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LETTER AND ATTACHED TABLE AND FIGURE FOR THE FINAL SAMPLING AND ANALYSIS
PLAN ADDENDUM NUMBER 2 PHASE 3 REMEDIAL INVESTIGATION FIELDWORK AT SITE
67 HOG OUT FACILITY NSWC INDIAN HEAD MD
10/30/2015
TETRA TECH



October 30, 2015

NOR-02171
Project Number 2622

NAVFAC Washington
Attn: Mr. Joe Rail, P.E. (Code OPB1E)
Washington Navy Yard, Building 212
1314 Harwood Street, SE
Washington, DC 20374-5018

Ref: CLEAN Contract No. N62470-08-D-1001
Contract Task Order JU11

Subject: Final Sampling and Analysis Plan (SAP) Addendum Phase 3 Fieldwork
Remedial Investigation (RI) at Site 67 – Hog-Out Facility
Naval Support Facility (NSF) Indian Head, Maryland

Dear Mr. Rail:

Enclosed are the (1) sample details table and (2) sample location figure for the upcoming Phase 3 RI fieldwork at Site 67 – Hog-Out Facility. These two items comprise the *SAP Addendum (No. 2) for the Phase 3 Remedial Investigation Fieldwork at Site 67 – Hog-Out Facility, NSF Indian Head, Maryland*. The expanded sampling (Phase 3 RI) at Site 67 was scoped with the Partnering Team during the August 2015 Partnering Meeting. This work is being completed under Concurrence Letter approved in October 2015. The Phase 3 fieldwork is tentatively scheduled to occur in November 2015.

Additional copies were distributed as shown below. Please contact me at 757-466-4908 or ed.corack@tetrattech.com if you have any questions.

Respectfully,

Tetra Tech

A handwritten signature in black ink, appearing to read 'Ed Corack'.

Ed Corack, P.E.
Project Manager

Enclosure

c: Mr. Travis Wray, NAVFAC Washington, NSF Indian Head
Mr. Rob Thomson, EPA Region 3
Mr. Curtis DeTore, MDE
Admin Record – NIRIS RDM
Project File

Sample Details Table

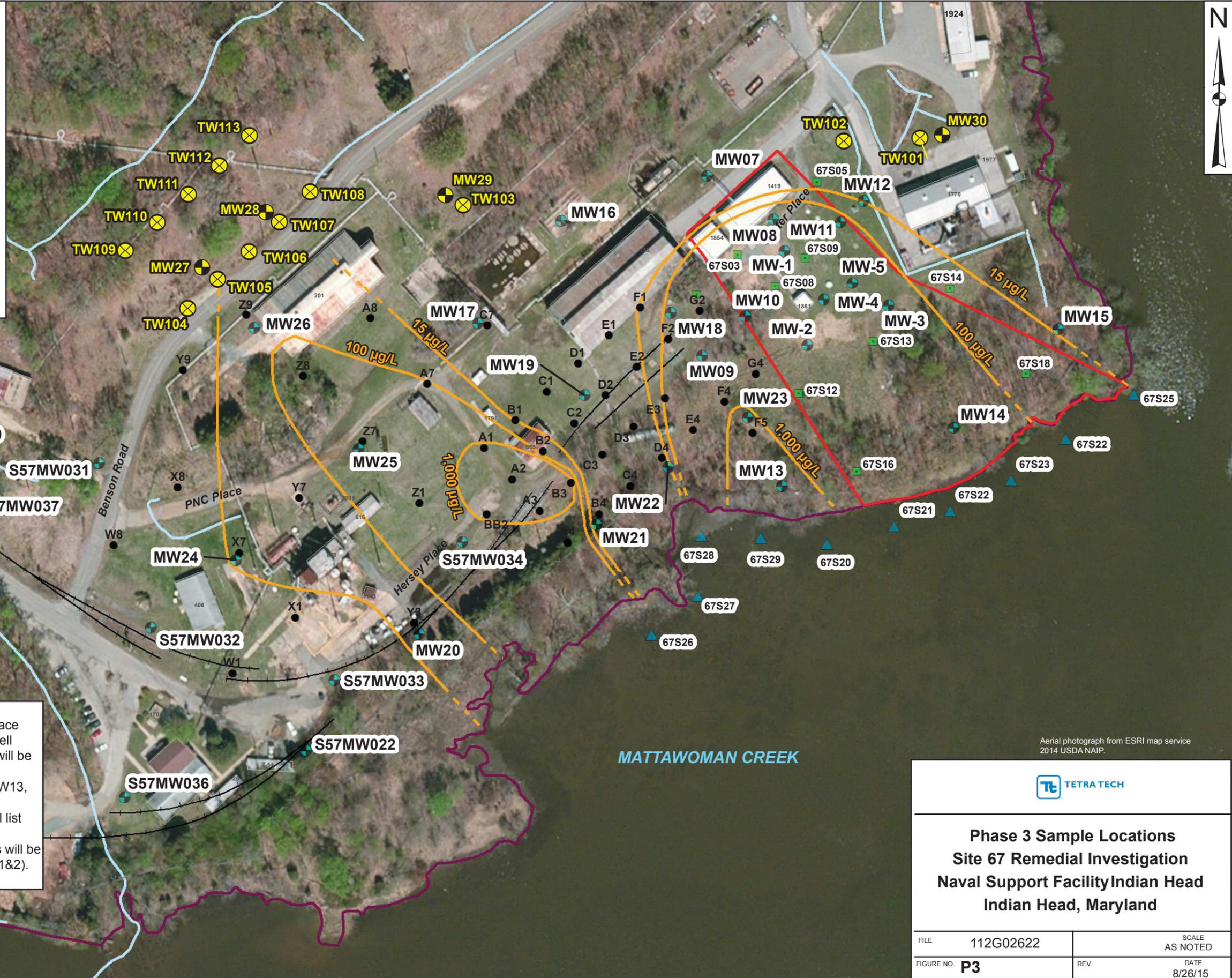
(UFP-QAPP Manual Sections 3.1.1 and 3.5.2.3 – WSS #18, 19, 20 and 30)

The table below provides the sample IDs, analyses, and QA/QC for all samples to be collected during the Phase 3 Remedial Investigation (RI). This table and accompanying Figure P3 – Sample Locations comprise the “SAP Addendum.”

Site	Station ID	Matrix	Sample ID	Depth/ Sampling Interval	Analyses ⁽¹⁾						Rationale and Comments
					Perchlorate	Full TAL Metals (total & dissolved)	Select Metals (total & dissolved for groundwater)	Select SVOCs (Phthalates and PAHs)	Select Energetics	Nitrate and Nitrite	
Site 67	DPT Groundwater Grabs				Expand DPT investigation area to bound perchlorate plume(s).						
	S67TW101 (S67S101) through S67TW113 (S67S113)	Groundwater	S67-TW101-tbdb through S67-TW113-tbdb	interval above clay	X (24-hr)						These groundwater grab samples will be collected using the DPT sampler tool. The exact count may change pending results of quick turnaround perchlorate data. Two field duplicates (TW###P) to be collected at locations determined in the field.
	Existing Monitoring Wells				Analyze for full list of TAL Metals to characterize groundwater in vicinity of high-concentration metals in soil realized during Phase 2 RI test trenching south of Building 135 at the historic hog-out unloading area.						
	S67MW13	Groundwater	S67-MW13-mmddy	10 ft bgs (middle of screen)		X					MW13 installed during Phase 1 RI in August 2013
	S67MW18	Groundwater	S67-MW18-mmddy	middle of screen		X					MW18 installed during Phase 2 RI in May 2015
		Groundwater	S67-MW18P-mmddy	middle of screen		X					Field Duplicate – monitoring well groundwater
	S67MW22	Groundwater	S67-MW22-mmddy	middle of screen		X					MW22 installed during Phase 2 RI in May 2015
	S67MW23	Groundwater	S67-MW23-mmddy	middle of screen		X					MW23 installed during Phase 2 RI in May 2015
	New Monitoring Wells (to be installed)				Bound perchlorate plume(s) based on expanded DPT investigation data. Sample for same parameters as during Phases 1 and 2 of the RI.						
	S67MW27 / S67S050	Groundwater	S67-MW27-mmddy	middle of screen; tbd	X		X	X	X	X	New well MW27
		Groundwater	S67-MW27P-mmddy	middle of screen; tbd	X		X	X	X	X	Field Duplicate – monitoring well groundwater
		Surface soil	S67-SS50-tbdb	0 – 6 inches	X		X	X	X		
		Surface soil	S67-SS50P-tbdb	0 – 6 inches	X		X	X	X	X	Field Duplicate – surface soil
		Subsurface Soil	S67-SB50-tbdb	interval above water table; tbd	X		X	X	X		
		Subsurface Soil	S67-SB50P-tbdb	interval above water table; tbd	X		X	X	X		Field Duplicate – subsurface soil
	S67MW28 / S67S051	Groundwater	S67-MW28-mmddy	middle of screen; tbd	X		X	X	X	X	New well MW28
		Surface soil	S67-SS51-tbdb	0 – 6 inches	X		X	X	X		
S67MW29 / S67S052	Groundwater	S67-MW29-mmddy	middle of screen; tbd	X		X	X	X	X	New well MW29	
	Surface Soil	S67-SS52-tbdb	0 – 6 inches	X		X	X	X			
S67MW30 / S67S053	Groundwater	S67-MW30-mmddy	middle of screen; tbd	X		X	X	X	X	New well MW30	
	Surface Soil	S67-SS52-tbdb	0 – 6 inches	X		X	X	X			

Notes:
 See proposed sample locations on Figure SL1. Count and configuration of DPT grab groundwater samples (temporary wells) may change pending utility clearances and perchlorate data. Monitoring well locations may be adjusted based on DPT groundwater perchlorate results.
 tbd – to be determined. mmddy – two digit month, two-digit date, two-digit year of sample collection. tbdb – two digit top depth and two digit bottom depth of sample interval.
 1. See specific analytes in Section 9 of the Phase 2 SAP Addendum (Tetra Tech, 2015). Select SVOCs consist of all the phthalates and PAHs. Select Metals consist of Aluminum, Boron, Lithium, and Zinc. Select Explosives consist of 2,4-Dinitrotoluene; 2,6-Dinitrotoluene; HMX, RDX, Nitroglycerin, and Tetryl.
 2. See field QA/QC details in Section 6 of Phase 2 SAP Addendum (Tetra Tech, 2015). Equipment blank IDs shall be as follows: S67-EB01-mmddy. MS/MSDs will retain same sample ID as parent sample (*do MS/MSD* will be noted on the chain-of-custody form).

- Legend**
- DPT Location from RI Phases 1&2
 - Existing Monitoring Well
 - Surface Soil from RI Phases 1&2
 - ▲ Surface Water/Sediment from RI Phases 1&2
 - Proposed New Monitoring Well for RI Phase 3
 - Proposed New DPT Location for RI Phase 3
 - × — Fence Line
 - Railroad Centerline
 - Surface Water Centerline
 - Perchlorate Isoconcentration Contour
 - - - Perchlorate Isoconcentration Contour Inferred
 - Approximate IR Site Boundary
 - Facility Boundary

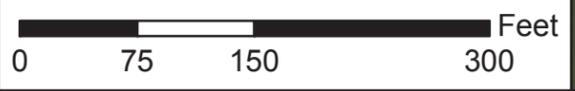


Notes:
 Phase 3 Soil Sampling: As part of the Phase 3 RI, surface soil samples will be collected at each new monitoring well location MW27-MW30. Also, subsurface soil samples will be collected at MW27.
 Phase 3 Monitoring Wells: Existing monitoring wells MW13, MW18, MW22, and MW23 located at and south of the historical hog-out unloading area will be sampled for full list TAL Metals analysis (to supplement groundwater data collected during RI Phases 1&2). New monitoring wells will be sampled for all site-related COCs (same as RI Phases 1&2).

Aerial photograph from ESRI map service
 2014 USDA NAIP.



**Phase 3 Sample Locations
 Site 67 Remedial Investigation
 Naval Support Facility Indian Head
 Indian Head, Maryland**



FILE	112G02622	SCALE	AS NOTED
FIGURE NO.	P3	REV	DATE
			8/26/15

NOR: P:\GIS files\IndianHead_NSWC\MapDocs\MXD\Site 67\Site67_samples 082615_aerial.mxd MMC