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EMAIL AND U S EPA REGION III COMMENTS REGARDING DRAFT LONG TERM MONITORING REPORT FOR SITES 1, 5 AND 10 ALLEGANY BALLISTICS LABORATORY NIROP ROCKET CENTER WV

03/16/2011

U S EPA REGION III

Monica Marrow

From: Monica.Marrow@CH2M.com
Sent: Thursday, April 21, 2011 5:39 PM
To: Monica Marrow
Subject: FW: EPA Comments on the Draft LTM report (Oct 2010)
Attachments: EPA Comments on Draft LTM (3.2011).docx

From: Glennie, Steven/WDC
Sent: Thursday, April 21, 2011 3:39:01 PM
To: Marrow, Monica/VBO
Cc: Brown, Cassandra/WDC
Subject: FW: EPA Comments on the Draft LTM report (Oct 2010)
Auto forwarded by a Rule
For ABL AR

From: Yi.Ji-Sun@epamail.epa.gov [mailto:Yi.Ji-Sun@epamail.epa.gov]
Sent: Wednesday, March 16, 2011 10:09 AM
To: william.g.fraser@navy.mil; jforan1@maine.rr.com; RWAJOHN81@aol.com; Glennie, Steven/WDC; Thomas.L.Bass@wv.gov; Waranoski, Victoria/WDC
Subject: EPA Comments on the Draft LTM report (Oct 2010)

Hi Bill,

We have finished our review of the *Draft Long-Term Monitoring Report, Sites 1, 5, and 10* dated October 2010. Our comments are attached for your consideration.

I apologize for the delay in submitting our comments. Thank you for the opportunity to review the document.

Regards,
Sun

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EPA Comments on *Draft Long-Term Monitoring Report; Sites 1, 5 and 10* (October 2010)

Comments submitted by Sun Yi, RPM:

1. Section 2.1, Groundwater Sampling, page 2-1. The web link ://public.lantops-ir.org/sites/public/ABL/default. does not work.
2. The interim report on the long-term monitoring program was very informative and helpful in evaluating the groundwater remedies in place at Sites 1, 5 and 10. I agree with the recommendation that a long-term monitoring report be submitted after each sampling event.

Comments submitted by Kathy Patnode, Biological Technical Assistance Group (BTAG):

3. We have found that interim reporting on the data is an extremely valuable approach. The opportunity to review the data more frequently can inform decisions about sampling modifications that will fill data gaps efficiently.
4. On page 2-4, porewater sampling locations were identified as locations with sufficient thickness of sediment to enable the PDBs to function effectively. It is unclear whether or not these are the original locations that were selected by the site team or if the PDBs are being installed in new locations due to sediment dynamics in the river. This point should be clarified in the LTM report.
5. The conductivity, pH, ORP, and April temperature data demonstrate that PW-1 has a consistently different signature from other three sampling locations. The analytical data indicate that groundwater was discharging at this location in September 2009 and April 2010, while the water elevation data indicate loss of capture at Site 1 in July 2009 and April 2010. Collectively, this information demonstrates that capture was not achieved from at least July through September 2009. As the pore water samplers are deployed for 14 days, capture loss in the vicinity of PW-1, PW-2, and PW-3 likely occurred for at least two weeks in April. The duration and timing of these releases indicate that loss of capture has occurred over extended periods and under a range of river flow and precipitation conditions. While routine maintenance is necessary and does improve the treatment facility efficacy, the duration and frequency of loss of capture indicates that it may not be sufficient. Capture was achieved again in August after maintenance work was completed, but additional rounds of data are necessary to determine if the loss of capture has been corrected or if conditions in August were not conducive for groundwater migration.
6. Our evaluation of the sediment and porewater data indicates that additional porewater sampling locations and relocations are warranted. During the April sampling event, TCE was detected in sediment at SD-2, SD-3, SD04, and SD-9. At pore water location PW-2 in April, vinyl chloride, TCE, and cis-1,2-DCE were detected. Vinyl chloride was also detected at 1PW-1 and 1PW-3. We concur that these three pore water samples clearly confirm the area of loss of capture and source of sediment contamination at SD-9. Similar pairings are needed to document sources of sediment contamination at SD-2, SD-3, and SD-4. For SD-3, we recommend that PW-4 location be aligned between SD-3 and GW-34. Additional pore water monitoring locations need to be established between SD-2 and SD-4 and GW-39 and GW-37, respectively. The new and modified locations should demonstrate whether or not loss of capture is the source of sediment

contamination. If groundwater releases are confirmed as the sources of sediment contamination from SD-2 to SD-9, then loss of capture is not localized, but extends along the entire reach of the disposal area and manifests wherever conditions are conducive to migration.

7. Our evaluation of the data indicates that duration, frequency, and spatial extent of contaminated groundwater releases are greater than previously documented. These data indicate that the presence of VOCs in porewater and sediment may be sufficient to affect biota. Evaluation of benthic invertebrate sampling following a period of groundwater releases (e.g., September 2009) would be necessary to confirm toxic effects. If porewater and sediment contamination are evident in subsequent rounds of sampling, additional sampling of the benthic community at the time should be considered.

Comments submitted by Mindi Snoparsky and Mark Leipert, Hydrogeologists:

8. Section 2.1.1, Site 1 Groundwater Sampling; and Section 2.1.3 Site 10 Groundwater Sampling. Capture zone analysis, not just monitoring, is used to determine whether the extraction system is working. Monitoring is only one line of evidence. The capture analysis should be updated and reported with the monitoring results. This is true for both Sites 1 and 10 since it has been reported in the past that Site 10 contamination is captured by the Site 1 extraction system. The trend analysis presented is not sufficient and I believe I have pointed this out in my discussions with respect to capture zone analysis. The discussion under Section 3.7, Pore Water indicates the concentrations may be due to to temporary loss of capture corroborated by Figure 3.10, but Figure 3.10 indicates water levels only.
9. The boundary of Site 5 ends at the groundwater plume. It would be helpful to delineate the plume on a figure - or perhaps add it to a figure like Figure 3-9 in the future. This will help determine the effectiveness of the PRB.
10. Table 2-1, the following wells are listed in the table but not labeled on Figure 2-2 for Site 5: 5GW9, 5GW19 and 5GW22.
11. Table 2-2, dates in the table heading do not match the headings in the table.
12. Table 2-2, Monitoring wells, 1GW35 and 1GW36, have blanks in the field–measured parameters. Please add a footnote as to what the situation was with each of these wells.
13. Table 2-3, dates in the table heading do not match the headings in the table.
14. Table 2-4, dates in the table heading do not match the headings in the table.
15. Table 2-9, dates in the table heading do not match the headings in the table.
16. Table 2-10, dates in the table heading do not match the headings in the table.
17. Figure 2-1, the box for Site 5 needs a reference arrow to indicate the site's location relative to Site 1.
18. In Chart 3-1, the TCE concentrations do appear to be steadily decreasing in 1GW34 but the fluctuating concentrations at 1GW38 and 1GW39 indicate the presence of multiple source areas.
19. In Charts 3-4 & 3-5, the concentrations of Perchlorate, RDX and HMX, in the alluvial groundwater at the Active Burning Grounds does appear to be influenced by nearby burning activities. What occurred between October 2008 and April 2010 that would cause an increase in Perchlorate, RDX and HMX concentrations? Could this indicate the presence of multiple source areas?

20. In Chart 3-7, Perchlorate concentrations in bedrock groundwater at 1GW05 are indicative of residual materials found at the Former Inert Burn Disposal Area (FIBA). IGW05 is immediately adjacent to or in the footprint of the FIBA area. Further delineation of source area and removal action should be implemented to reduce risk. IGW04 is also adjacent to a number of Former Burn Pits which would also explain the higher concentrations of Perchlorate in bedrock groundwater.
21. In Chart 3-8, the RDX concentrations in bedrock groundwater at 1GW05 are also indicative of residual materials found at the FIBA. IGW05 is immediately adjacent to or in the footprint of the FIBA area. Further delineation of source area and removal action should be implemented to reduce risk.
22. In Chart 3-9, the TCE concentrations in the alluvial groundwater do appear to be decreasing immediately downgradient of the PRB.
23. In Charts 3-10 and 3-11, for the Site 10 alluvial and bedrock groundwater the concentrations for TCE indicate that the plume appears to be decreasing or stable, although concentrations remain above MCLs.
24. Section 3.7, Pore water, the samples collected immediately off shore of the FIBA area indicate residual concentrations of cis-1,2-DCE, TCE and vinyl chloride are continually migrating to the north Branch of the Potomac River. Further delineation of source area and removal action should be implemented to reduce risk.