

Karlene French

From: Reppe, Thomas (MPCA) <Thomas.Reppe@state.mn.us>
Sent: Thursday, February 10, 2022 11:16 AM
To: Karlene French
Cc: Wolf, Matthias (MPCA); Grape, Timothy (MPCA); Kevin Eisen; Zettler, Lee M (MDA); Orłowski, Stuart N (MDA)
Subject: RE: Canadian Pacific - McFarland-Dworsky Lease site soil gas sampling work plan for review
Attachments: Figure4_Proposed_Soil_Gas_Investigation.pdf; Figure3_Vapor_Intrusion_Potential_Source_Receptor_TCE.pdf

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Karlene,

The modified soil vapor sampling locations proposed on the attached Figure submitted by Barr are approved by the MPCA.

The MPCA provides the following responses to the comments provided by Barr/CP on January 27:

1. It appears from the comment that there was misinterpretation of the discussion between Barr and the MPCA on October 27, 2021. The comments indicate that CP (although not in attendance) and Barr thought that an agreement was made at the meeting regarding the use of EPA Vapor Intrusion Screening Levels (VISLs) as the appropriate method for determining soil vapor sampling locations. As the MPCA has previously communicated to both CP and Barr, the MPCA does not generally apply the EPA VISLs to initially determine soil vapor sampling locations. When a VOC groundwater plume has been identified at a site, the MPCA reviews the extent of groundwater impacts exceeding MDH Health Risk Limits (HRLs) to initially select locations to be targeted for soil vapor sampling, including collecting soil vapor samples in the release source area as well as a 100 foot buffer from the edge of the groundwater plume defined to the HRLs. This is the MPCA's consistent and standard procedure for all sites with potential soil vapor impacts and an identified VOC groundwater plume.

It is the MPCA's understanding that during the October 27, 2021 discussion, Barr and the MPCA agreed that the object of the soil vapor sampling was to evaluate and define (or define as much as possible) the vapor intrusion area of concern (VI AOC) at the Site based on the existing groundwater plume. As initially proposed, citing the soil vapor samples based on exceedances of the VISLs would result in a smaller initial investigation area (focused on the source) but may not have completely defined the VI AOC. If the VI AOC was not defined with these source-focused samples, additional step-out soil vapor sampling locations would be required to define the VI AOC. As previously indicated by the MPCA, citing the locations based on known exceedances of the HRLs encompasses a larger investigation area; however, this procedure better evaluates the entire area of potential vapor impacts. In addition, this procedure may also increase the likelihood of initially defining the VI AOC, or defining more of it than using a source-focused approach based on the VISLs.

2. The purpose of the MPCA's comment in the January 20, 2022 email regarding Residential land use was only to communicate that soil vapor results must be compared to appropriate and applicable ISVs (and 33X ISVs) based on land use type and receptors. Use of the appropriate and applicable ISVs based on land use and receptors is the MPCA's consistent and standard procedure for all sites with potential soil vapor impacts.

MPCA staff does not dispute that it appears unlikely that the VI AOC at the Site will extend into areas of Residential land use. However, because soil vapor samples have not been analyzed from the Site, the VI AOC is currently unknown and undefined based on actual analytical vapor data, and therefore, land uses and potential receptors of any vapor impacts are also currently unknown. The Site property and immediately adjacent property may not have residential use/occupancy; however, there are residential properties in the vicinity of the Site property. If vapor levels at the Site property exceed Residential 33X ISVs, the extent of those impacts need to be evaluated in the direction of residential receptors to ensure that vapor contamination is not migrating off the property and impacting residential properties above applicable screening values.

If you would like to further discuss the MPCA's comments or the soil vapor sampling activities at the Site, please let me know and we can coordinate a time for a conference call.

Thank you,
Tom

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From: Kevin Eisen <KEisen@barr.com>
Sent: Thursday, January 27, 2022 10:06
To: Reppe, Thomas (MPCA) <Thomas.Reppe@state.mn.us>; Wolf, Matthias (MPCA) <matthias.wolf@state.mn.us>
Cc: Zettler, Lee M (MDA) <lee.zettler@state.mn.us>; Orłowski, Stuart N (MDA) <stuart.n.orłowski@state.mn.us>; 'Karlene French' <Karlene_French@cpr.ca>; Kevin Eisen <KEisen@barr.com>; Grape, Timothy (MPCA) <timothy.grape@state.mn.us>
Subject: RE: Canadian Pacific - McFarland-Dworsky Lease site soil gas sampling work plan for review

Tom and Matthias,

Thank you for your review and approval of the above-referenced work plan with comments. In an effort to move forward with the work this year, Canadian Pacific has agreed to modify the proposed sampling locations using a comparison of groundwater results to Health Risk Limits, as indicated in the revised figures attached to this email. However, Canadian Pacific wishes the following to go on public record in response to your email below:

1. Barr Engineering met with MPCA on CP's behalf on October 27, 2021. That meeting included a detailed conversation about the appropriateness of EPA's Vapor Intrusion Screening Levels (VISLs) for defining a potential vapor source area in groundwater. VISLs are based on a chemical's potential for vapor formation and inhalation, rather than Health Risk Limits for drinking water, which are based on ingestion health risks. At that meeting, the MPCA's vapor intrusion expert, Timothy Grape, agreed that VISLs are the more appropriate comparison criteria. Barr left the meeting with the understanding that the use of VISLs, rather than HRLs, would be an

acceptable technical approach for defining the area with potential for vapor formation at this site. The text of your Jan. 20, 2022 email mischaracterizes what CP and Barr thought was an agreement made at the meeting in referring to it as an "opinion."

2. The comments in your Jan. 20, 2022 email suggest that screening criteria for residential land use may be theoretically applicable for soil vapor samples obtained from the site. It should be noted that residential properties are located more than one-half mile from the site in any direction. Based on the limited size of historical operations at the lease site, the delineation and successful demonstration of groundwater plume stability, and the very limited-size area of historical groundwater at concentrations above HRLs (~300-feet by 650-feet), it is very unlikely that the buffer will extend into areas of residential land use. Canadian Pacific would like the public to have accurate information regarding the nature of the site.

We have scheduled this field work to occur in a few weeks. Please let me know if you have any additional comments or questions.

Thank you,
Kevin

Kevin Eisen, PE

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From: Reppe, Thomas (MPCA) <Thomas.Reppe@state.mn.us>
Sent: Thursday, January 20, 2022 4:01 PM
To: 'Karlene French' <Karlene_French@cpr.ca>
Cc: Wolf, Matthias (MPCA) <matthias.wolf@state.mn.us>; Zettler, Lee M (MDA) <lee.zettler@state.mn.us>; Kevin Eisen <KEisen@barr.com>
Subject: RE: Canadian Pacific - McFarland-Dworsky Lease site soil gas sampling work plan for review

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Karlene,

Minnesota Pollution Control Agency (MPCA) staff have completed a review of the *Work Plan for CP Shoreham Yard McFarland-Dworsky Lease Site Soil Gas Investigation*, dated November 30, 2021 (Work Plan), prepared by Barr Engineering (Barr) on behalf of Canadian Pacific (CP). Based on the review, MPCA staff approve of the Work Plan and the proposed activities contingent on the incorporation of the following comments:

1. The Work Plan states that it was: "...prepared on behalf of Canadian Pacific, in response to an October 6, 2021 conference call... as well as a subsequent scope clarification discussion held on October 26, 2021." The referenced conference call between CP and the MPCA occurred on October 5, 2021, and the discussion between Barr and the MPCA to clarify the scope occurred on October 27, 2021.
2. Groundwater Data Evaluation: The Work Plan states that: "As discussed during the October 26, 2021 conference call, EPA's Vapor Intrusion Screening Levels (VISLs) are a more appropriate screening criteria than Health Risk Limits (HRLs) for assessing vapor intrusion risk, as VISLs are based on health risk associated with inhalation, whereas HRLs are based on health risks associated with ingestion. Correspondingly, the historical groundwater data were evaluated by comparing them to target groundwater concentrations based on EPA's VISLs..."

The opinion that EPA's VISLs are a more appropriate screening method than MDH HRLs for assessing vapor intrusion risk is noted. As previously communicated by the MPCA to CP via email correspondence on October 25, 2021, and as discussed between the MPCA and Barr on October 27, 2021, the MPCA does not generally apply the EPA's VISLs to determine locations to be targeted for soil vapor sampling, as is proposed in the Work Plan.

In accordance with the MPCA's *Vapor Investigation and Mitigation Decision Best Management Practices* (BMPs) (available at [c-rem3-06e](#)), vapor investigation activities are determined by evaluating soil vapor (soil gas and/or sub-slab) data collected at a site relative to MPCA's Intrusion Screening Values (ISVs) to define the vapor intrusion area of concern (VI AOC). If a known or potential source of vapor-forming contaminants is present at a site, including a shallow groundwater plume, the MPCA utilizes the MDH Health Risk Limits (HRLs) to determine locations to be targeted for soil vapor sampling. Specifically, the BMPs prescribe that soil vapor samples shall be collected within a 100-foot buffer zone from known or suspected vapor sources, including VOC-impacted groundwater.

All of the groundwater samples collected at the site and summarized in *Table 1, Shallow Groundwater Analytical Data*, with the exception of SB0083, either exceed or have a reporting limit that exceeds the MDH HRL (0.4 ug/L) for TCE. TCE was detected above the reporting limit and above the MDH HRL at the following locations: GP-1 through GP-5, GP-7, GP-9, MW01-04-T, MW201, MW202, CPR-SB0085, and CPR-SB0086. The groundwater results indicate a larger groundwater plume of TCE that exceeds the MDH HRL than displayed in Figures 3 through 5 of the Work Plan. Therefore, the 100-foot buffer should also be extended outward surrounding the identified groundwater plume, defining a larger area of potential vapor impacts and VI AOC. Based on this information, the locations of the proposed soil vapor samples are within the identified source area, and moving the locations outward may better evaluate the entire area of potential vapor impacts defined by the 100-foot buffer surrounding the identified groundwater plume.

3. Schedule: The Work Plan states that: "The two rounds will achieve the MPCA's required two-season sampling schedule (i.e., with one heating season sample and one non-heating season sample)." As stated in the MPCA's BMPs, two seasonal sampling events, conducted within 100 feet of known or potential vapor sources, are the minimum number of sampling events required to document that there is not a VI AOC at the site.
4. Reporting: The Work Plan states that: "Following receipt and data quality review of the analytical results from both sampling events, a summary letter report will be prepared for regulatory review and approval... Assuming no exceedances of the MPCA 33x ISVs for Industrial/Commercial land use, it is anticipated that CP will re-request the previously-submitted request for a No Further Action Letter with the existing Affidavit."

As indicated above in Comment 2, the locations of the proposed soil vapor samples are within the source area (i.e. the shallow groundwater plume that exceeds MDH HRLs) and are not located within the 100-foot buffer of the identified groundwater plume. If a result(s) from any of the sampling locations/events exceed the MPCA's 33x ISVs for Commercial/Industrial land use, then additional soil vapor samples must be collected beyond the currently proposed locations to delineate the full extent of soil vapor impacts and the VI AOC based on nearby

receptors and their proximity to the site. If Residential land use is applicable to any identified receptor(s), then the MPCA's ISVs (and 33x ISVs) for Residential land use will be valid for evaluating and defining the VI AOC.

Please contact Matthias Wolf or myself if you have any questions regarding the MPCA's review and approval of the Work Plan.

Thank you,
Tom

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From: Kevin Eisen <KEisen@barr.com>
Sent: Tuesday, November 30, 2021 08:33
To: Reppe, Thomas (MPCA) <Thomas.Reppe@state.mn.us>; Zettler, Lee M (MDA) <lee.zettler@state.mn.us>
Cc: 'Karlene French' <Karlene_French@cpr.ca>; Kevin Eisen <KEisen@barr.com>
Subject: Canadian Pacific - McFarland-Dworsky Lease site soil gas sampling work plan for review

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Tom and Lee,

Please find attached a work plan submitted on behalf of Canadian Pacific for evaluation of soil gas at the above-referenced lease site.

Please let me know if you have any questions during your review.

Thanks,
Kevin

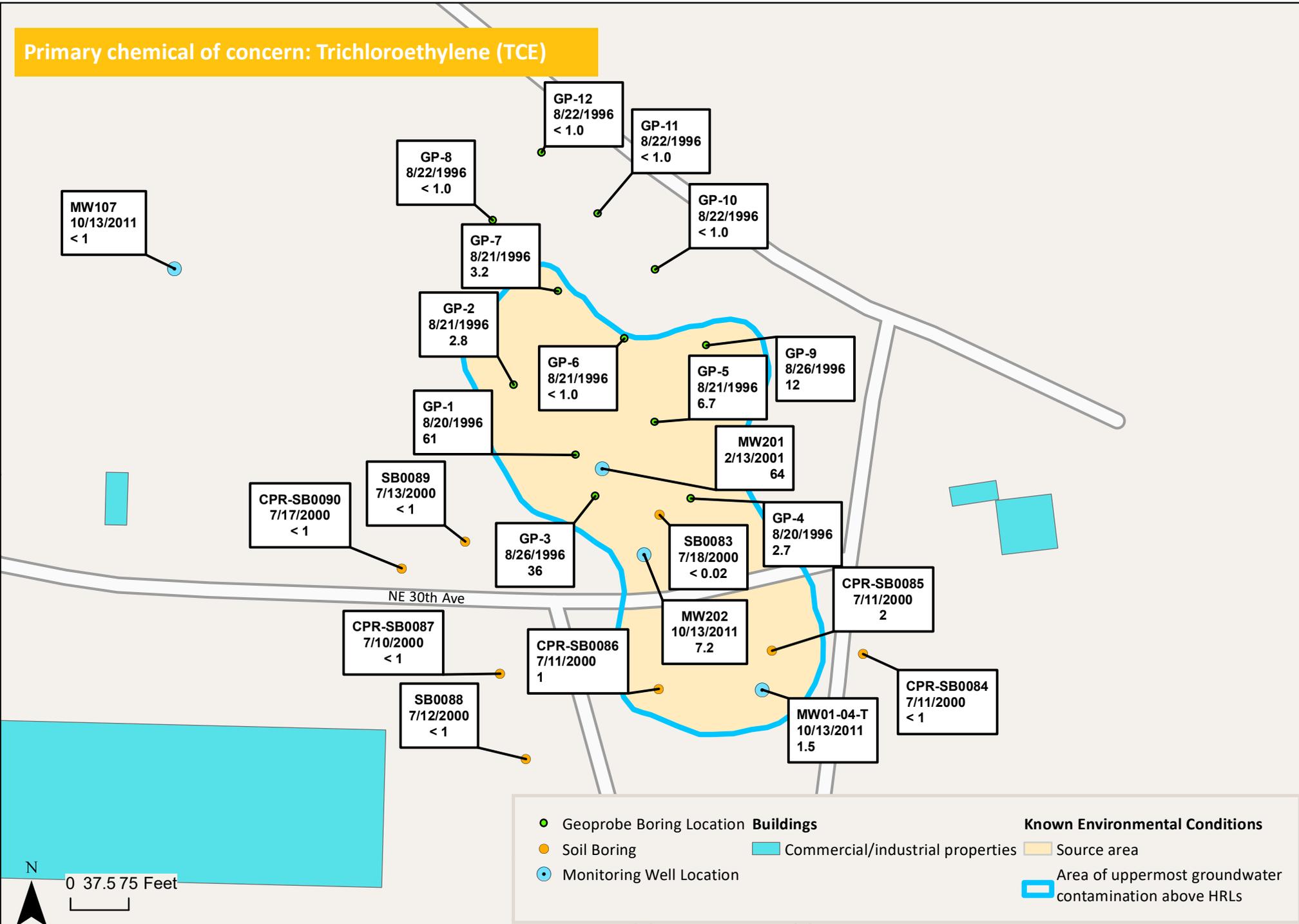
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Primary chemical of concern: Trichloroethylene (TCE)



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