

varian

TECHNICAL ADVISORY GROUP VARIAN, BEVERLY

August 12, 2021

Confidential. Not to be copied, distributed, or reproduced without prior approval.
© 2019 APTIM - All rights reserved.



SUMMARY OF SEMI-ANNUAL STATUS REPORT

- ▶ Provided details of site assessment activities in the last six months (indoor air, groundwater, surface water and stream sediment).
- ▶ Included a risk assessment demonstrating that potential human health exposure for Stream A and the Unnamed Stream presents No Significant Risk.
- ▶ Provided a Stage I Environmental Screening for ecological receptors which showed that surface water and sediment do not pose a Significant Risk. A Stage II Environmental Risk Characterization is not needed to further evaluate this pathway.



SUMMARY OF SEMI-ANNUAL STATUS REPORT

- ▶ Included screening for potential risk to pets (dogs) that may drink surface water. The screening demonstrated that the maximum detected concentrations in surface water are well below the screening levels.

- ▶ Presented groundwater plume maps for trichloroethene (TCE), tetrachloroethene (PCE) and cis-1,2-dichloroethene in three depths.
 - > VOC concentrations in shallow groundwater are nondetect in the neighborhoods to the west and south of 150 Sohier Road, with the exception of one well on Hill Street (P-19A).
 - > The area of TCE greater than 100 ppm in the deep overburden has reduced since the start of treatment.
 - > The area of TCE greater than 10 ppm in bedrock has significantly reduced since the start of treatment.



GROUNDWATER SAMPLING METHODS

- ▶ The results of the limited comparison of passive diffusive bags (PDB) and low-flow sampling results do not invalidate existing data.
- ▶ PDB sampling has a long history of use and is accepted by many regulators.
- ▶ For homes and other buildings, indoor air results are a better measure of possible exposure. Indoor air tests that have been completed show no risk. There is no impact on our conclusion.
- ▶ We use data from PDB to monitor VOC concentration trends. The goal is to evaluate if conditions are stable or improving.
- ▶ Additional comparison testing will be conducted.



SUMMARY OF BUILDING 3 AND 5 SOURCE AREA ASSESSMENT SUMMARY REPORT

- ▶ Substantial investigation and remedial activities have been undertaken to assess and cleanup the Site.

- ▶ Building 3 Source Area
 - > The current data provides a good picture of the nature and extent of impacts and the potential presence of dense non aqueous phase liquid (DNAPL).
 - > Additional assessment is recommended to assess potential DNAPL.
 - > High resolution electrical resistive imagery (ERI) should be appropriate for conducting additional assessment of potential DNAPL beneath the Building 3.



SUMMARY OF BUILDING 3 AND 5 SOURCE AREA ASSESSMENT SUMMARY REPORT

- ▶ VOC levels in the shallow overburden have responded well to bioremediation in the Building 5 area.

- ▶ Building 5 Source Area
 - > The current data provides a good picture of the nature and extent of impacts and the potential presence of DNAPL.
 - > VOC concentrations in shallow wells provide no indication that DNAPL is present.
 - > Additional assessment is planned to further assess shallow impacts.
 - > VOC levels in deep overburden wells on the downgradient, west side of Building 5 do not suggest additional assessment is needed to further assess DNAPL beneath Building 5.
 - > Additional sampling is planned at the new bedrock wells to further evaluate concentrations in bedrock.



ALTERNATIVE TECHNOLOGY EVALUATION

- ▶ TRS and Terra Therm have visited the site and conducted an initial review of current site data.
- ▶ Conceptual treatment approaches proposed by both firms are undergoing a detailed evaluation. APTIM technical experts will be providing questions to each firm.
- ▶ Additional assessment is needed at Building 3 before the treatment approaches can be advanced beyond the conceptual stage.



ALTERNATIVE TECHNOLOGY EVALUATION

- ▶ Thermal treatment is a very technical and complicated approach that involves multiple systems.
- ▶ The evaluation of this treatment must consider risk to facility workers and ensure capture of VOCs in soil vapor and groundwater.
- ▶ If the comprehensive cleanup is changed, MCP required process – Late Fall 2021/Winter 2022
 - > Score and rank remedial approaches
 - > Addendum to Phase documents
 - > Public Involvement for each Phase



NEXT STEPS

- ▶ Submit the remediation summary report on September 30, 2021. This will include recommendations on potential updates to the comprehensive cleanup.
- ▶ APTIM is working through physical limitations of high resolution electrical resistive imagery (ERI) in the Building 3 Area.
- ▶ If an ERI study can sufficiently assess potential DNAPL beneath Building 3, it could be completed by late Fall 2021 or early Winter 2022.
- ▶ If Thermal is selected, site logistical details would be reviewed in Winter 2022.
 - > Physical and scheduling details
 - > Design and permitting



QUESTIONS





Expect the Extraordinary.