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SAMPLING WORK PLAN FOR SOLID WASTE MANAGEMENT UNITS 44 AND 45 NS
MAYPORT FL
7/26/2013
TETRA TECH



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Project Number 112G00436

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Reference: CLEAN Contract Number N62467-04-D-0055
Contract Task Order Number 0033

Subject: Sampling Work Plan for Solid Waste Management Units 44 and 45
Naval Station Mayport, Jacksonville, Florida

Mr. Hayworth:

Tetra Tech is pleased to submit this Sampling Work Plan for Solid Waste Management Units (SWMUs) 44 and 45 at Naval Station (NAVSTA) Mayport in Jacksonville, Florida. The data for SWMUs 44 and 45 was evaluated for the Corrective Measures Study. The soil samples were compared with Florida Department of Environmental Protection (FDEP) Soil Cleanup Target Levels (SCTLs). Benzo(a)pyrene was detected at concentrations exceeding industrial criteria in samples from five soil sampling locations, and total recoverable hydrocarbons (TPH) were detected at concentrations exceeding industrial criteria at one soil sampling location. All exceedances were detected in the 0- to 1-foot surface soil interval. The sample results were obtained from sampling events conducted in calendar years 2006 and 2007. Additional soil sampling is recommended since natural attenuation may have decreased the concentrations of the identified contaminants since the 2006/2007 sampling events.

OBJECTIVE

The objective of this sampling effort is to verify whether constituents of concern from sample locations with previous results remain at concentrations exceeding FDEP industrial SCTLs

PROPOSED ASSESSMENT ACTIVITIES

A Tetra Tech representative will collect 18 soil samples via hand auger to support site assessment activities. A total of 15 samples will be collected at locations MPT-44-SB05, MPT-44-SB08, MPT-44-SB14, MPT-45-SB09, MPT-45-SB07, and MPT-45-D3. Three samples will be collected at each boring from 0- to 6-inch, 6- to 24-inch, and 24- to 36-inch depth intervals. The soil samples will be submitted to a laboratory for analysis of benzo(a)pyrene (BAP) equivalents via polycyclic aromatic hydrocarbons selective ion method (SIM). Three samples from one location (MPT-44-SB14) will be analyzed for the TPH fractions as shown in Figure 1. The field activities described will be conducted

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during a 1- to 3-day sampling event. Prior to the field activities, mobilization, coordination, and procurement activities will be conducted. Tasks associated with mobilization include the following:

- Field coordination (i.e., coordinating for site access, obtaining field equipment and consumables, etc.).
- Subcontractor procurement and coordination.
- Utility clearance.
- Prior to the sampling, Tetra Tech representatives shall fulfill the requirements of the NAVSTA Mayport Excavation Permit requirement and, while at NAVSTA Mayport, Tetra Tech representatives shall abide by Station rules for civilian personnel.
- Project “kick-off” and daily health and safety “tailgate” meetings.

The work in the following sections will be completed in accordance with the Tetra Tech's company Standard Operating Procedures (SOPs) and FDEP SOPs.

SITE PREPARATION

Prior to sampling, the sample locations will be identified. Using aerial photographs, previous field notes, and field observation, the sample locations shall be marked in the field prior to sampling.

SOIL SAMPLING METHODS

Sampling protocol shall be followed per FDEP SOP 0001/01 and Tetra Tech SOPs, and the work will be conducted in a safe manner in accordance with the Site Health and Safety Plan. All site workers are required to maintain current Occupational Safety and Health Administration 40-hour and or 8-hour (refresher) Hazardous Waste Training and maintain Level D personal protective equipment while on site.

A single field sampling phase is needed to complete the soil sampling at SWMUs 44 and 45. Three soil samples will be collected from each sample location. Samples will be collected using a hand auger pushed to a depth of 3 feet below land surface (bls) with samples collected 0- to 6-inch, 6- to 24-inch, and 24- to 36-inch depth intervals. The two subsurface samples will be used to define vertical contamination if results exceed industrial SCTLs. A soil and sediment sample log sheet will be maintained for each sample. Unless dedicated hand auger bits are used, the hand auger will be cleaned with Liquinox[®], deionized water, and isopropanol between sample locations. All personnel coming in contact with the samples will wear latex gloves and will change gloves between sample locations to help minimize cross contamination. All decontamination water shall be containerized for disposal. Soil not submitted for laboratory analyses will be returned to the boring location. Excess annular space at each of the boring locations will be filled with Type I Portland Cement (i.e., no additives) to the surface. Once collected, the samples shall be placed on ice in preparation for shipment to the laboratory.

Equipment Decontamination

The equipment involved in field sampling activities will be decontaminated prior to and during sampling activities in accordance with FDEP SOP FC1000: Cleaning/Field Decontamination Procedures. Non-disposable equipment used for collecting samples will be decontaminated prior to beginning field sampling and between sample locations.

Sample Handling

Sample handling includes the selection of sample containers, preservatives, allowable holding times, and the analyses requested. Sample handling procedures will be conducted in accordance with FDEP SOP 001/01 FS1000 and FS2200.

Sample Nomenclature

Sample identifications shall have a sample prefix (MPT) to designate which installation the samples are collected from, followed by the SWMU number, the sample location number, and the sample depth interval.

Example: MPT-44-SB05-0204

This example is representative of a sample collected from NAVSTA Mayport, SWMU 44, location SB05, and collected at a depth of 2 to 4 feet bls. The sequence number will be representative of the depth of the soil sample interval.

Sample Custody, Packaging, and Shipping

Sample custody must be maintained and documented at all times. Chain-of-custody begins with the collection of the samples in the field. FDEP SOP 001/01 FS 1000 and Tetra Tech SOP SA-6.3 provide a description of the chain-of-custody procedures to be followed.

Samples will be packaged and shipped in accordance with FDEP SOP 001/01 FS1000: General Sampling and applicable sections of FS2200 and FS3000. FS1000 also addresses the topics of containers, holding times, and sample preservations. The Field Operations Leader will be responsible for completion of the following forms when samples are collected for shipping:

1. Sample labels
2. Chain-of-custody labels
3. Appropriate labels applied to shipping coolers
4. Chain-of-custody forms
5. Federal Express air bills

Samples will be shipped to the laboratory.

Analytical Methods

Soil samples collected from boring locations MPT-44-SB05, MPT-44-SB08, MPT-44-SB14, MPT-45-SB09, MPT-45-SB07, and MPT-45-D3 will be analyzed for BAP equivalents using United States Environmental Protection Agency Method SW846 8270C SIM. A list of the specific BAP equivalent contaminants and their associated Toxic Equivalency Factors can be found in Table 1.

Soil samples collected from boring location MPT-44-SB14 will be analyzed for TPH fractionation using the Total Petroleum Hydrocarbon Criteria Working Group.

Table 1 – BAP Equivalents

Contaminant	Toxic Equivalency Factor
Benzo(a)pyrene	1.0
Benzo(a)anthracene	0.1
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.01
Chrysene	0.001
Dibenz(a,h)anthracene	1.0
Indeno(1,2,3-cd)pyrene	0.1

Quality Control (QC) Samples

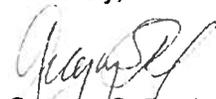
QC samples will be collected during the soil assessment event in general accordance to FDEP SOP 001/01 FQ1000: Field Quality Control Requirements. Appropriate documentation of QC samples will be collected or generated during environmental sampling activities. QC samples will be collected in accordance with the requirements established during the Plan of Action negotiations.

Equipment Rinsate and Field Blanks – Equipment blanks are required if sampling equipment is reused during the investigation. Appropriate equipment blanks must also be collected from any pre-cleaned or disposable sampling equipment. A minimum of one blank is required and, additionally, one blank is required for every 5 percent of soil samples collected.

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) – At least one MS/MSD sample or 5 percent of all samples in a sample set will be required.

If you have any questions with regard to this submittal, please do not hesitate to contact me by telephone at (904) 730-4669, extension 215, or via e-mail at Gregory.Roof@TetraTech.com.

Sincerely,



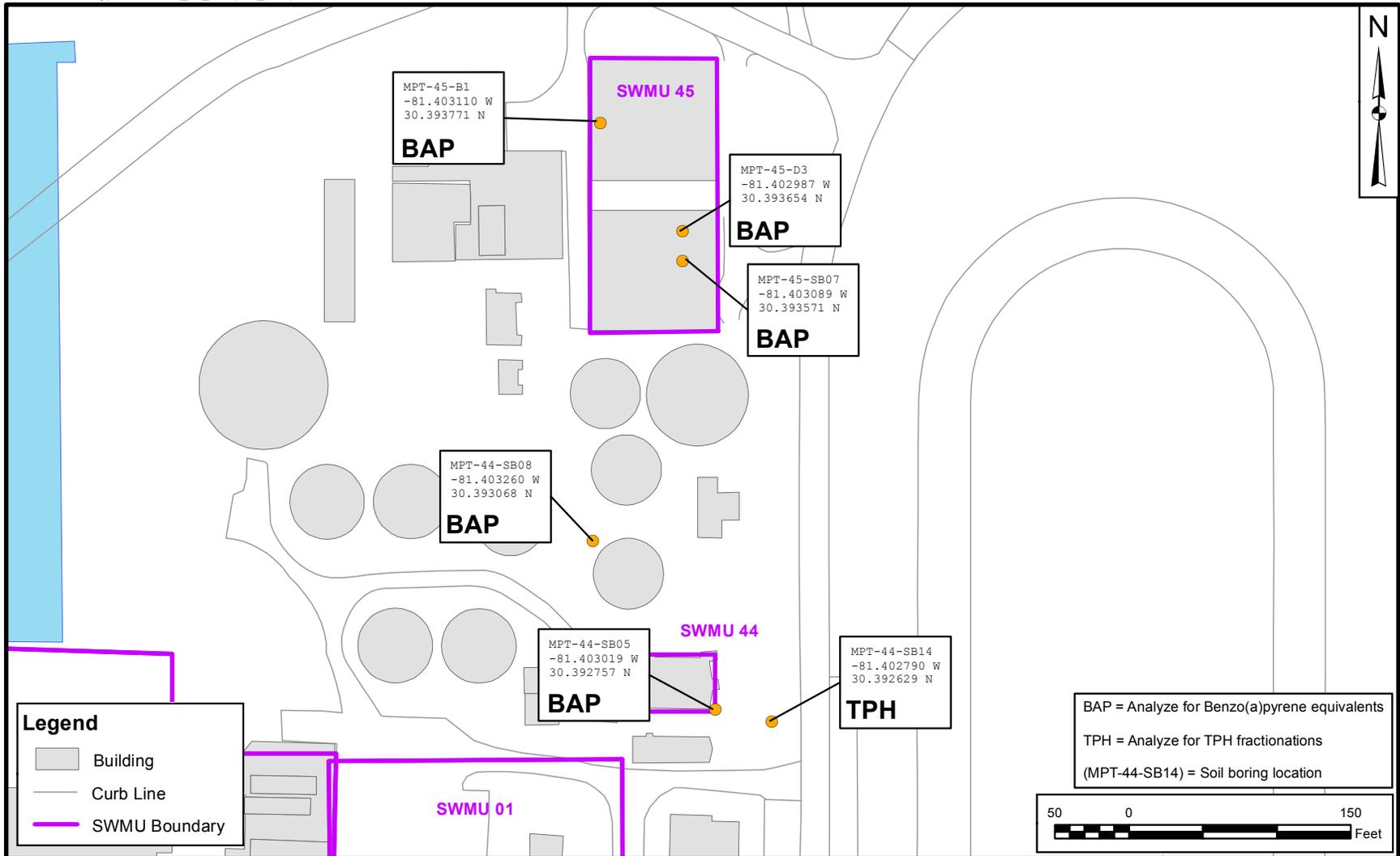
Gregory S. Roof, P.E.
 Project Manager

GSR/df

Enclosure (1)

- c: John Winters, FDEP (electronic only)
 Paul Malewicki, NAVSTA Mayport (1 hardcopy, 1 CD)
 RDM, Tetra Tech Pittsburgh (unbound, CD)
 Administrative Record (electronic only)
 CTO 0033 Project File

FIGURE



BAP = Analyze for Benzo(a)pyrene equivalents
 TPH = Analyze for TPH fractionations
 (MPT-44-SB14) = Soil boring location

DRAWN BY	DATE
J.MADDEN	05/28/2013
CHECKED BY	DATE
D.FEARS	05/28/2013
REVISED BY	DATE
SCALE AS NOTED	



SAMPLE LOCATIONS
SWMUs 44 AND 45
NAVAL STATION MAYPORT
JACKSONVILLE, FLORIDA

CONTRACT NUMBER CTO 0033	
APPROVED BY	DATE
APPROVED BY	DATE
FIGURE NO. Figure 1	REV 0