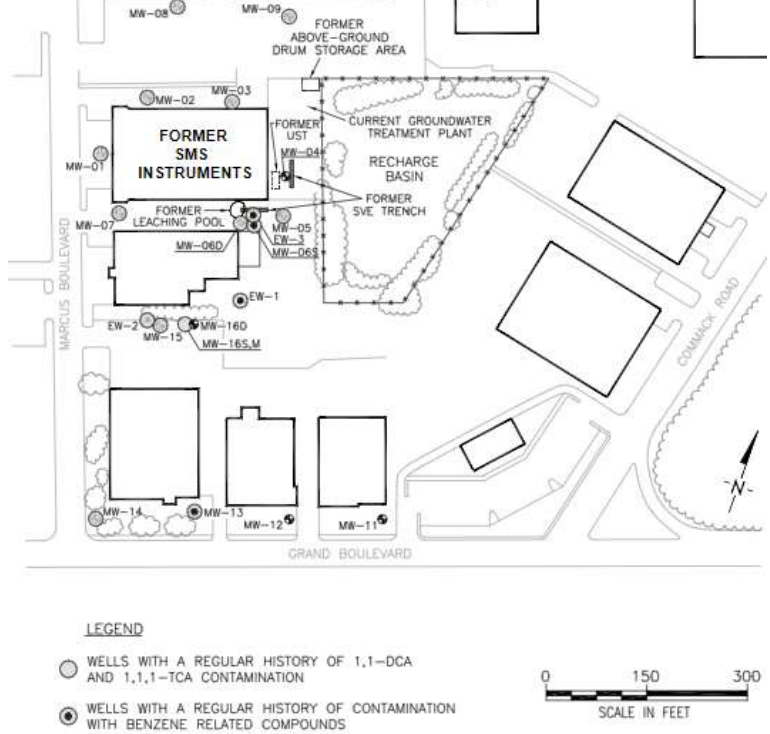


P&T Transition to AS

SMS Instruments
Deer Park, NY
Aircraft Part Maintenance
Transition Start—2005
Former NPL Site

P&T Objectives: Meet either federal or state drinking water standards or upgradient concentrations if above the standards

Risk Scenario—PCE, TCE, DCE in downgradient wells



Performance Evaluation Summary:

With capture of the source area with extraction well EW-3 operating after the P&T began in 1994, the RSE team would have expected downgradient concentrations in EW-1 to decrease over time and fall below cleanup standards. During the first year of operation, contaminant concentrations in groundwater from EW-1 appeared to decline substantially. However, as of 2003, asymptotic behavior and fluctuations in concentrations prevented cleanup standards from being met at this downgradient location. The RSE team expected that this same behavior would continue for several years, and perhaps decades, before the cleanup standards were consistently met. Although the extraction at EW-3 helped remove mass near the source area, it was also likely creating a zone of stagnation immediately downgradient, which would delay the flushing of contamination between EW-3 and EW-1 toward EW-1 for extraction.

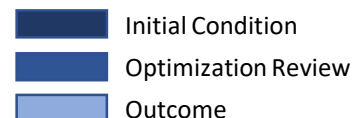
Bio-enhanced air sparging is more effective at mass removal in a contaminant source area.

Action Summary—Bio-enhanced air sparging at remaining source “hot-spot” near extraction well EW-1.

Lines of evidence used to support the changes:

1. The RSE team observed a site where the soil remedy had effectively removed soil contamination, which had been providing a continuing source of dissolved-phase groundwater contamination.
2. Groundwater concentrations had decreased substantially, indicating the initial success of the remedies.
3. The groundwater remedy continued to be used to extract and treat contaminated groundwater to attempt to achieve its remediation objectives; however, the system had failed to meet its discharge criteria on multiple occasions, and the annual costs of operation were significantly more than the RSE team would expect for this site.

The bio-enhanced air sparging remedy was originally selected in the 1989 ROD. Thus, the site could continue operating under the original ROD.



P&T Transition to AS

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- Initial Condition
- Optimization Review
- Outcome

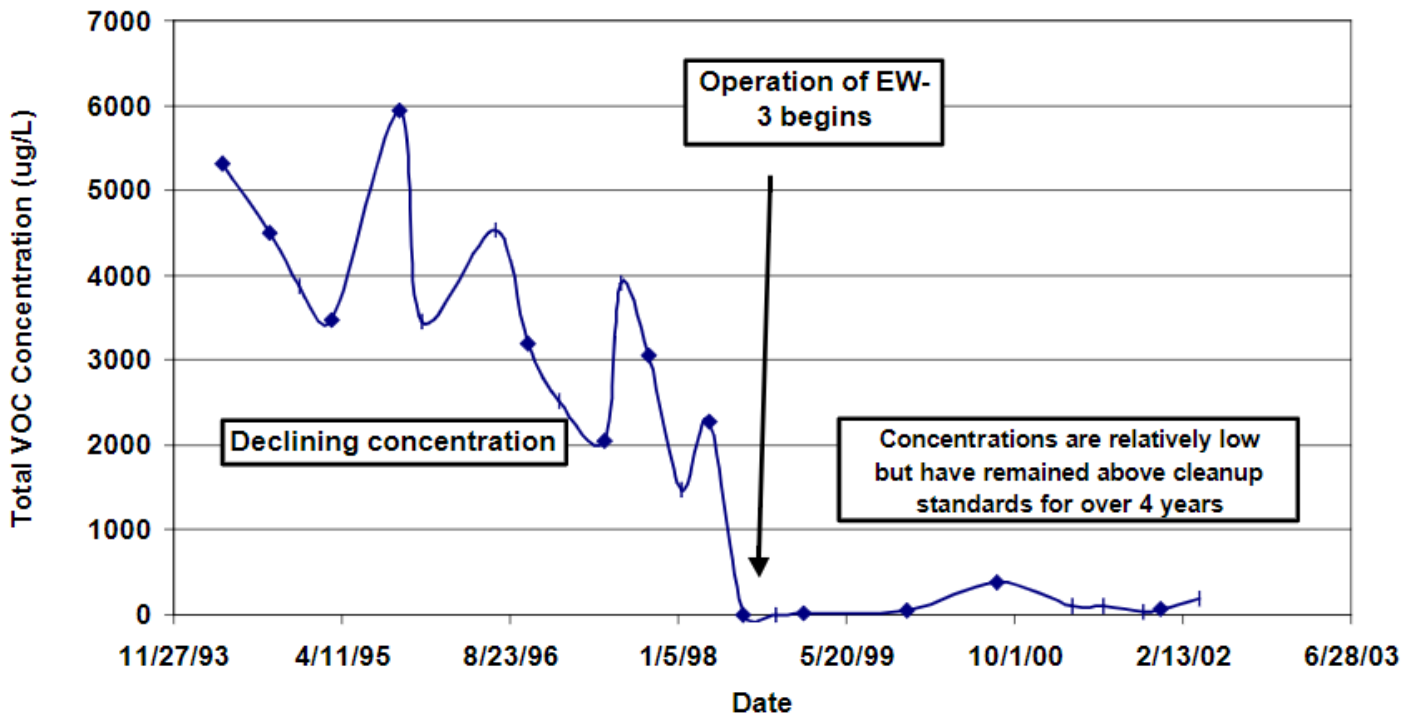
Brief snippet on regulator approval to decommission the P&T forever:

The USEPA, with the concurrence of the State of New York, through NYSDEC, determined that all appropriate responses under CERCLA were completed and that No Further Response Actions under CERCLA were necessary. Based on this, USEPA deleted the site from the NPL.

40 CFR Part 300, National Oil and Hazardous Substances Pollution Contingency Plan; National Priorities List: Deletion of the SMS Instruments, Inc., Superfund Site, Vol. 75, No. 146 / Friday July 30, 2010 / Rules and Regulations.

P&T transition made in a phased manner and monitored to ensure compliance with performance expectations. The site contractor built a transportable bio-enhanced air-sparging system, installed the system on site, attached the system to sparging wells, and began operating the system in May 2005.

The system fed the resident microbes a methane mixture. After the population increased sufficiently, the methane was shut off, and the microbes would consume the contamination instead. This took a normally asymptotic contamination breakdown and polished the groundwater to the point that NYSDOH was comfortable delisting the site from the state Superfund list.



P&T Actions Conclusion

P&T transitioned to AS

Time Span: 5 years of bio-enhanced air sparging

OM&M Cost Savings: ~\$378,000/year (according to the EPA Optimization report)

Remedy Effectiveness and/or Risk Reduction Improvement: NPL deletion 5 years after P&T transition to bio-enhanced air sparging

Sustainability/Resiliency Benefits: Bio-enhanced air sparging effectiveness after 5 years allowed P&T to remain off versus likely 10+ years of continuing P&T if a transition had not been completed.