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LETTER AND COMMENTS FROM U S EPA REGION I REGARDING LONG TERM MONITORING ANNUAL REPORT 2009 FOR RUBBLE DISPOSAL AREA OPERABLE UNITS 2 (OU 2) AND 9 (OU 9) NAS SOUTH WEYMOUTH MA
04/13/2010
U S EPA REGION I

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION I
5 Post Office Square, Suite 100
Boston, MA 02109-3912

April 13, 2010

Brian J. Helland, P.E.
BRAC Program Management Office NE
4911 South Broad Street
Philadelphia, PA 19112-1303

Re: Long-Term Monitoring Annual Report – 2009 for the Rubble Disposal Area

Dear Mr. Helland:

Thank you for the opportunity to review the *Long-Term Monitoring Annual Report – 2009 for the Rubble Disposal Area* dated March 2010. The report summarizes analytical results from two rounds of sampling conducted during 2009, the third year of long-term monitoring. Analytical results generally are consistent from round to round through the first three years of LTM. Detailed comments are provided in Attachment A. Notable results from 2009 include:

- Arsenic, benzo(a)pyrene, and manganese are named in the ROD as groundwater COCs. Arsenic was detected at concentrations below the remedial goal (MCL) (maximum 6.2 J ppb (September 2009) at MW-50D). Benzo(a)pyrene was not detected at the detection limit (1 J ppb) at MW-50D2 and TT07, below the RG of 0.2 ppb. Manganese was detected in groundwater at very high concentrations; maximum manganese in 2009 was 20.1 mg/L (March 2009), at TT04. Manganese was observed at all wells except TT06 at concentrations well above the remedial goal of 0.313 mg/L, and results have generally been quite stable over the first three years of monitoring (*e.g.,* Fig. 3-1). Manganese concentrations in 2009 ranged from 1.9 to 20.1 mg/L.

- The LTMP requires analysis of PCBs in groundwater, and the text in Section 2.3 (page 2-4) indicates that this was done in both 2009 sampling rounds. However, the data tables (Tables 3-1 and 3-2; Appendix A) do not include any entries for PCBs, and the text (*e.g.,* Section 3.1) offers no discussion of results. Were the groundwater samples analyzed for PCBs in 2009? Please discuss the analytical results for PCBs, even if all ND, in Section 3.1, because the presence of PCBs in the fill and associated sediment was a major driver of the remedy.

- VPH (C5 – C8 aliphatics; C9 – C12 aliphatics) were detected in groundwater in wells within and downgradient of the center of the landfill (TT03, TT05, TT07), with a maximum of 0.27 mg/L for C5 – C8 aliphatics at TT05 in September 2009 (compare to MMCL 0.3 mg/L).

- Surface water sampling and analysis showed low-level detections of VOCs and PAHs. Manganese was detected at concentrations up to 18.6 mg/L (dissolved, at SW03, September 2009), possibly representing locally discharging groundwater. The surface water along the central portion of the landfill (SW01, -02, -03) was reducing.

- Landfill gas monitoring yielded consistent results from round to round. Gas probes at the northern and western perimeter, and gas vents at the center of the landfill, showed elevated methane.

The report notes (page 2-8, Section 2.6) that weather conditions at the time of gas vent and probe sampling are noted in the semi-annual reports. Please record barometric pressure at the time of the sampling and report it with the gas analytical data. Typically, the vadose zone beneath the cap 'exhales' when atmospheric pressure is relatively low, resulting in higher methane concentrations at the perimeter probes. Barometric pressure can provide significant insight into the gas detections.

I look forward working with you and the Massachusetts Department of Environmental Protection on the investigation and remediation of the remaining sites. Please do not hesitate to contact me at (617) 918-1385 should you have any questions.

Sincerely,

Kymberlee Keckler, Remedial Project Manager
Federal Facilities Superfund Section

Attachment

cc: Dave Barney, USN, South Weymouth, MA
Dave Chaffin, MADEP, Boston, MA
Kevin Donovan, SSTTDC, South Weymouth, MA
Phoebe Call, TTNUS, Wilmington, MA

ATTACHMENT A

Page	Comment
p. 3-11, §3.3.5	Given that the elevated manganese in groundwater appears to be a site-related impact, EPA recommends that results for manganese in sediment be discussed. One motivation for analyzing for metals in the sediment in LTM is to verify that concentrations of redox-sensitive metals do not increase over time owing to accumulation from discharging groundwater. Please discuss the analytical results for manganese in sediment. In 2009, results ranged from 348 to 2250 mg/kg, in comparison to a range of 170 to 1280 mg/kg in the site RIs, 56 to 3690 mg/kg in the basewide background sediment data, and 149 to 8880 mg/kg in the USGS Old Swamp River data (a sample adjacent to the RDA yielded 4030 mg/kg manganese).
p. 4-2, §4.1	The second bullet under Groundwater notes that the RG for manganese (0.313 mg/L) is less than the basewide background value (2.68 mg/L) by nearly an order of magnitude. Please also note that the maximum manganese detection at the RDA (20.1 mg/L) is also an order of magnitude higher than the basewide background value. As EPA has stated previously, EPA believes that the Navy must establish an appropriate background concentration for manganese in groundwater. EPA does not agree with the Navy's number.
p. 4-5, §4.1	The third bullet discusses some metals and cyanide results for sediment. Please expand this discussion to summarize results for manganese in sediment, given the importance of manganese in groundwater at the site. Consider including a statement about the range of manganese concentrations observed in sediment in the reporting period (348 to 2250 mg/kg). Even though there is no remedial goal specified for manganese in sediment, some appropriate comparison might be offered (*e.g.,* to background).