2005 Annual Progress Report
For Ground Water Remedy Optimization

Appendix

Optimization Recommendations
and Progress Toward Implementation

RSE Recommendations and Progress Toward Implementation
Site Name: Groveland Wells (Groveland, MA)
RSE Report: EPA-542-R-02-017 (September 2002)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
No Recommendations		
Cost Reduction		
6.2.1 Discontinue pumping at EW-M3	Alternative implemented	TCE concentrations in well EW-M3 fluctuate between 5 ug/L and 20 ug/L. The site team has been and will continue to operate this recovery well on an intermittent/pulse basis, when the contamination level is relatively high.
6.2.2 Evaluate costs for ground water sampling and analysis	Implemented	Correlation of low-flow sampling and PDB sampling was performed in 2005 for quality assurance. Estimated cost savings, beginning in 2006, are $7,000 per year.
6.2.3 Switch from UV/OX to air stripping	Considered, then declined	
Technical Improvement		
6.3.1 Replace well EW-S5	Alternative implemented	The piston pump was replaced/re-designed however the new pump continues to cause maintenance issue.
6.3.2 Discontinue pumping at G1 and G2	Implemented	Both wells are offline. There is no change in metals influent concentrations as a result. One of the G pumps was used in another recovery well.
6.3.3 Monitor extraction wells for fouling	In progress	Redevelopment of extraction well EW-M1 is planned due to the decreased pumping efficiently of this well. As of January 2006, EPA is awaiting costs from the contractor for this work. Redevelopment of additional recovery wells will be considered in the future; based on decreased pumping efficiency and/or costs for redevelopment. The lines are still cleaned annually.

Progress Toward Cleanup Goals		
6.4.1 Improved source area characterization	In Progress	Initial characterization of the source area was conducted in Summer, 2004. The draft investigation report was submitted in April, 2005. Results were inconclusive because additional sampling is needed underneath the slab of the building. Additional characterization is also needed in the porch area of the building after the porch is demolished and UST's removed. A scope of work and cost estimate will be prepared in early 2006, for the contractor to complete the additional source investigations and report by Fall, 2006.
6.4.2 Limited feasibility study regarding more aggressive source area remediation	Under consideration	Implementation of this recommendation is still contingent upon the results of 6.4.1.

RSE Recommendations and Progress Toward Implementation
Site Name: Savage Municipal Water Supply (Milford, NH)
RSE Report: EPA-542-R-02-008h (September 2001)

Recommendation	Status	Progress since the previous Annual 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	Ground water modeling to understand the effect of pumping inside and outside of the containment wall began in 2004. Additional characterization to identify the source of contamination at mid-depth outside the wall concluded that there is no source between that barrier wall and the river or north of the recharge chamber.
6.1.3 Move recharge points beyond influence of extraction wells to improve system efficiency	Alternative Implemented	Relocation of any discharge points does not appear to be appropriate given that contamination is dissolved and will respond to natural attenuation. Discharge gallery was rebuilt fall 2005 to increase discharge rate. Recalcitrant contamination will continue to be examined. Changing an extraction well to an injection well will be considered in future.
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	Alternative implemented	Data obtained and reviewed by NHDES concluded that elimination of carbon for treatment of air stream is possible and will not violate regulatory levels. Removing steam boilers and carbon regeneration will be evaluated in 2006.
6.2.2 Reduce operator labor	In progress	Site team was previously unable to reduce operator labor due to additional work done at the site since the RSE. EPA has requested NHDES to re-bid O&M contract with specific aim of reducing labor costs for 2007 and beyond.

6.2.3 Replace the blower with a smaller, more efficient model	Alternative implemented	
6.2.4 Request survey of electricity usage	Implemented	
Technical Improvement		
6.3.1 Improve invoicing at State level to ensure timely delivery of monthly updates	Implemented	
6.3.2 Repair or replace air compressor for air sparging system	Implemented	
Progress Toward Final Cleanup Goals		
6.4.1 Clarify exit strategy and closure criteria	In progress	Site team is currently addressing remaining source area through in-situ chemical oxidation effort. A final exit strategy will be developed after the effort is complete and results are fully evaluated.
6.4.2 Aggressive mass removal - Pumping from "hot-spot" wells - Chemical oxidation of "hot-spot"	Implemented	Site team selected in-situ chemical oxidation to address source area. Potassium permanganate injections began in Fall 2003 and continued in 2004. Additional injections are being considered for 2006. Permanganate injections have been successful in reducing source VOCs. KMnO4 is still in evidence in the subsurface in Dec 2005. The decision on additional injections must wait for field data to show it is necessary and efficient.

RSE Recommendations and Progress Toward Implementation
Site Name: Bog Creek Farm (Howell Township, NJ)
RSE Report: EPA 542-R-02-015 (September 2002)

RSE Recommendations	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Evaluate ground water impacts between slurry wall and brook with a GeoProbe	Planned	Recommendations 6.1.1 and 6.1.2 will be accomplished during the remaining excavation phase which will take place in the Spring of 2006.
6.1.2 Monitor VOCs and water levels in piezometers between slurry wall and brook	Planned	See recommendation 6.1.1.
6.1.3 Analyze for 1,1 DCE in ground water samples	Implemented	The Focused Feasibility Study (FFS) and the 2005 ROD Amendment have greatly expanded the list of contaminants of potential concern, including 1,1 DCE.
Cost Reduction		
6.2.1 Review USACE oversight costs	Implemented	The Region successfully reduced oversight costs by having USACE personnel split time and charges between two sites.
6.2.2 Reduce operator labor	Implemented	A new O&M contract has been awarded with significantly lower operating costs.
6.2.3 Revise the ground water sampling program	Implemented	Appropriate changes were incorporated into the 2005 ROD Amendment.
Technical Improvement		
6.3.1 Eliminate continuous emissions monitoring	In progress	The Region is working with the State to update the current permit which will remain valid until a new plant is in place.
6.3.2 Test individual extraction wells to determine yield	Considered, then declined	The 2005 ROD Amendment calls for a totally new extraction well system, and in the interim most of the plant influent is coming directly from the excavation pits.
6.3.3 Repair and clean various items	Considered, then declined	As the RSE Report indicates, repairs of various items would not be cost effective since the existing plant is to be replaced.

Progress Toward Final Cleanup Goals		
6.4.1 Considerations for site closeout and reduction of life-cycle costs	Implemented	This recommendation was addressed in the Focused Feasibility Study and the 2005 ROD Amendment for OU2.

RSE Recommendations and Progress Toward Implementation
Site Name: Brewster Well Field (Brewster, NY)
RSE Report: EPA 542-R-02-008t (April 2002)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Preliminary conceptual site model (CSM)	Implemented	Draft site conceptual model including preliminary capture zone analysis was completed and revised. Update and finalization of the model is to follow upon resolution of data gaps via implementation of upcoming field groundwater investigations (targeted completion in summer 2006). USACE contract negotiations have not been able to yield acceptable cost and technical proposals from the contractor for these investigation efforts. EPA ERT is currently performing groundwater analysis and modeling and preparing for continued implementation of the field groundwater investigation work.
6.1.2 Additional delineation south of EW-1(GeoProbe, new wells)	In progress	Two new monitoring wells installed in December 2004. Weather permitting and contingent upon obtaining NYCDEP property access consent, installation of remaining 10-13 new monitoring wells are planned for winter 2005-spring 2006.
6.1.3 Define target containment zone	In progress	A preliminary capture zone analysis was included in the CSM (6.1.1). The finalization of the CSM after current investigations will include a final capture zone analysis.
6.1.4 Interpret capture zone	In progress	A preliminary capture zone analysis was included in the CSM (6.1.1). The finalization of the CSM after current investigations will include a final capture zone analysis.
6.1.5 Revise conceptual site model	Planned	The results of the current ground water investigations will include a finalized CSM. The Region plans to update the CSM annually.
6.1.6 New extraction wells: replace EW-2 to EW-4 with new wells	Under consideration	The replacement of extraction wells will be evaluated for cost-effectiveness and, if required, locations will be selected based on the results of the current ground water investigations.
Cost Reduction		
6.2.1 Cut oversight expense	Implemented	

6.2.2 Reduce sampling and analysis, equipment rental, and travel/per diem costs	Considered, then declined	
6.2.3 Replace alarm monitoring service with autodialer	Considered, then declined	
Technical Improvement		
6.3.1 Install new underground discharge line	Implemented	
6.3.2 Improve annual O&M reports	Implemented	
6.3.3 Ensure vapors from acetic acid wash complies with OSHA standards	Considered, then declined	
6.3.4 Measure the air flow through the air stripper	Considered, then declined	The air stripper is cleaned on a quarterly basis to ensure optimum air flow.
Progress Toward Final Cleanup Goals		
6.4 Continue evaluating alternative remedial options	Under consideration	This recommendation will be considered further after completion of the current ground water investigation and subsequent finalization of the CSM. The moderate approach described by the RSE team is most favorable.

RSE-Lite Recommendations and Progress Toward Implementation
Site Name: Circuitron Corp. (East Farmingdate, NY)
RSE Report: EPA-542-R-05-004 (January 2005)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Periodically evaluate if existing institutional controls remain sufficient	Implemented	Institutional controls were evaluated during the Five-Year Review for the site. During the review, it was determined that the State statutory controls in-place at the site limit the use of ground water and provide adequate protection for potential receptors. There is also a site easement that is part of a prospective purchaser agreement that could be modified to prevent future use of ground water at the property by the site owner.
Cost Reduction		
6.2.1 Eliminate liquid phase GAC (conditional)	Implemented	The site team began bypassing the GAC in October, 2005 after modifications to the extraction system were made.
6.2.2 Sample extraction wells, then potentially eliminate pumping at RW-2 and RW-3	Implemented	Sampling was performed at extraction wells RW-1, RW-2 and RW-3. Based on the sampling results, RW-3 was shut down in January, 2005. RW-2 was not shut off due to the levels of contaminants detected in the groundwater.
6.2.3 Revise filter bag configuration (conditional)	Under consideration	Based on the lower cost of using citric acid over adding filter bags, the site team decided to pilot injecting citric acid into the influent groundwater. If the citric acid addition alone is not successful, then the ability of reducing operator time by adding additional filter bags will be reviewed (given space limitations at the plant).
6.2.4 Reduce operator labor	In progress	Operator labor costs have remained approximately the same, which is a positive result given that extra level of effort has been needed to evaluate and implement the RSE recommendations. The site team will revisit potential reductions after the modifications to the treatment plant have been made.
6.2.5 Reduce project management labor	In progress	Project management labor costs for USACE and URS have remained approximately the same, which is a positive result given that extra level of effort has been needed to evaluate and implement the RSE recommendations. Reductions in project management will need to be reconsidered once modifications to the treatment plant have been made.
6.2.6 Consider replacing pumps (Only if extraction is to continue three years or more)	Considered, then declined	The site team does not expect to operate the plant long enough to make this change cost-effective (see Recommendation 6.4).

Technical Improvement		
6.3.1 Clarify reporting of flow rates	Implemented	This recommendation was implemented shortly after the RSE-lite conference call.
6.3.2 Continue with current jetting for infiltration trench	Implemented	The site team continues to use water jetting to clean the reinjection trench. The frequency for jetting has remained the same, approximately three to four times a year, and the site team believes that the trench may need to be replaced.
Progress Toward Final Cleanup Goals		
6.4 Considerations for gaining site close-out	In progress	In November, 2005 ERT conducted soil and ground water sampling near MW-4S to delineate any possible remaining source area. The site team had difficulty obtaining access agreements for adjacent properties, which delayed the start of implementing this recommendation.

RSE Recommendations and Progress Toward Implementation
Site Name: Claremont Polychemical (Old Bethpage, NY)
RSE Report: EPA 542-R-02-008n (March 2002)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Convert depths-to-water to water levels, survey if necessary	Implemented	
6.1.2 Interpret process data and quarterly aquifer data, report results	Implemented	
6.1.3 Develop a groundwater flow model	In progress	The Region has completed the development of a regional groundwater database and flow model covering the Claremont, Fireman's Training Center and the Old Bethpage Landfill sites. A draft report summarizing the results and findings of both the database and model is currently being prepared. All parties working at the site will soon gather to demonstrate the final model, perform test runs, and review plume delineation, additional well locations and source identification.
Cost Reduction		
6.2.1 Eliminate unused metals removal system	Under consideration	Implementation of this recommendation is contingent upon 6.1.3.
6.2.2 Simplify system	Under consideration	Implementation of this recommendation is contingent upon 6.1.3.
6.2.3 Eliminate unnecessary process monitoring (also included in 6.2.1)	Implemented	Further reductions were implemented in January 2005. This effort resulted in the elimination of 24 samples per year of VOCs, Fe, Mn, and TSS, 12 samples per year for total dissolved solids and pH, and 4 samples per year of total organic carbon. The site sampling plan has been updated to reflect all changes. Estimated cost savings are $4,400 annually.
6.2.4 Attempt to relax pH discharge standard	Implemented	
6.2.5 Investigate eliminating the vapor phase carbon treatment (redundant if 6.2.2 is implemented)	Considered, then declined	

6.2.6 Optimize above-ground treatment facility of the Old Bethpage Landfill Site	Considered, then declined	
Technical Improvement		
6.3.1 Replace faulty influent flow meters	Implemented	
6.3.2 Sample with a PID influent as well as effluent for vapor phase carbon unit	Implemented	
6.3.3 Determine the cause of the pressure buildup of the liquid phase carbon units	Implemented	
Progress Toward Cleanup Goals		
6.4.1 Address "hot spot" contamination after analysis of aquifer data	Under consideration	Implementation of this recommendation is contingent upon 6.1.3.

RSE Recommendations and Progress Toward Implementation
Site Name: Higgins Farm (Franklin Township, NJ)
RSE Report: EPA 542-R-04-034 (May 2004)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Plume definition	Planned by PRPs	The PRP has submitted a work plan to address this item. Contingencies for later actions such as sampling nearby domestic wells are included. PRPs are expected to take over operations by May 2006.
6.1.2 Surface water sampling	In progress	This exposure route has not been characterized; sampling surface water is intended to verify seeps are not contaminating the water within the stream. This action is being conducted by USACE.
6.1.3 On-site plume capture	Planned by PRPs	The revised PRP work plan submitted in May 2005 outlines their plan to assess the effectiveness of the plume capture.
Cost Reduction		
6.2.1 Bypass treatment plant to POTW	Considered, then declined	
6.2.2. Extraction system revisions	In progress	Three extraction wells were temporarily shutdown in February 2005. De-activation of extraction well #2 and possibly certain other wells may occur following installation of level transducers to monitor water level recovery and flow and contaminant levels.
6.2.3 Downsize air stripper blower	Under consideration by PRPs	Review of these revisions will be done when the extraction system optimization is complete and flows and concentrations have stabilized.
6.2.4 Alternate manganese removal technologies	Under consideration by PRPs	Review of these revisions will be done when the extraction system optimization is complete and flows and concentrations have stabilized.
6.2.5 Changes in monitoring program	Under consideration by PRPs	The PRPs have initiated studies to evaluate monitoring requirements.
6.2.6 Review level of USACE oversight	Deferred to PRPs	No changes in staffing will occur during the transition from the EPA-lead to PRP-lead, or during the first year of PRP operations.

6.2.7 Reduce monthly reporting frequency to quarterly	Implemented	
Technical Improvement		
6.3.1 Change well maintenance methods	Deferred to PRPs	This recommendation has been deferred to the PRPs.
6.3.2 Extraction pipe testing	Deferred to PRPs	This recommendation has been deferred to the PRPs.
6.3.3 Control system modification	Implemented	
Progress Toward Cleanup Goals		
6.4.1 Verify source removal	Under consideration by PRPs	The PRPs have indicated an interest in investigating the source areas. These may include contaminated soil remaining under the previously removed drums or residual contaminants in ground water.
6.4.2 Develop site exit strategy	Deferred to PRPs	Implementation of this recommendation has been deferred to the PRPs. The PRPs know that MCLs are the cleanup goal identified in the ROD.

RSE Recommendations and Progress Toward Implementation
Site Name: SMS Instruments, Inc. (Deer Park, NY)
RSE Report: EPA 542-R-03-015 (December 2003)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Improve reporting and data analysis (including evaluating plume capture)	Implemented	The State now manages the site, including the reporting quality and frequency.
6.1.2 Review data and maintenance records to determine the likelihood of future discharge criteria exceedances	Implemented	
Cost Reduction		
6.2.1 Reduce labor (operator, project management, technical support, reporting)	Implemented	The State now manages the site. Operating costs of the air sparging system (see 6.4.1) are estimated to be $5,000 per month.
6.2.2 Optimize monitoring program	Implemented	
6.2.3 Consider decreasing the frequency of vapor phase GAC replacement	Implemented	The site team continued to sample the influent and effluent, and determined that the GAC did not need to be changed prior to site transfer in July 2005. The State now manages the site and determines the need for GAC change outs.
Technical Improvement		
No Recommendations		
Progress Toward Final Cleanup Goals		
6.4.1 Develop and exit strategy	Implemented	The air sparging system has been operating since April 2005, and the P&T system has been shutdown since September 2005. EPA and the State estimate that site conditions may be appropriate for discontinuing the air sparging system in Summer 2006.

RSE Recommendations and Progress Toward Implementation
Site Name: Greenwood Chemical (Newtown, VA)
RSE Report: EPA 542-R-04-032 (April 2004)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Sample residential wells and surface water	Implemented	
6.1.2 Delineate the contaminant plume	Implemented	
6.1.3 Determine a target capture zone and conduct a capture zone analysis	Implemented	
6.1.4 Consider sampling influent and effluent to vapor phase GAC	Implemented	
Cost Reduction		
6.2.1 Reduce operator labor	Implemented	
6.2.2 Address remaining lagoon sediments and discontinue lagoon extraction on an expedited schedule	Implemented	
6.2.3 Continually aim to eliminate metals removal and UV/Oxidation system	Under consideration	Still need to evaluate these treatment components after new extraction wells are added to existing system. Estimate savings from replacement of UV/Oxidation by carbon treatment is $28K/year
6.2.4 Optimize ground water monitoring program	Under consideration	
6.2.5 Evaluate project management/ technical support/reporting costs	Implemented	Modified report deliverable was implemented.
Technical Improvement		
6.3.1 Improve reporting	Implemented	

6.3.2 Tabulate ground water monitoring data and manage data electronically	Implemented	
Progress Toward Final Cleanup Goals		
6.4.1 A suggested approach for using P&T as a final remedy	Implemented	A final ROD establishing groundwater cleanup goals was issued in September 2005. EPA expanded the existing groundwater pump and treat system with 6 additional extraction wells in December 2005.
6.4.2 An alternative to the proposed RCRA cap	Implemented	In May 2005, EPA completed removal of 19,500 tons of arsenic-contaminated soil and removed contaminated sludge and sediments from 2 lagoons. These areas were filled with clean soil, graded and seeded. The 2005 final ROD included retaining the existing permeable soil cover rather than a previously proposed RCRA cap, These 2 actions, in lieu of constructing an impermeable RCRA cap, resulted in a cost savings of approximately $2 million.

RSE Recommendations and Progress Toward Implementation
Site Name: Havertown PCP (Havertown, PA)
RSE Report: EPA 542-R-04-033 (March 2004)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Properly seal abandoned 12-inch sewer line and remediate surface soils near the seep	In progress	
6.1.2 Improve plume delineation to the south and vertically	Implemented	The site team has installed new wells in seven locations that are consistent with the optimization evaluation recommendations.
6.1.3 Evaluate plume capture once plume is delineated	In Progress	Conducted pump test on CW-25 well and revised model/calibrated to pumping condition. The contaminant plume has not yet been delineated, so the capture zone cannot be effectively analyzed yet. The site team has constructed a three-dimensional groundwater flow model and has conducted a preliminary capture zone analysis using particle tracking. The simulations suggest that the existing recovery system captures the known extent of dissolved contamination upgradient of the trench, but both the model and the analysis require further evaluation, especially given that the plume has not been fully delineated vertically or horizontally. The Remedial Investigation is scheduled for completion during 2006. The capture zone will be further evaluated at that time.
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	Planned	Labor costs will be reevaluated once the final extraction and treatment systems are operating.

Technical Improvement		
6.3.1 Continue improving treatment plant to facilitate operation and potentially increase capacity	In progress	
6.3.2 Make piping changes to better use the second equalization tank	Alternative implemented	
Progress Toward Final Cleanup Goals		
6.4.1 Adapt P&T system to focus primarily on cost-effective containment with decreased emphasis on restoration	Under consideration	This recommendation will be taken into consideration as the site moves forward with the final remedy.
6.4.2 Potential options for improving capture	In Progress	This recommendation stems from the potential need to improve capture downgradient of the trench. The optimization evaluation suggested potential alternatives to addressing downgradient contamination. The site team is now looking at potential alternatives.

RSE Recommendations and Progress Toward Implementation
Site Name: American Creosote Works (Pensacola, FL)
RSE Report: June 2006

An RSE was performed at the American Creosote Works site in October, 2005. The first follow-up discussion to document progress will occur in Fall 2006.

Recommendation	Status	Comments
Remedy Effectiveness		
6.1.1 Continue revisiting soil cleanup levels and ACLs	New	
6.1.2 Consider potential vapor intrusion	New	
6.1.3 Revise program for determining GAC replacement	New	
6.1.4 Evaluate options to implement stronger institutional controls	New	
Cost Reduction		
6.2.1 Revise ground water sampling program	New	
6.2.2 Review labor costs once system operation has stabilized	New	
Technical Improvement		
6.3.1 Re-pipe DNAPL line from treatment shed to DNAPL storage tank	New	
Progress Toward Final Cleanup Goals		
6.4.1 Modifications intended to gain site close-out	New	

RSE Recommendations and Progress Toward Implementation
Site Name: Cape Fear Wood Preserving (Fayetteville, NC)
RSE Report: EPA-542-R-05-005 (February 2005)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Install and sample a monitoring well downgradient of MW-16	Planned	The site team previously attempted to install this well, but was unable to get the necessary property access. The site team agrees with the recommendation and will try to gain the property access required for well placement.
6.1.2 Sample outer monitoring wells annually	Implemented	A new monitoring program was implemented which specifies well sampling locations for semi-annual, annual and five year basis.
6.1.3 Do not use water levels from operating recovery wells or infiltration galleries when generating potentio-metric surface maps	Implemented	Recommendation implemented. In addition, piezometers were installed near extraction wells so that water levels in extraction wells could be used to develop potentiometric surface maps.
Cost Reduction		
6.2.1 Contract O&M services and ground water sampling to a local contractor	Implemented	Implementation of this recommendation saved approximately $60,000 per year, including several modifications made to reduce electrical/utility costs.
6.2.1 Eliminate select wells from monitoring program, and reduce sampling and reporting frequency to annually	Implemented	The new monitoring program implemented in recommendation 6.1.2 incorporates this recommendation, and will likely result in annual savings of approximately $34,000.
Technical Improvement		
6.3.1 Consider alternatives before adding a sequestering agent	Implemented	The site team abandoned further consideration of a sequestering agent and is focusing on filtration options to address solids loading.
6.3.2 Reduce frequency of water level measurements, discontinue dissolved oxygen monitoring, and simplify O&M reporting	Implemented	Groundwater levels and dissolved oxygen are now measured quarterly and oxidation reduction potential are measured annually, rather than monthly. Monthly reports are greatly simplified
6.3.3 Add a suffix to well labels to indicate shallow and deep wells	Implemented	Recommendation was implemented

Progress Toward Final Cleanup Goals		
6.4 .1 Evaluate effectiveness of various remedy components	Alternative Implemented	The site team discontinued operation of the air sparging system, resulting in a savings of $10-15,000 per year in electrical costs which was included in the cost savings presented in recommendation 6.2.1.
6.4.2 Considerations for evaluating thermal pilot study	In progress	The site team is still evaluating the thermally-enhanced remediation treatability study. EPA provided comments on a draft study report.

RSE Recommendations and Progress Toward Implementation
Site Name: Elmore Waste Disposal (Greer, SC)
RSE Report: EPA 542-R-02-008d (April 2001)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Plume definition	Implemented	
6.1.2 Capture zone analysis	Implemented	
6.1.3 Indoor air sampling	Implemented	
6.1.4 Surface water sampling	Implemented	
Cost Reduction		
6.2.1 Re-evaluation of treatment criteria	In Progress	Currently changing discharge of treated water from POTW to NPDES permit. Waiting for State Agency to provide discharge limits, expected in late 2006. After anticipated capital costs of $45,000 are recouped, will save approximately $5000/month (compared to POTW fees.) The potential cost savings increased from previous estimates due to increases in system extraction rates and increases in POTW fees.
6.2.2 Reduction in monitoring and reporting requirements	Implemented	
6.2.3 Modify GAC operations	Implemented	
6.2.4 Natural attenuation	Considered, then Declined	In-situ treatment employed for newly discovered small plume.
Technical Improvement		
6.3.1 Changes to data evaluation protocols	Considered, then declined	Data evaluation protocols not changed after additional characterization work obtained.

6.3.2 Goals for extraction from individual wells	Implemented	
Progress Toward Final Cleanup Goals		
6.4.1 Reconsider closure criteria	Considered, then declined	
Changes is Site Approach Requiring Re-Design		
6.5.1 Permeable reaction barrier	Considered, then declined	
6.5.2 In-situ bioremediation barrier	Considered, then declined	

RSE Recommendations and Progress Toward Implementation
Site Name: FCX, Inc. (Statesville, NC)
RSE Report: EPA 542-R-02-008e (March 2002)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Update target capture zone	Alternative Implemented	
6.1.2 Site cleanup	Implemented	
6.1.3 Improved treatment system enclosure	Alternative Implemented	
Cost Reduction		
6.2.1 Discharge to surface water (NPDES)	Considered, then declined	
6.2.2 Remove the sand filter	Planned	A ROD amendment is planned for late FY06 to change the groundwater remedy for OU1 from pump and treat to Monitored Natural Attenuation (MNA). With the remedy change, the active treatment at the site would be discontinued and this recommendation would be met.
6.2.3 Eliminate SVOC and metals in quarterly well sampling analysis	In Progress	Sampling has been reduced from quarterly to semi-annually. A ROD amendment is planned for late FY06 to change the groundwater remedy for OU1. The ROD amendment will remove SVOCs and metals as contaminants of concern, these analyses would no longer be required and the recommendation implemented.
6.2.4 Concentrate system on pesticides	Alternative Implemented	
6.2.5 Suspension of pump and treat	Alternative Implemented	
Technical Improvement		
No recommendations		

Progress Toward Final Cleanup Goals		
No recommendations		

RSE Recommendations and Progress Toward Implementation
Site Name: Douglas Road/Uniroyal, Inc., Landfill (St. Joseph County, IN)
RSE Report: EPA 542-R-04-031 (February 2004)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Sample extraction wells annually	Implemented	Annual monitoring was reduced in 2005. Only 2 of 5 original extraction wells are still operating. Only effluent sampling of the 2 operating extraction wells was included. Costs could not be quantified by the RPM.
6.1.2 Investigate off-site sources and remaining down-gradient impacts	Considered, then 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	
Technical Improvement		
No recommendations		
Progress Toward Final Cleanup Goals		
6.4.1 Develop an exit strategy	In progress	The site team will begin direct-push sampling and groundwater monitoring in 2006 in the vicinity of extraction well #5 to evaluate the potential for contamination up-gradient of this extraction well. The site contractor is preparing a technical memorandum scheduled for 2006 to document a potential exit strategy and appropriate closure-related activities.

RSE Recommendations and Progress Toward Implementation
Site Name: Oconomowoc Electroplating (Ashippun, WI)
RSE Report: EPA 542-R-02-008b (August 2000)

The treatment plant at this site was shut down on July 31, 2004 because the site team believed it was no longer effective in reducing the contaminant levels in the groundwater. The RPM also anticipated changing the remedy at the site to monitored natural attenuation. Since system shutdown, some contaminant levels in groundwater near off-site residences increased, and now exceed the Wisconsin Protective Action Levels, which commonly are 10% of the drinking water MCLs. The RPM has increased the monitoring frequency from semi-annual to quarterly; is conducting additional geological and biological characterization at the site; and may restart the GWTP if residential well concentrations exceed the MCL. All incomplete or in progress recommendations concerning monitoring or GWTP operation are thus being reviewed and their status changed accordingly.

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Capture zone analysis	Implemented	
6.1.2 Plume delineation west of Eva Street (New Well)	Implemented	
6.1.3 Surface water sampling for copper near MW-12D	Under consideration	See introductory discussion, above.
Cost Reduction		
6.2.1 Re-evaluation of cleanup/discharge criteria	Alternative Implemented	
6.2.2 Eliminate cyanide treatment	Implemented	
6.2.3 Eliminate metals precipitation	Implemented	
6.2.4 Delisting metals precipitation sludge	Alternative Implemented	
Technical Improvement		
6.3.1 Changes to monitoring program and data evaluation	Implemented	Implemented changes to the monitoring program to better assess adjacent residential wells as key criteria of monitoring strategy. Implemented electronic data evaluation and submission as routine practice.

6.3.2 Verification of well elevations and depths	Implemented	Included with completed Hydrologic Investigation and Extraction System Evaluation report (February 2004).
6.3.3 Additional monitoring points	Implemented	A deep well and shallow well were added on the south side of Davie Creek.
6.3.4 Low-flow sampling	Under consideration	See introductory discussion, above.
6.3.5 Electronic data management	Under consideration	See introductory discussion, above.
6.3.6 Expansion of well sampling program	Under consideration	See introductory discussion, above.
6.3.7 Media replacement for tertiary filter media	Implemented	
6.3.8 Control modifications (remote monitoring and emergency shut off)	Under consideration	See introductory discussion, above.
6.3.9 Conduit relocation	Under consideration	See introductory discussion, above.
6.3.10 Piping maintenance	Under consideration	See introductory discussion, above.
6.3.11 Well maintenance	Implemented	
6.3.12 Independent review of analytical data	Implemented	
6.3.13 Treatment process optimization	Alternative Implemented	
6.3.14 Waste sludge storage options	Alternative Implemented	
Progress Toward Final Cleanup Goals		
6.4.1 Establish closure criteria	Considered, then declined	
6.4.2 Additional source area identification/removal	Under consideration	See introductory discussion, above.
Outstanding Value Engineering Proposal		
6.5 Postpone evaluation of VE proposal for a second air stripper	Implemented	

Changes in Current Approach to Site Remediation Requiring Re-Design		
6.6.1 Consider permeable reaction barrier	Alternative Implemented	
6.6.2 Additional VOC source removal	Under Consideration	See introductory discussion, above. An isolated area of contamination has been identified that will be addressed in the near future.
6.6.3 Installation of a subsurface barrier	Alternative Implemented	

RSE Recommendations and Progress Toward Implementation
Site Name: Ott/Story/Cordova Chemical Co. (Dalton Township, MI)
RSE Report: EPA 542-R-02-008s (March 2002)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
No recommendations		
Cost Reduction		
6.2.1 Replace DAS units with tray aerators or packed towers	Considered, then declined	After review by the site team, it was believed a retrofit to tray aerators or packed towers would result in increased bio-fouling within the treatment plant. Additional capital funding, equipment, chemicals and labor for removal of fouling/cleaning/repairing of tray aerators or packed towers and more frequent tray aerator/packing media replacement would likely result in similar operations costs, so the recommendation was declined. Because of recently reduced wastewater loading to the Muskegon County POTW, County take-over of the plant is no longer a possibility. It is still possible that treated water may be used and subsidized by anticipated industrial tenants on the property.
6.2.2 Reexamine NPDES permit and potentially bypass PACT system	Considered, then declined	The site team reviewed and discussed treatment process data with the State NPDES permit administrator at monthly progress meetings. Based on the operational history of the treatment plant and best engineering and environmental practices, it is not possible to ease or alter NPDES permit discharge limits. The receptor surface water body, Muskegon Lake, flows into the Great Lakes, a focus of EPA initiatives. Ott/Story/Cordova is an off-site discharge and Superfund must follow applicable laws and regulations as administered by MDEQ.
6.2.3 Reduce process monitoring and analysis	Implemented	Reductions in process monitoring were made and project staff reduced. Staff levels are reviewed each year to identify potential additional reductions.
6.2.4 Reduce aquifer monitoring and analysis	Implemented	
6.2.5 Remove excess equipment and do not construct the planned storage building	Considered, then declined	

6.2.6 Evaluate potential reduction in onsite presence of USACE	Implemented	USACE reduced the man-hours and associated annual costs assigned to the site. Reductions in the scope of oversight occurred with the award of the second five year operations contract in 2005. Annual obligations for this site have decreased since start-up.
6.2.7 Remove trailers from site	Implemented	The removal of the second trailer accompanied the reduction in USACE oversight with the second five year operations contract.
6.2.8 Have onsite staff conduct sampling for OU3	Alternative Implemented	
Technical Improvement		
6.3.1 Establish consistent sampling method	Implemented	With the award of the second five year operations contract, the sampling and analysis methods were revised to reflect accomplishments of the first 5 years of site LTRA operations.
6.3.2 Modify program for water-level measurement	Implemented	
Progress Toward Final Cleanup Goals		
6.4.1 Establish agreement between the OU2 remedy and ROD	In progress	Analysis of the remedy's operation is ongoing to determine remedy effectiveness, and whether the remedy needs to be continued, expanded or shut-off for the long term. This analysis will be completed before State take-over in 2010, and the results will be the basis for a ROD Amendment to revise the remedy's long term goals as needed and summarize the accomplishments of the remedy implementation during the previous 10 years. The Interagency agreement with the USACE for the second operations contract includes this recommendation.

RSE Recommendations and Progress Toward Implementation
Site Name: Peerless Plating (Muskegon, MI)
RSE Report: February 2006

An RSE was performed at the Peerless Plating site in September, 2005. The first follow-up discussion to document progress will occur in Fall 2006.

Recommendation	Status	Comments
Remedy Effectiveness		
6.1.1 Evaluation of ground water capture	New	
6.1.2 Modifications to the monitoring program	New	
Cost Reduction		
6.2.1 Eliminate several ground water treatment processes	New	
6.2.2 Modifications to the monitoring program	New	
6.2.3 Revise reporting requirements	New	
6.2.4 Review level of operator support	New	
Technical Improvement		
6.3.1 Install dust collection system over $FeSO_4$ hopper	New	
6.3.2 Install enclosure around air compressor to reduce noise	New	
6.3.3 Initiate a formal O&M program	New	
6.3.4 Advertise availability of used equipment on USACE/EPA web page	New	

Progress Toward Final Cleanup Goals		
6.4.1 Assess source area treatment alternatives	New	
6.4.2 Permeable barrier	New	

RSE Recommendations and Progress Toward Implementation
Site Name: Penta Wood Products (Daniels, WI)
RSE Report: February 2006

An RSE was performed at the Penta Wood Products site in October, 2005. The first follow-up discussion to document progress will occur in Fall 2006.

Recommendation	Status	Comments
Remedy Effectiveness		
6.1.1 Follow trends in monitoring wells to determine if plume is migrating	New	
Cost Reduction		
6.2.1 Provide a more accurate prediction of consumables and disposal costs	New	
6.2.2 Consider modifying management of GAC units	New	
6.2.3 Eliminate redundant or unnecessary lab analysis	New	
6.2.4 Use of dedicated pumps installed in monitoring wells	New	
6.2.5 Investigate possibility of declassifying waste	New	
6.2.6 Decrease project management and reporting costs	New	
6.2.7 Develop tracking of routine and non-routine costs	New	
6.2.8 Evaluate potential to reduce ground water extraction without significantly affecting LNAPL recovery	New	
6.2.9 Adjust pH from 7.0 to 6.5	New	

Technical Improvement		
No recommendations	New	
Progress Toward Final Cleanup Goals		
6.4.1 Transition from ground water extraction and LNAPL recovery system to bioventing system and intrinsic remediation	New	

RSE Recommendations and Progress Toward Implementation
Site Name: Reilly Tar & Chemical Corp. (Indianapolis, IN)
RSE Report: EPA 542-R-04-035 (February 2004)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Install piezometers and monitoring wells to allow for improved evaluation of plume capture	Implemented	Installation of a piezometer cluster completed at a location recommended in the RSE. A monitoring well cluster is still to be installed.
6.1.2 Perform improved plume capture evaluation (Including numerical model)	Planned	Capture will be evaluated by developing a target capture zone, analyzing potentiometric surface maps, analyzing concentration trends in down-gradient wells, and potentially rerunning an existing model for the site. A decision has not been made on the use of a numerical model. This recommendation is delayed until the necessary off-site monitoring wells are installed and appropriate data are collected.
6.1.3 Consider the need for a modified extraction system	Considered, then declined	
Cost Reduction		
6.2.1 Consider using extracted water for process and cooling uses	Considered, then declined	
Technical Improvement		
6.3.1 Minor suggestion for improved O&M reporting	Implemented	This recommendation was implemented by using historical data in a trend analysis to see how O&M improved since the last report.
Progress Toward Final Cleanup Goals		
6.4.1 Develop an exit strategy (consider alternate approach)	In progress	Extraction will generally be reduced over time as appropriate. PW-3 was shut down and there is a pending request to shut down PW-2 based on the continuing investigation of a process sewers leak. The RP will first address onsite sources, including potential releases of ammonia to the subsurface. The potential down-gradient receptors are connected to public water. The concepts outlined in the RSE report will be further considered once the RP has thoroughly demonstrated that sources have been addressed.

RSE Recommendations and Progress Toward Implementation
Site Name: Cleburn Street Well (Grand Island, NE)
RSE Report: EPA 542-R-02-008k (July 2001)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Rehabilitate fouled extraction wells	Implemented	
6.1.2 Determine capture- zone effectiveness with sampling	Implemented	
6.1.3 Modify well-sampling program	Implemented	
6.1.4 Survey local private wells	Implemented	
6.1.5 Conduct indoor air sampling	Alternative Implemented	
6.1.6 Sample Pine Street well for TCE	Deferred to PRP/State	
Cost Reduction		
6.2.1Combine operator labor for OU1 and OU2	Considered, then declined	
6.2.2 Replace blower for OU1	Considered, then declined	
6.2.3 Consider reducing project management costs	Implemented	Project management costs were reduced with the use of lower-cost (lower P level) employees in the new site contract awarded in 2005.
Technical Improvement		
6.3.1 Measure SVE well parameters	Implemented	
6.3.2 Treat SVE condensate with air stripper	Implemented	

6.3.3 Reformat Quarterly Performance Reports	Implemented	
6.3.4 Drain water from extraction well vaults	Implemented	
6.3.5 Sample wells for additional parameters	Considered, then declined	
Progress Toward Final Cleanup Goals		
6.4.1 Investigate and implement air sparging	In progress	The RPM will request technical assistance in 2006 to: (1) confirm the presence of contamination below the building slab; (2) assess potential installation of air sparging wells; (3) assess potential installation of additional soil vapor extraction wells; and (4) assess installation of additional groundwater extraction wells to improve the cleanup efficiency of remaining subsurface contamination. Additional field characterization work and remedy upgrades are anticipated as a result of this effort.
6.4.2 Develop an exit strategy	Deferred to State	

RSE Recommendations and Progress Toward Implementation
Site Name: Modesto Ground Water Contamination (Modesto, CA)
RSE Report: EPA-542-R-02-008o (December 2001)

Recommendation	Status	Progress since the previous Annual 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)	Planned	A work plan for this effort has been completed, and funding is in place. Site access agreements must be finalized before work can begin.
Cost Reduction		
6.2.1 Consider alternate discharge locations - Discharge to storm sewer - Reinject to subsurface	Planned	Negotiation over discharges is a time consuming process. The Region does not currently have the resources to conduct such an exercise. The site team is committed to finding a cost-effective approach to discharging treated water and will consider reinfiltration in FY06.
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	Planned	Extraction well malfunctioned last year and has been turned off. The site team has determined the location for the new extraction well, but access agreements must be finalized before the well can be installed.
6.3.4 Modify SVE system to address high operating temperatures	Considered, then declined	
6.3.5 Regularly evaluate need for vapor phase carbon	Considered, then declined	
6.3.6 Properly convert PID readings to PCE concentrations	Implemented	
6.3.7 Improve accuracy of SVE flow	Implemented	
6.3.8 Adjust membrane around Baker tank	Alternative Implemented	
6.3.9 Improve drainage to secondary sump	Implemented	
6.3.10Add fans to the control panel	Implemented	
6.3.11Relocate vapor phase carbon for the groundwater treatment system	Implemented	
6.3.12 Add phone line for data acquisition	Implemented	
Progress Toward Final Cleanup Goals		
6.4.1 Initiate screening of final remedy	Planned	Selection of a final remedy is planned for FY2007, and is dependent upon completion and evaluation of 6.1.4.
6.4.2 Measure DO and ORP in monitoring wells	Implemented	

RSE Recommendations and Progress Toward Implementation
Site Name: Boomsnub/Airco (Hazel Dell, WA)
RSE Report: EPA-542-R-02-016 (September 2002)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Conduct a hydro-geological analysis	Implemented	The hydro-geological investigation and analysis has been completed (10/2005). Soil samples were collected & analyzed for use in the model. Five additional wells were installed, both monitoring wells and extractions wells, to maximize contaminant removal. This data will be used to update and recalibrate the transport model.
6.1.2 Evaluate potential management options for extraction and discharge	Implemented	The site team has developed a work plan to investigate the feasibility of infiltrating treated water into an infiltration gallery. Once the treated water has met the operating discharge standards for treatment for both TCE and Chromium the galleries could be used and is scheduled to begin use in February 2006.
6.1.3 Considerations for potential extraction and discharge options	Implemented	See notes to 6.1.1 & 6.1.2
6.1.4 Consider other discharge options	Implemented	See notes to 6.1.2
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	Negotiations continue on a consent decree with the PRP, to be implemented in 2006. Development of an exit strategy will be one element of the agreement.

Progress Toward Final Cleanup Goals		
No recommendations		

RSE Recommendations and Progress Toward Implementation
Site Name: Commencement Bay (South Tacoma Channel)/Well 12A (Tacoma, WA)
RSE Report: EPA-542-R-02-008q (December 2001)

Recommendation	Status	Comments on progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Obtain accurate water level measurements and develop associated potentiometric surface maps	Implemented	
6.1.2a Develop a groundwater flow model 6.1.2b Develop a contaminant transport model	Implemented	This has been completed as part of 6.1.3
6.1.3 Analyze capture zone	Implemented	The site team commissioned a report evaluating the capture zone with modeling and other lines of evidence. The report suggests the installation and operation of additional extraction wells. Additional modeling will be needed before installing the extraction wells. Modeling and well installation are planned for 2006.
6.1.4 Improve well-sampling program	Deferred to State	Responsibility for operation and maintenance of this remedy has transferred from EPA to the State; this recommendation has been deferred to the State for consideration.
6.1.5 Monitor Well 9 for VOCs	Implemented	
Cost Reduction		
6.2.1 Replace pumps in extraction wells	Implemented	Several pumps have been replaced. Additional well improvements have been made. The flow rate has increased from a low of 5 gpm to approximately 60 gpm, with lower electrical costs.
6.2.2 Examine city stormwater discharge policies and investigate alternative discharge locations	Considered, then declined	The State is taking over system O&M, and the State will not pay discharge costs because the municipality is an extension of the State. Therefore, this recommendation has been addressed by transferring the site to the State.
6.2.3 Consider replacing carbon treatment system with an air stripper	Considered, then declined	

Technical Improvement		
No Recommendations		
Progress Toward Final Cleanup Goals		
6.4.1 Excavate remaining filter cake	Considered, then declined	The filter cake does not appear to be a current source to ground because it is capped by asphalt. Responsibility for operation and maintenance of this remedy has transferred from EPA to the State; this recommendation has been deferred to the State for consideration.
6.4.2 Evaluate remedial process options based on analysis of ground water monitoring	Implemented	The focus of the remedy is now on containment, rather than aquifer restoration. A ROD Amendment noting this change is planned for calendar year 2006.

RSE Recommendations and Progress Toward Implementation
Site Name: Wyckoff/Eagle Harbor (Bainbridge Island, WA)
RSE Report: EPA-542-R-05-013 (March 2005)

Recommendation	Status	Progress since the previous Annual Report
Remedy Effectiveness		
6.1.1 Select a final remedy	In progress	The site team continues to move forward with a final decision. Construction of a new treatment plant is considered a high priority at the site, and construction is anticipated for Spring 2006.
Cost Reduction		
6.2.1 Simplify existing treatment plant	Implemented	The final design includes the simplified treatment system with a DAF unit, filtration, and GAC (no biological treatment) as suggested by the RSE team. Annual O&M costs are anticipated to be between $500,000 and $600,000 per year.
6.2.2 Install upgradient sheet pile	Considered, then declined	The recommendation was made when it was believed that there was significant upgradient ground water flow in the aquifer beneath the Former Process Area. However, it appears that the aquitard that underlies this aquifer increases in elevation and "daylights" at the surface, effectively providing a significant barrier against flow from upgradient (e.g., from the south).
6.2.3 Remove steam injection/ extraction system and apply cap	In progress	The State and EPA agree on this item and give it a high priority. The site team has begun design discussions.
6.2.4 Conduct water budget analysis	Implemented	The site team has evaluated the water budget, including consideration of the aquitard that limits ground water flow coming from upgradient (e.g., the south). The site team still anticipates an extraction rate of 10 to 11 gpm once a cap is installed. Continued monitoring of the lower aquifer suggests that containment is provided at the current extraction rate.
6.2.5 Upgrade extraction system	Planned	The site team is considering the addition of five to six more extraction wells to augment extraction in areas currently not influenced by extraction wells.
6.2.6 Replace the existing treatment plant	In progress	See recommendation 6.2.1.
6.2.7 Augment monitoring in lower aquifer	Planned	The site team has planned the installation of additional monitoring wells for both the shallow and lower aquifers (primarily lower aquifer wells). The effort is estimated to cost $300,000, but the funding is not yet available.

Technical Improvement		
6.3 Other related items - Improve monitoring approach - Monitor seeps on beach - Consider new extraction points	Under consideration	Contingent on implementation of the above recommendations.
Progress Toward Final Cleanup Goals		
No recommendations		