



Responses to Jim Kealy's email summarizing Ed Putnam's comments on Picatinny site 78
(UNCLASSIFIED)

Thursday, April 28, 2011 2:25 PM

From: "Gabel, Ted Mr CIV USA IMCOM" <ted.gabel@us.army.mil>

To: "Jim Kealy" <Jim.Kealy@dep.state.nj.us>, "Greg Zalaskus" <Greg.Zalaskus@dep.state.nj.us>

Cc: "Joe Marchesani" <Joe.Marchesani@dep.state.nj.us>, "B Dolce" <subsurfacesolns@earthlink.net>, "Michael Glaab" <michaelglaab@worldnet.att.net>

 3 Files (2618KB)



Appendix C: Appendix C: smaller Fina

Classification: UNCLASSIFIED

Caveats: NONE

Jim, Greg and Joe/Bill:

As we discussed last week, I am using an email format to answer questions from Ed Putnam on the Site 78/PICA 13 Record of Decision (ROD). The questions were summarized and/or elaborated by Jim's email sent last Monday (see attached).

It is possible that Ed Putnam did not see the final ROD that has now been signed by the Army and is awaiting EPA's Division Director's signature. The June 2010 draft of the ROD was negotiated and modified since it was originally submitted to both the NJDEP and EPA almost a year ago; these changes were done mostly by emails and letters with the EPA with all correspondences copied to NJDEP team.

The last version that was a tracked-changed WORD version was supplied electronically on 7 March and quickly approved by EPA (Bill) the next day. Three hard-copy copies of the ROD document were signed by the Garrison Commander and sent to the EPA directly for signature. Attached is the final version of the (unsigned) Site 78/PICA 13 ROD if required.

We believe the answers should allow Mr. Putnam to sign a 'concurrence letter' to EPA and the Army for this ROD. If additional clarification is required or concerns exist, please do not hesitate to provide those so they can be addressed as soon as possible.

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Responses to Questions in are blue and bolded.

1. Figure 4: Elevated detection levels for VOCs in Surface water samples. DLs = 1 or 2 ug/l, when surface water ARAR /site cleanup level is of 0.083 ug/l. ROD states that "surface water indicate that natural attenuation appears to be occurring at a rate that the contaminant mass is degrading prior to discharge at GPB". How do we know if there's VC in surface water or not, given these elevated DLs?

The notations on Figure 4 (<2 U or <1 U) represent the laboratory reporting limit. Effective in 2010 regular quarterly sampling was initiated, at risk, consistent with the anticipated remedy of MNA. At this time results from 2 rounds of quarterly data are available and data for the third are pending. Trend plots for these data are attached to this email. The actual method detection limit utilized for the most recent sampling events (September and December 2010) is 0.250 ug/L. Although the NJ Surface Water Standard is lower, the laboratory defaults to the lowest achievable method detection limit. Also note that when detections occur below the laboratory reporting limit historically, they were reported and flagged as estimated (J). The data trend plots provided for SW-004 and SW-005 indicate VC was not reported at any of these locations and therefore the statement in the ROD is supported by the current data.

2. Figure 3: Elevated detection levels of GW samples collected from stream piezometers at P-78-PZ-002 and 003 * (Figure 2 shows detection levels of 10 and 20 ug/l) Explanation is needed.

The reporting limits for some constituents were elevated due to dilution. However, in the case of P-78-PZ-002 the most recent result did not have elevated reporting limits and no exceedances were present. In the case of P-78-PZ-003 a detection was reported and flagged for dilution (D).

3. Figure 3: Groundwater sampling at 78-MW-006 and other wells was stopped in 2007 even though VC levels in the 006 had rebounded to close to the highest levels- not seen since 2004, Data from wells 78-MW-003, 004, 005 and especially 006 does not show a clear trend that contaminant levels will meet cleanup goals in 13 years. Why was the gw monitoring discontinued in 2007?

After the Pilot Study was completed in 2004, regular groundwater monitoring continued for two years and showed significant degradation. However, as expected, daughter compounds formed and, because of the nature of the degradation sequence, increasing levels of vinyl chloride were reported as the parent compounds degraded. These trends are shown by the attached trend plots. The 2007 data collection was conducted to assess the then current compound distribution although there was no regulatory requirement for sampling. These data indicated that indeed a temporal increase in vinyl chloride was occurring and, as a result, the risk assessment was revised to account for the higher levels of vinyl chloride.

The revised risk assessment resulted in an increased calculated risk level for hypothetical future resident users. As indicated in comment response 1, in 2010 regular quarterly sampling was initiated by the Army despite delays in ROD approval, and these data indicate that the expected decrease in vinyl chloride concentrations is now occurring and data show a decreasing trend consistent with expected time-frames. The only data set that indicates a slightly increasing trend is 78-MW-001. However, concentrations in this well are all below the associated standard and recent 2010 data indicates concentrations are starting to decline. The only exceedances detected in recent sampling were for vinyl chloride at 78-MW-003 and 78-MW-006. As stated, these detections are now

decreasing. Continued quarterly monitoring will be conducted and reported on a regular basis.

4. Why was a revised risk assessment done in 2007?

As noted in Section 2.8.1 of the ROD, a supplemental risk assessment was performed after the sodium lactate injection pilot study to reevaluate the risks associated with vinyl chloride in groundwater as temporal concentration increases of this compound were observed post injection. As noted in comment response 3 the revised risk assessment showed an increase in calculated risk levels.

5. Why was the MNA remedy (GW-2) (estimated time frame- 13 years) chosen over the (GW-4) potassium permanganate injection alternative (estimated time frame- 6 years) for a mere \$45,000 cost difference.

Injections of sodium lactate in 2006 removed essentially all of the parent compounds present at the site. As a result the primary compound to be addressed is vinyl chloride, a compound that degrades most effectively under aerobic rather than anaerobic conditions. Further, conducting chemical oxidation so close to Green Pond Brook and within a wetland area may have negative impacts on both the surface water body and wetlands for little additional benefit. MNA was recommended as the preferred remedy as injections to enhance the conditions of the aquifer would have little added effect to the now documented decreasing vinyl chloride trends. As such the selection of the MNA remedy was based upon its ability to adequately achieve each of the threshold and balancing criteria. Through this process it was determined that MNA could achieve the desired result within a reasonable timeframe and would be the most appropriate remedy. Regular monitoring of the groundwater to establish declining trends will be conducted and reported to DEP. Should declines not be demonstrated as expected then additional measures would be taken.

6. Figure 3 shows that 1,1,1-TCA was detected in 2000 samples from P-78-GP-002 and 003. 1,4 Dioxane is often associated with releases of TCA. Were any groundwater and or surface water samples analyzed for Dioxane?

The 1,1,1 - TCA detections shown on Figure 3 were the only historic detections of this analyte. Both geoprobes had detections of 1,1,1-TCA well below the associated MCL of 200 ppb, but one (GP-78-003) was reported above the NJ Standard of 30 ppb. Permanent monitoring well 78-MW-001 is located in the direct vicinity of this data point and has been sampled on numerous occasions without any detection of 1,1,1-TCA, nor has the compound been reported in any other well. As there has been no detection of 1,1,1-TCA since 2000, and 1,4-Dioxane if present was typically a minor component, it is unlikely that the compound is present at the site and it was considered that there is no need to further evaluate the potential presence of 1,4-Dioxane.

-----Original Message-----

From: Jim Kealy [mailto:Jim.Kealy@dep.state.nj.us]

Sent: Monday, April 18, 2011 5:39 PM

To: Greg Zalaskus; Joe Marchesani; Roach.Bill@epamail.epa.gov; Gabel, Ted Mr CIV USA IMCOM

Subject: Re: Fwd: Picatinny site 78

Greg, Joe, Ted:

As you know Ed Putnam has some questions about the Site 78 ROD. These are the main issues that

need to be addressed to respond to Ed's concerns. Adequate explanation of these issues should be provided by the Army/ Arcadis:

1. Figure 4: Elevated detection levels for VOCs in Surface water samples. DLs = 1 or 2 ug/l, when surface water ARAR /site cleanup level is of 0.083 ug/l. ROD states that "surface water indicate that natural attenuation appears to be occurring at a rate that the contaminant mass is degrading prior to discharge at GPB". How do we know if there's VC in surface water or not, given these elevated DLs?
2. Figure 3: Elevated detection levels of GW samples collected from stream piezometers at P-78-PZ-002 and 003 * (Figure 2 shows detection levels of 10 and 20 ug/l) Explanation is needed,
3. Figure 3: Groundwater sampling at 78-MW-006 and other wells was stopped in 2007 even though VC levels in the 006 had rebounded to close to the highest levels- not seen since 2004, Data from wells 78-MW-003, 004, 005 and especially 006 does not show a clear trend that contaminant levels will meet cleanup goals in 13 years. Why was the gw monitoring discontinued in 2007?
4. Why was a revised risk assessment done in 2007?
5. Why was the MNA remedy (GW-2) (estimated time frame- 13 years) chosen over the (GW-4) potassium permanganate injection alternative (estimated time frame- 6 years) for a mere \$45,000 cost difference.
6. Figure 3 shows that 1,1,1-TCA was detected in 2000 samples from P-78-GP-002 and 003. 1,4 Dioxane is often associated with releases of TCA. Were any groundwater and or surface water samples analyzed for Dioxane?

>>> Greg Zalaskus 04/18/11 8:50 AM >>>

John/Bill: See attached from Ed. I'll need to let Ted know soon but wanted you to see this first.

Classification: UNCLASSIFIED

Caveats: NONE
