Innovative Stream Assessment and Monitoring

Introduction

Site: Shuping Cleaners, 406 South Salisbury Avenue, Spencer, North Carolina

Purpose: Innovative and cost effective evaluation of plume delineation and associated receptor evaluation to satisfy requirements of the 2S Risk Based Corrective Action Rules. Specifically, this investigation involved the use of thermal imaging, henry push point sampling of groundwater, and surface water sampling, to characterize groundwater discharge locations along a stream to complete the characterization of the contaminant plume and identify impacted receptors that would influence the management of risk associated with the site.

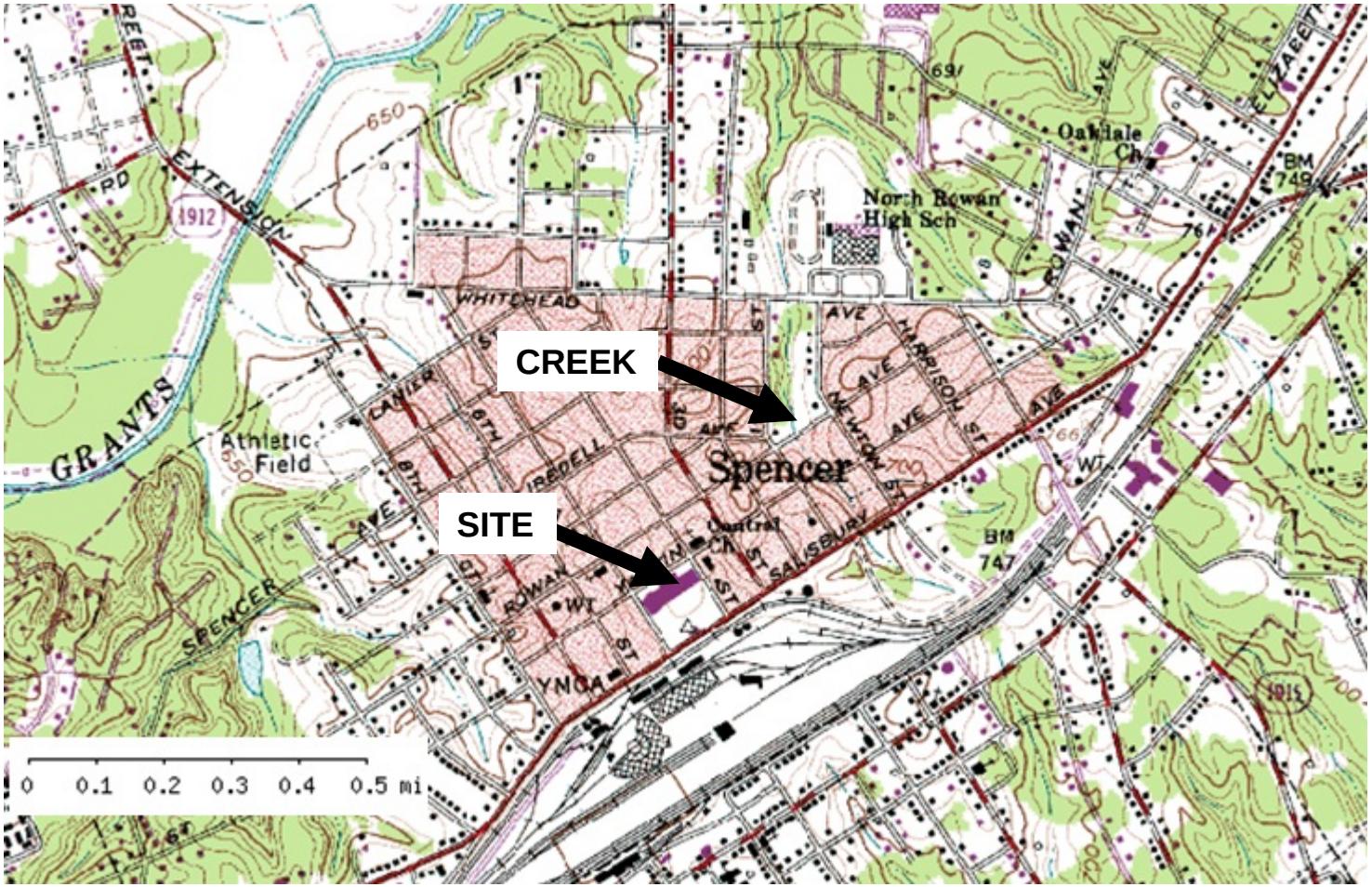
Project Team

Rob MacWilliams – URS Corporation

Chris Theesfeld – URS Corporation

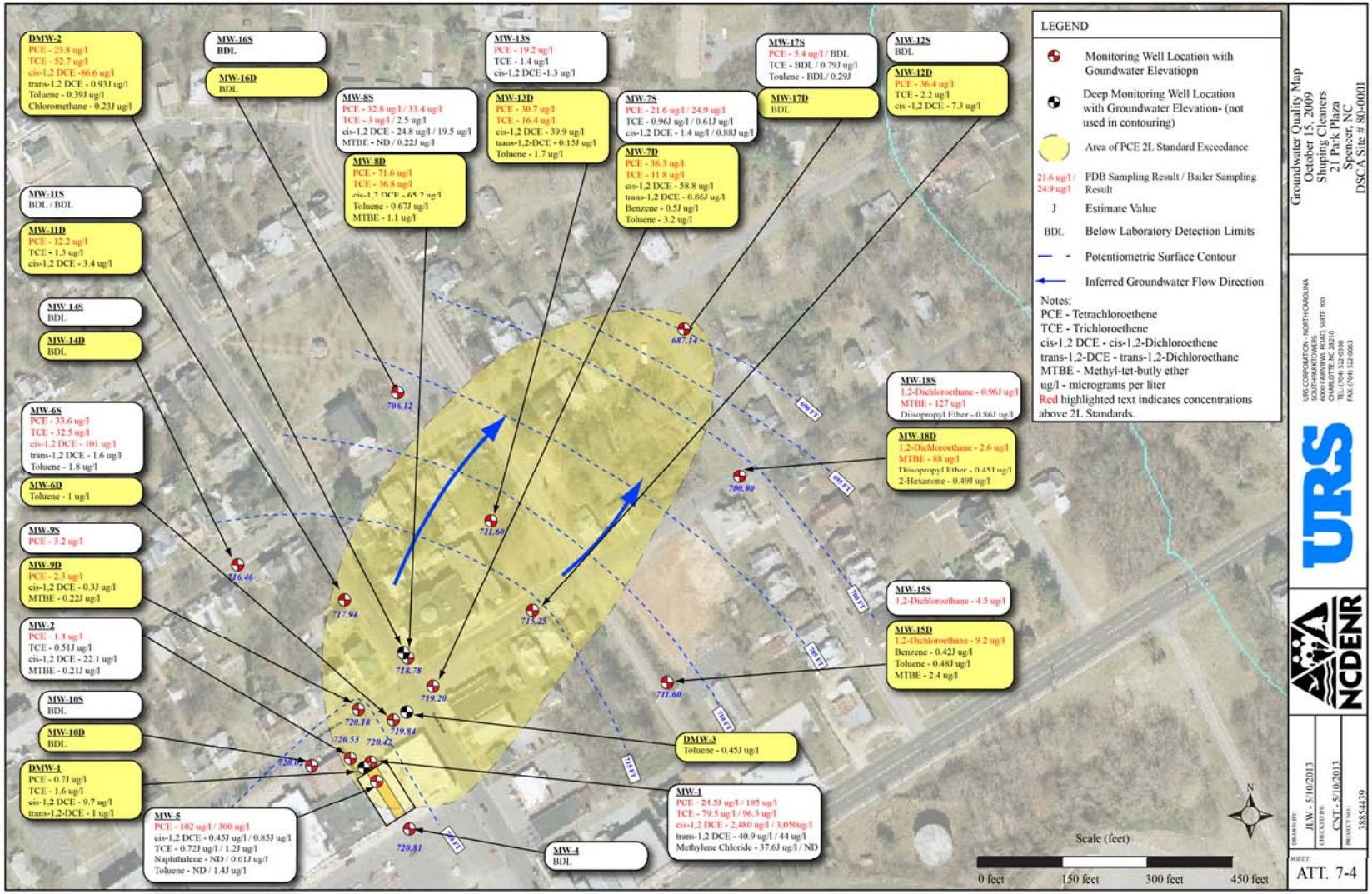
Billy Meyer - DSCA

Site Location

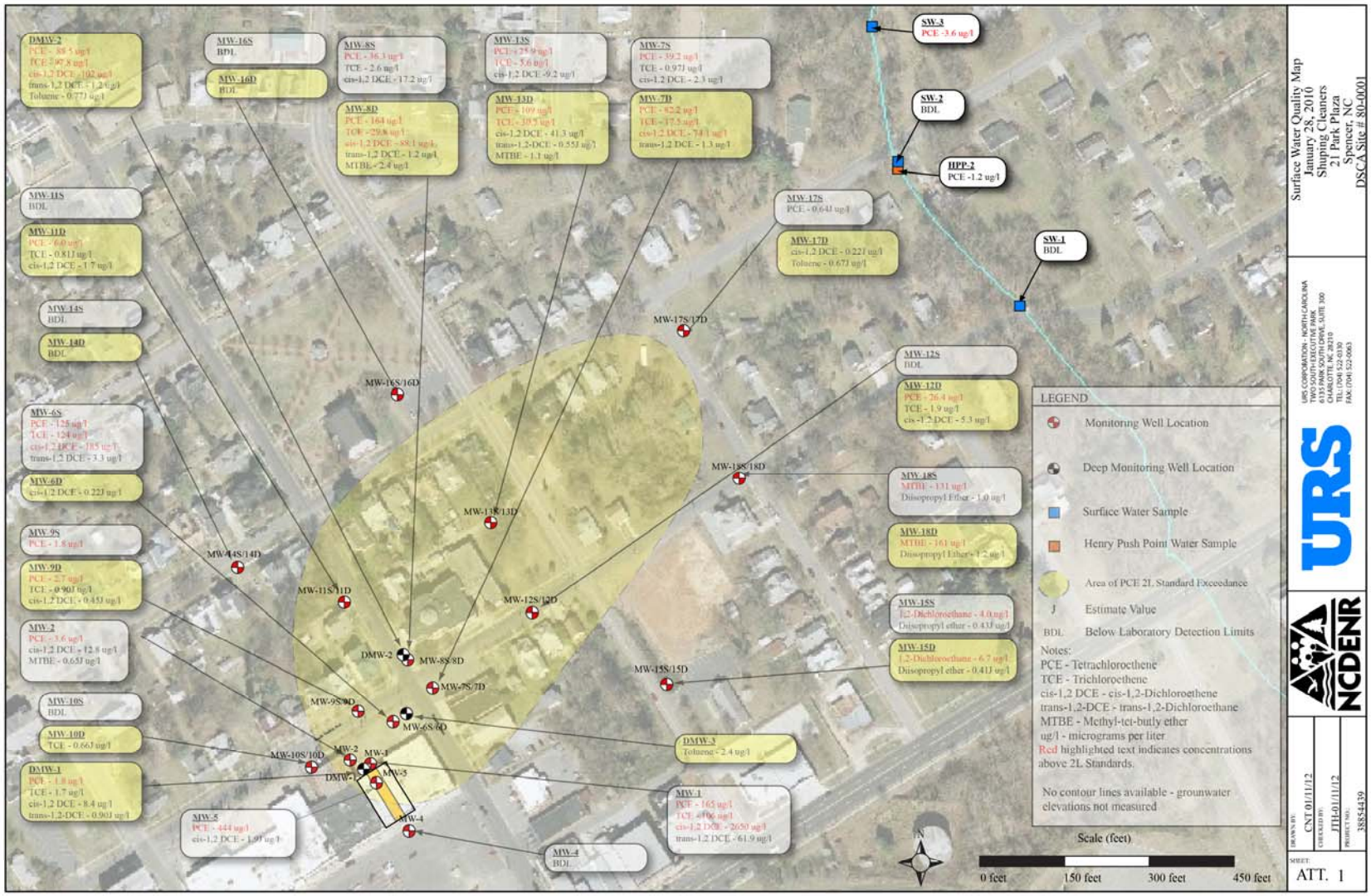


Monitoring Well Locations

Groundwater Sampling Results – October 2009



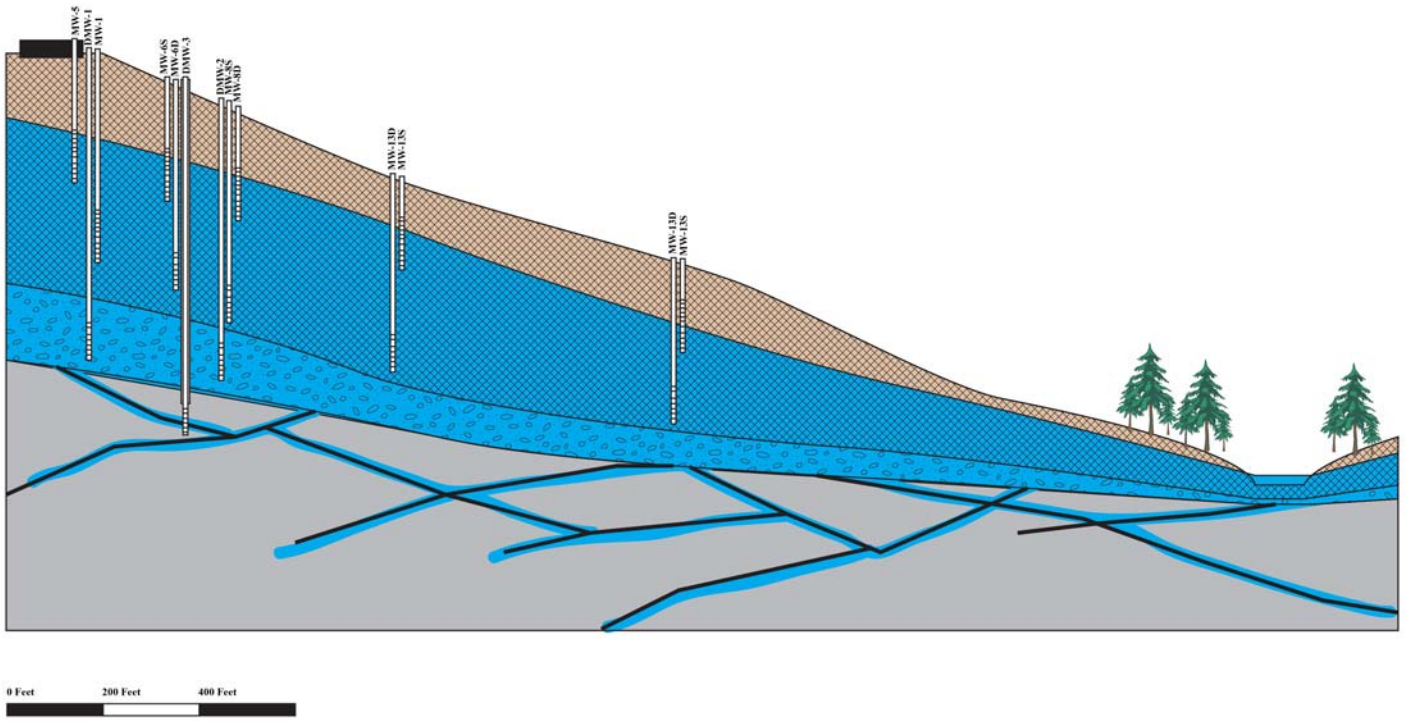
Groundwater and Surface Water Results – January 2010



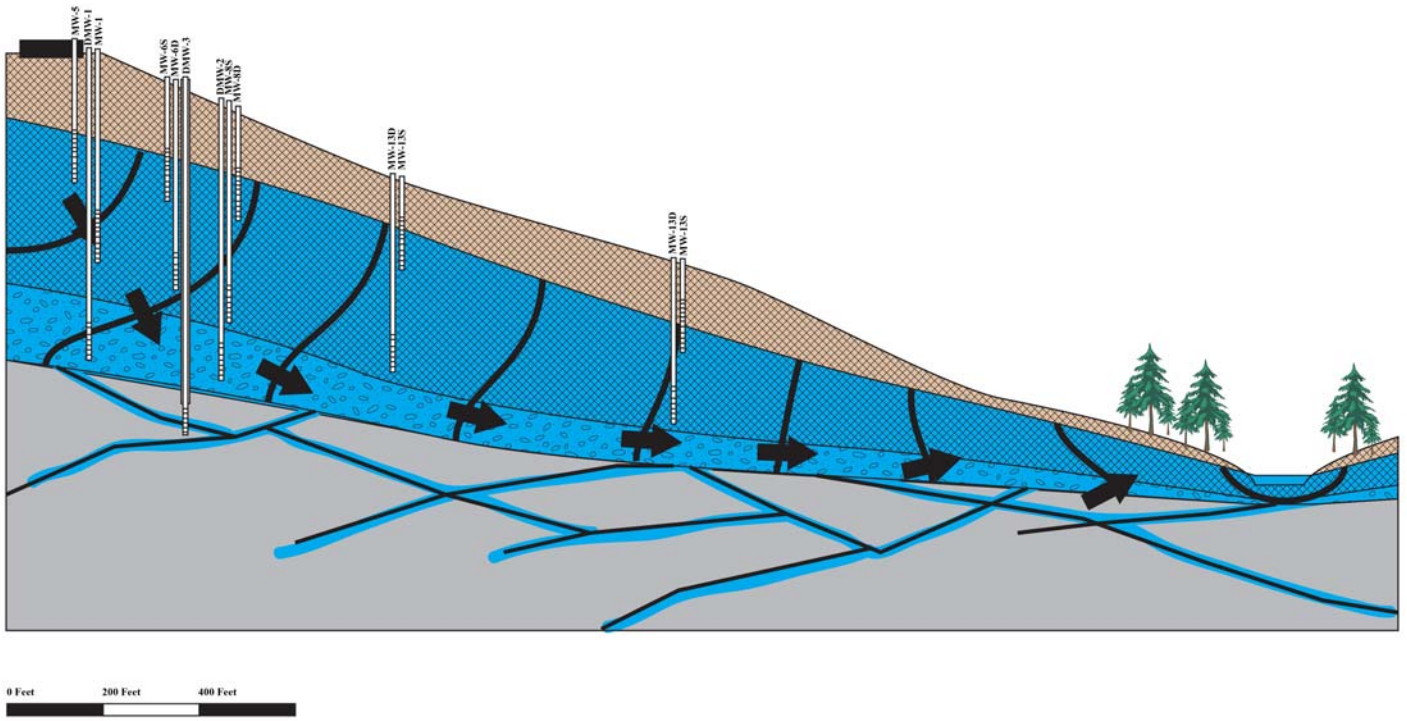
Surface and Pore Water Sampling Results – March 2013

Surface and Pore Water Sampling Results – August 2013

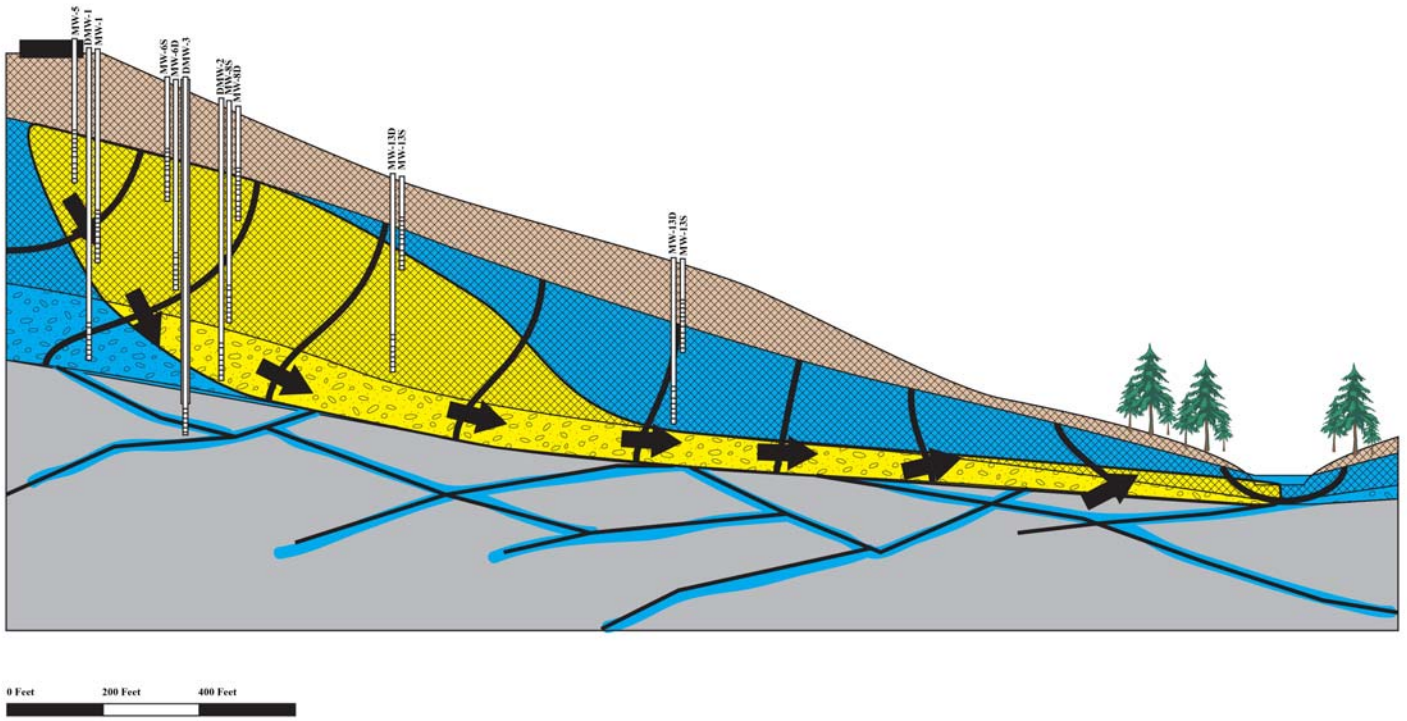
Generalized Site Cross Section



Generalized Site Cross Section - Flow



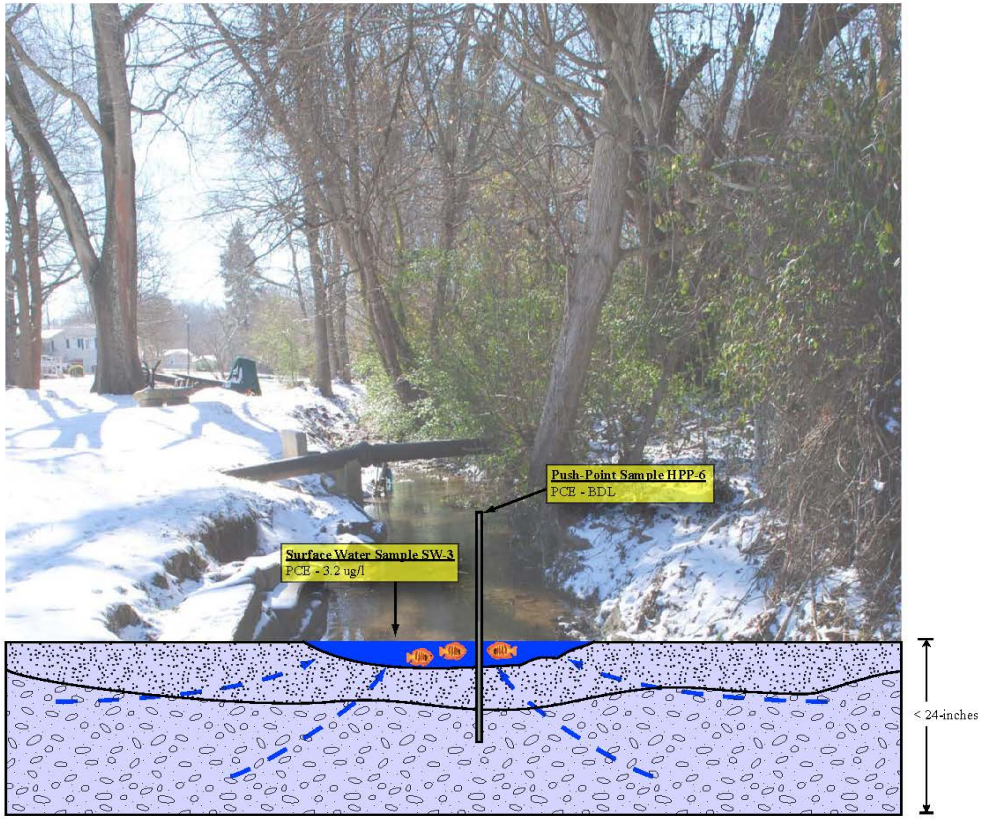
Generalized Site Cross Section - Plume



Stream Investigation Areas

Testo 875-2i Infrared Camera

Henry Push Point Samples



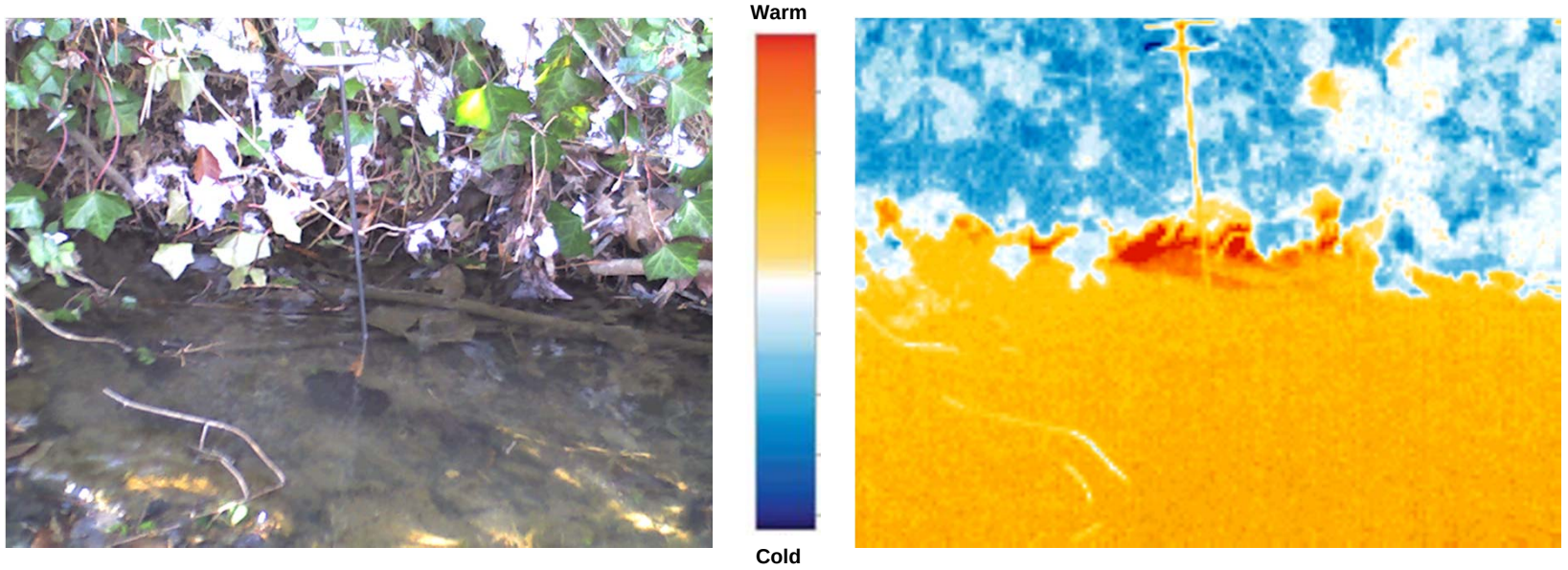
January 30, 2014

Facing upcreek at Area B

Facing upcreek at Area F

- Ambient Air Temperature: 9^{o}F

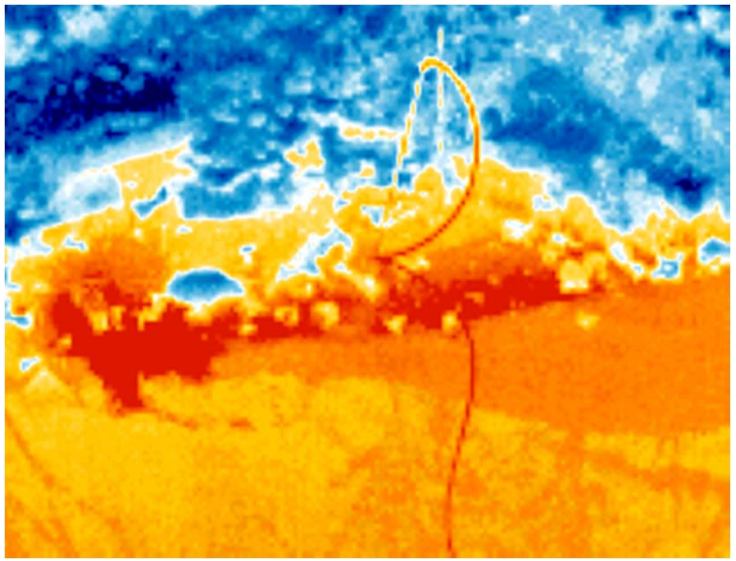
Sample Location HPP-5



HPP-5

PCE – 4.1 ug/L

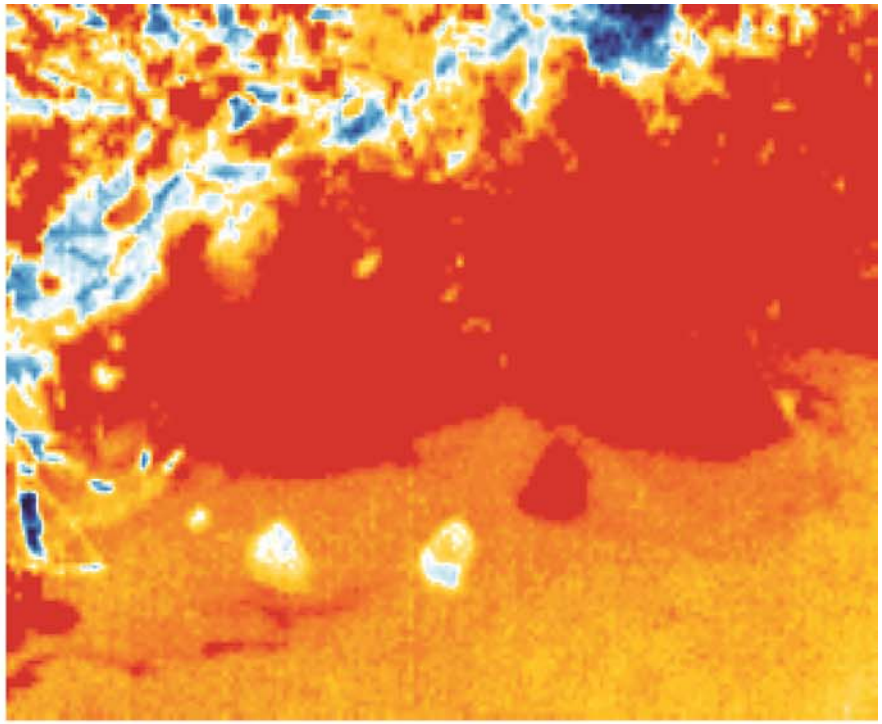
Sample Location HPP-2



No detections in sample, but note the warm push point water in the tubing

Sanitary Sewer Crossing – HPP-4/SW-2

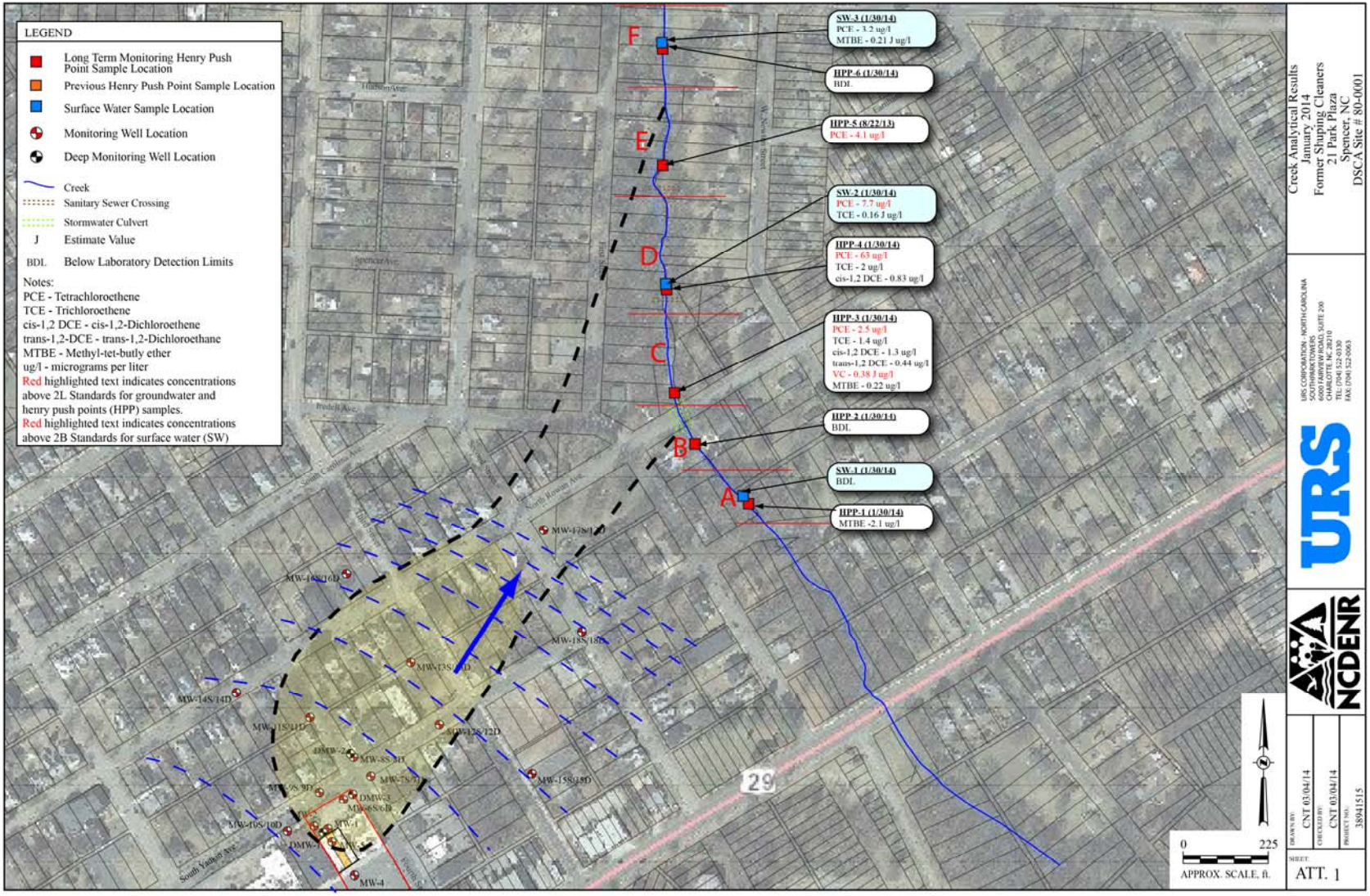
Sanitary Sewer Crossing – HPP-4/SW-2



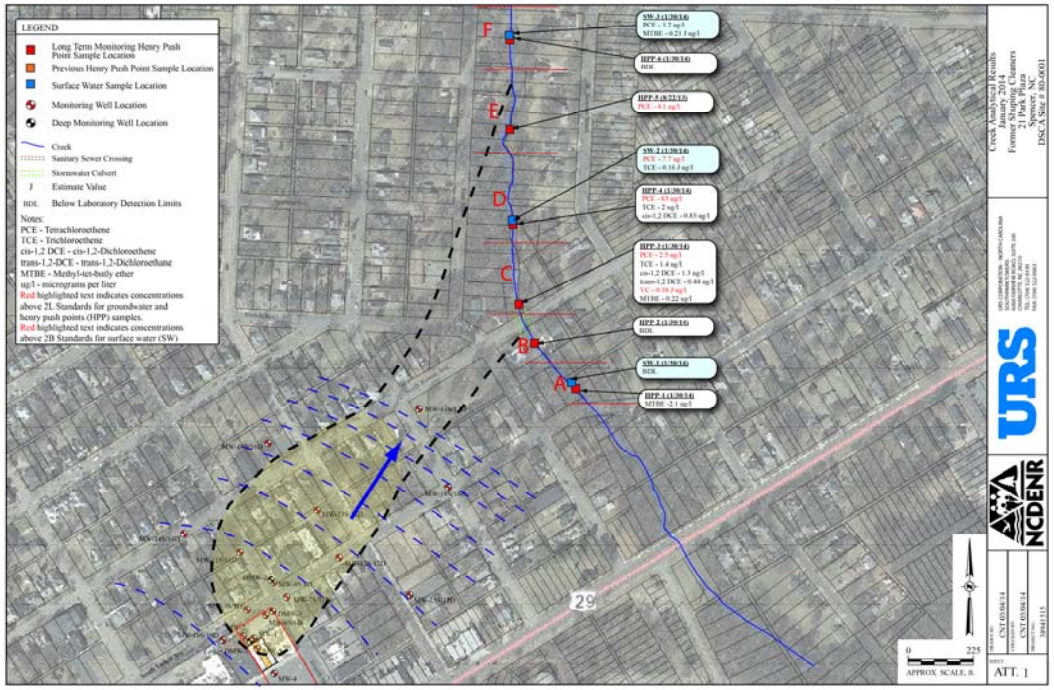
HPP-4 (1/30/14)
PCE - 63 ug/l
TCE - 2 ug/l
cis-1,2 DCE - 0.83 ug/l
Temp - 9.4C
pH - 6.95
Cond - 302.1 uS/cm

SW-2 (1/30/14)
PCE - 7.7 ug/l
TCE - 0.16j ug/l
Temp - 4.6C
pH - 7.36
Cond - 343.1 uS/cm

Surface and Pore Water Sampling Results – January 2014



Surface and Pore Water Sampling Results – January 2014



- Installed permanent Henry Push Point sample location markers using rebar stakes, stainless steel tags and flagging.
- Collected GPS coordinates for each locations as a backup for the rebar stakes.