

Site Name: Savage Municipal Water Supply (Milford, NH)

EPA ID#: NHD980671002

RSE Report: EPA-542-R-02-008h (September 2001)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Dispose of recovered solvent offsite to avoid complications with solvent circulating through treatment system	Implemented	
6.1.2 Determine actual capture zone of extraction wells	Implemented	
6.1.3 Move recharge points beyond influence of extraction wells to improve system efficiency	Alternative implemented	
6.1.4 Verify effectiveness of subsurface containment wall	Implemented	
6.1.5 Improve reporting by providing regular analysis of treatment system data	Implemented	
Cost Reduction		
6.2.1 Discontinue steam regeneration of carbon system	Implemented	The carbon regeneration unit is now offline. Air effluent is discharged directly to atmosphere with no treatment required. Replacement of two steam boilers with small efficient boilers was completed in December 2008. This work was also part of the preparation for transfer of the remedy to the State for O and M.
6.2.2 Reduce operator labor	Implemented	The operator LOE has been reduced with remote operation and monitoring implemented. FTE was reduced from 1.5 to 0.4. However, overall cost savings did not materialize in changing contractors due to higher rates of new contractor.
6.2.3 Replace the blower with a smaller, more efficient model	Alternative Implemented	SVE system has been shut down.
6.2.4 Request survey of electricity usage	Implemented	
Technical Improvement		
6.3.1 Improve invoicing to ensure timely delivery of monthly updates	Implemented	
6.3.2 Repair or replace air compressor for air sparging system	Implemented	Air sparging system discontinued as part of SVE shut down.

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RSE Report: EPA-542-R-02-008h (September 2001)

Recommendation	Status	Progress since the previous progress report
Progress Toward Cleanup Goals		
6.4.1 Clarify exit strategy and closure criteria	Implemented	Treatment of the vadose zone source area was successfully completed by fixed price contract in 2009. A forth injection of 100,000 lbs of NaMnO4 was completed in October-November 2009. A fifth injection in 2010 may be necessary. The site is ready for LTRA turnover in March 2010
6.4.2 Aggressive mass removal - Pumping from "hot-spot" wells - Chemical oxidation of "hot-spot"	Implemented	

Site Name: Higgins Farm (Franklin Township, NJ)

EPA ID#: NJD981490261

RSE Report: EPA 542-R-04-034 (May 2004)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Plume definition	Implemented	The off-site investigation report was submitted to EPA in August 2008.
6.1.2 Surface water sampling	Implemented	USACE completed sampling of quarry seeps in 2005. Impacts to Carter Brook are assessed based on effluent monitoring; additional impacts from ground water will be assessed as part of 6.1.1.
6.1.3 On-site plume capture	Implemented	The August 2008 off-site investigation report presented recommendations from the PRP.
Cost Reduction		
6.2.1 Bypass treatment plant to POTW	Declined	
6.2.2 Extraction system revisions	Implemented	The number of extraction wells used was reduced from 25 to 13 wells.
6.2.3 Downsize air stripper blower	Implemented	A new discharge permit was obtained for the treatment facility. The VOCs in the influent are low enough that although they are sparged out of solution from the influent tank, they can be vented without the need for a permit equivalence. This has eliminated the need for the air stripper.
6.2.4 Alternate manganese removal technologies	Implemented	A new discharge permit was obtained for the treatment facility. Manganese no longer needs to be removed since the new permit does not regulate for metals such as iron and manganese that are naturally occurring.
6.2.5 Changes in monitoring program	Implemented	EPA approved the switch to diffusion bag samplers, which was implemented in April 2008.
6.2.6 Review level of USACE oversight	Deferred to State or PRP	
6.2.7 Reduce monthly reporting frequency to quarterly	Implemented	
Technical Improvement		
6.3.1 Change well maintenance methods	Deferred to State or PRP	This recommendation has been deferred to the PRPs.
6.3.2 Extraction pipe testing	Deferred to State or PRP	This recommendation has been deferred to the PRPs.
6.3.3 Control system modification	Implemented	

Site Name: Higgins Farm (Franklin Township, NJ)

EPA ID#: NJD981490261

RSE Report: EPA 542-R-04-034 (May 2004)

Recommendation	Status	Progress since the previous progress report
Progress Toward Cleanup Goals		
6.4.1 Verify source removal	Implemented	Documented chemical trends in site wells indicate that source removal actions have been successful. PRP will use monitoring program to continually evaluate this conclusion.
6.4.2 Develop site exit strategy	Deferred to State or PRP	Implementation of this recommendation has been deferred to the PRPs. The ROD objective remains restoration to drinking water standards.

Site Name: Ellis Property (Evesham and Medford Townships, NJ)

EPA ID#: NJD980529085

RSE Report: EPA 542-R-06-015 (September 2006)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Improve capture zone evaluation with installation of piezometer pairs	Implemented	Five (5) piezometer pairs were installed, or coupled with existing wells, to improve capture zone evaluation.
6.1.2 Consider modification of treatment plant and injection trench to increase hydraulic capacity (contingent on outcome of 6.1.1)	Alternative implemented	The site team has had a discharge line installed to direct treated water to the wetlands. The site team is filing a State permit to allow the discharge.
6.1.3 Improve site characterization with installation of two monitoring wells	Implemented	Five (5) additional monitoring wells have been installed since the RSE Site visit.
6.1.4 Conduct limited sampling of the wetlands surface water and sediments as indicated in the Five Year Review	Implemented	The work was conducted in September 2006. The 2007 sample could not be collected in September due to a drought. The sample will be collected in March, and annual sampling in September will resume in 2008.
6.1.5 Confirm that ground water monitoring network provides enough information to evaluate capture	Declined	NJDEP believes that the current network provides adequate information regarding the existing groundwater contamination plume and that no more monitoring wells are necessary at this time.
Cost Reduction		
6.2.1 Revise process monitoring program	Implemented	
6.2.2 Consider not implementing aspects of the proposed work plan	Implemented	NJDEP did not implement the following aspects of the work plan: evaluate groundwater samples for natural attenuation parameters and conduct pump/aquifer tests.
Technical Improvement		
6.3.1 Install timer for wasting sludge from clarifier	Implemented	
Progress Toward Cleanup Goals		
6.4.1 Pilot in-situ chemical oxidation with permanganate for aggressive source removal	Implemented	NJDEP's Technology Evaluation Report lead to the conclusion that using a chemical oxidant with an in situ mixing effort would be the most cost-effective way to attack the source area. A bench-scale treatability study was done, which showed that the mixing could work and this technology was the recommendation that was presented as a first choice. Excavation and thermal heating were also evaluated but determined to be either not cost effective or not feasible.

Site Name: GCL Tie & Treating (Sidney, NY)

EPA ID#: NYD981566417

RSE Report: EPA 542-R-06-016 (December 2006)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Institute a routine ground water monitoring program	Implemented	A sampling event was conducted in Summer 2007 using the USACE contractor, and EPA ERT will conduct the sampling event for Summer 2008. The site team is planning annual events using ERT for the foreseeable future. Using ERT instead of the previous USACE contractor is providing substantial savings to the site, potentially on the order of \$100,000 per year. A revised sampling frequency may be considered.
6.1.2 Optional plume delineation	Implemented	The site team has installed two wells in the suggested location. The wells are co-located but screen different intervals. The wells will be sampled in Summer 2008. All work is being conducted by ERT.
6.1.3 Soil vapor intrusion evaluation	Implemented	A soil vapor intrusion study based on sub-slab sampling was conducted in March 2009. Results indicate that we do not expect a vapor intrusion pathway to exist.
Cost Reduction		
6.2.1 Discontinue pumping from the intermediate zone	Implemented	Pumping from the intermediate zone was discontinued in March 2009.
6.2.2 Consider modifications to the backwashing and solids handling procedures (contingent of outcome of 6.2.1)	Under Consideration	This recommendation is still under consideration. The green sand + filter media is working well and does not need to be changed out yet. It is not considered cost effective to make changes to the backwashing procedures at this time.
6.2.3 Suggestions for long-term ground water monitoring	Implemented	See recommendation 6.1.1.
6.2.4 Pilot test bypassing the air stripper	Declined	A pilot test was planned for 2008, but not done because multiple carbon change outs are still required. Loss of the air stripper will cause additional costs due to increased carbon use.
6.2.5 Consider a hybrid time and materials and fixed-price contract	Alternative Implemented	EPA entered into a new LTRA contract with USACE which expires on 12/31/2015. In November 2008, USACE added Hydrogeologic, Inc. as their LTRA contractor.
6.2.6 Reductions in project management consistent with steady state system operation	Implemented	Labor savings were realized by reducing full time staff at the treatment plant and using just 3 part time staffers. Project management effort is unchanged.
Technical Improvement		
6.3.1 Relocate equalization tank high-level switch	Implemented	The switch was relocated in 2007.
6.3.2 Discontinue use and service to generator	Declined	Generator is still on-site and tested monthly. It has never needed refueling and does not represent a significant cost to maintain. Surplus value of the unit is minimal.

Site Name: GCL Tie & Treating (Sidney, NY)**EPA ID#:** NYD981566417**RSE Report:** EPA 542-R-06-016 (December 2006)

Recommendation	Status	Progress since the previous progress report
6.3.3 Modify use of water levels from operating extraction wells when developing potentiometric surface maps	In progress	There have not been any new maps generated since 2007, however, the potentiometric surface maps that are generated in the future will not be based on water levels from extraction wells.

Site Name: Havertown PCP (Havertown, PA)

EPA ID#: PAD002338010

RSE Report: EPA 542-R-04-033 (March 2004)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Properly seal abandoned 12-inch sewer line and remediate surface soils near the seep	Alternative implemented	The site team has plugged the entire abandoned sewer line and has conducted an investigation of the Residential Open Space (ROS) area near the seep, including 15 borings with shallow and deep soil samples plus ground water samples. The site team noted that concentrations were not high enough to warrant removal because they are more than 8 feet below ground surface.
6.1.2 Improve plume delineation to the south and vertically	Implemented	
6.1.3 Evaluate plume capture once plume is delineated	Implemented	The plume was fully delineated during the OU3 investigation. Plume delineation and capture analysis resulted in the installation of two new extraction wells. Well RW-5 was installed in the source area to extract source material in the deep groundwater. Well RW-6 was installed in the bedding of the former Naylor's Run to extract groundwater from the deeper aquifer beyond the trench. Operation of these two wells have resulted in better capture of both the shallow and deep aquifer with a general reduction in contamination at the down gradient and side gradient edges of the plume. (The original extraction wells are no longer in service since effective drawdown was realized with RW-5.) Plume delineation and capture analysis will be performed on an ongoing basis. The Record of Decision (ROD) for OU3 requires the installation of additional groundwater extraction wells to assist in plume capture.
6.1.4 Take measures to further reduce system downtime	Implemented	
Cost Reduction		
6.2.1 Use fewer UV/oxidation units	Implemented	
6.2.2 Evaluate areas to reduce labor costs	Implemented	Labor costs were re-evaluated when a new contract for long-term remedial action was negotiated. The pre-treatment portion of the treatment facility is being re-designed with one goal being reduced maintenance/labor to operate. The programmable control system is being updated.
Technical Improvement		
6.3.1 Continue improving treatment plant to facilitate operation and potentially increase capacity	Implemented	The update to the pre-treatment portion of the groundwater treatment facility, to increase the capacity of groundwater being treated, has been completed. The facility began treating contaminated groundwater again during the week of February 16, 2009. It is anticipated that the facility will eventually treat up to 70 gallons per minute when the remedial action for OU3 is complete.

Site Name: Havertown PCP (Havertown, PA)

EPA ID#: PAD002338010

RSE Report: EPA 542-R-04-033 (March 2004)

Recommendation	Status	Progress since the previous progress report
6.3.2 Make piping changes to better use the second equalization tank	Alternative implemented	
Progress Toward Cleanup Goals		
6.4.1 Adapt P&T system to focus primarily on cost-effective containment with decreased emphasis on restoration	Implemented	The ROD for OU3 (signed April 16, 2008), requires the installation of additional extraction wells to assist in plume capture for both the shallow and deep aquifers. The ROD also requires the use of in-situ contaminant flushing of the source area to attempt to remediate the principle threat waste. The installation of RW-5 and RW-6 has provided more effective capture of the plume. The original extraction wells are no longer in service.
6.4.2 Potential options for improving capture	Implemented	See response to 6.1.3 and 6.4.1.

Site Name: Benfield Industries (Waynesville, NC)

EPA ID#: NCD981026479

RSE Report: EPA 542-R-07-020 (September 2007)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Document potential downgradient receptor locations and adjust monitoring locations if necessary	Declined	This recommendation will not be implemented as long as sampling continues to demonstrate no off-site migration above-standards for any compound.
6.1.2 Consider sampling for dioxins/furans in soil	Declined	This recommendation will not be implemented unless modifications to the property would involve direct contact with soil. Existing engineering and institutional controls protect against direct exposure to all site-related contaminants.
6.1.3 Document rationale for eliminating metals analysis	In progress	Two rounds of sampling have been conducted and a third round is planned to confirm trends. The ROD Amendment is planned for early FY 2011 and will address this issue.
Cost Reduction		
6.2.1 Do not restart the extraction system	Implemented	Extraction system has been shut down and sampling is being conducted. JM Waller is currently the contractor working on a MNA analysis and the draft ROD Amendment. RPM anticipates the ROD Amendment to be finalized early FY 2011.
6.2.2 Consider monitored natural attenuation as the ground water remedy	In progress	Since extraction system has been shut down two rounds of sampling have been conducted with one more round to be done in late summer 2010 to confirm trends. An MNA report is being written based on these sampling rounds. RPM anticipates the ROD Amendment to be finalized early FY 2011.
Technical Improvement		
6.3.1 Improve sampling and analysis methods/reports	In progress	This is being implemented as part of the MNA analysis and will be included in the ROD Amendment. JM Waller is currently the contractor working on a MNA analysis and the draft ROD Amendment. RPM anticipates the ROD Amendment to be finalized early FY 2011.
Progress Toward Cleanup Goals		
6.4.1 Assess feasibility and cost-benefit of in-situ treatment of remaining soil hot spot(s)	Planned	JM Waller is currently the contractor working on a MNA analysis and the draft ROD Amendment. RPM anticipates the ROD Amendment to be finalized early FY 2011.
6.4.2 Consider reassessing the cleanup criterion for 1,4-Dichlorobenzene	In progress	EPA is waiting for state concurrence on new clean-up criterion, this will be addressed in the ROD Amendment planned for early FY 2011.

Site Name: American Creosote Works (Pensacola, FL)

EPA ID#: FLD008161994

RSE Report: EPA-540-R-06-068 (June 2006)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Continue revisiting soil cleanup levels and ACLs	In progress	The dioxin in surface soils has been characterized, and EPA and the State are determining next steps, including locations for deeper sampling. A ROD for addressing this soil will be completed this year. FDEP and EPA are still working to establish appropriate objectives for the off-site contamination.
6.1.2 Consider potential vapor intrusion	Implemented	The Direct Push Technology (DPT) samples were collected in July 2009. The shallow groundwater samples were run through a Johnson and Ettinger (J&E) model spreadsheet. The model showed no unacceptable risk for residential use.
6.1.3 Revise program for determining GAC replacement	Implemented	The recommendation has been implemented. Both carbon units are replaced when breakthrough is detected from the first unit. Replacement typically happens more than a month after the sampling, so the second unit has been at least partially used prior to replacement.
6.1.4 Evaluate options to implement stronger institutional controls	Under Consideration	EPA and FDEP are still looking into implementing institutional controls onsite. The development of groundwater ICs will require more investigation work.
Cost Reduction		
6.2.1 Revise ground water sampling program	Alternative Implemented	Quarterly sampling was completed this spring. The results were fully analyzed by reviewing a Comprehensive Groundwater Monitoring Report during December 2008.
6.2.2 Review labor costs once system operation has stabilized	Implemented	Routine operation of the past year under the new contract has provided information on system costs. The funding for the contract has lasted 5 months longer than expected despite increased DNAPL recovery and disposal. These costs will be considered when negotiating a new O&M contract.
Technical Improvement		
6.3.1 Re-pipe DNAPL line from treatment shed to DNAPL storage tank	Implemented	
Progress Toward Cleanup Goals		
6.4.1 Modifications intended to gain site close-out	In progress	The new DNAPL extraction wells were installed in November 2009. They were connected to the DNAPL recovery system in January 2010. The DNAPL recovery rate should increase with the new DNAPL extraction wells. Phase 2 consists of treating groundwater. This phase will be implemented after groundwater contamination has been fully delineated.

Site Name: Cape Fear Wood Preserving (Fayetteville, NC)

EPA ID#: NCD003188828

RSE Report: EPA-542-R-05-005 (February 2005)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Install and sample a monitoring well downgradient of MW-16	Implemented	The property owner did not give permission to install permanent monitoring well(s) but permission was granted to install temporary well points. Four well points were installed across the property. Very low levels of Site related chemicals of concern were detected in two of the well points.
6.1.2 Sample outer monitoring wells annually	Implemented	
6.1.3 Do not use water levels from operating recovery wells or infiltration galleries when generating potentiometric surface maps	Implemented	
Cost Reduction		
6.2.1 Contract O&M services and ground water sampling to a local contractor	Implemented	
6.2.2 Eliminate select wells from monitoring program, and reduce sampling and reporting frequency to annually	Implemented	
Technical Improvement		
6.3.1 Consider alternatives before adding a sequestering agent	Implemented	
6.3.2 Reduce frequency of water level measurements, discontinue dissolved oxygen monitoring, and simplify O&M reporting	Implemented	
6.3.3 Add a suffix to well labels to indicate shallow and deep wells	Implemented	
Progress Toward Cleanup Goals		
6.4.1 Evaluate effectiveness of various remedy components	Alternative Implemented	
6.4.2 Considerations for evaluating thermal pilot study	In progress	During the fall of 2009, work was completed to delineate the DNAPL at the Site. The contractor is currently preparing a report to document the findings. The site team anticipates tasking the contractor to prepare a Remedial Design for thermal treatment in the near future.

Site Name: Ott/Story/Cordova Chemical Co. (Dalton Township, MI)

EPA ID#: MID060174240

RSE Report: EPA 542-R-02-008s (March 2002)

Recommendation	Status	Progress since the previous progress report
Cost Reduction		
6.2.1 Replace DAS units with tray aerators or packed towers	Declined	
6.2.2 Reexamine NPDES permit and potentially bypass PACT system	Declined	
6.2.3 Reduce process monitoring and analysis	Implemented	
6.2.4 Reduce aquifer monitoring and analysis	Implemented	
6.2.5 Remove excess equipment and do not construct the planned storage building	Declined	
6.2.6 Evaluate potential reduction in onsite presence of USACE	Implemented	
6.2.7 Remove trailers from site	Implemented	
6.2.8 Have onsite staff conduct sampling for OU3	Alternative Implemented	
Technical Improvement		
6.3.1 Establish consistent sampling method	Implemented	
6.3.2 Modify program for water-level measurement	Implemented	
Progress Toward Cleanup Goals		
6.4.1 Establish agreement between the OU2 remedy and ROD	In progress	Consistent with the requirements of the 2007 Five Year Review, a "Remedial Strategy Analysis" is under way. Starting in April 2009 and for 4 months, EPA, the State, and the Corps of Engineers obtained access agreements from private property owners for installation of new monitoring wells. During Sept.-Oct. 2009, preliminary data was collected and the first assessment and analysis of data is due in February 2010. This information will provide critical supplemental groundwater characterization data and will help form a basis for transfer of the LTRA to the State in September 2010.

Site Name: Douglas Road/Uniroyal, Inc., Landfill (St. Joseph County, IN)

EPA ID#: IND980607881

RSE Report: EPA 542-R-04-031 (February 2004)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Sample extraction wells annually	Implemented	Continue monitoring until IDEM takes over Dec 2011
6.1.2 Investigate off-site sources and remaining down-gradient impacts	Declined	
Cost Reduction		
6.2.1 Reduce analytical QA/QC	Alternative implemented	
6.2.2 Consider converting cell 3 to an additional infiltration basin	Alternative implemented	
Progress Toward Cleanup Goals		
6.4.1 Develop an exit strategy	In progress	Additional geoprobe sampling was completed and the results have not been fully evaluated with respect to finalizing an exit strategy for the site. It is the intent to repeat the geoprobe sampling on a regular schedule to evaluate whether intermittent operation of EXT-5 enhances the offsite cleanup of groundwater. The trend analysis was provided as part of the 2009 annual report, but has not been fully reviewed as of yet. EXT-5 has been restarted and data from this extraction well has not been fully evaluated.

Site Name: Reilly Tar & Chemical Corp. (Indianapolis, IN)

EPA ID#: IND000807107

RSE Report: EPA 542-R-04-035 (February 2004)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Install piezometers and monitoring wells to allow for improved evaluation of plume capture	Implemented	
6.1.2 Perform improved plume capture evaluation (Including numerical model)	In progress	Biosparge pilot test completed and data favorable but PRP has declined to perform additional testing--EPA request for remedy re evaluation forthcoming in March 2010.
6.1.3 Consider the need for a modified extraction system	Declined	
Cost Reduction		
6.2.1 Consider using extracted water for process and cooling uses	Declined	
Technical Improvement		
6.3.1 Minor suggestion for improved O&M reporting	Implemented	
Progress Toward Cleanup Goals		
6.4.1 Develop an exit strategy (consider alternate approach)	In progress	See update for recommendation 6.1.2.

Site Name: Peerless Plating (Muskegon, MI)

EPA ID#: MID006031348

RSE Report: EPA 542-R-06-011 (February 2006)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Evaluation of ground water capture	In progress	The site contractor continues to evaluate the current capture area of the plume. Upon completion of the capture zone analysis, EPA and the State will determine whether the pumping rate for the system requires adjustment and whether additional monitoring wells are needed to effectively evaluate capture in the future.
6.1.2 Modifications to the monitoring program	Implemented	A monitoring well to address background concentrations was installed. The State installed 8 new monitoring wells to establish plume limits. Low flow sampling is used exclusively.
Cost Reduction		
6.2.1 Eliminate several ground water treatment processes	Implemented	The bypass system has been implemented and the system currently runs with no treatment before discharge to the POTW.
6.2.2 Modifications to the monitoring program	Implemented	EW-3 was relocated. The contractor was tasked with developing a ground water model to assess capture and make revisions to the existing system. At the urging of the State, the analytical suite was not changed. The site team has evaluated the sampling and analysis program and reduced the number of wells sampled during the semi-annual sampling effort; nearly all wells are sampled as part of the annual sampling effort.
6.2.3 Revise reporting requirements	Declined	Since the treatment plant components are no longer operational, this item is no longer applicable.
6.2.4 Review level of operator support	Implemented	The operator is no longer servicing the facility. Operations support is obtained from a nearby location. Number of operator hours has been reduced during the transition period, for a savings of approximately \$8000/yr. This will be subject to annual review.
Technical Improvement		
6.3.1 Install dust collection system over FeSO4 hopper	Declined	Since the treatment plant components are no longer operational, this item is no longer applicable.
6.3.2 Install enclosure around air compressor to reduce noise	Declined	Since the treatment plant components are no longer operational, this item is no longer applicable.
6.3.3 Initiate a formal O&M program	In progress	The RPM continues to work with the State to determine appropriate items for the program. A final O&M plan will be developed prior to transfer of the remedy to the State.
6.3.4 Advertise availability of used equipment on USACE/EPA web page	Implemented	In 2009, the RPM announced the availability of excess equipment. No response has been received to date.

Site Name: Peerless Plating (Muskegon, MI)

EPA ID#: MID006031348

RSE Report: EPA 542-R-06-011 (February 2006)

Recommendation	Status	Progress since the previous progress report
Progress Toward Cleanup Goals		
6.4.1 Assess source area treatment alternatives	Declined	EPA and the State have agreed that it is not appropriate to pursue alternative approaches at this time. Extracted water is sent directly to the POTW for treatment, which has reduced operating costs significantly.
6.4.2 Permeable barrier	Declined	EPA and the State have agreed that it is not appropriate to pursue alternative approaches at this time. Extracted water is sent directly to the POTW for treatment, which has reduced operating costs significantly.

Site Name: Ace Services (Colby, KS)

EPA ID#: KSD046746731

RSE Report: EPA 542-R-07-017 (September 2007)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Modify methods of evaluating capture zone	Implemented	The capture zone continues to be updated as pumping rates change.
6.1.2 Re-start pumping at extraction wells where concentrations have increased above standards	Implemented	No further comment. The recommendation has been implemented.
Cost Reduction		
6.2.1 Evaluate extraction pumping	Implemented	Extraction from EX-2I, EX-3I, and EX-4I/D was discontinued. EX-2I and EX-3I were restarted. The total flow rate is now 445 gpm.
6.2.2 Suggestions for ground water monitoring	Alternative Implemented	No further comment.
6.2.3 Reductions in project management costs	Implemented	Contract support costs appear to be decreasing (with the exception that there are costs associated with the RSE-recommended investigation) due to a decrease in the audit reporting frequency and an overall decrease in monitoring associated with the groundwater monitoring optimization effort.
Technical Improvement		
6.3.1 Continue re-using on-site equipment rather than purchase new equipment	Implemented	No further comment. The recommendation has been implemented.
6.3.2 Prepare map illustrating results of soil excavations	Implemented	The map was completed and submitted. Lack of detail in some areas was due to the information available given that the original removal was based on visual observation rather than clearly documented/sampled areas.
Progress Toward Cleanup Goals		
6.4.0 Consideration for gaining site closure	Implemented	The work was completed and EPA has the report. It is being submitted to the State and the RSE team for review.

Site Name: 57th and North Broadway (Wichita, KS)

EPA ID#: KSD981710247

RSE Report: EPA-540-R-06-067 (June 2006)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Perform additional source area characterization	Implemented	Additional investigation is needed to determine the volume to be treated and the remedial approach. EPA and KDHE are working on a revised contract. KDHE will conduct the additional delineation when the contract is completed.
6.1.2 Consider contingent wellhead treatment at the public water supply well	Implemented	The State, City, and utility authority are all aware of the site conditions and activities. The goal is for the planned remedial measures (source area remediation and P&T) to address the plume before the well is impacted above standards.
6.1.3 Consider change to P&T after source characterization, in 53rd Street area	In progress	A pump test was conducted at 53rd street, DDC 53-25 in August 2009 to determine the feasibility of a P&T system to control the plume at this location. The results indicated that it is feasible to install such a system. EPA is in the process of amending the ROD to include the change in remedy.
6.1.4 Evaluate whether extent of SVE system is adequate	Implemented	The site team is planning to cycle this system to evaluate the potential for rebound. In addition, sampling will be conducted to determine if the PID detections are due to hydrocarbons or chlorinated compounds.
6.1.5 Consider using air sparging with existing SVE	Declined	No further comment.
6.1.6 Continue monitoring of sentinel wells in Bel Aire well field	Implemented	No further comment.
6.1.7 Evaluate potential for vapor intrusion	Implemented	The site team reports that because the contamination is in the deep zone of the aquifer that vapor intrusion is not a valid exposure pathway. There are reportedly no receptors in the source area where contamination is shallow.
Cost Reduction		
6.2.1 Consider immediately taking eastern 53rd Street DDC wells out of operation	Implemented	No further comment.
6.2.2 Consider better tracking of routine and non-routine site costs	Implemented	No further comment other than that DDC wells are now sampled on a semi-annual basis.
Technical Improvement		
6.3.1 Prepare and distribute annual monitoring reports	Implemented	No further comment. The recommendation has been implemented.
6.3.2 Improve site maps	Implemented	KDHE had some questions regarding the detail on some maps. EPA will confirm that KDHE has the most recent maps. If there are details that need to be corrected, EPA will correct them.

Site Name: 57th and North Broadway (Wichita, KS)

EPA ID#: KSD981710247

RSE Report: EPA-540-R-06-067 (June 2006)

Recommendation	Status	Progress since the previous progress report
6.3.3 Report detection levels for 'non-detect' results	Implemented	No further comment. The recommendation has been implemented.
Progress Toward Cleanup Goals		
6.4.1 Clarify and document date for turnover to State for O&M	In progress	EPA and KDHE talked about the matter, and the current date to turn over the site is 2012. However, the transfer date may be recalculated based on new findings. The site manager is still talking with the attorney to finalize the agreement, and will contact EPA HQ for final consultation on the potential recalculation of the transfer date.
6.4.2 Develop consensus on terminating SVE at Wilko	Implemented	No further comment.

Site Name: Central City/Clear Creek, Argo Tunnel (Idaho Springs, CO)

EPA ID#: COD980717557

RSE Report: EPA-542-R-07-019 (September 2007)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Evaluate and decide on need for blowout prevention	In progress	The State and EPA are working with the Colorado Department of Natural Resources to review existing information on tunnel geology and connectivity. Following review of the existing information and a possible reconnaissance into the tunnel, the feasibility and estimated cost of a flow control bulkhead will be evaluated.
6.1.2 Evaluate importance of complete collection and treatment of the Virginia Canyon ground water	Implemented	Sources for treatment have been prioritized so that if treatment capacity is exceeded, Big 5 tunnel discharge will be bypassed first, followed by Virginia Canyon flow.
6.1.3 Evaluate indoor air quality for metals and confirm medical monitoring for plan workers	Implemented	No further comment.
Cost Reduction		
6.2.1 Install new filter presses	In progress	A HDS piloting effort is currently underway. When the piloting is concluded, the consultant will prepare an options evaluation report. From there a final decision will be made on how to proceed.
6.2.2 Realize savings from improved operations	Alternative Implemented	The air scour system was piloted, but there were unfavorable results. The site team has decided to use funds associated with the RSE recommendations to reconfigure the plant as an HDS system.
6.2.3 Improve metals treatment by solids recycling	In progress	The site team is awaiting the results of the HDS piloting effort to implement this recommendation.
Technical Improvement		
6.3.1 Reduce discharge of recycled solids and high pH water to equalization basins	Implemented	This recommendation has been implemented. Results regarding solids formation is uncertain at this point, but the influent water quality is more stable, which is a benefit.
6.3.2 Improve lime feed system	Alternative Implemented	The lime feed system was reconfigured to be a gravity feed from the slurry tank to the day tank. Results have been favorable.
6.3.3 Provide additional compressed air capacity	Planned	This recommendation is on hold until the potential HDS system has been fully considered.
6.3.4 Reduce solids wasting flow rate	Alternative Implemented	No further comment

Site Name: Central City/Clear Creek, Argo Tunnel (Idaho Springs, CO)

EPA ID#: COD980717557

RSE Report: EPA-542-R-07-019 (September 2007)

Recommendation	Status	Progress since the previous progress report
6.3.5 Consider construction of an on-site solids disposal repository as a contingency to disposal at a landfill	In progress	The site team is evaluating how to reserve capacity in the repository for potential future uses, which may include sludge disposal. The characteristics of the sludge may change if a HDS process is implemented.
6.3.6 Additional improvements	In progress	The additional permanent lime storage is still on hold because they have a lower priority than the other items.

Site Name: Modesto Ground Water Contamination (Modesto, CA)

EPA ID#: CAD981997752

RSE Report: EPA-542-R-02-008o (December 2001)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Monitor subsurface performance of SVE system	Implemented	
6.1.2 Assign responsibility for evaluating monitoring and performance data	Implemented	
6.1.3 Analyze capture zone	Implemented	
6.1.4 Delineate plume (if necessary)	Implemented	
Cost Reduction		
6.2.1 Consider alternate discharge locations - Discharge to storm sewer - Reinject to subsurface	Declined	Negotiation over discharges is a time consuming process, complicated by the presence of naturally occurring uranium in the area around the site. The site team will reconsider the appropriateness of this recommendation in the development of the final ground water remedy.
6.2.2 Simplify system (remove equalization tank, simplify filtration system, and remove transfer pump)	Implemented	
6.2.3 Regularly evaluate need for ion exchange units	Implemented	
Technical Improvement		
6.3.1 Relocate vacuum breaker	Implemented	
6.3.2 Install valving for backwashing carbon and ion exchange units	Implemented	
6.3.3 Monitor extraction well performance	Implemented	New extraction well was installed in 2006; the original well malfunctioned in 2005 and has since been turned off.
6.3.4 Modify SVE system to address high operating temperatures	Declined	
6.3.5 Regularly evaluate need for vapor phase carbon	Declined	
6.3.6 Properly convert PID readings to PCE concentrations	Implemented	
6.3.7 Improve accuracy of SVE flow	Implemented	

Site Name: Modesto Ground Water Contamination (Modesto, CA)

EPA ID#: CAD981997752

RSE Report: EPA-542-R-02-008o (December 2001)

Recommendation	Status	Progress since the previous progress report
6.3.8 Adjust membrane around Baker tank	Alternative Implemented	
6.3.9 Improve drainage to secondary sump	Implemented	
6.3.10 Add fans to the control panel	Implemented	
6.3.11 Relocate vapor phase carbon for the groundwater treatment system	Implemented	
6.3.12 Add phone line for data acquisition	Implemented	
Progress Toward Cleanup Goals		
6.4.1 Initiate screening of final remedy	In progress	Focused FS for final remedy begun in FY2009 is still ongoing. ROD is planned following the completion of the FS.
6.4.2 Measure DO and ORP in monitoring wells	Implemented	

Site Name: Northwest Pipe & Casing (Clackamas, OR)

EPA ID#: ORD980988307

RSE Report: EPA 542-R-07-018 (September 2007)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Improve delineation of Plume 1 to the south	Implemented	The delineation work has been performed and the report was finalized in February 2009. Based on information collected, a time critical removal action was initiated in August 2009 to remove source material near MW-207. Approximately 500,000 gallons of contaminated groundwater and 16,000 tons of soil were treated or removed. Soil ammendment was added to clean back fill to help stimulate biodegradation. A removal action completion report will be finished by summer. The site team is currently monitoring to determine the effect of the removal action. Priliminary results indicate significant reduction of perchloroethene concentrations and increasing trend in breakdown COCs.
6.1.2 Finalize institutional controls (ICs) on Parcel A	In progress	This is ongoing for the Northwest Development Company portion on Parcel A. ICs were finalized for the ODOT portion of the site in October 2009.
6.1.3 Continue/conclude efforts to evaluate potential for vapor intrusion on Parcel A	Implemented	The VI Report has been submitted, though the State may have a few outstanding questions. The State understands that the VI issues are generally a result of the vehicles they park in the warehouse and solvents they use.
Cost Reduction		
6.2.1 Eliminate operation of GCWs	Implemented	No further comment.
Technical Improvement		
6.3.1 Revise sequencing for collecting site-wide water level data	Implemented	Ultimately determined surveying errors were more significant
Progress Toward Cleanup Goals		
6.4.1 Clarify and document goals for active remediation	In progress	The modifacaiton to the CSM and completion of a focused FS has been delayed due to the recent removal action. The site team is currently monitoring the effectiveness of the removal action and the addition of soil amendments put in place during the backfilling of the excavation area. The site team also intalled a ~250 foot interceptor wall down to a depth of 28 feet that was back filled with ~ 1% soil amendment. New monitoring wells will be installed downgradient of barrier wall.
6.4.2 Implement in-situ bioremediation to reduce highest VOC concentrations, in conjunction with natural remediation	In progress	See update on 6.4.1. for update on removal action and addition of soil amendment.

Site Name: Boomsnub/Airco (Hazel Dell, WA)

EPA ID#: WAD009624453

RSE Report: EPA-542-R-02-016 (September 2002)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Conduct a hydro-geological analysis	Implemented	
6.1.2 Evaluate potential management options for extraction and discharge	Implemented	
6.1.3 Considerations for potential extraction and discharge options	Implemented	
6.1.4 Consider other discharge options	Implemented	
Cost Reduction		
6.2.1 Eliminate ion exchange effluent tank and pump	Implemented	
6.2.2 Improve electric work for air stripper	Implemented	
Technical Improvement		
6.3.1 Consider limitations of passive technologies	Implemented	
6.3.2 Develop an exit strategy	In progress	A consent decree with the PRP was finalized in 2007. The PRP has provided EPA with a Closure Plan for Operable Units 2 and 3. Once agreement on the closure plan has been reached, EPA will then finalize an exit strategy.

Site Name: Wyckoff/Eagle Harbor (Bainbridge Island, WA)

EPA ID#: WAD009248295

RSE Report: EPA-542-R-05-013 (March 2005)

Recommendation	Status	Progress since the previous progress report
Remedy Effectiveness		
6.1.1 Select a final remedy	Implemented	Construction of a new groundwater treatment plant (GWTP) was completed in May 2009. The GWTP is currently undergoing a shakedown process to optimize operations. Extraction well system will be upgraded in Spring, 2010. Completion of the containment contingency remedy (installation of cap and shoreline stabilization) is currently on hold pending the State agreeing to take on operation and maintenance of remedy via a State Superfund Contract.
Cost Reduction		
6.2.1 Simplify existing treatment plant	Implemented	Completion of new GWTP made old treatment plant obsolete. Old treatment plant will be demolished in Summer 2010.
6.2.2 Install upgradient sheet pile	Under Consideration	Fieldwork has indicated that aquitard is not present in the SE corner of the site. Currently evaluating whether additional work is necessary to ensure that containment is maintained in this portion of the site.
6.2.3 Remove steam injection/ extraction system and apply cap	Planned	The State and EPA agree that capping is necessary; but it will occur in later stages of implementation of containment remedy. Cap design and construction is currently on hold pending State agreeing to take on O&M responsibilities. Demolition of old groundwater treatment plant will occur summer 2010. Demolition of remaining existing infrastructure (steam injection well field) is also on hold.
6.2.4 Conduct water budget analysis	Implemented	
6.2.5 Upgrade extraction system	In progress	Replacement of existing product and water pumps will occur Spring 2010. Installation of additional extraction wells is on hold pending State of Washington agreeing to take on O&M responsibilities.
6.2.6 Replace the existing treatment plant	Implemented	Construction of new GWTP was completed in May 2009. Old treatment plant will be demolished during summer 2010.
6.2.7 Augment monitoring in lower aquifer	Implemented	Installation of six or seven lower aquifer monitoring wells at the perimeter of the Former Process Area (FPA) to be completed in Summer 2008. Additional five lower and three upper aquifer wells to create five new vertical hydraulic containment well pairs, for a total of nine well pairs.
Technical Improvement		
6.3.0 Other related items - Improve monitoring approach - Monitor seeps on beach - Consider new extraction points	Planned	Seep monitoring is currently being planned for summer 2010.