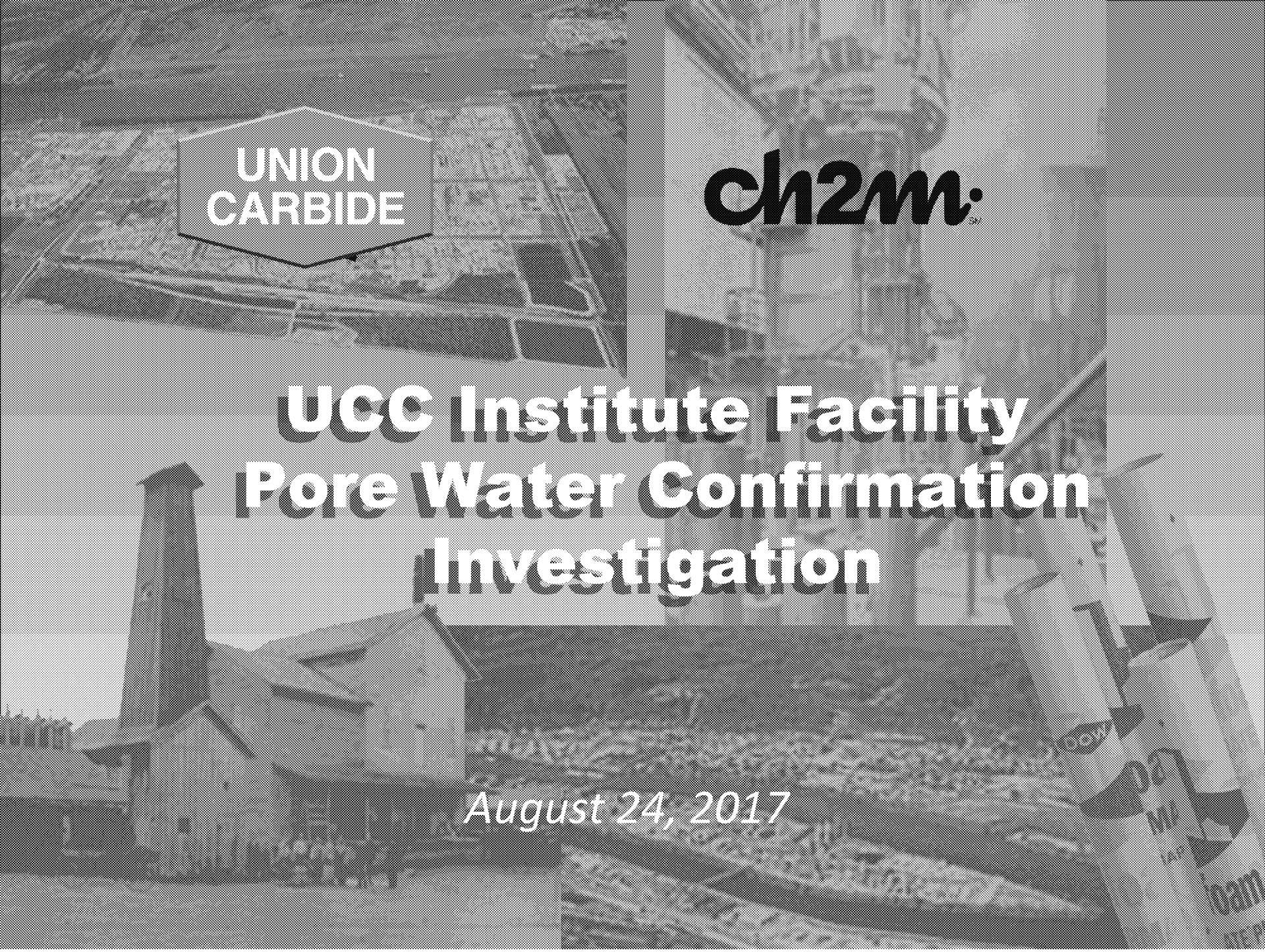


ch2m

UCC Institute Facility Pore Water Confirmation Investigation

August 24, 2017

Agenda

- Meeting Objectives
- Review Previous Pore Water Investigation Results
- Proposed Pore Water Confirmation Investigation Summary
- Discussion

Meeting Objective

- The objective of this meeting is to:
  - Provide USEPA and WVDEP with a review of the UCC Institute Facility pore water investigation results and the proposed confirmation sampling investigation

2012 Investigation Review

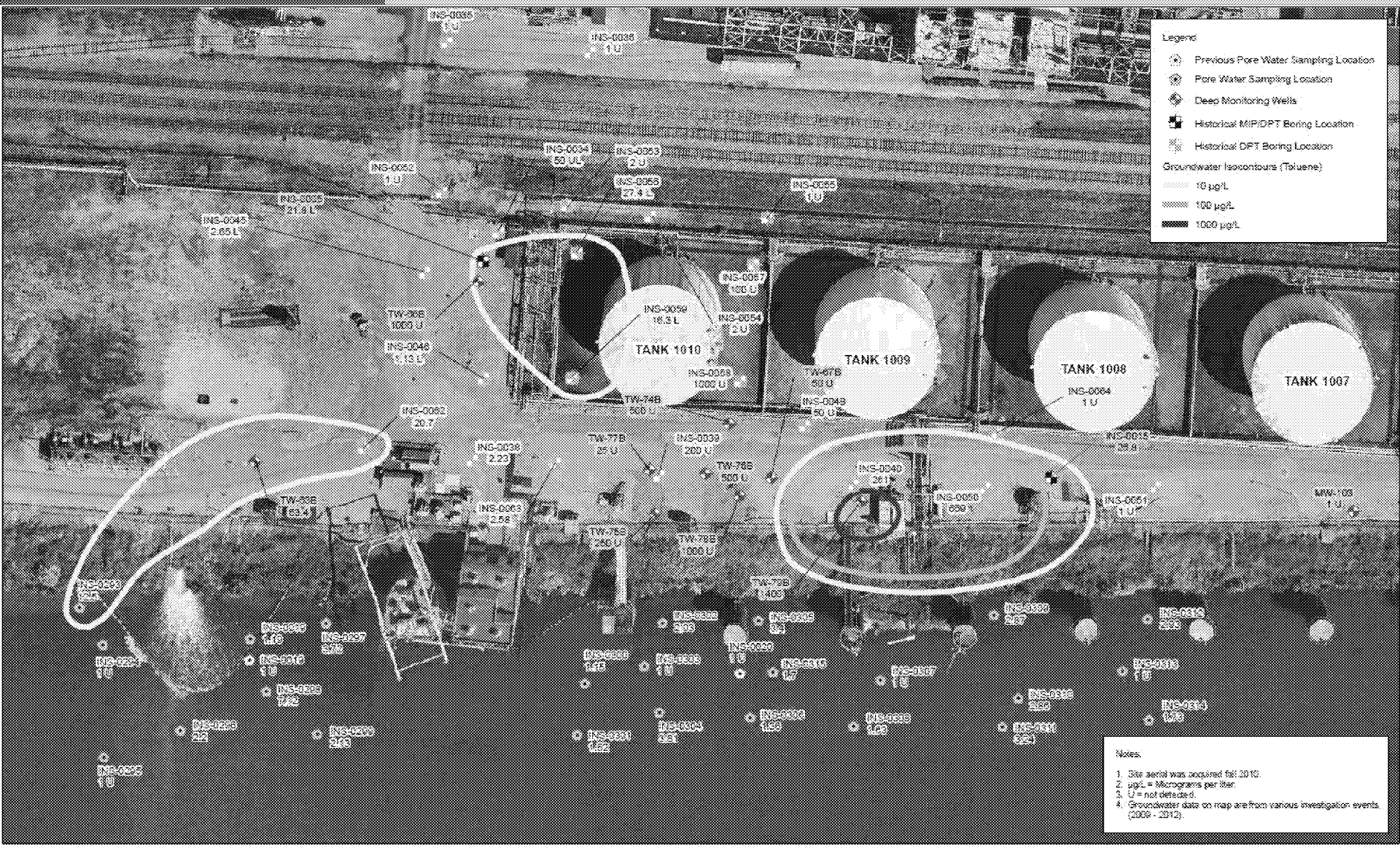
- **Tank 1010 Area**
  - **Collected pore water from 16 locations for VOC analysis**
    - ***Locations were spatially distributed to be inclusive of the mapped extent of benzene concentrations exceeding the benzene pore water criteria of 130 $\mu g/L$***
- **HPH Area**
  - **Collected pore water from 8 locations for VOC analysis**
    - ***Locations were spatially distributed to be inclusive of the mapped extent of benzene exceeding the pore water criteria***

2012 Pore Water Sample Locations / Benzene Isoconcentration Map

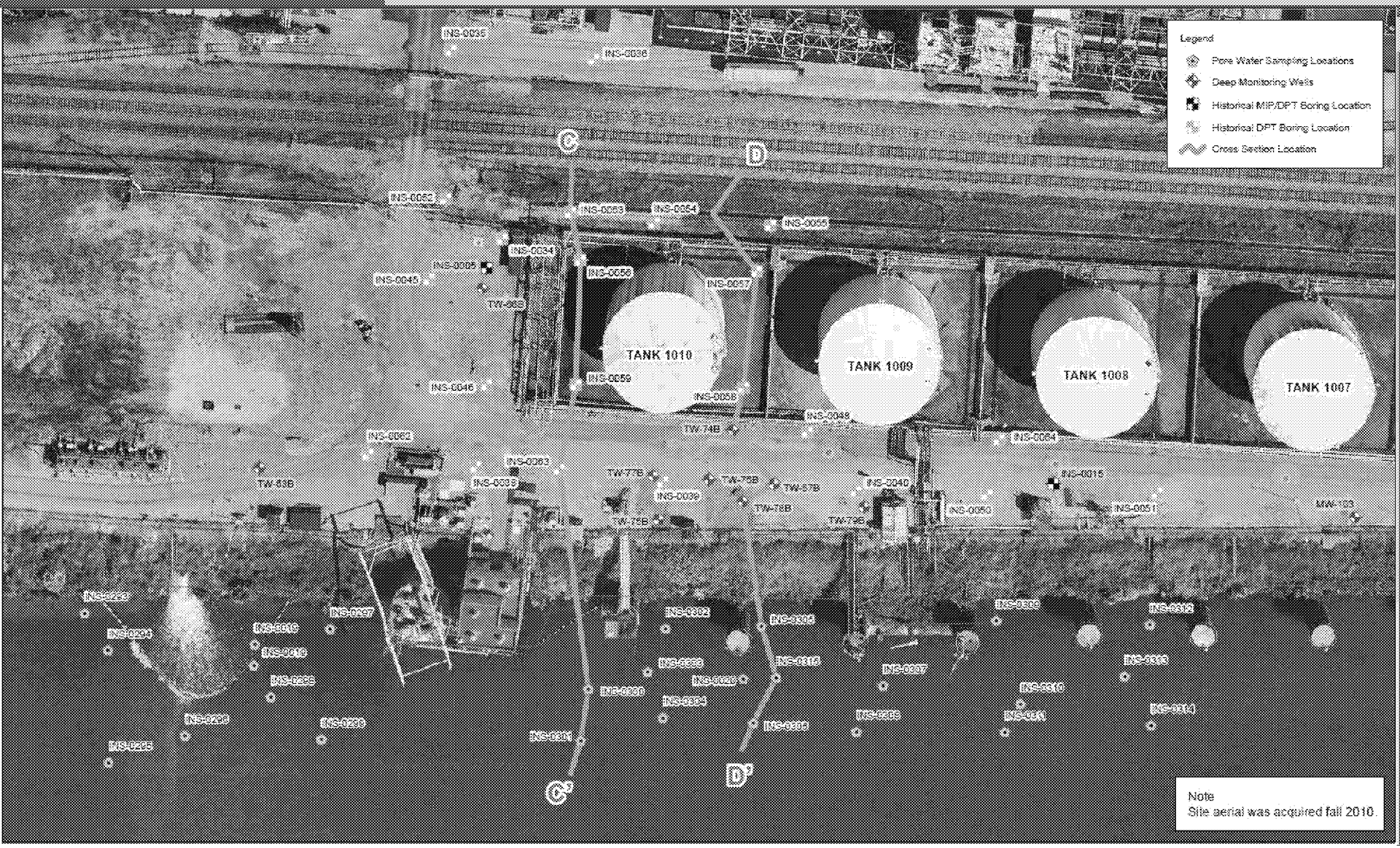
2012 Investigation Results

- Tank 1010 Area:
  - Six VOCs were detected at one or more pore sample locations
  - All detected VOCs were below respective pore water screening levels
- HPH Area
  - Ten VOCs were detected at one or more pore sample locations
  - All detected VOCs were below respective pore water screening levels, except for toluene at one location (INS-0293)

Toluene Results

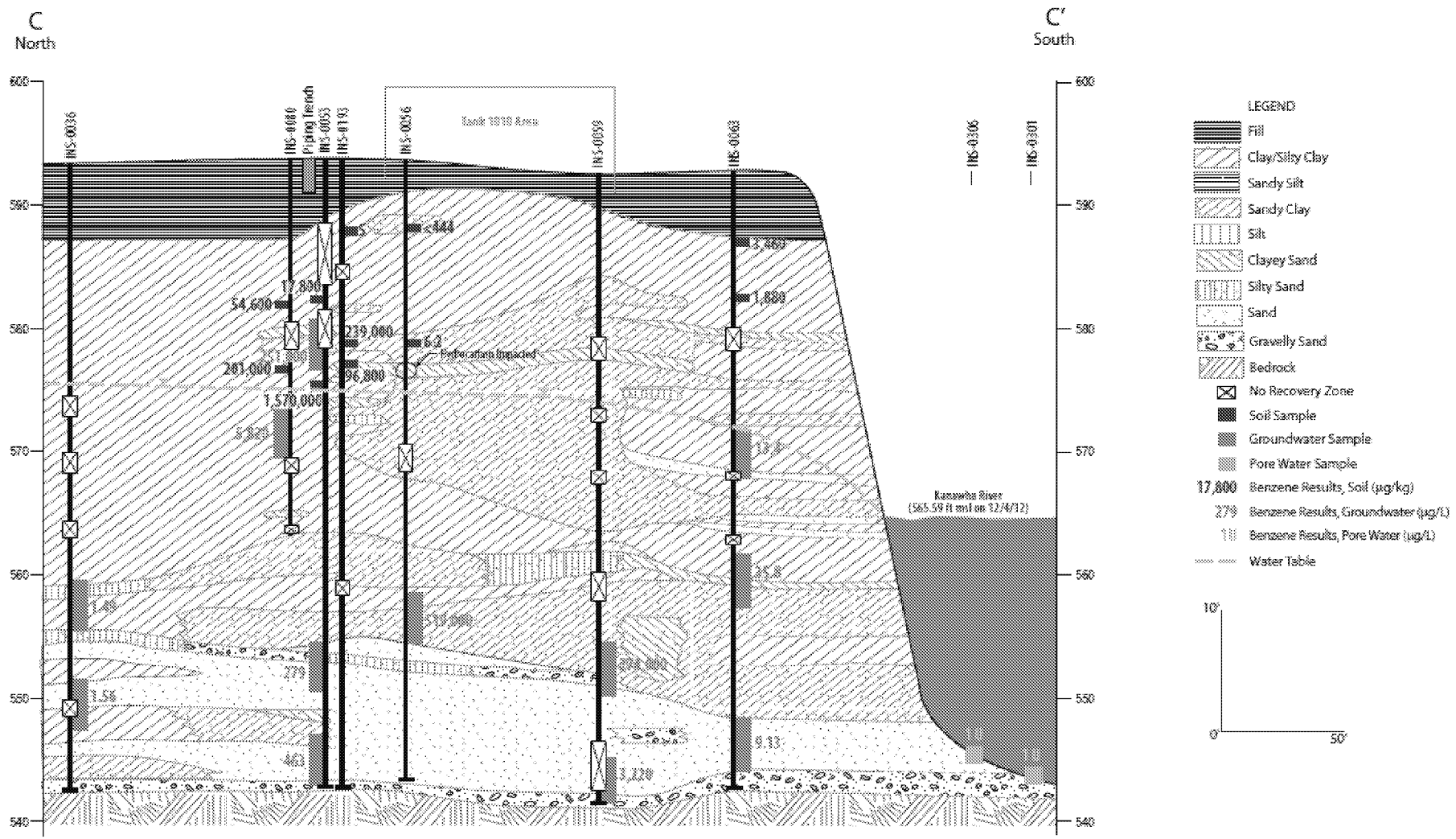

Legend
Previous Pore Water Sampling Location
Pore Water Sampling Location
Deep Monitoring Wells
Historical MIP/DPT Boring Location
Historical DPT Boring Location
Groundwater Isocontours (Toluene)
10 µg/L
100 µg/L
1000 µg/L
TANK 1010
TANK 1009
TANK 1008
TANK 1007
INS-0059 16.3 L
INS-0054 2 U
INS-0067 100 U
INS-0048 6.15 L
INS-0045 2.65 L
INS-0035 21.8 L
INS-0052 1 U
INS-0034 50 UL
INS-0053 2 U
INS-0053 27.4 L
INS-0055 1 U
INS-0036 1 U
INS-0064 1 U
INS-0015 25.8
INS-0062 20.7
INS-0038 2.23
INS-0063 2.58
INS-0040 261
INS-0050 650
INS-0051 1 U
MW-103 1 U
TW-77B 25 U
TW-76B 500 U
TW-75B 250 U
TW-78B 1000 U
TW-79B 1400
TW-74B 500 U
TW-67B 50 U
TW-68B 1000 U
TW-55B 63.4
INS-0043 50 U
INS-0039 200 U
INS-0029 125
INS-0031 1 U
INS-0032 146
INS-0037 570
INS-0033 1 U
INS-0039 782
INS-0028 22
INS-0030 265
INS-0025 1 U
INS-0008 146
INS-0006 1 U
INS-0004 361
INS-0009 1 U
INS-0007 1 U
INS-0010 1 U
INS-0011 1 U
INS-0012 2.26
INS-0013 1 U
INS-0014 1 U
INS-0016 1 U
INS-0018 1 U
INS-0019 1 U
INS-0020 1 U
INS-0021 1 U
INS-0022 1 U
INS-0023 1 U
INS-0024 1 U
INS-0026 1 U
INS-0027 1 U
INS-0041 1 U
INS-0042 1 U
INS-0044 1 U
INS-0046 1 U
INS-0047 1 U
INS-0049 1 U
INS-0057 1 U
INS-0058 1 U
INS-0060 1 U
INS-0061 1 U
INS-0065 1 U
INS-0066 1 U
INS-0068 1 U
INS-0069 1 U
INS-0070 1 U
INS-0071 1 U
INS-0072 1 U
INS-0073 1 U
INS-0074 1 U
INS-0075 1 U
INS-0076 1 U
INS-0077 1 U
INS-0078 1 U
INS-0079 1 U
INS-0080 1 U

Cross Sections

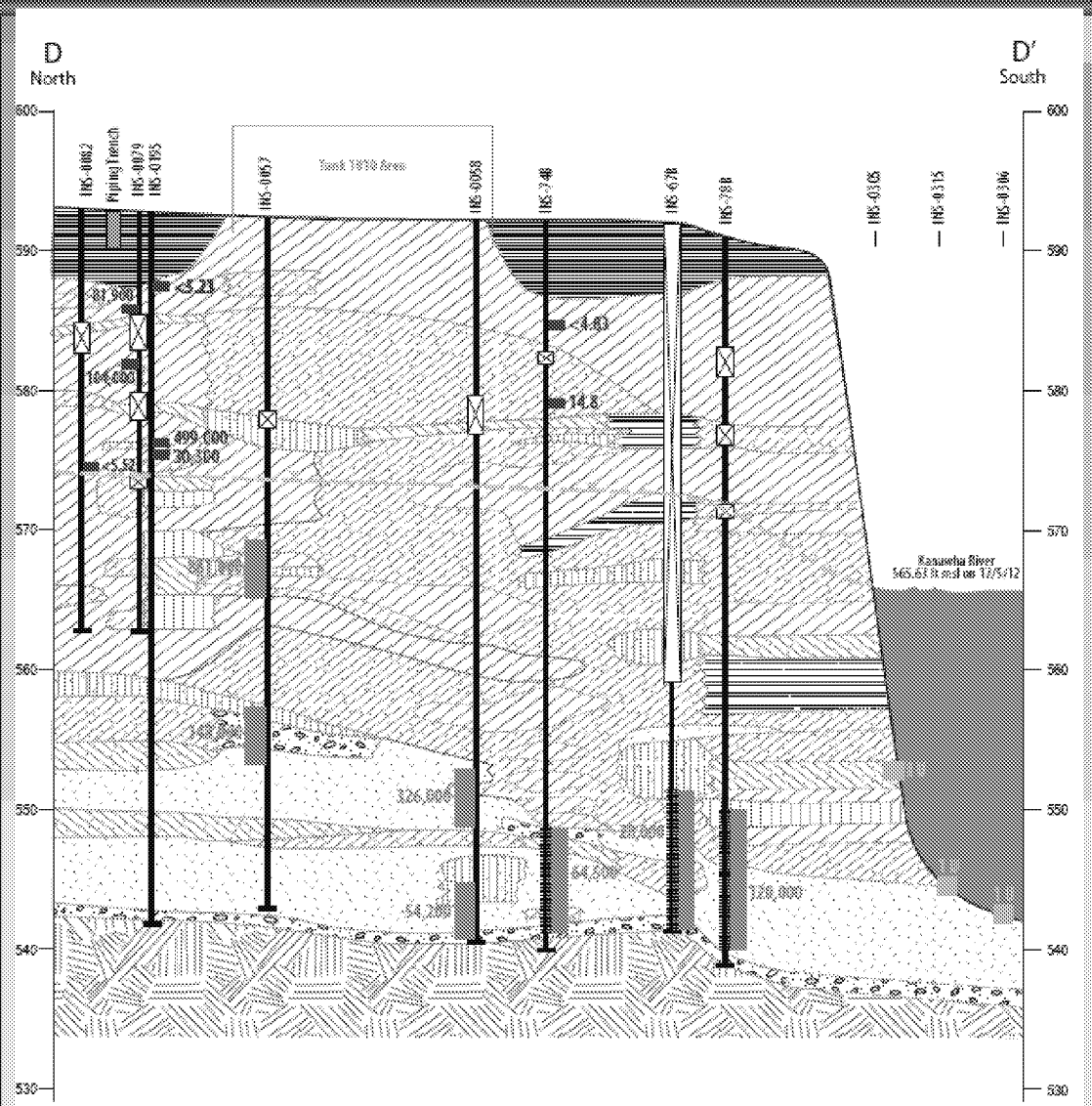


Note
Site aerial was acquired fall 2010.

Cross-Sections



Cross-Sections



LEGEND

- Fill
- Clay/Silty Clay
- Sandy Silt
- Sandy Clay
- Silt
- Clayey Sand
- Silty Sand
- Sand
- Gravelly Sand
- Bedrock
- No Recovery Zone
- Soil Sample
- Groundwater Sample
- Pore Water Sample
- 17,800 Benzene Results, Soil (µg/kg)
- 279 Benzene Results, Groundwater (µg/L)
- 1 U Benzene Results, Pore Water (µg/L)
- Water Table

10′ 0′ 50′

2012 Pore Water Investigation Summary

- Pore water sample locations targeted in areas where highest VOCs would be encountered if present
- Water quality data confirm pore water was sampled and surface water was not drawn down during sampling
- Pore water samples collected during base flow conditions
- December 2012 results similar to July 2009 results
- Tank 1010 Area:
  - Six VOCs were detected at one or more pore sample locations
  - All detected VOCs were below respective pore water screening levels
- HPH Area
  - Ten VOCs were detected at one or more pore sample locations
  - All detected VOCs were below respective pore water screening levels, except for toluene at one location (INS-0293)

Proposed Confirmation Sampling Approach

- Resample 12 of 24 locations from 2012 pore water event
- Target areas of potential highest concentrations (based on onshore GW VOC concentrations)
- Sample representative locations where VOCs were detected in pore water including INS-0293 (only location with exceedance of pore water screening levels)

Pore Water Confirmation Sampling Locations

Questions