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LETTER REGARDING U S EPA REGION I REVIEW OF RESPONSE TO COMMENTS ON  
EXPLANATION OF SIGNIFICANT DIFFERENCES FOR RUBBLE DISPOSAL AREA  
OPERABLE UNITS 2 (OU 2) AND 9 (OU 9) NAS SOUTH WEYMOUTH MA  
07/12/2010  
U S EPA REGION I



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION I**

5 Post Office Square, Suite 100  
Boston, MA 02109-3912

July 12, 2010

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

Re: Explanation of Significant Differences for the Rubble Disposal Area

Dear Mr. Helland:

EPA reviewed the Responses to Comments on the draft Explanation of Significant Differences (ESD), Rubble Disposal Area, Naval Air Station South Weymouth dated June 1, 2010. Our review generally focused on the Navy's assessment of the time needed for MNA to reduce manganese concentrations to acceptable levels at the RDA. Our review neither evaluates whether MNA is working at the RDA nor provides detailed technical comments.

Manganese in groundwater is likely to remain elevated at the RDA and elsewhere across the base. While the source of manganese is naturally occurring, the RDA may have contributed to its release by creating low-ORP conditions. However, the extent to which the ORP in the vicinity of the RDA will rebound toward more oxidizing conditions, and the time scale on which this will happen, are currently not known. Also, the mechanism(s) responsible for controlling manganese solubility at the RDA are not completely known. Although EPA recognizes that significant uncertainties are associated with the calculated time to reach oxidizing conditions that will reduce manganese concentrations, it seems unlikely that ORPs will reach +500 mV, the value at which  $Mn^{2+}$  will precipitate as  $MnO_2$ . Also, it is unknown whether the target ORP will ever be reached given the pervasive presence of naturally occurring organic carbon in the vicinity of the RDA. Despite the significant uncertainties and extended cleanup timeframes, EPA agrees, subject to agreement on our additional comments below, that MNA is an appropriate solution because the water will not be used in the foreseeable future and other viable, active remedial alternatives are not currently recommended.

As you know, most of the long-term monitoring data from the RDA are significantly above the 313 ug/L level established in the ROD, including upgradient wells, TT01 and MW05. The new background well (TT08) also showed 5150 ppb manganese in March 2010 and ORP was 9.1 mV (*LTM Data Report, Semi-Annual Round 1 – 2010*, May 2010). EPA understands that other conditions (*i.e.*, not site related) can mobilize manganese and recognizes the difficulty of accurately estimating when manganese concentrations will return to background levels. It appears that the Weymouth area, including the RDA, appears prone to reducing groundwater conditions and high dissolved manganese. The background value, 2680ug/L, from 2000 was based on a limited number of samples and may not accurately represent the range of redox conditions across the base. EPA maintains that it has never supported this value as an appropriate background concentration of

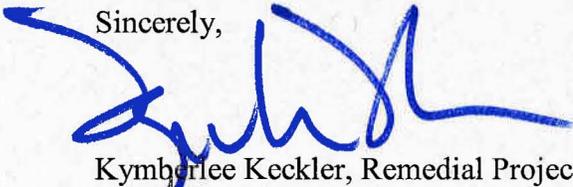
manganese. EPA therefore believes that the Navy should calculate a site-specific background value for manganese in groundwater upgradient of the Rubble Disposal Area. This requirement should be specified within the ESD.

EPA reiterates that it is critical to establish appropriate institutional controls to ensure that exposure to the contaminated groundwater does not occur at the site. This is important both currently and at the time that the property is transferred. EPA looks forward to reviewing the GER (or another appropriate mechanism, such as a deed restriction) that is being negotiated between the Navy and the Massachusetts Department of Environmental Protection.

Monitoring of the groundwater should continue. The next Five-Year Review (2014) should assess the MNA remedy in light of these data.

Please note that EPA's support of MNA at the RDA site is based upon site-specific circumstances and does not mean that EPA will support MNA at other sites for which a similar analysis would be done. I look forward working with you and the Massachusetts Department of Environmental Protection to complete the Explanation of Significant Differences for the Rubble Disposal Area. Please do not hesitate to contact me at (617) 918-1385 should you have any questions.

Sincerely,



Kimberlee Keckler, Remedial Project Manager  
Federal Facilities Superfund Section

cc: Dave Barney, USN, South Weymouth, MA  
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