

Town Hall Meeting

October 12, 2016



Agenda

- Event 13 Indoor Air Results Summary
- Event 14 Indoor Air Preliminary Summary
- Soil Vapor Extraction Pilot Update
- Groundwater Annual Summary
- Second Floor HAPSITE Indoor Air
- SCIF HAPSITE Indoor Air
- Timeline of CRREL TCE Actions
- Upcoming Work



Event 13 Indoor Air

- Samples collected in February 2016
- Indoor air samples collected with 6-liter Summas and sent for analysis by off site laboratory (EPA TO-15)
- Sub-slab vapor samples collected with 1-liter bottle vacs and analyzed by Hapsite



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Event 13 Results Summary

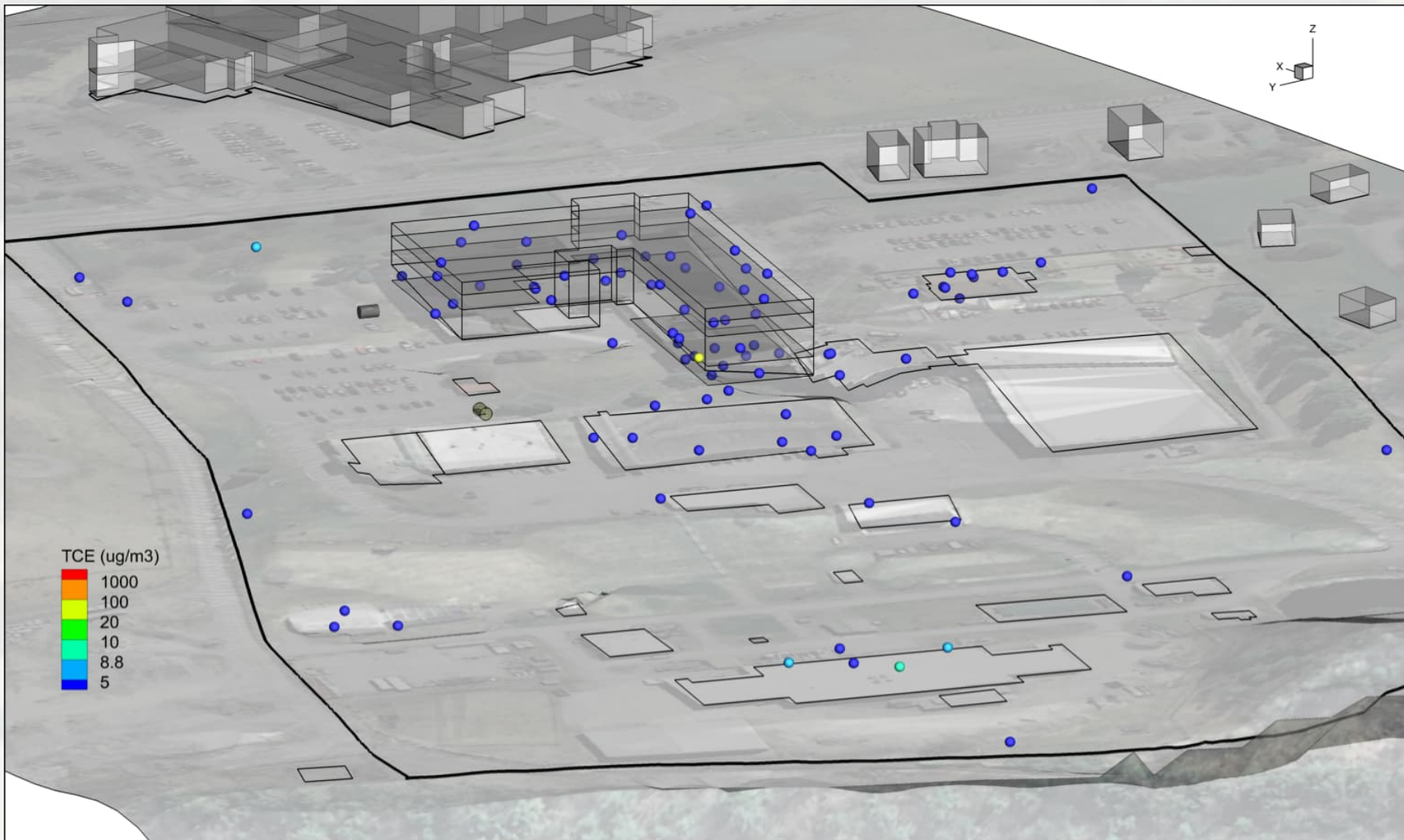
- Final Report on SharePoint site
- Main Lab, Main Lab Addition, TIAC, CDC, LMO, Vehicle Storage, Greenhouse, Frost Effects, and Gate Houses sampled
- Outside temperature ranged from 8 to 38 degrees Fahrenheit and recorded rapid changes in barometric pressure during sample period
- Sub-slab Mitigation Systems in the Main Lab were fully operational during sampling



Event 13 Results Summary (cont.)

- Indoor Air Concentrations were below the TCE action level of $8.8 \mu\text{g}/\text{m}^3$ in each building except the Frost Effects Research Lab
- One sample at Frost Effects in excess of the action level at $9.1 \mu\text{g}/\text{m}^3$ in the basement corridor, more regular monitoring by Hapsite is being conducted
- TCE concentrations in Main Lab ranged from 0.25J to $4.4 \mu\text{g}/\text{m}^3$, highest in sub-basement





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Event 14 Indoor Air Update

- Indoor air and sub-slab samples collected in August 2016
- Provisional results show no indoor air samples in excess of the 8.8 $\mu\text{g}/\text{m}^3$ action level
- Final report will be uploaded to the SharePoint site pending review within next 45 days.
- Present results at next Town Hall meeting in December



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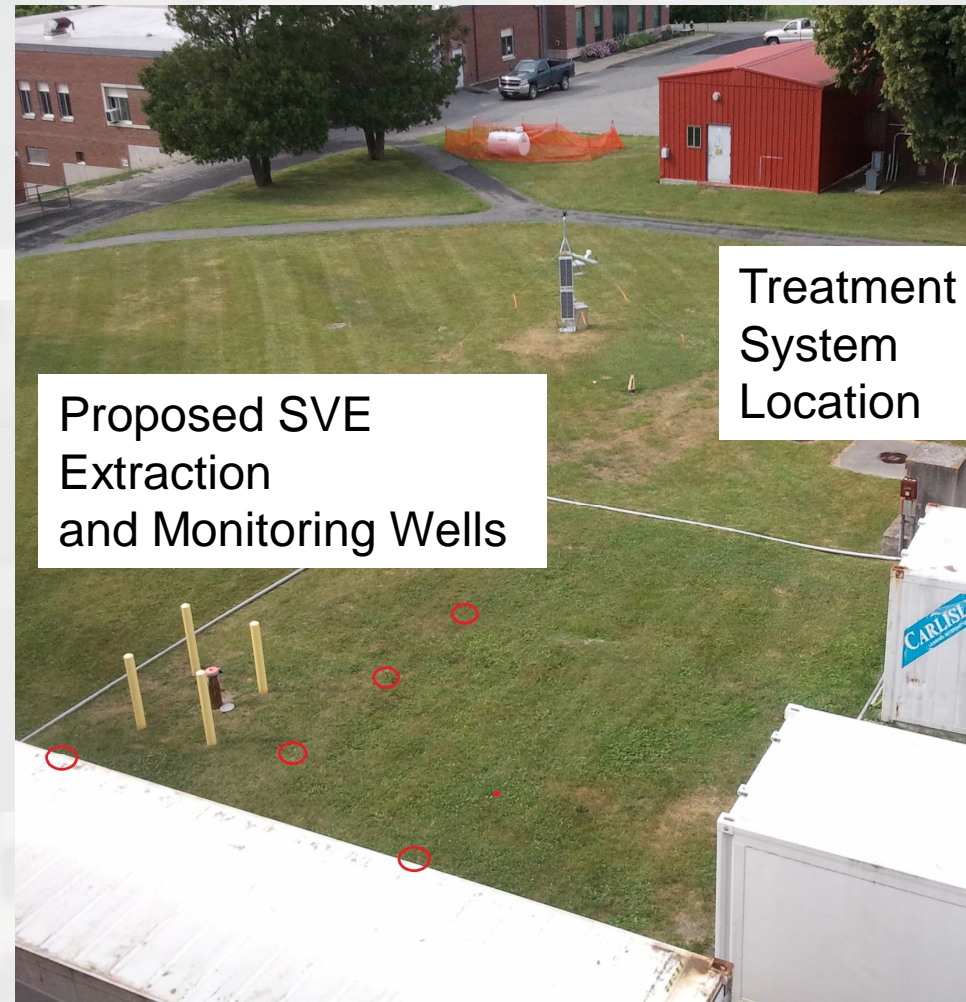
Soil Vapor Extraction Update

- SVE Pilot ran from June 2015 to August 2016
- Approximately 450 gallons of TCE removed by the SVE Pilot System
- SVE Pilot is currently off
- SVE Equipment is being moved to AOC 9, carbon treatment equipment for AOC 2
- Data from AOC 9 and carbon equipment at AOC 2 will be used for the design of an Interim Measure



AOC 9 SVE Pilot Layout

- Two shallow and one deep extraction well
- To be installed: 3 nested Vapor Monitoring Wells (VMWs)
 - 25, 75, 100 ft bgs
- Relocate SVE Equipment from AOC 2
- AOC2 equipment (activated carbon based)
- Work completed between October and December 2016



Extended Pilot Test Goals

- Determine differences in operation between AOC 2 and AOC 9
- Evaluate if SVE operation in AOC 9 can reduce sub-slab concentrations beneath the Main Lab and Sub-basement
- Determine optimum well screen placement (vertically) in AOC 9
- Evaluate SVE effects on groundwater concentrations
- Continue operation in AOC 2 to control migration and reduce vapor intrusion



July 2016 Annual Groundwater Sampling

- Samples collected in July 2016
- Groundwater samples collected with passive diffusion bag samplers and sent for analysis by off site laboratory (EPA 8260)
- Passive diffusion bag samplers allowed to hang in well for two weeks, grab samples collected from production wells



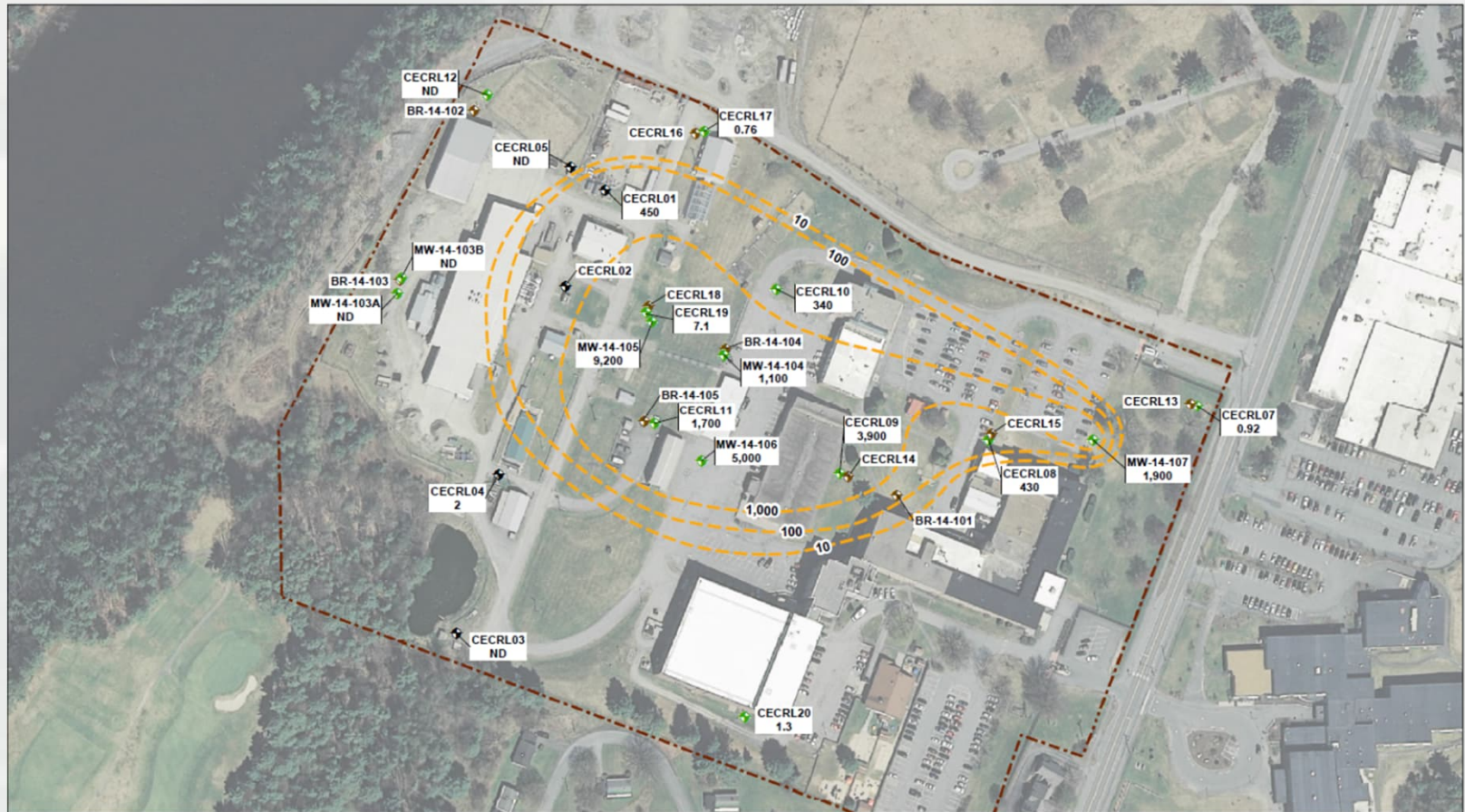
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July 2016 Annual Groundwater Sampling

- 25 groundwater monitoring wells and five production wells currently in sampling program
- Groundwater from four of five production wells historically contained TCE
- Water extracted from these four wells is treated on-site using air stripping towers
- Six additional overburden monitoring wells and five bedrock wells have also been installed



Interpreted July 2016 Overburden Groundwater TCE Iso-concentrations



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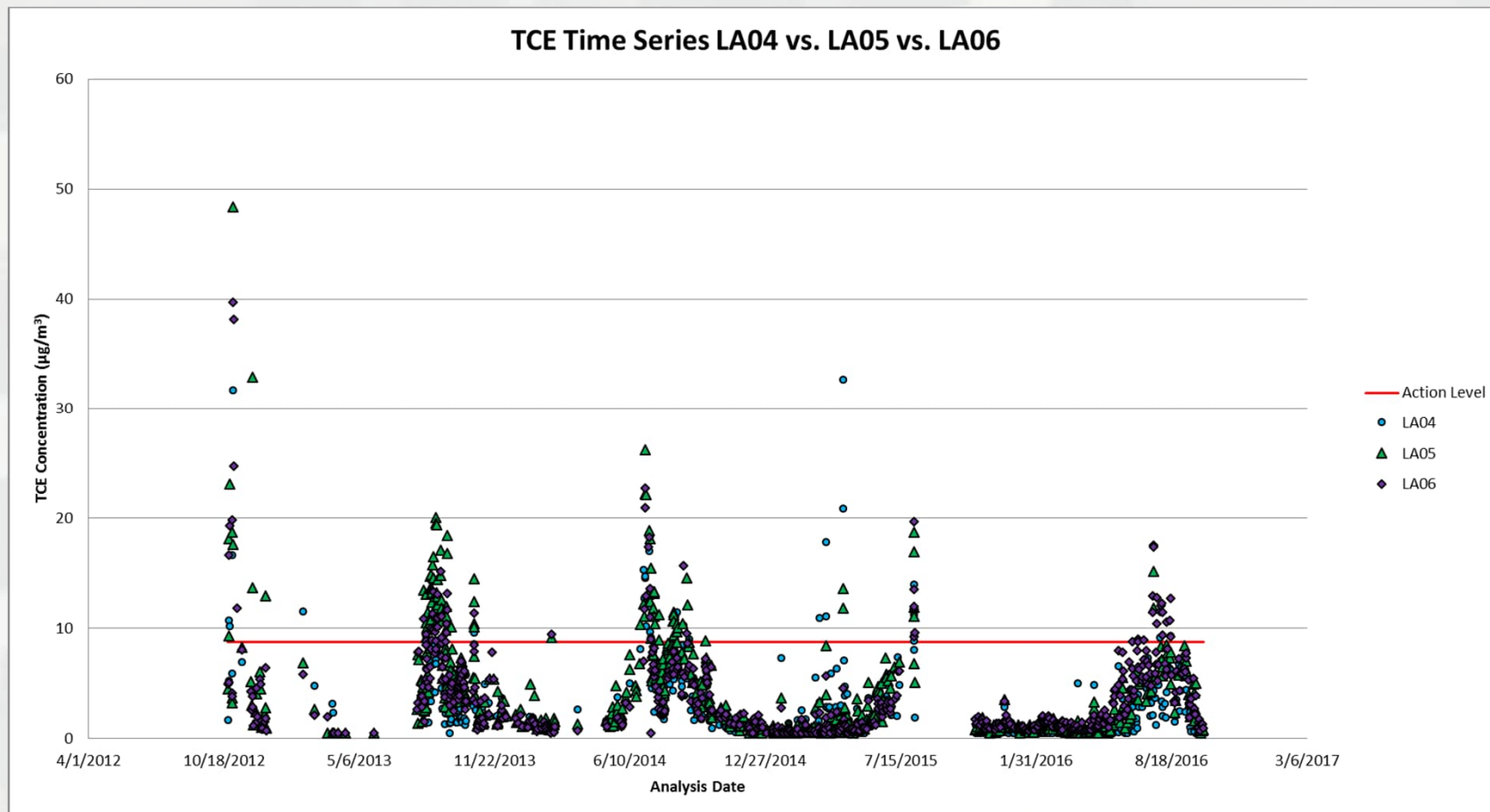
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Second Floor Evaluation

- Locations analyzed by the HASPITE on a daily basis
- 2016 peak TCE concentrations generally trending lower compared to previous years
- Plenum ventilation fans installed over rooms 228B, 239, and 246
- HAPSITE analysis of plenum vs indoor air performed daily



Second Floor Evaluation cont'd



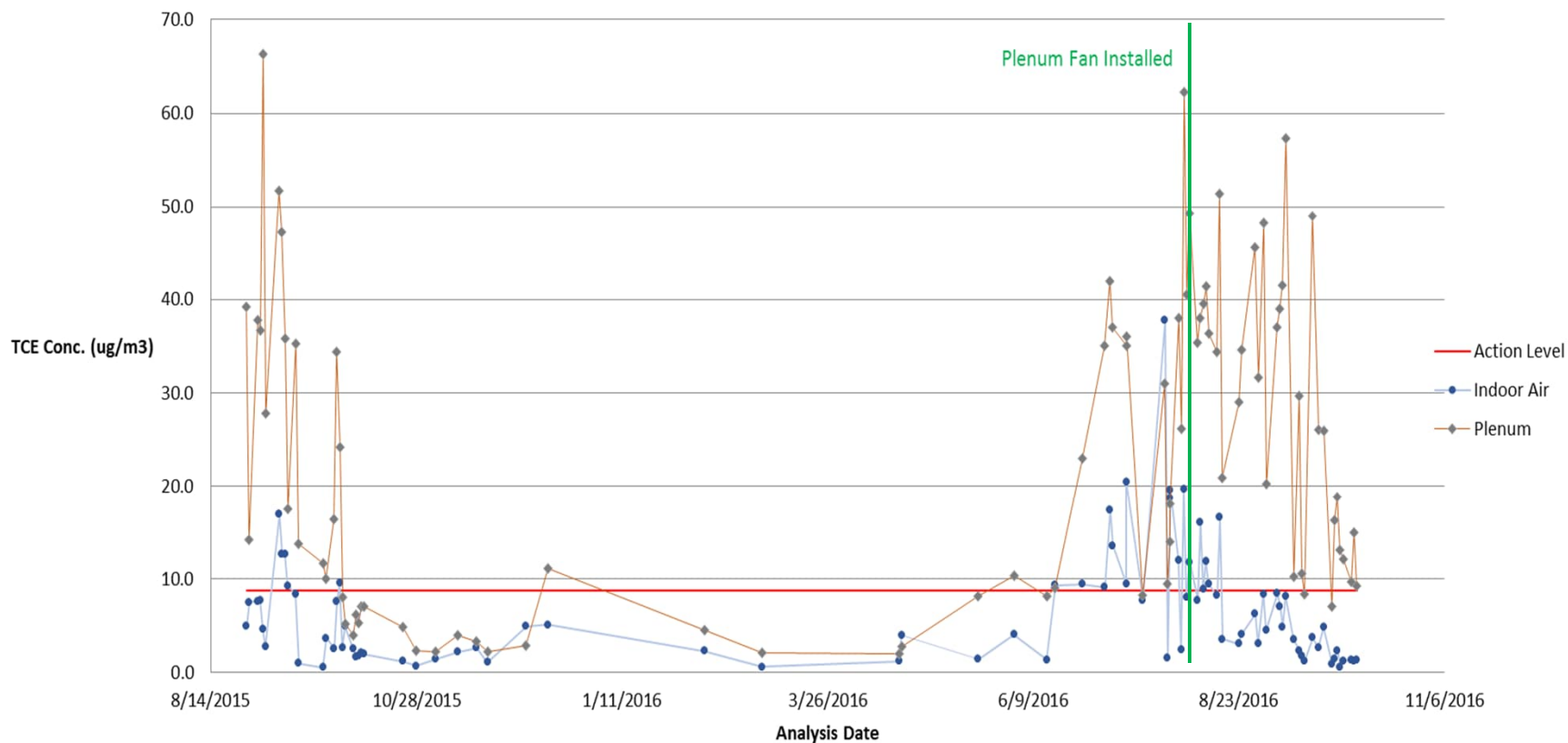
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Second Floor Evaluation cont'd

TCE Second Floor Mens Room IA vs. Plenum



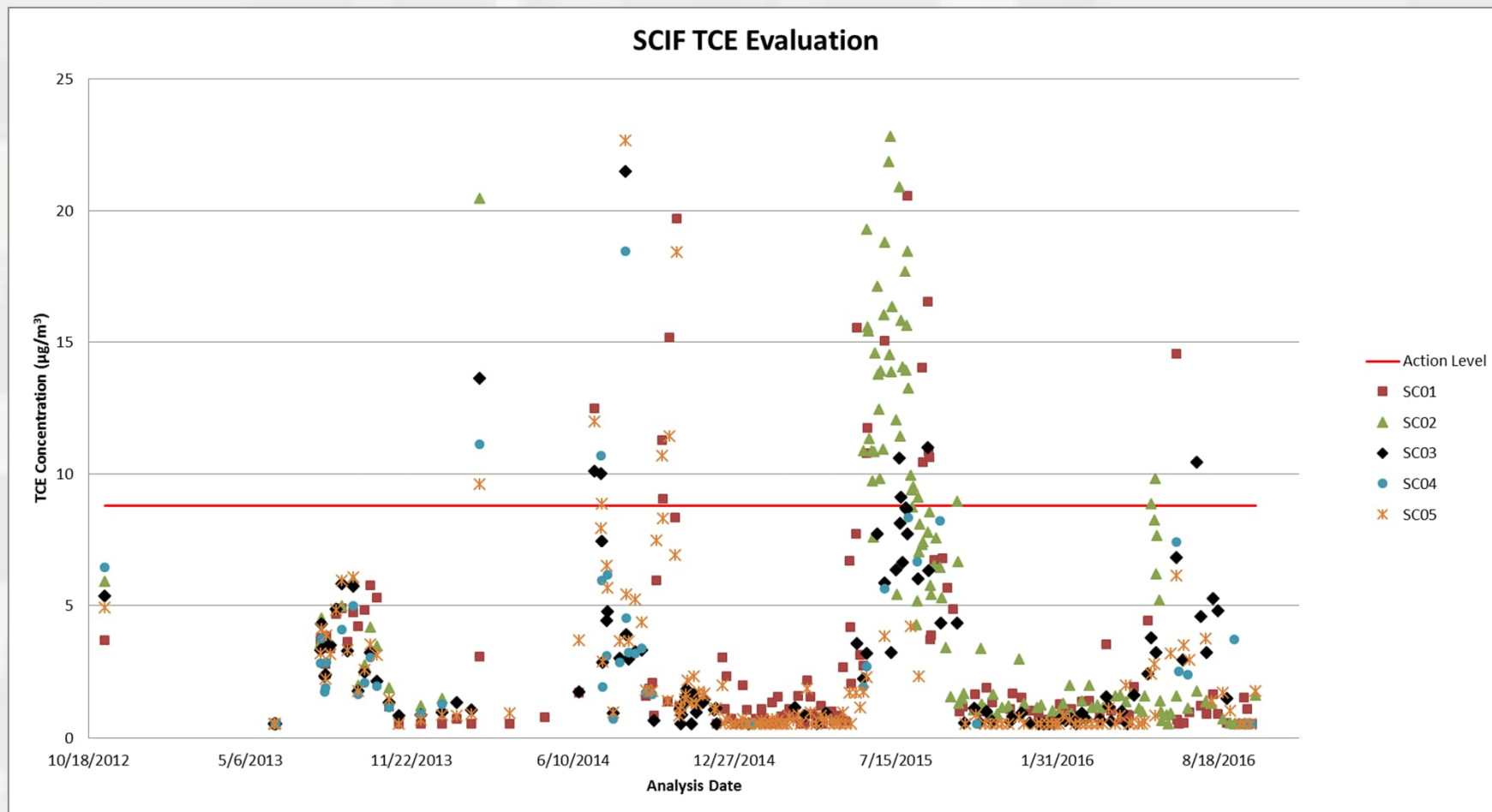
SCIF TCE Evaluation

- Indoor air analyzed twice weekly by HAPSITE
- 2016 peak TCE concentrations generally half of previous years readings
- Installed sub-slab vapor points in outer offices to evaluate vapor intrusion conditions

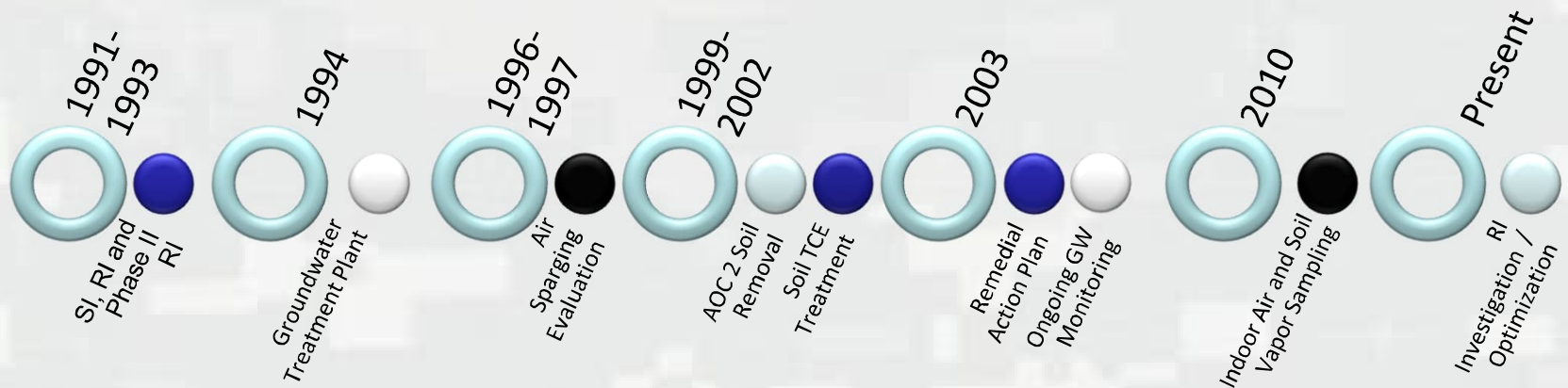


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SCIF TCE Evaluation cont'd



History of CRREL Investigations



Future Actions (Short Term)

- Expansion of SVE into AOC9 beginning in October 2016
- Connecticut River Sediment Sampling September 2016 ongoing
- Draft RI Report submitted for review September 2016
- Draft FS Report expected April 2017

