



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, REGION I
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August 29, 2011

Richard M. Bertone, Lieutenant Colonel Engineer
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Camp Edwards, MA 02542-5003

Dear Lt. Col. Bertone:

EPA is in receipt of your letter of 4 August 2011 which discusses planned revisions to OMMP sampling scopes at J, K and T Ranges. EPA agrees with some of the changes proposed in your letter. Please find below EPA's comments and recommended changes in scope.

Soil samples are currently collected from the three ranges for analysis of lead, copper, zinc, antimony, tungsten, and nitroglycerine. Nitroglycerin has been detected in soil samples at concentrations greater than the established interim action levels. However, recent studies have indicated that nitroglycerine is unlikely to impact groundwater at the levels observed in the soil on these ranges. Therefore, the requirement to sample for nitroglycerine in soils can be removed from the OMMP. Tungsten was a component of the tungsten-nylon bullets formerly fired at the ranges. Baseline data on tungsten concentrations in soil has been collected at each range. Because these bullets are no longer fired at Camp Edwards, the requirement to sample for tungsten in soils can be removed from the OMMP. Lead, copper, zinc and antimony are components of the bullets (including the primer) currently fired at J, K and T Ranges. These contaminants have not been detected in soil samples at concentrations exceeding interim action levels. Copper and zinc are not expected to be deposited on the range floor because they are only found in the projectile and it has been demonstrated that the projectile is primarily contained in the STAPP system. The requirement to sample for copper and zinc in soils can be removed from the OMMP.

EPA recommends that soil sampling for lead and antimony be conducted on a biennial basis, beginning after the October 2011 sampling event, until such time that the primer no longer contains the components. The revised and consolidated OMMP should continue to include a provision for re-sampling of soil based on interim action level exceedances and on repeatability of replicate soil sample results. The rationale for these criteria was and remains valid. EPA does not agree with the assessment presented in your letter.

EPA recommends that MANG evaluate additional ways of preventing water from entering the STAPP system. Significant amounts of water continue to accumulate in these systems, and elevated concentrations of metals are known to exist in the STAPP water. EPA recommends that a more robust spill prevention and detection protocol for the STAPP system also be incorporated into the revised and consolidated OMMP. The protocol should specify that soil sampling would be

conducted in the event of a spill or leak. Several metals have been detected in dissolved state in the STAPP water at concentrations exceeding their respective MCLs and secondary MCLs. One of the requirements should include installation and sampling of additional lysimeters along the toe of the STAPP system until such time that the water is no longer stored in the STAPP reservoir. Unfiltered pore water samples from the existing pan lysimeters should be collected on an annual basis for analysis of lead, antimony, tungsten and zinc, from the new pan lysimeters for analysis of lead, antimony and tungsten. Tungsten should be analyzed for until such time that the tungsten fate and transport studies have been finalized. EPA prefers that samples of pore water that have accumulated over time be collected. EPA does not believe that the lead detected in the pore water should be attributed to leaching from prolonged contact with sediment. This should not happen unless the water is reasonably acidic (e.g. pH 4). A lysimeter located away from the system should also be installed and sampled to determine background concentrations of these contaminants.

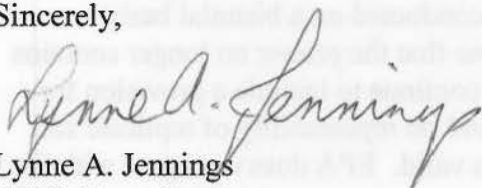
Unfiltered groundwater samples should be collected on an annual basis and analyzed for lead, antimony, zinc and tungsten (until such time that the tungsten fate and transport studies have been finalized). Unfiltered sample results are representative of total mobile contaminants. Prior results from filtered and unfiltered samples indicate that there is very little or no undissolved metals in the samples collected. EPA recommends that MW-489S [sic MW-589] at T Range be retained as a background well so that metals concentrations can be compared to concentrations detected in wells located downgradient of the ranges.

EPA agrees that STAPP water analysis before every disposal event is not necessary unless the receiving facility requires it or unless conditions on the ranges, use of the ranges, or the understanding of the conceptual site model changes. However, EPA recommends that the STAPP water be analyzed for lead and antimony before the periodic metals removal.

The changes in scope recommended in this letter should be instituted after the October 2011 sampling event. EPA reserves the right to require additional sampling should range conditions change or the understanding of the conceptual site model changes. Please incorporate these comments into a draft revised Scope of Work and OMMP. EPA has discussed these comments with the MassDEP and EMC and they concur with these recommendations.

Please do not hesitate to contact me at (617) 918-1210 or Jane Dolan at (617) 918-1272 if you have any questions.

Sincerely,



Lynne A. Jennings
MMR Team Leader

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