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LETTER AND U S NAVY RESPONSE TO U S EPA REGION III COMMENTS TO DRAFT TIER II SAMPLING AND ANALYSIS PLAN AREA B OFFISTE MIGRATION EVALUATION NB NORFOLK VA
6/13/2012
CH2M HILL

Monica Marrow

From: Paul.Landin@CH2M.com
Sent: Tuesday, August 14, 2012 10:49 AM
To: Monica Marrow
Subject: FW: Naval Station SAP
Attachments: Response to USEPA Comments06132012.pdf; EPA_comments.doc

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From: Landin, Paul/VBO
Sent: Wednesday, June 13, 2012 4:31 PM
To: 'Steven Hirsh'; Eric.Salopek@deq.virginia.gov; Petree, Angela/VBO; tom.kowalski@navy.mil
Subject: RE: Naval Station SAP

Steve, please see our responses to the comments received on the subject SAP. We are only proposing minor changes to the planned approach given the discussion of objectives for Tier I and in consideration that the original result for vinyl chloride that was the primary driver for this not being found in the re-sampling event we did in November. Please advise if you think there may be issue with the responses and planned SAP. We need to generate the Final SAP for acceptance and currently have this work scheduled for the week of July 23.

Thanks,
Paul

From: Steven Hirsh [mailto:Hirsh.Steven@epamail.epa.gov]
Sent: Monday, May 21, 2012 1:51 PM
To: Eric.Salopek@deq.virginia.gov; Landin, Paul/VBO; Petree, Angela/VBO; tom.kowalski@navy.mil
Subject: Fw: Naval Station SAP

Here's what I rec'd today on the T2 SAP for CALF.

The QA Chemist who has no previous experience with CALF issues made comments I'd typically expect from the site hydro.

Lets discuss when we meet later this week.

Thanks
Steve

Steven R. Hirsh
U.S. EPA Region III (3HS12)
1650 Arch Street
Philadelphia, PA 19103-2029

215.814.3352 / 215.514.9015 cell
hirsh.steven@epa.gov

----- Forwarded by Steven Hirsh/R3/USEPA/US on 05/21/2012 01:48 PM -----

From: Jarmael Burman/ESC/R3/USEPA/US
To: Steven Hirsh/R3/USEPA/US@EPA

Date: 05/21/2012 01:45 PM
Subject: Naval Station SAP

Hello Steven,

Please find attached the requested review of the Draft Tier II Sampling and Analysis Plan (SAP); Area B Offsite Migration Evaluation; Sampling and Analysis Plan (SAP) Site 1, Camp Allen Landfill prepared for the Naval Station Norfolk, Norfolk, Virginia by CH2MHILL.

Jay

Jarmael A. Burman
QA Chemist
Office of Analytical Services and Quality Assurance
US EPA Region III Environmental Science Center
701 Mapes Road
Ft. Meade, MD 20755-5350
(410) 305-2743
burman.jarmael@epa.gov

Response to USEPA Comments
Draft Tier II Sampling and Analysis Plan; Area B Offsite Migration Evaluation; Sampling and Analysis Plan Site 1, Camp Allen Landfill

Major Concerns:

1. The reviewer strongly feels the objective of this SAP, which is to evaluate the potential for contaminate migration under Bousch Creek, cannot be achieved through short term monitoring. One round of sampling cannot properly determine migration given the effect of increased contaminate levels on monitoring well (MW) B-MW16 when active extraction from MW B-EW8A, which is located south east of MW B-MW16. This unexplained phenomenon is in and of itself reason to question short term monitoring effectiveness at achieving the intended purpose of this SAP.

   Response: Long term groundwater monitoring has been conducted at Site 1 since the implementation of the site remedy in 1998. Data collected in 2011 indicated a VOC detection that was elevated in monitoring well B-MW16 (vinyl chloride at 187 ug/L), which is inconsistent with historical data. The objective of the sampling proposed in the SAP, which was based upon discussion with USEPA, was to conduct a limited investigation to ensure VOCs are not migrating under the creek toward the Navy residential housing area located adjacent to the site. Subsequent to the development of the draft SAP, a confirmation sample was collected from B-MW16B. This sample result indicated vinyl chloride was not detected above the method detection limit (0.5 ug/L). Additionally, the proposed well to be installed south of the creek will be monitored periodically as part of the rotating network of wells included in the LTM program.

2. It is clear that a migration pathway that differs from the current understanding exists. The reviewer fails to understand how 10 grab samples will determine this when the variance mentioned above greatly impacts the level of contaminates found at a particular monitoring well. The sampling and analysis needs to be of sufficient quantity over an extended period of time while simultaneously extracting from other monitoring wells to determine or simulate the unexplained migration effects that may be present in the new sampling wells as it does between MW B-MW16 and MW B-EW8A. Again, the reviewer fails to understand how 10 temporary monitoring wells with one round of sampling from each will be adequate to determine contaminate migration and the placement of one permanent well.

   Response: The collection of 10 grab groundwater samples is intended to provide information to aid in determining whether or not shallow groundwater between the site and the housing area warrants further evaluation. The operation of the shallow groundwater extraction and treatment system serves to provide hydraulic containment at the site. The surface water feature located between the site and the housing area is believed to affect local groundwater on both sides (e.g., groundwater discharges to the surface water body). The installation of the monitoring well will also provide a measuring point for groundwater elevation, which can then be used to further assess groundwater flow. While not anticipated, detections of VOCs in the grab groundwater samples would

trigger a much more broad investigation regarding the nature and extent of contamination in groundwater near the housing area.

3. The equipment blank and field blank preparation section IV C mentions an equipment blank, but does not specify the frequency or order in which each should be collected. In an effort to eliminate the introduction of contamination from the direct push technology, a protocol needs to be implemented that would require an equipment blank before and after each sampling event. These equipment blanks should be collected between sampling locations and after decontamination to prevent carryover from one sampling well to another, this would help to eliminate a potential variable. The incorporation of trip blanks sent to the laboratory for analysis is also strongly recommended.

   Response: The purpose of an equipment blank is to demonstrate that general decontamination procedures were sufficient to prevent cross-contamination between sample locations. Decontamination will be completed between each location. Equipment blanks are generally not required to prove that decontamination procedures between each sample location resulted in no cross contamination of individual samples. USEPA Region 3 guidance indicates that one equipment blank should be collected per day, per matrix (see attached Region 3 Fact Sheet). These procedures will be followed at Site 1.

4. A more definitive method of sample site identification and monitoring well location other than in relation to permanent site features should be established. Use of the GPS unit described in the GPS SOP would provide more reliable coordinates in the event a permanent feature is inadvertently moved or dislodged.

   Response: Grab groundwater sample locations will be surveyed using a GPS. The permanent monitoring well location will initially be recorded using GPS; however, a licensed surveyor will be utilized to survey the well location and provide elevation data for the PVC casing that can be used to measure groundwater elevations in the future.

Minor Concerns:

1. This SAP clearly and repeatedly states no field QA/QCs will be collected during this investigation. However, it is strongly advised to send the laboratory performing the analyses a quality control sample as well as a quality control sample duplicate with a concentration between the lab's method detection limit and the project action limit per sample set.

   Response: Field QA/QC samples are typically not collected for direct push groundwater samples because analytical results from these samples are considered screening level data, and not used for risk assessment purposes. When the new well, to be installed south of the creek, is sampled as part of the LTM program, field QA/QC samples will be collected.

2. It is recommended that the laboratory performing the analyses also report tentatively identified compounds (TICs). This would reveal the presence of potentially hazardous compounds other than the select volatile organic compounds (VOC) screened for.

   Response: The proposed investigation is intended to evaluate potential migration of known contamination at Site 1. The investigation is not a release assessment. Therefore, the

analytical suite will consist of COCs already established to be present at the site and reporting if TICs is not appropriate.

Notes:

1. Since the intended purpose of this SAP is to evaluate the potential for migration under Bousch Creek, a round of soil samples collected from the entire circumference, of the housing complex and elementary school, at varying depths sent to the laboratory for analysis is highly recommended.

   Response: The source of contamination at Site 1 consists of the waste present in Areas A and B. There is no source of contamination south of the creek. The proposed sampling strategy is intended to evaluate the potential for migration of contaminated groundwater under the creek, which is a reasonable migration pathway at the site. Because there is no source of contamination south of the creek and contamination cannot migrate upward from contaminated groundwater into soil, there is no reasonable pathway in which contamination could impact unsaturated soils on the south (housing complex). Therefore, no changes to the SAP are proposed.

2. Since the majority of the VOCs detected in shallow ground water at site 1 are present at higher concentrations at the bottom of the shallow (Columbia) aquifer, it is important to have the wells installed at varying depths to account for this phenomenon.

   Response: The purpose of the sampling approach included in this SAP is to determine if migration beneath the creek is occurring. The most likely depth at which to find the site COCs is consistent with the bottom of the aquifer and top of the confining unit. If contamination is detected at this interval, which is assumed to be the most conservative sampling interval, then additional sampling may be warranted. However, additional sampling to determine depth stratification of contamination (if present) is not the objective of this SAP. Therefore, no changes to the SAP are proposed.

3. The SAP does not address what will be done with site generated waste such as decontamination solutions.

   Response: A section on investigation derived waste (IDW) disposal will be added to the draft final SAP.

4. While often considered ancillary, pH can actually be used to reveal chemical behavior that is very important to a study. Therefore, it is recommended by the reviewer that a secondary standard from a source other than that which was used to calibrate the pH meter be used as a quality control check standard run twice each day. This would enable the operator to determine if the calibration standards used had been concentrated or diluted.

   Response: while pH can be important to determining potential for use of different types of treatment of VOCs, it is generally not considered relevant to determining the presence or absence of contamination, which is the objective of the investigation proposed in this SAP. Therefore, no changes to the SAP are proposed.

5. Under the Documentation and Records section II Field Notebooks, the reviewer suggests including the date the calibration standards are opened. This will enable analytical equipment users to better track the source of calibration standard related issues.

   Response: As requested, the field team will record the date the calibration solution is opened in the field notebook.