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LETTER AND COMMENTS FROM U S EPA REGION I REGARDING DRAFT
PERFLUORINATED COMPOUNDS IN GROUNDWATER PROJECT REPORT REVIEW ITEM
AREA 11 NAS SOUTH WEYMOUTH MA
08/19/2010
U S EPA REGION I



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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BOSTON, MA 02109-3912

August 19, 2010

Mr. Brian Helland, RPM
BRAC PMO, Northeast
4911 South Broad Street
Philadelphia, Pennsylvania 19112

Re: EPA Comments on Perfluorinated Compounds in Groundwater Project Report

Dear Mr. Helland:

We have completed our review of the report entitled *Perfluorinated Compounds in Groundwater Project Report, Naval Air Station South Weymouth* dated July 2010 and offer the following comments:

1. It does not appear that MW05-301 is an adequate background well at Hangar 1. As noted in my email on April 12, 2010 on our review of the SAP for this project, we had expressed concern about using this monitoring well as a background well due to its proximity to Hangar 1. The background concentration of PFOA/PFOS in groundwater should be determined by sampling further upgradient than MW05-301; perhaps from some of the non-contaminated locations that were used for basewide background.
2. Additional groundwater samples should be taken to the east of the Fire Fighter Training Area, to the west of Hangar 1, and to the south of PZ11D to adequately bound the extent of contamination. A cost-effective way of providing additional spatial coverage may be the use of a direct-push rig.
3. The occurrence of PFOS/PFOA in groundwater at high concentrations near the probably sources indicates there is a continuing source in soil or that it is being formed and leached from precursor components in the AFFF; therefore, it is necessary to collect and analyze soil samples for PFOS/PFOA to determine the extent of contamination and to evaluate whether there is a relationship between concentration in soil and concentration in groundwater. This may most effectively be accomplished by taking soil samples in the immediate vicinity of the monitoring wells that were sampled for PFOS/PFOA. A subset of these soil sampling locations should be sampled for both surface and subsurface soils to evaluate whether the source material has migrated vertically over time. The results should be evaluated to determine whether there is a relationship between concentrations in soil and underlying groundwater and to evaluate the potential mass of PFOS/PFOA remaining in the source areas. The co-located soil/groundwater data will also serve to evaluate whether PFOS/PFOA is being formed from precursor AFFF components, as would be suggested by finding higher concentrations in groundwater than in soil.

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4. In addition, PFOS/PFOA should be analyzed in sediment samples from the TACAN downstream from Hangar 1, in the west branch of French Stream immediately downstream from the confluence with the TACAN ditch, in the east branch of French Stream downstream from the FFTA, and in Old Swamp River upstream from the RDA to determine the extent of contamination in sediment. The sample in Old Swamp should be collected because the area upstream from RDA is fed by groundwater between it and the FFTA. One sample should also be taken from the most downstream section of French Stream on Navy property. Background sediment samples should be taken from one or more locations from the Westgate Landfill in the west branch of French Stream and upstream from the FFTA, if possible, perhaps from the upgradient wetland. The high concentrations in the FFTA groundwater suggest that PFOS/PFOA is being released to gaining sections of the east branch of French Stream via groundwater.
5. If PFOA/PFOA is detected in sediment, surface water samples should be collected and analyzed to determine extent of contamination and whether the sediment contamination is being released to surface water primarily via the sediment, or via emerging contaminated groundwater. This may most efficiently be conducted by collecting both sediment and surface water samples at the same time in areas of emerging groundwater (as detected by temperature or conductivity differential).
6. If PFOS/PFOA is detected in the sediment of French Stream or Old Swamp River, it may be necessary to collect fish from these areas and appropriate reference areas to determine the extent of contamination.
7. On page 4, section 2.3 of the report, the reader is directed to the Appendices for low-flow log sheets. It is recommended that the field parameters be tabulated and included in the print document. This would allow a quick assessment of potential relationships between water quality parameters and the analytical results for the PFCs. In particular, it is known that the PFCs sorb to solid surfaces, so that sample turbidity may influence the analytical results. As it turns out in the present case, the suite of wells for this investigation generally exhibited reasonably low turbidity. The highest recorded was 9.2 NTU at MW01-093, where PFOA and PFOS were both below the HA screening values

If you have any questions, or wish to discuss these comments, please do not hesitate to contact me.

Sincerely,



Paul N. Marchessault, Remedial Project Manager
Federal Facilities Superfund Section

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