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NSA CRANE  
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U S EPA REGION V COMMENTS ON TECHNICAL MEMORANDUM REGARDING  
SUPPLEMENTAL DELINEATION SAMPLING FOR LEAD AND PAHS IN SOIL UNEXPLODED  
ORDNANCE 7 (UXO 7) NSA CRANE IN  
9/14/2011  
U S EPA REGION V

REVIEW COMMENTS		PROJECT: DOCUMENT:	Supplemental Delineation Sampling for Lead and PAHs in Soil July 2011, Technical Memorandum – NSA Crane UXO 07 - Small Arms Ranges – Supplemental Work Plan	
		Date: Reviewer: Phone:	9/14/11 Mr. Peter Ramanuskas, USEPA, Region V 312-886-7890	Action on comments taken by: Jim Goerdt, Tetra Tech NUS, Inc. 412-921-8425 Rick Barringer, Tetra Tech NUS, Inc. 412-921-8524
Item No.	Page, Section, Paragraph	Comment	Response/Action	Response Acceptance (A-agree) (D-disagree)
1	Tech Memo - Section 4.1	NSA Crane should re-check their laboratory SOPs to confirm that the lowest screening level (15 µg/kg; 0.015 mg/kg) can be consistently achieved as a Sample Quantitation Limit in soils sample that could have multiple PAHs present.	<b>Response:</b> Current laboratory SOPs have been checked to ensure that the lowest screening level of 15 µg/kg can be consistently achieved as a sample Quantitation Limit in soil samples that could have multiple PAHs present.  <b>Action:</b> Analytical SOPs are now included as Attachment B to the subject Technical Memorandum for UXO 7.	A
2	Tech Memo - Section 4.1 (PALs)	At other soil characterization projects at NSA Crane, has naphthalene also been included as a target analyte where PAH releases were being investigated? If so, naphthalene should be included here as well. An appropriate screening level would be 14,000 µg/kg (based on HQ = 0.1 for the direct contact residential scenario; EPA RSL Table).	<b>Response:</b> Previous soil investigations at NSA Crane in which potential PAH releases were investigated [i.e. UXO 7 (2007) and West Gate Small Arms Range (2010)], Naphthalene was included, and Naphthalene will be included for this particular investigation as well, with a direct contact screening level of 14,000 µg/kg.  <b>Action:</b> Naphthalene has been added to the target analyte table in Section 4.1	A

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		Date: 9/14/11	Action on comments taken by:	
		Reviewer: Mr. Peter Ramanauskas, USEPA, Region V	Jim Goerdts, Tetra Tech NUS, Inc.	
		Phone: 312-886-7890	412-921-8425	
		Rick Barringer, Tetra Tech NUS, Inc.		
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3	Tech Memo-Section 3.0	I thought the agreed upon eco-risk driven PRG for lead at UXO7 was 192 mg/kg versus the 206 mg/kg referenced in the memo.	<p><b>Response:</b> In recent e-mail correspondence with the EPA, and in an effort to move the site forward, the Navy agreed to use the lead PRG value of 192 mg/kg as the cleanup goal specifically for UXO 7, under the condition that the arithmetic average at the site is less than the 192 mg/kg, not the 95% UCL.</p> <p><b>Action:</b> All references in the UXO 7 Tech Memo regarding the lead screening value have been changed from 206 mg/kg to 192 mg/kg. Associated figures will also be updated to reflect this change. The change in the screening value has also extended the boundaries of the proposed sampling plan. Although this change increases proposed XRF-analyzed field samples by 16, as shown on Figure 5, the number of lead confirmation samples shipped to the analytical laboratory should be relatively consistent with previous estimates.</p>	A

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4	Tech Memo-Section 5.0	Regarding Section 5.0, I am not familiar with the West Gate Small Arms Range QA/QC requirements and I don't believe that location went through an EPA review or approval. Why not reference the EPA approved QAPP Addendum which covered UXO7 (and UXO5, I believe)	<p><b>Response:</b> The EPA-approved QAPP (Addendum No. 2) was approved for UXO 5 and UXO 7 (Tetra Tech, August 2007) and supplemented earlier QAPPs for NSA Crane including (Tetra Tech, November 2006 [Addendum No. 1] and Tetra Tech, September 2004). These EPA-approved QAPPs will be referenced in Section 5.0.</p> <p><b>Action:</b> Section 5.0 has been modified to reference the EPA-approved QAPP Addendum covering UXO 5 &amp; UXO 7. Tetra Tech field SOPs are included in the revised Technical Memorandum – one SOP (SOP-9 GPS) was not included in the EPA-approved QAPP and minor modifications were made to other relevant field SOPs in Attachment A (see listed SOPs below). Furthermore, the analytical laboratory has changed from Lauck's Testing Laboratories to Empirical Laboratories, Inc. The updated Empirical Laboratory SOPs are attached to the Technical Memorandum (Attachment B).</p>	A

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### Field SOPs

- SOP-01 Sample Labeling
- SOP-02 Sample Identification Nomenclature
- SOP-03 Sample Custody and Documentation of Field Activities
- SOP-04 Sample Preservation, Packaging, and Shipping
- SOP-05 Soil Coring and Sampling Using Hand Auger Techniques
- SOP-06 Soil Sample Logging
- SOP-07 Decontamination of Field Sampling Equipment
- SOP-08 Management of Investigation-Derived Waste
- SOP-09 Global Positioning System
- SOP-10 Field Portable X-Ray Fluorescence Analysis of Soil and Sediment Samples Using the INNOV-X Alpha Series Instrument

### Analytical SOPs

- SOP-100 Metals Digestion/Preparation: Methods – USEPA SW 846 3005A, 3010A, 3030C, 3031, 3050B
- SOP-105 Metals Analysis by Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) Technique: Methods - 200.7, SW 846 (6010B, 6010C), Hardness Calculation (SM 19<sup>th</sup> Edition 2340B), ILMO 4.1 (USEPA CLP)
- SOP-231 GC/MS Low Level PAH's by SW-846 Method 8270C SIM
- SOP-300 GC/MS Semi-Volatile BNA-Aqueous Matrix Extraction Using SW-846 Method 3510C for 8270C/625 Analysis
- SOP-327 Nitroaromatics and Nitramines by High Performance Liquid Chromatography (HPLC) Method 8330A and 8332
- SOP-329 Soxhlet Extraction – BNA and Pest/PCB Using SW-846 Method 3541
- SOP-404 Laboratory Sample Receiving, Log In and Storage Standard Operating Procedures
- SOP-405 Analytical Laboratory Waste Disposal
- SOP-410 Standard Operating Procedure for Laboratory Sample Storage, Secure Areas and Sample Custody