Foellmi, Thomas J - DNR

From: Jason Bartley <jbartley@readyearth.net>
Sent: Wednesday, November 27, 2019 12:25 PM
To: DiMaggio, Janet H - DNR
Cc: tkjindra@aol.cm
Subject: Re: Block Cleaners - 11/18/19 Meeting Notes and Next Steps

Janet,

Thanks for the summary. I am preparing a formal letter with the additional information now. I wanted to send this first to highlight a couple of points from your email that I feel need re-emphasis or clarification. A point by point email seemed like a better format for starters, but I will incorporate many of these comments in my formal letter. The bullet points are from your November 2019 email and my comments are below in red.

- The fifth question related to active remediation. Note: The Department recommended active remediation and suggested soil vapor extraction and a pilot test.

At the time the Department made that recommendation (July 2017 response to my question regarding relevant factors to rule out active remediation), their response focused on the possibility of DNAPL and the nature of the subsurface materials. The additional work conducted since that comment has not identified any evidence of DNAPL, fill, or direct contact issues. Both the amount of data and the timeframe over which it was collected are significant toward a conclusion that ample data exists to show that the exposure pathways are being mitigated under current conditions without additional remediation.

- You are not exactly sure where the source is, it appears to be proximal to MW-4. You stated that if there is soil/vadose zone contamination it is not extensive and not a significant source of continuing contamination.

This is an extremely important component of all of our discussions toward closure so I really want to be clear and I welcome any opportunity for further discussion as needed here. We may not know exactly what the source was but all the data shows that we have identified the source area. Further, I think it's quite typical to not know the exact cause of a release. For example, at a former gasoline station a release could have originated from a tank, piping, or dispenser within one particular area. The investigation then focuses on the area as opposed to an individual cause - especially with an older release where more interpolation may be necessary. Based on all soil, groundwater, and vapor data, the highest impacts are within the immediate vicinity of MW-4 and that area is well covered with perimeter sampling.

- The soil samples analyzed for both MW-4 and GP-1 were from the saturated zone.

I'm not certain as to the relevance of this issue here. The April 2019 soil probe sampling collected eight additional unsaturated soil samples from the vicinity of MW-4/GP-1. P-5 was advanced immediately adjacent of MW-4/GP-1 (within 3 feet) and three other probeholes were advanced within 20 feet of MW-4/GP-1. All of that work was done in a roughly 400 sf area (20'x20'). The work was done there because it is the likeliest area of release.

- Perc was delivered by a mobile unit that parked in the rear driveway in the vicinity of MW-2 and a hose connected directly to the dry cleaning machine. The machine was accessed by an overhead door in the MW-2 area. This occurred in the early 1990's. Spot cleaning was performed at the site. The location of which was not entirely clear on the phone. It was inferred the spot cleaning utilized perc, please clarify if this or other solvent(s) were used.

To clarify the "early 1990s" part of this comment, the PERC machine was installed circa 1991 (closed loop, dry-to-dry machine) and that the machine was in use up to closing the business in 2018. Transfers via a paid service occurred as needed throughout that timeframe. The transfers were not conducted in the area of MW-4 so the transfer issues and former dry cleaning machine are somewhat moot. None of the data suggests that the dry cleaning machine area contributed to the impacts (whether the machine itself or transfer issues). We didn't see any impacts at GP-3, we don't see high concentrations at MW-2, and the vapor concentrations are relatively low at VP-2 as compared to VP-1.

I will summarize the information in the letter regarding the dry cleaning machine and I will include photos of the doors near MW-2 where the transfers occurred.

PERC was used prior to circa 1991, but it was limited to spot cleaning. There was no specific, dedicated spot cleaning area. PERC is the only solvent identified by former employees when I inquired as to historical operations pertaining to source. That background jibes with the fact that PCE is the primary compound detected at the site. If the spot cleaning process did contribute to the release, it was likely done near MW-4 seeing as that is the area of highest concentrations.

- There was a sump used to collect wash water. Discharge of the wash water was in a poured concrete trench in the basement of the oldest portion of the building.

Just to add here, the water is then pumped via conventional sump pump from the trench to a sanitary sewer connection on the Winnebago Street side of the basement. I will include the location on a map.

- A floor drain was in the room that held the former Stoddard tanks.

This floor drain sat flush with the concrete that had been the floor of the rear portion of the building (now razed). The floor there was slab-on-grade but right next to the basement portion, so the drain essentially elbowed right into the basement and a pipe then ran along the ceiling of the basement toward the sanitary sewer connection on the Winnebago Street side of the basement.

The April 2019 probehole P-4 is very close to the former location of the drain. I will add the drain to the map and include some photos.

- You are not sure how to address the finding of the source of the perc discharge. You mention that the plume is attenuating.

My uncertainty stems primarily from not being sure how much more work can physically be done in the area of MW-4 without being redundant. I think the analogy under the first bullet point remains valid and the source area is identified.

- The recent piezometers (PZ-2 & PZ-3) installed in 2019 were both screened in the fine silty clay unit. A sandy unit was above the silty unit and it was in the sandy unit that groundwater impacts above the ES were observed in upgradient PZ-1. Screen setting decisions in the field are difficult but it would have been better to set one screen in the sandy unit to see if the contamination was migrating through that layer above the finer grained silty unit.

The soil types appeared substantially similar in the field and did not warrant changing the approved scope of work. As stated in our call, the sand was not appreciably granular/permeable compared to the deeper siltier unit and there was no obvious "break" in soil type between one which could be considered a preferential pathway and one that is perhaps an aquitard. From my observations the units were quite similar and hard (evidenced by blow counts) but are slightly different and thus graphically represented differently on the cross-section. The siltier unit is permeable enough for concentrations to be seen at PZ-4, which is screened in the same siltier unit as PZ-2 and PZ-3.

For all the reasons presented already pointing to a source area near MW-4 and the concentrations as they are at PZ-1 and PZ-4, the flow line presented on the cross section is quite reasonable. If I had changed the scope and the results

came back clean, I can easily envision the opposite scenario of being questioned why the scope wasn't followed and that perhaps we are missing the plume at depth.

- Jason said PZ-1 was trending down in 2019.
- There was one groundwater sampling event in 2019. (Janet believes the overall trend is stable.)

I don't recall discussing a trend specific to only 2019. In the SI addendum I made the case that the PCE concentrations in PZ-1 have decreased over the last two consecutive events, that PCE was at its second lowest recorded concentration in PZ-1 during the most recent sampling event (161 ppb in April 2019, which is the lowest since 139 ppb in May 2014), and that overall the groundwater data shows that the concentrations are decreasing or at a minimum stable over at least the past four sampling rounds and several more rounds for those wells with more data.

I thought this email could be just one more piece of information to clarify the case toward closure. As I said, I will formalize into a letter that I will have to you in December. As we discussed, I will ask for your and Wendell's comments prior to submitting to the committee. Thanks for all of your help.

Have a Happy Thanksgiving.

Jason

On Mon, Nov 25, 2019 at 8:43 AM DiMaggio, Janet H - DNR <Janet.DiMaggio@wisconsin.gov> wrote:

> Todd and Jason,
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> This email is documentation of our discussion on 11/18/19 of the Block Cleaners site located at 2017 Winnebago St., Madison.
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> Background:
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> In September 2015, the closure committee responded to a closure request with an “additional actions needed” letter. These actions were:
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> 1. A better definition of the contaminant plume at depth,
> 2. More exploration of the source of contamination, and
> 3. The possible need for groundwater and soil remediation.
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> A technical assistance meeting was held on June 27, 2017 to discuss additional site investigation (SI) and possible groundwater and soil remedial measures. A July 25, 2017 email was sent by the Department in response to the meeting and five follow-up questions from Ready Earth. That email is attached. The additional SI work included installation of additional piezometers, groundwater monitoring, shallow soil sampling, paired subslab and indoor vapor sampling, and a report. Four of the additional questions related to the additional site investigation. The fifth question related to active remediation. Note: The Department recommended active remediation and suggested soil vapor extraction and a pilot test.

On September 23, 2019, the Department received the Site Investigation Addendum dated September 17, 2019. The results of the SI Addendum were brought to our Peer Review on October 17, 2019. An email was sent to you on October 18, 2019 indicating the committees response (attached).

Summary of November 18, 2019 Meeting

You requested a phone conference to discuss the October 18, 2019 email. The phone conference was held on November 18, 2019. Jason Bartley & Todd Jindra were on the phone with Wendell Wojner and me. A brief summary follows.

- You are not exactly sure where the source is, it appears to be proximal to MW-4. You stated that if there is soil/vadose zone contamination it is not extensive and not a significant source of continuing contamination.
- The soil samples analyzed for both MW-4 and GP-1 were from the saturated zone.
- Perc was delivered by a mobile unit that parked in the rear driveway in the vicinity of MW-2 and a hose connected directly to the dry cleaning machine. The machine was accessed by an overhead door in the MW-2 area. This occurred in the early 1990's. Spot cleaning was performed at the site. The location of which was not entirely clear on the phone. It was inferred the spot cleaning utilized perc, please clarify if this or other solvent(s) were used.
    - There was a sump used to collect wash water. Discharge of the wash water was in a poured concrete trench in the basement of the oldest portion of the building.
- The back door was by MW-4.
- A floor drain was in the room that held the former Stoddard tanks.
- Maps showing the utility corridors will be sent.
- You are not sure how to address the finding of the source of the perc discharge. You mention that the plume is attenuating.
- The recent piezometers (PZ-2 & PZ-3) installed in 2019 were both screened in the fine silty clay unit. A sandy unit was above the silty unit and it was in the sandy unit that groundwater impacts above the ES were observed in upgradient PZ-1. Screen setting decisions in the field are difficult but it would have been better to set one screen in the sandy unit to see if the contamination was migrating through that layer above the finer grained silty unit.
    - Jason said the blow counts in both units were similar and that both units were "hard".
    - Jason said PZ-1 was trending down in 2019.
    - There was one groundwater sampling event in 2019. (Janet believes the overall trend is stable.)
- Jason stated the current contamination is 30 years old.
- Todd had questions on timeline, how long it would take to get closure. An estimate (<u>if all site investigation requirements are met and future submittals are complete</u>) of Spring 2020 was given.

Direction given to move site forward:

Use the two attachments above, address each item, and provide a succinct explanation for outstanding questions.

- This includes but is not limited to providing a better explanation for source areas. This should incorporate information on buried utility corridors, the quick connect and parking area for perc truck, doors, etc.
- Provide a reason why additional borings and wells are not needed. Consider the degree and extent of contamination. Discuss soils (including the direct contact interval), groundwater pathway, groundwater flow direction, lithology, and plume migration.
- Provide a map including the utility corridors, floor drain(s) and overhead piping to sanitary on Winnebago Street, trench, wells, & boring locations.

- Provide reasons why active remediation is not being proposed.

This information will be submitted in a report and used to present to the Department's Peer Review Committee to provide any input on actions needed for a possible closure submittal.

Jason said a report could be submitted in early January.

If you have any questions, please contact me.

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Janet DiMaggio, P.G.
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