



ST. JOHN - MITTELHAUSER & ASSOCIATES

A Terracon COMPANY

VIA CERTIFIED MAIL 7016 1970 0001 0402 7399

July 10, 2020

Douglas Cieslak
Hydrogeologist
Remediation and Redevelopment Bureau
Wisconsin Department of Natural Resources
2300 N. Dr. Martin Luther King Jr. Drive
Milwaukee, Wisconsin 53212



Re: D&C Partners Response to WDNR's June 3, 2020 Correspondence
5005 S. Packard Avenue
Cudahy, WI

Dear Mr. Cieslak:

Thank you for your June 3, 2020 letter in response to the Site Investigation Report / Remedial Action Options and Design Report (SIR/RAODR) submitted to the WDNR on April 21, 2020. Your letter denied our request for approval of the Site Investigation Report for the Superior Health Linens Site. On behalf of D&C Partners, LLC (D&C Partners), St. John – Mittelhauser & Associates, Inc., a Terracon Company (SMA), requests a meeting with you and your program supervisor to discuss the comments in your letter and the responses that we are providing below.

We fundamentally disagree with several of your conclusions and believe that, with a few very limited exceptions, the site investigation has sufficiently defined the nature and extent of the contamination present at the site. As you will see below, the issues you have raised have already been adequately addressed and the remaining work we are proposing should not prevent an approval of the SIR and chosen remedial plan.

Before addressing your specific comments, it is necessary to review the Conceptual Site Model (CSM) SMA has developed. As outlined in the SIR/RAODR and discussed in detail with the WDNR prior to submittal, the soil borings, stratigraphic sequence, soil and groundwater analytical results, and groundwater flow direction provided the basis for the development of a complete CSM, which can be summarized as follows:

- The source area on this property has been identified as being in the surface soils along the western property boundary and within the drainage ditch within Union Pacific's right of way;
- This soil contamination has migrated to groundwater, which is generally found at approximately 7.2 feet bgs in the silty clay glacial till present to a depth of approximately 30 feet bgs. Very little lateral migration of groundwater occurs within this till due to the low hydraulic conductivity of these soils;

- There is a sand seam within the silty clay till at a depth of about 30 ft bgs and some CVOC migration is occurring through this sand zone; and
- The vertical extent of CVOCs have been defined within the source area through the collection of soil and groundwater samples from MW-12. Monitoring well MW-12 is a double-cased well, installed on the western property line through the source area, and completed with a screened interval from 53 feet to 58 feet in depth. Groundwater samples from MW-12 have demonstrated that groundwater impacts at this depth are below the Wisconsin residential cleanup standards.

A complete discussion of the geology and hydrogeology was provided in Sections 6.1 and 6.2 and the supporting cross-sections provided as Figures 10, 11, 12 and 13 of the SIR/RAODR. In summary, the extent of impacted groundwater within the silty clay glacial till above a depth of 30 ft bgs is defined by MW-7, MW-9 and MW-10 and is depicted on Figure 22 of the SIR/RAODR.

1,1,1-TCA has not been detected above the laboratory reporting limits (i.e. "non-detect") in MW-7 (December 2010 – July 2017) and MW-10 (July 2014 – July 2017). 1,1,1-TCA has been identified in MW-9 at concentrations of 1.3 ug/l and 6.7 ug/l during the July 2014 and July 2017 sampling events respectively. The concentration of 1,1,1-TCA in MW-9 is below the Preventative Action Level of 40 ug/l and the Enforcement Standard of 200 ug/l. In addition, the presence of 1,1-DCA (a daughter product of 1,1,1-TCA) in MW-9 demonstrates 1,1,1-TCA is undergoing natural attenuation (via reductive dechlorination) at the Site. Based on this, the analytical results of groundwater samples collected from these monitoring wells defined the extent of CVOCs within the silty clay glacial till.

As discussed in Section 9.0 of the SIR/RAODR, to further verify that the groundwater contaminant plume within the silty clay glacial till (in which MW-7, MW-9, and MW-10 are screened) is stable and/or decreasing, a trend analysis (Mann-Kendal) was performed using the USEPA's ProUCL v5.1. The monitoring wells within the contaminant plume that the Mann-Kendall trend analysis was performed on include MW-1, MW-2, MW-3, MW-5 and MW-6. According to the Mann-Kendall trend analysis:

- 1) TCE and 1,1,1-TCA concentrations in the monitoring wells within and immediately adjacent to the source area (MW-1, MW-2, and MW-3) indicate a decreasing trend at a 90% upper confidence level (UCL). In addition, groundwater data for the daughter products of TCE and 1,1,1-TCA (cis-1,2-DCE and 1,1-DCE) also indicate a decreasing and/or stable trend (at a 90% UCL);
- 2) MW-5, located along the along the southern property line of the Site and immediately hydraulically downgradient of the source area on the 5025 South Packard site, indicates an increasing trend of TCE at a 90% UCL. The increase in TCE in MW-5 is attributable to the documented release of CVOCs on the MSF Corporation parcel to the south (Section 3.0 of the SIR/RAODR); and
- 3) 1,1,1-TCA concentrations in MW-6 indicate "no-trend". However, based on a review of the output as provided in Appendix N of the SIR/RAODR, with a 90% UCL and a Coefficient of Variation (COV), value of 0.391 (<1), the trend analysis is more accurately described as "stable."

Based on the Mann-Kendall analysis, the contaminant plume within the silty clay glacial till is decreasing in concentration or remaining stable and not expanding or migrating laterally.

As demonstrated on Figure 12 of the SIR/RAODR, piezometer PZ-3 is completed downgradient of the source area and adjacent to MW-6 and MW-13. The piezometer is screened at a depth of 27 – 33 feet bgs and completed in the clay unit underlying the glacial till and the “sand seam.” Groundwater samples collected from PZ-3 between December 2010 and August 2017 (8 sampling events) indicated all CVOCs were below the reporting limits of the laboratory equipment.

Therefore, the sand seam at 30 ft bgs is the only groundwater transport pathway for the Site. Furthermore, the analytical results of the groundwater samples collected from PZ-3 verify that the vertical extent of CVOCs, downgradient of the source area have been defined.

Finally, the analytical results of groundwater samples collected from PZ-3, located downgradient of the source area, demonstrates that there is no vertical migration from the 30-foot sand seam into the underlying clay till and the only groundwater transport pathway at the Site is the 30-foot sand seam.

To assist in your review, SMA has restated each of the WDNR’s comments in **bold** and has provided our response in *italics*.

Groundwater Investigation

- 1) Extent of 1,4 Dioxane Groundwater Contamination**
1,4 Dioxane has been detected above ch. NR 140 Wis. Adm. Code standards in all the monitoring wells that have been sampled. Figure 23 illustrates the potential of two separate plumes. Additional groundwater investigation should be conducted to determine the vertical and horizontal extent of contamination. MW-7, MW-9, MW-10, PZ-3 have not been previously sampled for 1, 4 Dioxane and may also provide useful information for this purpose.

Figure 23 depicts the extent of impacted groundwater within the 30-foot sand seam. The two circles depicting the extent of the 1,4 Dioxane contamination were derived based on modeling as discussed in Section 9.0 of the SIR/RAODR:

“In a similar fashion to that performed with the BIOCHLOR modeling, the Domenico analytical solute transport equation (below) was used to simulate the distance the 1,4-dioxane could migrate from the source area in the 30-foot sand if it is assumed to be laterally continuous and dispersion is the only form of attenuation.”

$$C(x, y, z, t) = \left(\frac{C_0}{8}\right) \exp\left\{\left(\frac{x}{2\alpha_x}\right)\left[1 - \left(1 + \frac{4\lambda\alpha_x}{v}\right)^{1/2}\right]\right\} \\ \operatorname{erfc}\left[\frac{x - vt(1 + 4\lambda\alpha_x/v)^{1/2}}{2(\alpha_x vt)^{1/2}}\right] \\ \left\{\operatorname{erf}\left[\frac{(y + Y/2)}{2(\alpha_y x)^{1/2}}\right] - \operatorname{erf}\left[\frac{(y - Y/2)}{2(\alpha_y x)^{1/2}}\right]\right\} \\ \left\{\operatorname{erf}\left[\frac{(z + Z)}{2(\alpha_z x)^{1/2}}\right] - \operatorname{erf}\left[\frac{(z - Z)}{2(\alpha_z x)^{1/2}}\right]\right\}$$

All the data inputs and assumptions for this analytical calculation were exactly the same as the BIOCHLOR modeling except that no degradation was used (the half-life first-order decay was set to 1,000,000 days) and the continuous, steady state source was the average 1,4-dioxane concentration observed at PZ-1 (6.9 µg/l). The analytical calculation was made to simulate steady state by using a simulation length of 1,000,000 days.

The results of this Domenico modeling predicted a concentration of 3 µg/l at a distance of 172 feet downgradient of PZ-1, prior to reaching monitoring well MW-13. The presence of 1,4-dioxane in MW-13 is likely associated with the presence of 1,1,1-TCA in MW-6. Therefore, the Domenico modeling was analyzed for MW-13 with a steady state source concentration of 1,4-dioxane in MW-13 (6.83 µg/l). The result of the Domenico modeling predicted a concentration of 3 µg/l at a distance of 165 feet downgradient of MW-13. The lateral extent of 1,4-Dioxane, based on the Domenico modeling is shown on Figure 23”

While there are two separate and non-intersecting green lines on Figure 23, these are not two separate plumes, but rather a reflection of the distinct inputs used in the modeling calculations to determine the extent of the 1,4 dioxane. 1,1,1-TCA did not exceed the Enforcement Standard within the 30-foot sand seam and therefore is not presented on Figure 23.

2) Extent of 1,1,1 Trichloroethane (TCA) Groundwater Contamination

Cross section C-C', Figure 12 does not illustrate the downgradient extent of this contaminate plume and it is not included groundwater plume map, Figure 23. Based on the increased concentrations found in MW-6, there appears to be an additional unknown source of TCA. 1,4 Dioxane is known to be a stabilizer of chlorinated volatile organic compounds (CVOC), including TCA and maybe commingled with the TCA plume. Additional groundwater investigation activities may be necessary to define the degree and extent of contamination.

Figure 23 depicts the groundwater plume within the 30-foot sand seam. MW-6 is screened above the sand seam, in the silty clay. The analytical results of the groundwater samples collected from MW-13, which is screened in the sand seam,

indicated 1,1,1-TCA was below the laboratory reporting limits for all five groundwater sampling events. Therefore, there is no plume of 1,1,1-TCA on cross-section C – C' (Figure 12).

1,1,1-TCA was identified in groundwater at MW-6. While no soil samples were collected from MW-6, a review of the field screening results (i.e. PID readings) provides no evidence of a release to the soil in the area of MW-6. Furthermore, soil samples collected during the installation of MW-13, located approximately 20 feet northeast of MW-6, indicated 1,1,1-TCA was below the reporting limits of the laboratory equipment (<0.025 mg/kg) at a depth of 9 – 10' bgs. These two lines of evidence support the conclusion that there is no additional source area.

As discussed under item #1 above, the extent of 1,4-dioxane in the 30-foot sand seam was modeled using the Domenico analytical solute transport model. The extent of CVOCs (and 1,4-dioxane) were not modeled in the silty clay glacial till due to 1) lateral migration is demonstrated not to occur in the silty clay glacial till due to the low hydraulic conductivity and attenuation processes within the silty clay above a depth of 30 feet; 2) the 30-foot sand seam is the only groundwater transport pathway at the Site; and 3) the mass of CVOCs within the silty clay glacial till is decreasing due to natural attenuation.

3) Off-site Plume(s)

Your recent groundwater investigation activities did define the extent of contamination upgradient and vertically in the area of significant groundwater contamination near the southwest corner of your building and MW-2. However, Figure 23 illustrates potential groundwater contamination plume(s) migrating off-site beneath adjoining properties. Additional groundwater investigation activities are required to define the degree and extent of any off-site contamination. MW-7 and MW-10 should be resampled for the contaminants of concern to ensure the extent of the northern limit of the groundwater contamination.

As discussed in Sections 6.1 and 6.2, along with Figures 10, 11, 12, and 13 of the SIR/RAODR, the geology below the Site consists of an initial layer of 25 to 30 feet of a dense glacial clay till. This till inhibits the lateral or vertical migration of the contaminants of concern. Underlying the glacial clay till is a +/- 2-foot thick laterally continuous sand seam. It is through this sand seam that the contaminants of concern from the source area are migrating across the Site to the northeast. This sand seam is the only path by which the contaminants of concern can migrate laterally across the property and offsite.

SMA discussed how to best determine the downgradient extent of contamination within the 30-foot sand seam with the WDNR during a conference call on January 22, 2020. The parties discussed that conducting an offsite investigation to the northeast (downgradient) could potentially identify sources of contamination not related to our Site, which could greatly complicate closure of the Site. SMA understood WDNR to have concurred with this assessment. Furthermore, given the lack of any downgradient receptors (i.e. private wells), there is no risk to human health or the environment if the contaminants of concern remained in place.

As a result of that conversation with the WDNR, SMA conducted a file review to determine the presence of contaminants of concern downgradient of the Site. As discussed in detail in Section 3.1 of the SIR/RAODR, the downgradient locations included:

- *Authentic Automotive: An automotive collision and repair facility located directly downgradient of Super Health Linens. No releases have been reported at this facility.*

SMA attempted to identify the nature and suite of chemicals used by searching the USEPA's RCRA Info database for a listing of chemicals disposed of by Authentic Automotive. Although the database identified several automotive collision and repair facilities as RCRA generators in the immediate vicinity of Authentic Automotive, Authentic Automotive was not listed in the database;

- *Former Venus Ford: Located directly east of Superior Health Linens, identified the presence of Petroleum VOCs, 1,2-dichloroethane and 1,1-Dichloroethane in the subsurface; and*
- *Speedway Station: located downgradient of Superior Health Linens identified the presence of petroleum related VOCs.*

Based on the discussions with the WDNR and the results of the file review, SMA utilized BIOCHLOR to model the maximum extent the contaminants could migrate northeast through the 30-foot sand seam. BIOCHLOR is a USEPA developed spreadsheet based on the Domenico solute transport equation to model releases of chlorinated solvents like those found in the source area. The model takes into account the geology, groundwater flow, source concentration, and rate the contaminants break down. According to the model, groundwater plume will terminate on the east side of South Packard, in front of the Speedway Service Station.

In addition to the US EPA's numeric model, SMA demonstrated in the SIR/RAODR that the concentration of the contaminants identified in the monitoring wells is stable and/or decreasing in concentration. This indicates that the plume of impacted groundwater is shrinking as the contaminants of concern naturally attenuate.

Source(s) of Groundwater Contamination and Vapor Intrusion

- 4) Historic TCA concentrations appear to increase from the potential source area identified near the southwest corner of your building and MW-2 downgradient to MW-6. This plume is missing from cross sections, maps, and discussions in your report. Also, sub-slab vapor samples and soil gas sampling detected TCA, Tetrachloroethane (PCE), Trichloroethane (TCE) and other volatile organic compounds. Based on this information it appears that areas beneath your building may be acting as source of groundwater and vapor contamination. Your subsequent investigation activities should attempt to define the degree and extent of soil, groundwater and vapor contamination beneath your building.**

The degree and extent of contamination beneath the building has been adequately defined. As discussed in Sections 2.3.2 and 8.0 of the SIR/RAODR, four (4) sub slab soil gas samples were collected from beneath the floor of the building in February 2013. They were collected immediately prior to the installation of the SSDS system. Each sub slab soil gas sample was collected over a period of 1-hour with a summa canister and analyzed for VOCs using method TO-15.

The sub slab soil gas analytical results identified that one of the samples had no detectable VOC results and the other samples identified the presence of two (2) VOCs above the reporting limits of the laboratory equipment in one sample (SSV-3). The VOCs included 1,1,1-TCA at a concentration of 79.1 ug/m³ and TCE at a concentration of 1.1 ug/m³. Both were below their respective Target Sub-Slab Vapor Risk Screening Level of 2,200,000 ug/m³ and 880 ug/m³ respectively. Given the concentration of CVOCs within the source area, and its proximity to the western edge of the building footprint, the presence of trace amounts of 1,1,1-TCA and TCE are not surprising. Figure 12 (Cross Section C – C') has been updated to show the projected location of the sub slab soil gas samples and the inferred extent of contaminants exceeding the protection of groundwater RCLs. The updated figure is attached to this correspondence.

The building was constructed prior to 1976, 27 years before the sub slab samples were collected. If there were additional sources under the building, the concentrations beneath the building (and with the gravel base) would likely have been much higher. A review of Milwaukee County GIS System historical aerial photos of the Site between 1967 and 1976 indicate the location of the current Superior Health Linens building consisted of coal bins in 1967 and 1970. In 1975 the coal bins were no longer visible, and the area appears graded with stone. In 1976, the main building is constructed. There is no evidence of drums, drum storage, or dumping under the footprint of the building in the aerial photographs.

Furthermore, as shown on Figure 4 of the SIR/RAODR, two soil samples [B-18 (1.5 – 2.5') and B-19 (1.5 – 2.5')] were collected in July 2004 at locations east of the main building, and beneath the current office expansion (2005). The analytical results of the soil samples indicated all VOCs were below the reporting limits of the laboratory equipment.

Following installation of the sub-slab depressurization system (SSDS) and its operation for a period of approximately 8 months, a second set of soil gas samples were collected. Elevated concentrations of TCE was detected in sub slab soil gas sample located at the southwest corner of the building (SSV-2). However, this is not evidence of an additional source area, rather it is verification that the vacuum influence on the coarse-grained sub-slab backfill by the SSDS is pulling the contaminants from source area and exhausting them above the roofline and not allowing the contamination to migrate into the building itself.

With respect to contamination detected within and around MW-6, as discussed in Section 9.0 of the SIR/RAODR, the results of the Domenico modeling predicted a 1,4-dioxane concentration of 3 ug/l at a distance of 172 feet downgradient of PZ-1, prior to reaching MW-13. The presence of 1,4-Dioxane in MW-13 is likely

associated with the presence of 1,1,1-TCA in MW-6. Therefore, the Domenico modeling was analyzed for MW-13 with a steady state source concentration of 1,4-dioxane in MW-13 (6.82 ug/l). The result of the Domenico modeling predicted a concentration of 3 ug/l at a distance of 165 feet downgradient of MW-13.

The occurrence of 1,4-dioxane is attributable to the low concentrations of 1,1,1-TCA observed in MW-6. No soil samples were collected during the installation of MW-6. However, the field screening results (i.e. PID readings) collected during installation do not indicate the presence of VOCs within the surface or near surface soils. Additionally, soil samples collected within the saturated zone at MW-13, located downgradient 20 feet to the northeast of MW-6 indicated 1,1,1-TCA was below the reporting limits of the laboratory analytical (<0.025 mg/kg) at depths of 9 – 10', 17 – 18', and 24 – 25' bgs. Groundwater samples collected from MW-13 between August 2017 and July 2019 indicate 1,1,1-TCA is also below the reporting limits of the laboratory equipment (<0.14 to <0.5 ug/l). However, 1,1-DCA and 1,1-DCE (daughter products of 1,1,1-TCA) are present in MW-13 at concentrations below the Enforcement Standards. This data indicates that 1,1,1-TCA and its daughter products 1,1-DCA and 1,1-DCE are attenuating significantly and did not require individual modeling themselves.

Based on these analytical results of the soil samples collected from MW-13, 1,1,1-TCA is not migrating laterally through the silty clay glacial till. Rather, the contaminants are migrating vertically into the 30-foot sand seam where it is rapidly attenuating into the very low concentrations observed of 1,1-DCA (via reductive de-chlorination) and 1,1-DCE (via hydrolysis).

The testing done to date is sufficient to rule out any additional risk to human health or the environment and therefore, no further investigation within the building footprint or the area of MW-6 is warranted.

Inter-Sewer Gas Monitoring

- 5) Additional assessment of the vapor intrusion should be conducted to ensure the sewers are not acting as a conduit for vapor migration. Gas monitoring should be conducted in the sanitary sewers and storm sewers where they can be accessed. Gas monitoring should also include 1,4 Dioxane as a contaminant of concern. Please provide a brief work plan and schedule for this work and include the utilities in all maps and cross sections.**

As discussed in Sections 2.3.2, 8.0, and Figure 7 of the SIR/RAODR, soil borings were completed along the sanitary trench and water lines (in the vicinity of the loading dock) in May 2015 to facilitate the collection of soil gas samples. The soil gas samples did identify trace amounts of several CVOCs (e.g. TCE, PCE, 1,1-DCA, and 1,1,1-TCA), petroleum VOCs (e.g. benzene, toluene, ethanol, MTBE, xylenes), and VOCs associated with automotive painting and refinishing (e.g. methyl ethyl ketone, naphthalene, acetone). However, as demonstrated on Table A.4, Appendix B of the SIR/RAODR, all samples were below their applicable soil gas risk screen levels. This included not only large industrial buildings like Superior Health Linens, but also met the requirements for residential buildings.

The soil gas samples confirm:

- *The lack of contaminants of concern in the soil gas samples collected from along sanitary trench and water lines in 2015 is verification that the presence of 25 – 30 feet of dense clay till overlying the “30-foot sand seam” is preventing the upward migration of vapors into the shallow subsurface;*
- *The analytical results confirm there is no vapor intrusion issue along the subsurface utilities; and*
- *The presence of VOCs associated with automotive repair and painting within the soil gas samples collected verifies that VOCs exist in the subsurface downgradient of the Site.*

Furthermore, as shown on Figures 4 & 5 of the SIR/RAODR, 25 soil samples collected from 14 soil borings within the area east of the building footprint at depths from the near surface to 26 feet bgs. The analytical results of the soil samples indicate all shallow soil samples are below the reporting limits of the laboratory equipment or present in trace amounts. The analytical data of the soil samples do not indicate the presence of elevated concentrations of CVOCs that is indicative of additional source areas.

There is no qualitative evidence to support further investigation of the subsurface utilities.

Commissioning and Operation and Maintenance of Sub-slab Depressurization System (SSDS)

- 6) Please complete the commissioning phase of your mitigation of sub-slab vapor intrusion detected in 2013. The DNR provides guidance RR-800 Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin on our website that includes guidelines for commissioning. The commissioning of your SSDS should include indoor air performance monitoring.**

Please submit your operation and maintenance plan and apply for a continuing obligation for your SSDS after it is proven effective at mitigating vapor intrusion. This work should be completed as soon as possible as an interim action under ch. NR 708 Wis. Adm. Code. Please provide a work plan and schedule for this work.

D’Arcy Gravelle from Key Engineering, on behalf of D&C Partners submitted the Operation & Maintenance (O&M) Plan for the SSDS system via email and hard copy to Doug Cieslak on May 31, 2015. The O&M plan included construction specifications including as built drawings, required maintenance of the fan system and floor, equipment list, requirements for reassessment should the facility usage change in the future, photographs, methodology to verify system operation (e.g. manometer to verify vacuum), and troubleshooting steps.

The only remaining work is to demonstrate the effectiveness of the SSDS system. D&C Partners will submit a work plan for a single (one-time event) sampling event to facilitate the collection of four (4) indoor air samples from the facility. The O&M Plan will be amended to include the analytical results of the indoor air samples and resubmitted to the WDNR.

Upon submittal of the indoor air samples, the O&M for the SSDS will be deemed complete.

Remedial Options and Remedial Design

- 7) **The extent of soil, groundwater, and vapor contamination has not been defined. Upon completion of that work you should submit a remedial option analysis report in accordance with ch. NR 722 Wis. Adm. Code that includes remediation alternatives to comply with ch. 726.05(8) Wis. Adm. Code that states:**

A site or facility is not eligible for closure until:

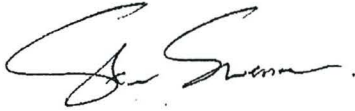
the vapor exposure pathway has been investigated in accordance with par. NR 716.11(5) (g). and where vapors were present above the vapor risk screening level:

a remedial action has been conducted and reduced the mass and concentration of volatile compounds to the extent practicable and the vapor exposure pathway has been interrupted or mitigated. Note: Vapor mitigation systems are not considered remedial actions, as they do not reduce the mass or concentrations of the contaminants. Vapor mitigation systems are used to interrupt the vapor migration pathway.

As discussed in items 1 through 6 above, D&C Partners have investigated and determined the lateral and vertical extent of the CVOCs at the Site. There is no empirical evidence of additional source areas beneath the footprint of the building, nor is there a vapor intrusion issue along the utility corridors along the east side of the building. Therefore, following your review of this response, we anticipate your submittal of the RAODR portion of the report for evaluation and approval. Assuming it is approved, the engineered barrier will be installed by Union Pacific Rail Road over the ditch and this Site will be closed.

We hope that this email addresses the concerns and comments you had relating to the SIR. Should you have any questions, or require additional information, please feel free to contact me at (815) 255-8300.

Sincerely,

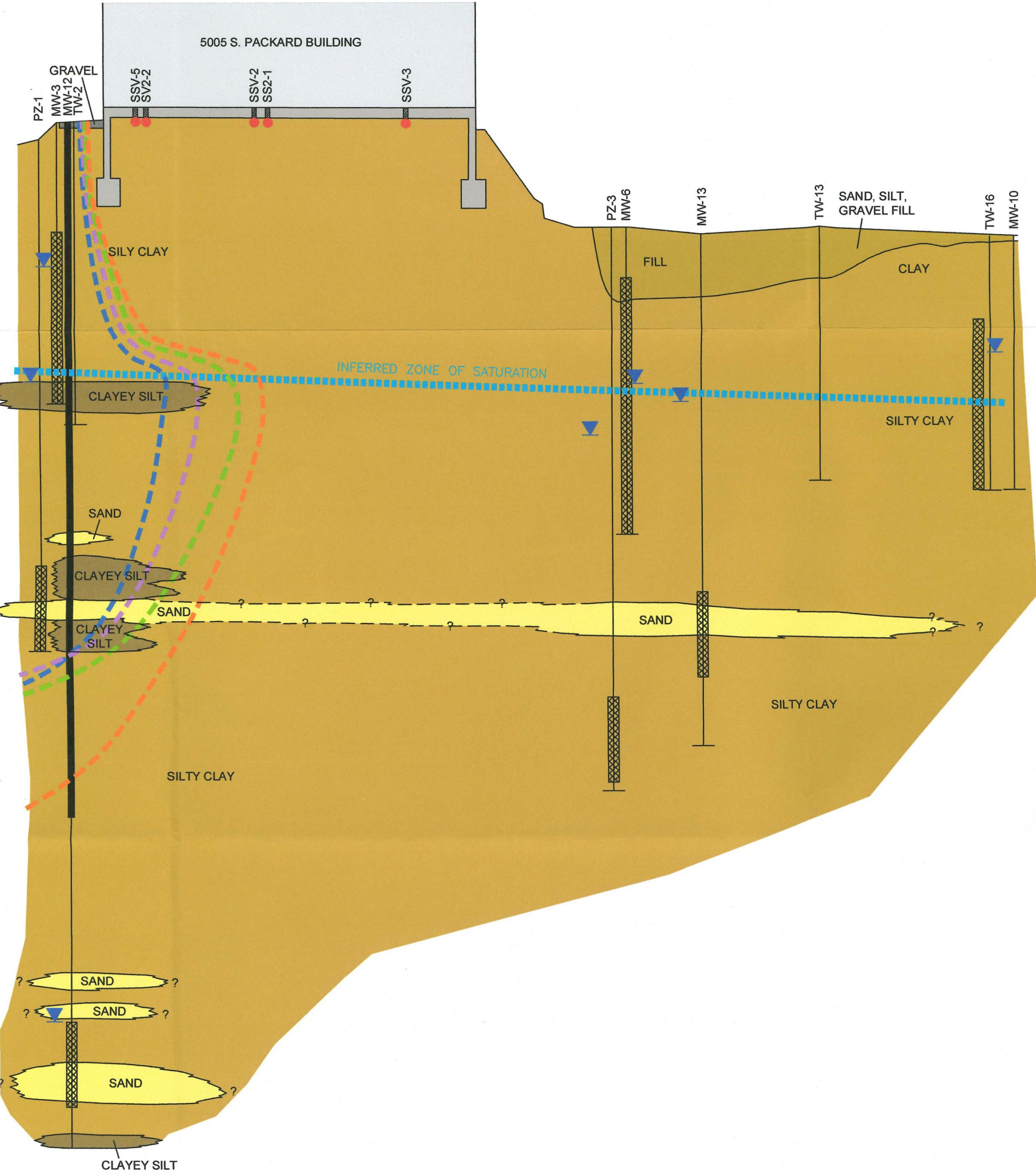


Steven Swenson, P.G., CHMM
Senior Geologist
St. John – Mittelhauser & Associates, Inc., a Terracon Company

Attachments: Revised Figure 12

cc: Jim Baumgartner, D&C Partners
Bill Nicklas, D&C Partners
M. Andrew Skwierawski, Davis & Kuelthau, s.c.
Timothy Alessi, Wisconsin Department of Natural Resources
Nick Swartz, Superior Health Linens
Kevin Peterburs, Union Pacific Railroad

ATTACHMENT



INFERRED EXTENT OF CONTAMINANTS EXCEEDING PROTECTION OF GROUNDWATER RCLs

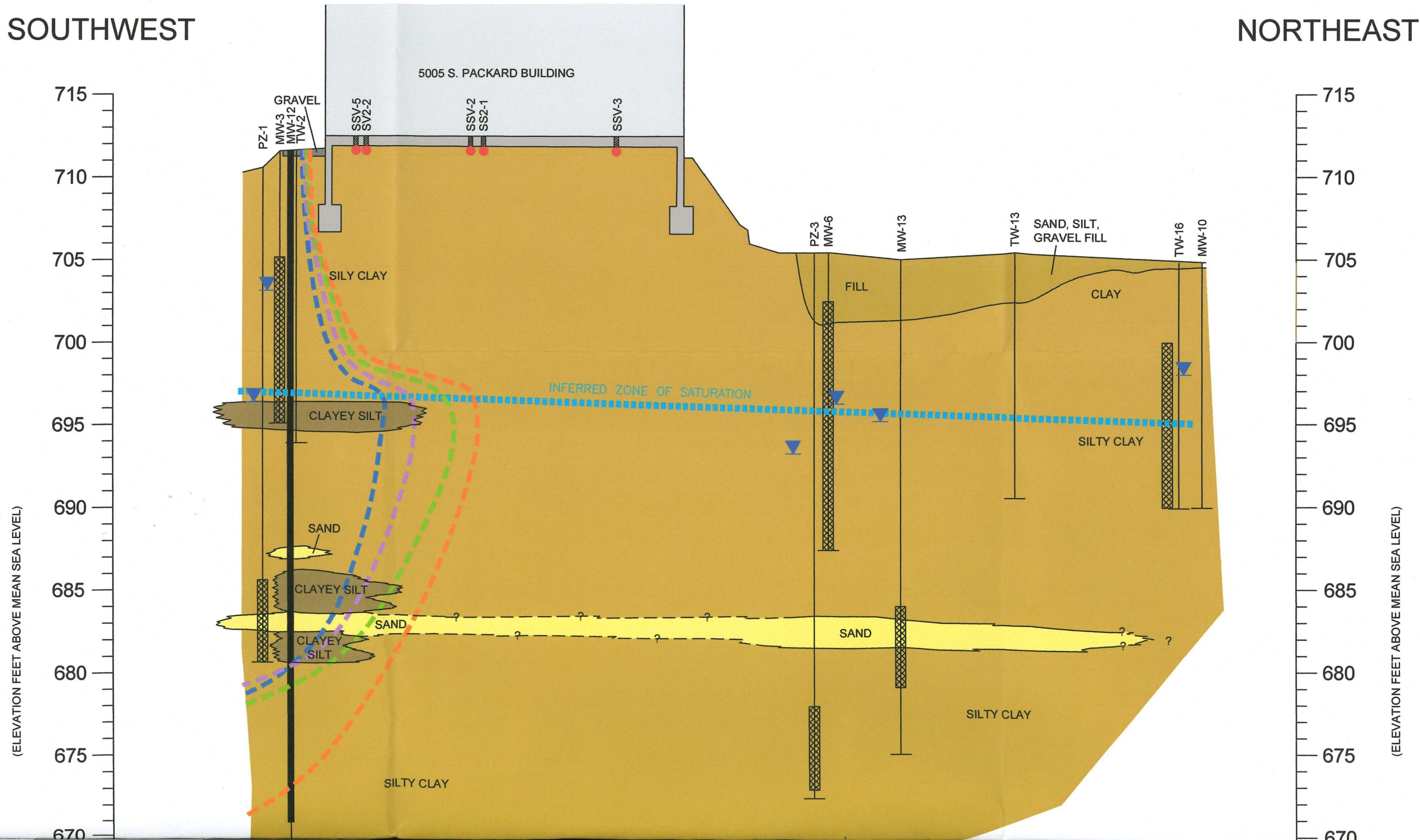
- TCE
- PCE
- 1,1,1-TCA
- CIS-1,2-DCE

NOTE:

1. CROSS SECTION IS BASED ON BEST PROFESSIONAL JUDGMENT USING DATA AVAILABLE AT THE TIME OF CONSTRUCTION. THE GEOLOGY PRESENTED IN THE CROSS SECTION WAS GENERALIZED TO ILLUSTRATE THE MAJOR LITHOLOGIC UNITS. THE THICKNESS AND EXTENT OF THE LITHOLOGIC UNITS ARE APPROXIMATED AND GEOLOGIC CONTACTS BETWEEN LOCATIONS ARE INFERRED.

C
SOUTHWEST

C'
NORTHEAST





LEGEND

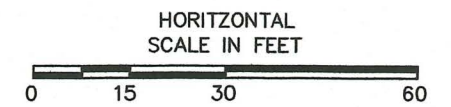
- SUB SLAB SOIL GAS SAMPLE
- ▼ WATER LEVEL (9/29/17)
- WELL SCREEN
- INFERRED ZONE OF SATURATION
- FILL
- CLAY AND CLAYEY SILT
- SILT
- SAND
- GRAVEL
- SP
- CONCRETE
- SAND, SILT, GRAVEL FILL

INFERRED EXTENT OF CONTAMINANTS EXCEEDING PROTECTION OF GROUNDWATER RCLs

- TCE
- PCE
- 1,1,1-TCA
- CIS-1,2-DCE

NOTE:

1. CROSS SECTION IS BASED ON BEST PROFESSIONAL JUDGMENT USING DATA AVAILABLE AT THE TIME OF CONSTRUCTION. THE GEOLOGY PRESENTED IN THE CROSS SECTION WAS GENERALIZED TO ILLUSTRATE THE MAJOR LITHOLOGIC UNITS. THE THICKNESS AND EXTENT OF THE LITHOLOGIC UNITS ARE APPROXIMATED AND GEOLOGIC CONTACTS BETWEEN LOCATIONS ARE INFERRED.



VERTICAL SCALE: 1" = 6'

CHECK BY: SRS
DRAWN BY: OS
DATE: 7-7-20
SCALE: AS SHOWN
CAD NO.: 15011.01D[6B]

ST. JOHN-MITTELHAUSER & ASSOCIATES
 A Terracon COMPANY

CROSS SECTION C-C'
 SUPERIOR HEALTH LINENS
 5005 SOUTH PACKARD AVENUE
 CUDALUP, WISCONSIN

FIGURE

12



LEGEND

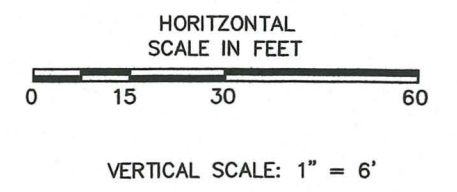
- SUB SLAB SOIL GAS SAMPLE
- ▼ WATER LEVEL (9/29/17)
- WELL SCREEN
- INFERRED ZONE OF SATURATION
- FILL
- CLAY AND CLAYEY SILT
- SILT
- SAND
- GRAVEL
- SP
- CONCRETE
- SAND, SILT, GRAVEL FILL

INFERRED EXTENT OF CONTAMINANTS EXCEEDING PROTECTION OF GROUNDWATER RCLs

- TCE
- PCE
- 1,1,1-TCA
- CIS-1,2-DCE

NOTE:

1. CROSS SECTION IS BASED ON BEST PROFESSIONAL JUDGMENT USING DATA AVAILABLE AT THE TIME OF CONSTRUCTION. THE GEOLOGY PRESENTED IN THE CROSS SECTION WAS GENERALIZED TO ILLUSTRATE THE MAJOR LITHOLOGIC UNITS. THE THICKNESS AND EXTENT OF THE LITHOLOGIC UNITS ARE APPROXIMATED AND GEOLOGIC CONTACTS BETWEEN LOCATIONS ARE INFERRED.



CHECK BY: SRS
DRAWN BY: OS
DATE: 7-7-20
SCALE: AS SHOWN
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CROSS SECTION C-C'
 SUPERIOR HEALTH LINENS
 5005 SOUTH PACKARD AVENUE
 CUDAHY, WISCONSIN

FIGURE
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