site and repaired prior to use.
2. Equipment or materials not used immediately after decontamination shall be placed on a plastic sheet, covered with plastic, and secured to avoid potential contamination.
3. Clean with tap water and laboratory detergent, (Liquinox or equivalent) using a brush if necessary to remove particulate matter and surface films.
4. Rinse thoroughly (3X) with potable water.
- 4a. Rinse with Isopropanol;
 substitute 10% Nitric Acid (only in areas of elevated metals contamination);
 substitute hexane (for elevated levels of organics).
5. Rinse thoroughly (3X) with deionized water and allow to air dry.
6. Wrap sampling equipment completely with aluminum foil, shiny side out, to prevent contamination if equipment is to be stored or transported.
7. Equipment such as pumps, flow lines, etc. shall be flushed thoroughly with potable water prior to use.

Clean, disposable gloves shall be worn while handling sampling equipment during the final stages of decontamination. Deionized water shall be stored in glass or Teflon containers and applied via Teflon squeeze bottles.

ATTACHMENT 3
ANALYTICAL METHOD REFERENCES

Analytical Requirements. The following matrix-specific analytical methods are recommended for soil/sediment and ground water/surface water samples. Appropriate digestion and analytical methods shall be specified in the SAP with any applicable current Federal, State and Local requirements as well as meeting specific Data Quality Objectives. The objectives, rationale and end data use for these methods must be clearly stated in the SAP. These methods must be followed explicitly and all quality control procedures detailed in the respective methods unless otherwise authorized by the CENWO Project Chemist. Analytical and statistical control parameters are outlined in the sections of this Scope of Services concerned with chemical data acquisition shall be followed. Soil samples shall be calculated and reported on a dry weight basis.

Extraction and Analysis Methods

Parameter	Technique	Water	Soil	Waste
Volatile Organics (Low & Medium Level)	GC/MS	5030A/8240B	5030A/8240B	5030A/8240B
Volatile Organics (Regular & Low Level)	GC/MS	5030A/8260A	5030A/8260A	5030A/8260A
Volatile Organics (TCLP Extract)	GC/MS	1311/5030A/8240B	1311/5030A/8240B	1311/5030A/8240B
Volatile Organics	GC/MS	524.2		
Semivolatile Organics	GC/MS	3510B,3520B/8270B	3540,3550/8270B	3540,3550,3580A/8270
Semivolatile Organics (TCLP Extract)	GC/MS	1311/3510B,3520B/8270B	1311/3510B,3520B/8270	1311/3510B,3520B/8270
Organochlorine Pesticides	GC/ECD	3510B,3520B/8080	3540,3550/8080	3580A/8080
PCBs	GC/ECD	3510B,3520B/8080	3540,3550/8080	3580A/8080
Organochlorine Pesticides and PCBs	GC/ECD	3510B,3520B/8080	3540,3550/8080	3580A/8080
Organochlorine Pesticides (TCLP Extract)	GC/ECD	1311/3510B,3520B/8080	1311/3510B,3520B/8080	1311/3510B,3520B/8080
Organophosphorus Pesticides	GC/FPD	3510B,3520B/8141	3540,3550/8141	3580A/8141
Organochlorine Herbicides	GC/FPD	8150	8150	8150
Organochlorine Herbicides (TCLP Extract)	GC/FPD	1311/8150	1311/8150	1311/8150
Metals - various	ICP	3005,3010/6010	3050/6010	3040,3050/6010
Metals - various	AA/GO	3020/7000 Series	3050/7000 Series	3040,3050/7000 Series
Metals - Mercury	AA/CV	7470	7471	7471
Metals (TCLP Extract)	ICP/AA	(x)	(x)	(x)
Cyanide	UV/VIS	9010A,9012	9010A,9012	9010A,9012
Halogenated Volatile Organics	GC/ECD	5030/8010B 5030/8010B	5030/8010B	
Aromatic Volatile Organics	GC/PID	5030/8020A 5030/8020A	5030/8020A	
Polynuclear Aromatic Hydrocarbons	GC/FID	3510B,3520B/8100	3540,3550/8100	3580A/8100
Phenols	GC/FID	3510B,3520B/8040A	3540,3550/8040A	3580A/8040A
Total Petroleum Hydrocarbons: Gasoline Range	GC/FID	5030/8015 (mod)	5030/8015 (mod)	3580A/8015 (mod)
Total Petroleum Hydrocarbons: Diesel Range	GC/FID	3510B,3520B/8015 (mod)	3540B,3550A/8015 (mod)	3580A/8015 (mod)
Total Recoverable Petroleum Hydrocarbons	IR	9073	9073	9073
Oil & Grease	Gravimetric	9071	9071	9071
Explosives	HPLC/UV/VIS	8330	8330	8330
Anions	UV/VIS, IC	300 Series, 300.0	300 Series, 300.0	300 Series, 300.0
Sulfide	Titration	9030	9030	9030
TOX	TOX	9020B	9020B	9020B
TOC	TOC	9060	9060	9060
Phenolics	UV/VIS	9065,9066,9067	9065,9066,9067	9065,9066,9067
pH	pH Meter		9045	9045

(x) For ICP: 1311/3005,3010/6010
For AA/GO: 1311/3020/7000 Series
For AA/CV: 1311/7470

ATTACHMENT 4
COOLER RECEIPT FORM

PROJECT: _____ LIMS# _____

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler opened: _____ C-of-C Number: _____

by (print) _____ (sign) _____

1. Did cooler come with a shipping slip (air bill, etc)?.....YES NO

If YES, enter carrier name & air bill number here: _____

2. Were custody seals on outside of cooler?.....YES NO

How many & where: _____, seal date: _____, seal name _____

3. Were custody seals unbroken and intact at the data and time of arrival?.....YES NO

4. Did you screen samples for radioactivity using the Geiger Counter?.....YES NO

5. Were custody papers sealed in a plastic bag & taped inside to the lid?.....YES NO

6. Were custody papers filled out properly (ink, signed, etc.)?.....YES NO

7. Did you sign custody papers in the appropriate place?.....YES NO

8. Was project identifiable from custody papers?. If yes, enter project name at the top of this form.....YES NO

9. If required, was enough ice used?..... Type of ice: _____ Temp _____ °C.....YES NO

10. Have designated person initial here to acknowledge receipt of cooler: _____ (date) _____

B. **LOG-IN PHASE:** Date samples were logged-in: _____

by (print) _____ (sign) _____

11. Describe type of packing in cooler: _____

12. Were all bottles sealed in separate plastic bags?.....YES NO

13. Did all bottles arrive unbroken & were labels in good condition?.....YES NO

14. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)?.....YES NO

15. Did all bottle labels agree with custody papers?.....YES NO

16. Were correct containers used for the tests indicated?.....YES NO

17. Were correct preservatives added to samples?.....YES NO

18. Was a sufficient amount of sample sent for tests indicated?.....YES NO

19. Were bubbles absent in volatile samples? If NO, list by Sample # _____ YES NO

20. Was the project manager called and status discussed?. If yes, give details on the back of this form.....YES NO

21. Who was called? _____ By whom? _____ (date) _____

CHEMICAL QUALITY ASSURANCE REPORT

The Chemical Quality Assurance Report (CQAR) is a report which compares the ECB laboratory's field-split results to the contractor laboratory's field-split results. The Chemical Quality Assurance Report shall be written by the ECB Laboratory and sent to the CENWO Project Chemist within 30 days of receipt of the A-E's data and completion of the quality Assurance data. After the CENWO Project Chemist reviews the Chemical Quality Assurance Report, the CENWO PM (upon recommendation of the CENWO Project Chemist) may forward the CQAR to the A-E for possible inclusion into the appropriate final report. If the CQAR is forwarded, the A-E shall be responsible for providing a timely written response, which addresses all the major discrepancies identified in the report.

The CQAR addresses the following:

1. Inspection of QA Samples. Inspection of QA samples to insure that sampling procedures correspond to the QAPP with regard to shipment, packaging, sample containers, preservation, labeling, chain of custody, etc.
2. Overall Performance. Overall performance of the laboratory that analyzed the site's primary samples.
3. Detailed A-E's Data Evaluation. Detailed evaluation of the A-E's data which includes laboratory blanks, replicate analyses, and acceptability of spike and surrogate recoveries.
4. Data Comparison. Comparison of the quality assurance analytical results with those of the project laboratory. Specifically, does the data agree between duplicate and split analyses.
5. Problems. Any problems or issues encountered such as packing and shipment errors, chain-of-custody, etc.
6. Tables. Prepared tables will compare the results for duplicates, splits and blanks sent to both laboratories. All the quality assurance data with associated internal quality control is reported.
7. Conclusion. This section will discuss the data usability as it relates to the Quality Control provided for the investigation.