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TEXT CHANGE PAGE AND UPDATED CD FOR FINAL UNEXPLODED ORDNANCE 7 (UXO 7) INTERIM MEASURES WORK PLAN OLD RIFLE RANGE AND TRAP RANGES WITH TRANSMITTAL NSA CRANE IN
1/24/2014
TETRA TECH

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PITT-01-14-120

January 24, 2014

Project No. 112IG05608

Mr. Howard Hickey
NAVFAC MW
201 Decatur Avenue
Building 1A, Code EV
Great Lakes, Illinois 60088

Subject: NAVFAC Biological Resources Services Contract N62470-08-D-1008
Contract Task Order No. F271

Reference: Text Change Page and Updated CD for Final UXO 7 Interim Measures Work Plan – Old Rifle Range and Trap Ranges, Naval Support Activity Crane, Indiana

Dear Mr. Hickey:

Enclosed is a corrected and printed double-sided copy of pages 9 and 10 from Section 2.0 in the Final Interim Measures Work Plan (IMWP) for UXO 7 at Naval Support Activity (NSA) Crane, Indiana. The text change was required to address a comment from Dan Mazur, U.S. EPA Region V. A conference call was held earlier today with Peter Ramanauskas and Dan Mazur to verify that the proposed wording change adequately addressed the comment. Copies of relevant e-mails on the topic are attached to this letter.

A Compact Disk (CD) containing the corrected electronic files for the subject Final UXO 7 IMWP is also enclosed with this letter. Please remove the previous version of pages 9 and 10 from Section 2.0 and the CD from your printed copy of the subject document and replace them with the enclosed corrected versions.

The electronic files used to produce the printed document have been recorded on the enclosed CD and are certified as "virus free." The CD includes both native (updatable) format and Adobe Acrobat (.pdf) format files, as is typically required for task order electronic data deliverables to NAVFAC.

Please contact the undersigned at (412) 921-8524 (e-mail: rick.barringer@tetratech.com) or Mr. Ralph Basinski (412) 921-8308 (e-mail: ralph.basinski@tetratech.com) regarding any questions or comments.

Sincerely,

Richard A. Barringer

Richard A. Barringer
Task Order Manager

RAB/mlg
Enclosures

cc: Mr. Tom Brent, NSA Crane (letter, five hardcopies of enclosure, and five CDs)
Mr. Chris Soucier, Tetra Tech (letter and hardcopy of enclosure, and CD)
Ms. Delight Buenaflor, Tetra Tech (letter and hardcopy of enclosure, and CD)
Mr. Ralph Basinski, Tetra Tech (letter and hardcopy of enclosure, and CD)
Mr. Rick Barringer, Tetra Tech (letter, two hardcopies of enclosure, and two CDs)
File copy – CTO F271 (letter, hardcopy of enclosure, and CD)
NIRIS Document Records – (letter, hardcopy of enclosure, and CD)

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Figure 2-5 identifies the soil samples with exceedances of the BaP equivalent human health screening criteria for the West Trap Range using colors to identify the general magnitudes of the detections. The vast majority of the BaP equivalent contamination identified in soil from the West Trap Range was present in samples collected from the surficial 2 feet of soil. Six discrete subareas are proposed for excavation (Figure 2-7). The largest area (subarea 1) covers approximately 9,800 square feet within the suspected maximum skeet fragment area and extends to a depth of 1 foot bgs [approximately 363 cubic yards (cy) of soil for removal]. Five other smaller removal areas (subareas 2 through 6) are located inside the larger excavation and will extend down one additional foot to address deeper soil contamination. These smaller areas collectively cover 3,042 square feet (at a depth of 1 foot below the subarea 1 excavation, or 2 feet bgs) and generate an additional 113 cy of contaminated soil for removal. The excavation subareas are presented on Figure 2-7.

The volume of range soil to be removed from the West Trap Range totals approximately 476 cy. Subareas of soil with cancer risk levels in excess of 1×10^{-4} and areas of soil with cancer risk levels between 1×10^{-5} to 1×10^{-4} are proposed for removal. Appendix B includes the analytical data used in these evaluations. Before removal, the 95 percent upper confidence limit (UCL) for the BaP equivalent concentrations in the West Trap Range soil is 5.42 mg/kg (1.5 mg/kg BaP concentration for residential human receptor is equivalent to a cancer risk level of 1×10^{-4}). After removal of the soil identified in the six subareas, the 95 percent UCL for the BaP equivalent concentrations in the West Trap Range soil is reduced to 0.02 mg/kg, which is well within the acceptable risk range.

East Trap Range

The initial RFI sampling at the East Trap Range included samples SB071 and SB075 where PAHs were detected in the south central and northwestern sectors of the maximum suspected skeet fragment area. Additional supplemental soil sampling for PAHs at the East Trap Range was performed during 2011 and 2012 in the north, south, east, and west portions of the suspected maximum skeet accumulation area to delineate the lateral and vertical extent of BaP equivalent concentrations in soil.

Figure 2-6 identifies the soil samples with exceedances of the BaP equivalent human health screening criteria for the East Trap Range using colors to identify the general magnitudes of the detections. With only limited exceptions, the majority of the BaP equivalent contamination identified in soil from the East Trap Range was present in samples collected from the surficial 2 feet of soil. Seven discrete excavation subareas are proposed to address excess cancer risk to future residential human health receptors (Figure 2-8). The largest area (subarea 6) covers approximately 2,900 square feet within the suspected maximum skeet fragment area and extends to a depth of 2 feet bgs (approximately 212 cy of soil for

removal). One other smaller removal area (subarea 7) is physically located inside this larger excavation and will extend down an additional 4 feet to address deeper soil contamination (at a total depth of 6 feet bgs). This smaller area (subarea 7) collectively covers 400 square feet (at a depth of 4 feet below the subarea 6 excavation, or 6 feet bgs) and generates an additional 60 cy of contaminated soil for removal. Subareas 1, 2, 3, 4, and 5 in the north central area of the East Trap Range cover approximately 4,563 square feet, each with varying depths, and will produce an estimated 367 cy of excavated soil. These excavation areas are presented on Figure 2-8.

The volume of range soil to be removed from the East Trap Range totals approximately 640 cy. Areas of soil with cancer risk levels in excess of 1×10^{-4} and areas of soil with cancer risk levels between 1×10^{-5} to 1×10^{-4} are proposed for removal.

Before removal, the 95 percent UCL for the BaP equivalent concentrations in the East Trap Range soil is 1.96 mg/kg (1.5 mg/kg BaP concentration for residential human receptor is equivalent to a cancer risk level of 1×10^{-4}). After removal of the soil identified in the seven subareas, the 95 percent UCL for the BaP equivalent concentrations in the East Trap Range soil is reduced to 0.025 mg/kg, and is closer to the 0.015 mg/kg concentration, which correlates to the residential human receptor cancer risk of 1×10^{-6}.

Lead Risk Reduction and Mitigation in UXO 7 Former Old Rifle Range Soil

This section presents an evaluation of the steps necessary to reduce human health and ecological risk from soil lead concentrations to acceptable levels (within the risk range 1×10^{-6} to 1×10^{-4}). The bird MCG of 192 mg/kg was based on exposure parameters presented in the USEPA Eco SSL document and toxicity reference values recommended by USEPA Region 5, while the plant MCG of 652 mg/kg for lead was developed using site specific toxicity testing at SWMU 16 at NSA Crane. The 192 mg/kg value is protective of invertivorous birds and the 652 mg/kg value is protective of plants. Although the likely source of metals at SWMU 16 was ash from the incinerator, the PRG for plants is appropriate for use at UXO 7 because the bioavailability of lead from the bullets/shot is not expected to be greater than the bioavailability of lead from the ash. Ecological risks from lead were found to be unacceptable in the screening risk assessment. The MCGs for lead are reduction of lead concentrations to below an average of 192 mg/kg, with no soil remaining with a lead concentration greater than 652 mg/kg. The discrete areas where lead contamination has been delineated in soil are located in different zones within UXO 7. Risk reduction strategies for lead are discussed in this section.

The Drainage Area, 400-yard Berm Area, and Dirt Mound Area within the Northern Zone of the ORR at UXO 7 were initially investigated as part of an RFI in 2007. Additional samples were collected to