FINAL
PERIODIC REVIEW EVALUATION REPORT
2003 – 2005
ROCHESTER FIRE ACADEMY

SITE NO. 828015

WORK ASSIGNMENT NO. D004444-3

Prepared for:

New York State Department of Environmental Conservation

Albany, New York

Prepared by:

MACTEC Engineering and Consulting, P.C.
Portland, Maine

MACTEC: 3612062066

DECEMBER 2011

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Submitted by:

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS

EC	engineering control
FS	feasibility study
GWTS	Groundwater Treatment System
IC	institutional control
MACTEC	MACTEC Engineering and Consulting, P.C.
NYSDEC	New York State Department of Environmental Conservation
O&M	operation and maintenance
PCB	polychlorinated biphenyls
PR	Periodic Review
RFA	Rochester Fire Academy
RI	remedial investigation
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
RP	responsible party
RPD	relative percent difference
SDA	South Disposal Area
SM	site management
SMP	Site Management Plan
SVOC	semivolatile organic compound
µg/L	microgram(s) per liter
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

EXECUTIVE SUMMARY

This Periodic Review Evaluation (PRE) Report documents the field-oversight review conducted by MACTEC Engineering and Consulting, P.C. (MACTEC) for The Rochester Fire Academy (Site No. 8-28-015). This PRE addresses the time period from February 2003 to December 2005.

The field-oversight review conducted by MACTEC consisted of a file review of available documents provided by the New York State Department of Environmental Conservation (NYSDEC) and a site inspection and sampling event conducted on June 27, 2007.

The status of the Site Management (SM) activities and the performance, protectiveness, and effectiveness of the remedy, based on a review of these documents, is summarized below. The recommendations and conclusions are presented in Section V of this report. Table 1.1 presents the SM requirements and compliance status for the site. The findings of this review are also summarized on a Periodic Review Data Collection Form contained in Appendix A.

The file review was completed using the annual monitoring reports from 2003 (City of Rochester Department of Environmental Quality, 2004); 2003-2004 (City of Rochester Department of Environmental Quality, 2004); and 2005 (City of Rochester Department of Environmental Quality, 2006), and the site's Record of Decision (NYSDEC, 1993), and the Operations and Maintenance Manual (Malcolm Pirnie, 1998). A list of documents obtained for review are summarized and provided in Appendix B.

MACTEC conducted an on-site inspection and split sample of the Groundwater Treatment System (GWTS) at the Rochester Fire Academy (RFA) site on June 27, 2007. Observations made during the landfill cover system interpretation showed ponding on the north side of the landfill, and although the entrance gate was obstructed by woody growth and vegetation, the security fencing is in place and effective. The RFA quarterly inspection conducted by the City of Rochester on June 27 was a drive-by inspection only. In general the landfill was in need of minor repairs and maintenance. Observations of the GWTS showed the activated carbon unit for polychlorinated biphenyl (PCB) containment was not in operation and the sequestering agent was off-line due to injection meter malfunction. The analysis results of the split sample collected

from the GWTS effluent location compared favorably. PCB, semivolatile organic compound, and chromium were not detected in both samples, and the Relative Percent Difference for four of the five detected volatile organic compounds was less than 20 percent. Vinyl chloride, 1,1-dichloroethene, 1,1-dichloroethane, cis-1,2-dichloroethene, 1,1,1-trichloroethene, 1,2-dichloroethane, and trichloroethene were detected in the grab effluent sample and were all less than the discharge limits established by the Site's Monroe County Water District industrial sewer use permit (Permit #705) for the Site. Site inspection forms (landfill and treatment system) are provided in Appendix C and laboratory results for split samples are provided in Appendix D.

Based on the findings of the field oversight review, the remedy for the site is considered appropriate and some corrective measures to current Site Management requirements are recommended for this site at this time. MACTEC recommends a desktop review in 5 years (2012).

1.0 SITE OVERVIEW

Presently the Rochester Fire Academy (RFA) (Site No. 8-28-015) is an 18-acre parcel located at 1190 Scottsville Road, approximately 50 feet from the west side of the Genesee River in an urban area of The City of Rochester, Monroe County. The main features of the site include the Fire Academy Entrance, North Disposal Area, Training Grounds, Police Training Course, South Disposal Area and the Genesee Valley Park Area (see attached Figure 1.1 obtained from the Operation and Maintenance [O&M] Manual). The site is currently used by the City of Rochester for police and fire training. The New York State Department of Environmental Conservation (NYSDEC) and City of Rochester entered into a Consent Order (Index #B8-0205-87-09) on August 14, 1989, which enforced a full remedial program. The Site is currently classified as Class 4 (Site Management [SM] with continued Operation, Maintenance and Monitoring).

Historically during the period of 1954-1980, various chemicals from local hazardous waste generators were burned during training exercises. Soils and groundwater were impacted by the hazardous waste disposed at this site. The City of Rochester signed a NYSDEC Consent Order in 1989 to conduct a Remedial Investigation/Feasibility Study (RI/FS) of the property. The RI/FS was completed in January of 1993, and a Record of Decision (ROD) was signed in March of 1993. The RI report identified the primary contaminants of concern at the Site which included cadmium, lead, polychlorinated biphenyls (PCBs), and various volatile organic compounds (VOCs). An interim remedial measure included the removal of PCB contaminated soil “hot spots” and removal of above-ground tanks in 1993. The remedy, as outlined in the 1993 NYSDEC ROD was completed in 1998.

The ROD, issued by NYSDEC in March 1993, established the following goals for the remedial program at the Site:

- reduce, control, or eliminate the contamination present within the soils on-site;
- eliminate the threat to surface waters by eliminating any future contaminated surface runoff from the contaminated soils on-site;
- eliminate the potential for direct human or animal contact with the contaminated soils on-site;
- mitigate the impacts of contaminated groundwater to the environment;

The selected remedy was implemented in 1998 and included:

- excavation and treatment of soils in the South Disposal Area (SDA), Training Grounds, and Genessee bike trail and placement of the treated soils in the North Disposal Area;
- construction of a 200 foot groundwater collection trench at the South Disposal Area;
- construction of a 58,000 gallon per day Groundwater Treatment System (GWTS) (dual particulate and air stripper) at the South Disposal Area;
- construction of a low-permeability cap over the North Disposal Area;
- construction of a soil cover at the South Disposal Area;
- construction of an asphalt cover at the Training Grounds Area;
- long term monitoring program to evaluate continued effectiveness of the remedy;
- long term inspection, O&M of the GWTS and cap; and
- security fencing and land use restrictions of the site.

Long-term SM, including operation and maintenance and groundwater monitoring has been in effect since approximately 2002. Per the O&M Manual, maintenance and monitoring activities must be performed for a period of at least thirty years following closure. SM requirements are summarized in Table 1.1.

2.0 EVALUATE REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

The status of the SM activities and the performance, protectiveness, and effectiveness of the remedy is summarized below. The findings have been summarized on a Periodic Review Data Collection Form contained in Appendix A. Appendix B provides a list of documents obtained for this review.

2.1 INSTITUTIONAL CONTROLS/ENGINEERING CONTROLS (IC/EC) COMPLIANCE REVIEW

ICs include a land use restriction. ECs include a security fence, landfill cap, soil cover, groundwater collection system, and GWTS. These controls limit future development at the site, prevent trespassing on the site, prevent direct contract with the waste, and control migration of contaminated groundwater. The IC is enforced by a Deed Restriction filed with the Monroe County Clerk's office for the Site. The ECs were evaluated during the on-site inspection and determined to be in-place and effective.

An IC/EC certification was not included in the most recent annual report, as this requirement did not apply for the time period of this evaluation.

2.2 MONITORING COMPLIANCE REVIEW

Following the Operations and Maintenance Manual, the frequency of groundwater monitoring is conducted on a semi-annual basis, the GWTS performance monitoring is conducted on the influent and effluent streams on a monthly basis, and air emission monitoring is conducted on the air stripper effluent on a monthly basis. GWTS influent samples are analyzed for: VOCs by United States Environmental Protection Agency (USEPA) Method 601/602; Pesticides and PCBs by USEPA Method 608; total Resource Conservation and Recovery Act (RCRA) metals; pH; alkalinity and hardness. GWTS effluent water and air samples are analyzed for: VOCs (601, 602), semi-volatiles (625) and pesticides/ PCBs (608); total RCRA metals; phosphorous and pH. Groundwater samples are analyzed for VOCs by USEPA Methods 601/602. The groundwater

sampling method specified in the O&M Plan was Teflon bailers, and the purging requirement was three well volumes.

The requirement for the groundwater monitoring program (14 monitoring wells) in the O&M Manual included sampling upgradient and downgradient monitoring wells in the shallow, intermediate, and deep zones of the aquifer on a semi-annual basis (see table below). Per the O&M Manual, groundwater concentrations at the site are compared to the New York State Class GA Standards (Title 6 of the New York Codes, Rules, and Regulations Parts 700-705). The Site monitoring wells are shown in the Figure attached (Figure 1.1 [Figure 3-1 of the O&M Manual]).

Groundwater Monitoring Wells, Rochester Fire Academy

Well ID	Aquifer Monitored	Location
MW-6S	Shallow	Upgradient
MW-6I	Intermediate	Upgradient
MW-7S	Shallow	Downgradient
MW-7I	Intermediate	Downgradient
MW-7D	Deep	Downgradient
MW-8S	Shallow	Downgradient
MW-8I	Intermediate	Downgradient
MW-9D	Deep	Upgradient
MW-9S	Shallow	Upgradient
MW-10S	Shallow	Upgradient
MW-10I	Intermediate	Upgradient
MW-11S	Shallow	Downgradient
MW-11I	Intermediate	Downgradient
MW-15S	Shallow	Downgradient

Groundwater and the GWTS sampling results were provided in the annual reports, and the data were presented in concentration plots over time. Concentrations of total VOCs at the monitoring wells have remained stable for the four year period from 2001 to 2005. It should be noted that wells MW7S and MW71, located immediately down gradient from the SDA recovery trench exhibit contaminant concentrations above groundwater standards.

GWTS performance monitoring is evaluated using the influent water samples and effluent air and water samples. The GWTS effluent water is regulated by the Sanitary Sewer Industrial Use Permit (Monroe County Water District permit #705). GWTS air effluent is regulated by the NYSDEC Permit to Construct/Certificate to Operate. The GWTS influent contains vinyl chloride, 1,1-dichloroethane, 1,1,1-trichloroethane, trichloroethene, and toluene. The effluent air

samples collected from the air stripper consistently reduces the GWTS influent concentrations by 99 percent and below the Site's air permit limits. However, the GWTS air stripper effluent exceeded the effluent permit limits twice during the reporting period, February 13, 2003 and April 27, 2005. The 2005 exceedance was due to a faulty flow sensor controlling the operation of the air stripper blower. The sensor was repaired, and subsequent effluent air sampling indicated that GWTS air stripper effluent returned to concentrations below the permit limits. Groundwater discharge limits were met for the reporting period.

The sampling requirements between the primary and secondary carbon vessels has been removed because the activated carbon system has been taken off-line as a result of non-detect PCB samples.

Based on the Monitoring Compliance evaluation, the performance, effectiveness, and protectiveness of the remedy is being met as specified in the goals set forth in the ROD. The items listed below are considered notable findings.

- An interpreted groundwater contour figure showing groundwater surface elevations and flow direction using the most recent water elevations was not included in annual reports.
- Monitoring well purge reports were not included in the annual reports.
- Total daily flows were discontinued from the weekly logs in 2005 and a running total is currently being recorded.
- Contaminate summary tables do not include discharge limits or groundwater standards for comparison purposes.
- Contaminate time series graphs did not include a groundwater or discharge standard threshold line.
- An explanation was not provided in the annual reports for groundwater monitoring wells not sampled. For example, wells MW-8S and 11S have not been sampled for several years; however, an explanation was not provided.

2.3 O&M COMPLIANCE REVIEW

The Site's O&M requirements include periodic inspections of the cover systems and groundwater collection system, long-term monitoring, and reporting. The requirements for the Site have largely been met with respect to activities conducted and the frequency at which the components

are performed; however, based on the O&M Compliance evaluation, the items listed below are considered notable findings.

- Daily inspection of the North Disposal Area (capped area) is being done using a 'drive-by' approach in lieu of the required detailed quarterly inspection; this approach does not permit the level of detail necessary for properly inspecting the condition of the components of this area. (See Appendix C completed inspection form);
- at the time of the inspection, vegetation on the cap and woody growth at the landfill gate entrance had not been attended to; however, the City of Rochester has plans to take care of this maintenance item.

3.0 PERIODIC REVIEW EVALUATION SITE VISIT

MACTEC Engineering and Consulting, P.C. (MATEC) conducted an on-site inspection at the RFA site on June 27, 2007. The on-site inspection was scheduled to occur concurrent with the responsible party's (RP's) monthly effluent sampling event to accommodate collection of a split sample and observe sampling techniques. The on-site inspection consisted of the following components:

- inspection of GWTS and monitoring network;
- inspection of cover system;
- inspection of general site condition/security;
- review of sewer discharge permit performance; and
- split sampling of GWTS effluent and observing sampling protocols.

Based on information gathered during the on-site inspection, the following observations were noted:

- ponded water was observed on the north-side of the North Disposal Area (capped area);
- vegetation on the North Disposal Area required maintenance;
- the entrance gate to the North Disposal Area(capped area) was obstructed by woody growth and vegetation;
- the GWTS is manned approximately one hour per day;
- the system operator does not have a copy of the O&M Manual;
- activated carbon unit for PCB treatment was not in operation (reportedly taken off-line as PCBs are no longer detected in groundwater); and,
- the sequestering agent is currently not being used due to injection meter problems.

Site inspection forms (landfill and treatment system) completed by MACTEC are provided in Appendix C.

During the field-oversight review, no issues were noted regarding the sampling techniques or sample collection procedures performed. A split sample was collected from the GWTS effluent location and submitted to Mitkem Laboratories for analysis of VOCs, semi-volatile organic compounds (SVOCs), PCBs, and chromium. All SVOCs, PCBs, and chromium results were

reported as non-detect. Vinyl chloride, 1,1-dichloroethene, 1,1-dichloroethane, cis-1,2-dichloroethene, 1,1,1-trichloroethene, 1,2-dichloroethane, and trichloroethene were detected in the grab effluent sample. Results were compared to discharge limits on the Site's Monroe County Water District industrial sewer use permit (Permit #705) for the Site and were found to all be below criteria. These results are consistent with historical results.

The table below compares the detected compounds from samples at the GWTS effluent location as submitted by MACTEC and the City of Rochester and presents the relative percent difference (RPD).

Split Sample Results - GWTS Effluent (June 2007)

Compound	**City of Rochester** (ug/L)	**MACTEC** (ug/L)	**RPD** (%)
1,1-dichloroethane	18.7	19	1.6
1,1-dichloroethene	NA	2 J	-
1,2-dichloroethane	4.31	4 J	7.5
1,1,1-trichloroethane	93.8	91	3.0
cis-1,2-dichloroethene	NA	150	-
trichloroethene	18.0	20	10.5
vinyl chloride	2.21	4 J	57.6

NA = not analyzed
Only detected compounds tabulated
ug/L = microgram(s) per liter
J = estimated value
- = not calculated

The split sample results compared favorably. Chromium, all SVOCs, and all PCBs were not detected in both samples, and the RPD for four of the five detected VOCs was less than 20%.

Analytical results of the split sample collected by MACTEC and a copy of the chain of custody are provided in Appendix D.

4.0 RECOMMENDATIONS AND CONCLUSIONS

Current SM activities performed at the site are in general compliance with the requirements of the Site's O&M Manual. The remedy for the Site is performing properly and is effective as illustrated by achieving the goals established for the remedial program in the ROD namely, direct contact with the waste at the Site is eliminated; migration of contaminants via groundwater is prevented; migration of contaminants via surface water is prevented, and the contamination present within the soils on-site have been reduced and controlled.

Review of the annual reports for the time period indicate that concentrations for a few contaminants detected in the few effluent air samples exceeded site specific permit action levels; however, VOCs detected in the influent remain stable and are reduced by 99 percent by the air stripper. The GWTS effluent results exceeded the effluent permit limits twice during the reporting period. One exceedance was the result of a faulty flow sensor controlling the operation of the air stripper blower. The sensor was repaired, and subsequent effluent results returned to concentrations below the permit limits. The GWTS effluent water discharge met discharge limits for the reporting period.

The current groundwater quality at downgradient wells appears to be stable as they compare with the historic concentrations and on-site contamination does not appear to be migrating, although an evaluation of the SDA collection trench is warranted due to downgradient detection of VOCs.

Based on the findings during the Consultant Field Oversight Review, the following recommendations are provided:

- A Site Management Plan (SMP) should be prepared. The SMP should include an IC/EC Plan, Environmental Monitoring Plan and an O&M plan. The Environmental monitoring plan should update the current O&M Manual monitoring section to address discontinuation of carbon vessel sampling, discontinuation of analytical parameters from the monitoring wells, daily flow volume not reported in field logs and change to annual sampling frequency at MW8S and MW-11S. O&M plan should be updated to include activated carbon is discontinued and updates to any equipment upgrades or changes.
- A copy of the current O&M Manual should be available on-site.
- The next annual report should be in the form of a Periodic Review (PR) Report and include an IC/EC Certification.

- The next PR evaluation should be a desktop review in 5 years (2012).
- Include an interpreted groundwater contour figure showing groundwater surface elevations and flow direction in annual reports.
- Monitoring well purge reports should be included in the annual report.
- Ponding, vegetation and woody growth maintenance items need attention; however, these items will be addressed by the City of Rochester.
- A more detailed inspection of the North Disposal Area (capped area) should be performed so that cap integrity can be documented. The RP is recommended to use the Inspection Form in Appendix C.
- Resume sequestering agent process, if needed.
- Due to stable groundwater concentrations at the site, the NYSDEC project manager may want to consider reducing the sampling frequency of the long-term monitoring program to every 15 months.

TABLES

Table 1.1 – Site Management Requirements

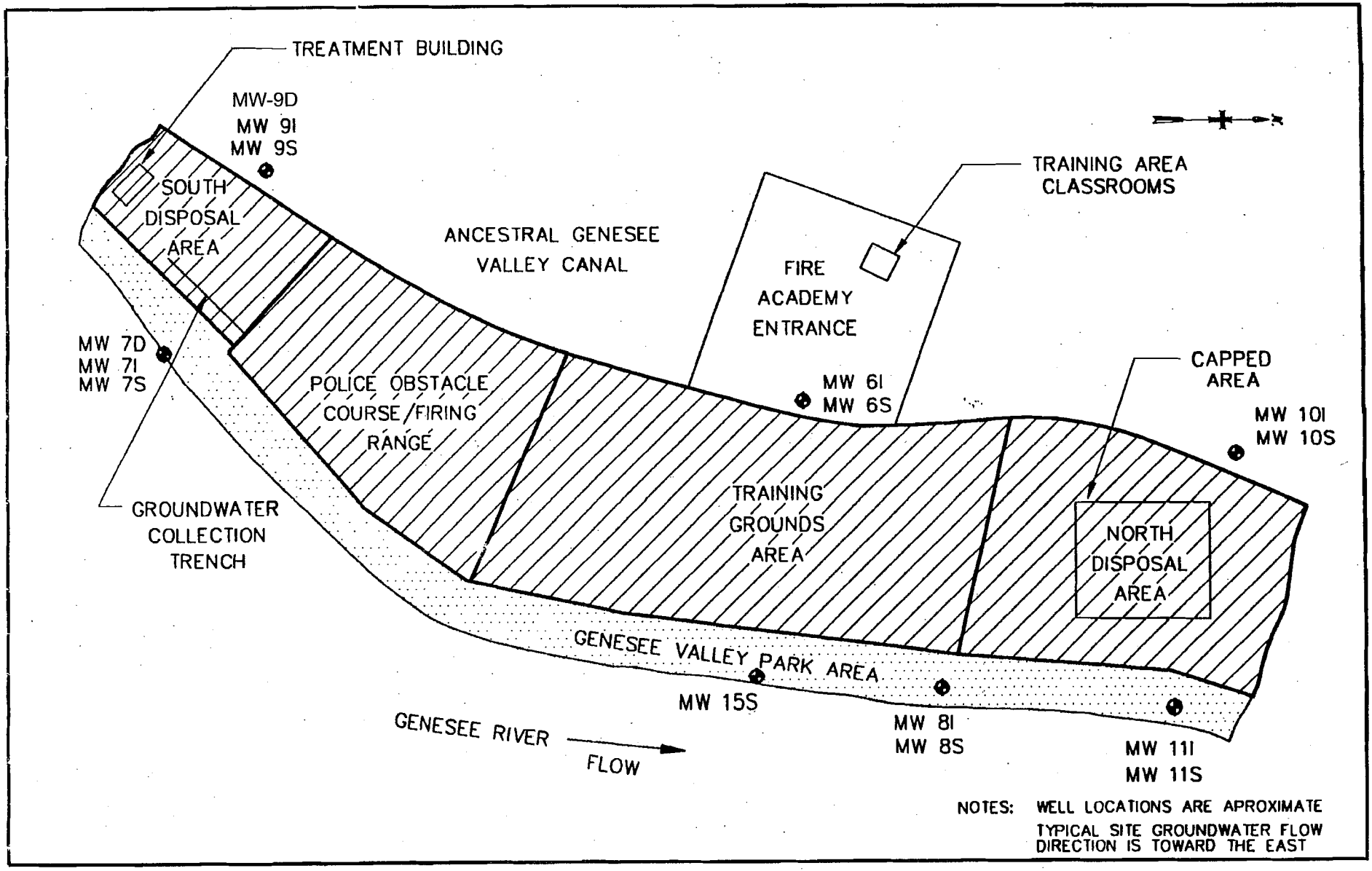
Inspection Item	**Required Frequency (1)**	**Actual Frequency (2)**	***Compliant Yes/No**	**Comments/Recommendations**
Inspect North Disposal Area for: settling, erosion, ponded water, undesirable species, woody plants, slope loss, and the condition of the vegetative cover	Quarterly	Daily	No	Drive-by inspection approach; detail to inspection items cannot be achieved with this approach. Recommend quarterly inspection schedule using Form shown in Attachment C.
Inspect South Disposal Area for: settling, erosion, ponded water, undesirable species, woody plants, slope loss, and the condition of the vegetative cover	Quarterly	Daily	Yes	Drive-by inspection approach ok for this area.
Inspect Training Grounds Area for: surface coarse integrity, cracking, potholes, pooling/ponding, and undesirable species	Quarterly	Daily	Yes	Drive-by inspection approach ok for this area.
Inspect storm water collection system drainage channels for: sediment build-up, pooling/ponding, severe cracking, erosion, and slope loss	Quarterly	Quarterly	Yes	
Inspect storm water collection system storm sewers and grates for: sediment build-up, pooling/ponding, broken pipe, grate clogging, and slope loss	Quarterly	Quarterly	Yes	
Inspect storm water collection system drainage structures #1, #2, and #3 for: flapper valve functioning, broken/cracked pipe, and cracked headwall structure	Quarterly	Quarterly	Yes	

Inspection Item	**Required Frequency (1)**	**Actual Frequency (2)**	***Compliant Yes/No**	**Comments/Recommendations**
Perform GWTS maintenance for: sequestering agent, bag filter unit, feed tank, air stripper, activated carbon vessels, and discharge tank	As-needed or weekly to annually	As-needed	Yes	Note – Activated carbon system off-line as PCBs are ND. Sequestering agent not being used due to meter problems. Recommend O&M Plan be updated and meter be fixed and agent addition be continued or RP to conduct an evaluation to determine whether the addition of the sequestering agent is still needed.
Inspect access road for pot holes, washout, inadequate drainage, and cracks	Quarterly	Quarterly	Yes	
Inspect access gates for damage and wearing to hinges and locks	Quarterly	Quarterly	Yes	
Inspect security fence for damage to posts, braces, or chain link fabric	Quarterly	Quarterly	Yes	
Record GWTS log (includes flow rate, pressure readings, water level in air stripper sump, tank levels, and position of valves)	Daily	Daily	Yes	
Sample GWTS influent, air stripper effluent, and between primary and secondary carbon vessels	Quarterly	Quarterly	Yes	Activate carbon units not in operation (PCBs ND); update O&M Plan to reflect current operation.
Sample GWTS effluent	Monthly	Monthly	Yes	
Sample air emissions	Quarterly	Quarterly	Yes	
GW sampling and gauging	Semi-Annually	Semi-Annually	Yes	
Vegetative Growth	As needed	Not indicated	No	Field inspection noted this item was not performed as of date of inspection; City of Rochester indicated this was planned.
Reporting	Annual	Annual	Yes	

Notes:
* Inspected item is compliant if the actual frequency of inspection meets or exceeds the required frequency of inspection.
(1) Per O&M Manual
(2) Per Annual Report

FIGURES

Figure 1.1



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3603 ADMIN

MALCOLM PIRNIE

ROC7

ROCHESTER FIRE TRAINING ACADEMY
O&M MANUAL

GROUNDWATER MONITORING WELL LOCATIONS

CITY OF ROCHESTER SEPTEMBER 1997

FIGURE 3-1

APPENDIX A

SITE MANAGEMENT PERIODIC REVIEW DATA COLLECTION FORM

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Environmental Remediation

Site Management Periodic Review Data Collection Form

PERIOD COVERED BY THE REPORT 2003-2005

Form Date 2005.08.30

Site / Spill Number: 828015 **Site Name:** Rochester Fire Academy **Op Unit No.:** **Class:** 4

Current Use:

Site Management Lead / Funding: ☐ State Superfund ☐ Petroleum Remediation (PET) PIN ☐ Environmental Restoration Program (ERP) ☐ Brownfields Cleanup Program (BCP) ☒ Responsible Party ☐ Federal Superfund (NPL)

SM Start Date: 1998 ☐ ACTUAL ☐ PLANNED **SM End Date:** 2028 **SM Cost/Yr.:**

Media / Receptors: ☒ Soil ☐ Air ☐ Indoor Air ☒ Groundwater ☐ Surface Water ☐ Drinking Water ☐ Sediment

Contaminant(s) of Concern: VOCs, PCBs, Heavy Metals **Release estimate:**

Remedies: (mark all technologies that have been used, circle the remedy (ies) that is/are currently active)

☐ Air Sparging	☐ LNAPL Product Recovery	☐ Permeable Reactive Wall
☐ Bio-sparging	☐ DNAPL Product Recovery	☐ Plume Management Monitoring
☐ Enhanced Bio-remediation	☒ Monitoring w / No other action	☒ Pump and Treat
☒ Cap / Cover (acreage? 2.5)	☐ Monitored Natural Attenuation	☐ Soil Removal
☐ Containment / Stabilization	☐ Multi-phase Extraction	☐ Soil Vapor Extraction
☒ Hydraulic Control	☐ Off Gas Treatment	☐ Soil Washing
☐ In-situ Chemical Oxidation	☒ On-site Soil Treatment	☐ Vapor Abatement
☐ Alternate/Treated Potable Supply	☒ Other Please specify: AST Closure	

Alternate Potable Supply: ☒ NO ☐ Yes (check all that apply) ☐ New Well Installation
☐ Waterline Extension / Hook Up (#_____) ☐ Drinking Water Filters (#_____) ☐ Supplied Bottle Water (#_____)

Treatment System Size: ☐ small (<10 gpm) ☒ medium (10-50 gpm) ☐ large (50-500 gpm) ☐ extra-large (>500 gpm)

Institutional Controls: ☐ **none required** ☒ Consent Order/Decree ☐ Condemnation of Property ☐ Deed Notice ☐ Deed Restriction
☒ Discharge Permit ☐ Ground Water Use Restrictions ☒ Site Security ☐ Environmental Easement ☒ Hazard. Waste Site Registry
☒ Local Permit ☐ Part 360 Permit ☐ Zoning Restriction ☐ Public Health Advisory ☐ Spill Database Notification ☐ Intrusion Restriction

Engineering Controls: ☐ **none required** ☒ Pump & Treat (In-situ remediation) ☐ Vapor Mitigation ☐ Water Treatment Filters
☒ Cap/Containment/Barriers ☒ Fence ☐ Slurry Walls ☒ Access Control ☐ Alternate Water Supply ☐ Public Water Supply Treatment

Engineering / Institutional Controls Certification: ☐ Yes ☒ No date:

SM Periodic Review Information: Date of last **DEC Inspection** 2004 Date of **DEC Split / Check Sampling** N/A

Report(s) used for **Evaluation:** See line 1 on attachment

Long-Term Monitoring (effectiveness sampling data): ☒ Yes ☐ No Frequency: Semi-annual # of wells 14

Treatment System Monitoring (performance sampling data): ☒ Yes ☐ No Frequency: See Line 2 on attachment

Remedial Status: **Remedy Effective?** ☒ Yes ☐ No ☐ Not Applicable (N/A)

ROD Compliance? ☒ Yes ☐ No ☐ N/A **Consent Order/Decree Compliance?** ☒ Yes ☐ No ☐ N/A

☒ NONE **Site Management / Remedy Problem Status** (if problem, please refer to Problem Severity Table)
☐ SLIGHT
☐ MODERATE
☐ SEVERE

Evaluation: ☒ Continue Site Management ☐ Optimize Site Management / Remedy ☐ Close Remedial Process

☐ Site Closeout (date:)
☒ The remedy is performing properly and is effective.
☐ The remedy is performing properly and effectiveness will be evaluated.
☐ The remedy is not performing properly and is being evaluated further.
☐ The remedy is performing properly but is not effective and is being evaluated.
☐ The remedy has failed and the site will be reclassified.

Comments / Recommendations (i.e., how to optimize Site Management or the remedy; change monitoring frequency,etc.):
See line 3 on attachment

Frequency of Conducting SM Periodic Review: ☐ 1 ☐ 2 ☐ 3 ☒ 5

Consent Order End Date: **Next Review Date:** 2012

ROD/Consent Order Modifications? ☒ No ☐ Yes (per above) **Reclassify the Site?** ☒ No ☐ Yes Class:

Project Manager / Lead:

Signature Date Agency/Division/Region Telephone

Date Entered into UIS / PR Report submitted for Review:

Reviewer Signature Title Date Agency/Division/Region Telephone

APPENDIX A:

ATTACHMENT TO PRDCF

1) Annual Reports 2003-2004, 2005; O&M Manual, and ROD
2) Monthly Effluent, Quarterly Influent, Quarterly Air-Stripper
3) Comments/Recommendations

- A Site Management Plan (SMP) should be prepared. The SMP should include an IC/EC Plan, Environmental Monitoring Plan and an O& M plan. The Environmental monitoring plan should update the current O&M Manual monitoring section to address discontinuation of carbon vessel sampling, discontinuation of analytical parameters from the monitoring wells, daily flow volume not reported in field logs and change to annual sampling frequency at MW8S and MW-11S. O&M plan should be updated to include activated carbon is discontinued and updates to any equipment upgrades or changes.
- A copy of the current O&M Manual should be available on-site.
- The next annual report should be in the form of a Periodic Review Report and include an IC/EC Certification.
- The next PR evaluation should be a desktop review in 5 years (2012).
- Include an interpreted groundwater contour figure showing groundwater surface elevations and flow direction in annual reports.
- Monitoring well purge reports should be included in the annual report.
- Ponding, mowing, and woody growth issues on the Site should be addressed.
- A more detailed inspection of the North Disposal Area (capped area) should be performed so that cap integrity can be documented. The RP is recommended to use the Inspection Form in Appendix C.
- Resume sequestering agent process, if needed.
- Due to stable groundwater concentrations at the site, the NYSDEC project manager may want to consider reducing the sampling frequency of the long-term monitoring program to every 15 months.

APPENDIX B

DOCUMENT REVIEW SUMMARY

APPENDIX B

Document Review Summary

Rochester Fire Academy (Site No. 8-28-015)

The following identifies the pertinent documents obtained for review and presents a summary of their contents. These documents were provided by the NYSDEC and are assumed to reside on the NYSDEC e-DOC system.

1.) "*Record of Decision, 1993"*. Presents the remedial action plan for the site.

- reduce, control, or eliminate the contamination present within the soils on-site;
- eliminate the threat to surface waters by eliminating any future contaminated surface runoff from the contaminated soils on-site;
- eliminate the potential for direct human or animal contact with the contaminated soils on-site; and
- mitigate the impacts of contaminated groundwater to the environment.

2.) "*Explanation of Significant Difference Regarding the Selected Remedy for Rochester Fire Academy Site (No.828015)", 1996.*

- describes an alternate application of treatment technology (low temperature thermal desorption) instead of the originally proposed enhanced volatilization treatment proposed for the south disposal area soil contamination.

3.) Declaration of Covenants and Restrictions

- Establishes the description of the property include the remediation of hazardous waste is the responsibility of the City of Rochester.
- The restriction will remain in place for 30 years or until the remediation is completed.

4.) *"Operations and Maintenance Manual, 1998"*

- Groundwater collection remedial system component requirements;
- Sampling and Analysis Plan for treatment system, monitoring wells, sewer permit, and air permit;
- Structure inspection requirements;
- Disposal Area Cover System Maintenance/Inspection requirements;
- Drainage Structures/Storm Water Collection System Maintenance/Inspection requirements;

- Facility Access System Maintenance/Inspection requirements;
- Records Maintenance; and
- Health and Safety Plan (HASP).

5.) *2003 Annual Groundwater Monitoring Well Sampling and Groundwater Treatment Plant Operation Monitoring Report*

- Summarizes the results of GWTS maintenance, operation and sampling and groundwater monitoring well sampling events for the period from September 2003 through August 2004.
- OM&M inspection, sampling, schedules, and reporting were performed as required.

Note - monitoring well purge reports and interpretive groundwater contour map were not included.

6.) ***"****2003-2004 Annual Groundwater Monitoring Well Sampling and Groundwater Treatment Plant Operation Monitoring Report, 2004"*

- Summarizes the results of GWTS maintenance, operation and sampling and groundwater monitoring well sampling events for the period from September 2003 through August 2004.
- OM&M inspection, sampling, schedules, and reporting were performed as required.

Note - monitoring well purge reports and interpretive groundwater contour map were not included.

7.) ***"****2005 Annual Groundwater Monitoring Well Sampling and Groundwater Treatment Plant Operation Monitoring Report, 2005"*

- Summarizes the results of GWTS maintenance, operation and sampling and groundwater monitoring well sampling events for the period from September 2004 through December 2005.
- OM&M inspection, sampling, schedules, and reporting were performed as required.
- Laboratory analysis results indicated a contaminant spike from the discharge water from the April 27, 2005 monthly sampling event. The City was issued a Notice of Violation of discharge permit #705 by the Monroe County Water Authority. The

wastewater discharged with contaminant concentrations in exceedance of permit limits was attributed to a faulty flow sensor controlling the operation of the air stripper blower.

Note - monitoring well purge reports and interpreted groundwater contour map were not included.

REFERENCES

City of Rochester Department of Environmental Services, 2004. "2003 Annual Groundwater Monitoring Well Sampling and Groundwater Treatment Plant Operation Monitoring Report." February, 2004.

City of Rochester Department of Environmental Services, 2004. "2003-2004 Annual Groundwater Monitoring Well Sampling and Groundwater Treatment Plant Operation Monitoring Report." October 18, 2004.

City of Rochester Department of Environmental Services, 2006. "2005 Annual Groundwater Monitoring Well Sampling and Groundwater Treatment Plant Operation Monitoring Report." March 31, 2006.

Malcolm Pirnie, Inc., 1998. "Operations and Maintenance Manual." March, 1998.

NYSDEC, 1993. "Record of Decision, Rochester Fire Academy, Monroe County, New York, Site Number 828015." March, 1993.

NYSDEC, 1996. "Explanation of Significant Difference Regarding the Selected Remedy for Rochester Fire Academy Site (No.828015)." October 29, 1996.

APPENDIX C

ON-SITE INSPECTION FORM AND PHOTOS

New York Department of Environmental Conservation
Inactive Hazardous Waste Site Inspection Form-Landfills

Site Name: Rochester Fire Co.	NYSDEC Site Number: B-28-015	NYSDEC PM: Sue Lasdin
Site Location: Rochester, NY	Site Classification # (circle): 1 2 2a 3 4	Primary Site Contact: Dennis Peck
Site Inspection Date: 6.27.07	Purpose of Inspection: RP oversight	
Name of Inspector: Phil Muller	Title: Env. Engineer	Agency/Company: MACTEC
Phone Number: 781 213 5603		Address: Wakefield, MA

Landfill Cover System

Cover System Onsite?	(Yes)	No (Proceed to next Section)		Cover System Observations: Ponding is off-cap north side
Vegetative Cover Condition	(Good)	Poor	NA	
Evidence of Vegetative Stress	Yes	(No)	NA	
Mowing Required	(Yes)	No	NA	
Presence of Debris	Yes	(No)	NA	
Evidence of Ponded Water	(Yes)	No	NA	
Exposed Geotextile	Yes	(No)	NA	
Evidence of Erosion Settlement	Yes	(No)	NA	
Engineered Drainage Swale Condition	Good	Poor	(NA)	
Evidence of Leachate Seepage	Yes	(No)	NA	
Evidence of Erosion	Yes	(No)	NA	
Presence of Woody Growth	(Yes)	No	NA	
Animal Burrows	Yes	(No)	NA	

Stormwater Collection and Drainage

Drainage Channel Condition	Good	Poor	(NA)	Collection System Observations:
Sedimentation	Yes	No	NA	
Debris	Yes	No	NA	
Erosion/Slope Loss	Yes	No	NA	
Evidence of Leachate Seepage	Yes	(No)	(NA)	fw
Rip-Rap Condition	Good	Poor	(NA)	
Condition of Synthetic Liner	Good	Poor	(NA)	
Culvert Condition	Good	Poor	(NA)	
Other Drainage Structures/Pipes	Good	Poor	(NA)	
Condition of Drainage Grates	Good	Poor	(NA)	
Retention Ponds	Good	Poor	(NA)	

Building Structures

Are there any building structures at the site?	Yes	(No) (Proceed to next section)		Building Condition Observations:
Overall Exterior Condition	Good	Poor	NA	
Overall Interior Condition	Good	Poor	NA	
Interior Floor	Good	Poor	NA	
Vaulted Areas	Good	Poor	NA	

Leachate Collection System

Is there a leachate collection system at the site?	Yes	(No) (Proceed to next section)		Collection System Observations:
Collection Trench Condition	Good	Poor	NA	
Transfer Flow Pipes	Good	Poor	NA	
Condition of Valves	Good	Poor	NA	
Leachate Pump Condition	Good	Poor	NA	
Holding Tank(s) Condition	Good	Poor	NA	
Leachate Transfer/Loading Area	Good	Poor	NA	
List other applicable components and their overall condition				

Environmental Monitoring Locations

Is there a monitoring network at the site?	(Yes)	No (Proceed to next section)		Monitoring Network Observations: 1 Vent
Monitoring Wells/Piezometers	(Good)	Poor	NA	
Soil Gas Monitoring Probes	Good	Poor	(NA)	
Landfill Gas Vents	(Good)	Poor	NA	
List other applicable location types and their overall condition				

New York Department of Environmental Conservation
Inactive Hazardous Waste Site Inspection Form-Landfills

Interviews/Additional Contacts			
Name/Title	Phone:	Company/Entity	Contact Information

Additional Observation Notes:

City has plans to remove woody vegetation and scrub brush.

Operator does not have O+M plan for landfill.

Photograph Log:	
Photograph 1	(top of lf.jpg) top of landfill and single gas vent
Photograph 2	(side of lf.jpg) side of landfill and evidence (wetland veg.) of ponding @ toe
Photograph 3	(woody growth at entrance.jpg)
Photograph 4	(entrance.jpg)
Photograph 5	(perimeter 1.jpg)
Photograph 6	(perimeter 2.jpg)
Photograph 7	(perimeter 3.jpg)
Photograph 8	(perimeter 4.jpg)
Photograph 9	(perimeter 5.jpg)
Photograph 10	

Performance Monitoring

Were check samples collected during this visit? Yes (No)

Sample type collected *(circle or write in other)*: Groundwater Sediment Soil Leachate Air Surface Water

List Parameters/Methods Collected Per Media:

Analytical Laboratory/Location:

Sample Observations:

Appendix C - Photographs

top of Landfill

side of Landfill

woody growth at entrance

entrance

perimeter 1

perimeter 2

perimeter 3

perimeter 4

perimeter 5

New York Department of Environmental Conservation
Inactive Hazardous Waste Site Inspection Form-Treatment Systems

Site Name: Rochester Fire Co.	NYSDEC Site Number: 8-28-015	NYSDEC PM: Sue Lasdin
Site Location: Rochester, NY	Site Classification # (circle): 1 2 2a 3 4	Primary Site Contact: Dennis Peck

Site Inspection Date: 6-27-07	Purpose of Inspection: RP oversight		
Name of Inspector: Phil Moller	Title: Env. Engineer	Agency/Company: MACTEC	Address: Wakefield, MA
Phone Number: 781 213 5603			

Treatment Systems

System Status				General Observations:
System in Operation During Visit?	(Yes)	No		1. Manned - approx 1 hr/day. Monthly report - MCPW Yearly - DEC
Manned on a Fulltime basis?	Yes	(No)		
Maintenance Logs Current?	(Yes)	No	NA	
Equipment Calibration Logs Current?	Yes	No	(NA)	
Discharge Monitoring	Yes	No		
Does the system require a discharge permit or discharge to a POTW?	(Yes)	No		
Is Permit Performance Monitoring Implemented?	(Yes)	No		
Condition of Operational Controls	(Good)	Poor	NA	2. Operator is not familiar with air permit requirements. ~~It is~~ Unsure whether ~~unlikely that~~ quarterly mass balance to determine compliance with air emissions limits is being performed.
Condition of Gauges	(Good)	Poor	NA	
Condition of flow meters	(Good)	Poor	NA	
Condition of System Alarms	(Good)	Poor	NA	
Condition of Pumps	(Good)	Poor	NA	
Condition of Flow Pipes or Hoses	(Good)	Poor	NA	
Pipes Labeled with Direction of Flow and Contents	(Yes)	No	NA	
Condition of Valves	(Good)	Poor	NA	
Condition of Containment Structures (berms etc.)	Good	Poor	(NA)	
Evidence of Leaking	Yes	(No)	NA	
Condition of Feed/Extraction Pumps	(Good)	Poor	NA	
Vaulted Area Condition	(Good)	Poor	NA	
Lighting in Work Areas Adequate	(Yes)	No	NA	3. Totalizer is accessible.
Condition of Collection/Discharge Trenches	(Good)	Poor	NA	
Clean of Debris	(Good)	Poor	NA	
Evidence of Sedimentation	(Good)	Poor	NA	4. Records @ City office.
Air Stripper Condition	Good	Poor	NA	
Noticeable Odors	Yes	(No)	NA	
Air Emission Permit Required	Yes	(No)	NA	- see note 2.
Permit Performance Monitoring Implemented	Yes	No	(NA)	- see note 2.
Condition of Storage Tanks/Containers	Good	Poor	NA	
Evidence of Leaks	Yes	(No)	NA	
Tank Compatible with Contents	(Yes)	No	NA	
Evidence of Leaks	Yes	(No)	NA	
Labeled Appropriately	(Yes)	No	NA	
Condition of Filter Presses	Good	Poor	(NA)	
Condition of Extraction Wells/Recharge Wells	(Good)	Poor	NA	

List other applicable treatment systems/components and their overall condition:

Activated Carbon taken off-line. Sequestering agent not used - problems with meter.

Chemical Handling Practices

				General Observations:
Are good management practices and handling requirements being applied?	Yes	No	(NA)	
Does the usage of chemical for the treatment system appear to meet O&M specifications?	Yes	No	(NA)	

New York Department of Environmental Conservation
Inactive Hazardous Waste Site Inspection Form-Treatment Systems

Interviews/Additional Contacts:			
Name/Title	Phone:	Company/Entity	Contact Information

Additional Observation Notes:

City performs semi-annual groundwater sampling - 12 monitoring wells.

Photograph Log:	
Photograph 1	(holding tanks.jpg) Two holding tanks (influent + effluent).
Photograph 2	(Sequestering.jpg) Sequestering system - not in use.
Photograph 3	(bag filters.jpg) Two bag filters in series.
Photograph 4	(air stripper.jpg) Air Stripper.
Photograph 5	(Sample port.jpg) Transfer pumps and effluent sample port
Photograph 6	(Activated carbon location.jpg) Location of former activated carbon system.
Photograph 7	(Floor drains.jpg) Floor drains.
Photograph 8	(wet well 1.jpg) manhole for wet well.
Photograph 9	(wet well 2.jpg) inside wet well
Photograph 10	(extraction well location) Outside of treatment plant + location of wet well.

Performance Monitoring

Were check samples collected during this visit? (Yes) No RFA-EFFLUENT 1

Sample type collected *(circle or write in other)*: Groundwater Sediment Soil Leachate Air Surface Water (treated groundwater)

List Parameters/Methods Collected Per Media:

TTO VOCs (+ xylene) - 6oi/6o2
SVOCs - 625
PCBs - 608
TAL Metals (excl. Hg) - 6010B

Note: Other site samples and trip blanks included on Chain of Custody Record besides Site Sample RFA-EFF1.

Analytical Laboratory/Location: Mitkem, Warwick, RI

Sample Observations:

clear, no odor

JMC 7/28/09.

Appendix C - Photographs

holding tanks

sequestering

bag filters

air stripper

sample port

activated carbon location

floor drains

wet well 1

wet well 2

extraction well location

APPENDIX D

SPLIT SAMPLE RESULTS AND CHAIN OF CUSTODY (RFA-EFF1)

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RFA-EFF1

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MF0897

Matrix: (soil/water) WATER Lab Sample ID: F0897-02A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2J7534

Level: (low/med) LOW Date Received: 06/28/07

% Moisture: not dec. _____ Date Analyzed: 07/06/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	4	J
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
107-02-8	Acrolein	25	U
75-35-4	1,1-Dichloroethene	2	J
75-09-2	Methylene Chloride	5	U
107-13-1	Acrylonitrile	25	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	19	
156-59-2	cis-1,2-Dichloroethene	150	
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	91	
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	4	J
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	20	
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
110-75-8	2-Chloroethyl vinyl ether	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
124-48-1	Dibromochloromethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
----------	m,p-Xylene	5	U
95-47-6	o-Xylene	5	U
1330-20-7	Xylene (Total)	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RFA-EFF1

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MF0897

Matrix: (soil/water) WATER Lab Sample ID: F0897-02A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2J7534

Level: (low/med) LOW Date Received: 06/28/07

% Moisture: not dec. _____ Date Analyzed: 07/06/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

EPA SAMPLE NO.

TBLANK2

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MF0897

Matrix: (soil/water) WATER Lab Sample ID: F0897-04A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2J7533

Level: (low/med) LOW Date Received: 06/28/07

% Moisture: not dec. _____ Date Analyzed: 07/06/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
75-69-4	Trichlorofluoromethane	5	U
107-02-8	Acrolein	25	U
75-35-4	1,1-Dichloroethene	5	U
75-09-2	Methylene Chloride	5	U
107-13-1	Acrylonitrile	25	U
156-60-5	trans-1,2-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
110-75-8	2-Chloroethyl vinyl ether	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
127-18-4	Tetrachloroethene	5	U
124-48-1	Dibromochloromethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
----------	m,p-Xylene	5	U
95-47-6	o-Xylene	5	U
1330-20-7	Xylene (Total)	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

EPA SAMPLE NO.

TBLANK2

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MF0897

Matrix: (soil/water) WATER Lab Sample ID: F0897-04A

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: V2J7533

Level: (low/med) LOW Date Received: 06/28/07

% Moisture: not dec. _____ Date Analyzed: 07/06/07

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U
95-50-1	1,2-Dichlorobenzene	1	J

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RFA-EFF1

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MF0897

Matrix: (soil/water) WATER Lab Sample ID: F0897-02B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3E4614

Level: (low/med) LOW Date Received: 06/28/07

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/02/07

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/18/07

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10	U
621-64-7	N-Nitroso-di-n-propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
111-91-1	bis(2-Chloroethoxy)methane	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
91-58-7	2-Chloronaphthalene	10	U
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	20	U
100-02-7	4-Nitrophenol	20	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
534-52-1	4,6-Dinitro-2-methylphenol	20	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RFA-EFF1

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MF0897

Matrix: (soil/water) WATER Lab Sample ID: F0897-02B

Sample wt/vol: 1000 (g/mL) ML Lab File ID: S3E4614

Level: (low/med) LOW Date Received: 06/28/07

% Moisture: _____ decanted: (Y/N)___ Date Extracted:07/02/07

Concentrated Extract Volume: 1000(uL) Date Analyzed: 07/18/07

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	20	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U
56-55-3	Benzo(a)anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	U
205-99-2	Benzo(b)fluoranthene	10	U
207-08-9	Benzo(k)fluoranthene	10	U
50-32-8	Benzo(a)pyrene	10	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	U
53-70-3	Dibenzo(a,h)anthracene	10	U
191-24-2	Benzo(g,h,i)perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

RFA-EFF1

Lab Name: MITKEM CORPORATION Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MF0897

Matrix: (soil/water) WATER Lab Sample ID: F0897-02B

Sample wt/vol: 1000 (g/ml) ML Lab File ID: E2G4272F

% Moisture: _____ decanted: (Y/N)___ Date Received: 06/28/07

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:07/02/07

Concentrated Extract Volume: 3000(uL) Date Analyzed: 07/12/07

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___ Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
12674-11-2	Aroclor-1016	0.30	U
11104-28-2	Aroclor-1221	0.30	U
11141-16-5	Aroclor-1232	0.30	U
53469-21-9	Aroclor-1242	0.30	U
12672-29-6	Aroclor-1248	0.30	U
11097-69-1	Aroclor-1254	0.30	U
11096-82-5	Aroclor-1260	0.30	U

U.S. EPA - CLP

1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

RFA-EFF1

Lab Name: Mitkem Corporation Contract:

Lab Code: MITKEM Case No.: SAS No.: SDG No.: MF0897S

Matrix (soil/water): WATER Lab Sample ID: F0897-02

Level (low/med): MED Date Received: 06/28/2007

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7440-47-3	Chromium	0.38	U		P

Comments:

MITKEM CORPORATION
175 Metro Center Boulevard
Warwick, Rhode Island 02886-1755
(401) 732-3400 • Fax (401) 732-3499
email: mitkem@mitkem.com

CHAIN-OF-CUSTODY RECORD

REPORT TO		INVOICE TO		
COMPANY MACTEC	PHONE 207 775 5401	COMPANY MACTEC	PHONE	LAB PROJECT #:
NAME Jayme Connolly	FAX	NAME	FAX	
ADDRESS 511 Congress St		ADDRESS		TURNAROUND TIME: Standard
CITY/ST/ZIP Portland, ME 04101		CITY/ST/ZIP		

CLIENT PROJECT NAME: RP oversight – Group 1

CLIENT PROJECT #: 3612062066.~~02.04~~ (PM)

CLIENT P.O.#:

REQUESTED ANALYSES: Total Phenols; Baseline Part 360 rcp Metals incl. Hg; Cyanide; Baseline List Part 360 VOCs; ~~Total~~ TCL VOCs (+ Xylene); SVOC; PCB; TAL Metals (excl. Hg)

SAMPLE IDENTIFICATION	DATE/TIME SAMPLED	COMPOSITE	GRAB	WATER	SOIL	OTHER	LAB ID	# OF CONTAINERS	Total Phenols	Baseline Part 360 rcp Metals incl. Hg	Cyanide	Baseline List Part 360 VOCs	~~Total~~ TCL VOCs (+ Xylene)	SVOC	PCB	TAL Metals (excl. Hg)	COMMENTS
YL-GW12M01	6.26.07/1000		X	X			01	5	X	X	X	X					
RFA-EFFLUENT1	6.27.07/1045		X	X			02	6					X	X	X	X	
Trip blank 1	/			X			03	2				X					
Trip blank 2	/			X			04	2					X				
	/																
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TSF#	RELINQUISHED BY	DATE/TIME	ACCEPTED BY	DATE/TIME	ADDITIONAL REMARKS:	COOLER TEMP:
	[signature]	6.27.07/1150	[signature]	6/28/07/9:00		4°
		/		/		
		/		/		

WHITE: LABORATORY COPY YELLOW: REPORT COPY PINK: CLIENT'S COPY