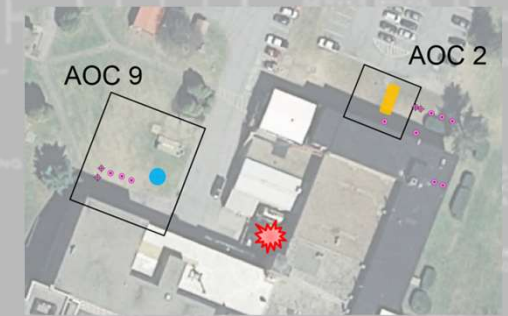
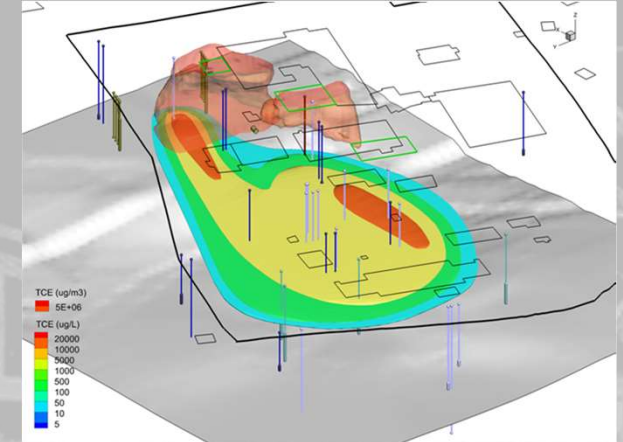


COLD REGIONS RESEARCH AND ENGINEERING LABORATORY RESTORATION ADVISORY BOARD MEETING

Christopher Kane, USACE Project Manager
Date: 20 September 2023



"The views, opinions and findings contained in this report are those of the authors(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."

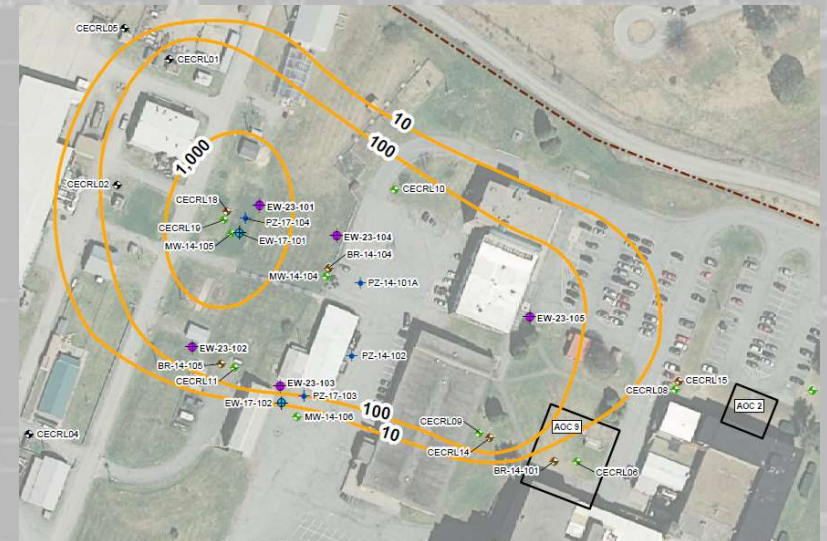


US Army Corps of Engineers®



AGENDA

- Introductions
- Review/Approve February 2023 Meeting Minutes
- On-Site Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Investigation Status
- Connecticut River Remedial Investigation and Feasibility Study Report Status
- Synoptic Soil Gas Sampling
- Groundwater Management Zone Sampling
- Groundwater Treatment Plant Design Status
- Remedial Systems Update
- Upcoming Work This Quarter
- Adjourn



**US Army Corps
of Engineers**®



INTRODUCTIONS



Members

- Christopher Kane, RAB Chair and USACE Project Manager
- Kristine McDevitt, Community Member
- Bree Carlson, Member Representing Dartmouth
- Roelof Versteeg, Community Member
- Chief Martin McMillan, Member Representing Town of Hanover
- Tony Daigle, Member Representing SAU 70

Regulatory Agencies

- Peter Sandin, NHDES
- Richard Spiese, VTDEC

Support

- Laurie Haines-Ecklund, USAEC Team Lead
- Amy Rosenstein, USACE Risk Assessor
- Dan Groher, USACE Engineer
- Dr. Steve Potts, USACE Geologist
- Dr. Jennifer Apell, USACE Chemist
- Terry Harwood, ERDC-CRREL IRP Manager
- Dr. Jay Clausen, ERDC-CRREL Deputy IRP Manager
- Steve Lamb, GZA/Dartmouth
- Scott Calkin, WSP PM
- Wolfgang Calicchio, WSP Chemist
- Amy Quintin, WSP Risk Assessor
- Rod Rustad, WSP Hydrogeologist
- Jack Besse, WSP Engineer





ON-SITE CERCLA INVESTIGATION STATUS



Site Investigation

- Final On-Site RI completed 2018
- Interim Actions taken to reduce TCE concentrations in the environment and to protect human health
- On-site monitoring ongoing

Next Steps:

Resolve NHDES Feasibility Study comments regarding Applicable or Relevant and Appropriate Requirements (ARARs)

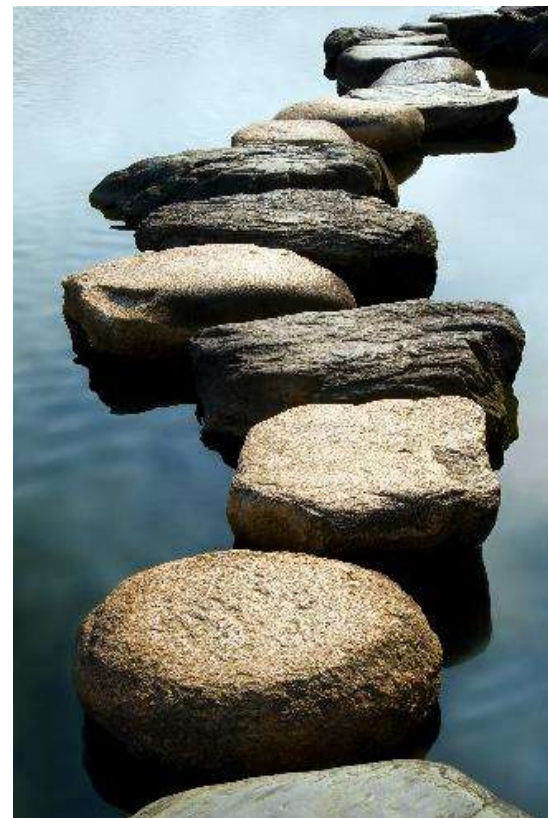
- Discussions ongoing
- NHDES is reviewing draft USACE responses
- May result in an Addendum to the Final Feasibility Study

Once resolved Proposed Plan and Decision Documents will follow thereafter

- Provides public and stakeholders an opportunity to comment on selected remedy(s) per CERCLA.
- Provides formal record and rationale for the selected remedy(s) and commits parties to the remedy(s).

Groundwater Treatment Plant 100% Design has been tabled to keep in line with the CERCLA Process

- Design will be completed after the Decision Document is finalized.
- Well Design will be finalized this Summer





CONNECTICUT RIVER REMEDIAL INVESTIGATION REPORT



In Draft Final Status – NHDES and VTDEC are currently reviewing the document, anticipate comments shortly.

Document sent to RAB members in mid-July 2022 for review.

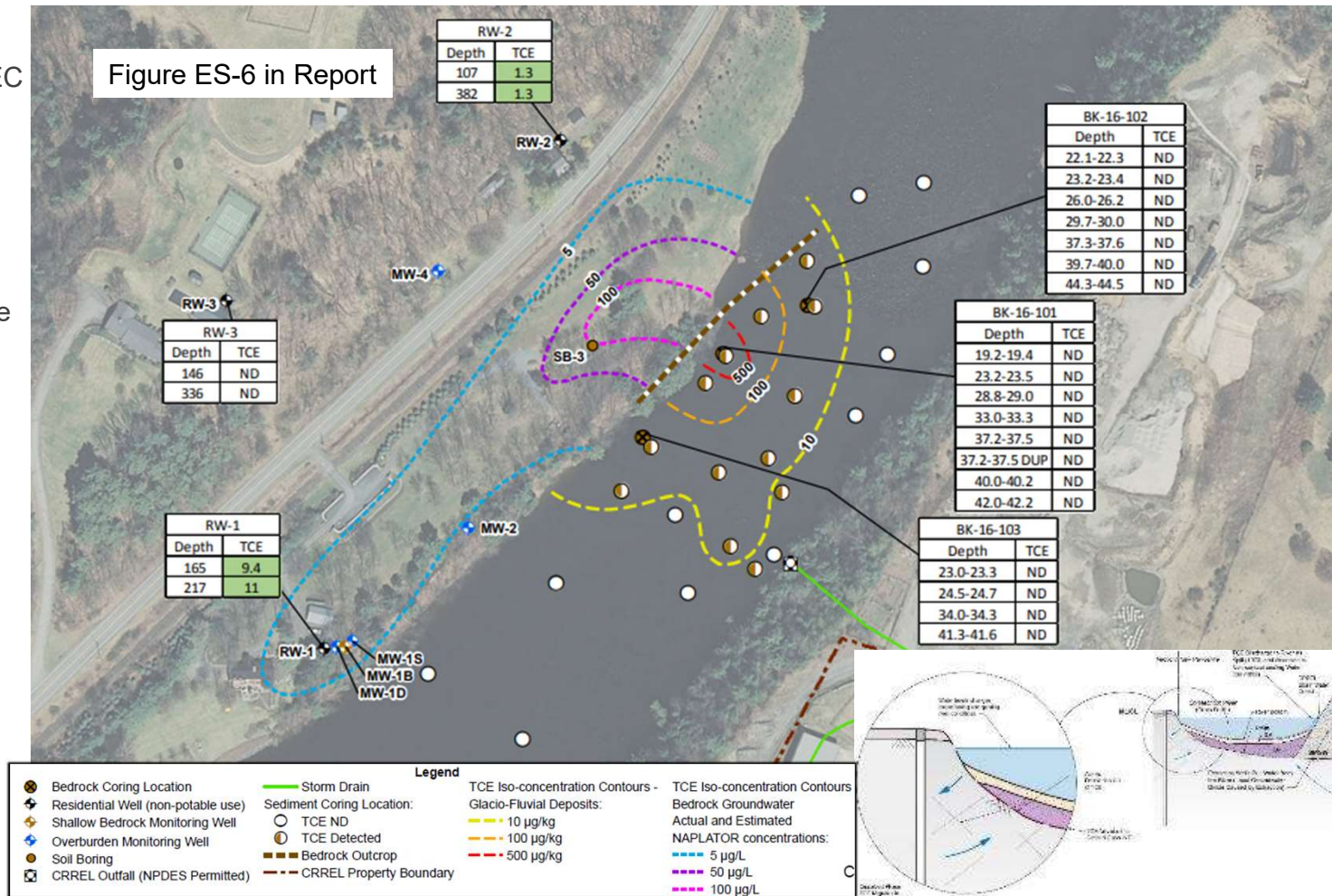
Once regulatory reviews are complete, we will review any comments or suggested edits and will finalize the document.

Results for surface water and sediment show no significant risk to ecological or human receptors.

Results for groundwater wells in Vermont (not currently in use as supplied by municipal water) show potential for hypothetical risk at one well if the groundwater were to be used for potable purposes in the future.

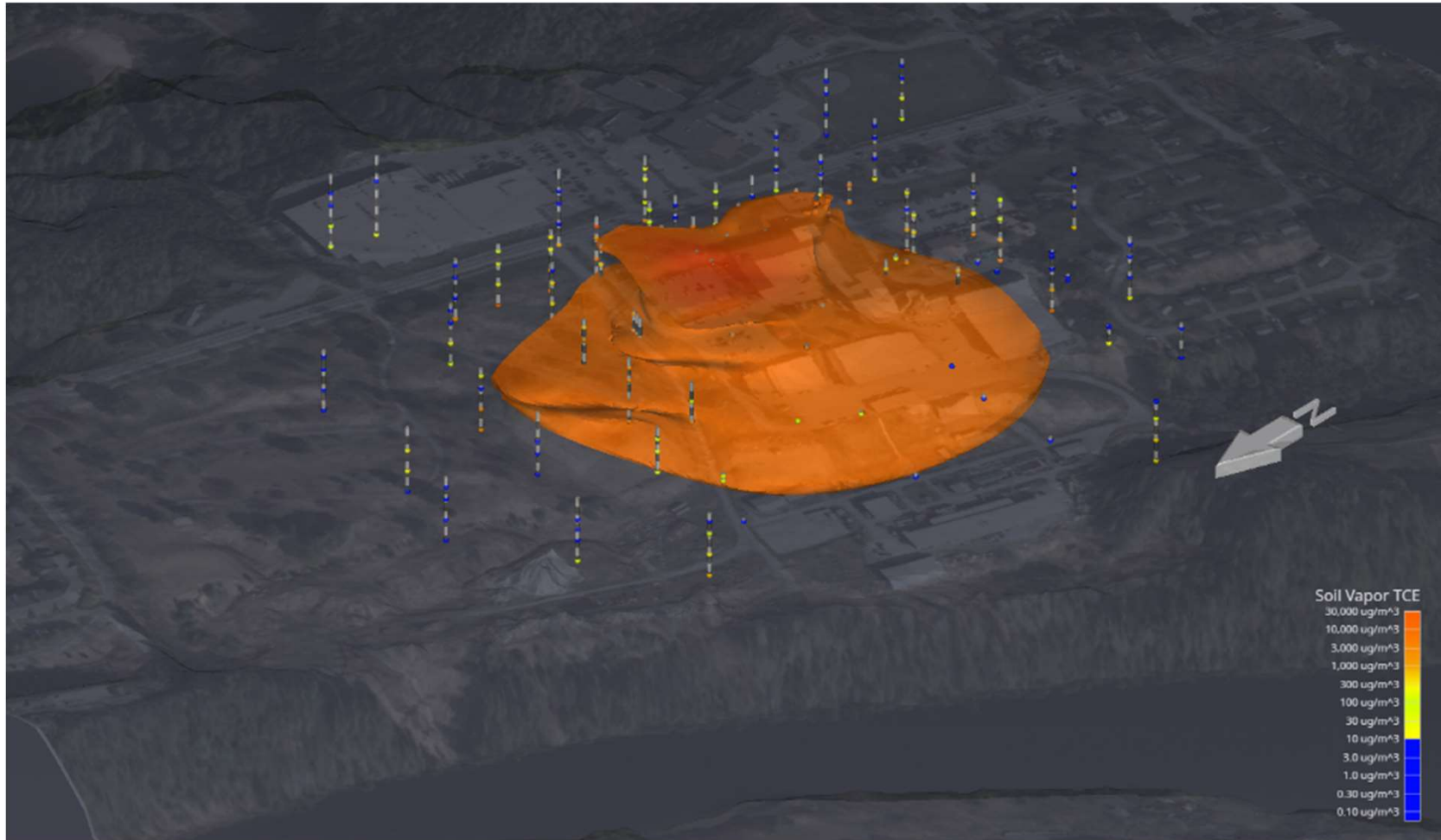
A Draft Feasibility Study is under Corps review.

Figure ES-6 in Report



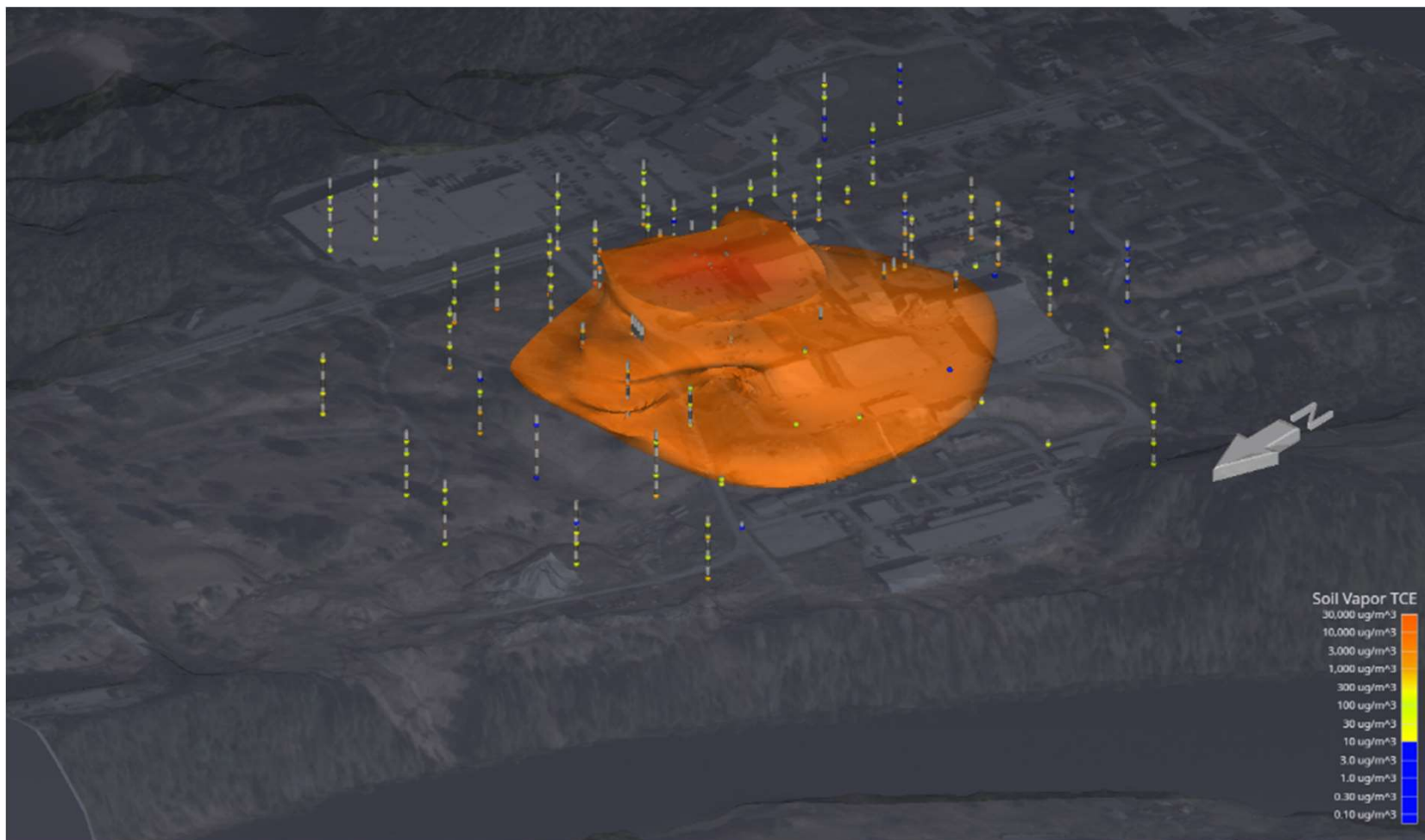


2015 SYNOPTIC SOIL GAS



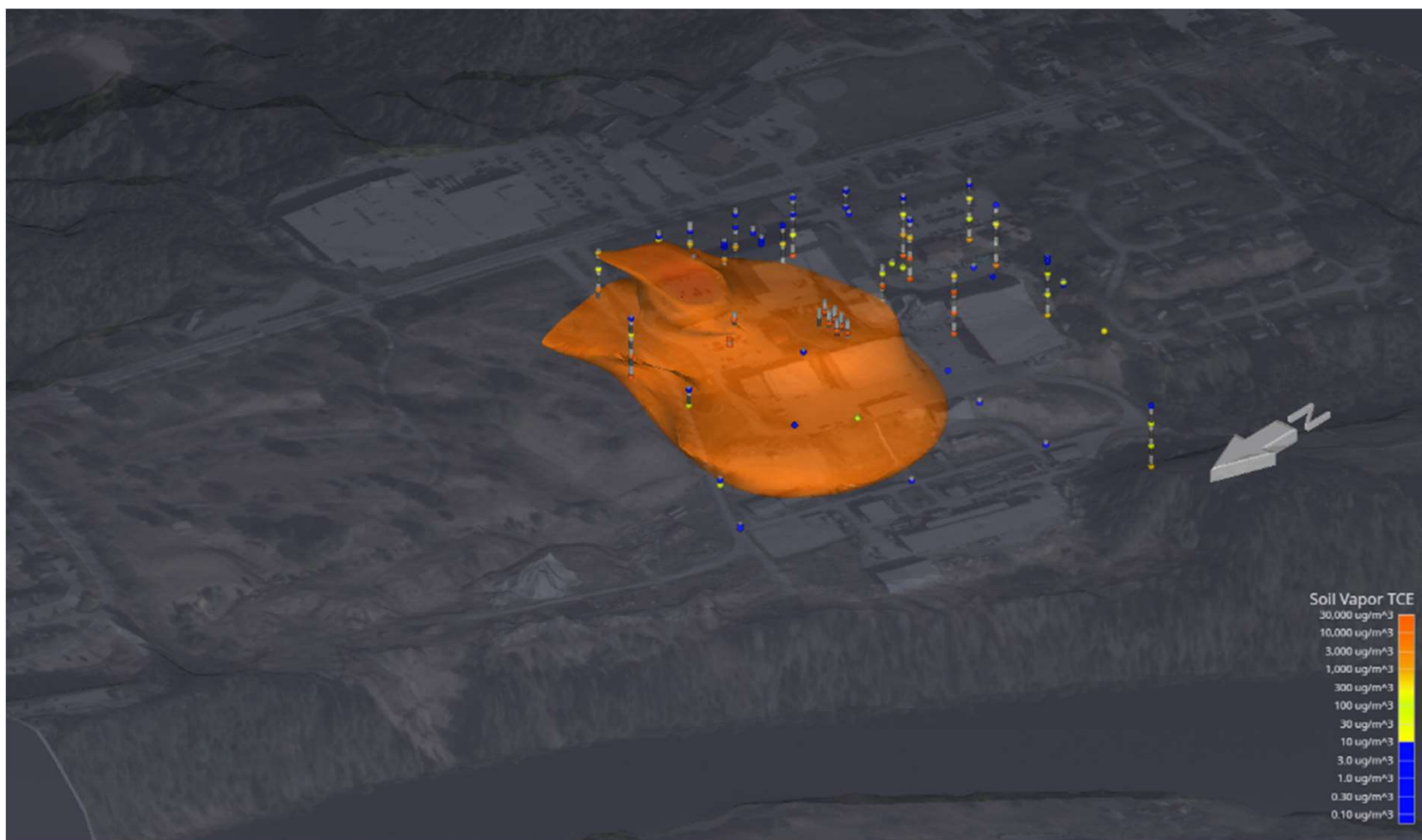


2016 SYNOPTIC SOIL GAS



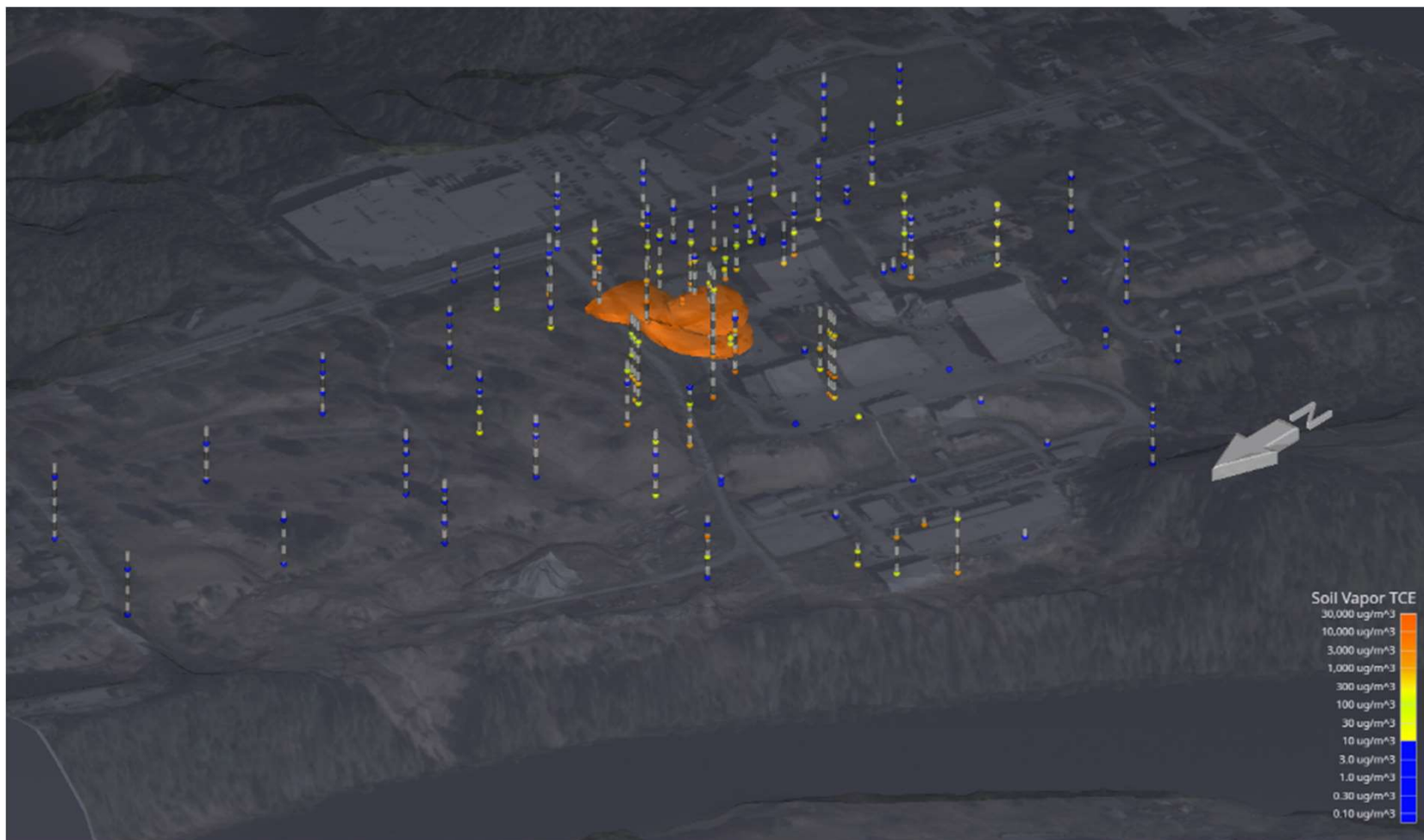


2019 SYNOPTIC SOIL GAS



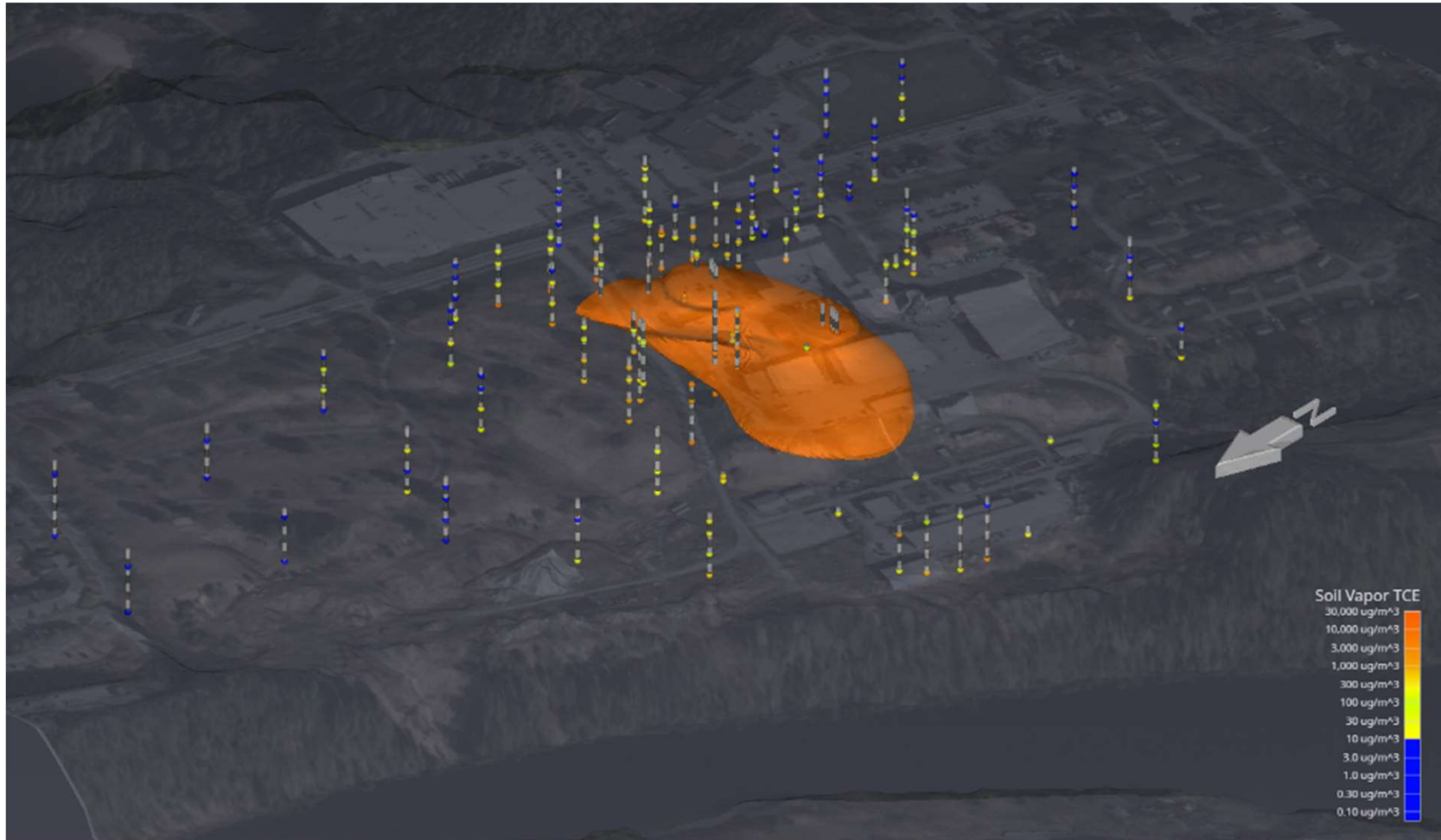


2021 SYNOPTIC SOIL GAS



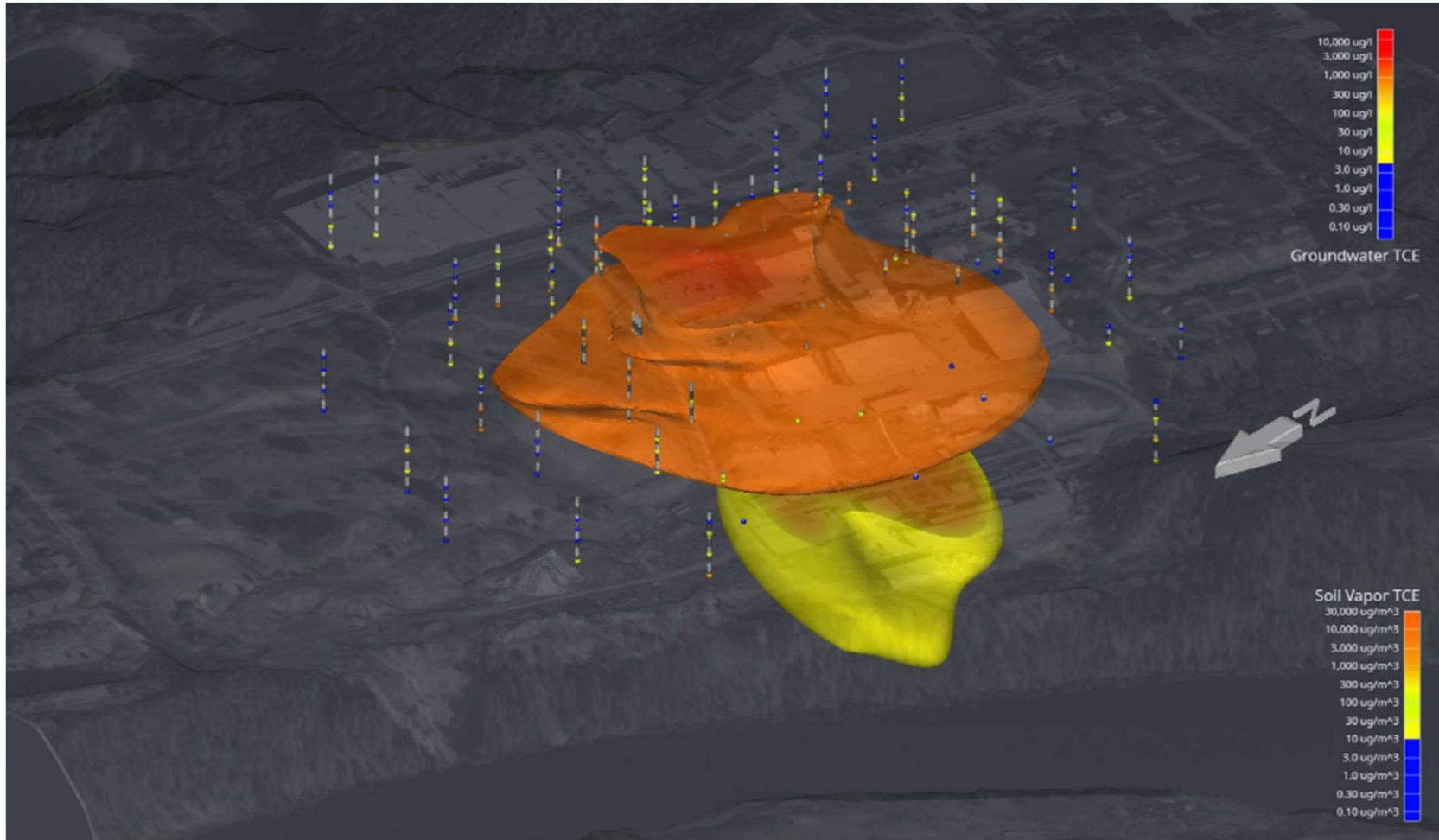


2023 SYNOPTIC SOIL GAS



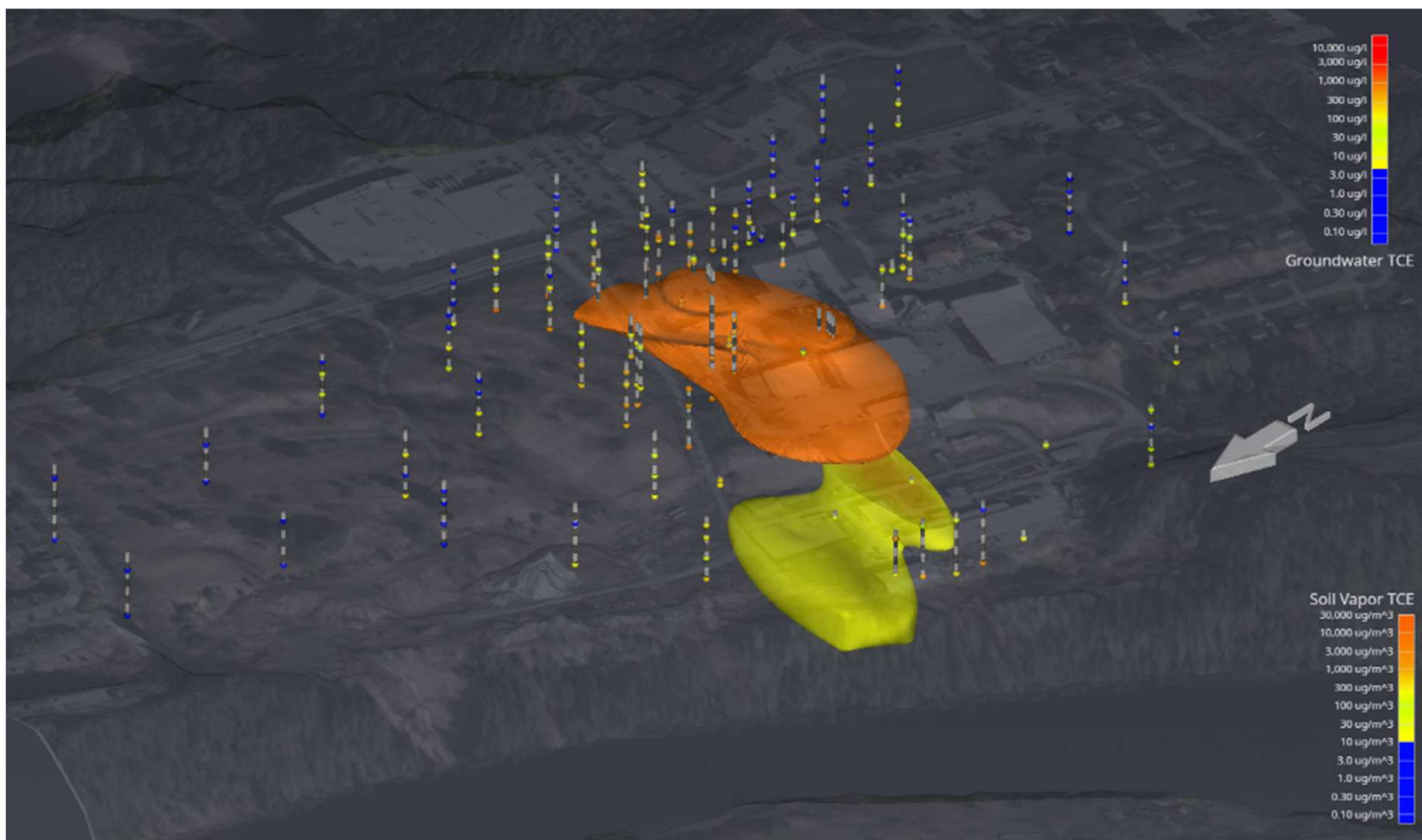


2015 SOIL GAS AND GROUNDWATER



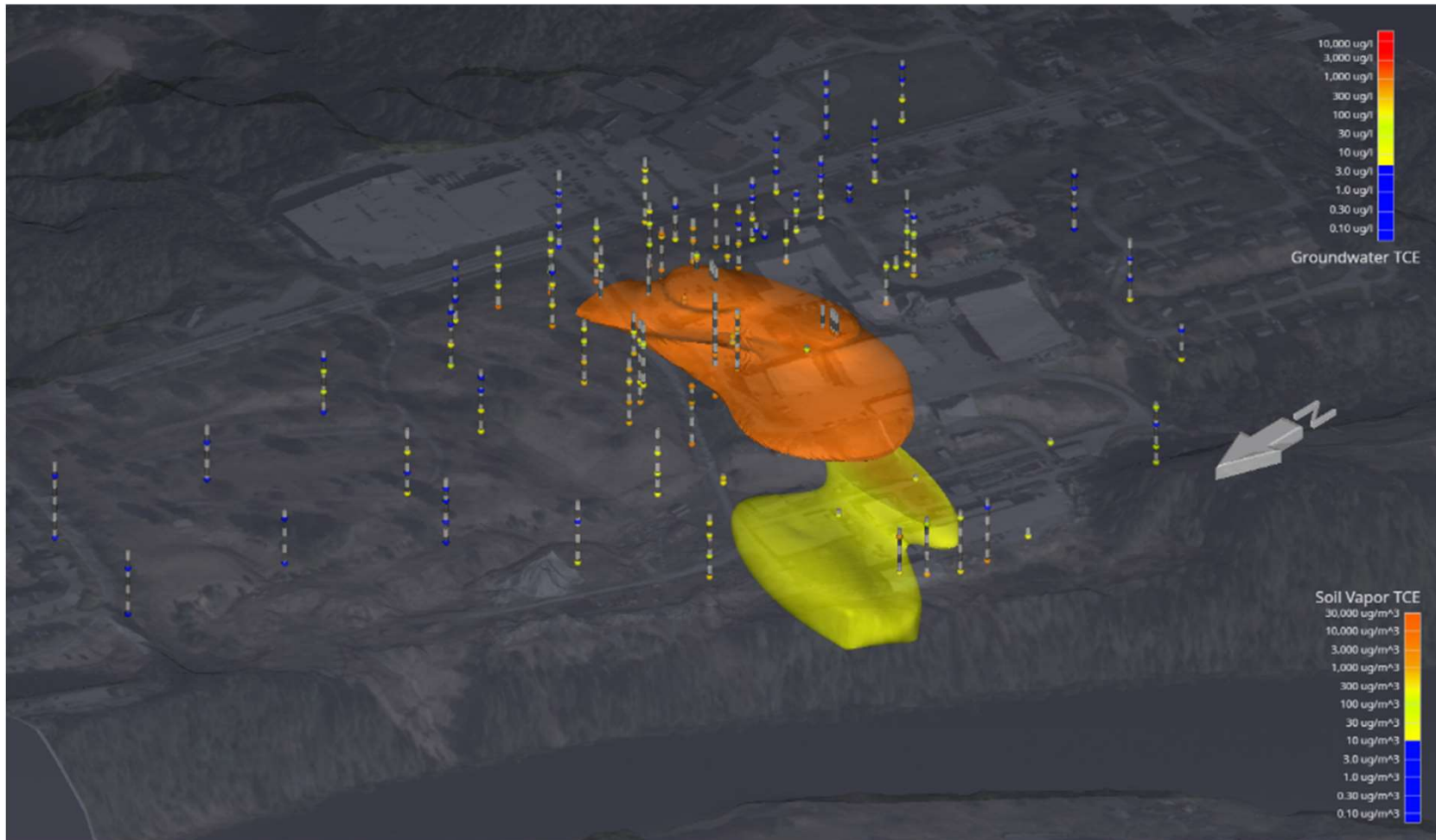


2023 SOIL GAS AND GROUNDWATER



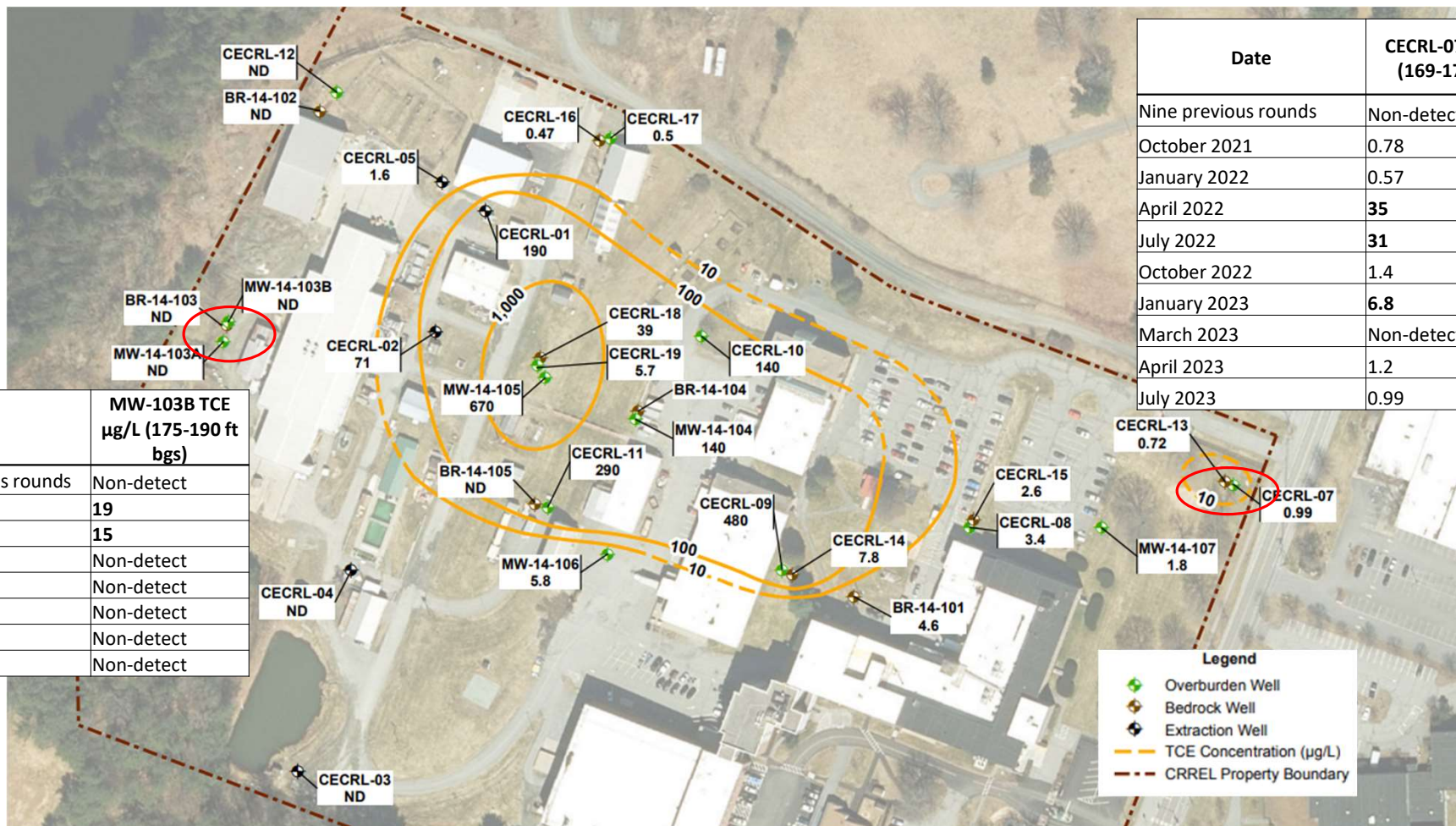


2023 SOIL GAS AND GROUNDWATER ANIMATION





GROUNDWATER MANAGEMENT ZONE SAMPLING JULY 2023



Date	MW-103B TCE µg/L (175-190 ft bgs)
Twenty previous rounds	Non-detect
January 2022	19
April 2022	15
July 2022	Non-detect
October 2022	Non-detect
January 2023	Non-detect
April 2023	Non-detect
July 2023	Non-detect

Date	CECRL-07 TCE µg/L (169-179 ft bgs)
Nine previous rounds	Non-detect
October 2021	0.78
January 2022	0.57
April 2022	35
July 2022	31
October 2022	1.4
January 2023	6.8
March 2023	Non-detect
April 2023	1.2
July 2023	0.99

Legend

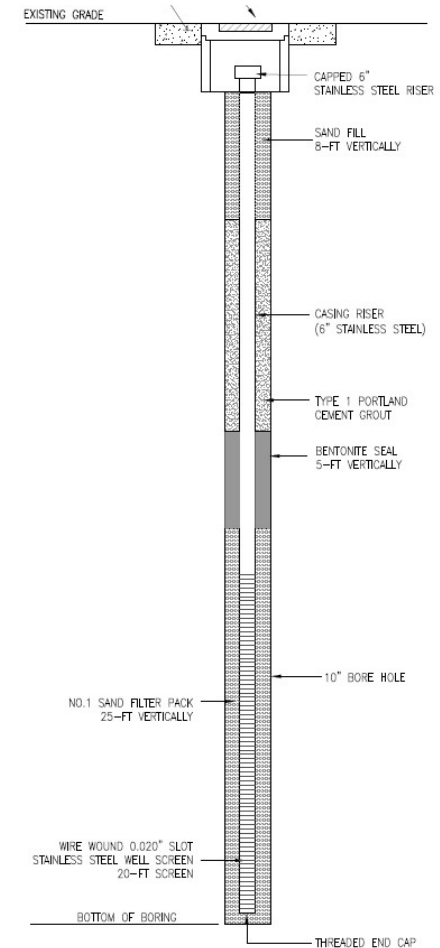
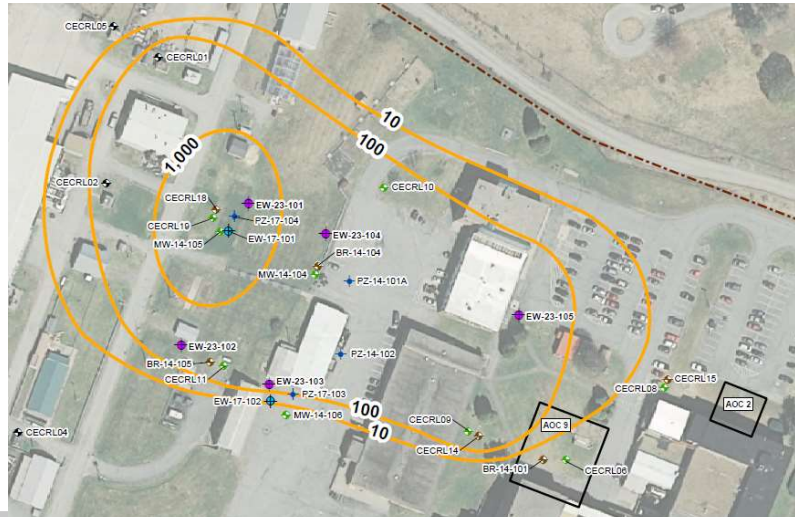
- Overburden Well
- Bedrock Well
- Extraction Well
- TCE Concentration (µg/L)
- CRREL Property Boundary



GROUNDWATER TREATMENT PLANT DESIGN STATUS



- Treatment plant design on hold pending completion of the ROD.
- Pilot extraction well design commenced January 2023, Draft Final Well Design was submitted to USACE for approval to be issued as Final in late May
- Anticipate installing and operating pilot wells to deepen understanding of aquifer characteristics and demonstrate capacity to limit migration of TCE to production wells.





INTERIM REMEDIAL SYSTEMS UPDATE



Soil Vapor Extraction (SVE) pilot systems were shut down/decommissioned in October and November 2021.

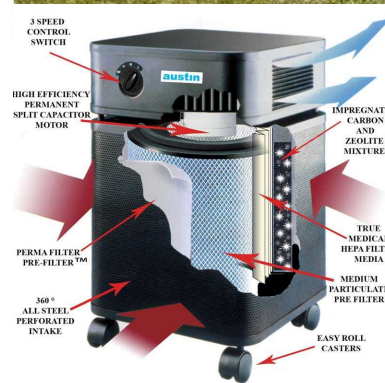
Anticipate collecting a synoptic round of samples in August 2023.

Healthmates® continue to operate.

Plenum Air Purifying Units continue to operate. Filter changeout occurred August 2023.

Sub-slab depressurization systems are currently running.

Actively monitoring daily indoor air quality with the HAPSITE® for protection of human health.





UPCOMING WORK



Continued HAPSITE® monitoring of the Main Lab, FERF, and LMO; as well as intermittently at other CRREL buildings.

Routine sampling of sub slab depressurization systems.

Complete pilot groundwater extraction well design

Monitor Boundary Wells

Synoptic synoptic soil gas sampling August 2023 report/memo

Healthmate® filter change-out anticipated in Fall

CRREL RI/FS/Proposed Plan/Decision Document

- Resolve NHDES Feasibility Study Comments
- Draft Proposed Plan and Decision Document

Connecticut River RI/FS

- Prepare Final RI incorporating NHDES and VTDEC Comments
- Submit Draft Feasibility Study after the RI is finalized for USACE Review
- Next Steps-Draft Proposed Plan and Decision Document





QUESTIONS OR COMMENTS

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