N00101.AR.003217
NAS SOUTH WEYMOUTH
5090.3a

U S NAVY RESPONSE TO U S EPA REGION I 6 OCTOBER 2015 COMMENTS ON THE DRAFT FINAL REMEDIAL INVESTIGATION WORK PLAN TIER II SAMPLING AND ANALYSIS PLAN AQIFER PROTECTION DISTRICT AT HANGAR 1 DATED AUGUST 2015 FORMER NAS SOUTH WEYMOUTH MA

10/06/2015

RESOLUTION CONSULTANTS

NAVY RESPONSE TO EPA'S OCTOBER 6, 2015 COMMENTS ON THE NAVY'S DRAFT F I N A L REMEDIAL INVESTIGATION WORK PLAN/TIER II SAMPLING AND ANALYSIS PLAN; AQUIFER PROTECTION DISTRICT AT HANGAR 1 DATED AUGUST 2015
FORMER NAVAL AIR STATION SOUTH WEYMOUTH
WEYMOUTH, MASSACHUSETTS

GENERAL COMMENTS:

1. Groundwater flows in bedrock through fractures; therefore, bedrock characterization is always important when trying to determine proper placement of bedrock monitoring wells so the groundwater flow path in bedrock can be better understood. Please clarify how Navy will determine that bedrock monitoring wells are capturing groundwater representative of groundwater associated with potential source areas.

   Response: As the PFC sources at Hangar 1 originated at the surface, the most likely location to observe PFCs in bedrock is near the overburden monitoring well locations that are in close proximity to source areas. Navy has decided to conduct the investigation in a phased approach. Prior to finalizing the locations of bedrock wells, the wells originally proposed as bedrock wells will be installed as deep overburden wells, most of which are paired with shallow overburden wells. Once the overburden soil and groundwater data are evaluated, then the results and potential bedrock well locations will be discussed with EPA and MassDEP.

2. Please identify the discharge points for the stormwater drainage systems located northeast (8-inch diameter) and southwest (30-inch diameter) of Hangar 1. Limited soil sampling at these points would indicate if PFCs have migrated via the stormwater drainage system and if action is required at these locations.

   Response: The stormwater drainage system surrounding Hangar 1 discharges to the TACAN Ditch. A surface water and sediment sample were collected from the TACAN ditch in 2011. The results were well below Navy and Marine Corps Public Health Center (NMCPHC) calculated site-specific soil, sediment and surface water screening level values; therefore additional action is not warranted.

PAGE-SPECIFIC COMMENTS:

1. Page v – Please correct the acronym mg/kg to read: "Milligrams per kilogram". Also add µg/L as necessary.

   Response: Requested change will be made.

2. Page vi – Please correct the acronym U.S. EPA to read: "United States Environmental Protection Agency".

   Response: Requested change will be made.

3. WS 10-1, Section 10.2, ¶ 3 – Please edit the first sentence to read: "Aqueous film forming foam (AFFF) containing perfluorinated compounds (PFCs) was stored …."

   Response: Requested change will be made.

4. WS 10-7, Last sentence – Consistent with response to comment 20, please insert "ASTs and the former" after "in the vicinity of the former" in the last sentence.

   Response: Requested change will be made.

5. Figure 10-3 – Groundwater at Hangar 1 also flows to the southwest. Please include on figure.

   Response: Requested change will be made.

6. Page 10-13 - EPA disagrees that "Ecological receptors are not considered to contact groundwater under a current or future use scenario" because groundwater in the firefighting training area contains PFCs, and groundwater from the firefighting training area enters the east branch of French Stream. In addition, the TACAN ditch receives surface runoff and groundwater from the Hangar 1 area and eventually enters the west branch of French Stream. These potential ecological pathways should be addressed in the RI. EPA appreciates that Navy will include a literature review and evaluation of detected PFOS and PFOA concentrations and potential ecological pathways relative to ecological receptors. EPA requests that this literature review evaluate the literature concerning effects of PFOS and PFOA on aquatic organisms and compare the detected concentrations with such literature findings.

   Response: The last two sentences on Page 10-13 were modified to: *"~~Ecological receptors are not considered to contact groundwater under a current or future use scenario; however,~~ The RI report will include a literature review and evaluation of detected PFOS and PFOA concentrations and potential ecological pathways relative to ecological receptors. The review will evaluate the literature concerning effects of PFOS and PFOA on aquatic organisms and compare the detected concentrations with such literature findings."*

7. Page 11-1, Section 11.2 – PSQ3: please edit to read "… under the Hangar 1 site …."

   Response: Requested change will be made.

8. Page 11-2, Section 11.3, fourth bullet – This language references the date of U.S. EPA RSL Calculator as June 2014, but Worksheet 15 refers to June 2015 for the EPA RSL Calculator. Please correct the date discrepancy.

   Response: The date was corrected to June 2015.

9. Page 11-4, Section 11.5, DR#2 – Insert "… recommended for groundwater." at the end of the last sentence.

   Response: Requested change will be made.

10. Page 11-4, Section 11.5, DR#3 – Insert "… recommended for soil." at the end of the last

    Response: Requested change will be made.

11. Page 14-3, ¶ 2 – Please clarify that the deeper overburden well screens will be set at the top of competent bedrock. Weathered bedrock is considered equivalent to overburden.

    Response: Requested clarification will be made.

12. Page 14-3, ¶ 3 – The bedrock well screens need to be set in competent bedrock to ensure screens are isolated from overburden/weathered bedrock. Therefore, please plan to set the top of the bedrock well screens at least two feet into competent bedrock.

    Response: Requested change will be made.

13. Page 17-1, Table 17-1 – The overburden well screen settings as indicated in this table are not consistent with the intent expressed on page 14-3 paragraph two which indicates that well screen settings close to the assumed source areas will be set across the groundwater table. Please indicate in this table which well screens will be set across the water table and which will be set at the top of the bedrock/overburden interface.

    Response: Wells H-1-MW-110, H-1-MW-112, H-1-MW-113, and H-1-MW-114 were corrected to indicate that they would be set across the water table.

14. Page 17-2, Table 17-1 – Please revise the bedrock well settings to require that the top of the 10-foot long well be set at least two feet lower than the elevation of competent bedrock to ensure isolation from overburden/weathered bedrock.

Response: Requested change will be made.

15. Page 17-4, Table 17-2 – Please correct the description for H1-MW-110 to indicate that it will be completed as an overburden monitoring well.

    Response: Requested change will be made.

16. Page 18-2 – For consistency for the optional wells, use 1 as the sample number, which is the intent if these wells are installed.

    Response: Requested change will be made.

17. Page 18-3 – For the optional well, use 1 as the sample number, which is the intent if this well is installed.

    Response: Requested change will be made.

18. Page 18-4 – For the optional boring include both sample intervals and use 1 as the sample number for each interval, which is the intent if this boring is installed.

    Response: Requested change will be made.

19. Page 18-5 – Please correct the description of "X'-X'" to read: soil sample interval in feet bgs.

    Response: Requested change will be made.

20. Page 22-1 – Please indicate if ORP readings will be corrected to and reported relative to the Standard Hydrogen Electrode or if they will be reported relative to the silver-silver chloride electrode. What calibration solution will be used?

    Response: ORP readings will be collected with a YSI meter calibrated with a 100 milli-volt calibration solution, and reported relative to the silver-silver chloride electrode.

21. SAP Worksheet 23 (revised page WS-23-1) - Lab SOP number DV-LC-0012 indicates that multiple PFCs and PFSs are analyzed by the LC/MS/MS, Revision 9.2, July 2012 method ("Analysis of Perfluorooctanoic Acid (PFOA) and other Perfluorinated Hydrocarbons (PFCs and Perfluorinated Hydrocarbon Sulfonates (PFSs) in Water and Soil by LC/MS/MS". As requested previously, EPA requests again that all of the results of this analysis be reported so that there is an idea of the total PFC concentrations in soil and groundwater. Although there are no toxicity values for PFCs other than PFOA and PFOS, EPA will start to develop toxicity values for other PFCs in 2016. Therefore, EPA will be unable to agree that future risk is acceptable until it can assess whether or not there is a reservoir of higher chain length PFCs in soil and groundwater that can potentially degrade into PFOS and PFOA over time.

    Response: It is currently the Navy's policy that investigations should focus on PFCs with available Provisional Health Advisory (PHA) values. Currently PFOS and PFOA are the only two PFCs with available PHA values. Sampling and analysis of additional PFCs may be included in the future to facilitate remedial design or when the state of the science improves and additional PHA values are established.