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U S NAVY RESPONSES TO MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL  
PROTECTION COMMENTS TO DRAFT SAMPLING AND ANALYSIS PLAN INDUSTRIAL  
OPERATIONS AREA NAS SOUTH WEYMOUTH MA

7/11/2011  
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**NAVY RESPONSES TO MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION  
(MASSDEP) COMMENTS (DATED JULY 11, 2011) ON  
NAVY'S RESPONSES TO COMMENTS (DATED JUNE 29, 2011)  
DRAFT SAMPLING AND ANALYSIS PLAN, INDUSTRIAL OPERATIONS AREA  
FORMER NAVAL AIR STATION SOUTH WEYMOUTH, WEYMOUTH, MASSACHUSETTS**

Responses to the MassDEP comments on the Navy's June 29, 2011 Responses to Comments (RTCs) on the Draft Sampling and Analysis Plan (SAP) for the Industrial Operations Area are presented below. The MassDEP comments are presented first (in italics) followed by Navy's responses. The comment numbers refer to the prior set of MassDEP comments.

Note that these responses reflect discussions at the July 7, 2011 BCT meeting and further clarifications from MassDEP. As such, these responses supersede Navy's previously suggested changes to the subsurface soil sampling effort and refocus the sampling design on the RIA 33 and RIA 82 areas.

***MassDEP Response to Comment 1.A: OK.***

**Response:** Surface soil dioxin samples will be collected at locations indicated in Figure 5 and discussed in WS #11 of the draft final SAP.

***MassDEP Response to Comment 1.B: OK (assuming a "worst-case depth interval" sample will be collected from EU-37 and EU-38 for dioxin analysis).***

**Response:** MassDEP has confirmed that dioxin is not a concern in the subsurface soils. Therefore Navy's prior response to this comment is withdrawn and subsurface soil samples will not be collected for dioxin analysis. Figure 6 of the SAP has been replaced by new Figures 6 and 7 to reflect the subsurface soil sampling locations for RIA 33 and RIA 82, respectively. Surface soils will be collected for dioxin analysis from EU-37 and EU-38, as requested in previous MassDEP comments, to address concerns about the proximity to the coal ash management area.

***MassDEP Response to Comment 2.A: The sampling program for RIA 33 should be designed to determine whether or not further action is necessary to address the screening exceedances that were reported in the confirmation samples collected during the 2000 floor drain removal action (refer to Removal Action Report for Floor Drain System Removals, Building 117, dated April 2001). To accomplish this, the following confirmation sample locations should be targeted for additional sampling to assess the magnitude and extent of VOCs and PAHs contamination in underlying soil: 117-S1W-SL-0+03, 117-S1W-WL-0+10, 117-S1W-0+61, 117-S1W-0+05, and 117-S1W-0+43.***

*Assuming these releases originated at breaches in the floor drain system and migrated downward and to a lesser extent laterally from those points, I recommend the following sampling approach: at each confirmation sample location, field screen soil in the depth interval between the confirmation sample depth and 1 foot beneath the water table (potential smear zone) at three relative positions: (a) directly beneath the confirmation sample point, (b) 5 feet laterally from confirmation sample point, and (c) 5 feet laterally in the opposite direction from the confirmation sample point (e.g., toward the opposite end of a floor drain excavation) for VOCs and PAHs using field observations and semi-quantitative analytical methods (e.g., headspace and immunoassay) and resample the soil with the highest screening hits (default to water table beneath confirmation sample location) for lab analysis of VOCs and PAHs (or EPH). If the results from a lab sample do not exceed screening levels, I think we will be able to conclude that the associated release is not significant because of limited magnitude and extent. If there are exceedances, I think we will have enough information (i.e., estimate of magnitude and extent) to determine that the impacted region does or does not pose an unacceptable risk and consequently does or does not warrant further action.*

**Response:** Samples from five sets of three borings (five previous confirmation sample locations and two associated step out locations for each previous confirmation sample) will be screened in the field using a PID and PetroFLAG analyzer (see Figure 6 of the draft final SAP). Soil samples will be collected

continuously at each location from below the depth of the previous confirmation sample (2.5 to 3 feet bgs) to the water table. The highest field screening result from each set of three borings (previous confirmation sample location and 2 step out locations) will be sent to the laboratory for VOC, PAH, and metals analysis. Note that the analyte groups for these samples will not include PCBs and dioxins as indicated in the draft SAP. Navy has retained analysis for metals to ensure an adequate characterization of the subsurface soil in this area. If there is no evidence of contamination, the sample will be collected at the water table beneath the previous confirmation sample location.

**MassDEP Response to Comment 2.B:** *The sampling program for RIA 82 should be designed to determine whether or not further action is necessary to address the PAHs reported in sample SB06-011(8-10), which was collected between Building 117 and Building 8 at a depth of 8 to 10 feet below grade. Based on the response to comments, I understand that the Navy is willing to conduct limited confirmation sampling (two samples) at RIA 82. While this is an acceptable first step, available data indicate that it is not likely to be sufficient to reach a regulatory endpoint; the data indicate the release at RIA 82 could be extensive: the magnitude of the release is well above screening concentrations (total PAHs ~150 mg/kg), the depth of the release suggests that contamination has migrated laterally in groundwater, and there is no obvious source at the location where sample SB06-011(8-10) was collected, but there is a known petroleum release area ~50 feet to the east (Building 8 Site).*

*Because of these circumstances, I would recommend a sampling approach that is more likely to lead to a determination of the magnitude and extent of a release. For example, field screen subsurface soil samples collected at the water table from locations on a 10-foot grid extending outward from sample location SB06-011(8-10) for PAHs using field observations and semi-quantitative analytical methods (e.g., headspace and immunoassay) until the limits of the release are established, and then use the screening results to resample representative locations for lab analysis of PAHs (or EPH). The results from this program should be sufficient to determine the magnitude and extent of the release and determine whether or not the impacted region poses an unacceptable risk that warrants further action.*

*If the Navy is only willing to collect two samples for laboratory analysis at this point, I would recommend the following sample locations for PAHs (or EPH): (1) resample the soil sampled at SB06-011(8-10) to confirm previous results, and (2) sample soil 15 feet east of SB06-011(8-10) (approximately half-way between sample location SB06-011(8-10) and the Building 8 removal action area) at the water table to assess the potential connection to the Building 8 Site. We would expect the results to confirm the existence of the release and to indicate whether or not the release extends to and is part of the Building 8 Site or originates elsewhere. Delineation sampling would then be necessary to determine extent.*

**Response:** Samples will be collected based on a 10-foot grid (see Figure 7 of the draft final SAP) extending outward from sample location SB06-011(8-10). Subsurface soil samples will be collected at the water table and will be screened in the field using a PID and PetroFLAG analyzer. Subsurface soil samples will be collected at step out boring locations until PetroFLAG results are below 300 ppm. After the limits of the release are established (PetroFLAG results are below 300 ppm), confirmation samples will be collected from representative (high and low field screening) locations and analyzed for PAHs and metals at the laboratory. Navy has retained analysis for metals to ensure an adequate characterization of the subsurface soil in this area. One representative high sample and one representative low sample in each step out direction will be collected, if necessary, for a maximum of eight confirmation samples. If the PetroFLAG result at the initial step out sample location is below 300 ppm, then only one sample will be collected for laboratory analysis in that step out direction. Step out borings will continue as necessary to delineate the limits of the release, except to the east. Samples will not be collected in the previously excavated area associated with Building 8.

The following worksheets have been updated with the information from the above responses: #2, #9, #10, #11, #12, #14, #15, #17, #18b, #19, #20, #22, #23, #24, #25, #30, and #36.