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Second Agreed Order 5-Year Review

Red Penn Landfill
Pewee Valley, Kentucky

December 2010

Prepared on Behalf of
Waste Management, Inc., and Ford Motor Company

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Section 1
Introduction

1.1 Background

The Red Penn Landfill is located in Oldham County, Kentucky. Waste Management, Inc. (Waste Management), and Ford Motor Company (Ford) have been implementing the remedy for the Red Penn Landfill in accordance with the Scope of Work (SOW) (Waste Management, 1998), which is contained in an Agreed Order (KDWM, 1999).

As described in the SOW, the major components of the remedy for the site are as follows:

- Installation and maintenance of a multi-layer landfill cover
- Installation and maintenance of access controls
- Evaluation of leachate head within the landfill
- Implementation of annual groundwater monitoring

Remedial action (RA) construction activities began at the site on May 5, 2000, and were substantially completed by September 20, 2000. Following the completion of the construction activities, operation, maintenance, and monitoring (OM&M) activities commenced in January 2001 and continued through October 2005. The OM&M portion of the RA for the site includes activities such as inspections of the final cover system and site monitoring networks, general maintenance, and leachate head and groundwater/surface water monitoring.

The annual OM&M reports for 2001 through 2005, which document the activities performed during each annual reporting period, were prepared in accordance with the Post-Construction Performance Standards Verification Plan (Section 3 of the Final Remedial Design document) (RMT, October 1999) and the Operation, Monitoring, and Maintenance Plan (Appendix G of the Final Remedial Design). The purpose of these reports was to provide documentation of the OM&M activities that were performed during each annual reporting period following the installation of the upgraded final cover. The annual monitoring reports were submitted previously to the Kentucky Division of Waste Management or its predecessor, the Kentucky Natural Resources and Environmental Protection Cabinet, (collectively, the KDWM), and are also included in electronic format in Appendix A of this document.

A 5-year review was performed for the period of January 2001 through December 2005, which covers the 5 years of monitoring leachate head, groundwater, and surface water, and conducting site inspections, and the additional administrative and sampling activities

performed between April 2007, and April 2008, as requested by the KDWM in a letter dated February 26, 2007.

1.2 Purpose and Scope

The scope of this Second 5-year review of the remedy covers the period from January 2006 through December 2010, and documents the results of the site inspections, maintenance performed, and the surface water and groundwater monitoring results.

The effectiveness of the RA was evaluated by (1) reviewing the objectives contained in the SOW to address the potential threats to human health and the environment (identified in the Risk Assessment) (CDM, 1993), (2) summarizing the remedial actions that have been implemented to meet these objectives (refer to the Construction Documentation Report) (RMT, 2000), and (3) assessing the findings of the OM&M activities to determine if the objectives have been met.

Additional items requested in a February 26, 2007, letter from the KDWM are also addressed in this 5-Year Review Report.

1.3 Report Organization

The organization of this report generally follows the USEPA's Comprehensive Five-Year Review Guidance (USEPA, 2001), with modification to address the requirements of the Agreed Order. The following sections present the site chronology and background information, the remedial actions selected and implemented, and the review process and its findings and conclusions.

Section 2
Site Chronology

A summary of the site chronology, including a history of operational and regulatory activities from the early 1940s to 2008, is presented in the following table:

History of Operational and Regulatory Activities
Red Penn Landfill - Pewee Valley, Kentucky

DATE	ACTIVITY
Early 1940s	Site began accepting waste.
March 1, 1954	Site was leased as "dump ground" by Bert Logsdon and Chris P. Pennington.
November 6, 1959	Landfill permit was granted to the Red Penn Sanitation Company by the Oldham County Health Department.
March 1, 1962; July 27, 1964; September 14, 1964	Red Penn Sanitation Company purchased portions of the property now known as the Red Penn Landfill.
December 4, 1968	An Operation Permit to operate a sanitary landfill was granted to the Red Penn Sanitation Company by the Kentucky Department of Health.
January 29, 1970	Red Penn Sanitation Company purchased property to the west of the current site for use as a soil borrow area.
1972 to 1982	Red Penn Sanitation Company was cited for violations by the Kentucky Division of Solid Waste, which is now referred to as the Kentucky Division of Waste Management (KDWM) under the Natural Resources and Environmental Protection Cabinet.
1978	Red Penn Sanitation Company sold a 3.74-acre portion of the site to an employee, Fred Northup.
March 17, 1986	The KDWM was notified that suspected hazardous waste had been found at the site.
March 31, 1986	The KDWM collected soil samples from the drums and soil at the entrance to the landfill.
May 27, 1986	The KDWM completed a preliminary assessment report.
July 2, 1986	The KDWM initiated a site investigation at the landfill.
July 22, 1986	The State of Kentucky filed a Notice of Violation against the Red Penn Sanitation Company concerning removal of waste discovered on-site.
October 29, 1986	The KDWM completed the site investigation report.
September to October 1986	Drums and soil were removed from the entrance of the landfill and the drum excavation area.
December 1, 1986	The final permit for operation of the Red Penn Landfill expired.

History of Operational and Regulatory Activities (continued)
Red Penn Landfill - Pewee Valley, Kentucky

DATE	ACTIVITY
April 1987	The KDWM requested voluntary cooperation of several parties responsible for the disposal of hazardous waste at the landfill.
August 14, 1987	The KDWM ordered that the landfill be closed in accordance with Kentucky statutes and regulations.
August 27, 1987	The Red Penn site was given a Hazard Ranking System score of 38.1.
March 31, 1989	The Red Penn Landfill was placed on the National Priorities List.
September to October 1989	An investigation was conducted by the United States Environmental Protection Agency (USEPA) Region IV Emergency Response Contractor (Weston TAT).
September 14, 1990	A preliminary health assessment was issued by the Agency for Toxic Substances and Disease Registry.
September 11, 1990	The USEPA issued a work assignment to CDM Federal Programs Corporation to conduct the Remedial Investigation for the Red Penn site.
June 18, 1993	CDM Federal Programs Corporation submitted the Revised Draft Remedial Investigation Report to the USEPA.
April 7, 1994	The KDWM met with several "potentially responsible parties" (PRPs) regarding performance of remedial activities at the site.
August 29, 1994	Several of the PRPs (Waste Management, Ford, and ARCO) submitted to the KDWM a Scope of Work (SOW).
Spring/Summer 1995	A revised SOW was submitted to the KDWM on April 7, 1995, and approved by the KDWM in May 1995. The PRPs and the KDWM began negotiating an Agreed Order for performance of the remedy, and the PRPs asked the KDWM to notice other PRPs.
Spring/Summer 1997	The KDWM notified the PRPs that it had reviewed the additional information submitted and was declining to notice any additional PRPs. The PRPs and the KDWM met to discuss the terms of the Agreed Order; the KDWM informed the PRPs that additional work needed to be incorporated into the SOW.
October 8, 1997; March 30, 1998	Revised SOW was submitted to the KDWM.
May 1, 1998	The PRPs submitted the final SOW.
May 5, 1998	The KDWM approved the Final SOW submitted by the PRPs.
Summer 1998 – Summer 1999	Negotiations continued between the KDWM and the PRPs, and amongst the PRPs themselves, including Red Penn Sanitation and its shareholders.
August 13, 1999	An Agreed Order between the KDWM and seven PRPs was issued.
May 1999	RMT, Inc., conducted a predesign field study, which included the installation of three leachate head wells.
October 11, 1999	RMT, Inc., submitted the Final Remedial Design for the Red-Penn Landfill for Waste Management, Inc., and Ford Motor Company.

History of Operational and Regulatory Activities (continued)
Red Penn Landfill - Pewee Valley, Kentucky

DATE	ACTIVITY
October 29, 1999	The KDWM approved the Remedial Design report.
May to October 2000	A multi-layer landfill cover was constructed over the Red Penn Landfill.
September 2000	The USEPA issued a Record of Decision, which stated that, based on the results of the RI, including the Risk Assessment, no CERCLA-funded remedial action was necessary to ensure that human health and the environment were protected.
December 2000	RMT, Inc., submitted the Construction Documentation Report for the Red Penn Landfill.
January 2001 to October 2005	Operation, monitoring, and maintenance activities were performed.
March 26, 2001	The KDWM approved the Construction Documentation Report.
April 10, 2002	RMT, Inc., submitted the Year 2001 Annual OM&M Report.
July 23, 2002	The KDWM reviewed the Year 2001 Annual OM&M Report.
February 24, 2003	Waste Management filed a Deed Restriction for the Red Penn property with Oldham County.
March 13, 2003	RMT, Inc., submitted the Year 2002 Annual OM&M Report.
March 13, 2003	A request to eliminate MW8002-8975 and MW8002-8979 from the monitoring program was sent by RMT, Inc., on behalf of the PRPs, to the KDWM.
April 2, 2003	The KDWM approved a reduction in the sampling frequency for MW8002-8975 and MW8002-8979 from quarterly to annually instead of eliminating these wells from the sampling program.
December 19, 2003	RMT, Inc., submitted the Year 2003 Annual OM&M Report.
February 11, 2004	The KDWM reviewed the Year 2003 Annual OM&M Report.
January 17, 2005	RMT, Inc., submitted the Year 2004 Annual OM&M Report.
December 5, 2005	RMT, Inc., submitted the Year 2005 Annual OM&M Report.
February 1, 2006	Waste Management submitted the Agreed Order 5-Year Review Report that was prepared by RMT, Inc.
February 26, 2007	The KDWM requested that additional items be addressed in the Agreed Order 5-Year Review Report prior to approval. The additional items included the Biological Study, sampling of the Deep Aquifer, registration of an Environmental Covenant at the Oldham County Courthouse, and completion of the 5-year final landfill inspection.
April 19, 2007	The PRPs performed the additional sampling of the Deep Aquifer, as requested by the KDWM in its February 26, 2007, letter.
Fall 2007	The PRPs finalized the Environmental Covenant between the KDWM and the PRPs, as requested by the KDWM in its February 26, 2007, letter.

History of Operational and Regulatory Activities (continued)
Red Penn Landfill - Pewee Valley, Kentucky

DATE	ACTIVITY
April 23, 2008	The PRPs performed the 5-year final landfill inspection with KDWM, as requested by the KDWM in its February 26, 2007, letter.
May 2008	The PRPs submitted a revised Agreed Order 5-Year Review Report, which included the additional information requested by the KDWM in its February 26, 2007, letter.
June 30, 2008	The PRPs recorded the signed Environmental Covenant in the office of the Clerk of the Oldham County Court.
November 6, 2008	KDWM submitted a letter to the PRPs concluding that the first 5-year review is complete, however due to the continued presence of waste at the site, additional 5 year reviews will be necessary.
February 4, 2009	The PRPs submitted a letter to the KDWM reiterating the items that will be required for compliance going forward.
February 26, 2009	The PRPs submitted a revised Operation, Maintenance, and Monitoring Plan to the KDWM.
March 3, 2009	KDWM approved the Operation, Maintenance, and Monitoring Plan on the condition that two minor additions to the text be made.
March 10, 2009	The PRPs submitted a Final Revised Operation, Maintenance, and Monitoring Plan to the KDWM that included the minor additions requested by KDWM.
April 22, 2009	The PRPs submitted a Workplan for the abandonment of the leachate head wells to the KDWM.
July 15, 2009	KDWM approved the Workplan for the abandonment of the leachate head wells via an e-mail.
August 2009	The PRPs had American Drilling Services of Indianapolis, IN, abandon the leachate head wells.
September 17, 2009	RMT, Inc. submitted documentation of the abandonment of the leachate head well to Waste Management, Inc.
September 2010	The PRPs performed the second 5-year review landfill inspection with KDWM and performed a round of surface water and groundwater monitoring.
December 2010	The PRPs submitted a Second Agreed Order 5-Year Review Report.

Section 3
Site Background

3.1 Physical Characteristics

The site is located approximately 1.5 miles southeast of Pewee Valley, Kentucky, at the southern tip of Oldham County (refer to Figure 1). Shelby County lies to the east and southeast of the site, and Jefferson County lies to the south and southwest. The property is bounded to the east and southeast by Floyd's Fork Creek, to the southwest by Kentucky State Highway 362 (Ash Avenue) and an unnamed tributary of Floyd's Fork Creek, and to the northwest by Hawley Gibson Road. Floyd's Fork Creek is a perennial southwesterly flowing fork of the Salt River. The Salt River is located approximately 12 miles south of the site and flows westward into the Ohio River.

The landfill is located on approximately 151 acres of property owned by Red Penn Sanitation Company. Waste was disposed on approximately 48 of the 151 acres. The remaining 103 acres were used as a borrow area for landfill cover soil or were left as a wooded buffer area. After the installation of the upgraded cover, the elevation of the crest of the landfill was approximately 710 feet above mean sea level (M.S.L.) and approximately 100 feet above Floyd's Fork Creek. Before the construction of the upgraded cover, surface water drained radially off of the landfill. Diversion berms were installed as part of the upgraded cover to divert a portion of the surface water runoff to a riprap spillway and the perimeter ditch along the eastern side of the site (refer to Figure 2).

3.2 Local Land and Resource Use

Current land use around the site is primarily agricultural and residential. Agricultural activities include crop, pasture, and livestock operations. The Kentucky Correctional Institute for Women is located approximately 1,000 feet southeast of the site. Residential areas are located to the north, south, and west of the site. A residential subdivision was recently constructed to the north of the site, and municipal water was extended to this subdivision.

Commercial and industrial activity is limited near the site. The Ash Avenue Wastewater Treatment Facility is located to the northwest.

3.3 History of Contamination

The Red Penn Landfill began receiving waste in the 1940s, obtained a solid waste permit in 1959, and operated until 1986, when the KDWM closed the facility. A few months after the

landfill ceased operation, drums of hazardous waste were discovered at both the entrance to the landfill and buried in a borrow area adjacent to the landfill. The KDWM conducted a Preliminary Assessment and a Site Investigation of the site in 1986. On the basis of the results of the Preliminary Assessment and Site Investigation, which indicated high concentrations of metals and organics in the samples collected from the drum excavation area, the KDWM filed a Request for Appropriate Action for immediate removal of the industrial waste discovered on-site. The contaminated soil and drums were removed from the site entrance and the drum excavation area in September and October 1986.

In August 1987, the KDWM scored the Red Penn site using the Hazard Ranking System; a score of 38.1 was given. The site was placed on the USEPA's National Priority List in March 1989. On September 11, 1990, the USEPA issued a work assignment to CDM Federal Programs Corporation (CDM) to conduct a Remedial Investigation (RI) (CDM, 1993) at the Red Penn site. On the basis of the results of the RI, including the risk assessment, the USEPA determined that a CERCLA-funded remedial action was not justified for the site. However, because the landfill had not been properly closed by the Red Penn Sanitation Company, KDWM noticed the PRPs in order to have them conduct a corrective action at the site. In August 1999, the Commonwealth of Kentucky and several of the PRPs entered into an Agreed Order (KDWM, 1999) that required the PRPs to remediate the site in accordance with the KDWM-approved Scope of Work dated May 1, 1998.

Waste Management and Ford, two of the seven PRPs, retained RMT to perform predesign studies and to prepare a Remedial Design in accordance with the Scope of Work dated May 1, 1998, and the Agreed Order dated August 13, 1999. On October 29, 1999, the KDWM approved the Remedial Design report. The PRPs completed the construction of the approved remedy on October 10, 2000.

On September 19, 2000, the USEPA issued a Record of Decision (ROD), which stated that, based on the results of the RI, including the Risk Assessment, no CERCLA-funded remedial action was required to ensure that human health and the environment would be protected.

3.4 Basis for Taking Action

The hydrogeologic investigation that was part of the RI (CDM, 1993) included a geophysical evaluation, fracture trace studies, dye tracing studies, and private well surveys. Groundwater flow in the surficial aquifer was believed to be wholly intercepted by Floyd's Fork Creek and the unnamed tributary west of the site. The dye tracing investigation provided no evidence that groundwater was migrating off-site, except via discharge into Floyd's Fork Creek and the tributary west of the site.

Other fieldwork conducted as part of the RI included a topographic survey; soil gas screening; surficial soil, surface water, sediment, groundwater, and leachate sampling; and an ecological investigation. Soil sample locations were chosen to coincide with the highest soil gas anomalies determined during the soil gas screening. Surface water and sediment samples were collected from Floyd's Fork Creek and the unnamed tributary to the west of the site, and from surface flows traversing the landfill. Leachate seeps were sampled and analyzed. Low concentrations of metals and various organic compounds, including pesticides and PCBs, were detected in most of the sampled media.

The leachate seeps contained the highest levels of contaminants at the site. Of the 10 contaminants indicated as contaminants of concern (COCs), six were detected in the leachate (benzene; cadmium; chromium; and the pesticides alpha-BHC, beta-BHC, and gamma-BHC). Cyanide was detected at low levels in the surface soil and surface water samples, and lead was detected at low levels in several of the soil samples. Low levels of carbon disulfide and concentrations of iron and manganese that exceeded Federal Secondary Drinking Water Standards were detected in the two on-site monitoring wells (Secondary Standards are not health-based criteria and pertain to aesthetic qualities, such as odor, taste, and color). Bis(2-ethylhexyl)phthalate, a common laboratory contaminant, was detected at a low concentration in one of the monitoring wells.

As reported by CDM, the results of the ecological risk assessment indicated that the most significant adverse ecological impact was related to the leachate seeps, which apparently limited plant growth, and killed test aquatic microorganisms upon direct contact. However, the findings noted that leachate outbreaks were localized and the flow was restricted to the site. The study of flora and fauna during the RI concluded that there were no endangered species or habitats in the area. Furthermore, the RI indicated that chemicals that may potentially bioaccumulate in the food chain were randomly encountered in samples analyzed during the ecological investigation. In light of the concentrations detected and the area potentially affected, CDM determined that these chemicals were not likely to bioaccumulate in the food chain to the extent that a threat would be posed to human health and the environment. Therefore, the RI concluded that no major ecological risks were associated with the landfill.

The RI risk assessment considered the analytical results from the sampled media and evaluated potentially completed exposure scenarios and migration pathways. The noncancer risk associated with ingestion of soil, inhalation of dusts, dermal contact with soil, ingestion and dermal contact with leachate, ingestion of groundwater, and inhalation of volatile organic compounds released from groundwater was shown to be within acceptable regulatory standards. The USEPA's acceptable risk level for noncancer risk is a Hazard Index (HI) of less than 1.0. The summed HI for a child and an adult was calculated to be 0.98. In addition, by

summing the risks for a child and an adult across all pathways, the total site cancer risk was calculated to be 1.3 in 100,000. This level of risk was within the EPA's acceptable range of 1 in 10,000 to 1 in 1,000,000. Therefore, no COCs were identified for the site and the USEPA issued a no further action ROD on September 19, 2000.

Section 4
Remedial Actions

4.1 Remedy Selection

4.1.1 Objectives

On the basis of the findings of the Remedial Investigation, including the risk assessment (CDM, 1993), the SOW identified the following objectives in protecting human health and the environment:

- To prevent exposure to waste materials
- To install access controls
- To monitor for the effectiveness of the remedial actions

In addition, the SOW required that the remedial design be developed to address the following criteria:

- Protection of human health and the environment by preventing direct contact with the buried waste
- Installation of access controls
- Minimization of leachate generation from precipitation
- Prevention of surface water from coming in direct contact with the waste
- Stability of the cover for both the short and the long term

4.1.2 Selected Remedy

The Final Remedial Design (RMT, 1999) describes the components of the selected remedy, which included the following major components:

- **Access controls** - Site security improvements will be implemented to control access, preclude inadvertent exposure to landfill materials, and prevent vandalism at the site.
- **Landfill cover** - A multi-layer landfill cover will be installed to be compliant with the SOW. Routine maintenance of the cover will be performed in accordance with the approved OM&M Plan.
- **Leachate head monitoring** - The leachate head levels at three monitoring points will be measured and recorded. After 5 years, trend analyses will be prepared and

evaluated, along with groundwater quality data, to determine if further monitoring or leachate management is necessary.

- **Groundwater monitoring** - The groundwater monitoring program will be implemented to assess the effectiveness of the remedial action. After 5 years, trend analyses will be prepared and evaluated to determine if further monitoring or leachate management is necessary.

4.2 Remedy Implementation

Waste Management and Ford initiated the RA activities on May 5, 2000, in accordance with the requirements of the SOW and the Agreed Order between the Commonwealth of Kentucky and the PRPs. The construction of the upgraded landfill cover was completed in conformance with the Final Remedial Design (RMT, 1999). Documentation of the construction is contained in the Construction Documentation Report (RMT, 2000). The construction was approved by the KDWM on March 26, 2001 (refer to Appendix B). In January 2001, operation, monitoring, and maintenance activities commenced. A list of the contractors performing operation and maintenance at the site is provided in Table 1.

The following subsections describe the implementation of the remedy in more detail.

4.2.1 Access Controls

The site is located in a rural setting, and unauthorized entrance via a paved road is restricted by a locked entrance gate on Ash Avenue. Several natural topographic features restrict access to the site as follows:

- Floyd's Fork Creek on the southern and eastern sides of the landfill
- The dense vegetation and the distance from Hawley Gibson Road on the western and northwestern sides of the landfill
- The extreme relief and the dense vegetation adjacent to the entrance gate on the western and southwestern sides of the landfill (Ash Avenue)

On August 31, 1999, the Agreed Order was recorded against the deed for the property containing the Red Penn Landfill by counsel for the Red Penn Sanitation Company. Waste Management filed a deed restriction with Oldham County on the property containing the Red Penn Landfill, in order to fulfill the requirements of the Agreed Order. The deed restriction filed by Waste Management is included in Appendix C.

In addition, during the fall of 2007, Red-Penn Sanitation Company, Inc.; Waste Management of Kentucky, L.L.C.; Ford Motor Company; and John G. Guelda finalized the Environmental Covenant (EC) for the property containing the Red Penn Landfill in

order to fulfill the requirements stated in the February 26, 2007, letter from the KDWM to Waste Management, regarding the 5-Year Review Report for the Red Penn Landfill. The signed EC is included in Appendix C.

4.2.2 Upgraded Cover

The upgraded cover was constructed to be compliant with the SOW and the approved Final Remedial Design. The upgraded cover consists of a 3- to 4-inch–thick general fill grading layer, a Bentomat® geosynthetic clay liner (GCL), a geocomposite layer, and a minimum 18-inch–thick vegetative layer. The final waste grades were adjusted from the grades in the Remedial Design, which were based on a 1996 aerial photograph, to account for differential settlement that had taken place since the time of the aerial photograph. The intent of the Remedial Design grading plan was to establish a minimum slope of approximately 2 percent and a maximum slope of approximately 25 percent. In addition to the upgraded cover, surface water controls, including diversion berms, and a riprap spillway and riprap check dams, were installed.

Since the cover was constructed, Waste Management, Ford, and RMT have performed regular site inspections, including inspecting for evidence of stressed or sparse vegetation, erosion, settlement, and burrowing animals. When a problem has been identified, repairs to the cover have been made as soon as practicable. Documentation of the site inspections, and of the repair or maintenance activities performed, has been submitted to the KDWM in the annual OM&M reports (Refer to Appendix A).

4.2.3 Leachate Monitoring Program

Leachate head monitoring commenced following the installation of the leachate head wells in May 1999. The leachate head levels in LH-1, LH-2, and LH-3 (refer to Figure 2 for the location of the leachate head wells) were measured in accordance with the OM&M Plan (Appendix G of the Final Remedial Design) (RMT, 1999) and the Post-Construction Performance Standards Verification Plan (Section 3 of the Final Remedial Design). The leachate head elevations have been reported to the KDWM as part of the annual OM&M reports (refer to Appendix A).

The PRPs abandoned the leachate head wells in August 2009, following receiving approval from the KDWM that monitoring the leachate head wells was no longer required and the wells could be abandoned.

4.2.4 Groundwater Monitoring Program

Groundwater monitoring commenced upon completion of the construction of the upgraded final cover. Groundwater was sampled at three monitoring wells and five springs in accordance with the requirements of the OM&M Plan (Appendix G of the Final Remedial Design) (RMT, 1999) and the Post-Construction Performance Standards Verification Plan (PSVP) (Section 3 of the Final Remedial Design). The locations of the groundwater monitoring wells and the springs are shown on Figure 2. The water samples were analyzed for the parameters listed in Table 2. The results of the groundwater analyses were reported to the KDWM as part of the annual OM&M reports (refer to Appendix A).

In addition to the groundwater sampling performed as part of the OM&M Plan and the PSVP, the PRPs performed the additional sampling of the two Deep Aquifer wells, per the KDWM letter dated February 26, 2007 (refer to Appendix A).

In accordance with the Revised OM&M Plan dated March 2009, groundwater monitoring is required once every 5 years as part of the 5-Year Review. A round of surface water and groundwater samples were collected and analyzed for the parameters listed in Table 2, in September 2010. During the second 5-year sampling event, only two locations (MW-6 and Spring #1) had sufficient water to collect a sample for laboratory analysis.

4.2.5 Drum Removal Activities

An area of buried drums was encountered during the construction of the upgraded cover in 2000. The drums were discovered when general fill for the upgraded cover was excavated from the western end of the borrow area, northwest of the landfill. Forty-two crushed or partially crushed drums, as well as the visually impacted soil surrounding the drums, were removed and disposed off-site at Von Roll America, Inc., located in East Liverpool, Ohio.

Section 5
5-Year Review Process

5.1 Review Team

This 5-Year Review report was prepared by RMT, Inc., on behalf of Waste Management and Ford, based on the site inspections performed since the first 5-Year Review and the surface water and groundwater monitoring data collected by RMT in September 2010.

5.2 Review Methodology

This 5-Year Review report includes a review of the construction report, the annual OM&M reports, the site inspections performed since the first 5-Year Review, and the surface water and groundwater monitoring data collected by RMT in April 2007 and September 2010.

5.3 Community Notification and Involvement

This 5-Year Review report has been prepared for submission to the KDWM.

5.4 Document Review

This 5-Year Review report includes a review of the project documents listed in Appendix D of this report.

5.5 Data Review

This 5-Year Review report includes a review of the requirements of the Agreed Order, the monitoring data that were included in the annual OM&M reports and the monitoring data that has been collected since the last 5-Year Review. A summary of the design basis for the site was presented in Subsection 4.1.1, and a summary of the monitoring program for the site is presented in Table 2. Surface water and groundwater monitoring data is included in Appendix E and time trends are provided on Figures 3 through 9. Although the leachate head wells were abandoned in August 2009, the leachate head data from May 1999 through August 2005 is included on Figure 10.

5.5.1 Access Control

On February 24, 2003, Waste Management filed a declaration of restrictions with Oldham County to inform the current and potential future property owners of the land use restrictions placed on the Red Penn Landfill property in accordance with the Agreed Order.

During the fall of 2007, Red-Penn Sanitation Company, Inc.; Waste Management of Kentucky, L.L.C.; Ford Motor Company; and John G. Guelda finalized the EC for the property containing the Red Penn Landfill in order to fulfill the requirements stated in the February 26, 2007, letter from the KDWM to Waste Management, regarding the 5-Year Review Report for the Red Penn Landfill. On June 30, 2008, the EC was recorded in the office of the clerk of the Oldham County Court. The signed EC is included in Appendix C.

The findings of the site inspections performed during this 5-year review period indicate that the security measures in place are adequate. The entrance gate was replaced in 2010 and has remained locked. No vandalism has occurred at the site.

5.5.2 Landfill Cover

The findings of the site inspections performed during this 5-year review period indicate no situations in which waste has been exposed as a result of damage to the landfill cover due to erosion or burrowing animals. The cover vegetation appears to be healthy and no areas requiring maintenance were observed during the site inspections. Landfill cover settlement has been minor and uniform; thus, ponding of surface water has not been an issue.

During the September 2010 site inspection, no areas on the upgraded cover required repair.

In 2004, Waste Management and Ford retained the services of Simply Natural Landscaping Consulting of Louisville, Kentucky, to plant native plant species in areas outside of the limits of the upgraded cover to minimize future erosion of areas off of the cover, and to provide additional wildlife habitat. The plantings consisted of native grasses and 14 kinds of bushes and trees. Over 200 bushes and trees were planted.

Although it appears the majority of the bushes and trees did not survive, no areas off the final cover required maintenance based on the September 2010 site inspection.

5.5.3 Leachate Monitoring

In accordance with the Post-Construction Performance Standards Verification Plan (PSVP), the leachate head monitoring results were used to prepare trend analyses over time. The time trends for leachate elevations are presented in Table 3 and on Figure 10. The leachate level at LH-1 has been decreasing since the beginning of monitoring in May 1999, for a total decrease of approximately 24 feet. The current leachate level at LH-1 is approximately 3 feet above what is believed to be the base of the landfill. The leachate

level at LH-2 has decreased approximately 13 feet from the initial reading. The current leachate level at LH-2 is approximately 33 feet above what is believed to be the base of the landfill. The leachate level at LH-3 began decreasing shortly after the construction of the cover and has stabilized at or near (within a few feet) what is believed to be the base of the landfill.

Following receiving approval from the KDWM, the PPRs abandon the leachate head wells in August 2009. A letter documenting the abandonment of the leachate head wells was submitted by RMT to the KDWM on September 17, 2009.

5.5.4 Surface Water and Groundwater Monitoring

The surface water and groundwater analytical results from the first 5-year review period, the additional Deep Aquifer groundwater data requested in the February 26, 2007, KDWM letter, and the surface water and groundwater analytical results from the second 5-year review period are contained in Appendix E. Table 4 summarizes the number of times each parameter was detected since the upgraded cover was installed in 2000, and the minimum and maximum concentrations detected. As detailed in the PSVP, the data from the groundwater monitoring activities were used to prepare time trends (Figures 3 through 9) to determine if further groundwater and/or surface water monitoring, or leachate management is necessary.

5.5.5 Site Inspections

The findings of the site inspection performed during this 5-year review period indicated no situations in which waste has been exposed as a result of damage to the upgraded cover due to erosion or burrowing animals. Repairs and maintenance to the cover have included repairing erosion and tire ruts, and seeding and fertilizing the landfill cover. In addition, riprap was installed in areas off the upgraded cover to help stabilize the slopes and reduce erosion. The site inspection information for 2006 through 2010 is included in Appendix F.

5.6 Site Interviews

A site interview was conducted by Waste Management with KDWM staff on September 29, 2010 during a site visit, as a part of this report preparation.

Section 6
Findings and Conclusions

The remedy that was implemented at the Red Penn Landfill continues to be protective of human health and the environment after 5 years of OM&M, per the OM&M Plan and the PSVP, and the additional 5 years of monitoring and inspections performed through 2010. This is based on the implementation and performance of the site remedy described in Sections 4 and 5, and the monitoring results contained in Tables 3 through 5, and Appendix E.

In accordance with the Agreed Order and the PSVP, the leachate head monitoring results were evaluated following the Agreed Order 5-year period to determine if continued monitoring was necessary. Analysis of the time trends for leachate head (Figure 10) indicated that the installation of the upgraded final cover had reduced the overall leachate head within the landfill. Specifically, the leachate head elevations at LH-1 and LH-3 decreased since the installation of the upgraded cover, to the point where the elevations were within approximately 3 feet of the base of the landfill. The leachate head elevation at LH-2 also trended downward during the first 2 years following the installation of the upgraded cover. The leachate head reduction at LH-2 fluctuated between 11 to 18 feet below the ground surface during the during the period from 2003 through 2005. The results of the leachate head measurements indicated that the infiltration of precipitation through the cover has been minimized, and that the leachate head was reduced as a result. This reduction in the leachate head reduced the driving force and reduced the potential for leachate to migrate into the environment. As a result, in April 2009, the PRPs submitted a request to abandon the leachate head wells, which was approved on April 22, 2009, by the KDWM; and the leachate head wells were abandoned in August 2009.

In accordance with the Agreed Order and the PSVP, the groundwater monitoring results were evaluated after the first 5-years of monitoring to determine if additional monitoring or leachate management was necessary. In March 2009, a revised OM&M Plan was approved by KDWM, which requires groundwater monitoring only once every 5 years. During the second 5-year sampling event, only two locations (MW-6 and Spring #1) had sufficient water to collect a sample for laboratory analysis. The results of the second 5-year review samples were non-detect for all parameters, with the exception of barium and nickel at MW-6, and barium at Spring #1. The analytical results for barium and nickel were with the historical range indicated in Table 4 and are included in Appendix E. The time trends for the groundwater data indicate that more than half of the parameters analyzed have never been detected and the remainder of the constituents are stable or trending downward.

During the last 10 years of surface water and groundwater monitoring, only one parameter (lead) that was identified as a potential constituent of concern in the RI, exceeded the maximum concentrations detected at the time of the RI and used in the Risk Assessment. The highest concentration of lead detected during the RI was 9 μg/L. During the first monitoring event following the construction of the upgraded cover, lead was detected above this concentration at MW-8002-8979, Spring #3, and Spring #4 at concentrations of 22, 13, and 11 μg/L, respectively. Lead has not been detected above the Estimated Quantitation Limit (EQL) since 2001, including the samples collected in April 2007 and September 2010. Therefore, the conclusions of the RI, including the Biological Study, and the Risk Assessment, which stated that the noncancer risks and cancer risks associated with the landfill were within the USEPA's acceptable target range, are still applicable (refer to Subsection 3.4 of this report regarding the findings of the USEPA). Furthermore, as previously identified by the USEPA there are no impacts from leachate to Floyds Fork Creek nor are there any to the surrounding vegetation. This was verified as part of the 5-year review Final Inspections on both April 23, 2008 and September 29, 2010.

Monitoring wells MW-8002-8975 and MW-8002-8979 have been dry or have not sufficiently recharged during the monitoring events to obtain a sample 10 out of 13 events and 11 out of 13 events, respectively. Therefore, the PRPs are proposing that these two wells be abandoned and no longer be part of the monitoring program.

Section 7
Agreed Order Termination Requirements

The Agreed Order (KDWM, 1999) states that the Agreed Order shall terminate upon the Settling Parties' completion of all requirements described therein. The following table contains the requirements of the Agreed Order and documents the completion of these items.

Agreed Order Termination Requirements
Red Penn Landfill - Pewee Valley, Kentucky

REQUIREMENTS OF THE AGREED ORDER	
ACTION REQUIRED	ACTION TAKEN
Develop a Remedial Design (RD) in accordance with the provisions of all applicable state requirements and as outlined in the Scope of Work (SOW).	**Completed** as the Remedial Design was prepared in accordance with the SOW dated May 1, 1998. The Final Remedial Design was submitted on October 11, 1999, and approved by the KDWM on October 29, 1999.
Prepare and submit a prefinal design for approval by the KDWM.	**Completed** as the prefinal design was submitted in July 1999; and the KDWM provided comments on August 10, 1999.
Within 45 days of approval of the prefinal design, prepare and submit a final design for approval by the KDWM.	**Completed** as the Final Remedial Design was submitted on October 11, 1999, and was approved by the KDWM on October 29, 1999.
Within 45 days of approval of the RD, prepare and submit a Remedial Action Workplan (RAW) for approval by the KDWM.	**Completed** as the RAW was submitted on December 10, 1999; and the KDWM provided comments on December 27, 1999.
Implement the RAW.	**Completed** as Remedial Action construction began on May 5, 2000, and was completed on October 10, 2000.
Within 60 days of completion, prepare and submit a final report documenting the work outlined in the RAW.	**Completed** as the Construction Documentation Report was submitted on December 22, 2000, and was approved by the KDWM on March 26, 2001.
Perform operation and maintenance work as outlined in the Operations and Maintenance Plan included in the RD.	**Completed** as the operation and maintenance work was conducted in accordance with the Operations, Maintenance, and Monitoring Plan included in Appendix G of the Final Remedial Design. Annual OM&M Reports documenting the operations and maintenance work were submitted to the KDWM on April 10, 2002; March 13, 2003; December 13, 2003; January 17, 2005; and December 5, 2005.

Agreed Order Termination Requirements (continued)
Red Penn Landfill - Pewee Valley, Kentucky

REQUIREMENTS OF THE AGREED ORDER	
ACTION REQUIRED	**ACTION TAKEN**
Provide access to the site to the KDWM.	**Completed** as the Owner Settling Party, upon signature of the Agreed Order (per paragraph 27 of the Agreed Order), provided the KDWM access to the site.
Record an executed copy of the Agreed Order with the Oldham County Clerk, La Grange, Kentucky.	**Completed** as the attorney for the Owner Settling Party, Matthew Carey, recorded the Agreed Order with Oldham County on August 31, 1999 (Book D622, page 223-52).
REQUIREMENTS OF THE SCOPE OF WORK	
ACTION REQUIRED	**ACTION TAKEN**
Prepare the remedial design and the leachate evaluation study, addressing the following issues: ▪ Access controls ▪ Landfill cover design ▪ Leachate evaluation study ▪ Groundwater monitoring	**Completed** as these items were included in the approved Final Remedial Design submitted to the KDWM on October 11, 1999, and approved on October 29, 1999.
Prepare the RD addressing, at a minimum, the following items: ▪ Landfill cover configuration ▪ Erosion control and surface water flow ▪ Existing leachate ponds and ponded surface water ▪ Slope stability ▪ Remedial costs	**Completed** as these items were included in the approved Final Remedial Design submitted to the KDWM on October 11, 1999, and approved on October 29, 1999.
Design the landfill to meet the following minimum criteria: ▪ Protection of human health and the environment by preventing direct contact with buried waste ▪ Minimization of leachate generation from precipitation ▪ Minimization of final cover erosion	**Completed** as these design criteria were included in the approved Final Remedial Design submitted to the KDWM on October 11, 1999, and approved on October 29, 1999.
Fill in the two existing leachate ponds on the southern side of the landfill to match existing site contours. Water in the ponds will be removed prior to filling in the ponds. Existing surface water ponds located on top of the landfill will be drained prior to installation of the landfill cover.	**Completed** as the two leachate ponds on the southern side of the landfill were filled to match the existing site contours and minimize standing water. At the time of construction, standing water was not encountered in the leachate ponds or in low areas within the limits of waste.

Agreed Order Termination Requirements (continued)
Red Penn Landfill - Pewee Valley, Kentucky

REQUIREMENTS OF THE SCOPE OF WORK	
ACTION REQUIRED	ACTION TAKEN
A slope stability analysis will be performed for the following conditions: prior to landfill cover construction, during landfill cover construction, and after the landfill cover has been constructed.	**Completed** as part of the approved Final Remedial Design submitted to the KDWM on October 11, 1999, and approved on October 29, 1999, a global stability analysis was performed. This analysis included a discussion and the necessary calculations for the following conditions: ▪ prior to landfill cover construction ▪ during landfill cover construction ▪ after landfill cover construction
In addition to drawings and specifications, submit the following supporting documents as part of the prefinal design: ▪ Construction Quality Assurance Plan for construction of the landfill cover ▪ Post-Construction Performance Standard Verification Plan, including methods and procedures for monitoring the effectiveness of the design components	**Completed** as these items were included in the prefinal design document submitted to the KDWM in July 1999.
As part of the landfill Cover Design, conduct a leachate evaluation study. The purpose of the leachate study will be to determine the following: ▪ Estimate the quantity of leachate by installing piezometers within the waste mass. ▪ Determine the effect of the updated cover on minimizing the generation of leachate (to include using the HELP model). ▪ Estimate a water balance for leachate at the site. Based on the above information, a leachate evaluation report will be written and submitted with the prefinal design documents. This report will discuss if engineering controls may be required, and if required, the types of controls and the potential timeframe for installing these controls.	**Completed** as these items were included in the prefinal design documents submitted in July 1999, and the approved Final Remedial Design submitted to the KDWM on October 11, 1999, and approved on October 29, 1999. During the 5 years of operation and maintenance at the site, the leachate levels have decreased. In addition, no impacts from the leachate were observed during the site inspections that were conducted as part of the operation and maintenance activities.
The Remedial Design will include a groundwater monitoring program as part of the Operation and Maintenance Plan to assess the effectiveness of remedial action.	**Completed** as the Operations, Maintenance, and Monitoring Plan was included as Appendix G of the approved Remedial Design.

Agreed Order Termination Requirements (continued)
Red Penn Landfill - Pewee Valley, Kentucky

REQUIREMENTS OF THE SCOPE OF WORK	
ACTION REQUIRED	ACTION TAKEN
Upon completion of the remedial action, collect and analyze samples from the five springs and the three monitoring wells on a semiannual basis for 5 years. At the completion of 5 years, the data will be evaluated to determine if continued monitoring is necessary. Prepare a Groundwater Monitoring Plan, outlining the methods, procedures, and quality control measures to be used to implement the groundwater program. The Groundwater Monitoring Plan will include a Health and Safety Plan and a Field Sampling and Analysis Plan for the collection, sampling, field filtering, and analyses associated with groundwater monitoring. Sampling and analysis procedures for the water located in the leachate ponds and the ponded surface water on the landfill will also be included in the Groundwater Monitoring Plan. The Groundwater Monitoring Plan will be submitted to the KDWM as part of the Prefinal and Final Design.	**Completed** as samples were collected and analyzed in accordance with the approved Post-Construction Performance Standards Verification Plan (Section 3 of the Final Remedial Design); the OM&M Plan; and revisions to these plans as approved by the Kentucky Department of Environmental Protection, dated April 2, 2003. A Groundwater Monitoring Plan was included in the Final Remedial Design submitted and approved by the KDWM on October 11, 1999, and October 29, 1999, respectively.

Additional Requirements Requested by the KDWM
Red Penn Landfill - Pewee Valley, Kentucky

ADDITIONAL REQUIREMENTS REQUESTED	
ACTION REQUIRED	ACTION TAKEN
Prior to the 5-Year Review Report being accepted, the following items need to be addressed, as stated in the February 26, 2007, letter from the KDWM: ▪ The Biological Study must be addressed as in the original documents. ▪ The Deep Aquifer must be sampled off-site as in the original documents. ▪ An Environmental Covenant (EC) signed by the owner(s) of the property must be registered at the Oldham County Courthouse as per our Office of Legal Services. ▪ The 5-Year Inspection and walk-over of the site by the interested parties must occur after the EC has been registered, and must include a representative of KDWM.	▪ The Biological Study has been addressed in this revised 5-Year Review Report. ▪ The Deep Aquifer was sampled on April 19, 2007; and the results are contained in this revised 5-Year Review Report (Appendix E). ▪ A signed Environmental Covenant that was registered at the Oldham County Court on June 30, 2008, has been included in this document. ▪ The First 5-Year final landfill inspection was conducted on April 23, 2008. ▪ The Second 5-Year Review was completed and submitted to the KDWM in December 2010.

Additional Requirements Requested by the KDWM
Red Penn Landfill - Pewee Valley, Kentucky

ADDITIONAL REQUIREMENTS REQUESTED	
ACTION REQUIRED	**ACTION TAKEN**
In a letter dated November 6, 2008, KDWM determined the following as part of the acceptance of the first 5-Year Review Report: ▪ Yearly monitoring and site mowing may be discontinued. ▪ The site access must continue to be controlled by means of a locked gate. ▪ The property owner must provide annual certification in the form of a letter that the condition of the site has not changed. The letter will describe all changes made at the site, if any. The letter will be due on January 30 of each year. ▪ The next 5-year review will be due on January 30, 2011. This will be the responsibility of the original PRPs listed in the Agreed Order. It will include a round of groundwater sampling (the three wells and five springs), a description of the condition of the landfill cover and site access controls, and a brief site walkover with personnel from KDWM Superfund Branch. ▪ The OM&M Plan needed to be updated to reflect these changes.	▪ The site access continues to be controlled by a locked gate. A new gate was installed in 2010. ▪ The property owner has provided annual certification in the form of a letter to KDWM that indicates the condition of the site. ▪ The PRPs completed the second 5-year review and submitted it to KDWM prior to January 30, 2011. ▪ The PRPs revised the OM&M Plan to reflect the changes at the site and submitted a final revised document to KDWM on March 10, 2009.

Based on the conclusions stated above, the PRP Group has completed all the requirements of the Agreed Order and the additional requirements discussed in the February 26, 2007, and November 6, 2008, letters from KDWM to the PRPs. However, as stated in the November 6, 2008, letter, the KDWM has determined that due to the continued presence of waste at the site, additional 5-year reviews will be necessary and that the Agreed Order cannot be terminated. Assuming the requirement continues, the Third 5-Year Review will be due on January 30, 2016. As discussed in this 5-Year Review, the site is in compliance with all the requirements of the 1999 Agreed Order.

Table 1
List of Contractors Performing OM&M
Red-Penn Landfill
Peewee Valley, Kentucky

CONTRACTOR	O&M DUTIES
RMT, Inc.	General OM&M and reporting
EnChem Laboratories (2001) and Test America (formerly known as Severn Trent Laboratories) (2002 through 2010)	Environmental sample analyses
Simply Natural Landscape Consulting	Landscaping
Martin Landscaping, Inc.	Landscaping and mowing
American Drilling Services	Leachate head well abandonment

Table 2
Post-Construction Performance Standards Verification Plan
Red-Penn Landfill
Peewee Valley, Kentucky

TASK	FREQUENCY	PARAMETERS
I. Groundwater Monitoring[1]		
Collect samples at MW-6, MW8002-8975, MW8002-8979, and Springs #1 through #5[2].	▪ Every 5 years[3]	Observe and compare concentrations of benzene; chlorobenzene; chloroethane; cis-1,2-dichloroethene; PCBs[4]; cyanide (total); antimony; arsenic; barium; cadmium; chromium; lead; and nickel with previous monitoring results.
II. Land Surface Care		
Inspect final cover, site condition, and access points.	▪ Every 5 years[3]	Note visual evidence of exposed waste, vandalism, etc.

Footnotes:
(1) The locations of the monitoring points are shown on Figure 2.
(2) The five springs at the site have been given identification numbers as follows:
Spring #1 – Thibocillis Spring
Spring #2 – Fairlane 500 Spring
Spring #3 – Garbage Spring
Spring #4 – Pond seep area
Spring #5 – Bedding plane spring
(3) In accordance with the November 6, 2008, letter from KDWM and the revised Sampling and Analysis Plan.
(4) The following PCB Aroclors were analyzed: 1016, 1221, 1232, 1242, 1248, 1254, and 1260.

Table 3
Leachate Head Measurements and Calculated Elevations at LH-1 through LH-3
Red Penn Landfill
Pewee Valley, Kentucky

DATE	TOP OF PVC CASING (ft. M.S.L.)	DEPTH OF LEACHATE BELOW TOP OF PVC CASING (ft.)	LEACHATE ELEVATION (ft. M.S.L.)	BOTTOM OF PVC SCREEN (ft. M.S.L.)[1]	HEIGHT OF LEACHATE ABOVE BOTTOM OF PVC SCREEN (ft.)
LEACHATE HEAD WELL LH-1					
6-May-99	709.83	8.0	701.83	675.30	26.53
15-Sep-99	709.83	13.0	696.83	675.30	21.53
12-Aug-00	709.83	21.9	687.93	675.30	12.63
29-Aug-00	709.83	22.5	687.33	675.30	12.03
26-Sep-00	709.83	21.45	688.38	675.30	13.08
28-Feb-01	709.83	21.09	688.74	675.30	13.44
4-May-01	709.83	21.22	688.61	675.30	13.31
21-Aug-01	709.83	21.46	688.37	675.30	13.07
27-Nov-01	709.83	21.58	688.25	675.30	12.95
18-Feb-02	709.35	23.88	685.47	675.30	10.17
21-May-02	709.35	24.02	685.33	675.30	10.03
08-Aug-02	709.35	23.98	685.37	675.30	10.07
18-Nov-02	709.35	23.99	685.36	675.30	10.06
25-Mar-03	709.35	24.14	685.21	675.30	9.91
29-Oct-03	709.35	26.47	682.88	675.30	7.58
21-Apr-04	709.35	28.30	681.05	675.30	5.75
13-Oct-04	709.35	27.60	681.75	675.30	6.45
14-Apr-05	709.35	30.30	679.05	675.30	3.75
11-Oct-05	709.35	31.35	678.00	675.30	2.70

Footnotes:

(1) Bottom of PVC screen is approximately 1 foot above the base of the landfill.

(2) Leachate head well LH-3 was initially dry when the well was completed. The depth of leachate in LH-3 on May 6, 1999, was measured 24 hours after the completion of LH-3, in accordance with the Leachate Head Well Installation Workplan; however, the leachate level was still rising at the time of the measurement. Therefore, it is not believed that this was a representative leachate head level.

(3) The actual depth of leachate below the top of the PVC casing was recorded as 27.00 ft and 27.10 ft. The leachate head well depth is 26.91 ft; thus, it is assumed that water was present at the bottom of the well in the end cap and the measurement contained a small amount of error.

Table 3 (continued)
Leachate Head Measurements and Calculated Elevations at LH-1 through LH-3
Red Penn Landfill
Pewee Valley, Kentucky

DATE	TOP OF PVC CASING (ft. M.S.L.)	DEPTH OF LEACHATE BELOW TOP OF PVC CASING (ft.)	LEACHATE ELEVATION (ft. M.S.L.)	BOTTOM OF PVC SCREEN (ft. M.S.L.)[1]	HEIGHT OF LEACHATE ABOVE BOTTOM OF PVC SCREEN (ft.)
LEACHATE HEAD WELL LH-2					
6-May-99	687.72	6.0	681.72	636.27	45.45
15-Sep-99	687.72	14.0	673.72	636.27	37.45
12-Aug-00	687.72	10.2	677.52	636.27	41.25
29-Aug-00	687.72	11.0	676.72	636.27	40.45
26-Sep-00	687.72	10.2	677.52	636.27	41.25
28-Feb-01	687.72	17.44	670.28	636.27	34.01
4-May-01	687.72	20.87	666.85	636.27	30.58
21-Aug-01	687.72	20.61	667.11	636.27	30.84
27-Nov-01	687.72	20.43	667.29	636.27	31.02
18-Feb-02	687.72	21.57	666.15	636.27	29.88
21-May-02	687.72	21.71	666.01	636.27	29.74
08-Aug-02	687.39	22.52	664.87	636.27	28.60
18-Nov-02	687.39	23.98	663.41	636.27	27.14
25-Mar-03	687.39	22.9	664.49	636.27	28.22
29-Oct-03	687.39	22.65	664.74	636.27	28.47
21-Apr-04	687.39	22.60	664.79	636.27	28.52
13-Oct-04	687.39	22.00	665.39	636.27	29.12
14-Apr-05	687.39	22.62	664.77	636.27	28.50
11-Oct-05	686.97	17.90	669.07	636.27	32.80

Footnotes:
(1) Bottom of PVC screen is approximately 1 foot above the base of the landfill.
(2) Leachate head well LH-3 was initially dry when the well was completed. The depth of leachate in LH-3 on May 6, 1999, was measured 24 hours after the completion of LH-3, in accordance with the Leachate Head Well Installation Workplan; however, the leachate level was still rising at the time of the measurement. Therefore, it is not believed that this was a representative leachate head level.
(3) The actual depth of leachate below the top of the PVC casing was recorded as 27.00 ft and 27.10 ft. The leachate head well depth is 26.91 ft; thus, it is assumed that water was present at the bottom of the well in the end cap and the measurement contained a small amount of error.

Table 3 (*continued*)
Leachate Head Measurements and Calculated Elevations at LH-1 through LH-3
Red Penn Landfill
Pewee Valley, Kentucky

DATE	TOP OF PVC CASING (ft. M.S.L.)	DEPTH OF LEACHATE BELOW TOP OF PVC CASING (ft.)	LEACHATE ELEVATION (ft. M.S.L.)	BOTTOM OF PVC SCREEN (ft. M.S.L.)[1]	HEIGHT OF LEACHATE ABOVE BOTTOM OF PVC SCREEN (ft.)
LEACHATE HEAD WELL LH-3					
6-May-99	704.49	23.0[2]	681.49	677.58	3.91[2]
15-Sep-99	704.49	14.0	690.49	677.58	12.91
12-Aug-00	704.49	19.4	685.09	677.58	7.51
29-Aug-00	704.49	19.5	684.99	677.58	7.41
26-Sep-00	704.49	20.4	684.09	677.58	6.51
28-Feb-01	704.49	22.39	682.10	677.58	4.52
4-May-01	704.49	22.06	682.43	677.58	4.85
21-Aug-01	704.49	22.92	681.57	677.58	3.99
27-Nov-01	704.49	23.12	681.37	677.58	3.79
18-Feb-02	704.49	23.65	680.84	677.58	3.26
21-May-02	704.49	24.99	679.50	677.58	1.92
08-Aug-02	704.49	25.79	678.70	677.58	1.12
18-Nov-02	704.49	24.66	679.83	677.58	2.25
25-Mar-03	704.49	23.94	680.55	677.58	2.97
29-Oct-03	704.49	26.83	677.66	677.58	0.08
21-Apr-04	704.49	25.45	679.04	677.58	1.46
13-Oct-04	704.49	27.00[3]	677.49	677.58	-0.09[3]
14-Apr-05	704.49	24.39	680.10	677.58	2.52
11-Oct-05	704.49	27.10[3]	677.39	677.58	-0.19[3]

Footnotes:
(1) Bottom of PVC screen is approximately 1 foot above the base of the landfill.
(2) Leachate head well LH-3 was initially dry when the well was completed. The depth of leachate in LH-3 on May 6, 1999, was measured 24 hours after the completion of LH-3, in accordance with the Leachate Head Well Installation Workplan; however, the leachate level was still rising at the time of the measurement. Therefore, it is not believed that this was a representative leachate head level.
(3) The actual depth of leachate below the top of the PVC casing was recorded as 27.00 ft and 27.10 ft. The leachate head well depth is 26.91 ft; thus, it is assumed that water was present at the bottom of the well in the end cap and the measurement contained a small amount of error.

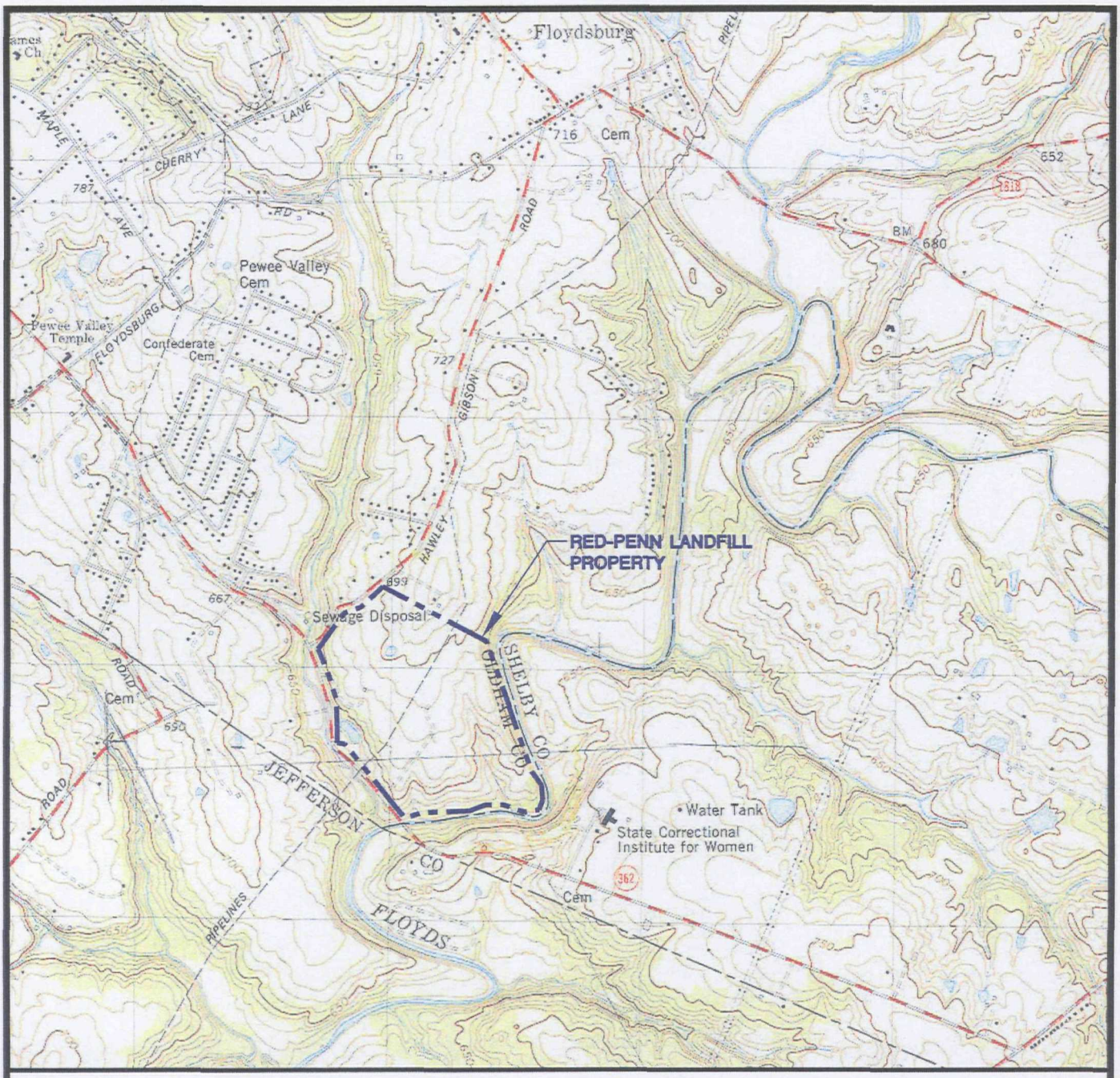
Table 4
Summary of the OM&M Groundwater Monitoring Results
Red Penn Landfill
Pewee Valley, Kentucky

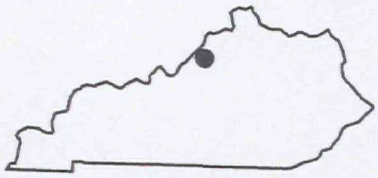
CONSTITUENT	ESTIMATED QUANTITATION LIMIT (EQL) (µg/L)	FREQUENCY OF DETECTION ABOVE THE EQL	MINIMUM REPORTED CONCENTRATION (µg/L)	MAXIMUM DETECTED CONCENTRATION (µg/L)
Total cyanide	10	6/70	<10	110
Antimony	10	0/70	<10	<10
Arsenic	10	2/70	<10	11.7
Barium	5.0	70/70	24	530
Cadmium	1.0	5/70	<1	6.3
Chromium	3.0	13/70	<3	35
Lead	5.0	5/70	<5	22
Nickel	5	37/70	<5	52
Aroclor-1016	1.0	0/72	<1	<1
Aroclor-1221	1.0	0/72	<1	<1
Aroclor-1232	1.0	0/72	<1	<1
Aroclor-1242	1.0	0/72	<1	<1
Aroclor-1248	1.0	0/72	<1	<1
Aroclor-1254	1.0	0/72	<1	<1
Aroclor-1260	1.0	0/72	<1	<1
Benzene	1.0	4/73	<1	2.4
Chlorobenzene	1.0	0/73	<1	<1
Chloroethane	2.0	0/73	<2	<2
cis-1,2-Dichloroethene	1.0	0/73	<1	<1

Table 5
Comparison of the OM&M Groundwater Monitoring Results
With the RI Results
Red Penn Landfill
Pewee Valley, Kentucky

PARAMETER	MAXIMUM CONCENTRATION DETECTED DURING OM&M ACTIVITIES (µg/L)	RANGE OF CONCENTRATIONS DETECTED DURING THE REMEDIAL INVESTIGATION[2] (µg/L)
Arsenic	11.7	12-34
Barium	530	27-440
Cadmium[1]	6.3	3-13
Chromium[1]	35	18-65
Lead[1]	22	4-9
Nickel	52	17-81
Benzene[1]	2.4	3.5-6.5
Total cyanide[1]	110	31-350

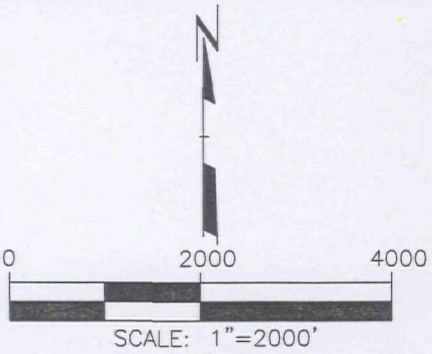
Footnotes:
(1) Contaminants of concern (COCs) in the baseline risk assessment (CDM, 1993).
(2) Range of concentrations detected during the RI in the leachate, surface water, and groundwater. Results reported as below the EQL are not included.





STATE LOCATION

SOURCE: BASE MAP DEVELOPED FROM CRESTWOOD, KENTUCKY 7.5 MIN. USGS QUADRANGLE.



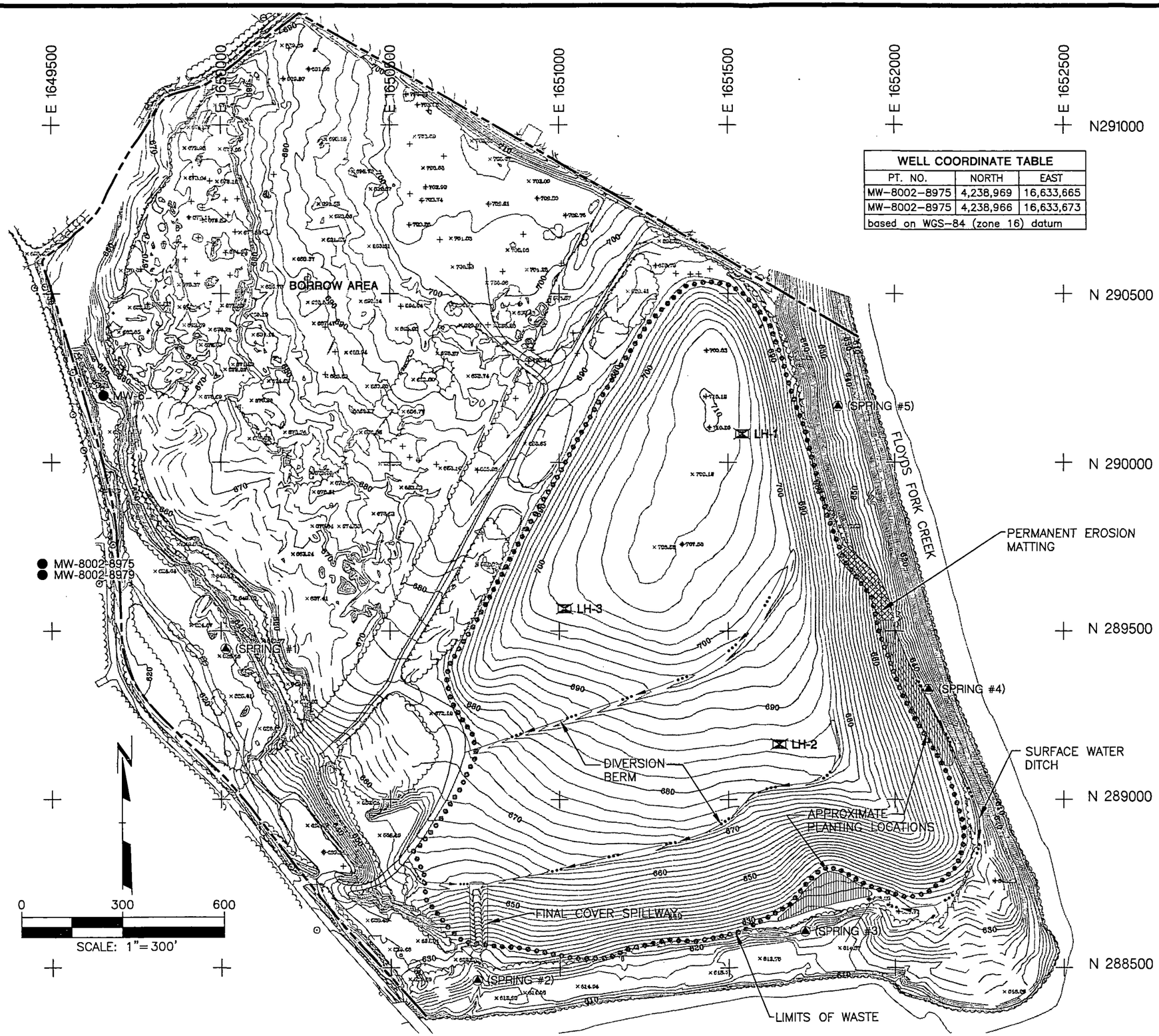
RMT

RED-PENN LANDFILL
OLDHAM COUNTY, KENTUCKY

SITE LOCATOR MAP

DRAWN BY:	NOLDENR
APPROVED BY:	MJA
PROJECT NO.	005347.32.001
FILE NO.	00537.32.02.DWG
DATE:	DECEMBER 2010

FIGURE 1



WELL COORDINATE TABLE		
PT. NO.	NORTH	EAST
MW-8002-8975	4,238,969	16,633,665
MW-8002-8975	4,238,966	16,633,673
based on WGS-84 (zone 16) datum		

LEGEND

- APPROXIMATE PROPERTY LINE
- GRID TICK LOCATION
- EXISTING 10' CONTOUR INTERVAL
- EXISTING 2' CONTOUR INTERVAL
- EXISTING TREELINE
- EXISTING SPOT ELEVATION
- EXISTING BUILDING
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- SP-5 — APPROXIMATE GEOPROBE LOCATION AND NUMBER
- LH-1 — ABANDONED LEACHATE HEAD WELL LOCATION AND NUMBER
- (SPRING #1) — APPROXIMATE SURFACE WATER SAMPLING LOCATION AND NUMBER
- MW-6 — APPROXIMATE MONITORING WELL LOCATION AND NUMBER

NOTES

1. BASE MAP WAS DEVELOPED FROM AN AERIAL SURVEY PERFORMED BY OAS INC., ON NOVEMBER 15, 2000.
2. CONTOUR INTERVAL IS TWO FEET.
3. VERTICAL DATUM IS REFERENCED TO USGS MEAN SEA LEVEL DATUM.
4. THE PROJECT GRID SYSTEM IS PARALLEL AND PERPENDICULAR TO THE KENTUCKY STATE PLANE COORDINATE GRID SYSTEM, NORTH AMERICAN DATUM OF 1927.
5. THE LOCATIONS OF THE LEACHATE HEAD WELLS WERE OBTAINED DURING A SURVEY PERFORMED BY WESTERMAN & ASSOCIATES, LOUISVILLE, KENTUCKY. DATE OF SURVEY: MAY 19, 1999.
6. THE LOCATIONS OF THE SPRINGS ARE APPROXIMATE AND ARE BASED ON FIELD OBSERVATIONS.
7. THE LOCATIONS OF MW-6, MW-8002-8975 AND MW-8002-8979 ARE APPROXIMATE AND ARE BASED ON A LOCATION MAP SUPPLIED BY THE KENTUCKY DIVISION OF WASTE MANAGEMENT.

PROJECT:
RED PENN LANDFILL
PEWEE VALLEY, KENTUCKY

SHEET TITLE:
ENVIRONMENTAL MONITORING LOCATIONS

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CHECKED BY: MJA	1"=300'	FILE NO.	00537.32.01.DWG
APPROVED BY: MJA	DATE PRINTED: DEC 0 1 2010	FIGURE 2	
DATE: DECEMBER 2010			

RMT
744 Heartland Trail
Madison, WI 53717-1934
P.O. Box 8923 53708-8923
Phone: 608-831-4444
Fax: 608-831-3334

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Dwg Size: 130144 Bytes
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Attached Image's: No images attached

Figure 3
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Arsenic
in Surface Water and Groundwater Samples

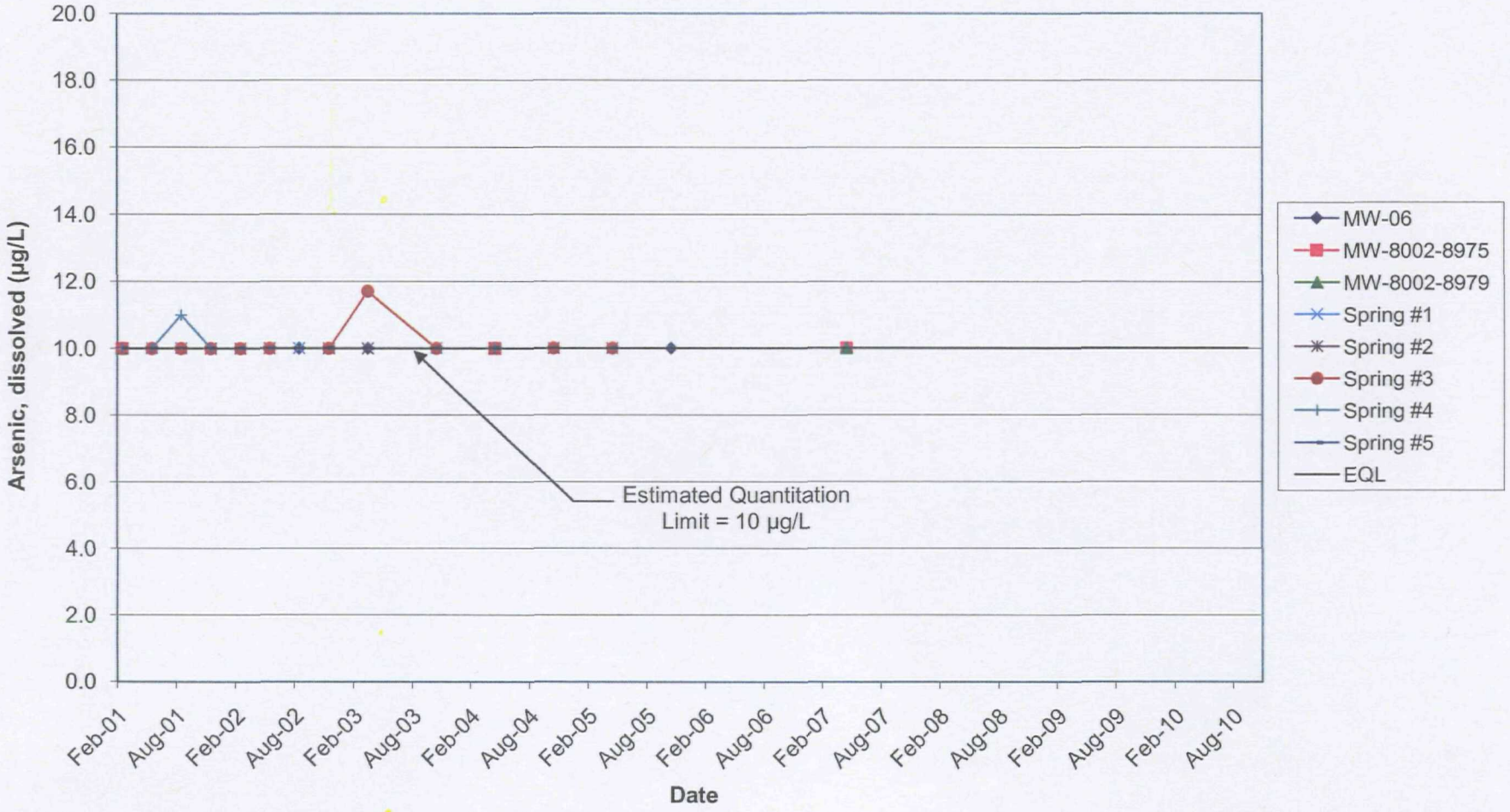

Figure 4
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Barium
in Surface Water and Groundwater Samples

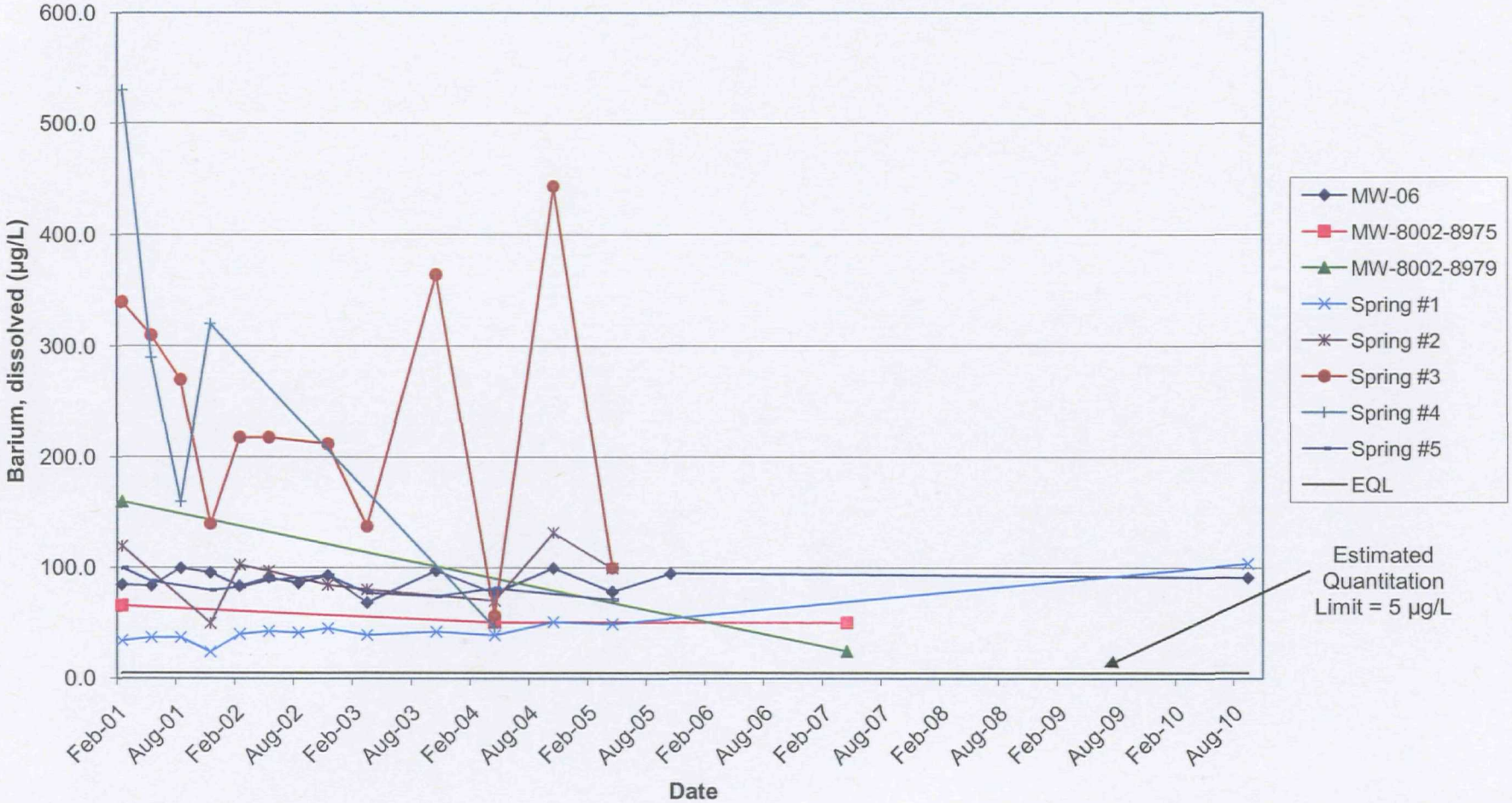

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Figure 5
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Cadmium in Surface Water and Groundwater Samples

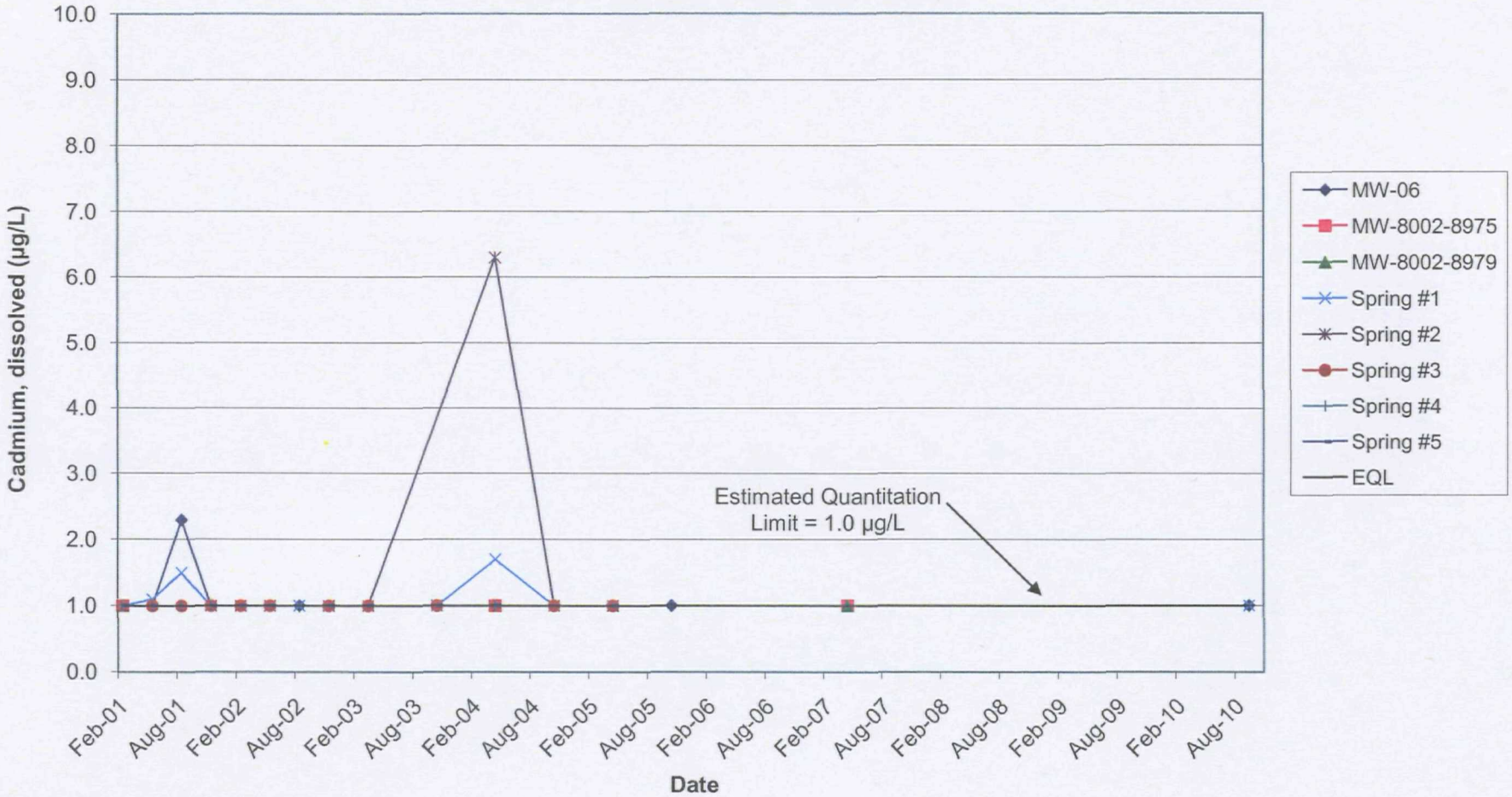

Figure 6
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Chromium in Surface Water and Groundwater Samples

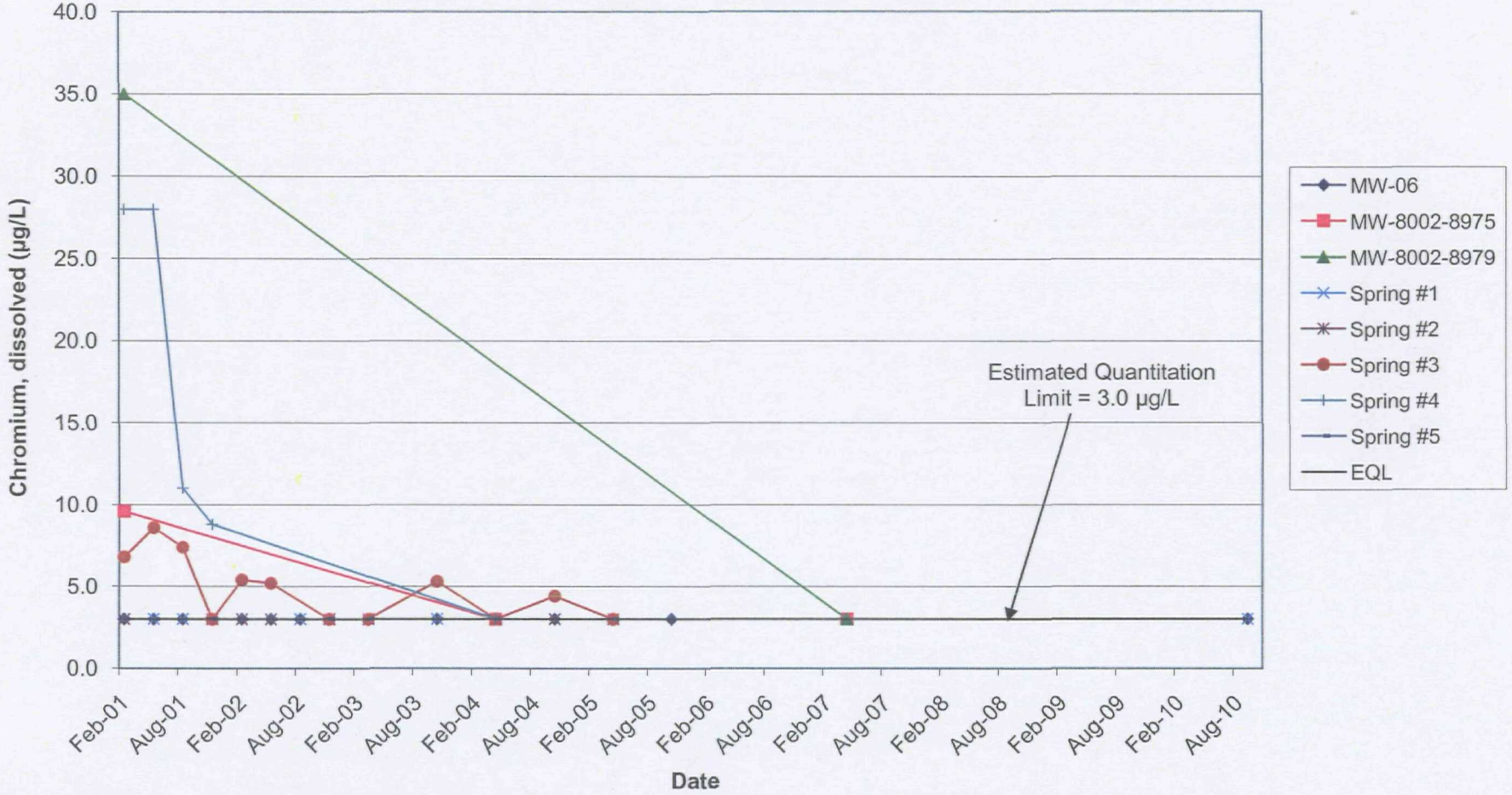

Figure 7
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Lead
in Surface Water and Groundwater Samples

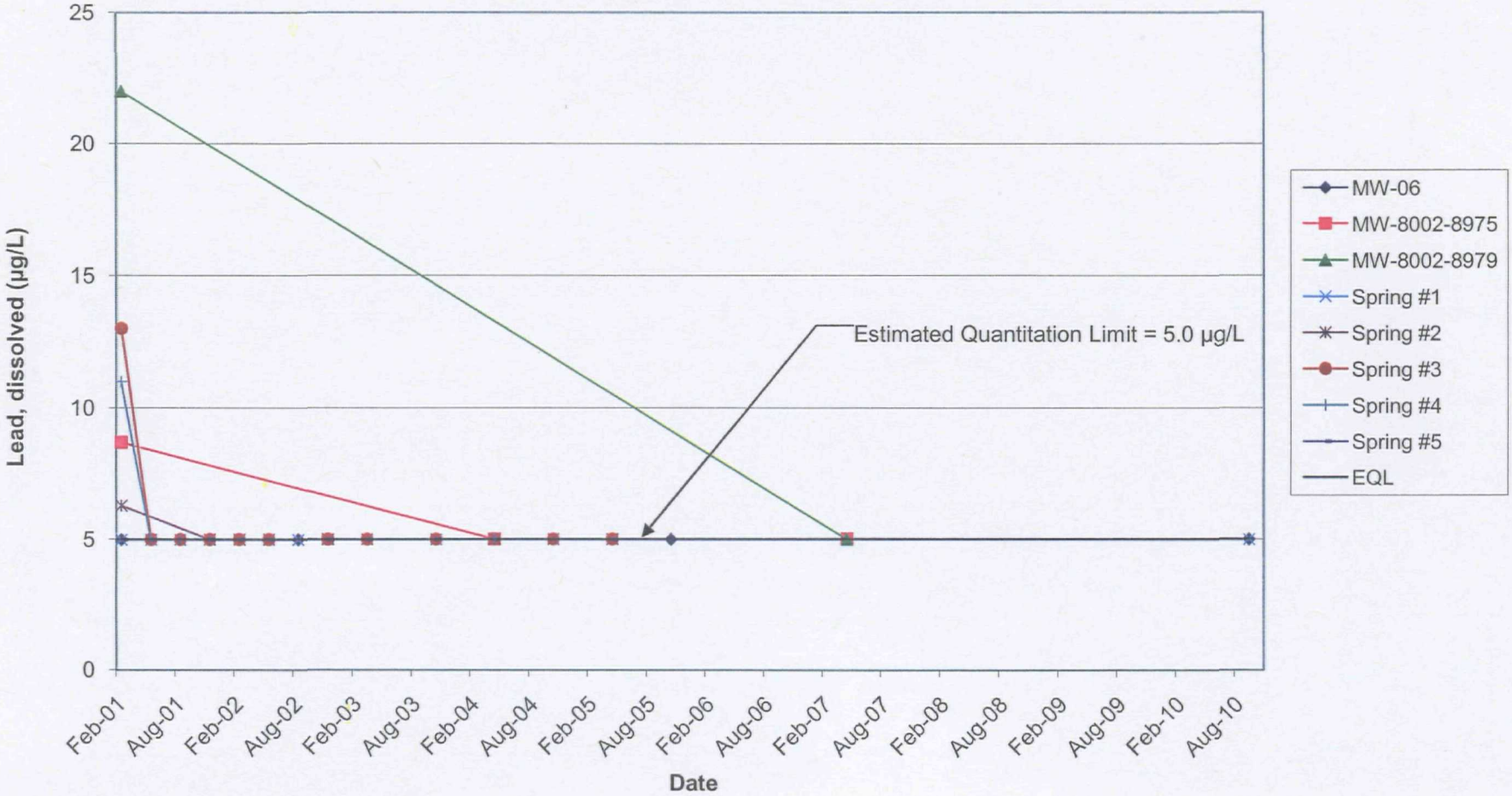

Figure 8
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Nickel
in Surface Water and Groundwater Samples

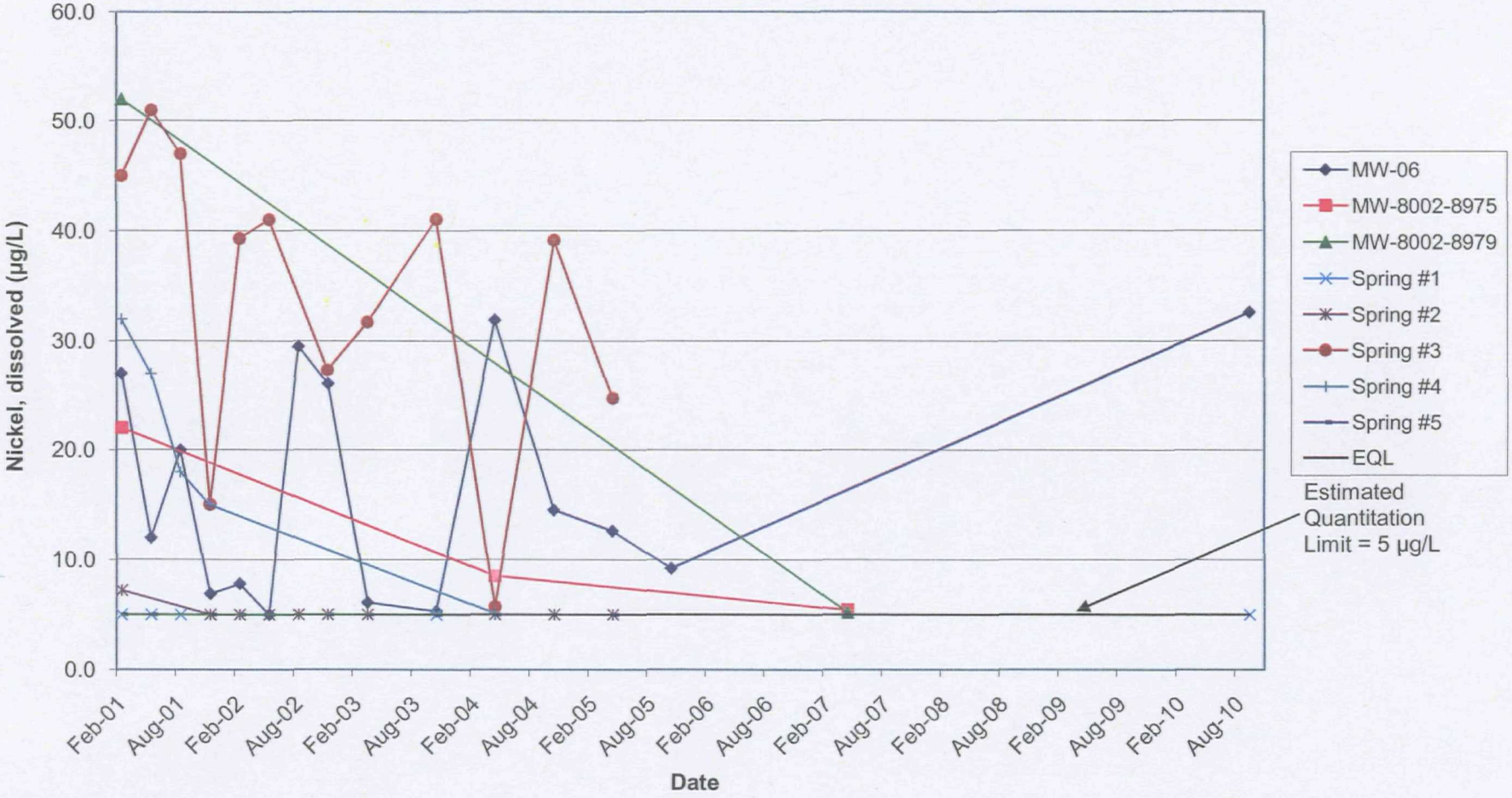

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Figure 9
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Total Cyanide
in Surface Water and Groundwater Samples

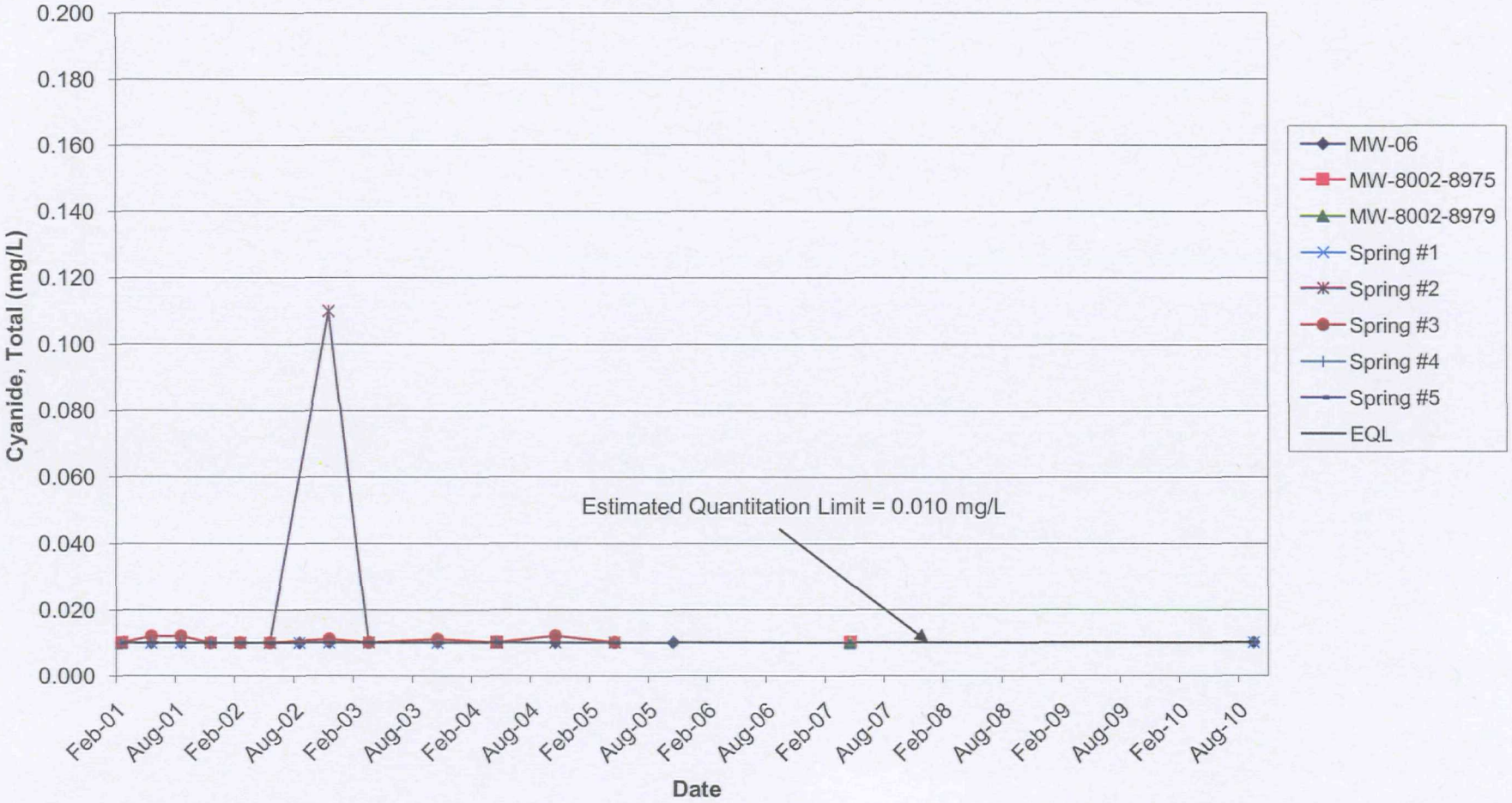
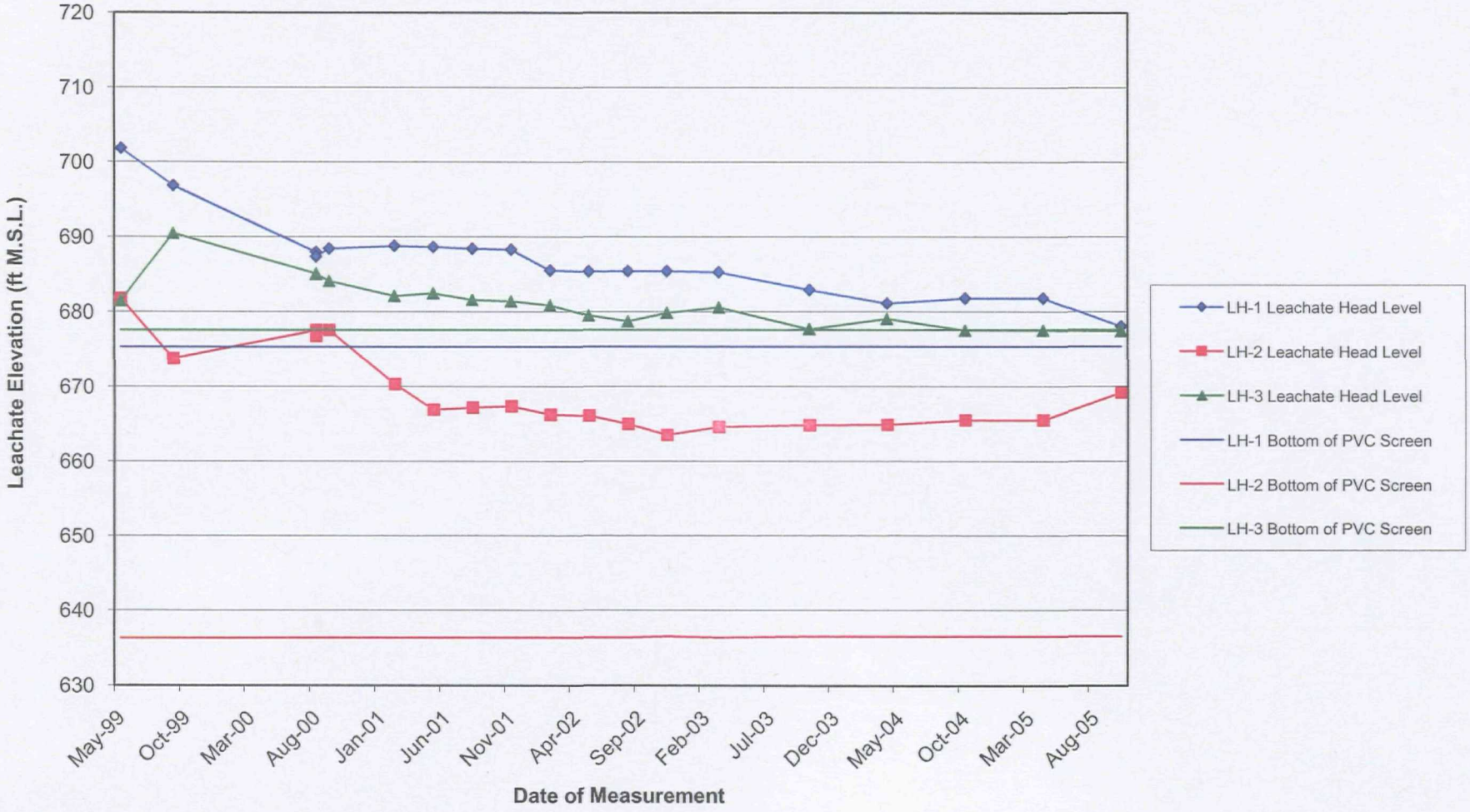


Figure 10
Red Penn Landfill
Pewee Valley, Kentucky
Leachate Head Elevations and Depth of Leachate



Appendix A
Annual Reports in Electronic Format

April 10, 2002

Ms. Susan Mallette
Geologist
Kentucky Division of Waste Management
18 Reilly Road
Frankfort, KY 40601

Subject: Red Penn Landfill, Pewee Valley, Kentucky
Year 2001 Annual OM&M Report

Dear Susan:

This letter report presents the results of the first year (2001) of post-construction operation, maintenance, and monitoring (OM&M) activities at the Red Penn Landfill. The quarterly OM&M activities, which included groundwater sampling, leachate head monitoring, and site inspection, were performed in accordance with the Post-Construction Performance Standards Verification Plan (Section 3 of the Final Remedial Design [RMT, October 1999]), and the Operation, Monitoring, and Maintenance Plan (Appendix G of the Final Remedial Design).

Operation, maintenance, and monitoring activities were conducted in February, May, August, and November 2001 and consisted of the following activities:

- Sampling three groundwater monitoring wells
- Sampling five surface water springs
- Measuring the levels in three leachate head wells
- Conducting site inspections

As will be discussed below, not all of the groundwater monitoring wells and springs could be sampled during each monitoring event, because some were dry when the OM&M activities were conducted.

Groundwater and Spring Monitoring Results

The groundwater and spring samples were analyzed for VOCs, PCBs, metals, and total cyanide, as specified in the OM&M Plan (the locations of the monitoring points are shown on Figure 1). At the time of the OM&M activities, the following groundwater monitoring wells and springs could not be sampled because they were either dry (springs and wells) or the water did not recharge within a reasonable amount of time after being bailed dry (wells):

May	September	December
MW-8002-8975	MW-8002-8975	MW-8002-8975
MW-8002-8979	MW-8002-8979	MW-8002-8979
Spring #2	Spring #2	
	Spring #5	

No VOCs, PCBs, or total cyanide were detected in any of the water samples, with the exception of benzene in MW-8002-8979 in February and total cyanide at Spring #3 in May and August. Benzene was detected at a concentration of 1.1 µg/L and total cyanide was detected at a concentration of 0.012 mg/L. These concentrations are just above their associated Estimated Quantitation Limit. The laboratory reports and a summary report, with data validation flags (when applicable), are contained in Appendix A.

Metals were detected in the following ranges during the 2001 monitoring activities, in at least one monitoring well or surface water sample:

METAL	MINIMUM CONCENTRATION (µg/L)	MAXIMUM CONCENTRATION (µg/L)	FREQUENCY OF DETECTION ABOVE THE EQL
Antimony	< 10	< 10	0/23
Arsenic	< 10	11	1/23
Barium	24	530	23/23
Cadmium	< 1.0	2.3	3/23
Chromium	< 3.0	35	9/23
Lead	< 5.0	22	5/23
Nickel	< 5.0	52	15/23

Figures 2 through 7 show the metals that were detected in the groundwater and surface water samples at levels higher than the Estimated Quantitation Limit. These figures show the time trends for the following parameters: arsenic, barium, cadmium, chromium, lead, nickel, and total cyanide.

Leachate Head Levels

The pre- and post-construction leachate head data are presented in Table 1 and graphed on Figure 8. Placement of the low-permeability geosynthetic clay liner (GCL) portion of the final cover began on August 3, 2000, and was completed on September 20, 2000. The initial leachate head data indicate that the placement of the final cover has decreased surface water infiltration and has reduced the leachate head levels. Leachate head level trends will be evaluated following the 5-year post-construction monitoring period, as required in the Final Remedial Design.

Site Inspections

Site inspection activities include inspecting the final cover and performing maintenance or repairs as necessary for the following items:

- Surface water controls (*e.g.*, diversion berms and the spillway)
- Cover (*e.g.*, vegetation, erosion, settlement, and burrowing animals)
- Groundwater and leachate monitoring wells

- Site access control

A summary of the maintenance and repairs performed during 2001 is included in Table 2. The quarterly facility inspection reports are included in Appendix B. Many of the maintenance items that were identified during the 2001 inspections were either addressed during the same site visit as the inspection in which they were identified, or during the next site visit, while other maintenance items had to be scheduled for spring or summer 2002, when the cover can support truck traffic without rutting the cover soil.

Please call me, at (608) 662-5271, if you have any questions regarding this report.

Sincerely,

RMT, Inc.

Michael J. Amstadt P.E.
Project Manager

Attachments:

List of Tables:

Table 1	Leachate Head Measurements and Calculated Elevations
Table 2	Status of Items Needing Repairs or Routine Maintenance Performed

List of Figures:

Figure 1	Environmental Monitoring Locations
Figure 2	Concentration of Dissolved Arsenic in Surface Water and Groundwater in 2001
Figure 3	Concentration of Dissolved Barium in Surface Water and Groundwater in 2001
Figure 4	Concentration of Dissolved Cadmium in Surface Water and Groundwater in 2001
Figure 5	Concentration of Dissolved Chromium in Surface Water and Groundwater in 2001
Figure 6	Concentration of Dissolved Lead in Surface Water and Groundwater in 2001
Figure 7	Concentration of Dissolved Nickel in Surface Water and Groundwater in 2001
Figure 8	Concentration of Total Cyanide in Surface Water and Groundwater in 2001
Figure 9	Leachate Head Elevations Over Time

List of Attachments:

Attachment A	Database Summary Reports and Laboratory Results for 2001 Groundwater and Spring Samples
Attachment B	Site Inspection Reports

cc: Jim Forney, Waste Management, Inc.
Jeff Hartland, Ford Motor Land Services Corporation
Linda Hicken and Jeff Sass, RMT, Inc.

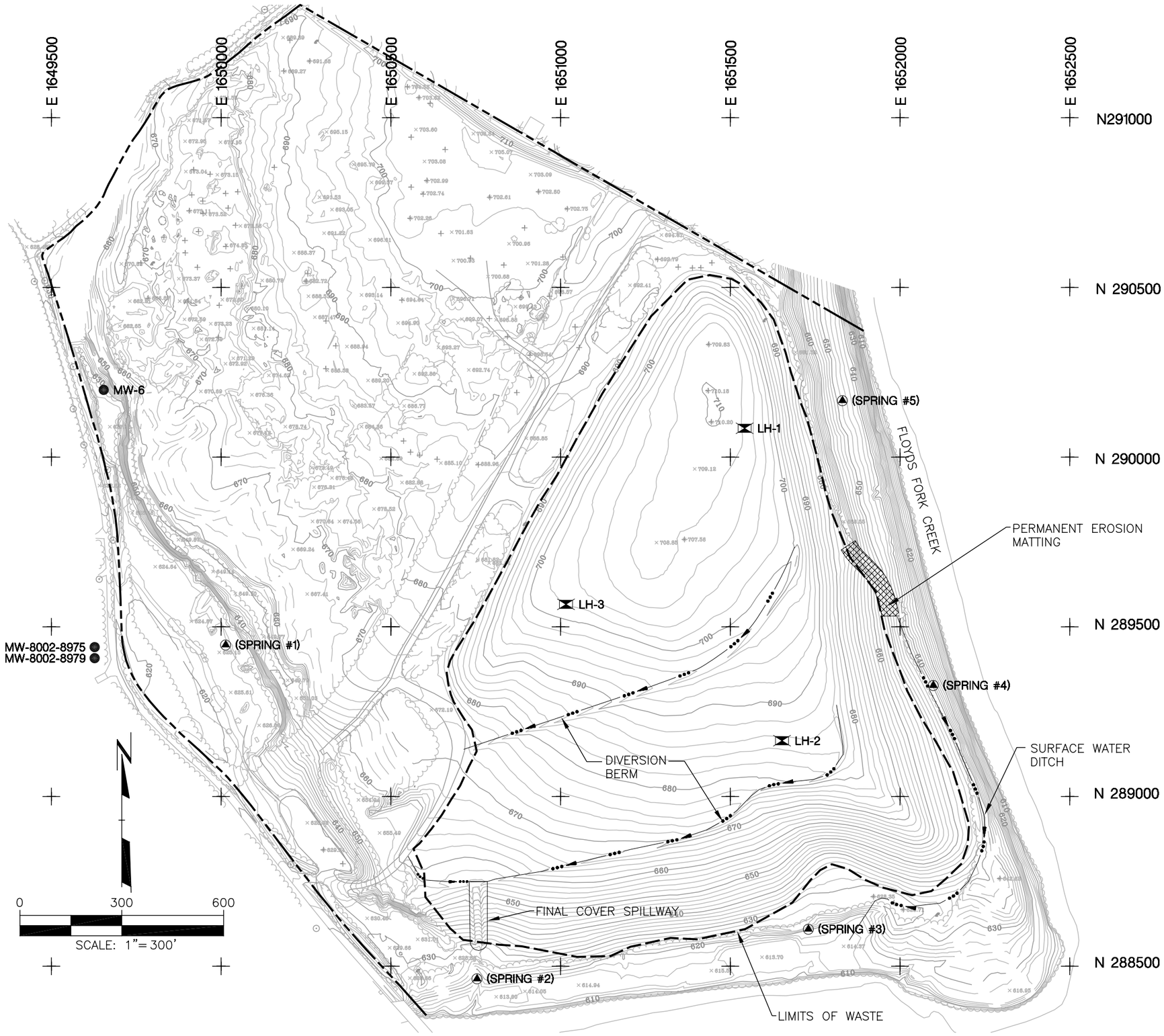
Table 1
Red Penn Landfill
Pewee Valley, Kentucky
Leachate Head Measurements and Calculated Elevations

Date	Top of PVC Casing (ft. M.S.L.)	Depth of Leachate Below Top of PVC Casing (ft.)	Leachate Elevation (ft. M.S.L.)	Bottom of PVC Screen (ft. M.S.L.)[1]	Thickness of Leachate Above Bottom of PVC Screen (ft.)
LEACHATE HEAD WELL LH-1					
6-May-99	709.83	8	701.83	675.3	26.53
15-Sep-99	709.83	13	696.83	675.3	21.53
12-Aug-00	709.83	21.9	687.93	675.3	12.63
29-Aug-00	709.83	22.5	687.33	675.3	12.03
26-Sep-00	709.83	21.45	688.38	675.3	13.08
28-Feb-01	709.83	21.09	688.74	675.3	13.44
4-May-01	709.83	21.22	688.61	675.3	13.31
21-Aug-01	709.83	21.46	688.37	675.3	13.07
27-Nov-01	709.83	21.58	688.25	675.3	12.95
LEACHATE HEAD WELL LH-2					
6-May-99	687.72	6	681.72	636.27	45.45
15-Sep-99	687.72	14	673.72	636.27	37.45
12-Aug-00	687.72	10.2	677.52	636.27	41.25
29-Aug-00	687.72	11	676.72	636.27	40.45
26-Sep-00	687.72	10.2	677.52	636.27	41.25
28-Feb-01	687.72	17.44	670.28	636.27	34.01
4-May-01	687.72	20.87	666.85	636.27	30.58
21-Aug-01	687.72	20.61	667.11	636.27	30.84
27-Nov-01	687.72	20.43	667.29	636.27	31.02
LEACHATE HEAD WELL LH-3					
6-May-99	704.49	23[2]	681.49	677.58	3.91[2]
15-Sep-99	704.49	14	690.49	677.58	12.91
12-Aug-00	704.49	19.4	685.09	677.58	7.51
29-Aug-00	704.49	19.5	684.99	677.58	7.41
26-Sep-00	704.49	20.4	684.09	677.58	6.51
28-Feb-01	704.49	22.39	682.10	677.58	4.52
4-May-01	704.49	22.06	682.43	677.58	4.85
21-Aug-01	704.49	22.92	681.57	677.58	3.99
27-Nov-01	704.49	23.12	681.37	677.58	3.79

Note:
(1) Bottom of PVC screen is approximately 1 foot above the base of the landfill.
(2) Leachate head well LH-3 was initially dry when the well was completed. The depth of leachate in LH-3 on May 6, 1999, was measured 24 hours after the completion of LH-3, in accordance with the Leachate Head Well Installation Workplan; however, the leachate level was still rising at the time of the measurement. Therefore, it is not believed that this was a representative leachate head level.

Table 2
Red Penn Landfill
Pewee Valley, Kentucky
Status of Maintenance Items

Item	Description of Maintenance Item	Date Identified	Date Repair/ Maintenance Completed	Scheduled Date for Repair
1	Erosion is noted along the site access road.	2/23/01	5/01	
2	Silt fence needs to be replaced in some areas.	2/23/01	6/01	
3	The areas of sparse vegetation on the final cover need reseeding.	8/21/01	9/01	
4	Erosion of the final cover (along the sideslopes of the cap in the northwestern area west of LH-1, in the area south of Spring #4, and in the area north of Spring #3).	8/21/01		Spring 2002
5	Erosion along the northern side of the diversion berm (closest to Springs #2 and #3).	8/21/01		Spring 2002
6	Erosion along the northern side of the main entrance road. This portion of the road has eroded next to riprap, leaving the geotextile exposed.	8/21/01	11/01	
7	The lock on well LH-2 was corroded. (It was replaced with Master Lock 0536.) This lock will be replaced with a standard Waste Management lock.	8/21/01	8/21/01	
8	A new Waste Management master lock was placed on the entrance gate.	8/21/01	8/21/01	
9	The PVC riser in LH-1 needs to be cut so that the protective casing can be closed and locked.	11/27/01	1/02	
10	Some areas in the final cover require reseeding to re-establish vegetative cover.	11/27/01		Spring 2002



LEGEND

- APPROXIMATE PROPERTY LINE
- GRID TICK LOCATION
- EXISTING 10' CONTOUR INTERVAL
- EXISTING 2' CONTOUR INTERVAL
- APPROXIMATE LIMITS OF FINAL COVER CONSTRUCTION
- EXISTING TREELINE
- EXISTING SPOT ELEVATION
- EXISTING BUILDING
- EXISTING FENCE LINE
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- EXISTING NATURAL GAS PIPELINE
- EXISTING NATURAL GAS PIPELINE EASEMENT
- SP-5 — APPROXIMATE GEOPROBE LOCATION AND NUMBER
- LH-1 — EXISTING LEACHATE HEADWELL LOCATION AND NUMBER
- APPROXIMATE LIMITS OF ON-SITE BORROW AREA
- (SPRING #1) — APPROXIMATE SURFACE WATER SAMPLING LOCATION AND NUMBER
- MW-6 — APPROXIMATE MONITORING WELL LOCATION AND NUMBER

NOTES

1. BASE MAP WAS DEVELOPED FROM AN AERIAL SURVEY PERFORMED BY OAS INC., ON NOVEMBER 15, 2000.
2. CONTOUR INTERVAL IS TWO FEET.
3. VERTICAL DATUM IS REFERENCED TO USGS MEAN SEA LEVEL DATUM.
4. THE PROJECT GRID SYSTEM IS PARALLEL AND PERPENDICULAR TO THE KENTUCKY STATE PLANE COORDINATE GRID SYSTEM, NORTH AMERICAN DATUM OF 1927.
5. THE LOCATIONS OF THE LEACHATE HEADWELLS AND NATURAL GAS PIPELINE WERE OBTAINED DURING A SURVEY PERFORMED BY WESTERMAN & ASSOCIATES, LOUISVILLE, KENTUCKY. DATE OF SURVEY: MAY 19, 1999.
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PROJECT:
RED PENN LANDFILL
PEWEE VALLEY, KENTUCKY

SHEET TITLE:
ENVIRONMENTAL MONITORING LOCATIONS

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APPROVED BY: MJA	DATE PRINTED:	**FIGURE 1**
DATE: MARCH 2002		

RMT INC.
744 Heartland Trail
Madison, WI 53717-1934
P.O. Box 8923 53708-8923
Phone: 608-831-4444
Fax: 608-831-3334

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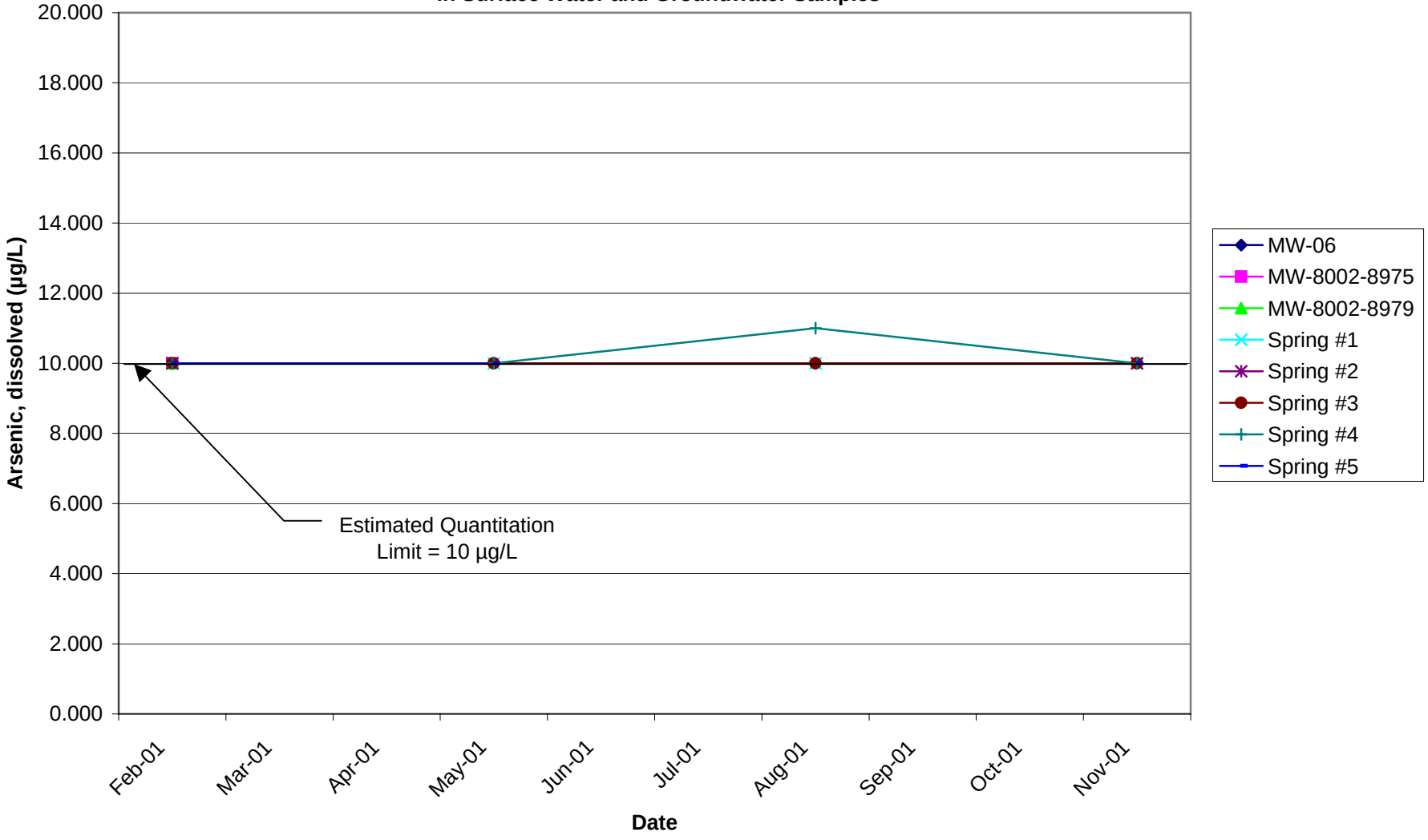
Figure 2
Red Penn Landfill
Pewee, Valley, Kentucky
Post-Construction Concentrations of Dissolved Arsenic
in Surface Water and Groundwater Samples



Note: MW-8002-8975, MW-8002-8979, Spring No. 2,
and Spring No. 5 were dry during one or more sampling events.

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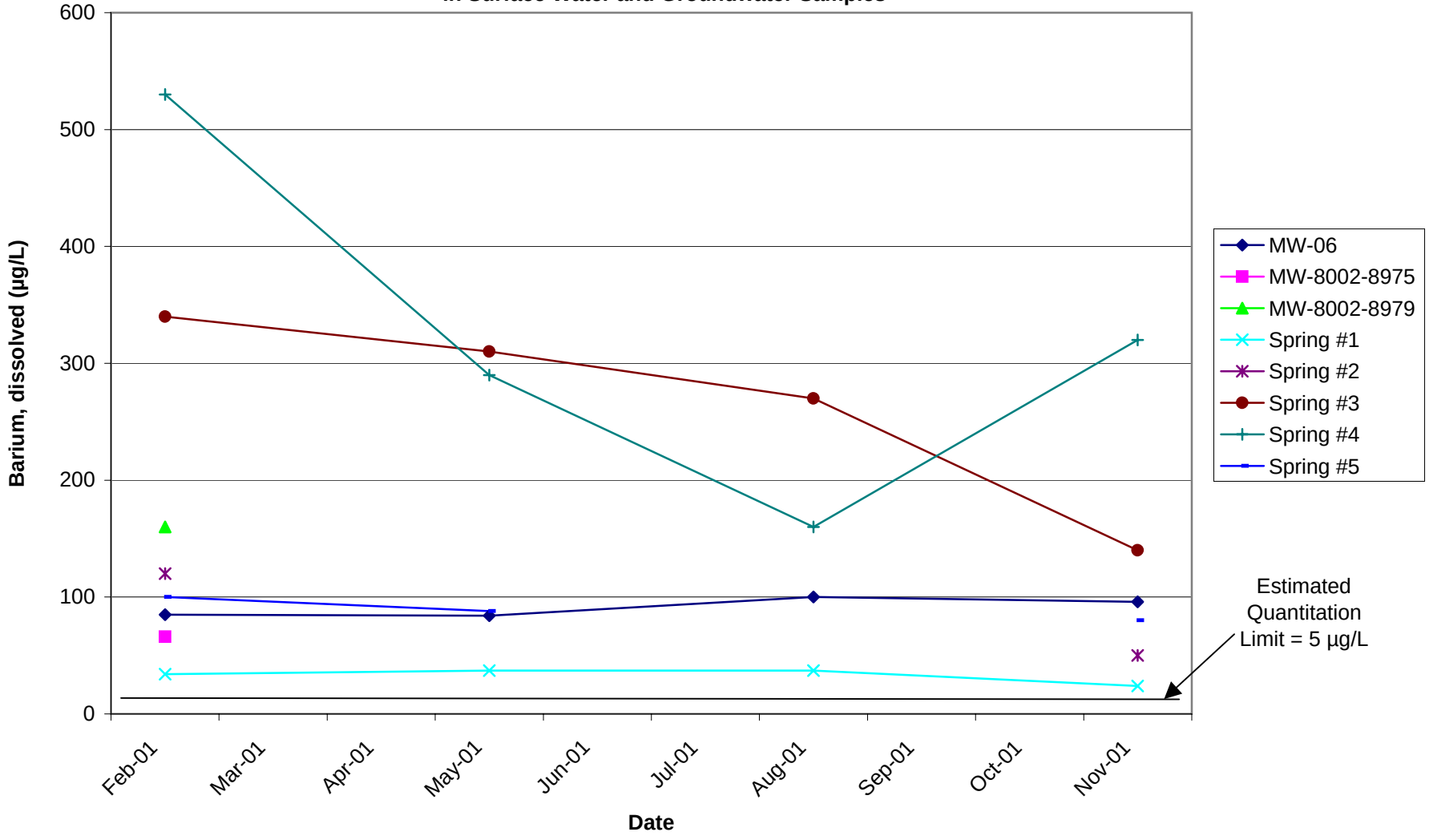
Figure 3
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Barium
in Surface Water and Groundwater Samples



Note: MW-8002-8975, MW-8002-8979, Spring No. 2, and Spring No. 5 were dry during one or more sampling events.

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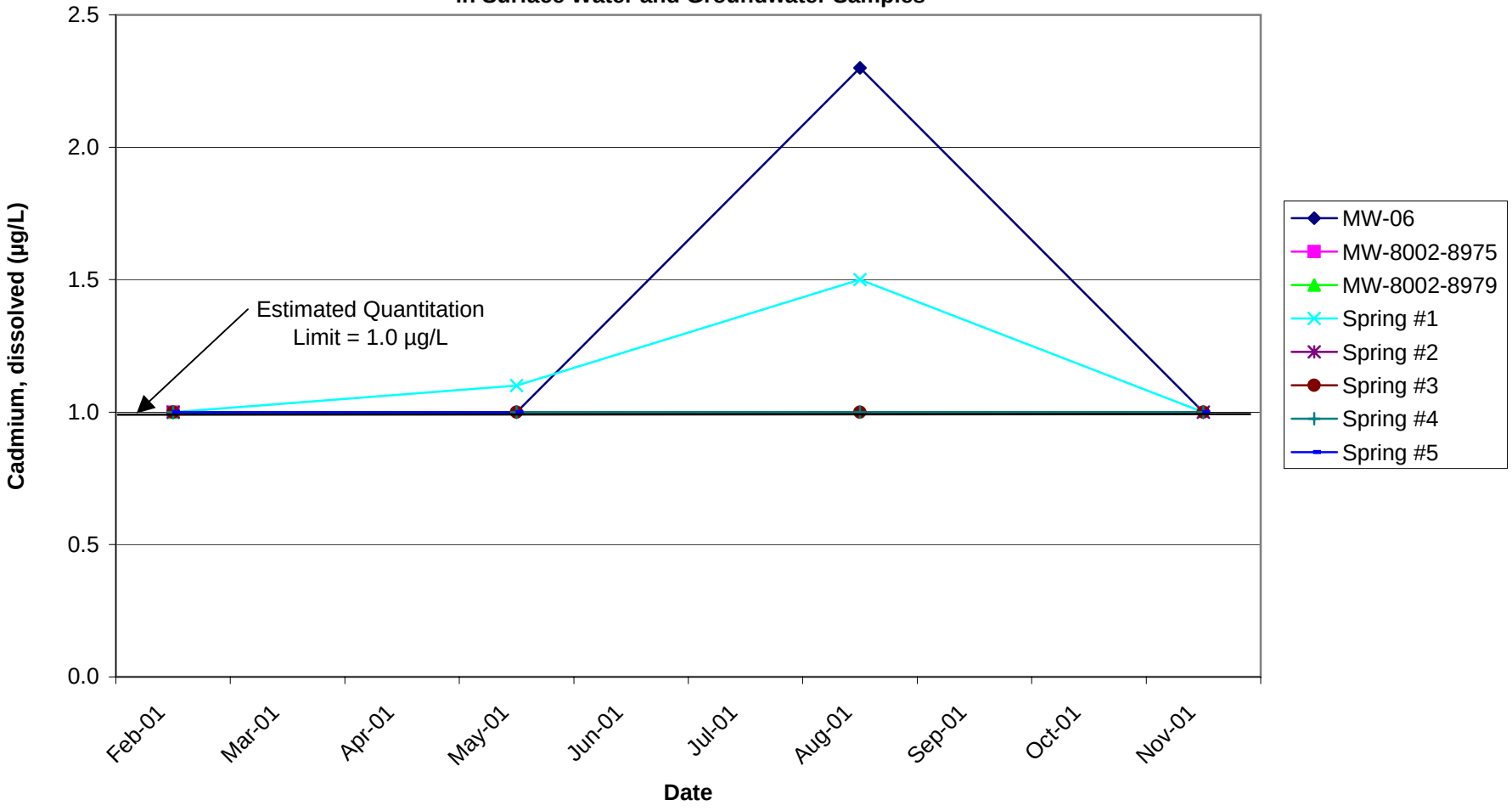
Figure 4
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Cadmium
in Surface Water and Groundwater Samples



Note: MW-8002-8975, MW-8002-8979, Spring No. 2,
and Spring No. 5 were dry during one or more sampling events.

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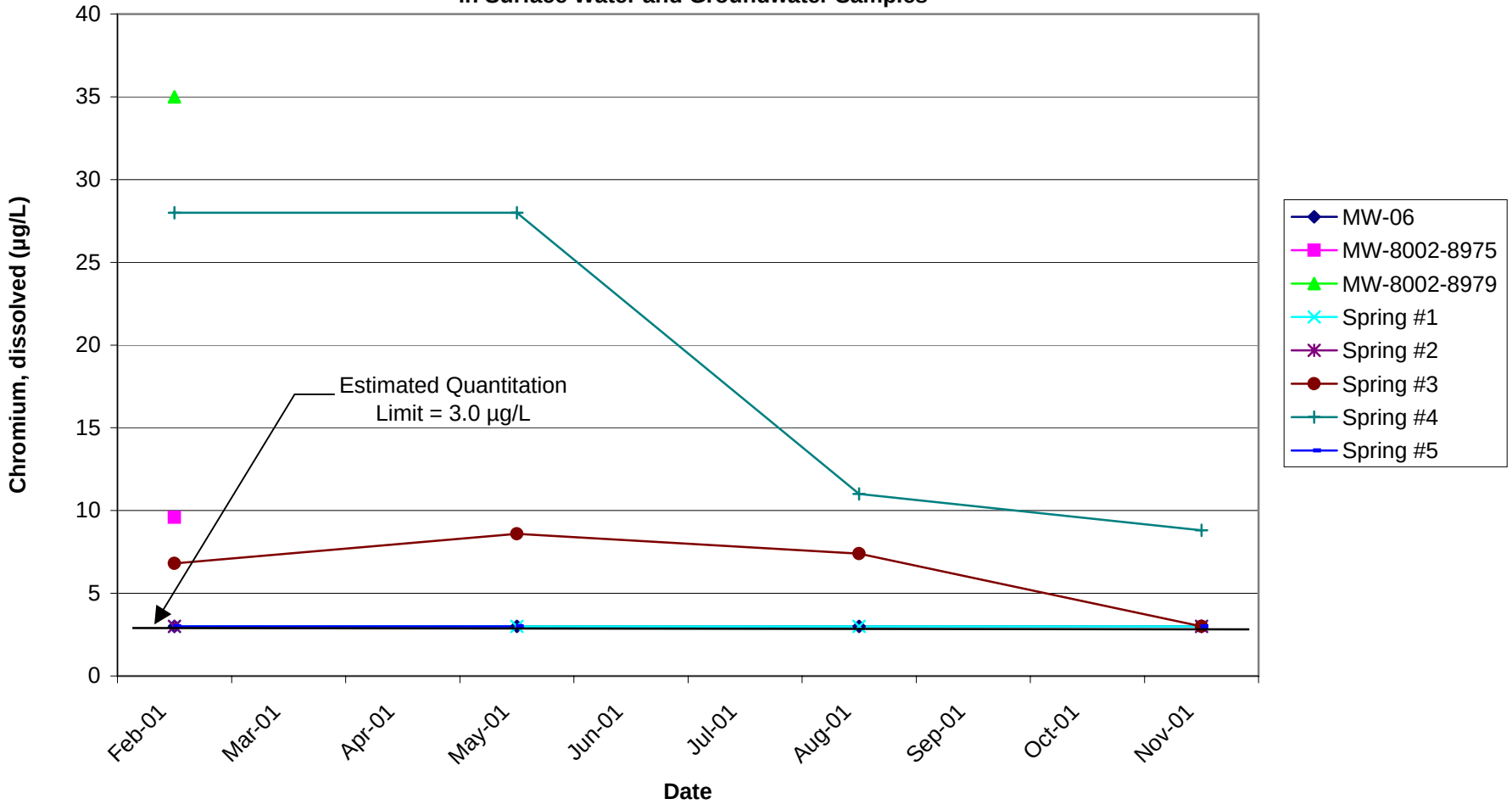
Figure 5
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Chromium
in Surface Water and Groundwater Samples



Note: MW-8002-8975, MW-8002-8979, Spring No. 2, and Spring No. 5 were dry during one or more sampling events.

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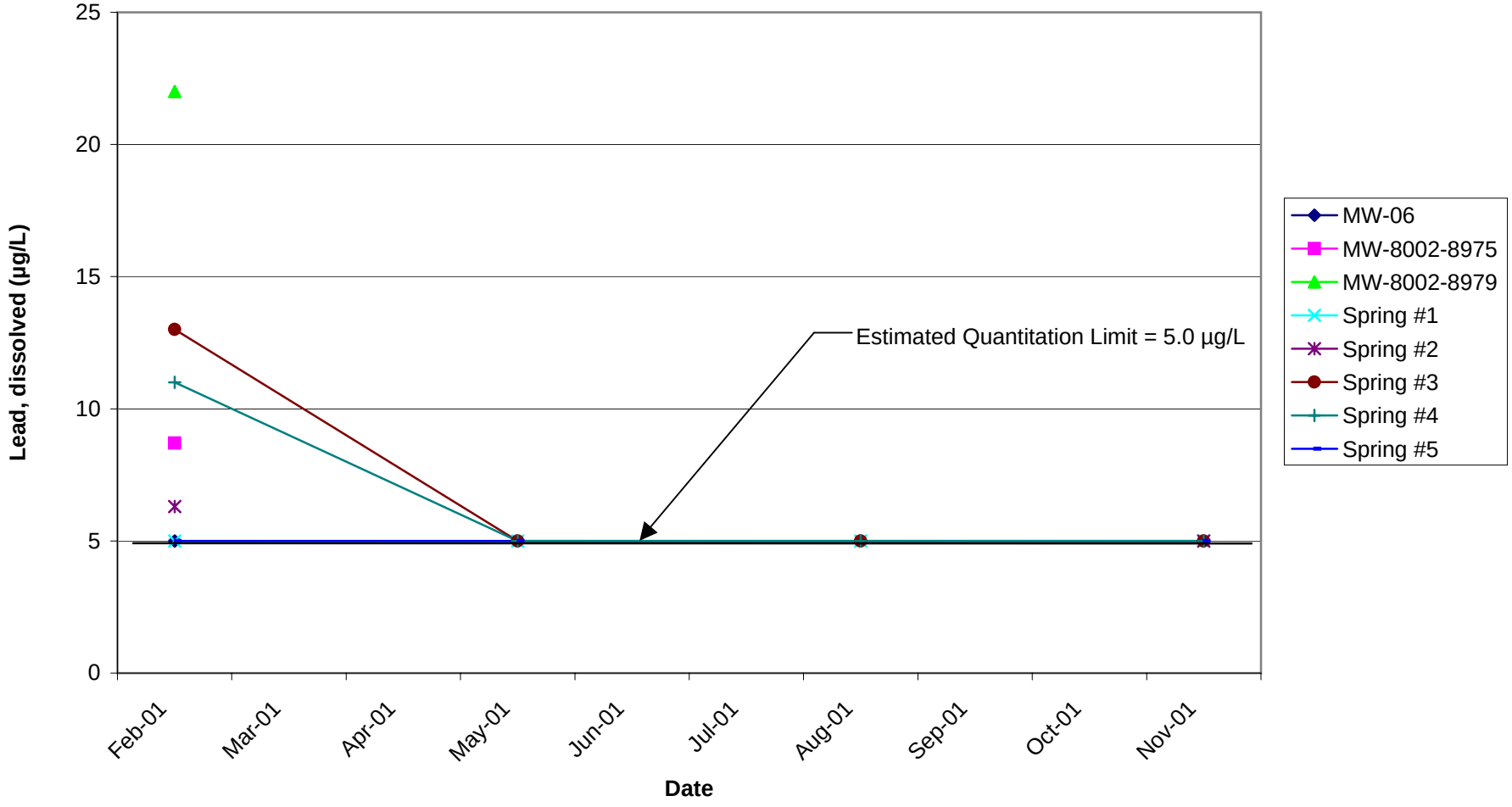
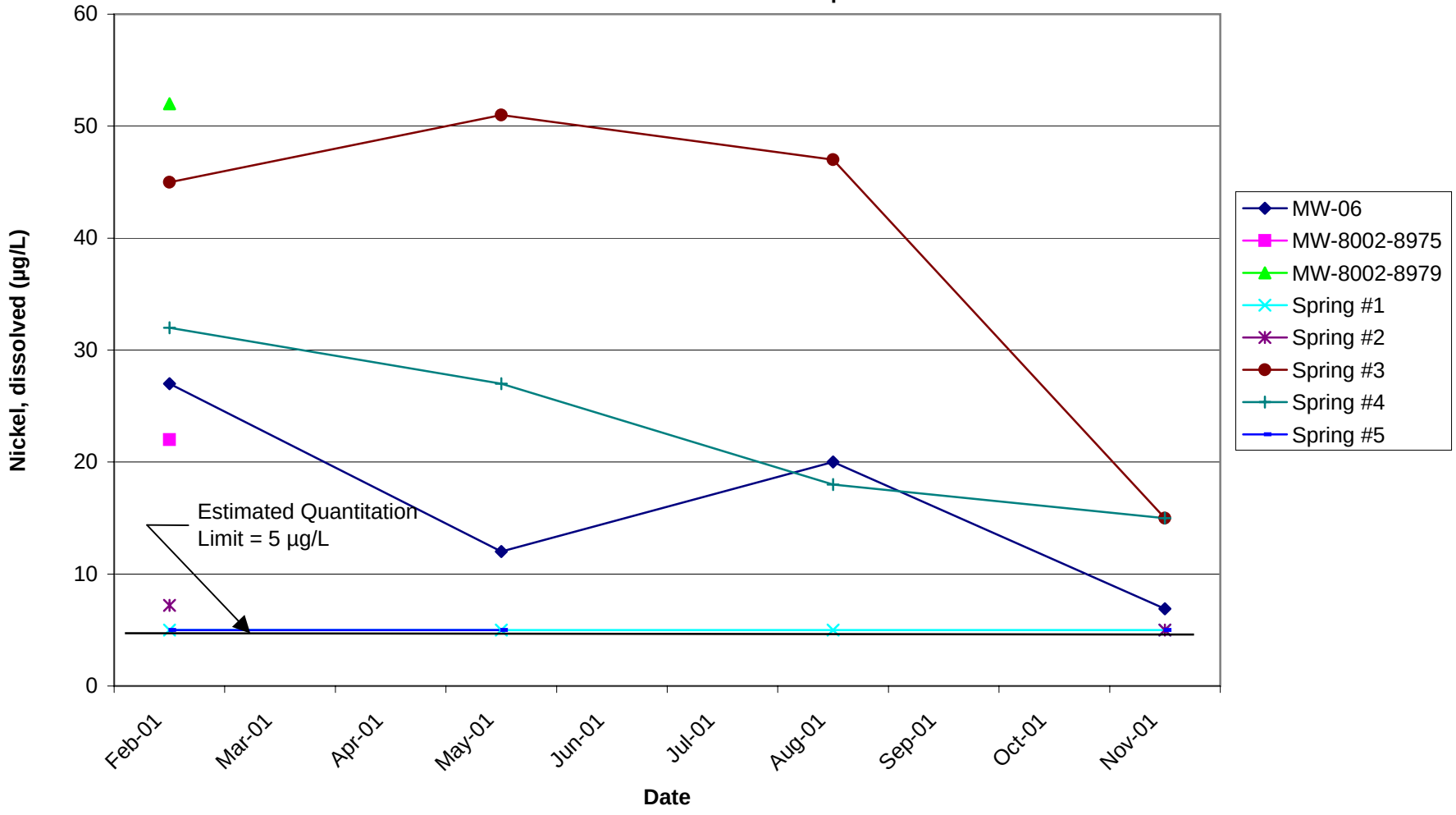
Figure 6
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Lead
in Surface Water and Groundwater Samples



Note: MW-8002-8975, MW-8002-8979, Spring No. 2, and Spring No. 5 were dry during one or more sampling events.

I:\WPMSN\PJT\00-04896\18\000489618-003.XLS 10/12/2005

Figure 7
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Nickel
in Surface Water and Groundwater Samples



Note: MW-8002-8975, MW-8002-8979, Spring No. 2, and Spring No. 5 were dry during one or more sampling events.

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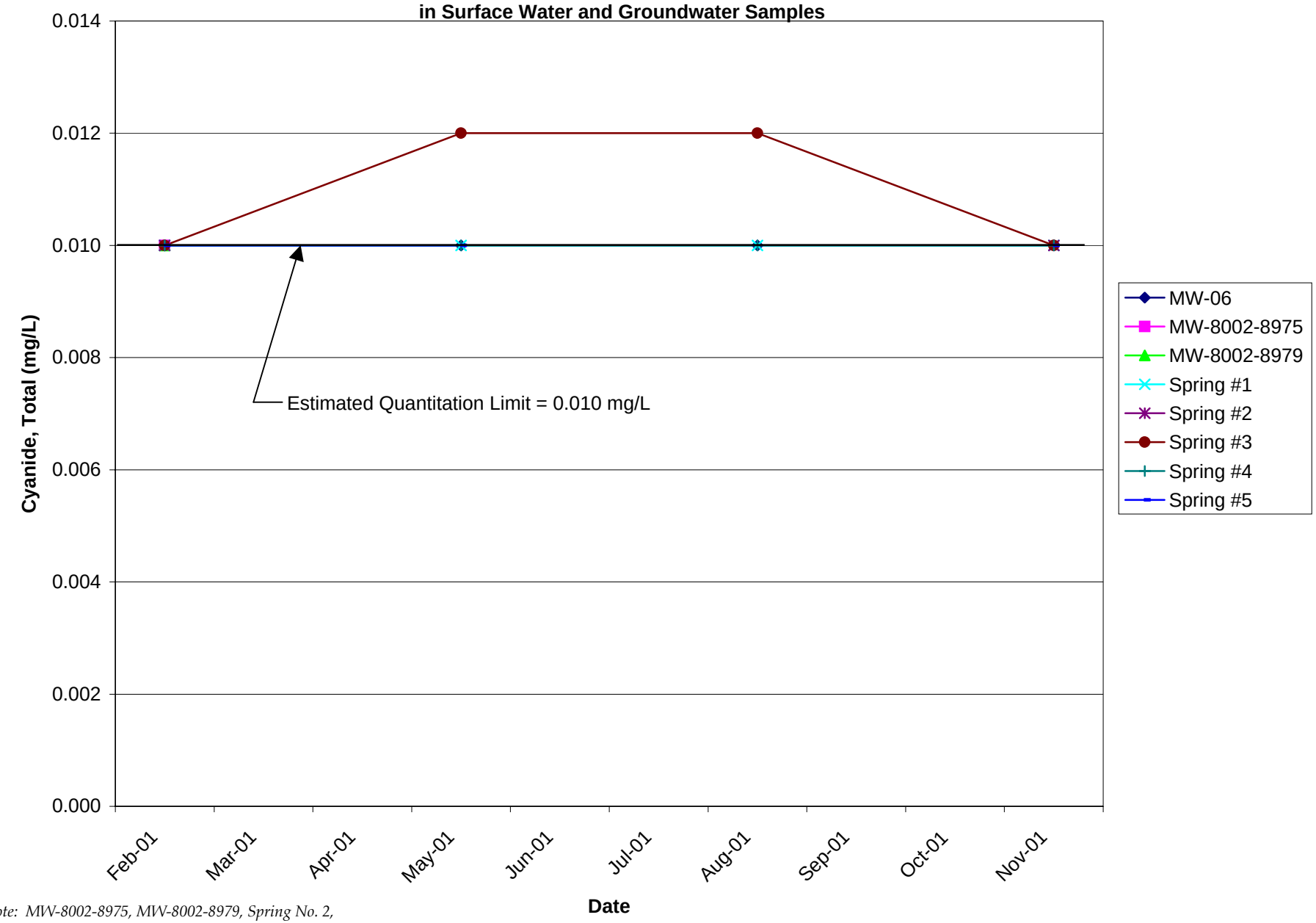
Figure 8
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Total Cyanide
in Surface Water and Groundwater Samples



Note: MW-8002-8975, MW-8002-8979, Spring No. 2, and Spring No. 5 were dry during one or more sampling events.

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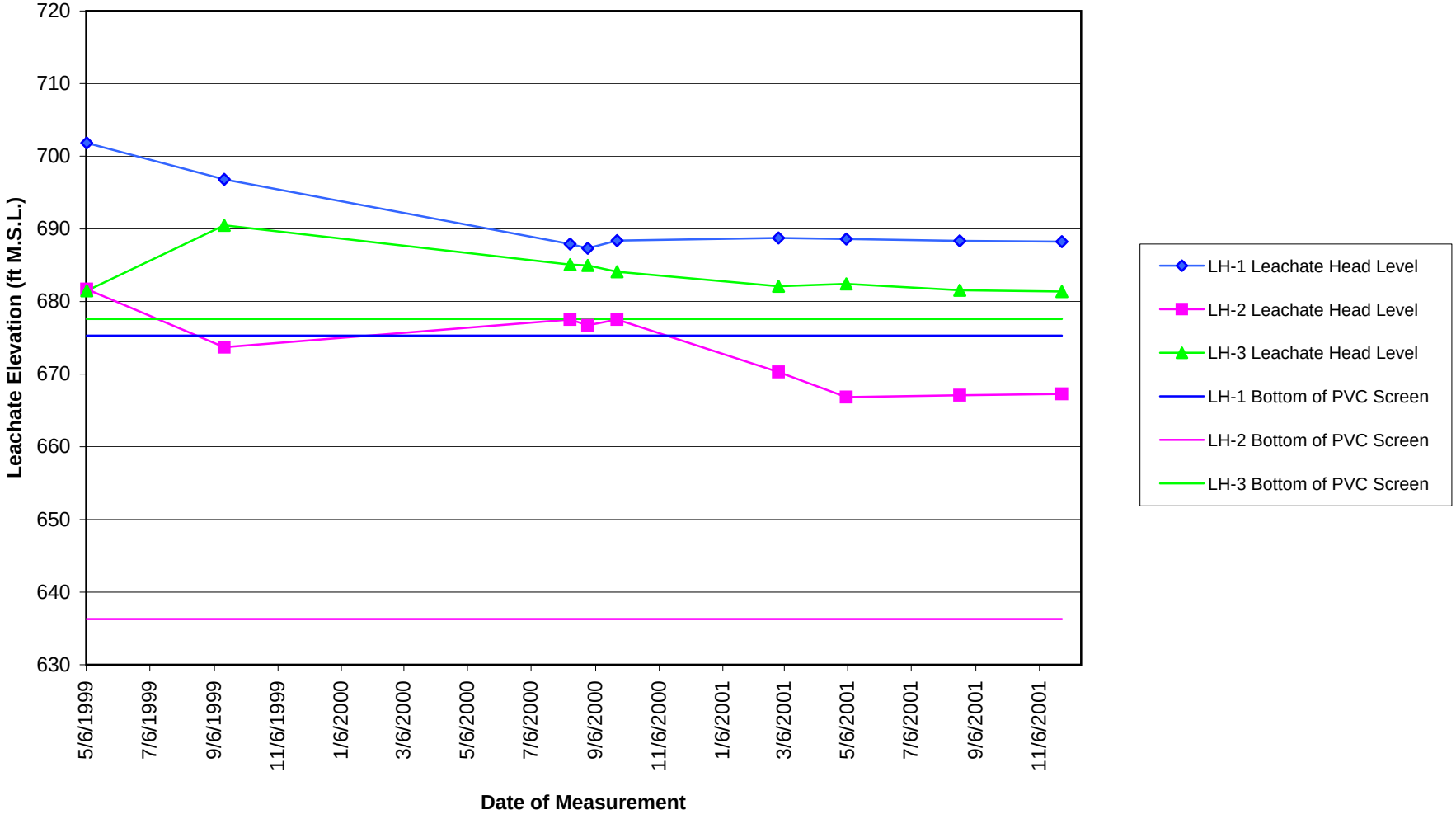
Figure 9
Red Penn Landfill
Pewee Valley, Kentucky
Leachate Head Elevations and Depth of Leachate



Note: Bottom of PVC screen is approximately 1 foot above the base of the landfill.

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Attachment A

Laboratory Results and Database Summary Reports for 2001 Groundwater and Spring Samples

Laboratory Results for February 2001

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Organic Data Qualifier Sheet

B	Analyte is present in the method blank(See Form3). Method blank criteria is evaluated to the laboratory LOD. Additionally, method blank acceptance may be based on project specific criteria or determined from analyte concentrations in the sample and are evaluated on a sample by sample basis.
C	Elevated detection limit (see Sample Narrative).
D	Analyte value from diluted analysis.
DL	No surrogate recovery available due to sample dilution.
E	Analyte concentration exceeds calibration range (see Sample Narrative).
F	Repeated surrogate failure (see Sample Narrative).
G	Sample exhibits hydrocarbon pattern resembling gasoline.
H(n)	Analysis performed "n" days past holding time.
J	Qualitative evidence of analyte present: concentration detected is greater than the method detection limit but less than the reporting limit.
K	Detection Limit may be elevated due to the presence of an unrequested analyte (see Sample Narrative).
L	Detects in trip blank.
M	Methanol leakage.
ND	Not Detected.
NR	Not Required.
P	The relative percent difference for detected concentrations between the two GC columns was greater than 40 % difference.
Q	The analyte has been detected between the Limit of Detection (LOD) and limit of Quantitation (LOQ). The results are qualified due to the uncertainty of analyte concentrations within this range.
U#	Elevated LOD due to matrix interference.
V	Heavy hydrocarbon present.
W	Sample received with headspace.
X	See Sample Narrative
Z	See Sample Narrative
SUB	Assay was subcontracted to an approved lab.

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SAMPLE NARRATIVE

PROJECT NAME	:	RED PENN
WORKORDER NUMBER	:	910520
DATE	:	03/05/01

PCB's: Sample 910520-003 had a TCX surrogate recovery below QC limits. There was no sample remaining for re-extraction.

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- Analytical Report -

Project Name : RED PENN

Project Number : 4896.18

Client : RMT - MADISON

Report Date : 3/16/01

WI DNR LAB ID : 113172950

Lab Sample No.	Field ID	Collection Date	Lab Sample No.	Field ID	Collection Date
910584-001	SPRING #5	2/28/01			
910584-002	SPRING #4	2/28/01			
910584-003	SPRING #1	2/28/01			
910584-004	MW-8002-8975	2/28/01			
910584-005	MW-8002-8979	2/28/01			
910584-006	TRIP BLANK				

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this final report is authorized by Laboratory management, as is verified by the following signature.

Todd Holtemeyer — Approval Signature

3/16/01 — Date

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #5
Lab Sample Number : 910584-001
Lab Project Number : 910584

Submitter : RMT - MADISON
Report Date : 3/16/01
Collection Date : 2/28/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony	< 10	10	ug/L		3/12/01	SW846 3015	SW846 6010B
Arsenic	< 10	10	ug/L		3/12/01	SW846 3015	SW846 6010B
Barium	100	5.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Cadmium	< 1.0	1.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Chromium	< 3.0	3.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Lead	< 5.0	5.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Nickel	< 5.0	5.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		3/9/01	EPA 335.4	EPA 335.4

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #4
Lab Sample Number : 910584-002
Lab Project Number : 910584

Submitter : RMT - MADISON
Report Date : 3/16/01
Collection Date : 2/28/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony	< 10	10	ug/L		3/12/01	SW846 3015	SW846 6010B
Arsenic	< 10	10	ug/L		3/12/01	SW846 3015	SW846 6010B
Barium	530	5.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Cadmium	< 1.0	1.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Chromium	28	3.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Lead	11	5.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Nickel	32	5.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		3/9/01	EPA 335.4	EPA 335.4

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #1
Lab Sample Number : 910584-003
Lab Project Number : 910584

Submitter : RMT - MADISON
Report Date : 3/16/01
Collection Date : 2/28/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony	< 10	10	ug/L		3/12/01	SW846 3015	SW846 6010B
Arsenic	< 10	10	ug/L		3/12/01	SW846 3015	SW846 6010B
Barium	34	5.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Cadmium	< 1.0	1.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Chromium	< 3.0	3.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Lead	< 5.0	5.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Nickel	< 5.0	5.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		3/9/01	EPA 335.4	EPA 335.4

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : MW-8002-8975
Lab Sample Number : 910584-004
Lab Project Number : 910584

Submitter : RMT - MADISON
Report Date : 3/16/01
Collection Date : 2/28/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony	< 10	10	ug/L		3/12/01	SW846 3015	SW846 6010B
Arsenic	< 10	10	ug/L		3/12/01	SW846 3015	SW846 6010B
Barium	66	5.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Cadmium	< 1.0	1.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Chromium	9.6	3.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Lead	8.7	5.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Nickel	22	5.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		3/9/01	EPA 335.4	EPA 335.4

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : MW-8002-8979
Lab Sample Number : 910584-005
Lab Project Number : 910584

Submitter : RMT - MADISON
Report Date : 3/16/01
Collection Date : 2/28/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony	< 10	10	ug/L		3/12/01	SW846 3015	SW846 6010B
Arsenic	10	10	ug/L		3/12/01	SW846 3015	SW846 6010B
Barium	160	5.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Cadmium	< 1.0	1.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Chromium	35	3.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Lead	22	5.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Nickel	52	5.0	ug/L		3/12/01	SW846 3015	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		3/9/01	EPA 335.4	EPA 335.4

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #5
Lab Sample Number : 910584-001
Lab Project Number : 910584

Submitter : RMT - MADISON
Report Date : 3/16/01
Collection Date : 2/28/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 3/5/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 0.50	0.50	ug/L		3/7/01	SW846 8082
Aroclor 1221	< 0.50	0.50	ug/L		3/7/01	SW846 8082
Aroclor 1232	< 0.50	0.50	ug/L		3/7/01	SW846 8082
Aroclor 1242	< 0.50	0.50	ug/L		3/7/01	SW846 8082
Aroclor 1248	< 0.50	0.50	ug/L		3/7/01	SW846 8082
Aroclor 1254	< 0.50	0.50	ug/L		3/7/01	SW846 8082
Aroclor 1260	< 0.50	0.50	ug/L		3/7/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		3/5/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #4
Lab Sample Number : 910584-002
Lab Project Number : 910584

Submitter : RMT - MADISON
Report Date : 3/16/01
Collection Date : 2/28/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 3/5/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1221	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1232	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1242	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1248	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1254	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1260	< 0.50	0.50	ug/L		3/8/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		3/5/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #1
Lab Sample Number : 910584-003
Lab Project Number : 910584

Submitter : RMT - MADISON
Report Date : 3/16/01
Collection Date : 2/28/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 3/5/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 0.50	0.50	ug/L		3/7/01	SW846 8082
Aroclor 1221	< 0.50	0.50	ug/L		3/7/01	SW846 8082
Aroclor 1232	< 0.50	0.50	ug/L		3/7/01	SW846 8082
Aroclor 1242	< 0.50	0.50	ug/L		3/7/01	SW846 8082
Aroclor 1248	< 0.50	0.50	ug/L		3/7/01	SW846 8082
Aroclor 1254	< 0.50	0.50	ug/L		3/7/01	SW846 8082
Aroclor 1260	< 0.50	0.50	ug/L		3/7/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		3/5/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : MW-8002-8975
Lab Sample Number : 910584-004
Lab Project Number : 910584

Submitter : RMT - MADISON
Report Date : 3/16/01
Collection Date : 2/28/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 3/5/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1221	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1232	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1242	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1248	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1254	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1260	< 0.50	0.50	ug/L		3/8/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		3/5/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : MW-8002-8979
Lab Sample Number : 910584-005
Lab Project Number : 910584

Submitter : RMT - MADISON
Report Date : 3/16/01
Collection Date : 2/28/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 3/5/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1221	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1232	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1242	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1248	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1254	< 0.50	0.50	ug/L		3/8/01	SW846 8082
Aroclor 1260	< 0.50	0.50	ug/L		3/8/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	1.1	1.0	ug/L		3/5/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		3/5/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : TRIP BLANK
Lab Sample Number : 910584-006
Lab Project Number : 910584

Submitter : RMT - MADISON
Report Date : 3/16/01
Collection Date :
Matrix Type : BLANK
WI DNR LAB ID : 113172950

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER **Prep Method: SW846 5030**

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		3/5/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		3/5/01	SW846 8260B

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- Analytical Report -

Project Name : RED PENN

Project Number : 4896.18

Client : RMT - MADISON

Report Date : 3/7/01

WI DNR LAB ID : 113172950

Lab Sample No.	Field ID	Collection Date	Lab Sample No.	Field ID	Collection Date
910520-001	MW-6	2/21/01			
910520-002	SPRING #2	2/21/01			
910520-003	SPRING #3	2/21/01			
910520-004	TRIP BLANK				

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this final report is authorized by Laboratory management, as is verified by the following signature.

Tod Nottemeyer
Approval Signature

3/8/01
Date

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : MW-6
Lab Sample Number : 910520-001
Lab Project Number : 910520

Submitter : RMT - MADISON
Report Date : 3/7/01
Collection Date : 2/21/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony	< 10	10	ug/L		3/2/01	SW846 3015	SW846 6010B
Arsenic	< 10	10	ug/L		3/2/01	SW846 3015	SW846 6010B
Barium	85	5.0	ug/L		3/2/01	SW846 3015	SW846 6010B
Cadmium	< 1.0	1.0	ug/L		3/2/01	SW846 3015	SW846 6010B
Chromium	< 3.0	3.0	ug/L		3/2/01	SW846 3015	SW846 6010B
Lead	< 5.0	5.0	ug/L		3/2/01	SW846 3015	SW846 6010B
Nickel	27	5.0	ug/L		3/2/01	SW846 3015	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		2/27/01	EPA 335.4	EPA 335.4

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #2
Lab Sample Number : 910520-002
Lab Project Number : 910520

Submitter : RMT - MADISON
Report Date : 3/7/01
Collection Date : 2/21/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony	< 10	10	ug/L		3/2/01	SW846 3015	SW846 6010B
Arsenic	< 10	10	ug/L		3/2/01	SW846 3015	SW846 6010B
Barium	120	5.0	ug/L		3/2/01	SW846 3015	SW846 6010B
Cadmium	< 1.0	1.0	ug/L		3/2/01	SW846 3015	SW846 6010B
Chromium	< 3.0	3.0	ug/L		3/2/01	SW846 3015	SW846 6010B
Lead	6.3	5.0	ug/L		3/2/01	SW846 3015	SW846 6010B
Nickel	7.2	5.0	ug/L		3/2/01	SW846 3015	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		2/27/01	EPA 335.4	EPA 335.4

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #3
Lab Sample Number : 910520-003
Lab Project Number : 910520

Submitter : RMT - MADISON
Report Date : 3/7/01
Collection Date : 2/21/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony	< 10	10	ug/L		3/2/01	SW846 3015	SW846 6010B
Arsenic	< 10	10	ug/L		3/2/01	SW846 3015	SW846 6010B
Barium	340	5.0	ug/L		3/2/01	SW846 3015	SW846 6010B
Cadmium	< 1.0	1.0	ug/L		3/2/01	SW846 3015	SW846 6010B
Chromium	6.8	3.0	ug/L		3/2/01	SW846 3015	SW846 6010B
Lead	13	5.0	ug/L		3/2/01	SW846 3015	SW846 6010B
Nickel	45	5.0	ug/L		3/2/01	SW846 3015	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		2/27/01	EPA 335.4	EPA 335.4

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Project Name : RED PENN
Project Number : 4896.18
Field ID : MW-6
Lab Sample Number : 910520-001
Lab Project Number : 910520

Submitter : RMT - MADISON
Report Date : 3/7/01
Collection Date : 2/21/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — Prep Method: SW846 3510 — Prep Date: 2/23/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1221	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1232	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1242	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1248	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1254	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1260	< 1.0	1.0	ug/L		2/26/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — Prep Method: SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		2/26/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		2/26/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		2/26/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		2/26/01	SW846 8260B

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Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #2
Lab Sample Number : 910520-002
Lab Project Number : 910520

Submitter : RMT - MADISON
Report Date : 3/7/01
Collection Date : 2/21/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — Prep Method: SW846 3510 — Prep Date: 2/23/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1221	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1232	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1242	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1248	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1254	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1260	< 1.0	1.0	ug/L		2/26/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — Prep Method: SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		2/26/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		2/26/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		2/26/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		2/26/01	SW846 8260B

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Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #3
Lab Sample Number : 910520-003
Lab Project Number : 910520

Submitter : RMT - MADISON
Report Date : 3/7/01
Collection Date : 2/21/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — Prep Method: SW846 3510 — Prep Date: 2/23/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1221	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1232	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1242	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1248	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1254	< 1.0	1.0	ug/L		2/26/01	SW846 8082
Aroclor 1260	< 1.0	1.0	ug/L		2/26/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — Prep Method: SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		2/26/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		2/26/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		2/26/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		2/26/01	SW846 8260B

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Project Name : RED PENN
Project Number : 4896.18
Field ID : TRIP BLANK
Lab Sample Number : 910520-004
Lab Project Number : 910520

Submitter : RMT - MADISON
Report Date : 3/7/01
Collection Date :
Matrix Type : BLANK
WI DNR LAB ID : 113172950

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER

Prep Method: SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		2/26/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		2/26/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		2/26/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		2/26/01	SW846 8260B

Laboratory Results for May 2001

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Project Name : RED PENN

Project Number : 4896.18

Client : RMT - MADISON

Report Date : 5/16/01

WI DNR LAB ID : 113172950

Lab Sample No.	Field ID	Collection Date	Lab Sample No.	Field ID	Collection Date
911348-001	MW-6	5/4/01			
911348-002	SPRING #3	5/4/01			
911348-003	SPRING #4	5/4/01			
911348-004	SPRING #5	5/4/01			
911348-005	SPRING #1	5/4/01			
911348-006	DUP1501	5/4/01			
911348-007	DUP2501	5/4/01			
911348-008	FLDBLK	5/4/01			
911348-009	TRIP BLANK	5/4/01			

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this final report is authorized by Laboratory management, as is verified by the following signature.

Tod Moltemeyer
Approval Signature

5/17/01
Date

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : MW-6
Lab Sample Number : 911348-001
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony	< 10	10	ug/L		5/15/01	SW846 3015	SW846 6010B
Arsenic	< 10	10	ug/L		5/15/01	SW846 3015	SW846 6010B
Barium	84	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Cadmium	< 1.0	1.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Chromium	< 3.0	3.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Lead	< 5.0	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Nickel	12	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		5/10/01	EPA 335.4	EPA 335.4

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #3
Lab Sample Number : 911348-002
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony	< 10	10	ug/L		5/15/01	SW846 3015	SW846 6010B
Arsenic	< 10	10	ug/L		5/15/01	SW846 3015	SW846 6010B
Barium	310	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Cadmium	< 1.0	1.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Chromium	8.6	3.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Lead	< 5.0	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Nickel	51	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Cyanide, total	0.012	0.010	mg/L		5/10/01	EPA 335.4	EPA 335.4

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #4
Lab Sample Number : 911348-003
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony	< 10	10	ug/L		5/15/01	SW846 3015	SW846 6010B
Arsenic	< 10	10	ug/L		5/15/01	SW846 3015	SW846 6010B
Barium	290	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Cadmium	< 1.0	1.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Chromium	28	3.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Lead	< 5.0	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Nickel	27	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		5/10/01	EPA 335.4	EPA 335.4

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #5
Lab Sample Number : 911348-004
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony	< 10	10	ug/L		5/15/01	SW846 3015	SW846 6010B
Arsenic	< 10	10	ug/L		5/15/01	SW846 3015	SW846 6010B
Barium	88	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Cadmium	< 1.0	1.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Chromium	< 3.0	3.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Lead	< 5.0	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Nickel	< 5.0	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		5/10/01	EPA 335.4	EPA 335.4

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #1
Lab Sample Number : 911348-005
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony	< 10	10	ug/L		5/15/01	SW846 3015	SW846 6010B
Arsenic	< 10	10	ug/L		5/15/01	SW846 3015	SW846 6010B
Barium	37	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Cadmium	1.1	1.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Chromium	< 3.0	3.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Lead	< 5.0	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Nickel	< 5.0	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		5/10/01	EPA 335.4	EPA 335.4

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Project Name : RED PENN
Project Number : 4896.18
Field ID : DUP1501
Lab Sample Number : 911348-006
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony	< 10	10	ug/L		5/15/01	SW846 3015	SW846 6010B
Arsenic	< 10	10	ug/L		5/15/01	SW846 3015	SW846 6010B
Barium	84	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Cadmium	< 1.0	1.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Chromium	< 3.0	3.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Lead	< 5.0	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Nickel	18	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		5/10/01	EPA 335.4	EPA 335.4

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : DUP2501
Lab Sample Number : 911348-007
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony	< 10	10	ug/L		5/15/01	SW846 3015	SW846 6010B
Arsenic	< 10	10	ug/L		5/15/01	SW846 3015	SW846 6010B
Barium	37	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Cadmium	< 1.0	1.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Chromium	< 3.0	3.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Lead	< 5.0	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Nickel	< 5.0	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		5/14/01	EPA 335.4	EPA 335.4

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : FLDBLK
Lab Sample Number : 911348-008
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony	< 10	10	ug/L		5/15/01	SW846 3015	SW846 6010B
Arsenic	< 10	10	ug/L		5/15/01	SW846 3015	SW846 6010B
Barium	< 5.0	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Cadmium	< 1.0	1.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Chromium	< 3.0	3.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Lead	< 5.0	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Nickel	< 5.0	5.0	ug/L		5/15/01	SW846 3015	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		5/14/01	EPA 335.4	EPA 335.4

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : MW-6
Lab Sample Number : 911348-001
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 5/8/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1221	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1232	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1242	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1248	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1254	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1260	< 1.0	1.0	ug/L		5/9/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		5/8/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #3
Lab Sample Number : 911348-002
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 5/8/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1221	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1232	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1242	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1248	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1254	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1260	< 1.0	1.0	ug/L		5/9/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		5/8/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #4
Lab Sample Number : 911348-003
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 5/8/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1221	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1232	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1242	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1248	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1254	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1260	< 1.0	1.0	ug/L		5/9/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		5/8/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #5
Lab Sample Number : 911348-004
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 5/8/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1221	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1232	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1242	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1248	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1254	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1260	< 1.0	1.0	ug/L		5/9/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		5/8/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #1
Lab Sample Number : 911348-005
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 5/8/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1221	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1232	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1242	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1248	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1254	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1260	< 1.0	1.0	ug/L		5/9/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		5/8/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : DUP1501
Lab Sample Number : 911348-006
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 5/8/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1221	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1232	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1242	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1248	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1254	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1260	< 1.0	1.0	ug/L		5/9/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		5/8/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : DUP2501
Lab Sample Number : 911348-007
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 5/8/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1221	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1232	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1242	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1248	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1254	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1260	< 1.0	1.0	ug/L		5/9/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		5/8/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : FLDBLK
Lab Sample Number : 911348-008
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 5/8/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1221	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1232	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1242	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1248	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1254	< 1.0	1.0	ug/L		5/9/01	SW846 8082
Aroclor 1260	< 1.0	1.0	ug/L		5/9/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		5/8/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : TRIP BLANK
Lab Sample Number : 911348-009
Lab Project Number : 911348

Submitter : RMT - MADISON
Report Date : 5/16/01
Collection Date : 5/4/01
Matrix Type : BLANK
WI DNR LAB ID : 113172950

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER **Prep Method: SW846 5030**

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		5/8/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		5/8/01	SW846 8260B

Laboratory Results for August 2001

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Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #3
Lab Sample Number : 912796-004
Lab Project Number : 912796

Submitter : RMT - MADISON
Report Date : 9/10/01
Collection Date : 8/21/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 8/27/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1221	< 0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1232	< 0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1242	< 0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1248	< 0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1254	< 0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1260	< 0.50	0.50	ug/L		8/30/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		8/31/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		8/31/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		8/31/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		8/31/01	SW846 8260B

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Project Name : RED PENN
Project Number : 4896.18
Field ID : DUP801A
Lab Sample Number : 912796-006
Lab Project Number : 912796

Submitter : RMT - MADISON
Report Date : 9/10/01
Collection Date :
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — Prep Method: SW846 3510 — Prep Date: 8/27/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1221	< 0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1232	< 0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1242	< 0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1248	< 0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1254	< 0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1260	< 0.50	0.50	ug/L		8/30/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — Prep Method: SW846 5030

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		8/31/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		8/31/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		8/31/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		8/31/01	SW846 8260B

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Project Name : RED PENN
Project Number : 4896.18
Field ID : DUP801B
Lab Sample Number : 912796-007
Lab Project Number : 912796

Submitter : RMT - MADISON
Report Date : 9/10/01
Collection Date :
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — Prep Method: SW846 3510 — Prep Date: 8/27/01

Analyte		Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	<	0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1221	<	0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1232	<	0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1242	<	0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1248	<	0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1254	<	0.50	0.50	ug/L		8/30/01	SW846 8082
Aroclor 1260	<	0.50	0.50	ug/L		8/30/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — Prep Method: SW846 5030

Analyte		Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	<	1.0	1.0	ug/L		8/31/01	SW846 8260B
Chlorobenzene	<	1.0	1.0	ug/L		8/31/01	SW846 8260B
Chloroethane	<	2.0	2.0	ug/L		8/31/01	SW846 8260B
cis-1,2-Dichloroethene	<	1.0	1.0	ug/L		8/31/01	SW846 8260B

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Project Name : RED PENN
Project Number : 4896.18
Field ID : TRIP BLANK
Lab Sample Number : 912796-008
Lab Project Number : 912796

Submitter : RMT - MADISON
Report Date : 9/10/01
Collection Date :
Matrix Type : BLANK
WI DNR LAB ID : 113172950

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER **Prep Method: SW846 5030**

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		8/31/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		8/31/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		8/31/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		8/31/01	SW846 8260B

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Project Name : RED PENN
Project Number : 4896.18
Field ID : TRIP BLANK
Lab Sample Number : 912796-009
Lab Project Number : 912796

Submitter : RMT - MADISON
Report Date : 9/10/01
Collection Date :
Matrix Type : BLANK
WI DNR LAB ID : 113172950

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER **Prep Method: SW846 5030**

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		8/31/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		8/31/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		8/31/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		8/31/01	SW846 8260B

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Project Name : RED PENN
Project Number : 4896.18
Field ID : DUP801A
Lab Sample Number : 912796-006
Lab Project Number : 912796

Submitter : RMT - MADISON
Report Date : 9/10/01
Collection Date :
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - Dissolved	< 10	10	ug/L		8/29/01	SW846 6010B	SW846 6010B
Arsenic - Dissolved	< 10	10	ug/L		8/29/01	SW846 6010B	SW846 6010B
Barium - Dissolved	94	5.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Cadmium - Dissolved	1.0	1.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Chromium - Dissolved	< 3.0	3.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Lead - Dissolved	< 5.0	5.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Nickel - Dissolved	19	5.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		8/29/01	EPA 335.4	EPA 335.4

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Project Name : RED PENN

Project Number : 4896.18

Client : RMT - MADISON

Report Date : 9/10/01

WI DNR LAB ID : 113172950

Lab Sample No.	Field ID	Collection Date	Lab Sample No.	Field ID	Collection Date
912796-001	MW6	8/21/01			
912796-002	SPRING #1	8/21/01			
912796-003	SPRING #4	8/21/01			
912796-004	SPRING #3	8/21/01			
912796-005	FLDBLK	8/21/01			
912796-006	DUP801A				
912796-007	DUP801B				
912796-008	TRIP BLANK				
912796-009	TRIP BLANK				

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this final report is authorized by Laboratory management, as is verified by the following signature.

Tod Noltemeyer
Approval Signature

9/11/01
Date

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Project Name : RED PENN
Project Number : 4896.18
Field ID : MW6
Lab Sample Number : 912796-001
Lab Project Number : 912796

Submitter : RMT - MADISON
Report Date : 9/10/01
Collection Date : 8/21/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - Dissolved	< 10	10	ug/L		8/29/01	SW846 6010B	SW846 6010B
Arsenic - Dissolved	< 10	10	ug/L		8/29/01	SW846 6010B	SW846 6010B
Barium - Dissolved	100	5.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Cadmium - Dissolved	2.3	1.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Chromium - Dissolved	< 3.0	3.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Lead - Dissolved	< 5.0	5.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Nickel - Dissolved	20	5.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		8/29/01	EPA 335.4	EPA 335.4

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #1
Lab Sample Number : 912796-002
Lab Project Number : 912796

Submitter : RMT - MADISON
Report Date : 9/10/01
Collection Date : 8/21/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - Dissolved	< 10	10	ug/L		8/29/01	SW846 6010B	SW846 6010B
Arsenic - Dissolved	< 10	10	ug/L		8/29/01	SW846 6010B	SW846 6010B
Barium - Dissolved	37	5.0	ug/L	E	8/29/01	SW846 6010B	SW846 6010B
Cadmium - Dissolved	1.5	1.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Chromium - Dissolved	< 3.0	3.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Lead - Dissolved	< 5.0	5.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Nickel - Dissolved	< 5.0	5.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		8/29/01	EPA 335.4	EPA 335.4

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Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING #4
Lab Sample Number : 912796-003
Lab Project Number : 912796

Submitter : RMT - MADISON
Report Date : 9/10/01
Collection Date : 8/21/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - Dissolved	< 10	10	ug/L		8/29/01	SW846 6010B	SW846 6010B
Arsenic - Dissolved	11	10	ug/L		8/29/01	SW846 6010B	SW846 6010B
Barium - Dissolved	160	5.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Cadmium - Dissolved	< 1.0	1.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Chromium - Dissolved	11	3.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Lead - Dissolved	< 5.0	5.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Nickel - Dissolved	18	5.0	ug/L		8/29/01	SW846 6010B	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		8/29/01	EPA 335.4	EPA 335.4

Laboratory Results for November 2001

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- Analytical Report -

Project Name : RED PENN

Project Number : 4896.18

Client : RMT - MADISON

Report Date : 12/13/01

WI DNR LAB ID : 113172950

Lab Sample No.	Field ID	Collection Date	Lab Sample No.	Field ID	Collection Date
914170-001	SPRING 1	11/27/01			
914170-002	MW6	11/27/01			
914170-003	SPRING 2	11/27/01			
914170-004	SPRING 3	11/27/01			
914170-005	SPRING 4	11/27/01			
914170-006	SPRING 5	11/27/01			
914170-007	FLDBLK1101	11/27/01			
914170-008	DUP1101				
914170-009	TRIP BLANK				

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this final report is authorized by Laboratory management, as is verified by the following signature.

Todd Nottemeyer

Approval Signature

12/14/01

Date

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING 1
Lab Sample Number : 914170-001
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date : 11/27/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - Dissolved	< 10	10	ug/L		12/3/01	SW846 6010B	SW846 6010B
Arsenic - Dissolved	< 10	10	ug/L		12/3/01	SW846 6010B	SW846 6010B
Barium - Dissolved	24	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Cadmium - Dissolved	< 1.0	1.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Chromium - Dissolved	< 3.0	3.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Lead - Dissolved	< 5.0	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Nickel - Dissolved	< 5.0	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		12/5/01	EPA 335.4	EPA 335.4

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Project Name : RED PENN
Project Number : 4896.18
Field ID : MW6
Lab Sample Number : 914170-002
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date : 11/27/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - Dissolved	< 10	10	ug/L		12/3/01	SW846 6010B	SW846 6010B
Arsenic - Dissolved	< 10	10	ug/L		12/3/01	SW846 6010B	SW846 6010B
Barium - Dissolved	96	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Cadmium - Dissolved	< 1.0	1.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Chromium - Dissolved	< 3.0	3.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Lead - Dissolved	< 5.0	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Nickel - Dissolved	6.9	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		12/5/01	EPA 335.4	EPA 335.4

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- Analytical Report -

Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING 2
Lab Sample Number : 914170-003
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date : 11/27/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - Dissolved	< 10	10	ug/L		12/3/01	SW846 6010B	SW846 6010B
Arsenic - Dissolved	< 10	10	ug/L		12/3/01	SW846 6010B	SW846 6010B
Barium - Dissolved	50	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Cadmium - Dissolved	< 1.0	1.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Chromium - Dissolved	< 3.0	3.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Lead - Dissolved	< 5.0	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Nickel - Dissolved	< 5.0	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		12/5/01	EPA 335.4	EPA 335.4

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Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING 3
Lab Sample Number : 914170-004
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date : 11/27/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - Dissolved	< 10	10	ug/L		12/3/01	SW846 6010B	SW846 6010B
Arsenic - Dissolved	< 10	10	ug/L		12/3/01	SW846 6010B	SW846 6010B
Barium - Dissolved	140	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Cadmium - Dissolved	< 1.0	1.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Chromium - Dissolved	< 3.0	3.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Lead - Dissolved	< 5.0	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Nickel - Dissolved	15	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		12/5/01	EPA 335.4	EPA 335.4

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Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING 4
Lab Sample Number : 914170-005
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date : 11/27/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - Dissolved	< 10	10	ug/L		12/5/01	SW846 3015	SW846 6010B
Arsenic - Dissolved	< 10	10	ug/L		12/5/01	SW846 3015	SW846 6010B
Barium - Dissolved	320	5.0	ug/L		12/5/01	SW846 3015	SW846 6010B
Cadmium - Dissolved	< 1.0	1.0	ug/L		12/5/01	SW846 3015	SW846 6010B
Chromium - Dissolved	8.8	3.0	ug/L		12/5/01	SW846 3015	SW846 6010B
Lead - Dissolved	< 5.0	5.0	ug/L		12/5/01	SW846 3015	SW846 6010B
Nickel - Dissolved	15	5.0	ug/L		12/5/01	SW846 3015	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		12/5/01	EPA 335.4	EPA 335.4

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Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING 5
Lab Sample Number : 914170-006
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date : 11/27/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - Dissolved	< 10	10	ug/L		12/3/01	SW846 6010B	SW846 6010B
Arsenic - Dissolved	< 10	10	ug/L		12/3/01	SW846 6010B	SW846 6010B
Barium - Dissolved	80	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Cadmium - Dissolved	< 1.0	1.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Chromium - Dissolved	< 3.0	3.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Lead - Dissolved	< 5.0	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Nickel - Dissolved	< 5.0	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		12/5/01	EPA 335.4	EPA 335.4

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Project Name : RED PENN
Project Number : 4896.18
Field ID : FLDBLK1101
Lab Sample Number : 914170-007
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date : 11/27/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - Dissolved	< 10	10	ug/L		12/3/01	SW846 6010B	SW846 6010B
Arsenic - Dissolved	< 10	10	ug/L		12/3/01	SW846 6010B	SW846 6010B
Barium - Dissolved	< 5.0	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Cadmium - Dissolved	< 1.0	1.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Chromium - Dissolved	< 3.0	3.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Lead - Dissolved	< 5.0	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Nickel - Dissolved	< 5.0	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		12/5/01	EPA 335.4	EPA 335.4

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Project Name : RED PENN
Project Number : 4896.18
Field ID : DUP1101
Lab Sample Number : 914170-008
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date :
Matrix Type : WATER
WI DNR LAB ID : 113172950

Inorganic Results

Test	Result	EQL	Units	Code	Analysis Date	Prep Method	Analysis Method
Antimony - Dissolved	< 10	10	ug/L		12/3/01	SW846 6010B	SW846 6010B
Arsenic - Dissolved	< 10	10	ug/L		12/3/01	SW846 6010B	SW846 6010B
Barium - Dissolved	24	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Cadmium - Dissolved	< 1.0	1.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Chromium - Dissolved	< 3.0	3.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Lead - Dissolved	< 5.0	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Nickel - Dissolved	< 5.0	5.0	ug/L		12/3/01	SW846 6010B	SW846 6010B
Cyanide, total	< 0.010	0.010	mg/L		12/5/01	EPA 335.4	EPA 335.4

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Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING 1
Lab Sample Number : 914170-001
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date : 11/27/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 12/2/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1221	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1232	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1242	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1248	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1254	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1260	< 1.0	1.0	ug/L		12/6/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030 — **Prep Date:** 11/30/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		11/30/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B

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Project Name : RED PENN
Project Number : 4896.18
Field ID : MW6
Lab Sample Number : 914170-002
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date : 11/27/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 12/2/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1221	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1232	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1242	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1248	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1254	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1260	< 1.0	1.0	ug/L		12/6/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030 — **Prep Date:** 11/30/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		11/30/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B

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Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING 2
Lab Sample Number : 914170-003
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date : 11/27/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 12/2/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1221	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1232	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1242	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1248	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1254	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1260	< 1.0	1.0	ug/L		12/6/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030 — **Prep Date:** 11/30/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		11/30/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B

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Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING 3
Lab Sample Number : 914170-004
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date : 11/27/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 12/2/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1221	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1232	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1242	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1248	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1254	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1260	< 1.0	1.0	ug/L		12/6/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030 — **Prep Date:** 11/30/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		11/30/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B

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Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING 4
Lab Sample Number : 914170-005
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date : 11/27/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — Prep Method: SW846 3510 — Prep Date: 12/2/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1221	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1232	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1242	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1248	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1254	< 1.0	1.0	ug/L		12/6/01	SW846 8082
Aroclor 1260	< 1.0	1.0	ug/L		12/6/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — Prep Method: SW846 5030 — Prep Date: 11/30/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		11/30/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B

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Project Name : RED PENN
Project Number : 4896.18
Field ID : SPRING 5
Lab Sample Number : 914170-006
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date : 11/27/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 12/2/01

Analyte		Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	<	0.99	0.99	ug/L		12/6/01	SW846 8082
Aroclor 1221	<	0.99	0.99	ug/L		12/6/01	SW846 8082
Aroclor 1232	<	0.99	0.99	ug/L		12/6/01	SW846 8082
Aroclor 1242	<	0.99	0.99	ug/L		12/6/01	SW846 8082
Aroclor 1248	<	0.99	0.99	ug/L		12/6/01	SW846 8082
Aroclor 1254	<	0.99	0.99	ug/L		12/6/01	SW846 8082
Aroclor 1260	<	0.99	0.99	ug/L		12/6/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030 — **Prep Date:** 11/30/01

Analyte		Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	<	1.0	1.0	ug/L		11/30/01	SW846 8260B
Chlorobenzene	<	1.0	1.0	ug/L		11/30/01	SW846 8260B
Chloroethane	<	2.0	2.0	ug/L		11/30/01	SW846 8260B
cis-1,2-Dichloroethene	<	1.0	1.0	ug/L		11/30/01	SW846 8260B

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Project Name : RED PENN
Project Number : 4896.18
Field ID : FLDBLK1101
Lab Sample Number : 914170-007
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date : 11/27/01
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 12/2/01

Analyte		Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	<	0.99	0.99	ug/L		12/6/01	SW846 8082
Aroclor 1221	<	0.99	0.99	ug/L		12/6/01	SW846 8082
Aroclor 1232	<	0.99	0.99	ug/L		12/6/01	SW846 8082
Aroclor 1242	<	0.99	0.99	ug/L		12/6/01	SW846 8082
Aroclor 1248	<	0.99	0.99	ug/L		12/6/01	SW846 8082
Aroclor 1254	<	0.99	0.99	ug/L		12/6/01	SW846 8082
Aroclor 1260	<	0.99	0.99	ug/L		12/6/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030 — **Prep Date:** 11/30/01

Analyte		Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	<	1.0	1.0	ug/L		11/30/01	SW846 8260B
Chlorobenzene	<	1.0	1.0	ug/L		11/30/01	SW846 8260B
Chloroethane	<	2.0	2.0	ug/L		11/30/01	SW846 8260B
cis-1,2-Dichloroethene	<	1.0	1.0	ug/L		11/30/01	SW846 8260B

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Project Name : RED PENN
Project Number : 4896.18
Field ID : DUP1101
Lab Sample Number : 914170-008
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date :
Matrix Type : WATER
WI DNR LAB ID : 113172950

Semivolatile Organic Results

PCB LIST — **Prep Method:** SW846 3510 — **Prep Date:** 12/2/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Aroclor 1016	< 0.98	0.98	ug/L		12/6/01	SW846 8082
Aroclor 1221	< 0.98	0.98	ug/L		12/6/01	SW846 8082
Aroclor 1232	< 0.98	0.98	ug/L		12/6/01	SW846 8082
Aroclor 1242	< 0.98	0.98	ug/L		12/6/01	SW846 8082
Aroclor 1248	< 0.98	0.98	ug/L		12/6/01	SW846 8082
Aroclor 1254	< 0.98	0.98	ug/L		12/6/01	SW846 8082
Aroclor 1260	< 0.98	0.98	ug/L		12/6/01	SW846 8082

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER — **Prep Method:** SW846 5030 — **Prep Date:** 11/30/01

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		11/30/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B

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Project Name : RED PENN
Project Number : 4896.18
Field ID : TRIP BLANK
Lab Sample Number : 914170-009
Lab Project Number : 914170

Submitter : RMT - MADISON
Report Date : 12/13/01
Collection Date :
Matrix Type : BLANK
WI DNR LAB ID : 113172950

Volatile Organic Results

SPECIAL VOLATILE LIST - WATER **Prep Method: SW846 5030** **Prep Date: 11/30/01**

Analyte	Result	EQL	Units	Code	Analysis Date	Analysis Method
Benzene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B
Chlorobenzene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B
Chloroethane	< 2.0	2.0	ug/L		11/30/01	SW846 8260B
cis-1,2-Dichloroethene	< 1.0	1.0	ug/L		11/30/01	SW846 8260B

Database Summary Reports

Red Penn Landfill
Spring 1 Sample Results
January - December 2001

PARAMETER	UNITS	SPRING-01 02/28/2001 910584-003	SPRING-01 05/04/2001 911348-005	SPRING-01 DUP 05/04/2001 911348-007	SPRING-01 08/21/2001 912796-002	SPRING-01 DUP 08/21/2001 912796-007	SPRING-01 11/27/2001 914170-001	SPRING-01 DUP 11/27/2001 914170-008
Color, Field		Clear	Clear		Clear		Cloudy	
Conductance, Specific	UMHOS/CM	470	500		500		300	
pH, Field	SU	7.62	7.94		6.60		5.75	
Temperature	DEG C	10.8	14.3		17.3		16.3	
Cyanide, Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Antimony, Dissolved	µg/L	<10	<10	<10	<10	<10	<10	<10
Arsenic, Dissolved	µg/L	<10	<10	<10	<10	<10	<10	<10
Barium, Dissolved	µg/L	34	37	37	37 E	35	24	24
Cadmium, Dissolved	µg/L	<1.0	1.1	<1.0	1.5	1.2	<1.0	<1.0
Chromium, Dissolved	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Lead, Dissolved	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Nickel, Dissolved	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Aroclor-1016	µg/L	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.98
Aroclor-1221	µg/L	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.98
Aroclor-1232	µg/L	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.98
Aroclor-1242	µg/L	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.98
Aroclor-1248	µg/L	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.98
Aroclor-1254	µg/L	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.98
Aroclor-1260	µg/L	<0.50	<1.0	<1.0	<0.50	<0.50	<1.0	<0.98
Benzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Cis-1,2-dichloroethene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Red Penn Landfill
Created by: AOG, 2/21/02
Checked by: BJP

Red Penn Landfill
Spring 2 Sample Results
January - December 2001

PARAMETER	UNITS	SPRING-02 02/21/2001 910520-002	SPRING-02 05/04/2001 010504-X06 (1)	SPRING-02 08/21/2001 010821-X01 (1)	SPRING-02 11/27/2001 914170-003
Color, Field		Clear			S Cloudy
Conductance, specific	UMHOS/CM	890			590
pH, Field	SU	7.34			6.29
Temperature	DEG C	4.3			14.4
Cyanide, Total	mg/L	<0.010			<0.010
Antimony, Dissolved	µg/L	<10			<10
Arsenic, Dissolved	µg/L	<10			<10
Barium, Dissolved	µg/L	120			50
Cadmium, Dissolved	µg/L	<1.0			<1.0
Chromium, Dissolved	µg/L	<3.0			<3.0
Lead, Dissolved	µg/L	6.3			<5.0
Nickel, Dissolved	µg/L	7.2			<5.0
Aroclor-1016	µg/L	<1.0			<1.0
Aroclor-1221	µg/L	<1.0			<1.0
Aroclor-1232	µg/L	<1.0			<1.0
Aroclor-1242	µg/L	<1.0			<1.0
Aroclor-1248	µg/L	<1.0			<1.0
Aroclor-1254	µg/L	<1.0			<1.0
Aroclor-1260	µg/L	<1.0			<1.0
Benzene	µg/L	<1.0			<1.0
Chlorobenzene	µg/L	<1.0			<1.0
Chloroethane	µg/L	<2.0			<2.0
Cis-1,2-dichloroethene	µg/L	<1.0			<1.0

Note:
(1) Spring was dry during the sampling event.

Red Penn Landfill
Created by: AOG, 2/21/02
Checked by: BJP

Red Penn Landfill
Spring 3 Sample Events
January - December 2001

PARAMETER	UNITS	SPRING-03 02/21/2001 910520-003	SPRING-03 05/04/2001 911348-002	SPRING-03 08/21/2001 912796-004	SPRING-03 11/27/2001 914170-004
Color, Field			L Amber	L Amber	L Brown
Conductance, Specific	UMHOS/CM	2400	475	4800	1450
pH, Field	SU	7.65	8.21	7.33	6.29
Temperature	DEG C	6.3	21.9	21.5	14.4
Cyanide, Total	mg/L	<0.010	0.012	0.012	<0.010
Antimony, Dissolved	µg/L	<10	<10	<10	<10
Arsenic, Dissolved	µg/L	<10	<10	<10	<10
Barium, Dissolved	µg/L	340	310	270	140
Cadmium, Dissolved	µg/L	<1.0	<1.0	<1.0	<1.0
Chromium, Dissolved	µg/L	6.8	8.6	7.4	<3.0
Lead, Dissolved	µg/L	13	<5.0	<5.0	<5.0
Nickel, Dissolved	µg/L	45	51	47	15
Aroclor-1016	µg/L	<1.0	<1.0	<0.50	<1.0
Aroclor-1221	µg/L	<1.0	<1.0	<0.50	<1.0
Aroclor-1232	µg/L	<1.0	<1.0	<0.50	<1.0
Aroclor-1242	µg/L	<1.0	<1.0	<0.50	<1.0
Aroclor-1248	µg/L	<1.0	<1.0	<0.50	<1.0
Aroclor-1254	µg/L	<1.0	<1.0	<0.50	<1.0
Aroclor-1260	µg/L	<1.0	<1.0	<0.50	<1.0
Benzene	µg/L	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0
Chloroethane	µg/L	<2.0	<2.0	<2.0	<2.0
Cis-1,2-dichloroethene	µg/L	<1.0	<1.0	<1.0	<1.0

Red Penn Landfill
Created by: AOG, 2/21/02
Checked by: BJP

Red Penn Landfill
Spring 4 Sample Results
January - December 2001

PARAMETER	UNITS	SPRING-04 02/28/2001 910584-002	SPRING-04 05/04/2001 911348-003	SPRING-04 08/21/2001 912796-003	SPRING-04 11/27/2001 914170-005
Color, Field		Clear	Cloudy	Cloudy	Clear
Conductance, Specific	UMHOS/CM	4050	5900	5500	3700
pH, Field	SU	8.44	8.3	7.90	6.18
Temperature	DEG C	9.4	28.0	25.4	14.4
Cyanide, Total	mg/L	<0.010	<0.010	<0.010	<0.010
Antimony, Dissolved	µg/L	<10	<10	<10	<10
Arsenic, Dissolved	µg/L	<10	<10	11	<10
Barium, Dissolved	µg/L	530	290	160	320
Cadmium, Dissolved	µg/L	<1.0	<1.0	<1.0	<1.0
Chromium, Dissolved	µg/L	28	28	11	8.8
Lead, Dissolved	µg/L	11	<5.0	<5.0	<5.0
Nickel, Dissolved	µg/L	32	27	18	15
Aroclor-1016	µg/L	<0.50	<1.0	<0.50	<1.0
Aroclor-1221	µg/L	<0.50	<1.0	<0.50	<1.0
Aroclor-1232	µg/L	<0.50	<1.0	<0.50	<1.0
Aroclor-1242	µg/L	<0.50	<1.0	<0.50	<1.0
Aroclor-1248	µg/L	<0.50	<1.0	<0.50	<1.0
Aroclor-1254	µg/L	<0.50	<1.0	<0.50	<1.0
Aroclor-1260	µg/L	<0.50	<1.0	<0.50	<1.0
Benzene	µg/L	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0
Chloroethane	µg/L	<2.0	<2.0	<2.0	<2.0
Cis-1,2-dichloroethene	µg/L	<1.0	<1.0	<1.0	<1.0

Red Penn Landfill
Created by: AOG, 2/21/02
Checked by: BJP

Red Penn Landfill
Spring 5 Sample Results
January - December 2001

PARAMETER	UNITS	SPRING-05 02/28/2001 910584-001	SPRING-05 05/04/2001 911348-004	SPRING-05 08/21/2001 010821-X02 (1)	SPRING-05 11/27/2001 914170-006
Color, field		Clear	Clear		Clear
Conductance, specific	UMHOS/CM	750	805		385
pH, field	SU	8.07	8.98		6.19
Temperature	DEG C	8.6	22.7		14.4
Cyanide, Total	mg/L	<0.010	<0.010		<0.010
Antimony, Dissolved	µg/L	<10	<10		<10
Arsenic, Dissolved	µg/L	<10	<10		<10
Barium, Dissolved	µg/L	100	88		80
Cadmium, Dissolved	µg/L	<1.0	<1.0		<1.0
Chromium, Dissolved	µg/L	<3.0	<3.0		<3.0
Lead, Dissolved	µg/L	<5.0	<5.0		<5.0
Nickel, Dissolved	µg/L	<5.0	<5.0		<5.0
Aroclor-1016	µg/L	<0.50	<1.0		<0.99
Aroclor-1221	µg/L	<0.50	<1.0		<0.99
Aroclor-1232	µg/L	<0.50	<1.0		<0.99
Aroclor-1242	µg/L	<0.50	<1.0		<0.99
Aroclor-1248	µg/L	<0.50	<1.0		<0.99
Aroclor-1254	µg/L	<0.50	<1.0		<0.99
Aroclor-1260	µg/L	<0.50	<1.0		<0.99
Benzene	µg/L	<1.0	<1.0		<1.0
Chlorobenzene	µg/L	<1.0	<1.0		<1.0
Chloroethane	µg/L	<2.0	<2.0		<2.0
Cis-1,2-dichloroethene	µg/L	<1.0	<1.0		<1.0

Note:
(1) Spring was dry during the sampling event.

Red Penn Landfill
Created by: AOG, 2/21/02
Checked by: BJP

Red Penn Landfill
Quality Control Sample Results
January - December 2001

PARAMETER	UNITS	FIELD BLANK-01 05/04/2001 911348-008	FIELD BLANK-01 08/21/2001 912796-005	FIELD BLANK-01 11/27/2001 914170-007
Cyanide, Total	mg/L	<0.010	<0.010	<0.010
Antimony, Dissolved	µg/l	<10	<10	<10
Arsenic, Dissolved	µg/l	<10	<10	<10
Barium, Dissolved	µg/l	<5.0	<5.0	<5.0
Cadmium, Dissolved	µg/l	<1.0	<1.0	<1.0
Chromium, Dissolved	µg/l	<3.0	<3.0	<3.0
Lead, Dissolved	µg/l	<5.0	<5.0	<5.0
Nickel, Dissolved	µg/l	<5.0	<5.0	<5.0
Aroclor-1016	µg/l	<1.0	<0.50	<0.99
Aroclor-1221	µg/l	<1.0	<0.50	<0.99
Aroclor-1232	µg/l	<1.0	<0.50	<0.99
Aroclor-1242	µg/l	<1.0	<0.50	<0.99
Aroclor-1248	µg/l	<1.0	<0.50	<0.99
Aroclor-1254	µg/l	<1.0	<0.50	<0.99
Aroclor-1260	µg/l	<1.0	<0.50	<0.99
Benzene	µg/l	<1.0	<1.0	<1.0
Chlorobenzene	µg/l	<1.0	<1.0	<1.0
Chloroethane	µg/l	<2.0	<2.0	<2.0
Cis-1,2-dichloroethene	µg/l	<1.0	<1.0	<1.0

Red Penn Landfill
Created by: AOG, 2/21/02
Checked by: BJP

Red Penn Landfill
Quality Control Sample Results
January - December 2001

PARAMETER	UNITS	TRIP BLANK-01 02/21/2001 910520-004	TRIP BLANK-01 02/28/2001 910584-006	TRIP BLANK-01 05/04/2001 911348-009	TRIP BLANK-01 08/21/2001 912796-008	TRIP BLANK-02 08/21/2001 912796-009	TRIP BLANK-01 11/27/2001 914170-009
Cyanide, Total	µg/l	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Antimony, Dissolved	µg/l	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	µg/l	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Cis-1,2-dichloroethene	µg/l	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Red Penn Landfill
Created by: AOG, 2/21/02
Checked by: BJP

Red Penn Landfill
Monitoring Well 06 Sample Results
January - December 2001

PARAMETER	UNITS	MW-06 02/21/2001 910520-001	MW-06 05/04/2001 911348-001	MW-06 DUP 05/04/2001 911348-006	MW-06 08/21/2001 912796-001	MW-06 DUP 08/21/2001 912796-006	MW-06 11/27/2001 914170-002
Color, Field		Clear	Clear		Clear		Clear
Conductance, Specific	UMHOS/CM	430	460		510		600
Depth to Water	Feet	2.49	3.07		3.36		2.65
pH, Field	SU	7.20	6.89		7.14		6.86
Temperature	DEG C	9.2	12.7		19.2		15.0
Cyanide, Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Antimony, Dissolved	µg/L	<10	<10	<10	<10	<10	<10
Arsenic, Dissolved	µg/L	<10	<10	<10	<10	<10	<10
Barium, Dissolved	µg/L	85	84	84	100	94	96
Cadmium, Dissolved	µg/L	<1.0	<1.0	<1.0	2.3	1.0	<1.0
Chromium, Dissolved	µg/L	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Lead, Dissolved	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Nickel, Dissolved	µg/L	27	12	18	20	19	6.9
Aroclor-1016	µg/L	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
Aroclor-1221	µg/L	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
Aroclor-1232	µg/L	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
Aroclor-1242	µg/L	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
Aroclor-1248	µg/L	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
Aroclor-1254	µg/L	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
Aroclor-1260	µg/L	<1.0	<1.0	<1.0	<0.50	<0.50	<1.0
Benzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Cis-1,2-Dichloroethene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Red Penn Landfill
Created by: AOG, 2/21/02
Checked by: BJP

Red Penn Landfill
Monitoring Well 8002 - 8975 Sample Results
January - December 2001

PARAMETER	UNITS	MW-8002-8975 02/28/2001 910584-004	MW-8002-8975 05/04/200 010504-X04 (1)	MW-8002-8975 08/21/200 010821-X06 (2)	MW-8002-8975 11/27/2001 011127-X01 (2)
Color, Field		Clear		Milky	Cloudy
Conductance, Specific	UMHOS/CM	4800		5500	6500
Depth to Water	Feet	39.11		46.92	46.92
pH, Field	SU	7.91		7.11	7.01
Temperature	DEG C	13.1		13.7	13.4
Cyanide, Total	mg/L	<0.010			
Antimony, Dissolved	µg/L	<10			
Arsenic, Dissolved	µg/L	<10			
Barium, Dissolved	µg/L	66			
Cadmium, Dissolved	µg/L	<1.0			
Chromium, Dissolved	µg/L	9.6			
Lead, Dissolved	µg/L	8.7			
Nickel, Dissolved	µg/L	22			
Aroclor-1016	µg/L	<0.50			
Aroclor-1221	µg/L	<0.50			
Aroclor-1232	µg/L	<0.50			
Aroclor-1242	µg/L	<0.50			
Aroclor-1248	µg/L	<0.50			
Aroclor-1254	µg/L	<0.50			
Aroclor-1260	µg/L	<0.50			
Benzene	µg/L	<1.0			
Chlorobenzene	µg/L	<1.0			
Chloroethane	µg/L	<2.0			
Cis-1,2-Dichloroethene	µg/L	<1.0			

Notes:
(1) Well dry during the sampling event.
(2) Well did not recover during the sampling event after being bailed dry.

Red Penn Landfill
Created by: AOG, 2/21/02
Checked by: BJP

Red Penn Landfill
Monitoring Well 8002 - 8979 Sample Results
January - December 2001

PARAMETER	UNITS	MW-8002-8979 02/28/2001 910584-005	MW-8002-8979 05/04/2001 010504-X05 (1)	MW-8002-8979 08/21/2001 010821-X07 (2)	MW-8002-8979 11/27/2001 011127-X02 (2)
Clear		Cloudy		Mildy	Cloudy
Conductance, Specific	UMHOS/CM	5000		6100	7500
Depth to Water	Feet	50.35		63.45	63.86
pH, Field	SU	7.58		6.93	6.65
Temperature	DEG C	13.1		13.7	13.9
Cyanide, Total	mg/L	<0.010			
Antimony, Dissolved	µg/L	<10			
Arsenic, Dissolved	µg/L	10			
Barium, Dissolved	µg/L	160			
Cadmium, Dissolved	µg/L	<1.0			
Chromium, Dissolved	µg/L	35			
Lead, Dissolved	µg/L	22			
Nickel, Dissolved	µg/L	52			
Aroclor-1016	µg/L	<0.50			
Aroclor-1221	µg/L	<0.50			
Aroclor-1232	µg/L	<0.50			
Aroclor-1242	µg/L	<0.50			
Aroclor-1248	µg/L	<0.50			
Aroclor-1254	µg/L	<0.50			
Aroclor-1260	µg/L	<0.50			
Benzene	µg/L	1.1			
Chlorobenzene	µg/L	<1.0			
Chloroethane	µg/L	<2.0			
Cis-1,2-Dichloroethene	µg/L	<1.0			

Notes:
(1) Well dry during the sampling event.
(2) Well did not recover during the sampling event following being bailed dry.

Red Penn Landfill
Created by: AOG, 2/21/02
Checked by: BJP

Attachment B

Site Inspection Reports

Red-Penn Landfill

Inspection Report

Date: February 23, 2001

Temperature: 35°F

Inspector: MG Zoellner

Weather: Sunny

Ground Conditions: Moist

Item	Adequate	Requires Maintenance	Comments/Observations
Final Cover			
Vegetation	X		
Erosion		X	Erosion is evident along site access road.
Burrowing animals	X		
Settlement	X		
Other		X	The silt fence needs to be replaced in some areas.
Surface Water Controls			
Diversion berms	X		
Final cover spillway	X		There is some sediment buildup in riprap; however, the riprap is functioning properly.
Other	X		There is some water on the southeastern corner of the landfill, south of Spring #4, due to wet weather. No maintenance is necessary.
Groundwater and Leachate Head Wells			
Locks	X		
Structural integrity	X		Settlement around the LH-1 has caused the PVC casing to come in contact with the protective cover, however, the cover can still be closed and locked.
Entrance Gate and Lock	X		

Red-Penn Landfill

Inspection Report

Date: May 4, 2001

Temperature: 50's°F

Inspector: Matt G. Zoellner/ W. Lew Ditto

Weather: Sunny

Ground Conditions: Dry, except where noted.

Item	Adequate	Requires Maintenance	Comments/Observations
Final Cover			
Vegetation	X		Areas of the soil cover have been seeded (noted seed on ground) by Martin Landscaping.
Erosion	X		Recent actions (hay bales, and rocks) by Martin Landscaping to reduce erosion near the access road were apparent.
Burrowing animals	X		
Settlement	X		
Other			
Surface Water Controls			
Diversion berms	X		
Final cover spillway	X		There is some sediment buildup in the riprap. The riprap is functioning properly.
Other	X		There is some standing water on the southeastern corner of the landfill, south of Spring #4 due to wet weather. No maintenance is necessary.
Groundwater and Leachate Head Wells			
Locks	X		
Structural integrity	X		
Entrance Gate and lock	X		

Red-Penn Landfill

Inspection Report

Date: August 21, 2001

Temperature: 80's°F

Inspector: W. Lew Ditto

Weather: Clear and sunny

Ground Conditions: Dry

Item	Adequate	Requires Maintenance	Comments/Observations
Final Cover(1)			
Vegetation		X	Some areas need reseeding to fill in areas of sparse vegetation.
Erosion		X	Erosion is evident along the sideslopes of the cap in the following areas: northwest of LH-1 has 1-foot gullies; area south of Spring #4 has 6-inch gullies; area north of Spring #3 has 8-inch gullies. Erosion will be repaired during the spring 2002 monitoring period.
Burrowing animals	X		
Settlement	X		
Other	X		Silt fence identified as missing 2/01 was replaced in 6/01.
Surface Water Controls(2)			
Diversion berms		X	Erosion was noted on northern side of the diversion berm closest to Springs #2 and #3. Erosion evident next to riprap approximately 100 feet from final cover spillway. Erosion will be repaired during the spring 2002 monitoring period.
Final cover spillway	X		Silt fence missing in final cover spillway. However, the riprap is controlling drainage and the silt fence does not need to be replaced.
Other		X	Drainage from final cap on the northern side of the main entrance road has eroded the material next to the riprap and has removed riprap from the area, leaving the geotextile exposed.
Groundwater and Leachate Head Wells(3)			
Locks	X		The lock on well LH-2 is corroded (it could not be opened). The lock was removed and replaced with Master Lock 0536. No lock is present on the well located at the northern/northwestern side of the cap next to the gas line right-of-way. This well is not included in the routine monitoring program.
Structural integrity	X		
Entrance Gate and lock(4)	X		Placed new Waste Management Master Lock on gate.

Red-Penn Landfill

Inspection Report

Date: November 27, 2001

Temperature: 50's°F

Inspector: Lew Ditto

Weather: Cloudy, overcast, rain yesterday

Ground Conditions: Wet, soft, some standing water

Item	Adequate	Requires Maintenance	Comments/Observations
Final Cover			
Vegetation		X	The areas identified in the August 2001 inspection report were seeded in September 2001. Some areas still need to be seeded to establish vegetative cover.
Erosion		X	Because of the soft soil conditions, the inspection was limited to areas that could be observed while walking to the sampling points. Erosion was noted along the sideslopes of the cap in the following areas: the area south of Spring #4 had 6-inch gullies, and the area north of Spring #3 had 8-inch gullies. Erosion will be repaired during the spring 2002 monitoring period.
Burrowing animals	X		
Settlement	X		
Other			
Surface Water Controls			
Diversion berms		X	Erosion was noted on the northern side of the diversion berm closest to Springs #2 and #3. Erosion is next to riprap approximately 100 feet from the final cover spillway. Erosion will be repaired during the spring 2002 monitoring period.
Final cover spillway	X		
Other	X		Work has been completed to control erosion where sheet flow from the cap flows on the northern side of the entrance road. Riprap was restored to the area.
Groundwater and Leachate Head Wells			
Locks		X	The lock on leachate well LH-1 is bent and unusable. Additionally, the protective casing cannot be locked with the length of PVC extending above the protective casing. Leachate well LH-2 still has an RMT Master Lock 0536. The lock on leachate well LH-3 is highly corroded, but still useable.
Structural integrity		X	Leachate head well LH-1 must be modified. The protective casing cannot be locked due to settlement.
Entrance gate and lock	X		

March 13, 2003

Ms. Susan Mallette
Geologist
Kentucky Division of Waste Management
18 Reilly Road
Frankfort, KY 40601

Subject: Red Penn Landfill, Pewee Valley, Kentucky
Year 2002 Annual OM&M Report

Dear Susan:

This letter report presents the results of the second year (2002) of post-construction operation, maintenance, and monitoring (OM&M) activities at the Red Penn Landfill. The quarterly OM&M activities, which included groundwater sampling, leachate head monitoring, and site inspection, were performed in accordance with the Post-Construction Performance Standards Verification Plan (Section 3 of the Final Remedial Design [RMT, October 1999]), and the Operation, Monitoring, and Maintenance Plan (Appendix G of the Final Remedial Design).

Monitoring and site inspection visits were conducted in February, May, August, and November 2002, and consisted of the following activities:

- Sampling three groundwater monitoring wells
- Sampling five surface water springs
- Measuring the liquid levels in three leachate head wells
- Conducting site inspections

As discussed below, not all of the groundwater monitoring wells and surface water springs could be sampled during each quarterly monitoring event, because some were dry when the OM&M activities were conducted.

Groundwater and Spring Monitoring Results

The groundwater and spring samples were analyzed for VOCs, PCBs, metals, and total cyanide, as specified in the OM&M Plan (the locations of the monitoring points are shown on Figure 1). At the time of the OM&M activities, the following groundwater monitoring wells and springs could not be sampled because either they were dry (springs and wells) or the water did not recharge within a reasonable amount of time after being bailed dry (wells):

February	May	August	November
■ Spring #4	■ MW-8002-8975	■ MW-8002-8975[1]	■ MW-8002-8975[1]
■ MW-8002-8979	■ MW-8002-8979	■ MW-8002-8979	■ MW-8002-8979
	■ Spring #4	■ Spring #2	■ Spring #4
		■ Spring #3	
		■ Spring #4	
		■ Spring #5	

Note:
[1] This well recovered only enough to obtain samples for VOC analysis.

No VOCs, PCBs, or total cyanide was detected in any of the water samples, with the exception of benzene at MW-8002-8975 in February and November, and total cyanide at Spring #2 and Spring #3 in November. Benzene was detected at concentrations of 1.2 µg/L (February) and 2.4 µg/L (November), and total cyanide was detected at concentrations of 0.11 mg/L (Spring #2) and 0.011 mg/L (Spring #3). The benzene concentrations and the cyanide concentration of 0.011 mg/L are just above their Estimated Quantitation Limits (EQLs). The cyanide concentration of 0.11 mg/L is at a level higher than has previously been observed; however, this was the only detection in the 40 samples collected over the last 2 years of monitoring. The result from the next monitoring event will be reviewed to assess if an increasing trend for cyanide is occurring at Spring #2. The laboratory reports and a summary report, with data validation flags (as applicable), are contained in Appendix A.

PCBs were initially reported in the Spring #3 sample in November; however, the laboratory suspected that this was the result of laboratory contamination. Therefore another sample was extracted and analyzed for PCBs to verify the original result. PCBs were not detected in the re-extracted sample; however, because the re-extracted sample was extracted past the sample hold time, the data did not meet the laboratories acceptance criterion. Consequently, Spring #3 was resampled in December, and PCBs were not detected in this sample. Because neither the analytical results from the re-extracted laboratory sample nor the confirmation sample indicates the presence of PCBs at Spring #3, the original result for PCBs was most likely the result of laboratory contamination.

The following metals were analyzed during each sampling event: antimony, arsenic, barium, cadmium, chromium, lead, and nickel. The metals that were detected during the 2002 monitoring activities were as follows:

Metal	Minimum Concentration (µg/L)	Maximum Concentration (µg/L)	Frequency of Detection Above the EQL
Barium	39.7	218	17/17
Chromium	< 3.0	5.4	2/17
Nickel	< 5.0	41.0	6/17

Figures 2 through 8 show the time trends for the following parameters: arsenic, barium, cadmium, chromium, lead, nickel, and total cyanide. On Figures 2 through 8, the parameters that were detected in the groundwater samples in 2002 show a stable or downward trend when compared to the results from 2001, with the exception of cyanide at Spring #2. Additional data are needed to assess a potential trend for cyanide at Spring #2.

Leachate Head Levels

The pre- and post-construction leachate head data are presented in Table 1 and graphed on Figure 9. Completion of the final cover occurred in the fall of 2000. The leachate head data indicate that the final cover continues to reduce surface water infiltration into the waste and has significantly reduced the leachate head levels. Leachate head level trends will be evaluated following the 5-year post-construction monitoring period, as required in the Final Remedial Design.

Site Inspections

Site inspection activities included inspecting the final cover and performing maintenance or repairs as necessary for the following items:

- Surface water controls (*e.g.*, diversion berms and the spillway)
- Final cover (*e.g.*, vegetation, erosion, settlement, and burrowing animals)
- Groundwater and leachate monitoring wells
- Site access control

A summary of the maintenance and repair activities performed during 2002 is included in Table 2. The quarterly site inspection reports are included in Appendix B. Many of the maintenance items that were identified during the 2002 inspections were addressed either during the same site visit as the inspection in which they were identified, or during the following site visit. The remaining maintenance items are scheduled for spring or summer 2003, when the final cover can support truck traffic without it causing rutting or other damage to the cover soil.

Please call me, at (608) 662-5271, if you have any questions regarding this report.

Sincerely,

RMT, Inc.

Michael J. Amstadt P.E.
Project Manager

Attachments: Tables
Figures
Laboratory Results and Database Summary Reports
Site Inspection Reports

cc: Jim Forney, Waste Management, Inc.
Jeff Hartland, Ford Motor Land Services Corporation
Linda Hicken and Jeff Sass, RMT, Inc.

Table 1
Red Penn Landfill
Pewee Valley, Kentucky
Leachate Head Measurements and Calculated Elevations

Date	Top of PVC Casing (ft. M.S.L.)	Depth of Leachate Below Top of PVC Casing (ft.)	Leachate Elevation (ft. M.S.L.)	Bottom of PVC Screen (ft. M.S.L.)[1]	Height of Leachate Above Bottom of PVC Screen (ft.)
LEACHATE HEAD WELL LH-1					
6-May-99	709.83	8.0	701.83	675.30	26.53
15-Sep-99	709.83	13.0	696.83	675.30	21.53
12-Aug-00	709.83	21.9	687.93	675.30	12.63
29-Aug-00	709.83	22.5	687.33	675.30	12.03
26-Sep-00	709.83	21.45	688.38	675.30	13.08
28-Feb-01	709.83	21.09	688.74	675.30	13.44
4-May-01	709.83	21.22	688.61	675.30	13.31
21-Aug-01	709.83	21.46	688.37	675.30	13.07
27-Nov-01	709.83	21.58	688.25	675.30	12.95
18-Feb-02	709.35	23.88	685.47	675.30	10.17
21-May-02	709.35	24.02	685.33	675.30	10.03
08-Aug-02	709.35	23.98	685.37	675.30	10.07
18-Nov-02	709.35	23.99	685.36	675.30	10.06
LEACHATE HEAD WELL LH-2					
6-May-99	687.72	6.0	681.72	636.27	45.45
15-Sep-99	687.72	14.0	673.72	636.27	37.45
12-Aug-00	687.72	10.2	677.52	636.27	41.25
29-Aug-00	687.72	11.0	676.72	636.27	40.45
26-Sep-00	687.72	10.2	677.52	636.27	41.25
28-Feb-01	687.72	17.44	670.28	636.27	34.01
4-May-01	687.72	20.87	666.85	636.27	30.58
21-Aug-01	687.72	20.61	667.11	636.27	30.84
27-Nov-01	687.72	20.43	667.29	636.27	31.02
18-Feb-02	687.72	21.57	666.15	636.27	29.88
21-May-02	687.72	21.71	666.01	636.27	29.74
08-Aug-02	687.39	22.52	664.87	636.27	28.60
18-Nov-02	687.39	23.98	663.41	636.27	27.14

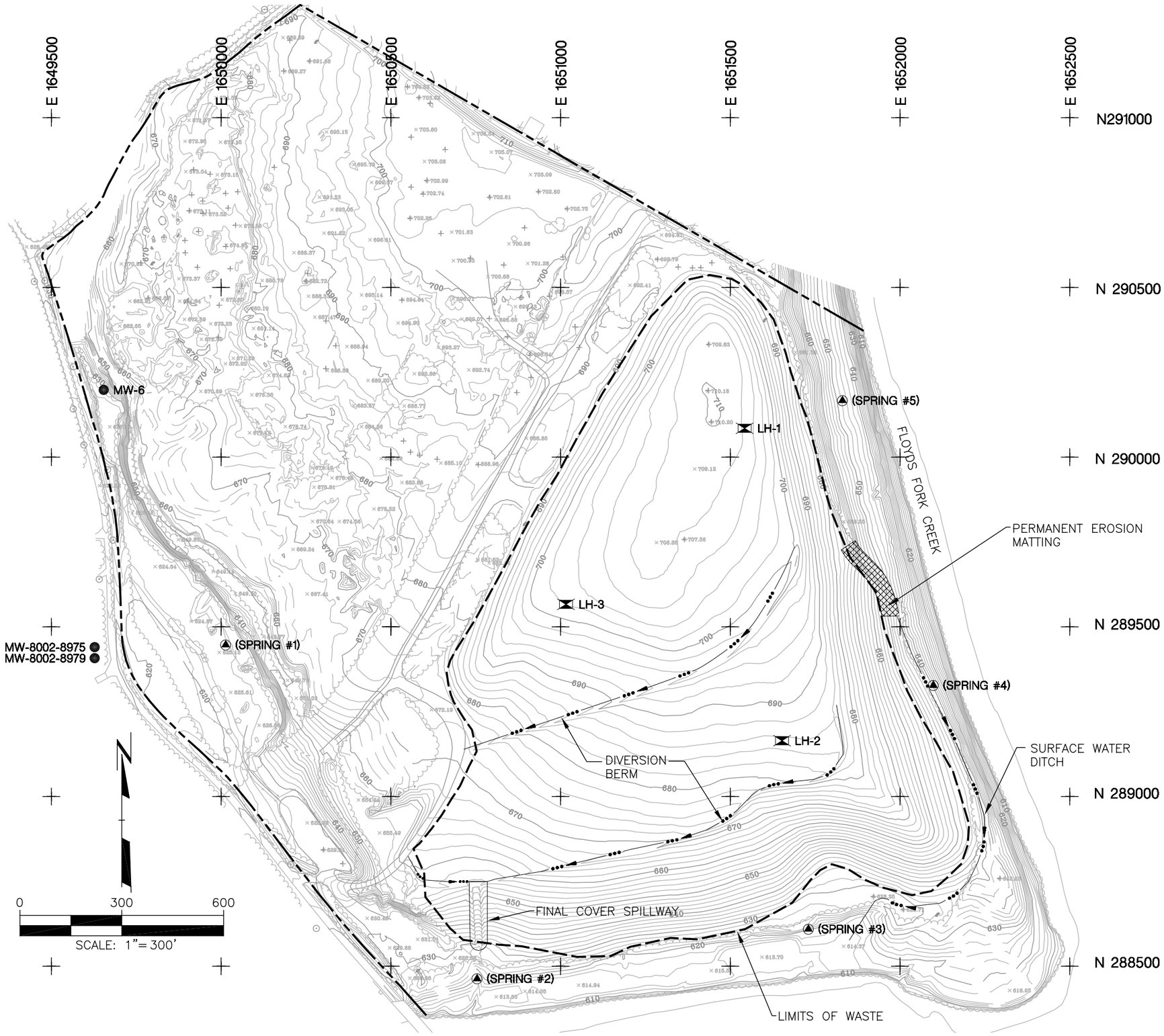
Table 1 (*continued*)
Red Penn Landfill
Pewee Valley, Kentucky
Leachate Head Measurements and Calculated Elevations

Date	Top of PVC Casing (ft. M.S.L.)	Depth of Leachate Below Top of PVC Casing (ft.)	Leachate Elevation (ft. M.S.L.)	Bottom of PVC Screen (ft. M.S.L.)[1]	Height of Leachate Above Bottom of PVC Screen (ft.)
LEACHATE HEAD WELL LH-3					
6-May-99	704.49	23.0[2]	681.49	677.58	3.91[2]
15-Sep-99	704.49	14.0	690.49	677.58	12.91
12-Aug-00	704.49	19.4	685.09	677.58	7.51
29-Aug-00	704.49	19.5	684.99	677.58	7.41
26-Sep-00	704.49	20.4	684.09	677.58	6.51
28-Feb-01	704.49	22.39	682.10	677.58	4.52
4-May-01	704.49	22.06	682.43	677.58	4.85
21-Aug-01	704.49	22.92	681.57	677.58	3.99
27-Nov-01	704.49	23.12	681.37	677.58	3.79
18-Feb-02	704.49	23.65	680.84	677.58	3.26
21-May-02	704.49	24.99	679.50	677.58	1.92
08-Aug-02	704.49	25.79	678.70	677.58	1.12
18-Nov-02	704.49	24.66	679.83	677.58	2.25

Note:
(1) Bottom of PVC screen is approximately 1 foot above the base of the landfill.
(2) Leachate head well LH-3 was initially dry when the well was completed. The depth of leachate in LH-3 on May 6, 1999, was measured 24 hours after the completion of LH-3, in accordance with the Leachate Head Well Installation Workplan; however, the leachate level was still rising at the time of the measurement. Therefore, it is not believed that this was a representative leachate head level.

Table 2
Red Penn Landfill
Pewee Valley, Kentucky
Status of Maintenance Items

Item	Description of Maintenance Item	Date Identified	Date Repair/ Maintenance Completed	Scheduled Date for Repair
1	Areas of sparse vegetation on the final cover need reseeding. Areas were reseeded.	2/18/02	7/02	_____
2	Erosion of the final cover was noted along the sideslopes in the northwestern area west of LH-1, in the area west of Spring #4, in the area north of Spring #3, and in the vicinity north of both diversion berms. Areas were repaired and reseeded.	2/18/02	7/02	_____
3	The PVC riser at LH-2 needs to be cut so that the protective casing can be closed and locked. The casing has settled around the riser pipe. The riser pipe was cut down to allow the casing to be locked.	2/18/02	8/9/02	_____
4	Some debris was noted outside of the locked entrance gate. The debris was removed.	2/18/02	7/02	_____
5	Erosion ruts are present in the northwestern area of the final cover, in the vicinity of Spring #4, and along the diversion berms. Areas were repaired and reseeded.	5/29/02	7/02	_____
6	Erosion was noted beyond the final cover limits along the eastern side of the landfill.	8/9/02	_____	Spring 2003
7	The locks at LH-1, LH-2, and LH-3 were corroded. All locks were replaced with Waste Management Master Lock #2126.	8/9/02	8/9/02 and 11/19/02	_____
8	Erosion ruts are present in the northwestern area of the final cover, and along the eastern side between Springs #4 and #5.	11/19/02	_____	Spring 2003
9	Some bare areas in the final cover require additional reseeding to re-establish vegetative cover.	11/19/02	_____	Spring 2003
10	Installed 10-foot–long ¾-inch PVC pipe adjacent to LH-1, LH-2 and LH-3 to facilitate locating wells more easily.	8/9/02	11/19/02	_____
11	Vehicle tire rutting on surface of final cover was noted.	11/19/02	_____	Spring 2003



LEGEND

- APPROXIMATE PROPERTY LINE
- GRID TICK LOCATION
- 710 — EXISTING 10' CONTOUR INTERVAL
- EXISTING 2' CONTOUR INTERVAL
- EXISTING TREELINE
- x 616.7 — EXISTING SPOT ELEVATION
- EXISTING BUILDING
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- SP-5 — APPROXIMATE GEOPROBE LOCATION AND NUMBER
- LH-1 — EXISTING LEACHATE HEAD WELL LOCATION AND NUMBER
- (SPRING #1) — APPROXIMATE SURFACE WATER SAMPLING LOCATION AND NUMBER
- MW-6 — APPROXIMATE MONITORING WELL LOCATION AND NUMBER

NOTES

1. BASE MAP WAS DEVELOPED FROM AN AERIAL SURVEY PERFORMED BY OAS INC., ON NOVEMBER 15, 2000.
2. CONTOUR INTERVAL IS TWO FEET.
3. VERTICAL DATUM IS REFERENCED TO USGS MEAN SEA LEVEL DATUM.
4. THE PROJECT GRID SYSTEM IS PARALLEL AND PERPENDICULAR TO THE KENTUCKY STATE PLANE COORDINATE GRID SYSTEM, NORTH AMERICAN DATUM OF 1927.
5. THE LOCATIONS OF THE LEACHATE HEAD WELLS WERE OBTAINED DURING A SURVEY PERFORMED BY WESTERMAN & ASSOCIATES, LOUISVILLE, KENTUCKY. DATE OF SURVEY: MAY 19, 1999.
6. THE LOCATIONS OF THE SPRINGS ARE APPROXIMATE AND ARE BASED ON FIELD OBSERVATIONS.
7. THE LOCATIONS OF MW–6, MW–8002–8975 AND MW–8002–8979 ARE APPROXIMATE AND ARE BASED ON A LOCATION MAP SUPPLIED BY THE KENTUCKY DIVISION OF WASTE MANAGEMENT.

PROJECT:

RED PENN LANDFILL
PEWEE VALLEY, KENTUCKY

SHEET TITLE:

ENVIRONMENTAL MONITORING LOCATIONS

DRAWN BY: HOOKSB	SCALE:	PROJ. NO. 04896.20
CHECKED BY: MJA	1"=300'	FILE NO. 48962003.DWG
APPROVED BY: MJA	DATE PRINTED:	**FIGURE 1**
DATE: MARCH 2003		

RMT INC.
744 Heartland Trail
Madison, WI 53717–1934
P.O. Box 8923 53708–8923
Phone: 608–831–4444
Fax: 608–831–3334

PLOT DATA
Drawing Name: J:\04896\20\48962003.dwg
Operator Name: hooksb
Scale: 1"=40'
Dwg Size: 115205 Bytes

Plot Date: Monday, October 28, 2002
Plot Time: 08:09.59 AM
Attached Xref's: JNKLOW; BM12–2000;
Attached Image's: No images attached

Figure 2
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Arsenic
in Surface Water and Groundwater Samples

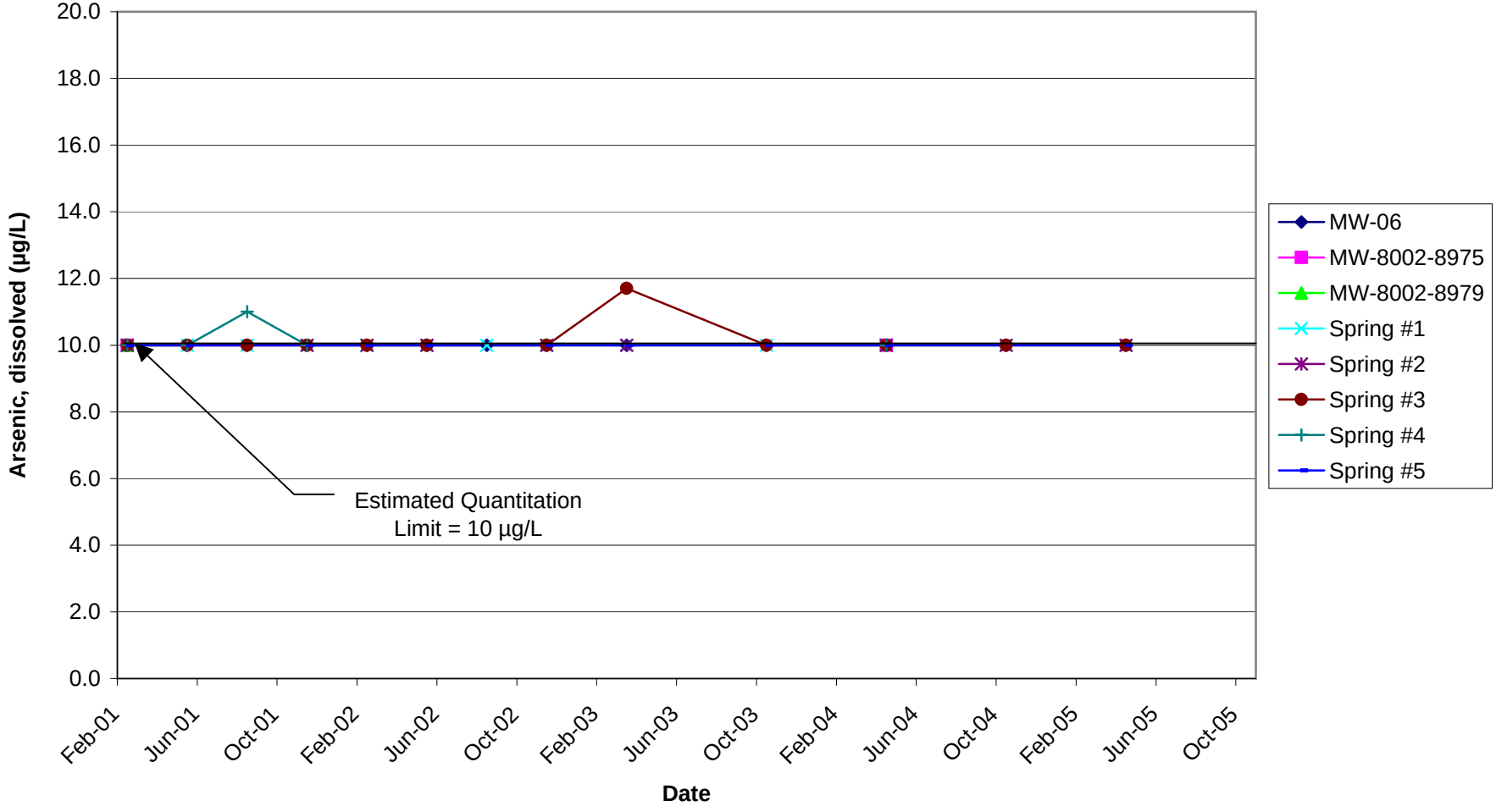


Figure 3
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Barium
in Surface Water and Groundwater Samples

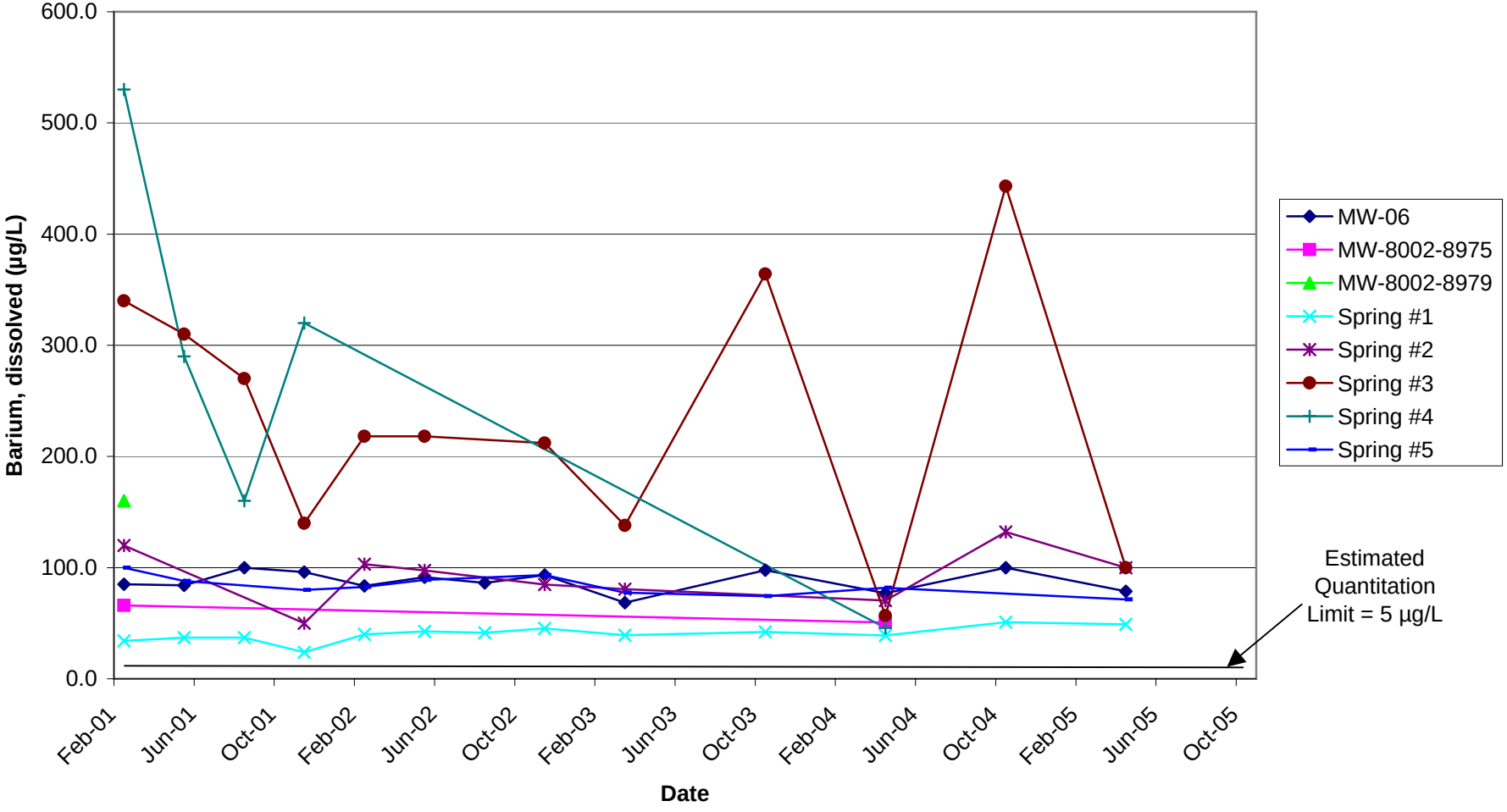


Figure 4
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Cadmium
in Surface Water and Groundwater Samples

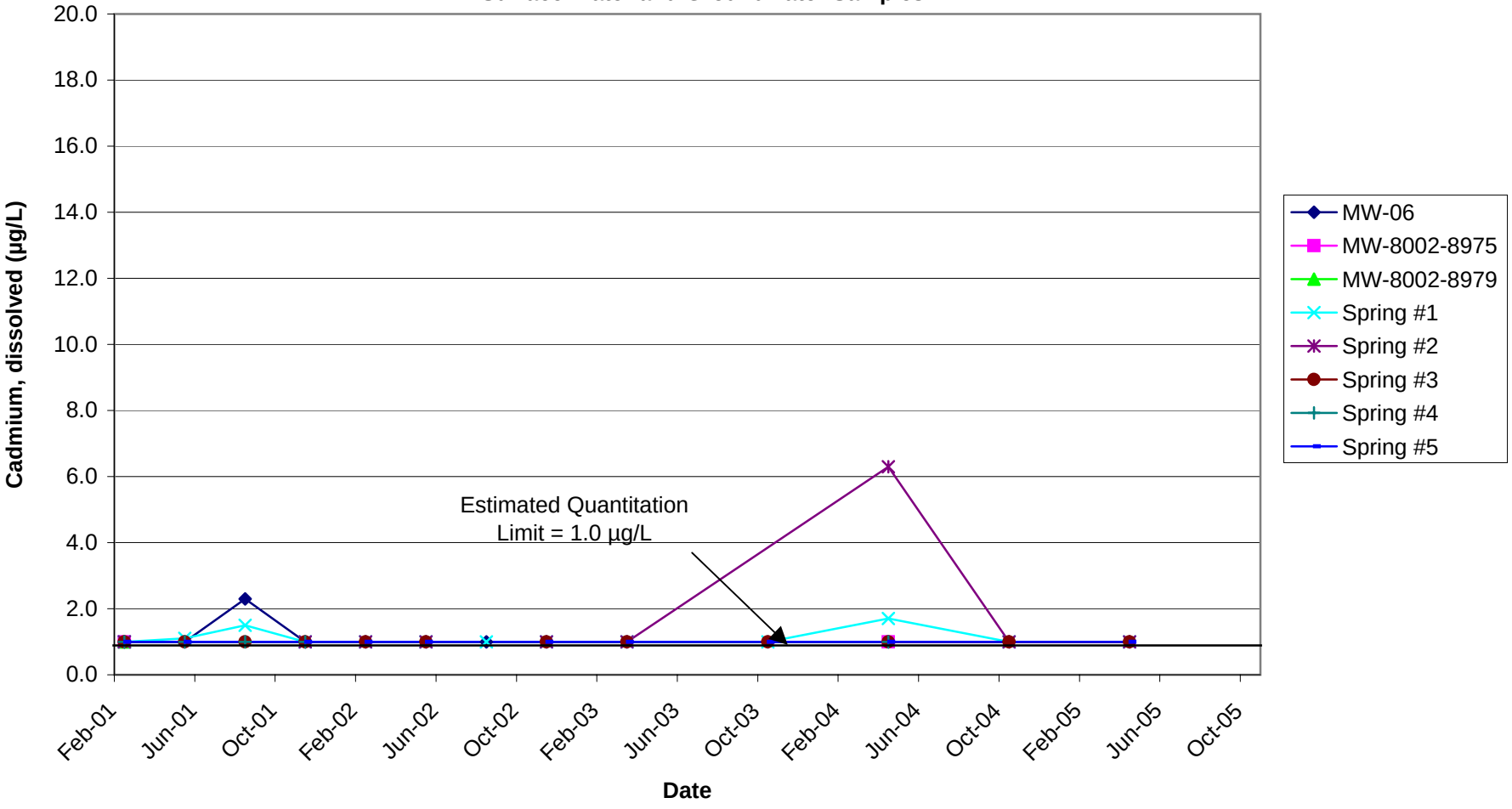


Figure 5
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Chromium
in Surface Water and Groundwater Samples

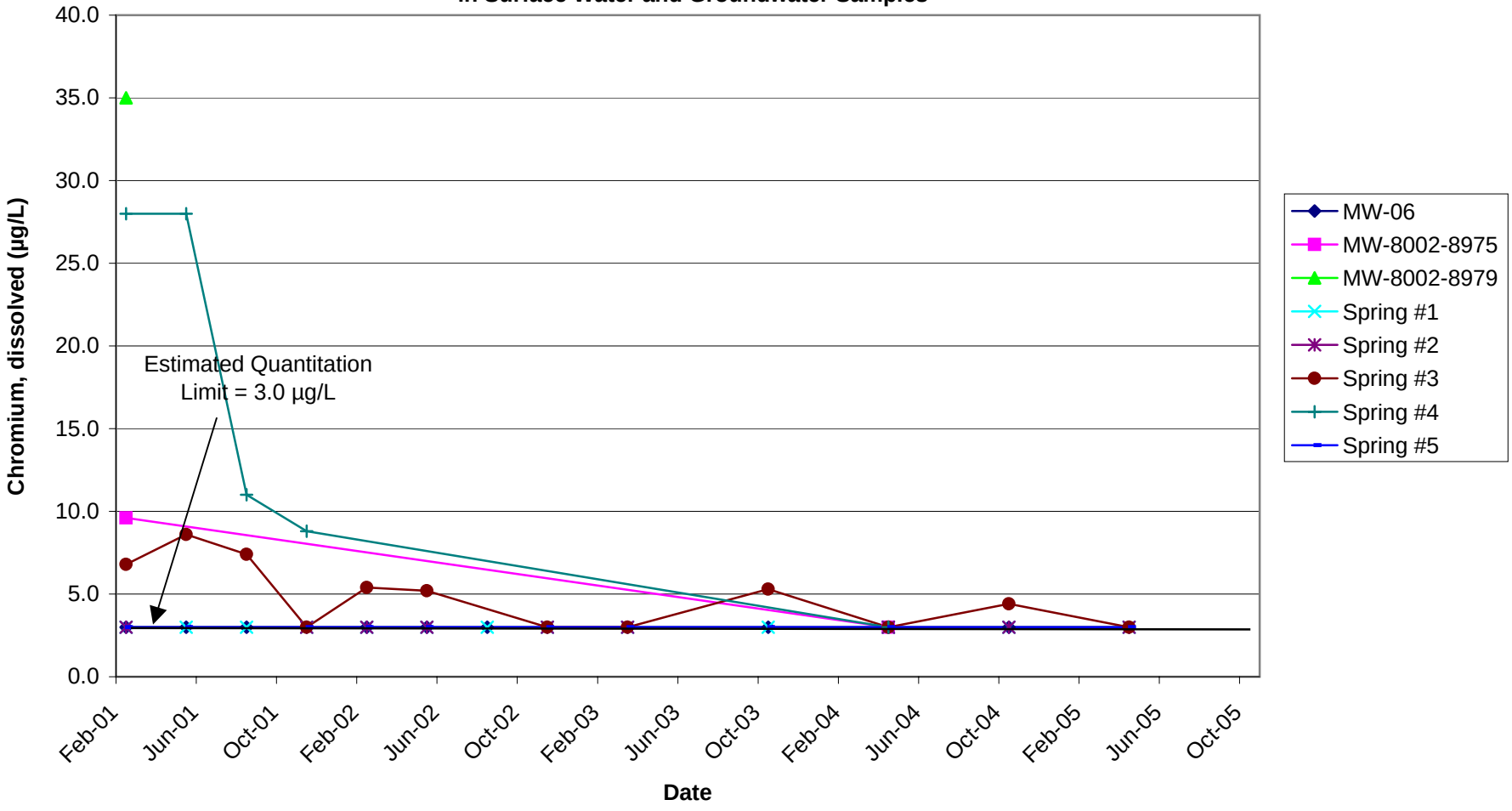


Figure 6
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Lead
in Surface Water and Groundwater Samples

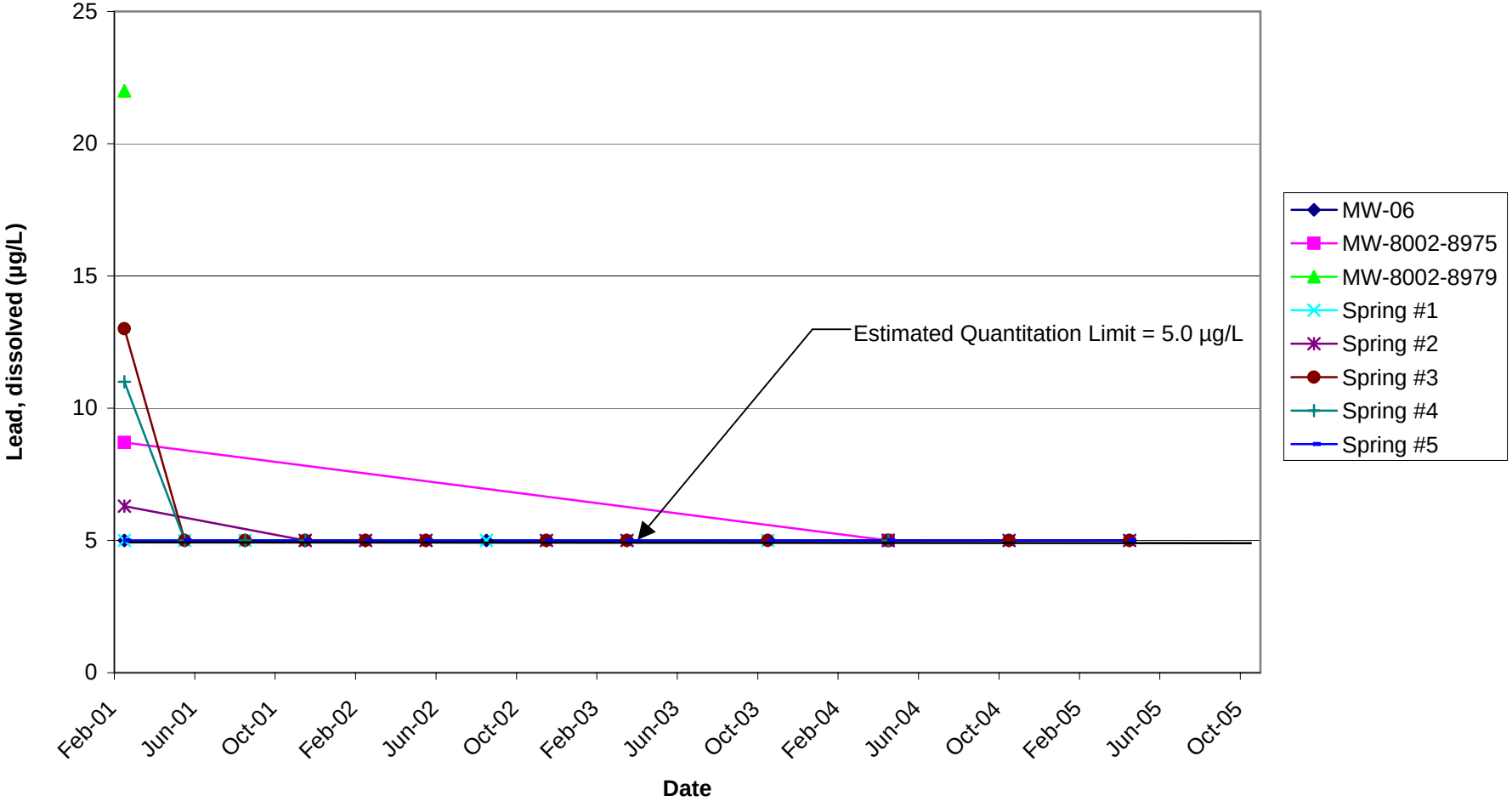


Figure 7
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Nickel
in Surface Water and Groundwater Samples

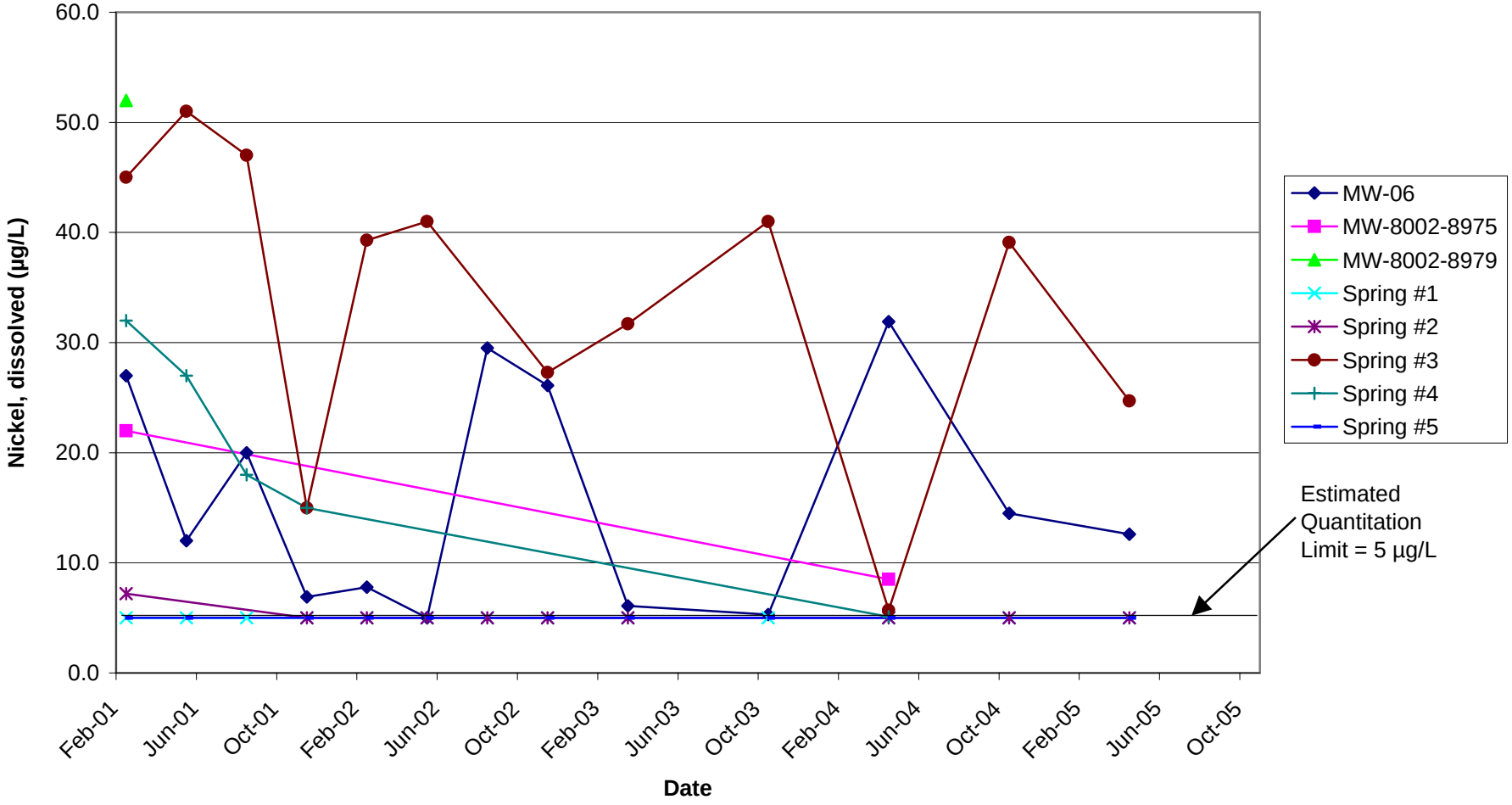


Figure 8
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Total Cyanide
in Surface Water and Groundwater Samples

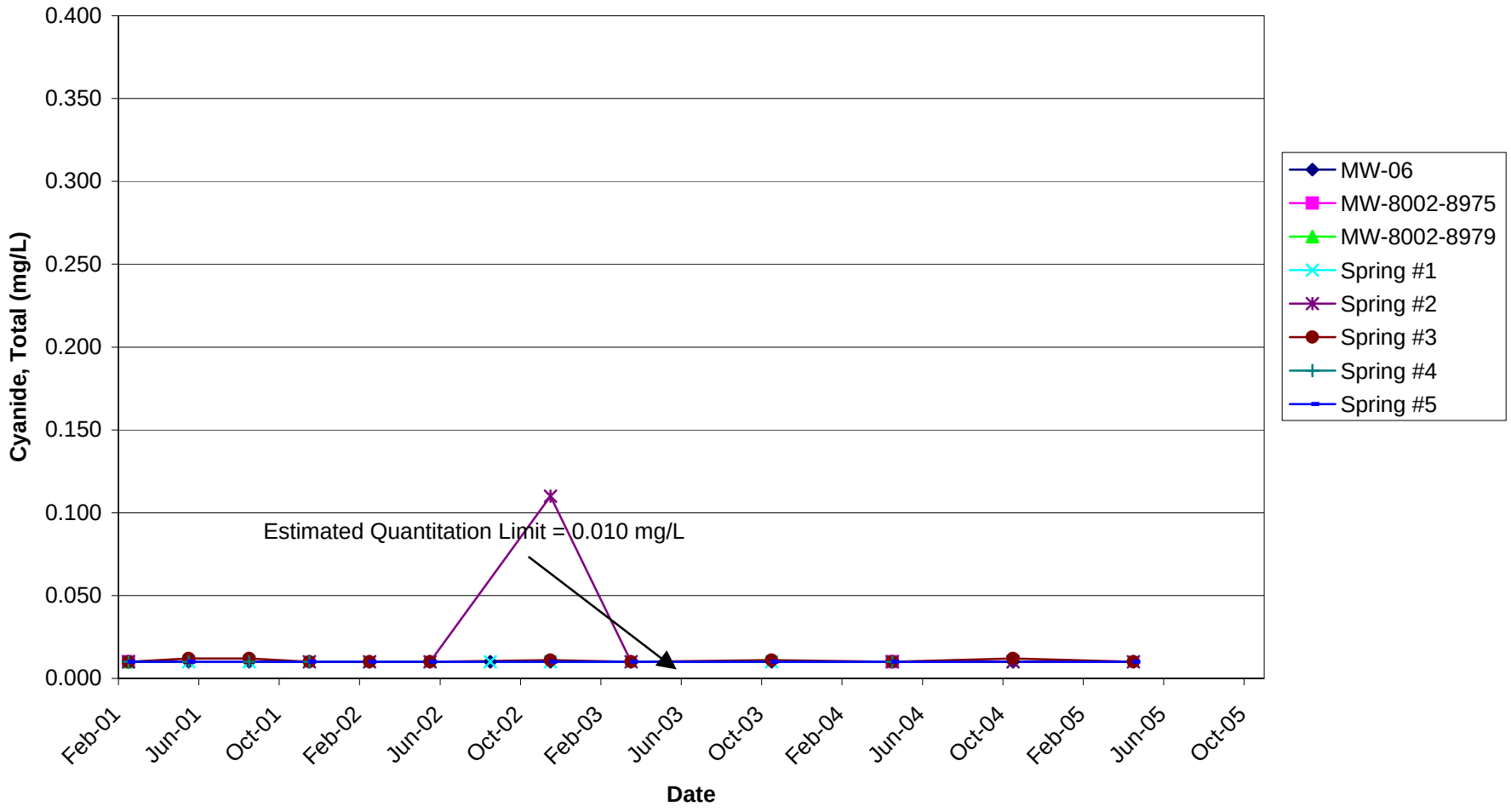
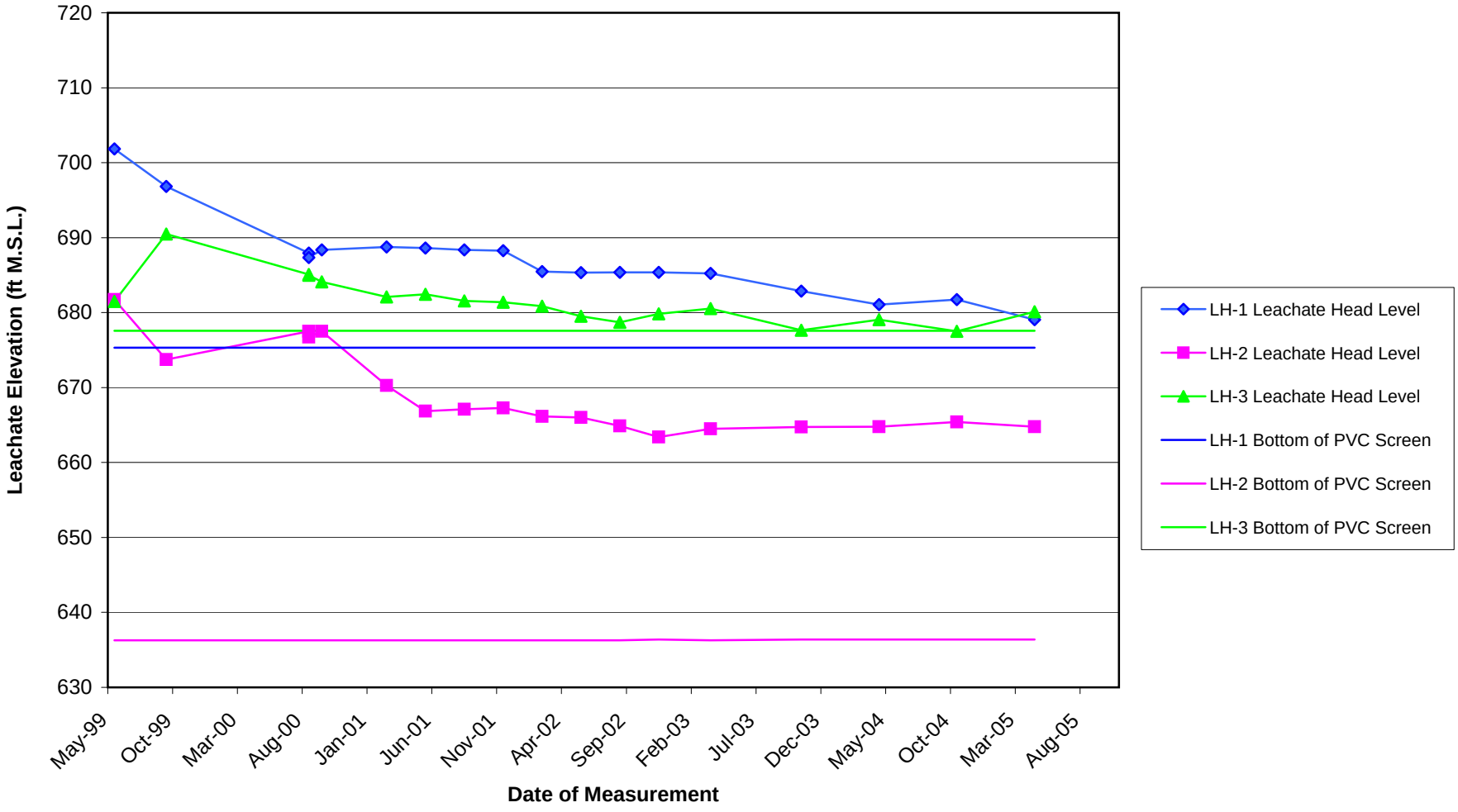


Figure 9
Red Penn Landfill
Pewee Valley, Kentucky
Leachate Head Elevations and Depth of Leachate



Attachment A

Laboratory Results and Database Summary Reports for 2002 Groundwater and Spring Samples

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

March 8, 2002

Mr. Mike Amstadt
RMT, Inc.
744 Heartland Trail
Madison, WI 53717

RE: Analytical Results A02-1607

Dear Mr. Amstadt:

Please find enclosed analytical results concerning the samples recently submitted by your firm. The pertinent information regarding these analyses is listed below:

Quote #:	NY01-431
Site Name:	Red Penn Landfill
Project Name:	Quarterly Wells & Springs
Matrix:	Groundwater
Samples Received:	02/20/02
Sample Date:	02/18/02

If you have any questions concerning these data, please contact the Program Manager at (716) 691-2600 and refer to the I.D. number listed below. It has been our pleasure to provide Waste Management, Inc. with environmental testing services. We look forward to serving you in the future.

Sincerely,

STL Buffalo

Amy Haag

Amy L. Haag
Program Manager

ALH/sth
Enclosure

I.D. #A02-1607
#NY2A8892

This report contains 40 pages which are individually numbered.

METHODOLOGY

The specific methodology employed in obtaining the enclosed analytical results are indicated on the specific data table. The method number presented refers to the following U.S. Environmental Protection Agency reference:

- "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846), Third Edition, Update III, December 1996, U.S. Environmental Protection Agency Office of Solid Waste.

COMMENTS

The enclosed data has been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Sample dilutions were performed for Method 8260 as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

The cooler was received at a temperature of 3°C.

No deviations from protocol were encountered for Method 8082, Metals, or Wet Chemistry analyses.

Deviations from protocol were encountered for the following:

METHOD 8260

Sample MW8002-8975 exhibited surrogate recovery results above quality control limits for p-Bromofluorobenzene. However, the sample was compliant for all other surrogates.

The Method Blank, VBLK33 exhibited results below the reporting limit for Chlorobenzene. All affected samples will be indicated with a "B" qualifier.

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Date: 03/08/2002
Time: 12:06:39

Dilution Log w/Code Information
For Job A02-1607

Client Sample ID	Lab Sample ID	Parameter (Inorganic)/Method (Organic)	Dilution	Code
Spring #3	A2160704	8260	10.00	003

Dilution Code Definition:

002 - sample matrix effects
003 - excessive foaming
004 - non-target compounds (TICS) exceeded 5X the total response of one of the Internal Standards
005 - sample matrix resulted in method non-compliance for an Internal Standard
006 - sample matrix resulted in method non-compliance for Surrogate
007 - nature of the TCLP matrix
008 - high concentration of target analyte(s)
009 - sample turbidity
010 - sample color
011 - insufficient volume for lower dilution
012 - sample viscosity
013 - other

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

Sample Data Package

Date: 03/08/2002
Time: 12:06:51

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN0326

Client ID / Job No / Sample Date / Lab ID		DUPA202 A02-1607 02/18/2002 A2160708		FLDBLK202 A02-1607 02/18/2002 A2160707		MW-6 A02-1607 02/18/2002 A2160701		MW8002-8975 A02-1607 02/18/2002 A2160706	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	ND	1.0	1.2	1.0
Chlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chloroethane	UG/L	ND	2.0	ND	2.0	ND	2.0	ND	2.0
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
IS/SURROGATE(S)									
Chlorobenzene-D5	%	112	50-200	111	50-200	101	50-200	92	50-200
1,4-Difluorobenzene	%	106	50-200	108	50-200	94	50-200	89	50-200
1,4-Dichlorobenzene-D4	%	90	50-200	96	50-200	88	50-200	65	50-200
Toluene-D8	%	91	76-123	92	76-123	92	76-123	95	76-123
p-Bromofluorobenzene	%	105	77-115	98	77-115	103	77-115	121 *	77-115
1,2-Dichloroethane-D4	%	98	70-129	99	70-129	102	70-129	104	70-129

Client ID / Job No / Sample Date / Lab ID		Spring #1 A02-1607 02/18/2002 A2160702		Spring #2 A02-1607 02/18/2002 A2160703		Spring #3 A02-1607 02/18/2002 A2160704		Spring #5 A02-1607 02/18/2002 A2160705	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chloroethane	UG/L	ND	2.0	ND	2.0	ND	2.0	ND	2.0
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
IS/SURROGATE(S)									
Chlorobenzene-D5	%	100	50-200	95	50-200	94	50-200	98	50-200
1,4-Difluorobenzene	%	92	50-200	89	50-200	88	50-200	92	50-200
1,4-Dichlorobenzene-D4	%	86	50-200	88	50-200	86	50-200	87	50-200
Toluene-D8	%	93	76-123	92	76-123	93	76-123	93	76-123
p-Bromofluorobenzene	%	105	77-115	100	77-115	100	77-115	103	77-115
1,2-Dichloroethane-D4	%	104	70-129	102	70-129	101	70-129	101	70-129

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 03/08/2002
Time: 12:07:17

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN0326

Client ID / Job No / Sample Date / Lab ID		DUPA202 A02-1607 02/18/2002 A2160708		FLDBLK202 A02-1607 02/18/2002 A2160707		MW-6 A02-1607 02/18/2002 A2160701		Spring #1 A02-1607 02/18/2002 A2160702	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1221	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1232	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1242	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1248	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1254	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1260	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
SURROGATE(S)									
Tetrachloro-m-xylene	%	70	36-132	64	36-132	66	36-132	66	36-132
Decachlorobiphenyl	%	66	28-132	74	28-132	65	28-132	80	28-132

Client ID / Job No / Sample Date / Lab ID		Spring #2 A02-1607 02/18/2002 A2160703		Spring #3 A02-1607 02/18/2002 A2160704		Spring #5 A02-1607 02/18/2002 A2160705			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1221	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1232	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1242	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1248	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1254	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1260	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	62	36-132	73	36-132	59	36-132	NA	
Decachlorobiphenyl	%	78	28-132	51	28-132	76	28-132	NA	

12

Not icab ND Det

TL B

Date: 03/13/2002
Time: 15:11:06

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN0326

Client ID / Job No / Sample Date / Lab ID		OUPA202 A02-1607 02/18/2002 A2160708		FLDBLK202 A02-1607 02/18/2002 A2160707		MW-6 A02-1607 02/18/2002 A2160701		Spring #1 A02-1607 02/18/2002 A2160702	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Arsenic, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Barium, Dissolved	UG/L	81.2	5.0	ND	5.0	83.7	5.0	40.0	5.0
Cadmium, Dissolved	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chromium, Dissolved	UG/L	ND	3.0	ND	3.0	ND	3.0	ND	3.0
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Nickel, Dissolved	UG/L	7.5	5.0	ND	5.0	7.8	5.0	ND	5.0

Client ID / Job No / Sample Date / Lab ID		Spring #2 A02-1607 02/18/2002 A2160703		Spring #3 A02-1607 02/18/2002 A2160704		Spring #5 A02-1607 02/18/2002 A2160705			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	ND	10	NA	
Arsenic, Dissolved	UG/L	ND	10	ND	10	ND	10	NA	
Barium, Dissolved	UG/L	103	5.0	218	5.0	82.7	5.0	NA	
Cadmium, Dissolved	UG/L	ND	1.0	ND	1.0	ND	1.0	NA	
Chromium, Dissolved	UG/L	ND	3.0	5.4	3.0	ND	3.0	NA	
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Nickel, Dissolved	UG/L	ND	5.0	39.3	5.0	ND	5.0	NA	

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13

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 03/08/2002
Time: 12:07:38

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Rept: AN0326

Client ID Job No Sample Date	Lab ID	DUPA202 A02-1607 02/18/2002	A2160708	FLDBLK202 A02-1607 02/18/2002	A2160707	MW-6 A02-1607 02/18/2002	A2160701	Spring #1 A02-1607 02/18/2002	A2160702
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010

Client ID Job No Sample Date	Lab ID	Spring #2 A02-1607 02/18/2002	A2160703	Spring #3 A02-1607 02/18/2002	A2160704	Spring #5 A02-1607 02/18/2002	A2160705		
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	ND	0.010	NA	

14

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Chronology and QC Summary Package

Date: 03/08/2002
Time: 12:07:49

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN0326

Client ID Job No Sample Date	Lab ID	TRIP BLANK A02-1607 02/18/2002	A2160709						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
==========IS/SURROGATE(S)==========									
Chlorobenzene-D5	%	99	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	93	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	88	50-200	NA		NA		NA	
Toluene-D8	%	93	76-123	NA		NA		NA	
p-Bromofluorobenzene	%	102	77-115	NA		NA		NA	
1,2-Dichloroethane-D4	%	103	70-129	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 03/08/2002
Time: 12:07:49

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN0326

Client ID Job No Sample Date	Lab ID	VBLK32 A02-1607	A2160710	VBLK33 A02-1607	A2160712				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	NA		NA	
Chlorobenzene	UG/L	ND	1.0	0.22 J	1.0	NA		NA	
Chloroethane	UG/L	ND	2.0	NO	2.0	NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	105	50-200	105	50-200	NA		NA	
1,4-Difluorobenzene	%	97	50-200	103	50-200	NA		NA	
1,4-Dichlorobenzene-D4	%	94	50-200	91	50-200	NA		NA	
Toluene-D8	%	91	76-123	93	76-123	NA		NA	
p-Bromofluorobenzene	%	104	77-115	100	77-115	NA		NA	
1,2-Dichloroethane-D4	%	102	70-129	102	70-129	NA		NA	

18

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Date: 03/08/2002
Time: 12:07:49

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN0326

Client ID / Job No / Sample Date / Lab ID		Matrix Spike Blank A02-1607 A2160711		Matrix Spike Blank A02-1607 A2160713					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	9.8	1.0	9.7	1.0	NA		NA	
Chlorobenzene	UG/L	9.0	1.0	9.3 B	1.0	NA		NA	
Chloroethane	UG/L	ND	2.0	ND	2.0	NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	105	50-200	105	50-200	NA		NA	
1,4-Difluorobenzene	%	101	50-200	106	50-200	NA		NA	
1,4-Dichlorobenzene-D4	%	98	50-200	90	50-200	NA		NA	
Toluene-D8	%	94	76-123	92	76-123	NA		NA	
p-Bromofluorobenzene	%	100	77-115	104	77-115	NA		NA	
1,2-Dichloroethane-D4	%	103	70-129	99	70-129	NA		NA	

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NA = Not Applicable ND = Not Detected

STL Buffalo

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Date: 03/08/2002
Time: 12:08:16

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN0326

Client ID Job No Sample Date	Lab ID	Method Blank A02-1607	A2B0140202						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	NA		NA		NA	
PCB 1221	UG/L	ND	0.50	NA		NA		NA	
PCB 1232	UG/L	ND	0.50	NA		NA		NA	
PCB 1242	UG/L	ND	0.50	NA		NA		NA	
PCB 1248	UG/L	ND	0.50	NA		NA		NA	
PCB 1254	UG/L	ND	0.50	NA		NA		NA	
PCB 1260	UG/L	ND	0.50	NA		NA		NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	50	36-132	NA		NA		NA	
Decachlorobiphenyl	%	64	28-132	NA		NA		NA	

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Date: 03/08/2002
Time: 12:08:16

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN0326

Client ID / Job No / Sample Date / Lab ID		Matrix Spike Blank A02-1607 A2B0140201		Spring #2 A02-1607 02/18/2002 A2160703MS		Spring #2 A02-1607 02/18/2002 A2160703SD			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	4.9	0.50	8.2	0.91	8.1	0.91	NA	
PCB 1221	UG/L	ND	0.50	ND	0.91	ND	0.91	NA	
PCB 1232	UG/L	ND	0.50	ND	0.91	ND	0.91	NA	
PCB 1242	UG/L	ND	0.50	ND	0.91	ND	0.91	NA	
PCB 1248	UG/L	ND	0.50	ND	0.91	ND	0.91	NA	
PCB 1254	UG/L	ND	0.50	ND	0.91	ND	0.91	NA	
PCB 1260	UG/L	5.0	0.50	8.7	0.91	8.3	0.91	NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	68	36-132	64	36-132	64	36-132	NA	
Decachlorobiphenyl	%	76	28-132	82	28-132	82	28-132	NA	

21

NA = Not Applicable ND = Not Detected

STL Buffalo

000014

Date: 03/13/2002
Time: 15:11:14

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN0326

Client ID Job No Lab ID Sample Date		Method Blank AD2-1607 A2B0144602							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	NA		NA		NA	
Arsenic, Dissolved	UG/L	ND	10	NA		NA		NA	
Barium, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Cadmium, Dissolved	UG/L	ND	1.0	NA		NA		NA	
Chromium, Dissolved	UG/L	ND	3.0	NA		NA		NA	
Lead, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Nickel, Dissolved	UG/L	ND	5.0	NA		NA		NA	

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22

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Date: 03/13/2002
Time: 15:11:14

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN0326

Client ID Job No Sample Date	Lab ID	LFB A02-1607	A2B0144601						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	207	10	NA		NA		NA	
Arsenic, Dissolved	UG/L	199	10	NA		NA		NA	
Barium, Dissolved	UG/L	203	5.0	NA		NA		NA	
Cadmium, Dissolved	UG/L	203	1.0	NA		NA		NA	
Chromium, Dissolved	UG/L	202	3.0	NA		NA		NA	
Lead, Dissolved	UG/L	204	5.0	NA		NA		NA	
Nickel, Dissolved	UG/L	201	5.0	NA		NA		NA	

23

NA = Not Applicable ND = Not Detected

STL Buffalo

000016

Date: 03/08/2002
Time: 12:08:38

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Rept: AN0326

Client ID Job No Sample Date	Lab ID	Method Blank A02-1607	A2B0166802						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	NA		NA		NA	

24

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Date: 03/08/2002
Time: 12:08:38

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Rept: AN0326

Client ID Job No Sample Date	Lab ID	LCS A02-1607	A2B0166801						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	0.24	0.010	NA		NA		NA	

25

NA = Not Applicable ND = Not Detected

STL Buffalo

Date : 03/08/2002 12:08:47 Rept: AN0364

SDG: 0202QW
Client Sample ID: VBLK32 Matrix Spike Blank
Lab Sample ID: A2160710 A2160711

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL -8260 - SELECT VOLATIL					
Benzene	UG/L	9.80	10.0	98	67-126
Chlorobenzene	UG/L	9.02	10.0	90	74-120

26

* Indicates Result is outside QC Limits
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[illegible] Buffalo

Date : 03/08/2002 12:08:47 Rept: AN0364

SDG: D202QW
Client Sample ID: VBLK33 Matrix Spike Blank
Lab Sample ID: A2160712 A2160713

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL -8260 - SELECT VOLATIL					
Benzene	UG/L	9.67	10.0	97	67-126
Chlorobenzene	UG/L	9.26	10.0	90	74-120

27

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

STL Buffalo

Date : 03/08/2002 12:09:15

SAMPLE DATE 02/18/2002

Rept: AN0364

SDG: 0202QW
Client Sample ID: Spring #2 — Spring #2 — Spring #2
Lab Sample ID: A2160703 — A2160703MS — A2160703SD

Analyte	Units of Measure	Concentration: Sample	Concentration: Matrix Spike	Concentration: Spike Duplicate	Spike Amount: MS	Spike Amount: MSD	% Recovery: MS	% Recovery: MSD	% Recovery: Avg	% RPD	QC LIMITS: RPD	QC LIMITS: REC.
RED PENN LANDFILL 8082 - POLYCHLORINATED												
PCB 1260	UG/L	0	8.68	8.26	9.09	9.09	96	91	94	5	30.0	50-122
PCB 1016	UG/L	D	8.18	8.07	9.09	9.09	90	89	90	1	30.0	29-123

28

* Indicates Result is outside QC Limits
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SIL Buffalo

Date : 03/08/2002 12:09:15

Rept: AN0364

SDG: 0202QW
Client Sample ID: Method Blank
Lab Sample ID: A2B0140202

Matrix Spike Blank
A2B0140201

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL 8082 - POLYCHLORINATED					
PCB 1260	UG/L	5.03	5.00	101	50-122
PCB 1016	UG/L	4.89	5.00	98	29-123

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

Date : 03/13/2002 15:11:49 Rept: AN0364

SDG: 0202QW
Client Sample ID: Method Blank LFB
Lab Sample ID: A2B0144602 A2B0144601

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)					
SOLUBLE ANTIMONY	UG/L	206.9	200	103	80-120
SOLUBLE ARSENIC	UG/L	198.8	200	99	80-120
SOLUBLE BARIUM	UG/L	202.6	200	101	80-120
SOLUBLE CADMIUM	UG/L	203.1	200	101	80-120
SOLUBLE CHROMIUM	UG/L	201.9	200	100	80-120
SOLUBLE LEAD	UG/L	204.1	200	101	80-120
SOLUBLE NICKEL	UG/L	201.4	200	100	80-120

30

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

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Date : 03/08/2002 12:09:33 Rept: AN0364

SDG: 0202QW
Client Sample ID: Method Blank LCS
Lab Sample ID: A2B0166802 A2B0166801

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
WET CHEMISTRY ANALYSIS METHOD 9010 - TOTAL CYANIDE	MG/L	0.236	0.25	94	90-110

3

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	DUPA202 A02-1607 A2160708	FLDBLK202 A02-1607 A2160707	MW-6 A02-1607 A2160701	MW8002-8975 A02-1607 A2160706	Spring #1 A02-1607 A2160702
Sample Date	02/18/2002	02/18/2002 17:25	02/18/2002 11:35	02/18/2002 16:55	02/18/2002 12:15
Received Date	02/20/2002 09:00	02/20/2002 09:00	02/20/2002 09:00	02/20/2002 09:00	02/20/2002 09:00
Extraction Date					
Analysis Date	02/28/2002 01:16	02/28/2002 00:41	02/27/2002 18:08	02/27/2002 21:01	02/27/2002 18:43
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS
% Dry					

32

NA = Not Applicable

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	Spring #2 A02-1607 A2160703	Spring #3 A02-1607 A2160704	Spring #5 A02-1607 A2160705		
Sample Date	02/18/2002 13:05	02/18/2002 15:05	02/18/2002 14:15		
Received Date	02/20/2002 09:00	02/20/2002 09:00	02/20/2002 09:00		
Extraction Date					
Analysis Date	02/27/2002 19:17	02/27/2002 19:52	02/27/2002 20:26		
Extraction HT Met?	-	-	-		
Analytical HT Met?	YES	YES	YES		
Sample Matrix	GW	GW	GW		
Dilution Factor	1.0	10.0	1.0		
Sample wt/vol	0.025 LITERS	0.025 LITERS	0.025 LITERS		
% Dry					

33

NA = Not Applicable

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	TRIP BLANK A02-1607 A2160709				
Sample Date	02/18/2002				
Received Date	02/20/2002 09:00				
Extraction Date					
Analysis Date	02/27/2002 17:33				
Extraction HT Met?	-				
Analytical HT Met?	YES				
Sample Matrix	GW				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

34

NA = Not Applicable

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	Matrix Spike Blank A02-1607 A2160711	Matrix Spike Blank A02-1607 A2160713			
Sample Date					
Received Date					
Extraction Date					
Analysis Date	02/27/2002 11:41	02/27/2002 22:56			
Extraction HT Met?	-	-			
Analytical HT Met?	-	-			
Sample Matrix	WATER	WATER			
Dilution Factor	1.0	1.0			
Sample wt/vol	0.025 LITERS	0.025 LITERS			
% Dry					

35

NA = Not Applicable

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	VBLK32 A02-1607 A2160710	VBLK33 A02-1607 A2160712			
Sample Date					
Received Date					
Extraction Date					
Analysis Date	02/27/2002 12:16	02/27/2002 23:31			
Extraction HT Met?	-	-			
Analytical HT Met?	-	-			
Sample Matrix	WATER	WATER			
Dilution Factor	1.0	1.0			
Sample Wt/vol	0.025 LITERS	0.025 LITERS			
% Dry					

36

NA = Not Applicable

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	DUPA202 A02-1607 A2160708	FLDBLK202 A02-1607 A2160707	MW-6 A02-1607 A2160701	Spring #1 A02-1607 A2160702	Spring #2 A02-1607 A2160703
Sample Date	02/18/2002	02/18/2002 17:25	02/18/2002 11:35	02/18/2002 12:15	02/18/2002 13:05
Received Date	02/20/2002 09:00	02/20/2002 09:00	02/20/2002 09:00	02/20/2002 09:00	02/20/2002 09:00
Extraction Date	02/21/2002 07:00	02/21/2002 07:00	02/21/2002 07:00	02/21/2002 07:00	02/21/2002 07:00
Analysis Date	02/23/2002 03:41	02/23/2002 02:09	02/22/2002 23:27	02/22/2002 23:50	02/23/2002 00:13
Extraction HT Met?	YES	YES	YES	YES	YES
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	1.06 LITERS	1.065 LITERS	1.04 LITERS	1.05 LITERS	1.0 LITERS
% Dry					

37

NA = Not Applicable

REO PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Spring #3 A02-1607 A2160704	Spring #5 A02-1607 A2160705			
Sample Date	02/18/2002 15:05	02/18/2002 14:15			
Received Date	02/20/2002 09:00	02/20/2002 09:00			
Extraction Date	02/21/2002 07:00	02/21/2002 07:00			
Analysis Date	02/23/2002 01:23	02/23/2002 01:46			
Extraction HT Met?	YES	YES			
Analytical HT Met?	YES	YES			
Sample Matrix	GW	GW			
Dilution Factor	1.0	1.0			
Sample wt/vol	1.05 LITERS	1.065 LITERS			
% Dry					

38

NA = Not Applicable

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RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Matrix Spike Blank A02-1607 A2B0140201	Spring #2 A02-1607 A2160703MS	Spring #2 A02-1607 A2160703SD		
Sample Date		02/18/2002 13:05	02/18/2002 13:05		
Received Date		02/20/2002 09:00	02/20/2002 09:00		
Extraction Date	02/21/2002 07:00	02/21/2002 07:00	02/21/2002 07:00		
Analysis Date	02/22/2002 22:41	02/23/2002 00:36	02/23/2002 01:00		
Extraction HT Met?	-	YES	YES		
Analytical HT Met?	-	YES	YES		
Sample Matrix	WATER	GW	GW		
Dilution Factor	1.0	1.0	1.0		
Sample wt/vol	1.0 LITERS	0.55 LITERS	0.55 LITERS		
% Dry					

36

NA = Not Applicable

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Method Blank A02-1607 A2B0140202				
Sample Date					
Received Date					
Extraction Date	02/21/2002 07:00				
Analysis Date	02/22/2002 23:04				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample Wt/vol	1.0 LITERS				
% Dry					

40

NA = Not Applicable

Date: 03/13/2002 15:12:28
Jobno: A02-1607

WASTE MANAGEMENT - CLOSED SITES
SAMPLE CHRONOLOGY

Rept: AN0369

Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matrix
A2160708	DUPA202	UG/L	Antimony, Dissolved	6010	1.00	02/18/2002	02/20 09:00	NA	NA	02/23 09:45	Yes	GW
		UG/L	Arsenic, Dissolved	6010	1.00	02/18/2002	02/20 09:00	NA	NA	02/23 09:45	Yes	GW
		UG/L	Barium, Dissolved	6010	1.00	02/18/2002	02/20 09:00	NA	NA	02/23 09:45	Yes	GW
		UG/L	Cadmium, Dissolved	6010	1.00	02/18/2002	02/20 09:00	NA	NA	02/23 09:45	Yes	GW
		UG/L	Chromium, Dissolved	6010	1.00	02/18/2002	02/20 09:00	NA	NA	02/23 09:45	Yes	GW
		UG/L	Lead, Dissolved	6010	1.00	02/18/2002	02/20 09:00	NA	NA	02/23 09:45	Yes	GW
		UG/L	Nickel, Dissolved	6010	1.00	02/18/2002	02/20 09:00	NA	NA	02/23 09:45	Yes	GW
A2160707	FLDBLK202	UG/L	Antimony, Dissolved	6010	1.00	02/18/2002 17:25	02/20 09:00	NA	NA	02/23 09:40	Yes	GW
		UG/L	Arsenic, Dissolved	6010	1.00	02/18/2002 17:25	02/20 09:00	NA	NA	02/23 09:40	Yes	GW
		UG/L	Barium, Dissolved	6010	1.00	02/18/2002 17:25	02/20 09:00	NA	NA	02/23 09:40	Yes	GW
		UG/L	Cadmium, Dissolved	6010	1.00	02/18/2002 17:25	02/20 09:00	NA	NA	02/23 09:40	Yes	GW
		UG/L	Chromium, Dissolved	6010	1.00	02/18/2002 17:25	02/20 09:00	NA	NA	02/23 09:40	Yes	GW
		UG/L	Lead, Dissolved	6010	1.00	02/18/2002 17:25	02/20 09:00	NA	NA	02/23 09:40	Yes	GW
		UG/L	Nickel, Dissolved	6010	1.00	02/18/2002 17:25	02/20 09:00	NA	NA	02/23 09:40	Yes	GW
A2160701	MW-6	UG/L	Antimony, Dissolved	6010	1.00	02/18/2002 11:35	02/20 09:00	NA	NA	02/23 09:09	Yes	GW
		UG/L	Arsenic, Dissolved	6010	1.00	02/18/2002 11:35	02/20 09:00	NA	NA	02/23 09:09	Yes	GW
		UG/L	Barium, Dissolved	6010	1.00	02/18/2002 11:35	02/20 09:00	NA	NA	02/23 09:09	Yes	GW
		UG/L	Cadmium, Dissolved	6010	1.00	02/18/2002 11:35	02/20 09:00	NA	NA	02/23 09:09	Yes	GW
		UG/L	Chromium, Dissolved	6010	1.00	02/18/2002 11:35	02/20 09:00	NA	NA	02/23 09:09	Yes	GW
		UG/L	Lead, Dissolved	6010	1.00	02/18/2002 11:35	02/20 09:00	NA	NA	02/23 09:09	Yes	GW
		UG/L	Nickel, Dissolved	6010	1.00	02/18/2002 11:35	02/20 09:00	NA	NA	02/23 09:09	Yes	GW
A2160702	Spring #1	UG/L	Antimony, Dissolved	6010	1.00	02/18/2002 12:15	02/20 09:00	NA	NA	02/23 09:13	Yes	GW
		UG/L	Arsenic, Dissolved	6010	1.00	02/18/2002 12:15	02/20 09:00	NA	NA	02/23 09:13	Yes	GW
		UG/L	Barium, Dissolved	6010	1.00	02/18/2002 12:15	02/20 09:00	NA	NA	02/23 09:13	Yes	GW
		UG/L	Cadmium, Dissolved	6010	1.00	02/18/2002 12:15	02/20 09:00	NA	NA	02/23 09:13	Yes	GW
		UG/L	Chromium, Dissolved	6010	1.00	02/18/2002 12:15	02/20 09:00	NA	NA	02/23 09:13	Yes	GW
		UG/L	Lead, Dissolved	6010	1.00	02/18/2002 12:15	02/20 09:00	NA	NA	02/23 09:13	Yes	GW
		UG/L	Nickel, Dissolved	6010	1.00	02/18/2002 12:15	02/20 09:00	NA	NA	02/23 09:13	Yes	GW
A2160703	Spring #2	UG/L	Antimony, Dissolved	6010	1.00	02/18/2002 13:05	02/20 09:00	NA	NA	02/23 09:18	Yes	GW
		UG/L	Arsenic, Dissolved	6010	1.00	02/18/2002 13:05	02/20 09:00	NA	NA	02/23 09:18	Yes	GW
		UG/L	Barium, Dissolved	6010	1.00	02/18/2002 13:05	02/20 09:00	NA	NA	02/23 09:18	Yes	GW
		UG/L	Cadmium, Dissolved	6010	1.00	02/18/2002 13:05	02/20 09:00	NA	NA	02/23 09:18	Yes	GW
		UG/L	Chromium, Dissolved	6010	1.00	02/18/2002 13:05	02/20 09:00	NA	NA	02/23 09:18	Yes	GW
		UG/L	Lead, Dissolved	6010	1.00	02/18/2002 13:05	02/20 09:00	NA	NA	02/23 09:18	Yes	GW
		UG/L	Nickel, Dissolved	6010	1.00	02/18/2002 13:05	02/20 09:00	NA	NA	02/23 09:18	Yes	GW
A2160704	Spring #3	UG/L	Antimony, Dissolved	6010	1.00	02/18/2002 15:05	02/20 09:00	NA	NA	02/23 09:32	Yes	GW
		UG/L	Arsenic, Dissolved	6010	1.00	02/18/2002 15:05	02/20 09:00	NA	NA	02/23 09:32	Yes	GW
		UG/L	Barium, Dissolved	6010	1.00	02/18/2002 15:05	02/20 09:00	NA	NA	02/23 09:32	Yes	GW
		UG/L	Cadmium, Dissolved	6010	1.00	02/18/2002 15:05	02/20 09:00	NA	NA	02/23 09:32	Yes	GW
		UG/L	Chromium, Dissolved	6010	1.00	02/18/2002 15:05	02/20 09:00	NA	NA	02/23 09:32	Yes	GW
		UG/L	Lead, Dissolved	6010	1.00	02/18/2002 15:05	02/20 09:00	NA	NA	02/23 09:32	Yes	GW
		UG/L	Nickel, Dissolved	6010	1.00	02/18/2002 15:05	02/20 09:00	NA	NA	02/23 09:32	Yes	GW
A2160705	Spring #5	UG/L	Antimony, Dissolved	6010	1.00	02/18/2002 14:15	02/20 09:00	NA	NA	02/23 09:36	Yes	GW
		UG/L	Arsenic, Dissolved	6010	1.00	02/18/2002 14:15	02/20 09:00	NA	NA	02/23 09:36	Yes	GW
		UG/L	Barium, Dissolved	6010	1.00	02/18/2002 14:15	02/20 09:00	NA	NA	02/23 09:36	Yes	GW
		UG/L	Cadmium, Dissolved	6010	1.00	02/18/2002 14:15	02/20 09:00	NA	NA	02/23 09:36	Yes	GW
		UG/L	Chromium, Dissolved	6010	1.00	02/18/2002 14:15	02/20 09:00	NA	NA	02/23 09:36	Yes	GW
		UG/L	Lead, Dissolved	6010	1.00	02/18/2002 14:15	02/20 09:00	NA	NA	02/23 09:36	Yes	GW

4

00034

AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

STL Buffalo

Date: 03/13/2002 15:12:28
Jobno: A02-1607

WASTE MANAGEMENT - CLOSED SITES
SAMPLE CHRONOLOGY

Rept: AN0369

Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matrix
A2160705	Spring #5	UG/L	Nickel, Dissolved	6010	1.00	02/18/2002 14:15	02/20 09:00	NA	NA	02/23 09:36	Yes	GW

000035

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AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

STL Buffalo

Date: 03/13/2002 15:12:28
Jobno: A02-1607

WASTE MANAGEMENT - CLOSED SITES
QC CHRONOLOGY

Rept: AN0369

Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matrix
A2B0144602	Method Blank	UG/L	Antimony, Dissolved	6010	1.00	-	- 09:00	NA	NA	02/23 07:47	Yes	WATER
		UG/L	Arsenic, Dissolved	6010	1.00	-	- 09:00	NA	NA	02/23 07:47	Yes	WATER
		UG/L	Barium, Dissolved	6010	1.00	-	- 09:00	NA	NA	02/23 07:47	Yes	WATER
		UG/L	Cadmium, Dissolved	6010	1.00	-	- 09:00	NA	NA	02/23 07:47	Yes	WATER
		UG/L	Chromium, Dissolved	6010	1.00	-	- 09:00	NA	NA	02/23 07:47	Yes	WATER
		UG/L	Lead, Dissolved	6010	1.00	-	- 09:00	NA	NA	02/23 07:47	Yes	WATER
		UG/L	Nickel, Dissolved	6010	1.00	-	- 09:00	NA	NA	02/23 07:47	Yes	WATER
A2B0144601	LFB	UG/L	Antimony, Dissolved	6010	1.00	-	- 09:00	NA	NA	02/23 07:51	Yes	WATER
		UG/L	Arsenic, Dissolved	6010	1.00	-	- 09:00	NA	NA	02/23 07:51	Yes	WATER
		UG/L	Barium, Dissolved	6010	1.00	-	- 09:00	NA	NA	02/23 07:51	Yes	WATER
		UG/L	Cadmium, Dissolved	6010	1.00	-	- 09:00	NA	NA	02/23 07:51	Yes	WATER
		UG/L	Chromium, Dissolved	6010	1.00	-	- 09:00	NA	NA	02/23 07:51	Yes	WATER
		UG/L	Lead, Dissolved	6010	1.00	-	- 09:00	NA	NA	02/23 07:51	Yes	WATER
		UG/L	Nickel, Dissolved	6010	1.00	-	- 09:00	NA	NA	02/23 07:51	Yes	WATER

000036

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AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

STL Buffalo

Date: 03/08/2002 12:10:31
Jobno: A02-1607

WASTE MANAGEMENT - CLOSED SITES
SAMPLE CHRONOLOGY

Rept: AN0369

Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matrix
A2160708	DUPA202	MG/L	Cyanide, Total	9010	1.00	02/18/2002	02/20 09:00	NA	NA	03/01 16:38	Yes	GW
A2160707	FLOBLK202	MG/L	Cyanide, Total	9010	1.00	02/18/2002 17:25	02/20 09:00	NA	NA	03/01 16:38	Yes	GW
A2160701	MW-6	MG/L	Cyanide, Total	9010	1.00	02/18/2002 11:35	02/20 09:00	NA	NA	03/01 16:38	Yes	GW
A2160702	Spring #1	MG/L	Cyanide, Total	9010	1.00	02/18/2002 12:15	02/20 09:00	NA	NA	03/01 16:38	Yes	GW
A2160703	Spring #2	MG/L	Cyanide, Total	9010	1.00	02/18/2002 13:05	02/20 09:00	NA	NA	03/01 16:38	Yes	GW
A2160704	Spring #3	MG/L	Cyanide, Total	9010	1.00	02/18/2002 15:05	02/20 09:00	NA	NA	03/01 16:38	Yes	GW
A2160705	Spring #5	MG/L	Cyanide, Total	9010	1.00	02/18/2002 14:15	02/20 09:00	NA	NA	03/01 16:38	Yes	GW

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AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

STL Buffalo

Date: 03/08/2002 12:10:31
Jobno: A02-1607

WASTE MANAGEMENT - CLOSED SITES
QC CHRONOLOGY

Rept: AN0369

Lab ID	Sample ID	Units	Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	Matrix
A2B0166B02	Method Blank	MG/L	Cyanide, Total	9010	1.00	-	- 09:00	NA	NA	03/01 16:38	Yes	WATER
A2B0166B01	LCS	MG/L	Cyanide, Total	9010	1.00	-	- 09:00	NA	NA	03/01 16:38	Yes	WATER

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AHT = Analysis Holding Time Met
THT = TCLP Holding Time Met
NA = Not Applicable

STL Buffal

Chain of Custody

[redacted]

Chain of Custody Record

SEVERN TRENT SERVICES

Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client: RMT, Inc	Project Manager: Mike Amstadt	Date: 2/18/02	Chain of Custody Number: 098744
Address: PO Box 8923	Telephone Number (Area Code)/Fax Number: (608) 831-4444	Lab Number	Page 1 of 1
City: Madison; State: WI; Zip Code: 53708	Site Contact	Lab Contact	
Project Name and Location (State): Red Penn Landfill, Louisville, KY	Carrier/Waybill Number: FedEx/8306 0571 5531		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Metals	VOCs	PCBs	Cyanide									Special Instructions/ Conditions of Receipt
MW-6	2/18/02	1135		X				2		1	3	1		X	X	X	X									Metals sample filtered
Spring #1	↓	1215		X				2		1	3	1		X	X	X	X									in the field (all
Spring #2		1305		X				2		1	3	1		X	X	X	X									samples)
Spring #3		1505		X				2		1	3	1		X	X	X	X									
Spring #5		1415		X				2		1	3	1		X	X	X	X									
MW8002-8975		1655		X							1				X											Only 1 40ml bottle
FLDBLK202	2/18/02	1725		X				2		1	3	1		X	X	X	X									
DUPA202	—	—		X				2		1	3	1		X	X	X	X									
Trip Blank	—	—		X							3				X											

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: William L. Ditto	2/19/02	1430	1. Received By: FedEx #8306 0571 5531		
2. Relinquished By			2. Received By: [signature]	2-20-02	0900
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

Laboratory Results for May 2002

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-5155

STL Project#: NY2A8892
Site Name: Red Penn Landfill
Task: Quarterly Wells & Springs

Mike Amstadt
RMT, Inc.
744 Heartland Trail
Madison, WI 53717

STL Buffalo

Amy Lynn Haag
Project Manager

06/14/2002

This report contains 36 pages which are individually numbered.

SEVERN TRENT SERVICES

SAMPLE SUMMARY

000001

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2515506	DUPA502	05/21/2002		05/22/2002	08:50
A2515507	FLDBLK502	05/21/2002	17:42	05/22/2002	08:50
A2515501	MW-6	05/21/2002	11:30	05/22/2002	08:50
A2515502	Spring #1	05/21/2002	12:05	05/22/2002	08:50
A2515503	Spring #2	05/21/2002	12:55	05/22/2002	08:50
A2515505	Spring #3	05/21/2002	15:52	05/22/2002	08:50
A2515504	Spring #5	05/21/2002	14:20	05/22/2002	08:50
A2515508	TRIP BLANK	05/21/2002		05/22/2002	08:50

SEVERN TRENT SERVICES

METHODS SUMMARY

000002

Job#: A02-5155

STL Project#: NY2A8892
Site Name: Red Penn Landfill

PARAMETER	ANALYTICAL METHOD
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS	SW8463 8260
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS	SW8463 8082
Antimony - Soluble	SW8463 6010
Arsenic - Soluble	SW8463 6010
Barium - Soluble	SW8463 6010
Cadmium - Soluble	SW8463 6010
Chromium - Soluble	SW8463 6010
Lead - Soluble	SW8463 6010
Nickel - Soluble	SW8463 6010
Cyanide - Total	SW8463 9012A

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-5155

STL Project#: NY2A8892
Site Name: Red Penn Landfill

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-5155
Sample Cooler(s) were received at the following temperature(s); 4°C.

GC/MS Volatile Data

No deviations from protocol were encountered during the analytical procedures.

GC Extractable Data

The recovery of surrogate Decachlorobiphenyl for the Method 8082 analysis of sample Spring #3 was outside of established quality control limits. The recovery of surrogate Tetrachloro-m-xylene was within quality control limits, no corrective action was required.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

Wet Chemistry Data

No deviations from protocol were encountered during the analytical procedures.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Dilution Log W/Code Information
For Job A02-5155

Client Sample ID	Lab Sample ID	Parameter (Inorganic)/Method (Organic)	Dilution	Code
Spring #3	A2515505	8260	10.00	003
Spring #3	A2515505MS	8260	10.00	003
Spring #3	A2515505SD	8260	10.00	003

000004

Dilution Code Definition:

002 - sample matrix effects
003 - excessive foaming
004 - non-target compounds (TICS) exceeded 5X the total response of one of the Internal Standards
005 - sample matrix resulted in method non-compliance for an Internal Standard
006 - sample matrix resulted in method non-compliance for Surrogate
007 - nature of the TCLP matrix
008 - high concentration of target analyte(s)
009 - sample turbidity
010 - sample color
011 - insufficient volume for lower dilution
012 - sample viscosity
013 - other

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U Indicates compound was analyzed for, but not detected.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

C This flag applies to pesticide results where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the associated blank, as well as in the sample.

E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

D This flag identifies all compounds identified in an analysis at the secondary dilution factor.

N Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.

P This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".

A This flag indicates that a TIC is a suspected aldol-condensation product.

1 Indicates coelution.

* Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U Indicates element was analyzed for, but not detected. Report with the detection limit value.

J or B Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.

N Indicates spike sample recovery is not within the quality control limits.

K Indicates the post digestion spike recovery is not within the quality control limits.

S Indicates value determined by the Method of Standard Addition.

M Indicates duplicate injection results exceeded quality control limits.

W Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

E Indicates a value estimated or not reported due to the presence of interferences.

H Indicates analytical holding time exceedance The value obtained should be considered an estimate.

* Indicates analysis is not within the quality control limits.

+ Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

Sample Data Package

Date: 06/14/2002
Time: 13:44:44

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		DUPA502		FLD8LK502		MW-6		Spring #1	
Job No	Lab ID	A02-5155	A2515506	A02-5155	A2515507	A02-5155	A2515501	A02-5155	A2515502
Sample Date		05/21/2002		05/21/2002		05/21/2002		05/21/2002	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chloroethane	UG/L	ND	2.0	ND	2.0	ND	2.0	ND	2.0
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
IS/SURROGATE(S)									
Chlorobenzene-D5	%	88	50-200	96	50-200	93	50-200	96	50-200
1,4-Difluorobenzene	%	92	50-200	94	50-200	93	50-200	97	50-200
1,4-Dichlorobenzene-D4	%	76	50-200	81	50-200	81	50-200	83	50-200
Toluene-D8	%	104	73-119	100	73-119	100	73-119	100	73-119
p-Bromofluorobenzene	%	98	70-116	97	70-116	96	70-116	99	70-116
1,2-Dichloroethane-D4	%	104	72-138	104	72-138	106	72-138	103	72-138

Client ID		Spring #2		Spring #3		Spring #5			
Job No	Lab ID	A02-5155	A2515503	A02-5155	A2515505	A02-5155	A2515504		
Sample Date		05/21/2002		05/21/2002		05/21/2002			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	ND	1.0	NA	
Chlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	NA	
Chloroethane	UG/L	ND	2.0	ND	2.0	ND	2.0	NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.0	NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	96	50-200	90	50-200	97	50-200	NA	
1,4-Difluorobenzene	%	99	50-200	89	50-200	97	50-200	NA	
1,4-Dichlorobenzene-D4	%	83	50-200	79	50-200	82	50-200	NA	
Toluene-D8	%	101	73-119	102	73-119	99	73-119	NA	
p-Bromofluorobenzene	%	99	70-116	98	70-116	100	70-116	NA	
1,2-Dichloroethane-D4	%	100	72-138	105	72-138	103	72-138	NA	

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NA = Not Applicable ND = Not Detected

STL Buffalo

000087

Date: 06/14/2002
Time: 13:44:51

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID / Job No / Sample Date / Lab ID		OUPA502 / A02-5155 / 05/21/2002 / A2515506		FLDBLK502 / A02-5155 / 05/21/2002 / A2515507		MW-6 / A02-5155 / 05/21/2002 / A2515501		Spring #1 / A02-5155 / 05/21/2002 / A2515502	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1221	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1232	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1242	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1248	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1254	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1260	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
SURROGATE(S)									
Tetrachloro-m-xylene	%	82	36-132	82	36-132	73	36-132	50	36-132
Decachlorobiphenyl	%	70	28-132	72	28-132	32	28-132	52	28-132

Client ID / Job No / Sample Date / Lab ID		Spring #2 / A02-5155 / 05/21/2002 / A2515503		Spring #3 / A02-5155 / 05/21/2002 / A2515505		Spring #5 / A02-5155 / 05/21/2002 / A2515504			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1221	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1232	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1242	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1248	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1254	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1260	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	82	36-132	78	36-132	90	36-132	NA	
Decachlorobiphenyl	%	77	28-132	24 *	28-132	78	28-132	NA	

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NA = Not Applicable NO = Not Detected

000008

STL Buffalo

Date: 06/14/2002
Time: 13:44:55

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID		DUPA502		FLDBLK502		MW-6		Spring #1	
Job No	Lab ID	A02-5155	A2515506	A02-5155	A2515507	A02-5155	A2515501	A02-5155	A2515502
Sample Date		05/21/2002		05/21/2002		05/21/2002		05/21/2002	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Arsenic, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Barium, Dissolved	UG/L	52.9	5.0	16.0	5.0	91.5	5.0	42.7	5.0
Cadmium, Dissolved	UG/L	3.3	1.0	2.5	1.0	ND	1.0	ND	1.0
Chromium, Dissolved	UG/L	3.5	3.0	ND	3.0	ND	3.0	ND	3.0
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Nickel, Dissolved	UG/L	5.1	5.0	ND	5.0	ND	5.0	ND	5.0

Client ID		Spring #2		Spring #3		Spring #5			
Job No	Lab ID	A02-5155	A2515503	A02-5155	A2515505	A02-5155	A2515504		
Sample Date		05/21/2002		05/21/2002		05/21/2002			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	ND	10	NA	
Arsenic, Dissolved	UG/L	ND	10	ND	10	ND	10	NA	
Barium, Dissolved	UG/L	97.4	5.0	218	5.0	89.0	5.0	NA	
Cadmium, Dissolved	UG/L	ND	1.0	ND	1.0	ND	1.0	NA	
Chromium, Dissolved	UG/L	ND	3.0	5.2	3.0	ND	3.0	NA	
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Nickel, Dissolved	UG/L	ND	5.0	41.0	5.0	ND	5.0	NA	

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600009

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 06/14/2002
Time: 13:44:58

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Rept: AN1246

Client ID Job No Sample Date	Lab ID	DUPA5D2 A02-5155 05/21/2002	A2515506	FLDBLK5D2 A02-5155 05/21/2002	A2515507	MW-6 A02-5155 05/21/2002	A2515501	Spring #1 A02-5155 05/21/2002	A2515502
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010

Client ID Job No Sample Date	Lab ID	Spring #2 A02-5155 05/21/2002	A2515503	Spring #3 A02-5155 05/21/2002	A2515505	Spring #5 A02-5155 05/21/2002	A2515504		
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	ND	0.010	NA	

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NA = Not Applicable ND = Not Detected

STL lo

Chronology and QC Summary Package

Date: 06/14/2002
Time: 13:45:02

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		vblk61							
Job No	Lab ID	A02-5155	A2515509						
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	98	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	98	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	84	50-200	NA		NA		NA	
Toluene-D8	%	101	73-119	NA		NA		NA	
p-Bromofluorobenzene	%	99	70-116	NA		NA		NA	
1,2-Dichloroethane-D4	%	106	72-138	NA		NA		NA	

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NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 06/14/2002
Time: 13:45:02

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID Job No Sample Date	Lab ID	TRIP BLANK A02-5155 05/21/2002	A2515508						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	92	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	95	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	79	50-200	NA		NA		NA	
Toluene-D8	%	104	73-119	NA		NA		NA	
p-Bromofluorobenzene	%	102	70-116	NA		NA		NA	
1,2-Dichloroethane-D4	%	105	72-138	NA		NA		NA	

70

NA = Not Applicable ND = Not Detected

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000013

Date: 06/14/2002
Time: 13:45:10

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID Job No Sample Date	Lab ID	Method Blank A02-5155	AZB0444902						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	NA		NA		NA	
PCB 1221	UG/L	ND	0.50	NA		NA		NA	
PCB 1232	UG/L	ND	0.50	NA		NA		NA	
PCB 1242	UG/L	ND	0.50	NA		NA		NA	
PCB 1248	UG/L	ND	0.50	NA		NA		NA	
PCB 1254	UG/L	ND	0.50	NA		NA		NA	
PCB 1260	UG/L	ND	0.50	NA		NA		NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	62	36-132	NA		NA		NA	
Decachlorobiphenyl	%	70	28-132	NA		NA		NA	

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000014

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 06/14/2002
Time: 13:45:13

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID Job No Sample Date	Lab ID	Method Blank A02-5155	A280511902						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Arsenic, Dissolved	UG/L	ND	10	NA		NA		NA	
Cadmium, Dissolved	UG/L	ND	1.0	NA		NA		NA	
Chromium, Dissolved	UG/L	ND	3.0	NA		NA		NA	
Lead, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Nickel, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Antimony, Dissolved	UG/L	ND	10	NA		NA		NA	
Barium, Dissolved	UG/L	ND	5.0	NA		NA		NA	

72

NA = Not Applicable ND = Not Detected

STL lo

000015

Date: 06/14/2002
Time: 13:45:16

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Rept: AN1246

Client ID Job No Sample Date	Lab ID	Method Blank A02-5155	A2B0466602						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	NA		NA		NA	

73

NA = Not Applicable ND = Not Detected

STL Buffalo

000016

Date : 06/14/2002 13:45:19

SAMPLE DATE 05/21/2002

Rept: AN0364

Client Sample ID: Spring #3 | Spring #3 | Spring #3
Lab Sample ID: A2515505 | A2515505MS | A2515505SD

Analyte	Units of Measure	Concentration: Sample	Concentration: Matrix Spike	Concentration: Spike Duplicate	Spike Amount: MS	Spike Amount: MSD	% Recovery: MS	% Recovery: MSD	% Recovery: Avg	% RPD	QC LIMITS: RPD	QC LIMITS: REC.
RED PENN LANDFILL -8260 - SELECT VOLATIL												
Benzene	UG/L	0	104	114	100	100	105	114	110	8	11.0	69-126
Chlorobenzene	UG/L	0	97.2	104	100	100	97	104	101	7	13.0	72-117

74

* Indicates Result is outside QC Limits
NC = No[illegible] Calculat[illegible] ND = [illegible] Calcu[illegible]

000012

SIL Buffalo

Date : 06/14/2002 13:45:19

Rept: AN0364

Client Sample ID: vblk61 Matrix Spike Blank
Lab Sample ID: A2515509 A2515510

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL -8260 - SELECT VOLATIL					
Benzene	UG/L	10.5	10.0	106	69-126
Chlorobenzene	UG/L	9.69	10.0	97	72-117

75

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

000018

STL Buffalo

Date : 06/14/2002 13:45:27 Rept: AN0364

SAMPLE DATE 05/21/2002

Client Sample ID: Spring #2 Spring #2 Spring #2
Lab Sample ID: A2515503 A2515503MS A2515503SD

Analyte	Units of Measure	Concentration Sample	Matrix Spike	Spike Duplicate	Spike Amount MS	MSD	% Recovery MS	MSD	Avg	% RPD	QC LIMITS RPD	REC.
RED PENN LANDFILL 8082 - POLYCHLORINATED												
PCB 1260	UG/L	0	9.35	8.20	9.09	9.09	103	90	97	13	30.0	50-122
PCB 1016	UG/L	0	9.50	8.32	9.09	9.09	104	92	98	12	30.0	29-123

76

* Indicates Result is outside QC Limits
= No culat ND = Calcu l

000019

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Date : 06/14/2002 13:45:27

Rept: AN0364

Client Sample ID: Method Blank
Lab Sample ID: A2B0444902

Matrix Spike Blank
A2B0444901

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL 8082 - POLYCHLORINATED					
PCB 1260	UG/L	4.46	5.00	89	50-122
PCB 1016	UG/L	4.90	5.00	98	29-123

77

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

000020

STL Buffalo

Date : 06/14/2002 13:45:31 Rept: AN0364

Client Sample ID: Method Blank LFB
Lab Sample ID: A2B0511902 A2B0511901

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)					
SOLUBLE ANTIMONY	UG/L	204.7	200	102	80-120
SOLUBLE ARSENIC	UG/L	211.1	200	105	80-120
SOLUBLE BARIUM	UG/L	217.4	200	108	80-120
SOLUBLE CADMIUM	UG/L	221.2	200	110	80-120
SOLUBLE CHROMIUM	UG/L	206.2	200	103	80-120
SOLUBLE LEAD	UG/L	209.7	200	104	80-120
SOLUBLE NICKEL	UG/L	207.1	200	103	80-120

78

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

000021

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Date : 06/14/2002 13:45:34 Rept: AN0364

Client Sample ID: Method Blank LCS
Lab Sample ID: A2B0466602 A2B0466601

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
WET CHEMISTRY ANALYSIS METHOD 9010 - TOTAL CYANIDE	MG/L	0.240	0.25	96	90-110

79

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

000022

STL Buffalo

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	DUPA502 A02-5155 A2515506	FLDBLK502 A02-5155 A2515507	MW-6 A02-5155 A2515501	Spring #1 A02-5155 A2515502	Spring #2 A02-5155 A2515503
Sample Date	05/21/2002	05/21/2002 17:42	05/21/2002 11:30	05/21/2002 12:05	05/21/2002 12:55
Received Date	05/22/2002 08:50	05/22/2002 08:50	05/22/2002 08:50	05/22/2002 08:50	05/22/2002 08:50
Extraction Date					
Analysis Date	05/30/2002 03:13	05/30/2002 02:38	05/30/2002 00:22	05/30/2002 00:56	05/30/2002 01:30
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS
% Dry					

000023

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RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	Spring #3 A02-5155 A2515505	Spring #5 A02-5155 A2515504			
Sample Date	05/21/2002 15:52	05/21/2002 14:20			
Received Date	05/22/2002 08:50	05/22/2002 08:50			
Extraction Date					
Analysis Date	05/30/2002 03:47	05/30/2002 02:04			
Extraction HT Met?	-	-			
Analytical HT Met?	YES	YES			
Sample Matrix	GW	GW			
Dilution Factor	10.0	1.0			
Sample wt/vol	0.025 LITERS	0.025 LITERS			
% Dry					

NA = Not Applicable

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	TRIP BLANK A02-5155 A2515508				
Sample Date	05/21/2002				
Received Date	05/22/2002 08:50				
Extraction Date					
Analysis Date	05/29/2002 23:47				
Extraction HT Met?	-				
Analytical HT Met?	YES				
Sample Matrix	GW				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

82

NA = Not Applicable

000025

Buffalo

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	vblk61 A02-5155 A2515509				
Sample Date					
Received Date					
Extraction Date					
Analysis Date	05/29/2002 23:13				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

NA = Not Applicable

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	DUPA502 A02-5155 A2515506	FLDBLK502 A02-5155 A2515507	MW-6 A02-5155 A2515501	Spring #1 A02-5155 A2515502	Spring #2 A02-5155 A2515503
Sample Date	05/21/2002	05/21/2002 17:42	05/21/2002 11:30	05/21/2002 12:05	05/21/2002 12:55
Received Date	05/22/2002 08:50	05/22/2002 08:50	05/22/2002 08:50	05/22/2002 08:50	05/22/2002 08:50
Extraction Date	05/24/2002 07:00	05/24/2002 07:00	05/24/2002 07:00	05/24/2002 07:00	05/24/2002 07:00
Analysis Date	05/26/2002 03:07	05/26/2002 03:32	05/25/2002 23:21	05/25/2002 23:46	05/26/2002 01:01
Extraction HT Met?	YES	YES	YES	YES	YES
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	1.06 LITERS	1.06 LITERS	1.06 LITERS	1.05 LITERS	1.0 LITERS
% Dry					

84

NA = Not Applicable

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RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Spring #3 A02-5155 A2515505	Spring #5 A02-5155 A2515504			
Sample Date	05/21/2002 15:52	05/21/2002 14:20			
Received Date	05/22/2002 08:50	05/22/2002 08:50			
Extraction Date	05/24/2002 07:00	05/24/2002 07:00			
Analysis Date	05/26/2002 02:42	05/26/2002 02:17			
Extraction HT Met?	YES	YES			
Analytical HT Met?	YES	YES			
Sample Matrix	GW	GW			
Dilution Factor	1.0	1.0			
Sample wt/vol	1.06 LITERS	1.02 LITERS			
% Dry					

NA = Not Applicable

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Method Blank A02-5155 A2B0444902				
Sample Date					
Received Date					
Extraction Date	05/24/2002 07:00				
Analysis Date	05/25/2002 17:28				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	1.0 LITERS				
% Dry					

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NA = Not Applicable

000029

Date: 06/14/2002 13:45
Job No: A02-5155

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Rept: AN125C
Page: 1

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A2515507	FLDBLK502	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	05/21/02 17:42	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	05/21/02 17:42	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	05/21/02 17:42	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	05/21/02 17:42	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	05/21/02 17:42	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	05/21/02 17:42	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	05/21/02 17:42	05/22 08:50	NA		06/10	EH	Y	GW
A2515506	DUPA502	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	05/21/02	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	05/21/02	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	05/21/02	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	05/21/02	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	05/21/02	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	05/21/02	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	05/21/02	05/22 08:50	NA		06/10	EH	Y	GW
A2515501	MW-6	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	05/21/02 11:30	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	05/21/02 11:30	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	05/21/02 11:30	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	05/21/02 11:30	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	05/21/02 11:30	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	05/21/02 11:30	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	05/21/02 11:30	05/22 08:50	NA		06/10	EH	Y	GW
A2515502	Spring #1	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	05/21/02 12:05	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	05/21/02 12:05	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	05/21/02 12:05	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	05/21/02 12:05	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	05/21/02 12:05	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	05/21/02 12:05	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	05/21/02 12:05	05/22 08:50	NA		06/10	EH	Y	GW
A2515503	Spring #2	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	05/21/02 12:55	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	05/21/02 12:55	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	05/21/02 12:55	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	05/21/02 12:55	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	05/21/02 12:55	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	05/21/02 12:55	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	05/21/02 12:55	05/22 08:50	NA		06/10	EH	Y	GW
A2515505	Spring #3	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	05/21/02 15:52	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	05/21/02 15:52	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	05/21/02 15:52	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	05/21/02 15:52	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	05/21/02 15:52	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	05/21/02 15:52	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	05/21/02 15:52	05/22 08:50	NA		06/10	EH	Y	GW
A2515504	Spring #5	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	05/21/02 14:20	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	05/21/02 14:20	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	05/21/02 14:20	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	05/21/02 14:20	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	05/21/02 14:20	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	05/21/02 14:20	05/22 08:50	NA		06/10	EH	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	05/21/02 14:20	05/22 08:50	NA		06/10	EH	Y	GW

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000030

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffalo

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

000031

Date: 06/14/2002 13:45
Job No: A02-5155

QUARTERLY WELLS & SPRINGS
QC CHRONOLOGY

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A2B0511902	Method Blank	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	-	-	NA		06/10	EH	Y	WATER
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	-	-	NA		06/10	EH	Y	WATER
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	-	-	NA		06/10	EH	Y	WATER
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	-	-	NA		06/10	EH	Y	WATER
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	-	-	NA		06/10	EH	Y	WATER
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	-	-	NA		06/10	EH	Y	WATER
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	-	-	NA		06/10	EH	Y	WATER

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AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

000032

Date: 06/14/2002 13:45
Job No: A02-5155

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Rept: AN1250
Page: 1

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	T H	Analysis Date	ANL INI	A H	Matrix
A2515507	FLDBLK502	RECNY	Cyanide, Total	9012A	1.0		05/21/02 17:42	05/22 08:50	NA		05/31	JMS	Y	GW
A2515506	DUPA502	RECNY	Cyanide, Total	9012A	1.0		05/21/02	05/22 08:50	NA		05/31	JMS	Y	GW
A2515501	MW-6	RECNY	Cyanide, Total	9012A	1.0		05/21/02 11:30	05/22 08:50	NA		05/31	JMS	Y	GW
A2515502	Spring #1	RECNY	Cyanide, Total	9012A	1.0		05/21/02 12:05	05/22 08:50	NA		05/31	JMS	Y	GW
A2515503	Spring #2	RECNY	Cyanide, Total	9012A	1.0		05/21/02 12:55	05/22 08:50	NA		05/31	JMS	Y	GW
A2515505	Spring #3	RECNY	Cyanide, Total	9012A	1.0		05/21/02 15:52	05/22 08:50	NA		05/31	JMS	Y	GW
A2515504	Spring #5	RECNY	Cyanide, Total	9012A	1.0		05/21/02 14:20	05/22 08:50	NA		05/31	JMS	Y	GW

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AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

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STL Buffalo

QUARTERLY WELLS & SPRINGS
QC CHRONOLOGY

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A2B0466602	Method Blank	RECNY	Cyanide, Total	9012A	1.0		-	-	NA		05/31	JMS	Y	WATER

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AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

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Chain of Custody

Chain of Custody Record

SEVERN TRENT SERVICES

Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client: RMT INC.	Project Manager: MIKE AMSTADT	Date: 5/21/02	Chain of Custody Number: 110366
Address: P.O. BOX 8923	Telephone Number (Area Code)/Fax Number: 608-831-4444	Lab Number	Page 1 of 1
City: MADISON; State: WI; Zip Code: 53708	Site Contact	Lab Contact	
Project Name and Location (State): RED PENN LANDFILL, LOUISVILLE, KY	Carrier/Waybill Number: FED EX 8335 0154 7587		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: METALS	VOCs	PCBS	CYANIDE	Special Instructions/ Conditions of Receipt
MW-6	5/21/02	1130		✓			2		1	3	1		X	X	X	X	
SPRING #1	5/21/02	1205		✓			2		1	3	1		X	X	X	X	
SPRING #2	5/21/02	1255		✓			2		1	3	1		X	X	X	X	
SPRING #5	5/21/02	1420		✓			2		1	3	1		X	X	X	X	
SPRING #3	5/21/02	1552		✓			2		1	3	1		X	X	X	X	
~~SPRING #4~~																	
DUPA 502	5/21/02			✓			2		1	3	1		X	X	X	X	
FIELDBLANK 502	5/21/02	1742		✓			2		1	3	1		X	X	X	X	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

1. Relinquished By: [signature]	Date: 5/21/02	Time: 2100	1. Received By: [signature]	Date: 5/22/02	Time: 850
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments: 4°

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

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Laboratory Results for August 2002

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-8078

STL Project#: NY2A8892
Site Name: Red Penn Landfill
Task: Quarterly Wells & Springs

Mike Amstadt
RMT, Inc.
744 Heartland Trail
Madison, WI 53717

STL Buffalo

Amy Haag

Amy Lynn Haag
Project Manager

08/26/2002

This report contains 31 pages which are individually numbered.

STL Buffalo is a part of Severn Trent Laboratories, Inc.

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SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2807801	DUP802	08/09/2002		08/10/2002	10:15
A2807802	FLDBLK802	08/09/2002	09:15	08/10/2002	10:15
A2807803	MW-6	08/08/2002	13:44	08/10/2002	10:15
A2807804	MW8002-8975	08/09/2002	10:08	08/10/2002	10:15
A2807805	Spring #1	08/08/2002	15:53	08/10/2002	10:15
A2807806	TRIP BLANK	08/09/2002		08/10/2002	10:15

METHODS SUMMARY

Job#: A02-8078

STL Project#: NY2A8892
Site Name: Red Penn Landfill

PARAMETER	ANALYTICAL METHOD
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS	SW8463 8260
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS	SW8463 8082
Antimony - Soluble	SW8463 6010
Arsenic - Soluble	SW8463 6010
Barium - Soluble	SW8463 6010
Cadmium - Soluble	SW8463 6010
Chromium - Soluble	SW8463 6010
Lead - Soluble	SW8463 6010
Nickel - Soluble	SW8463 6010
Cyanide - Total	SW8463 9012A

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-8078

STL Project#: NY2A8892
Site Name: Red Penn Landfill

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-8078
Sample Cooler(s) were received at the following temperature(s); 2 °C
All samples were received in good condition.

GC/MS Volatile Data

The analyte Chlorobenzene was detected in the Method Blank (VBLK87) at a level below the project established reporting limit. No corrective action is necessary for any values in Method Blanks that are below the requested reporting limits. All samples were non-detect for this analyte.

GC Extractable Data

The recovery of surrogate Decachlorobiphenyl for the Method 8082 (PCB) analysis of sample MW-6 was outside of established quality control limits. The recovery of surrogate Tetrachloro-m-xylene was within quality control limits, no corrective action was required.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

Wet Chemistry Data

No deviations from protocol were encountered during the analytical procedures.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences
H	Indicates analytical holding time exceedance The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

Sample Data Package

Date: 08/26/2002
Time: 12:56:47

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID / Job No / Sample Date / Lab ID		DUP802 A02-8078 08/09/2002 A2807801		FLDBLK802 A02-8078 08/09/2002 A2807802		MW-6 A02-8078 08/08/2002 A2807803		MW8002-8975 A02-8078 08/09/2002 A2807804	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chloroethane	UG/L	ND	2.0	ND	2.0	ND	2.0	ND	2.0
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
IS/SURROGATE(S)									
Chlorobenzene-D5	%	88	50-200	90	50-200	85	50-200	81	50-200
1,4-Difluorobenzene	%	88	50-200	89	50-200	84	50-200	83	50-200
1,4-Dichlorobenzene-D4	%	77	50-200	78	50-200	76	50-200	55	50-200
Toluene-D8	%	94	73-119	92	73-119	95	73-119	102	73-119
p-Bromofluorobenzene	%	96	70-116	93	70-116	99	70-116	86	70-116
1,2-Dichloroethane-D4	%	117	72-138	118	72-138	120	72-138	123	72-138

Client ID / Job No / Sample Date / Lab ID		Spring #1 A02-8078 08/08/2002 A2807805							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	79	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	79	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	70	50-200	NA		NA		NA	
Toluene-D8	%	98	73-119	NA		NA		NA	
p-Bromofluorobenzene	%	95	70-116	NA		NA		NA	
1,2-Dichloroethane-D4	%	119	72-138	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

000007

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Date: 08/26/2002
Time: 12:57:00

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID / Job No / Sample Date / Lab ID		DUP802 A02-8078 08/09/2002	A2807801	FLDBLK802 A02-8078 08/09/2002	A2807802	MW-6 A02-8078 08/08/2002	A2807803	Spring #1 A02-8078 08/08/2002	A2807805
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1221	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1232	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1242	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1248	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1254	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1260	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
SURROGATE(S)									
Tetrachloro-m-xylene	%	90	36-132	88	36-132	44	36-132	83	36-132
Decachlorobiphenyl	%	70	28-132	37	28-132	6.0 *	28-132	67	28-132

NA = Not Applicable ND = Not Detected

STL Buffalo

000008

010

Date: 08/26/2002
Time: 12:57:06

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID Job No Sample Date	Lab ID	DUP802 A02-8078 08/09/2002	A2807801	FLDBLK802 A02-8078 08/09/2002	A2807802	MW-6 A02-8078 08/08/2002	A2807803	Spring #1 A02-8078 08/08/2002	A2807805
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Arsenic, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Barium, Dissolved	UG/L	39.7	5.0	ND	5.0	86.3	5.0	41.5	5.0
Cadmium, Dissolved	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chromium, Dissolved	UG/L	ND	3.0	ND	3.0	ND	3.0	ND	3.0
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Nickel, Dissolved	UG/L	ND	5.0	ND	5.0	29.5	5.0	ND	5.0

NA = Not Applicable ND = Not Detected

STL Buffalo

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Date: 08/26/2002
Time: 12:57:11

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Rept: AN1246

Client ID Job No Sample Date	Lab ID	DUP802 A02-8078 08/09/2002	A2807801	FLDBLK802 A02-8078 08/09/2002	A2807802	MW-6 A02-8078 08/08/2002	A2807803	Spring #1 A02-8078 08/08/2002	A2807805
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010

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000010

= N[illegible] plica[illegible] ND [illegible]ot De[illegible]d

Chronology and QC Summary Package

Date: 08/26/2002
Time: 12:57:18

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		VBLK 87							
Job No	Lab ID	A02-8078	A2807807						
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	0.28 J	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	90	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	89	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	80	50-200	NA		NA		NA	
Toluene-D8	%	96	73-119	NA		NA		NA	
p-Bromofluorobenzene	%	97	70-116	NA		NA		NA	
1,2-Dichloroethane-D4	%	117	72-138	NA		NA		NA	

000012

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 08/26/2002
Time: 12:57:18

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID Job No Lab ID Sample Date		TRIP BLANK A02-8078 A2807806 08/09/2002							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	88	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	85	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	76	50-200	NA		NA		NA	
Toluene-D8	%	92	73-119	NA		NA		NA	
p-Bromofluorobenzene	%	95	70-116	NA		NA		NA	
1,2-Dichloroethane-D4	%	114	72-138	NA		NA		NA	

116

000013

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STL Buffalo

Date: 08/26/2002
Time: 12:57:31

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID		Method Blank							
Job No / Lab ID		A02-8078	A2B0768902						
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	NA		NA		NA	
PCB 1221	UG/L	ND	0.50	NA		NA		NA	
PCB 1232	UG/L	ND	0.50	NA		NA		NA	
PCB 1242	UG/L	ND	0.50	NA		NA		NA	
PCB 1248	UG/L	ND	0.50	NA		NA		NA	
PCB 1254	UG/L	ND	0.50	NA		NA		NA	
PCB 1260	UG/L	ND	0.50	NA		NA		NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	79	36-132	NA		NA		NA	
Decachlorobiphenyl	%	44	28-132	NA		NA		NA	

117

000074

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 08/26/2002
Time: 12:57:36

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID Job No Sample Date	Lab ID	Method Blank A02-8078	A2807809						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	NA		NA		NA	
Arsenic, Dissolved	UG/L	ND	10	NA		NA		NA	
Barium, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Cadmium, Dissolved	UG/L	ND	1.0	NA		NA		NA	
Chromium, Dissolved	UG/L	ND	3.0	NA		NA		NA	
Lead, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Nickel, Dissolved	UG/L	ND	5.0	NA		NA		NA	

118

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STL Buffalo

000075

Date: 08/26/2002
Time: 12:57:41

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Rept: AN1246

Client ID / Job No / Sample Date	Lab ID	Method Blank A02-8078	A2B0785202						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

119

000016

Date : 08/26/2002 12:57:46 Rept: AN0364

Client Sample ID: VBLK 87 msb 87
Lab Sample ID: A2807807 A2807808

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL -8260 - SELECT VOLATIL					
Benzene	UG/L	8.47	10.0	85	69-126
Chlorobenzene	UG/L	8.45	10.0	82	72-117

120

* Indicates Result is outside QC Limits
[illegible] = No[illegible] [illegible]culat[illegible] ND = [illegible] Detec[illegible]

000017

[illegible] Buffalo

Date : 08/26/2002 12:58:00 Rept: AN0364

Client Sample ID: Method Blank Matrix Spike Blank
Lab Sample ID: A2B0768902 A2B0768901

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL 8082 - POLYCHLORINATED					
PCB 1260	UG/L	3.72	5.00	74	50-122
PCB 1016	UG/L	4.57	5.00	91	29-123

121

000019

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

STL Buffalo

Date : 08/26/2002 12:58:05 Rept: AN0364

Client Sample ID: Method Blank LFB
Lab Sample ID: A2807809 A2807810

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)					
SOLUBLE ANTIMONY	UG/L	198.5	200	99	80-120
SOLUBLE ARSENIC	UG/L	208.1	200	104	80-120
SOLUBLE BARIUM	UG/L	208.1	200	104	80-120
SOLUBLE CADMIUM	UG/L	206.5	200	103	80-120
SOLUBLE CHROMIUM	UG/L	198.9	200	99	80-120
SOLUBLE LEAD	UG/L	205.1	200	102	80-120
SOLUBLE NICKEL	UG/L	202.1	200	101	80-120

122

* Indicates Result is outside QC Limits
= Nc cula ND : Dete

000019

SIL Buffalo

Date : 08/26/2002 12:58:10

Rept: AN0364

Client Sample ID: Method Blank
Lab Sample ID: A2B0785202

LCS
A2B0785201

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
WET CHEMISTRY ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0.230	0.25	92	90-110

123

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

000020

STL Buffal

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	DUP802 A02-8078 A2807801	FLDBLK802 A02-8078 A2807802	MW-6 A02-8078 A2807803	MW8002-8975 A02-8078 A2807804	Spring #1 A02-8078 A2807805
Sample Date	08/09/2002	08/09/2002 09:15	08/08/2002 13:44	08/09/2002 10:08	08/08/2002 15:53
Received Date	08/10/2002 10:15	08/10/2002 10:15	08/10/2002 10:15	08/10/2002 10:15	08/10/2002 10:15
Extraction Date					
Analysis Date	08/12/2002 16:15	08/12/2002 16:44	08/12/2002 17:14	08/12/2002 17:43	08/12/2002 18:13
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS
% Dry					

124

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000024

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	TRIP BLANK A02-8078 A2807806				
Sample Date	08/09/2002				
Received Date	08/10/2002 10:15				
Extraction Date					
Analysis Date	08/12/2002 15:45				
Extraction HT Met?	-				
Analytical HT Met?	YES				
Sample Matrix	GW				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

125

NA = Not Applicable

000022

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	VBLK 87 A02-8078 A2807807				
Sample Date					
Received Date					
Extraction Date					
Analysis Date	08/12/2002 10:51				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

126 = N[illegible] [illegible]lica

000023

[illegible] Buffalo

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	DUP802 A02-8078 A2807801	FLDBLK802 A02-8078 A2807802	MW-6 A02-8078 A2807803	Spring #1 A02-8078 A2807805	
Sample Date	08/09/2002	08/09/2002 09:15	08/08/2002 13:44	08/08/2002 15:53	
Received Date	08/10/2002 10:15	08/10/2002 10:15	08/10/2002 10:15	08/10/2002 10:15	
Extraction Date	08/13/2002 07:00	08/13/2002 07:00	08/13/2002 07:00	08/13/2002 07:00	
Analysis Date	08/14/2002 17:17	08/14/2002 17:42	08/14/2002 18:08	08/14/2002 18:33	
Extraction HT Met?	YES	YES	YES	YES	
Analytical HT Met?	YES	YES	YES	YES	
Sample Matrix	GW	GW	GW	GW	
Dilution Factor	1.0	1.0	1.0	1.0	
Sample wt/vol	1.05 LITERS	1.03 LITERS	1.02 LITERS	1.04 LITERS	
% Dry					

000024

127

NA = Not Applicable

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Method Blank A02-8078 A2B0768902				
Sample Date					
Received Date					
Extraction Date	08/13/2002 07:00				
Analysis Date	08/14/2002 10:07				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	1.0 LITERS				
% Dry					

000025

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ou Buffalo

Date: 08/26/2002 12:58
Job No: A02-8078

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A2807801	DUP802	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	08/09/02	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	08/09/02	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	08/09/02	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	08/09/02	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	08/09/02	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	08/09/02	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	08/09/02	08/10 10:15	NA		08/21	RB	Y	GW
A2807802	FLDBLK802	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	08/09/02 09:15	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	08/09/02 09:15	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	08/09/02 09:15	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	08/09/02 09:15	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	08/09/02 09:15	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	08/09/02 09:15	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	08/09/02 09:15	08/10 10:15	NA		08/21	RB	Y	GW
A2807803	MW-6	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	08/08/02 13:44	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	08/08/02 13:44	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	08/08/02 13:44	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	08/08/02 13:44	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	08/08/02 13:44	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	08/08/02 13:44	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	08/08/02 13:44	08/10 10:15	NA		08/21	RB	Y	GW
A2807805	Spring #1	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	08/08/02 15:53	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	08/08/02 15:53	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	08/08/02 15:53	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	08/08/02 15:53	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	08/08/02 15:53	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	08/08/02 15:53	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	08/08/02 15:53	08/10 10:15	NA		08/21	RB	Y	GW

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AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffal

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A2807809	Method Blank	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	-	-	NA		08/21	RB	Y	WATER
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	-	-	NA		08/21	RB	Y	WATER
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	-	-	NA		08/21	RB	Y	WATER
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	-	-	NA		08/21	RB	Y	WATER
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	-	-	NA		08/21	RB	Y	WATER
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	-	-	NA		08/21	RB	Y	WATER
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	-	-	NA		08/21	RB	Y	WATER

000027

130

AH = Analysis Holding Time Met
[illegible] = TCL[illegible]ding [illegible] Met
NA = Not Applicable

ANL INI = Analyst Initials
[illegible] = D[illegible]on Fa

[illegible]TL Bu[illegible]

Date: 08/26/2002 12:58
Job No: A02-8078

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Rept: AN1250
Page: 1

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A2807801	DUP802	RECNY	Cyanide, Total	9012A	1.0		08/09/02	08/10 10:15	NA		08/21	JMS	Y	GW
A2807802	FLDBLK802	RECNY	Cyanide, Total	9012A	1.0		08/09/02 09:15	08/10 10:15	NA		08/21	JMS	Y	GW
A2807803	MW-6	RECNY	Cyanide, Total	9012A	1.0		08/08/02 13:44	08/10 10:15	NA		08/19	JMS	Y	GW
A2807805	Spring #1	RECNY	Cyanide, Total	9012A	1.0		08/08/02 15:53	08/10 10:15	NA		08/19	JMS	Y	GW

121

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffalo

000078

QUARTERLY WELLS & SPRINGS
QC CHRONOLOGY

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matri
A2B0785202	Method Blank	RECNY	Cyanide, Total	9012A	1.0		-	-	NA		08/19	JMS	Y	WATER

132

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
Not icab

ANL INI = Analyst Initials
DF = Dilution Factor

Chain of Custody

Chain of Custody Record

SEVERN TRENT SERVICES

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: RMT, INC.	Project Manager: MIKE AMSTADT	Date: 8/9/02	Chain of Custody Number: 114742
Address: P.O. BOX 8923	Telephone Number (Area Code)/Fax Number: (608)831-4444	Lab Number:	Page 1 of 1
City: MADISON; State: WI; Zip Code: 53708	Site Contact:	Lab Contact:	
Project Name and Location (State): RED PENN LANDFILL - LOUISVILLE KY	Carrier/Waybill Number: FED EX #812679671748		
Contract/Purchase Order/Quote No.:			

Analysis (Attach list if more space is needed)

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Metals	VOC's	PCB	CYANIDE	Special Instructions/ Conditions of Receipt
MW-6	8/8/02	1344		X			2		1	3	1		X	X	X	X	Metals samples
SPRING #1	8/8/02	1553		X			2		1	3	1		X	X	X	X	filtered in the
TRIP BLANK	8/9/02	~~0915~~		X						2				X	~~X~~		field
MW-8002-89795	8/9/02	1008		X						3				X			Only 3 40ML Bott
DUP 802				X			2		1	3	1		X	X	X	X	
FIELD ~~TRIP~~ BLANK 802	8/9/02	0915		X			2		1	3	1		X	X	X	X	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other_____

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: [signature]	8/9/02	1614	1. Received By: FED EX# 812679671748		
2. Relinquished By:			2. Received By: [signature] STL Buffalo	08/10/02	1015
3. Relinquished By:			3. Received By: 2°C		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

135

000001

Laboratory Results for November 2002

SEVERN TRENT STL

ANALYTICAL REPORT

Job#: A02-B570

STL Project#: NY2A8892
Site Name: Red Penn Landfill
Task: Quarterly Wells & Springs

Mike Amstadt
RMT, Inc.
744 Heartland Trail
Madison, WI 53717

STL Buffalo

Amy Haag

Amy Lynn Haag
Project Manager

12/05/2002

This report contains 41 pages which are individually numbered.

Severn Trent Laboratories, Inc.
STL Buffalo • 10 Hazelwood Drive, Suite 106, Amherst, NY 14228
Tel 716 691 2600 Fax 716 691 7991 • www.stl-inc.com

A part of Severn Trent plc

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2B57001	DUPA1102	11/18/2002		11/20/2002	08:45
A2B57002	DUPB1102	11/19/2002		11/20/2002	08:45
A2B57003	FLDBLK1102	11/18/2002		11/20/2002	08:45
A2B57004	MW-6	11/18/2002	14:35	11/20/2002	08:45
A2B57005	MW8002-8975	11/18/2002	07:35	11/20/2002	08:45
A2B57006	Spring #1	11/18/2002	15:15	11/20/2002	08:45
A2B57007	Spring #2	11/19/2002	08:35	11/20/2002	08:45
A2B57008	Spring #3	11/18/2002	16:40	11/20/2002	08:45
A2B57009	Spring #5	11/18/2002	16:15	11/20/2002	08:45
A2B57010	TRIP BLANK	11/18/2002		11/20/2002	08:45

METHODS SUMMARY

Job#: A02-B570

STL Project#: NY2A8892
Site Name: Red Penn Landfill

PARAMETER	ANALYTICAL METHOD
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS	SW8463 8260
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS	SW8463 8082
Antimony - Soluble	SW8463 6010
Arsenic - Soluble	SW8463 6010
Barium - Soluble	SW8463 6010
Cadmium - Soluble	SW8463 6010
Chromium - Soluble	SW8463 6010
Lead - Soluble	SW8463 6010
Nickel - Soluble	SW8463 6010
Cyanide - Total	SW8463 9012A

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-B570

STL Project#: NY2A8892
Site Name: Red Penn Landfill

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-B570
Sample Cooler(s) were received at the following temperature(s); 2@6 °C
All samples were received in good condition.

GC/MS Volatile Data

No deviations from protocol were encountered during the analytical procedures.

GC Extractable Data

For method 8082, the recovery of surrogate Decachlorobiphenyl in samples MW-6 and Spring #3 is outside of established quality control limits. The recovery of surrogate Tetrachloro-m-xylene is within quality control limits.

For method 8082, samples FLDBLK1102 and Spring #3 were originally analyzed for PCBs within the required holding time, however, the result was not consistent with historical trends and strongly pointed to Preparatory Lab contamination. Re-analysis was performed outside holding time and the non-detect values obtained are more representative of past data. Both sets of data are provided in this data package.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

Wet Chemistry Data

The value obtained for Cyanide on samples Spring #2 and Spring #3 are inconsistent with historical trends. Reanalysis was performed and the values were confirmed. Only the result from the original analysis is provided in this data package.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Client Sample ID	Lab Sample ID	Parameter (Inorganic)/Method (Organic)	Dilution	Code
Spring #3	A2B57008	8260	10.00	003

Dilution Code Definition:

002 - sample matrix effects
003 - excessive foaming
004 - high levels of non-target compounds
005 - sample matrix resulted in method non-compliance for an Internal Standard
006 - sample matrix resulted in method non-compliance for Surrogate
007 - nature of the TCLP matrix
008 - high concentration of target analyte(s)
009 - sample turbidity
010 - sample color
011 - insufficient volume for lower dilution
012 - sample viscosity
013 - other

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

Sample Data Package

Date: 12/05/2002
Time: 11:31:47

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		DUPA1102		DUPB1102		FLDBLK1102		MW-6	
Job No	Lab ID	A02-B570	A2B57001	A02-B570	A2B57002	A02-B570	A2B57003	A02-B570	A2B57004
Sample Date		11/18/2002		11/19/2002		11/18/2002		11/18/2002	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chloroethane	UG/L	ND	2.0	ND	2.0	ND	2.0	ND	2.0
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
IS/SURROGATE(S)									
Chlorobenzene-D5	%	63	50-200	87	50-200	62	50-200	64	50-200
1,4-Difluorobenzene	%	64	50-200	87	50-200	62	50-200	65	50-200
1,4-Dichlorobenzene-D4	%	51	50-200	68	50-200	53	50-200	52	50-200
Toluene-D8	%	102	73-119	104	73-119	101	73-119	102	73-119
p-Bromofluorobenzene	%	103	70-116	107	70-116	100	70-116	100	70-116
1,2-Dichloroethane-D4	%	116	72-138	107	72-138	120	72-138	119	72-138

Client ID		MW8002-8975		Spring #1		Spring #2		Spring #3	
Job No	Lab ID	A02-B570	A2B57005	A02-B570	A2B57006	A02-B570	A2B57007	A02-B570	A2B57008
Sample Date		11/18/2002		11/18/2002		11/19/2002		11/18/2002	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	2.4	1.0	ND	1.0	ND	1.0	ND	1.2
Chlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.6
Chloroethane	UG/L	ND	2.0	ND	2.0	ND	2.0	ND	2.0
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.6
IS/SURROGATE(S)									
Chlorobenzene-D5	%	66	50-200	74	50-200	78	50-200	80	50-200
1,4-Difluorobenzene	%	67	50-200	74	50-200	79	50-200	81	50-200
1,4-Dichlorobenzene-D4	%	54	50-200	60	50-200	61	50-200	68	50-200
Toluene-D8	%	103	73-119	101	73-119	102	73-119	101	73-119
p-Bromofluorobenzene	%	102	70-116	104	70-116	107	70-116	102	70-116
1,2-Dichloroethane-D4	%	124	72-138	113	72-138	106	72-138	110	72-138

000008

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NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 12/05/2002
Time: 11:31:47

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		Spring #5							
Job No	Lab ID	A02-B570	A2B57009						
Sample Date		11/18/2002							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	77	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	80	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	65	50-200	NA		NA		NA	
Toluene-D8	%	102	73-119	NA		NA		NA	
p-Bromofluorobenzene	%	104	70-116	NA		NA		NA	
1,2-Dichloroethane-D4	%	110	72-138	NA		NA		NA	

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NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 12/05/2002
Time: 11:31:54

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID		DUPA1102		DUPB1102		FLDBLK1102		FLDBLK1102	
Job No	Lab ID	A02-B570	A2B57001	A02-B570	A2B57002	A02-B570	A2B57003	A02-B570	A2B57003RE
Sample Date		11/18/2002		11/19/2002		11/18/2002		11/18/2002	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1221	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1232	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1242	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1248	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1254	UG/L	ND	0.50	ND	0.50	0.76	0.50	ND	0.50
PCB 1260	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
SURROGATE(S)									
Tetrachloro-m-xylene	%	72	36-132	70	36-132	72	36-132	66	36-132
Decachlorobiphenyl	%	76	28-132	43	28-132	52	28-132	34	28-132

Client ID		MW-6		Spring #1		Spring #2		Spring #3	
Job No	Lab ID	A02-B570	A2B57004	A02-B570	A2B57006	A02-B570	A2B57007	A02-B570	A2B57008
Sample Date		11/18/2002		11/18/2002		11/19/2002		11/18/2002	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1221	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1232	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1242	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1248	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1254	UG/L	ND	0.50	ND	0.50	ND	0.50	0.79	0.50
PCB 1260	UG/L	ND	0.50	ND	0.50	ND	0.50	0.59	0.50
SURROGATE(S)									
Tetrachloro-m-xylene	%	70	36-132	67	36-132	69	36-132	73	36-132
Decachlorobiphenyl	%	24 *	28-132	70	28-132	60	28-132	26 *	28-132

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 12/05/2002
Time: 11:31:54

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID		Spring #3		Spring #5					
Job No / Lab ID		A02-B570	A2B57008RE	A02-B570	A2B57009				
Sample Date		11/18/2002		11/18/2002					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1221	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1232	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1242	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1248	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1254	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1260	UG/L	ND	0.50	ND	0.50	NA		NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	68	36-132	74	36-132	NA		NA	
Decachlorobiphenyl	%	34	28-132	71	28-132	NA		NA	

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NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 12/05/2002
Time: 11:31:58

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID		DUPA1102		DUPB1102		FLDBLK1102		MW-6	
Job No	Lab ID	A02-B570	A2B57001	A02-B570	A2B57002	A02-B570	A2B57003	A02-B570	A2B57004
Sample Date		11/18/2002		11/19/2002		11/18/2002		11/18/2002	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Arsenic, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Barium, Dissolved	UG/L	46.2	5.0	97.2	5.0	ND	5.0	93.4	5.0
Cadmium, Dissolved	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chromium, Dissolved	UG/L	ND	3.0	ND	3.0	ND	3.0	ND	3.0
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Nickel, Dissolved	UG/L	ND	5.0	26.5	5.0	ND	5.0	26.1	5.0

Client ID		Spring #1		Spring #2		Spring #3		Spring #5	
Job No	Lab ID	A02-B570	A2B57006	A02-B570	A2B57007	A02-B570	A2B57008	A02-B570	A2B57009
Sample Date		11/18/2002		11/19/2002		11/18/2002		11/18/2002	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Arsenic, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Barium, Dissolved	UG/L	45.4	5.0	84.9	5.0	212	5.0	93.4	5.0
Cadmium, Dissolved	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chromium, Dissolved	UG/L	ND	3.0	ND	3.0	ND	3.0	ND	3.0
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Nickel, Dissolved	UG/L	ND	5.0	ND	5.0	27.3	5.0	ND	5.0

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NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 12/05/2002
Time: 11:32:00

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Rept: AN1246

Client ID Job No Sample Date	Lab ID	DUPA1102 A02-B570 11/18/2002	A2B57001	DUPB1102 A02-B570 11/19/2002	A2B57002	FLDBLK1102 A02-B570 11/18/2002	A2B57003	MW-6 A02-B570 11/18/2002	A2B57004
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010

Client ID Job No Sample Date	Lab ID	Spring #1 A02-B570 11/18/2002	A2B57006	Spring #2 A02-B570 11/19/2002	A2B57007	Spring #3 A02-B570 11/18/2002	A2B57008	Spring #5 A02-B570 11/18/2002	A2B57009
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	0.11	0.010	0.011	0.010	ND	0.010

154

NA = Not Applicable ND = Not Detected

STL Buffalo

Chronology and QC Summary Package

Date: 12/05/2002
Time: 11:32:04

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID / Job No / Sample Date / Lab ID		VBLK43 / A02-B570 / A2B57011		VBLK44 / A02-B570 / A2B57013					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	NA		NA	
Chlorobenzene	UG/L	ND	1.0	ND	1.0	NA		NA	
Chloroethane	UG/L	ND	2.0	ND	2.0	NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	80	50-200	92	50-200	NA		NA	
1,4-Difluorobenzene	%	82	50-200	92	50-200	NA		NA	
1,4-Dichlorobenzene-D4	%	67	50-200	74	50-200	NA		NA	
Toluene-D8	%	101	73-119	103	73-119	NA		NA	
p-Bromofluorobenzene	%	103	70-116	106	70-116	NA		NA	
1,2-Dichloroethane-D4	%	109	72-138	108	72-138	NA		NA	

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NA = Not Applicable ND = Not Detected

STL Buffalo

000015

Date: 12/05/2002
Time: 11:32:04

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID Job No Sample Date	Lab ID	TRIP BLANK A02-B570 11/18/2002	A2B57010						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	77	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	78	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	66	50-200	NA		NA		NA	
Toluene-D8	%	99	73-119	NA		NA		NA	
p-Bromofluorobenzene	%	102	70-116	NA		NA		NA	
1,2-Dichloroethane-D4	%	113	72-138	NA		NA		NA	

000016

158

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 12/05/2002
Time: 11:32:12

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID / Job No / Sample Date / Lab ID		Method Blank A02-B570 A2B1190302		Method Blank A02-B570 A2B1222603					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1221	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1232	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1242	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1248	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1254	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1260	UG/L	ND	0.50	ND	0.50	NA		NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	62	36-132	68	36-132	NA		NA	
Decachlorobiphenyl	%	40	28-132	52	28-132	NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

Sample Data Package

Date: 08/26/2002
Time: 12:56:47

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID / Job No / Sample Date / Lab ID		DUP802 A02-8078 08/09/2002 A2807801		FLDBLK802 A02-8078 08/09/2002 A2807802		MW-6 A02-8078 08/08/2002 A2807803		MW8002-8975 A02-8078 08/09/2002 A2807804	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chloroethane	UG/L	ND	2.0	ND	2.0	ND	2.0	ND	2.0
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
IS/SURROGATE(S)									
Chlorobenzene-D5	%	88	50-200	90	50-200	85	50-200	81	50-200
1,4-Difluorobenzene	%	88	50-200	89	50-200	84	50-200	83	50-200
1,4-Dichlorobenzene-D4	%	77	50-200	78	50-200	76	50-200	55	50-200
Toluene-D8	%	94	73-119	92	73-119	95	73-119	102	73-119
p-Bromofluorobenzene	%	96	70-116	93	70-116	99	70-116	86	70-116
1,2-Dichloroethane-D4	%	117	72-138	118	72-138	120	72-138	123	72-138

Client ID / Job No / Sample Date / Lab ID		Spring #1 A02-8078 08/08/2002 A2807805							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	79	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	79	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	70	50-200	NA		NA		NA	
Toluene-D8	%	98	73-119	NA		NA		NA	
p-Bromofluorobenzene	%	95	70-116	NA		NA		NA	
1,2-Dichloroethane-D4	%	119	72-138	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

000007

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Date: 08/26/2002
Time: 12:57:00

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID / Job No / Sample Date / Lab ID		DUP802 A02-8078 08/09/2002	A2807801	FLDBLK802 A02-8078 08/09/2002	A2807802	MW-6 A02-8078 08/08/2002	A2807803	Spring #1 A02-8078 08/08/2002	A2807805
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1221	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1232	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1242	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1248	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1254	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1260	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
SURROGATE(S)									
Tetrachloro-m-xylene	%	90	36-132	88	36-132	44	36-132	83	36-132
Decachlorobiphenyl	%	70	28-132	37	28-132	6.0 *	28-132	67	28-132

NA = Not Applicable ND = Not Detected

STL Buffalo

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Date: 08/26/2002
Time: 12:57:06

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID Job No Sample Date	Lab ID	DUP802 A02-8078 08/09/2002	A2807801	FLDBLK802 A02-8078 08/09/2002	A2807802	MW-6 A02-8078 08/08/2002	A2807803	Spring #1 A02-8078 08/08/2002	A2807805
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Arsenic, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Barium, Dissolved	UG/L	39.7	5.0	ND	5.0	86.3	5.0	41.5	5.0
Cadmium, Dissolved	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chromium, Dissolved	UG/L	ND	3.0	ND	3.0	ND	3.0	ND	3.0
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Nickel, Dissolved	UG/L	ND	5.0	ND	5.0	29.5	5.0	ND	5.0

NA = Not Applicable ND = Not Detected

STL Buffalo

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Date: 08/26/2002
Time: 12:57:11

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Rept: AN1246

Client ID Job No Sample Date	Lab ID	DUP802 A02-8078 08/09/2002	A2807801	FLDBLK802 A02-8078 08/09/2002	A2807802	MW-6 A02-8078 08/08/2002	A2807803	Spring #1 A02-8078 08/08/2002	A2807805
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010

112

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Chronology and QC Summary Package

Date: 08/26/2002
Time: 12:57:18

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		VBLK 87							
Job No	Lab ID	A02-8078	A2807807						
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	0.28 J	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	90	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	89	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	80	50-200	NA		NA		NA	
Toluene-D8	%	96	73-119	NA		NA		NA	
p-Bromofluorobenzene	%	97	70-116	NA		NA		NA	
1,2-Dichloroethane-D4	%	117	72-138	NA		NA		NA	

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NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 08/26/2002
Time: 12:57:18

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID Job No Lab ID Sample Date		TRIP BLANK A02-8078 A2807806 08/09/2002							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	88	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	85	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	76	50-200	NA		NA		NA	
Toluene-D8	%	92	73-119	NA		NA		NA	
p-Bromofluorobenzene	%	95	70-116	NA		NA		NA	
1,2-Dichloroethane-D4	%	114	72-138	NA		NA		NA	

116

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STL Buffalo

Date: 08/26/2002
Time: 12:57:31

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID		Method Blank							
Job No / Lab ID		A02-8078	A2B0768902						
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	NA		NA		NA	
PCB 1221	UG/L	ND	0.50	NA		NA		NA	
PCB 1232	UG/L	ND	0.50	NA		NA		NA	
PCB 1242	UG/L	ND	0.50	NA		NA		NA	
PCB 1248	UG/L	ND	0.50	NA		NA		NA	
PCB 1254	UG/L	ND	0.50	NA		NA		NA	
PCB 1260	UG/L	ND	0.50	NA		NA		NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	79	36-132	NA		NA		NA	
Decachlorobiphenyl	%	44	28-132	NA		NA		NA	

117

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NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 08/26/2002
Time: 12:57:36

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID Job No Sample Date	Lab ID	Method Blank A02-8078	A2807809						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	NA		NA		NA	
Arsenic, Dissolved	UG/L	ND	10	NA		NA		NA	
Barium, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Cadmium, Dissolved	UG/L	ND	1.0	NA		NA		NA	
Chromium, Dissolved	UG/L	ND	3.0	NA		NA		NA	
Lead, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Nickel, Dissolved	UG/L	ND	5.0	NA		NA		NA	

118

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STL Buffalo

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Date: 08/26/2002
Time: 12:57:41

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Rept: AN1246

Client ID / Job No / Sample Date	Lab ID	Method Blank A02-8078	A2B0785202						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

119

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Date : 08/26/2002 12:57:46 Rept: AN0364

Client Sample ID: VBLK 87 msb 87
Lab Sample ID: A2807807 A2807808

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL -8260 - SELECT VOLATIL					
Benzene	UG/L	8.47	10.0	85	69-126
Chlorobenzene	UG/L	8.45	10.0	82	72-117

120

* Indicates Result is outside QC Limits
[illegible] = No[illegible] [illegible]culat[illegible] ND = [illegible] Detec[illegible]

000017

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Date : 08/26/2002 12:58:00 Rept: AN0364

Client Sample ID: Method Blank Matrix Spike Blank
Lab Sample ID: A2B0768902 A2B0768901

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL 8082 - POLYCHLORINATED					
PCB 1260	UG/L	3.72	5.00	74	50-122
PCB 1016	UG/L	4.57	5.00	91	29-123

121

000019

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Date : 08/26/2002 12:58:05 Rept: AN0364

Client Sample ID: Method Blank LFB
Lab Sample ID: A2807809 A2807810

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)					
SOLUBLE ANTIMONY	UG/L	198.5	200	99	80-120
SOLUBLE ARSENIC	UG/L	208.1	200	104	80-120
SOLUBLE BARIUM	UG/L	208.1	200	104	80-120
SOLUBLE CADMIUM	UG/L	206.5	200	103	80-120
SOLUBLE CHROMIUM	UG/L	198.9	200	99	80-120
SOLUBLE LEAD	UG/L	205.1	200	102	80-120
SOLUBLE NICKEL	UG/L	202.1	200	101	80-120

122

* Indicates Result is outside QC Limits
= Nc cula ND : Dete

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SIL Buffalo

Date : 08/26/2002 12:58:10

Rept: AN0364

Client Sample ID: Method Blank
Lab Sample ID: A2B0785202

LCS
A2B0785201

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
WET CHEMISTRY ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0.230	0.25	92	90-110

123

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

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RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	DUP802 A02-8078 A2807801	FLDBLK802 A02-8078 A2807802	MW-6 A02-8078 A2807803	MW8002-8975 A02-8078 A2807804	Spring #1 A02-8078 A2807805
Sample Date	08/09/2002	08/09/2002 09:15	08/08/2002 13:44	08/09/2002 10:08	08/08/2002 15:53
Received Date	08/10/2002 10:15	08/10/2002 10:15	08/10/2002 10:15	08/10/2002 10:15	08/10/2002 10:15
Extraction Date					
Analysis Date	08/12/2002 16:15	08/12/2002 16:44	08/12/2002 17:14	08/12/2002 17:43	08/12/2002 18:13
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS
% Dry					

124

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RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	TRIP BLANK A02-8078 A2807806				
Sample Date	08/09/2002				
Received Date	08/10/2002 10:15				
Extraction Date					
Analysis Date	08/12/2002 15:45				
Extraction HT Met?	-				
Analytical HT Met?	YES				
Sample Matrix	GW				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

125

NA = Not Applicable

000022

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	VBLK 87 A02-8078 A2807807				
Sample Date					
Received Date					
Extraction Date					
Analysis Date	08/12/2002 10:51				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

126 = N[illegible] [illegible]lica

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RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	DUP802 A02-8078 A2807801	FLDBLK802 A02-8078 A2807802	MW-6 A02-8078 A2807803	Spring #1 A02-8078 A2807805	
Sample Date	08/09/2002	08/09/2002 09:15	08/08/2002 13:44	08/08/2002 15:53	
Received Date	08/10/2002 10:15	08/10/2002 10:15	08/10/2002 10:15	08/10/2002 10:15	
Extraction Date	08/13/2002 07:00	08/13/2002 07:00	08/13/2002 07:00	08/13/2002 07:00	
Analysis Date	08/14/2002 17:17	08/14/2002 17:42	08/14/2002 18:08	08/14/2002 18:33	
Extraction HT Met?	YES	YES	YES	YES	
Analytical HT Met?	YES	YES	YES	YES	
Sample Matrix	GW	GW	GW	GW	
Dilution Factor	1.0	1.0	1.0	1.0	
Sample wt/vol	1.05 LITERS	1.03 LITERS	1.02 LITERS	1.04 LITERS	
% Dry					

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127

NA = Not Applicable

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Method Blank A02-8078 A2B0768902				
Sample Date					
Received Date					
Extraction Date	08/13/2002 07:00				
Analysis Date	08/14/2002 10:07				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	1.0 LITERS				
% Dry					

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Date: 08/26/2002 12:58
Job No: A02-8078

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A2807801	DUP802	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	08/09/02	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	08/09/02	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	08/09/02	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	08/09/02	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	08/09/02	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	08/09/02	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	08/09/02	08/10 10:15	NA		08/21	RB	Y	GW
A2807802	FLDBLK802	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	08/09/02 09:15	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	08/09/02 09:15	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	08/09/02 09:15	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	08/09/02 09:15	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	08/09/02 09:15	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	08/09/02 09:15	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	08/09/02 09:15	08/10 10:15	NA		08/21	RB	Y	GW
A2807803	MW-6	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	08/08/02 13:44	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	08/08/02 13:44	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	08/08/02 13:44	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	08/08/02 13:44	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	08/08/02 13:44	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	08/08/02 13:44	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	08/08/02 13:44	08/10 10:15	NA		08/21	RB	Y	GW
A2807805	Spring #1	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	08/08/02 15:53	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	08/08/02 15:53	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	08/08/02 15:53	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	08/08/02 15:53	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	08/08/02 15:53	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	08/08/02 15:53	08/10 10:15	NA		08/21	RB	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	08/08/02 15:53	08/10 10:15	NA		08/21	RB	Y	GW

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AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

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Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A2807809	Method Blank	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	-	-	NA		08/21	RB	Y	WATER
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	-	-	NA		08/21	RB	Y	WATER
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	-	-	NA		08/21	RB	Y	WATER
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	-	-	NA		08/21	RB	Y	WATER
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	-	-	NA		08/21	RB	Y	WATER
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	-	-	NA		08/21	RB	Y	WATER
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	-	-	NA		08/21	RB	Y	WATER

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AH = Analysis Holding Time Met
[illegible] = TCL[illegible]ding [illegible] Met
NA = Not Applicable

ANL INI = Analyst Initials
[illegible] = D[illegible]on Fa

[illegible]TL Bu[illegible]

Date: 08/26/2002 12:58
Job No: A02-8078

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Rept: AN1250
Page: 1

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A2807801	DUP802	RECNY	Cyanide, Total	9012A	1.0		08/09/02	08/10 10:15	NA		08/21	JMS	Y	GW
A2807802	FLDBLK802	RECNY	Cyanide, Total	9012A	1.0		08/09/02 09:15	08/10 10:15	NA		08/21	JMS	Y	GW
A2807803	MW-6	RECNY	Cyanide, Total	9012A	1.0		08/08/02 13:44	08/10 10:15	NA		08/19	JMS	Y	GW
A2807805	Spring #1	RECNY	Cyanide, Total	9012A	1.0		08/08/02 15:53	08/10 10:15	NA		08/19	JMS	Y	GW

121

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffalo

000078

QUARTERLY WELLS & SPRINGS
QC CHRONOLOGY

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matri
A2B0785202	Method Blank	RECNY	Cyanide, Total	9012A	1.0		-	-	NA		08/19	JMS	Y	WATER

132

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
Not icab

ANL INI = Analyst Initials
DF = Dilution Factor

Chain of Custody

Chain of Custody Record

SEVERN TRENT SERVICES

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: RMT, INC.	Project Manager: MIKE AMSTADT	Date: 8/9/02	Chain of Custody Number: 114742
Address: P.O. BOX 8923	Telephone Number (Area Code)/Fax Number: (608)831-4444	Lab Number:	Page 1 of 1
City: MADISON; State: WI; Zip Code: 53708	Site Contact:	Lab Contact:	
Project Name and Location (State): RED PENN LANDFILL - LOUISVILLE KY	Carrier/Waybill Number: FED EX #812679671748		
Contract/Purchase Order/Quote No.:			

Analysis (Attach list if more space is needed)

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Metals	VOC's	PCB	CYANIDE	Special Instructions/ Conditions of Receipt
MW-6	8/8/02	1344		X			2		1	3	1		X	X	X	X	Metals samples
SPRING #1	8/8/02	1553		X			2		1	3	1		X	X	X	X	filtered in the
TRIP BLANK	8/9/02	~~0915~~		X						2				X	~~X~~		field
MW-8002-89795	8/9/02	1008		X						3				X			Only 3 40ML Bott
DUP 802				X			2		1	3	1		X	X	X	X	
FIELD ~~TRIP~~ BLANK 802	8/9/02	0915		X			2		1	3	1		X	X	X	X	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other_____

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: [signature]	8/9/02	1614	1. Received By: FED EX# 812679671748		
2. Relinquished By:			2. Received By: [signature] STL Buffalo	08/10/02	1015
3. Relinquished By:			3. Received By: 2°C		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

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000001

Laboratory Results for November 2002

SEVERN TRENT STL

ANALYTICAL REPORT

Job#: A02-B570

STL Project#: NY2A8892
Site Name: Red Penn Landfill
Task: Quarterly Wells & Springs

Mike Amstadt
RMT, Inc.
744 Heartland Trail
Madison, WI 53717

STL Buffalo

Amy Haag

Amy Lynn Haag
Project Manager

12/05/2002

This report contains 41 pages which are individually numbered.

Severn Trent Laboratories, Inc.
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A part of Severn Trent plc

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2B57001	DUPA1102	11/18/2002		11/20/2002	08:45
A2B57002	DUPB1102	11/19/2002		11/20/2002	08:45
A2B57003	FLDBLK1102	11/18/2002		11/20/2002	08:45
A2B57004	MW-6	11/18/2002	14:35	11/20/2002	08:45
A2B57005	MW8002-8975	11/18/2002	07:35	11/20/2002	08:45
A2B57006	Spring #1	11/18/2002	15:15	11/20/2002	08:45
A2B57007	Spring #2	11/19/2002	08:35	11/20/2002	08:45
A2B57008	Spring #3	11/18/2002	16:40	11/20/2002	08:45
A2B57009	Spring #5	11/18/2002	16:15	11/20/2002	08:45
A2B57010	TRIP BLANK	11/18/2002		11/20/2002	08:45

METHODS SUMMARY

Job#: A02-B570

STL Project#: NY2A8892
Site Name: Red Penn Landfill

PARAMETER	ANALYTICAL METHOD
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS	SW8463 8260
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS	SW8463 8082
Antimony - Soluble	SW8463 6010
Arsenic - Soluble	SW8463 6010
Barium - Soluble	SW8463 6010
Cadmium - Soluble	SW8463 6010
Chromium - Soluble	SW8463 6010
Lead - Soluble	SW8463 6010
Nickel - Soluble	SW8463 6010
Cyanide - Total	SW8463 9012A

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-B570

STL Project#: NY2A8892
Site Name: Red Penn Landfill

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-B570
Sample Cooler(s) were received at the following temperature(s); 2@6 °C
All samples were received in good condition.

GC/MS Volatile Data

No deviations from protocol were encountered during the analytical procedures.

GC Extractable Data

For method 8082, the recovery of surrogate Decachlorobiphenyl in samples MW-6 and Spring #3 is outside of established quality control limits. The recovery of surrogate Tetrachloro-m-xylene is within quality control limits.

For method 8082, samples FLDBLK1102 and Spring #3 were originally analyzed for PCBs within the required holding time, however, the result was not consistent with historical trends and strongly pointed to Preparatory Lab contamination. Re-analysis was performed outside holding time and the non-detect values obtained are more representative of past data. Both sets of data are provided in this data package.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

Wet Chemistry Data

The value obtained for Cyanide on samples Spring #2 and Spring #3 are inconsistent with historical trends. Reanalysis was performed and the values were confirmed. Only the result from the original analysis is provided in this data package.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Client Sample ID	Lab Sample ID	Parameter (Inorganic)/Method (Organic)	Dilution	Code
Spring #3	A2B57008	8260	10.00	003

Dilution Code Definition:

002 - sample matrix effects
003 - excessive foaming
004 - high levels of non-target compounds
005 - sample matrix resulted in method non-compliance for an Internal Standard
006 - sample matrix resulted in method non-compliance for Surrogate
007 - nature of the TCLP matrix
008 - high concentration of target analyte(s)
009 - sample turbidity
010 - sample color
011 - insufficient volume for lower dilution
012 - sample viscosity
013 - other

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

Sample Data Package

Date: 12/05/2002
Time: 11:31:47

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		DUPA1102		DUPB1102		FLDBLK1102		MW-6	
Job No	Lab ID	A02-B570	A2B57001	A02-B570	A2B57002	A02-B570	A2B57003	A02-B570	A2B57004
Sample Date		11/18/2002		11/19/2002		11/18/2002		11/18/2002	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chloroethane	UG/L	ND	2.0	ND	2.0	ND	2.0	ND	2.0
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
IS/SURROGATE(S)									
Chlorobenzene-D5	%	63	50-200	87	50-200	62	50-200	64	50-200
1,4-Difluorobenzene	%	64	50-200	87	50-200	62	50-200	65	50-200
1,4-Dichlorobenzene-D4	%	51	50-200	68	50-200	53	50-200	52	50-200
Toluene-D8	%	102	73-119	104	73-119	101	73-119	102	73-119
p-Bromofluorobenzene	%	103	70-116	107	70-116	100	70-116	100	70-116
1,2-Dichloroethane-D4	%	116	72-138	107	72-138	120	72-138	119	72-138

Client ID		MW8002-8975		Spring #1		Spring #2		Spring #3	
Job No	Lab ID	A02-B570	A2B57005	A02-B570	A2B57006	A02-B570	A2B57007	A02-B570	A2B57008
Sample Date		11/18/2002		11/18/2002		11/19/2002		11/18/2002	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	2.4	1.0	ND	1.0	ND	1.0	ND	1.2
Chlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.6
Chloroethane	UG/L	ND	2.0	ND	2.0	ND	2.0	ND	2.0
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.6
IS/SURROGATE(S)									
Chlorobenzene-D5	%	66	50-200	74	50-200	78	50-200	80	50-200
1,4-Difluorobenzene	%	67	50-200	74	50-200	79	50-200	81	50-200
1,4-Dichlorobenzene-D4	%	54	50-200	60	50-200	61	50-200	68	50-200
Toluene-D8	%	103	73-119	101	73-119	102	73-119	101	73-119
p-Bromofluorobenzene	%	102	70-116	104	70-116	107	70-116	102	70-116
1,2-Dichloroethane-D4	%	124	72-138	113	72-138	106	72-138	110	72-138

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NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 12/05/2002
Time: 11:31:47

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		Spring #5							
Job No	Lab ID	A02-B570	A2B57009						
Sample Date		11/18/2002							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	77	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	80	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	65	50-200	NA		NA		NA	
Toluene-D8	%	102	73-119	NA		NA		NA	
p-Bromofluorobenzene	%	104	70-116	NA		NA		NA	
1,2-Dichloroethane-D4	%	110	72-138	NA		NA		NA	

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NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 12/05/2002
Time: 11:31:54

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID		DUPA1102		DUPB1102		FLDBLK1102		FLDBLK1102	
Job No	Lab ID	A02-B570	A2B57001	A02-B570	A2B57002	A02-B570	A2B57003	A02-B570	A2B57003RE
Sample Date		11/18/2002		11/19/2002		11/18/2002		11/18/2002	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1221	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1232	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1242	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1248	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1254	UG/L	ND	0.50	ND	0.50	0.76	0.50	ND	0.50
PCB 1260	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
SURROGATE(S)									
Tetrachloro-m-xylene	%	72	36-132	70	36-132	72	36-132	66	36-132
Decachlorobiphenyl	%	76	28-132	43	28-132	52	28-132	34	28-132

Client ID		MW-6		Spring #1		Spring #2		Spring #3	
Job No	Lab ID	A02-B570	A2B57004	A02-B570	A2B57006	A02-B570	A2B57007	A02-B570	A2B57008
Sample Date		11/18/2002		11/18/2002		11/19/2002		11/18/2002	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1221	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1232	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1242	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1248	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1254	UG/L	ND	0.50	ND	0.50	ND	0.50	0.79	0.50
PCB 1260	UG/L	ND	0.50	ND	0.50	ND	0.50	0.59	0.50
SURROGATE(S)									
Tetrachloro-m-xylene	%	70	36-132	67	36-132	69	36-132	73	36-132
Decachlorobiphenyl	%	24 *	28-132	70	28-132	60	28-132	26 *	28-132

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 12/05/2002
Time: 11:31:54

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID		Spring #3		Spring #5					
Job No / Lab ID		A02-B570	A2B57008RE	A02-B570	A2B57009				
Sample Date		11/18/2002		11/18/2002					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1221	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1232	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1242	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1248	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1254	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1260	UG/L	ND	0.50	ND	0.50	NA		NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	68	36-132	74	36-132	NA		NA	
Decachlorobiphenyl	%	34	28-132	71	28-132	NA		NA	

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NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 12/05/2002
Time: 11:31:58

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID		DUPA1102		DUPB1102		FLDBLK1102		MW-6	
Job No	Lab ID	A02-B570	A2B57001	A02-B570	A2B57002	A02-B570	A2B57003	A02-B570	A2B57004
Sample Date		11/18/2002		11/19/2002		11/18/2002		11/18/2002	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Arsenic, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Barium, Dissolved	UG/L	46.2	5.0	97.2	5.0	ND	5.0	93.4	5.0
Cadmium, Dissolved	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chromium, Dissolved	UG/L	ND	3.0	ND	3.0	ND	3.0	ND	3.0
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Nickel, Dissolved	UG/L	ND	5.0	26.5	5.0	ND	5.0	26.1	5.0

Client ID		Spring #1		Spring #2		Spring #3		Spring #5	
Job No	Lab ID	A02-B570	A2B57006	A02-B570	A2B57007	A02-B570	A2B57008	A02-B570	A2B57009
Sample Date		11/18/2002		11/19/2002		11/18/2002		11/18/2002	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Arsenic, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Barium, Dissolved	UG/L	45.4	5.0	84.9	5.0	212	5.0	93.4	5.0
Cadmium, Dissolved	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chromium, Dissolved	UG/L	ND	3.0	ND	3.0	ND	3.0	ND	3.0
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Nickel, Dissolved	UG/L	ND	5.0	ND	5.0	27.3	5.0	ND	5.0

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NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 12/05/2002
Time: 11:32:00

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Rept: AN1246

Client ID Job No Sample Date	Lab ID	DUPA1102 A02-B570 11/18/2002	A2B57001	DUPB1102 A02-B570 11/19/2002	A2B57002	FLDBLK1102 A02-B570 11/18/2002	A2B57003	MW-6 A02-B570 11/18/2002	A2B57004
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010

Client ID Job No Sample Date	Lab ID	Spring #1 A02-B570 11/18/2002	A2B57006	Spring #2 A02-B570 11/19/2002	A2B57007	Spring #3 A02-B570 11/18/2002	A2B57008	Spring #5 A02-B570 11/18/2002	A2B57009
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	0.11	0.010	0.011	0.010	ND	0.010

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NA = Not Applicable ND = Not Detected

STL Buffalo

Chronology and QC Summary Package

Date: 12/05/2002
Time: 11:32:04

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID / Job No / Sample Date / Lab ID		VBLK43 / A02-B570 / A2B57011		VBLK44 / A02-B570 / A2B57013					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	NA		NA	
Chlorobenzene	UG/L	ND	1.0	ND	1.0	NA		NA	
Chloroethane	UG/L	ND	2.0	ND	2.0	NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	80	50-200	92	50-200	NA		NA	
1,4-Difluorobenzene	%	82	50-200	92	50-200	NA		NA	
1,4-Dichlorobenzene-D4	%	67	50-200	74	50-200	NA		NA	
Toluene-D8	%	101	73-119	103	73-119	NA		NA	
p-Bromofluorobenzene	%	103	70-116	106	70-116	NA		NA	
1,2-Dichloroethane-D4	%	109	72-138	108	72-138	NA		NA	

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NA = Not Applicable ND = Not Detected

STL Buffalo

000015

Date: 12/05/2002
Time: 11:32:04

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID Job No Sample Date	Lab ID	TRIP BLANK A02-B570 11/18/2002	A2B57010						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	77	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	78	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	66	50-200	NA		NA		NA	
Toluene-D8	%	99	73-119	NA		NA		NA	
p-Bromofluorobenzene	%	102	70-116	NA		NA		NA	
1,2-Dichloroethane-D4	%	113	72-138	NA		NA		NA	

000016

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NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 12/05/2002
Time: 11:32:12

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID / Job No / Sample Date	Lab ID		Method Blank A02-B570	A2B1190302	Method Blank A02-B570	A2B1222603				
Analyte		Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016		UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1221		UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1232		UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1242		UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1248		UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1254		UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1260		UG/L	ND	0.50	ND	0.50	NA		NA	
SURROGATE(S)										
Tetrachloro-m-xylene		%	62	36-132	68	36-132	NA		NA	
Decachlorobiphenyl		%	40	28-132	52	28-132	NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 12/05/2002
Time: 11:32:15

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID Job No Sample Date	Lab ID	Method Blank A02-B570	A2B57016						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	NA		NA		NA	
Arsenic, Dissolved	UG/L	ND	10	NA		NA		NA	
Barium, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Cadmium, Dissolved	UG/L	ND	1.0	NA		NA		NA	
Chromium, Dissolved	UG/L	ND	3.0	NA		NA		NA	
Lead, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Nickel, Dissolved	UG/L	ND	5.0	NA		NA		NA	

160

NA = Not Applicable ND = Not Detected

STL Buffalo

000018

Date: 12/05/2002
Time: 11:32:17

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Rept: AN1246

Client ID Job No Sample Date	Lab ID		Method Blank A02-B570	A2B1195102	Method Blank A02-B570	A2B1205602				
Analyte		Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total		MG/L	ND	0.010	ND	0.010	NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

Client Sample ID: VBLK43 MSB43
Lab Sample ID: A2B57011 A2B57012

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL -8260 - SELECT VOLATIL					
Benzene	UG/L	11.0	10.0	110	69-126
Chlorobenzene	UG/L	10.8	10.0	109	72-117

162

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Date : 12/05/2002 11:32:20

Rept: AN0364

Client Sample ID: VBLK44 MSB44
Lab Sample ID: A2B57013 A2B57014

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL -8260 - SELECT VOLATIL					
Benzene	UG/L	8.24	10.0	82	69-126
Chlorobenzene	UG/L	8.47	10.0	85	72-117

163

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

STL Buffa

Date : 12/05/2002 11:32:28

SAMPLE DATE 11/18/2002

Rept: AN0364

Client Sample ID: MW-6 | MW-6 | MW-6
Lab Sample ID: A2B57004 | A2B57004MS | A2B57004SD

Analyte	Units of Measure	Concentration Sample	Concentration Matrix Spike	Concentration Spike Duplicate	Spike Amount MS	Spike Amount MSD	% Recovery MS	% Recovery MSD	% Recovery Avg	% RPD	QC LIMITS RPD	QC LIMITS REC.
RED PENN LANDFILL 8082 - POLYCHLORINATED												
PCB 1260	UG/L	0	6.78	7.87	10.3	10.3	66	76	71	14	30.0	50-122
PCB 1016	UG/L	0	8.30	8.56	10.3	10.3	80	83	82	4	30.0	29-123

164

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Date : 12/05/2002 11:32:28

Rept: AN0364

Client Sample ID: Method Blank
Lab Sample ID: A2B1190302

Matrix Spike Blank
A2B1190301

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL 8082 - POLYCHLORINATED					
PCB 1260	UG/L	3.75	5.00	75	50-122
PCB 1016	UG/L	4.67	5.00	94	29-123

160

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Date : 12/05/2002 11:32:28

Rept: AN0364

Client Sample ID: Method Blank
Lab Sample ID: A2B1222603

Matrix Spike Blank
A2B1222601

Matrix Spike Blk Dup
A2B1222602

Analyte	Units of Measure	Concentration		Spike Amount		% Recovery			%	QC LIMITS	
		Spike Blank	Spike Blank Dup	SB	SBD	SB	SBD	Avg	RPD	RPD	REC.
RED PENN LANDFILL 8082 - POLYCHLORINATED											
PCB 1260	UG/L	2.97	4.38	5.00	5.00	59	88	74	39 *	30.0	50-122
PCB 1016	UG/L	3.29	4.27	5.00	5.00	66	86	76	26	30.0	29-123

166

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

STL Buffal

000064

Date : 12/05/2002 11:32:32

Rept: AN0364

Client Sample ID: Method Blank LFB
Lab Sample ID: A2B57016 A2B57015

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)					
SOLUBLE ANTIMONY	UG/L	201.6	200	100	80-120
SOLUBLE ARSENIC	UG/L	200.9	200	100	80-120
SOLUBLE BARIUM	UG/L	196.8	200	98	80-120
SOLUBLE CADMIUM	UG/L	202.4	200	101	80-120
SOLUBLE CHROMIUM	UG/L	193.0	200	96	80-120
SOLUBLE LEAD	UG/L	199.8	200	99	80-120
SOLUBLE NICKEL	UG/L	204.3	200	102	80-120

000025

167

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

STL Buffal

Date : 12/05/2002 11:32:34

Rept: AN0364

Client Sample ID: Method Blank LCS
Lab Sample ID: A2B1195102 A2B1195101

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
WET CHEMISTRY ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0.238	0.25	95	90-110

000026

168

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

STL Buffalo

Date : 12/05/2002 11:32:34 Rept: AN0364

Client Sample ID: Method Blank LCS
Lab Sample ID: A2B1205602 A2B1205601

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
WET CHEMISTRY ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0.234	0.25	93	90-110

169

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	DUPA1102 A02-B570 A2B57001	DUPB1102 A02-B570 A2B57002	FLDBLK1102 A02-B570 A2B57003	MW-6 A02-B570 A2B57004	MW8002-8975 A02-B570 A2B57005
Sample Date	11/18/2002	11/19/2002	11/18/2002	11/18/2002 14:35	11/18/2002 07:35
Received Date	11/20/2002 08:45	11/20/2002 08:45	11/20/2002 08:45	11/20/2002 08:45	11/20/2002 08:45
Extraction Date					
Analysis Date	11/26/2002 06:47	11/26/2002 16:09	11/26/2002 05:44	11/26/2002 05:13	11/26/2002 04:42
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS
% Dry					

170

NA = Not Applicable

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	Spring #1 A02-B570 A2B57006	Spring #2 A02-B570 A2B57007	Spring #3 A02-B570 A2B57008	Spring #5 A02-B570 A2B57009	
Sample Date	11/18/2002 15:15	11/19/2002 08:35	11/18/2002 16:40	11/18/2002 16:15	
Received Date	11/20/2002 08:45	11/20/2002 08:45	11/20/2002 08:45	11/20/2002 08:45	
Extraction Date					
Analysis Date	11/26/2002 04:11	11/26/2002 03:39	11/26/2002 03:08	11/26/2002 02:37	
Extraction HT Met?	-	-	-	-	
Analytical HT Met?	YES	YES	YES	YES	
Sample Matrix	GW	GW	GW	GW	
Dilution Factor	1.0	1.0	10.0	1.0	
Sample wt/vol	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS	
% Dry					

NA = Not Applicable

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	TRIP BLANK A02-B570 A2B57010				
Sample Date	11/18/2002				
Received Date	11/20/2002 08:45				
Extraction Date					
Analysis Date	11/26/2002 02:05				
Extraction HT Met?	-				
Analytical HT Met?	YES				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

172

NA = Not Applicable

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	VBLK43 A02-B570 A2B57011	VBLK44 A02-B570 A2B57013			
Sample Date					
Received Date					
Extraction Date					
Analysis Date	11/25/2002 21:52	11/26/2002 14:52			
Extraction HT Met?	-	-			
Analytical HT Met?	-	-			
Sample Matrix	WATER	WATER			
Dilution Factor	1.0	1.0			
Sample wt/vol	0.025 LITERS	0.025 LITERS			
% Dry					

173

NA = Not Applicable

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	DUPA1102 A02-B570 A2B57001	DUPB1102 A02-B570 A2B57002	FLDBLK1102 A02-B570 A2B57003	FLDBLK1102 A02-B570 A2B57003RE	MW-6 A02-B570 A2B57004
Sample Date	11/18/2002	11/19/2002	11/18/2002	11/18/2002	11/18/2002 14:35
Received Date	11/20/2002 08:45	11/20/2002 08:45	11/20/2002 08:45	11/20/2002 08:45	11/20/2002 08:45
Extraction Date	11/22/2002 07:00	11/22/2002 07:00	11/22/2002 07:00	12/02/2002 07:00	11/22/2002 07:00
Analysis Date	11/24/2002 03:44	11/24/2002 04:10	11/24/2002 04:36	12/03/2002 15:19	11/24/2002 05:01
Extraction HT Met?	YES	YES	YES	NO	YES
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	1.05 LITERS	1.05 LITERS	1.01 LITERS	1.04 LITERS	1.0 LITERS
% Dry					

174

NA = Not Applicable

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Spring #1 A02-B570 A2B57006	Spring #2 A02-B570 A2B57007	Spring #3 A02-B570 A2B57008	Spring #3 A02-B570 A2B57008RE	Spring #5 A02-B570 A2B57009
Sample Date	11/18/2002 15:15	11/19/2002 08:35	11/18/2002 16:40	11/18/2002 16:40	11/18/2002 16:15
Received Date	11/20/2002 08:45	11/20/2002 08:45	11/20/2002 08:45	11/20/2002 08:45	11/20/2002 08:45
Extraction Date	11/22/2002 07:00	11/22/2002 07:00	11/22/2002 07:00	12/02/2002 07:00	11/22/2002 07:00
Analysis Date	11/24/2002 06:18	11/24/2002 06:44	11/24/2002 07:10	12/03/2002 16:35	11/24/2002 07:35
Extraction HT Met?	YES	YES	YES	NO	YES
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample Wt/vol	1.045 LITERS	1.05 LITERS	1.05 LITERS	1.045 LITERS	1.05 LITERS
% Dry					

NA = Not Applicable

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Method Blank A02-B570 A2B1190302	Method Blank A02-B570 A2B1222603			
Sample Date					
Received Date					
Extraction Date	11/22/2002 07:00	12/02/2002 07:00			
Analysis Date	11/24/2002 02:28	12/03/2002 14:02			
Extraction HT Met?	-	-			
Analytical HT Met?	-	-			
Sample Matrix	WATER	WATER			
Dilution Factor	1.0	1.0			
Sample wt/vol	1.0 LITERS	1.0 LITERS			
% Dry					

000034

176

NA = Not Applicable

Date: 12/05/2002 11:32
Job No: A02-B570

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Rept: AN125
Page: 1

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matri
A2B57003	FLDBLK1102	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	11/18/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	11/18/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	11/18/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	11/18/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	11/18/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	11/18/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	11/18/02	11/20 08:45	NA		11/23	SW	Y	GW
A2B57001	DUPA1102	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	11/18/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	11/18/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	11/18/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	11/18/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	11/18/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	11/18/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	11/18/02	11/20 08:45	NA		11/23	SW	Y	GW
A2B57002	DUPB1102	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	11/19/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	11/19/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	11/19/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	11/19/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	11/19/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	11/19/02	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	11/19/02	11/20 08:45	NA		11/23	SW	Y	GW
A2B57004	MW-6	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	11/18/02 14:35	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	11/18/02 14:35	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	11/18/02 14:35	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	11/18/02 14:35	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	11/18/02 14:35	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	11/18/02 14:35	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	11/18/02 14:35	11/20 08:45	NA		11/23	SW	Y	GW
A2B57006	Spring #1	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	11/18/02 15:15	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	11/18/02 15:15	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	11/18/02 15:15	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	11/18/02 15:15	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	11/18/02 15:15	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	11/18/02 15:15	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	11/18/02 15:15	11/20 08:45	NA		11/23	SW	Y	GW
A2B57007	Spring #2	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	11/19/02 08:35	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	11/19/02 08:35	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	11/19/02 08:35	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	11/19/02 08:35	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	11/19/02 08:35	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	11/19/02 08:35	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	11/19/02 08:35	11/20 08:45	NA		11/23	SW	Y	GW
A2B57008	Spring #3	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	11/18/02 16:40	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	11/18/02 16:40	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	11/18/02 16:40	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	11/18/02 16:40	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	11/18/02 16:40	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	11/18/02 16:40	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	11/18/02 16:40	11/20 08:45	NA		11/23	SW	Y	GW

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AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffalo

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A2B57009	Spring #5	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	11/18/02 16:15	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	11/18/02 16:15	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	11/18/02 16:15	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	11/18/02 16:15	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	11/18/02 16:15	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	11/18/02 16:15	11/20 08:45	NA		11/23	SW	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	11/18/02 16:15	11/20 08:45	NA		11/23	SW	Y	GW

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AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A2B57016	Method Blank	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	-	-	NA		11/22	SW	Y	WATER
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	-	-	NA		11/22	SW	Y	WATER
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	-	-	NA		11/22	SW	Y	WATER
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	-	-	NA		11/22	SW	Y	WATER
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	-	-	NA		11/22	SW	Y	WATER
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	-	-	NA		11/22	SW	Y	WATER
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	-	-	NA		11/22	SW	Y	WATER

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AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

Date: 12/05/2002 11:32
Job No: A02-B570

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Rept: AN1250
Page: 1

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A2B57003	FLDBLK1102	RECNY	Cyanide, Total	9012A	1.0		11/18/02	11/20 08:45	NA		11/22	KAM	Y	GW
A2B57001	DUPA1102	RECNY	Cyanide, Total	9012A	1.0		11/18/02	11/20 08:45	NA		11/22	KAM	Y	GW
A2B57002	DUPB1102	RECNY	Cyanide, Total	9012A	1.0		11/19/02	11/20 08:45	NA		11/22	KAM	Y	GW
A2B57004	MW-6	RECNY	Cyanide, Total	9012A	1.0		11/18/02 14:35	11/20 08:45	NA		11/25	JMS	Y	GW
A2B57006	Spring #1	RECNY	Cyanide, Total	9012A	1.0		11/18/02 15:15	11/20 08:45	NA		11/25	JMS	Y	GW
A2B57007	Spring #2	RECNY	Cyanide, Total	9012A	1.0		11/19/02 08:35	11/20 08:45	NA		11/25	JMS	Y	GW
A2B57008	Spring #3	RECNY	Cyanide, Total	9012A	1.0		11/18/02 16:40	11/20 08:45	NA		11/25	JMS	Y	GW
A2B57009	Spring #5	RECNY	Cyanide, Total	9012A	1.0		11/18/02 16:15	11/20 08:45	NA		11/25	JMS	Y	GW

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AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffalo

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A2B1195102	Method Blank	RECNY	Cyanide, Total	9012A	1.0		-	-	NA		11/22	KAM	Y	WATER
A2B1205602	Method Blank	RECNY	Cyanide, Total	9012A	1.0		-	-	NA		11/25	JMS	Y	WATER

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AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

Chain of Custody

SEVERN TRENT SERVICES

WASTE MANAGEMENT CHAIN OF CUSTODY

Internal Use Only

Sampler Name: (Print)	Signature:
ETHAN HOUSE	[signature]
Site Name: RED PENN	Spec Request: AC
Site Location: KY	~~Event Name:~~ PROJ. # 4896.20

INDICATE PRESERVATIVE BY USING KEY BELOW (OPTIONAL)

INDICATE CONTAINER BY USING KEY BELOW

STL Sample No.	Client Sample ID	Sampling Date	Sampling Time	MATRIX	COMP / GRAB	8260VOA (1) VOCs	METALS (3)	~~BIMETALS~~ EH (6) PCB's	~~CHLORIDE/SULFATE/NITRATE~~ EH (4) CYANIDE	~~ALKALINITY/CARB~~ EH	~~HARDNESS~~ EH	~~TOC/COD~~ EH		TOTAL # OF SAMPLE CONTAINERS						Additional Analysis/Remarks
						(2)	(1)	(4)	(1)											
	MW-6	11/18/02	1435	W	G	3	1	2	1					7						Metals samples
	SPRING#1	11/19/02	1515	W	G	3	1	2	1					7						filtered in the
	SPRING#2	11/19/02	0835	W	G	3	1	2	1					7						field.
	SPRING#3	11/18/02	1640	W	G	3	1	2	1					7						
	SPRING#5	11/18/02	1615	W	G	3	1	2	1					7						
	MW-8002-8975	11/18/02	0735	W	G	3	—	—	—					3						Only 3 40ML VOA's
	TRIP BLANK	11/02	—	W	G	3	EH	EH	EH					3						Only 3 40ML VOA's
	FLDBLK1102	11/02	—	W	G	3	1	2	1					7						
	DUPA1102	11/02	—	W	G	3	1	2	1					7						
	DUPB1102	11/02	—	W	G	3	1	2	1					7						

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
[signature]	RMT, INC.	11/19/02	1800	FED EX # 816502861550		11/19/02	
				[signature]	STL	11-20-02	08:45

Matrix Key
WW = Wastewater
W = Water/Groundwater
S = Solid
SI = Sludge
MS = Miscellaneous Solids
OI = Oil
A = Air
O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

Preservation Key
1. HCl, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn Acetate, Cool to 4°
6. Cool to 4°
7. None

COMMENTS PROJ MANAGER-MIKE AMSTADT (608)831-4444

2@6°

Courier: FED EX BILL # 816502861550

Bill of Lading:

185

Laboratory Results for December 2002
(Additional PCB Results)

SEVERN TRENT STL

ANALYTICAL REPORT

Job#: A02-C737

STL Project#: NY2A8892
Site Name: Red Penn Landfill
Task: Quarterly Wells & Springs

Mike Amstadt
RMT, Inc.
744 Heartland Trail
Madison, WI 53717

CC: Cheryl Shaw

STL Buffalo

Amy Haag

Amy Lynn Haag
Project Manager

01/04/2003

This report contains 13 pages which are individually numbered.

Severn Trent Laboratories, Inc.
STL Buffalo • 10 Hazelwood Drive, Suite 106, Amherst, NY 14228
Tel 716 691 2600 Fax 716 691 7991 • www.stl-inc.com

A part of Severn Trent plc

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2C73702	FLDBLK1202	12/18/2002		12/20/2002	10:30
A2C73701	Spring #3	12/18/2002	16:55	12/20/2002	10:30

METHODS SUMMARY

Job#: A02-C737

STL Project#: NY2A8892
Site Name: Red Penn Landfill

PARAMETER	ANALYTICAL METHOD
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS	SW8463 8082

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-C737

STL Project#: NY2A8892
Site Name: Red Penn Landfill

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-C737
Sample Cooler(s) were received at the following temperature(s); 2 °C
All samples were received in good condition.

GC Extractable Data

No deviations from protocol were encountered during the analytical procedures.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

Sample Data Package

Date: 01/04/2003
Time: 16:17:14

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client ID			FLDBLK1202		Spring #3					
Job No	Lab ID		A02-C737	A2C73702	A02-C737	A2C73701				
Sample Date			12/18/2002		12/18/2002					
Analyte		Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016		UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1221		UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1232		UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1242		UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1248		UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1254		UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1260		UG/L	ND	0.50	ND	0.50	NA		NA	
SURROGATE(S)										
Tetrachloro-m-xylene		%	76	36-132	82	36-132	NA		NA	
Decachlorobiphenyl		%	28	28-132	50	28-132	NA		NA	

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NA = Not Applicable ND = Not Detected

STL Buffalo

000006

Chronology and QC Summary Package

Date: 01/04/2003
Time: 16:17:25

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID			Method Blank							
Job No	Lab ID		A02-C737	A2B1319203						
Sample Date										
Analyte		Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016		UG/L	ND	0.50	NA		NA		NA	
PCB 1221		UG/L	ND	0.50	NA		NA		NA	
PCB 1232		UG/L	ND	0.50	NA		NA		NA	
PCB 1242		UG/L	ND	0.50	NA		NA		NA	
PCB 1248		UG/L	ND	0.50	NA		NA		NA	
PCB 1254		UG/L	ND	0.50	NA		NA		NA	
PCB 1260		UG/L	ND	0.50	NA		NA		NA	
SURROGATE(S)										
Tetrachloro-m-xylene		%	64	36-132	NA		NA		NA	
Decachlorobiphenyl		%	44	28-132	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

000008

Client Sample ID: Method Blank — Matrix Spike Blank — Matrix Spike Blk Dup
Lab Sample ID: A2B1319203 — A2B1319201 — A2B1319202

Analyte	Units of Measure	Concentration		Spike Amount		% Recovery			% RPD	QC LIMITS	
		Spike Blank	Spike Blank Dup	SB	SBD	SB	SBD	Avg		RPD	REC.
RED PENN LANDFILL 8082 - POLYCHLORINATED											
PCB 1260	UG/L	4.37	4.35	5.00	5.00	88	87	88	1	30.0	50-122
PCB 1016	UG/L	4.52	4.87	5.00	5.00	90	98	94	8	30.0	29-123

202

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

000009

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	FLDBLK1202 A02-C737 A2C73702	Spring #3 A02-C737 A2C73701			
Sample Date	12/18/2002	12/18/2002 16:55			
Received Date	12/20/2002 10:30	12/20/2002 10:30			
Extraction Date	12/23/2002 07:00	12/23/2002 07:00			
Analysis Date	12/23/2002 23:02	12/23/2002 22:36			
Extraction HT Met?	YES	YES			
Analytical HT Met?	YES	YES			
Sample Matrix	GW	GW			
Dilution Factor	1.0	1.0			
Sample wt/vol	1.05 LITERS	1.04 LITERS			
% Dry					

NA = Not Applicable

203

000010

STL Buffal

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Method Blank A02-C737 A2B1319203				
Sample Date					
Received Date					
Extraction Date	12/23/2002 07:00				
Analysis Date	12/23/2002 17:59				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	1.0 LITERS				
% Dry					

204

NA = Not Applicable

000011

Chain of Custody

SEVERN TRENT SERVICES

WASTE MANAGEMENT CHAIN OF CUSTODY

Internal Use Only

Sampler Name: (Print)	Signature:
ETHAN HOUSE	[signature]
Site Name: RED PENN	Spec Request: AC
Site Location: LOUISVILLE KY	~~Event Name:~~ PROJ. # 4896.20

STL Sample No.	Client Sample ID	Sampling Date	Sampling Time	~~MATRIX~~	~~COMP/GRAB~~	~~8260VOA~~	~~T-METALS~~	~~D-METALS~~	~~CHLORIDE/SULFATE/NITRATE~~	~~ALK/CARB/BICARB~~	~~HARDNESS~~	~~NH_3/TOC/COD~~	Additional Analysis/Remarks
				PCB's									
				6	INDICATE PRESERVATIVE BY USING KEY BELOW (OPTIONAL)								
				4	INDICATE CONTAINER BY USING KEY BELOW								
	SPRING #3	12/18/02	1655	✓									
	FLDBLK1202	12/02	—	✓									

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
[signature]	RMT INC.	12/18/02	2025	FEX EX BILL #838465555725		12/18/02	2025
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY [signature]	COMPANY STL	DATE 12/20/02	TIME 1030
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key	Container Key	Preservation Key
WW = Wastewater	1. Plastic	1. HCl, Cool to 4°
(W) = Water/Groundwater	2. VOA Vial	2. H2SO4, Cool to 4°
S = Solid	3. Sterile Plastic	3. HNO3, Cool to 4°
Sl = Sludge	4. Amber Glass	4. NaOH, Cool to 4°
MS = Miscellaneous Solids	5. Widemouth Glass	5. NaOH/Zn Acetate, Cool to 4°
Ol = Oil	6. Other	6. Cool to 4°
A = Air		7. None
O = _____		

COMMENTS PROJECT MANAGER: MIKE AMSTADT (608) 831-4444

2°

Courier: FEX EX

Bill of Lading:

204

0000013

Red Penn Landfill
Quality Control Sample Results
January - December 2002

PARAMETER	UNITS	FIELD BLANK-01 02/18/2002 A2160707	FIELD BLANK-01 05/21/2002 A2515507	FIELD BLANK-01 08/09/2002 A2807802	FIELD BLANK-01 11/18/2002 A2B57003	FIELD BLANK-01 11/18/2002 A2B57003RE	FIELD BLANK-01 12/18/03 A2C73702
Cyanide, total	mg/L	<0.010	<0.010	<0.010	<0.010	--	--
Antimony, dissolved	µg/L	<10	<10	<10	<10	--	--
Arsenic, dissolved	µg/L	<10	<10	<10	<10	--	--
Barium, dissolved	µg/L	<5.0	16	<5.0	<5.0	--	--
Cadmium, dissolved	µg/L	<1.0	2.5	<1.0	<1.0	--	--
Chromium, dissolved	µg/L	<3.0	<3.0	<3.0	<3.0	--	--
Lead, dissolved	µg/L	<5.0	<5.0	<5.0	<5.0	--	--
Nickel, dissolved	µg/L	<5.0	<5.0	<5.0	<5.0	--	--
Aroclor-1016	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50 H	<0.50
Aroclor-1221	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50 H	<0.50
Aroclor-1232	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50 H	<0.50
Aroclor-1242	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50 H	<0.50
Aroclor-1248	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50 H	<0.50
Aroclor-1254	µg/L	<0.50	<0.50	<0.50	0.76	<0.50 H	<0.50
Aroclor-1260	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50 H	<0.50
Benzene	µg/L	<1.0	<1.0	<1.0	<1.0	--	--
Chlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0	--	--
Chloroethane	µg/L	<2.0	<2.0	<2.0	<2.0	--	--
cis-1,2-dichloroethene	µg/L	<1.0	<1.0	<1.0	<1.0	--	--

Note:
H = sample hold time exceeded in laboratory.

Red Penn Landfill
Created by: CLS, 12/19/02
Checked by: PPD

Red Penn Landfill
Quality Control Sample Results
January - December 2002

PARAMETER	UNITS	TRIP BLANK-01 02/18/2002 A2160709	TRIP BLANK-01 05/21/2002 A2515508	TRIP BLANK-01 08/09/2002 A2807806	TRIP BLANK-01 11/18/2002 A2B57010
Benzene	µg/L	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0
Chloroethane	µg/L	<2.0	<2.0	<2.0	<2.0
cis-1,2-dichloroethene	µg/L	<1.0	<1.0	<1.0	<1.0

Red Penn Landfill
Created by: CLS, 12/19/02
Checked by: PPD

Red Penn Landfill
Spring 1 Sample Results
January - December 2002

PARAMETER	UNITS	SPRING-01 02/18/2002 A2160702	SPRING-01 05/21/2002 A2515502	SPRING-01 DUP 05/21/2002 A2515506	SPRING-01 08/08/2002 A2807805	SPRING-01 DUP 08/08/2002 A2807801	SPRING-01 11/18/2002 A2B57006	SPRING-01 DUP 11/18/2002 A2B57001
Color, field		Clear	Clear	--	Clear	--	Clear	--
Conductance, specific	umhos/cm	475	410	--	420	--	495	--
pH, field	SU	5.56	6.69	--	6.74	--	6.59	--
Temperature	DEG C	12.1	13.2	--	13.8	--	15.9	--
Cyanide, total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Antimony, dissolved	µg/L	<10	<10	<10	<10	<10	<10	<10
Arsenic, dissolved	µg/L	<10	<10	<10	<10	<10	<10	<10
Barium, dissolved	µg/L	40.0	42.7	52.9	41.5	39.7	45.4	46.2
Cadmium, dissolved	µg/L	<1.0	<1.0	3.3	<1.0	<1.0	<1.0	<1.0
Chromium, dissolved	µg/L	<3.0	<3.0	3.5	<3.0	<3.0	<3.0	<3.0
Lead, dissolved	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Nickel, dissolved	µg/L	<5.0	<5.0	5.1	<5.0	<5.0	<5.0	<5.0
Aroclor-1016	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor-1221	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor-1232	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor-1242	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor-1248	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor-1254	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Aroclor-1260	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
cis-1,2-dichloroethene	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Red Penn Landfill
Created by: CLS, 12/19/02
Checked by: PPD

Red Penn Landfill
Spring 2 Sample Results
January - December 2002

PARAMETER	UNITS	SPRING-02 02/18/2002 A2160703	SPRING-02 05/21/2002 A2515503	SPRING-02 08/08/2002 020808-X05 (1)	SPRING-02 11/19/2002 A2B57007
Color, field		Clear	Clear	--	Clear
Conductance, specific	umhos/cm	725	650	--	500
pH, field	SU	6.55	7.21	--	7.33
Temperature	DEG C	5.6	12.2	--	9.5
Cyanide, total	mg/L	<0.010	<0.010	--	0.11
Antimony, dissolved	µg/L	<10	<10	--	<10
Arsenic, dissolved	µg/L	<10	<10	--	<10
Barium, dissolved	µg/L	103	97.4	--	84.9
Cadmium, dissolved	µg/L	<1.0	<1.0	--	<1.0
Chromium, dissolved	µg/L	<3.0	<3.0	--	<3.0
Lead, dissolved	µg/L	<5.0	<5.0	--	<5.0
Nickel, dissolved	µg/L	<5.0	<5.0	--	<5.0
Aroclor-1016	µg/L	<0.50	<0.50	--	<0.50
Aroclor-1221	µg/L	<0.50	<0.50	--	<0.50
Aroclor-1232	µg/L	<0.50	<0.50	--	<0.50
Aroclor-1242	µg/L	<0.50	<0.50	--	<0.50
Aroclor-1248	µg/L	<0.50	<0.50	--	<0.50
Aroclor-1254	µg/L	<0.50	<0.50	--	<0.50
Aroclor-1260	µg/L	<0.50	<0.50	--	<0.50
Benzene	µg/L	<1.0	<1.0	--	<1.0
Chlorobenzene	µg/L	<1.0	<1.0	--	<1.0
Chloroethane	µg/L	<2.0	<2.0	--	<2.0
cis-1,2-dichloroethene	µg/L	<1.0	<1.0	--	<1.0

Note:
(1) Spring was dry during the sampling event.

Red Penn Landfill
Created by: CLS, 12/19/02
Checked by: PPD

Red Penn Landfill
Spring 3 Sample Events
January - December 2002

PARAMETER	UNITS	SPRING-03 02/18/2002 A2160704	SPRING-03 05/21/2002 A2515505	SPRING-03 08/08/2002 020808-X06 (1)	SPRING-03 11/18/2002 A2B57008	SPRING-03 11/18/2002 A2B57008RE	SPRING-03 12/18/02 A2C73701
Color, field		Amber	Amber	--	Yellow	--	--
Conductance, specific	umhos/cm	2900	3500	--	2500	--	--
pH, field	SU	6.46	7.81	--	7.21	--	--
Temperature	DEG C	4.6	12.8	--	8.1	--	--
Cyanide, total	mg/L	<0.010	<0.010	--	0.011	--	--
Antimony, dissolved	µg/L	<10	<10	--	<10	--	--
Arsenic, dissolved	µg/L	<10	<10	--	<10	--	--
Barium, dissolved	µg/L	218	218	--	212	--	--
Cadmium, dissolved	µg/L	<1.0	<1.0	--	<1.0	--	--
Chromium, dissolved	µg/L	5.4	5.2	--	<3.0	--	--
Lead, dissolved	µg/L	<5.0	<5.0	--	<5.0	--	--
Nickel, dissolved	µg/L	39.3	41.0	--	27.3	--	--
Aroclor-1016	µg/L	<0.50	<0.50	--	<0.50	<0.50 H	<0.50
Aroclor-1221	µg/L	<0.50	<0.50	--	<0.50	<0.50 H	<0.50
Aroclor-1232	µg/L	<0.50	<0.50	--	<0.50	<0.50 H	<0.50
Aroclor-1242	µg/L	<0.50	<0.50	--	<0.50	<0.50 H	<0.50
Aroclor-1248	µg/L	<0.50	<0.50	--	<0.50	<0.50 H	<0.50
Aroclor-1254	µg/L	<0.50	<0.50	--	0.79	<0.50 H	<0.50
Aroclor-1260	µg/L	<0.50	<0.50	--	0.59	<0.50 H	<0.50
Benzene	µg/L	<1.0	<1.0	--	<1.2	--	--
Chlorobenzene	µg/L	<1.0	<1.0	--	<1.6	--	--
Chloroethane	µg/L	<2.0	<2.0	--	<2.0	--	--
cis-1,2-dichloroethene	µg/L	<1.0	<1.0	--	<1.6	--	--

Note:
(1) Spring was dry during the sampling event.
H = sample hold time exceeded in laboratory.

Red Penn Landfill
Created by: CLS, 12/19/02
Checked by: PPD

Red Penn Landfill
Spring 4 Sample Results
January - December 2002

PARAMETER	UNITS	SPRING-04 02/18/2002 020218-X05 (1)	SPRING-04 05/21/2002 020521-X06 (1)	SPRING-04 08/08/2002 020808-X07 (1)	SPRING-04 11/18/2002 021118-X05 (1)
Color, field		--	--	--	--
Conductance, specific	umhos/cm	--	--	--	--
pH, field	SU	--	--	--	--
Temperature	DEG C	--	--	--	--
Cyanide, total	mg/L	--	--	--	--
Antimony, dissolved	µg/L	--	--	--	--
Arsenic, dissolved	µg/L	--	--	--	--
Barium, dissolved	µg/L	--	--	--	--
Cadmium, dissolved	µg/L	--	--	--	--
Chromium, dissolved	µg/L	--	--	--	--
Lead, dissolved	µg/L	--	--	--	--
Nickel, dissolved	µg/L	--	--	--	--
Aroclor-1016	µg/L	--	--	--	--
Aroclor-1221	µg/L	--	--	--	--
Aroclor-1232	µg/L	--	--	--	--
Aroclor-1242	µg/L	--	--	--	--
Aroclor-1248	µg/L	--	--	--	--
Aroclor-1254	µg/L	--	--	--	--
Aroclor-1260	µg/L	--	--	--	--
Benzene	µg/L	--	--	--	--
Chlorobenzene	µg/L	--	--	--	--
Chloroethane	µg/L	--	--	--	--
cis-1,2-dichloroethene	µg/L	--	--	--	--

Note:
(1) Spring was dry during the sampling event.

Red Penn Landfill
Created by: AOG, 2/21/02
Checked by: PPD

Red Penn Landfill
Spring 5 Sample Results
January - December 2002

PARAMETER	UNITS	SPRING-05 02/18/2002 A2160705	SPRING-05 05/21/2002 A2515504	SPRING-05 08/08/2002 020808-X08 (1)	SPRING-05 11/18/2002 A2B57009
Color, field		Cloudy	Clear	--	Clear
Conductance, specific	umhos/cm	700	650	--	850
pH, field	SU	6.35	7.29	--	6.89
Temperature	DEG C	8.8	11.9	--	11.7
Cyanide, total	mg/L	<0.010	<0.010	--	<0.010
Antimony, dissolved	µg/L	<10	<10	--	<10
Arsenic, dissolved	µg/L	<10	<10	--	<10
Barium, dissolved	µg/L	82.7	89.0	--	93.4
Cadmium, dissolved	µg/L	<1.0	<1.0	--	<1.0
Chromium, dissolved	µg/L	<3.0	<3.0	--	<3.0
Lead, dissolved	µg/L	<5.0	<5.0	--	<5.0
Nickel, dissolved	µg/L	<5.0	<5.0	--	<5.0
Aroclor-1016	µg/L	<0.50	<0.50	--	<0.50
Aroclor-1221	µg/L	<0.50	<0.50	--	<0.50
Aroclor-1232	µg/L	<0.50	<0.50	--	<0.50
Aroclor-1242	µg/L	<0.50	<0.50	--	<0.50
Aroclor-1248	µg/L	<0.50	<0.50	--	<0.50
Aroclor-1254	µg/L	<0.50	<0.50	--	<0.50
Aroclor-1260	µg/L	<0.50	<0.50	--	<0.50
Benzene	µg/L	<1.0	<1.0	--	<1.0
Chlorobenzene	µg/L	<1.0	<1.0	--	<1.0
Chloroethane	µg/L	<2.0	<2.0	--	<2.0
cis-1,2-dichloroethene	µg/L	<1.0	<1.0	--	<1.0

Note:
(1) Spring was dry during the sampling event.

Red Penn Landfill
Created by: CLS, 12/19/02
Checked by: PPD

Attachment B

2002 Site Inspection Reports

Red-Penn Landfill

Inspection Report

Date: February 18, 2002

Temperature: 30's – 40's °F

Inspector: Lew Ditto

Weather: Clear skies

Ground Conditions: Firm, moist

ITEM	Adequate	Requires Maintenance	COMMENTS/OBSERVATIONS
Final Cover(1)			
Vegetation		X	Some areas need reseeding. This will be scheduled for spring 2002 when ground and conditions are appropriate.
Erosion		X	Erosion was noted in the following areas: along the northwestern sideslopes of the cap, specifically in the area between Springs #4 and #5, the area west of Spring #4, the area north of Spring #3, and the areas north of both diversion berms. Some eroded areas are approximately 12 inches deep. Large rocks (1.5 feet x 0.5 ft) were noted on the surface. Erosion will be repaired in the spring of 2002 when field conditions allow for construction traffic without causing rutting.
Burrowing animals	X		
Settlement	X		Some settlement has occurred around LH-2.
Other			
Surface Water Controls(2)			
Diversion berms		X	Erosion was noted on northern side of both diversion berms north of Springs #2 and #3.
Final cover spillway	X		
Other			
Groundwater and Leachate Head Wells(3)			
Locks	X		
Structural integrity	X		Settlement near leachate well LH-2 has made the protective cover difficult to close. The PVC riser should be cut in the future, when it becomes more difficult to close the protective cover. There is standing water in the protective casing for LH-2.
Entrance Gate and lock(4)	X		Some debris (two large tires, leaves, trash) was noted outside of the locked gate.

Red-Penn Landfill

Inspection Report

Date: May 29, 2002

Temperature: 60's

Inspector: Ethan A. House

Weather: Sunny/Cloudy

Ground Conditions: Moist to dry

ITEM	Adequate	Requires Maintenance	COMMENTS/OBSERVATIONS
Final Cover			
Vegetation		X	Bare areas were noted.
Erosion		X	4- to 18-inch deep erosion ruts on the northwestern portion of the cover. 20 to 30-inch deep erosion ruts (off the cover) near Spring #4.
Burrowing animals	X		
Settlement		X	Settlement is apparent in the area around LH-2. See comment below in connection with the locks on the groundwater and leachate wells.
Other			
Surface Water Controls			
Diversion berms		X	Erosion was noted along the diversion berms.
Final cover spillway	X		
Groundwater and Leachate Headwells			
Locks		X	The interior casing in LH-2 is too tall to be capped due to settlement in the area. The protective well casing was locked with the addition of a new Master Lock #0536 to the Waste Management lock on LH-2. The well casing needs to be cut.
Structural integrity	X		
Entrance Gate and Lock	X		

Additional Comments:

Red-Penn Landfill

Inspection Report

Date: August 9, 2002

Temperature: Mid 90s

Inspector: Ethan A. House

Weather: Sunny

Ground Conditions: Firm, dry

ITEM	Adequate	Requires Maintenance	COMMENTS/OBSERVATIONS
Final Cover			
Vegetation	X		Major areas around the perimeter of the cap have recently been seeded and covered with straw.
Erosion		X	Erosion was noted beyond the limits of the landfill, most notably along the eastern side of the landfill near Spring #4.
Burrowing animals	X		
Settlement	X		Settlement was noted at LH-2. The PVC riser was cut to permit locking of the protective casing.
Other			
Surface Water Controls			
Diversion berms	X		
Final cover spillway	X		
Groundwater and Leachate Head Wells			
Locks	X		Replaced all old locks on LH-1, LH-2, and LH-3. LH-1 and LH-2 now have a Waste Management Master Lock #2126. LH-3 has Master Lock #0536, which will be replaced with a Master Lock #2126 during the next site visit.
Structural integrity	X		4 inches of PVC riser were cut off of LH-2 to allow the protective casing to be locked.
Entrance Gate and Lock	X		

Additional Comments: LH-1, 2, and 3 should be marked with a post and flag to ease locating these wells.

Red-Penn Landfill

Inspection Report

Date: November 19, 2002

Temperature: Low 50's

Inspector: Ethan A. House

Weather: Cloudy/Overcast

Ground Conditions: Wet

ITEM	Adequate	Requires Maintenance	COMMENTS/OBSERVATIONS
Final Cover(1)			
Vegetation		X	Bare areas were noted. The seeding that took place in August 2002 has taken root and is doing well.
Erosion		X	Areas of erosion were noted on the eastern and southern side of the landfill. Erosion ruts noticed near Spring #4 are approximately 20-30 inches deep.
Burrowing animals	X		
Settlement	X		
Other		X	Tire ruts are present.
Surface Water Controls(2)			
Diversion berms		X	Erosion wash was noted along the diversion beams; the wash is minimal.
Final cover spillway	X		
Groundwater and Leachate Head Wells(4)	X		Installed 10-foot ¾ inch PVC pipe with a PVC cap next to wells LH-1, 2, and 3 to facilitate locating wells.
Locks	X		New Waste Management Master Lock #2126 was installed on all three leachate head wells (LH-1, 2, and 3).
Structural integrity	X		
Entrance Gate and lock(5)	X		

Additional Comments:

December 19, 2003

Ms. Susan Mallette
Geologist
Kentucky Division of Waste Management
18 Reilly Road
Frankfort, KY 40601

Subject: Red Penn Landfill, Pewee Valley, Kentucky
Year 2003 Annual OM&M Report

Dear Susan:

This letter report presents the results of the third year (2003) of post-construction operation, maintenance, and monitoring (OM&M) activities at the Red Penn Landfill. The semiannual OM&M activities, which included groundwater sampling, leachate head monitoring, and site inspection, were performed in accordance with the Post-Construction Performance Standards Verification Plan (Section 3 of the Final Remedial Design [RMT, October 1999]), the Operation, Monitoring, and Maintenance Plan (Appendix G of the Final Remedial Design), and revisions to these plans approved by the Kentucky Department for Environmental Protection (KDEP) dated April 2, 2003 (refer to Attachment A).

Monitoring was conducted in March and October 2003, and consisted of the following activities:

- Sampling groundwater monitoring wells
- Sampling surface water springs
- Measuring the liquid levels in the leachate head wells

As discussed below, not all of the groundwater monitoring wells and surface water springs could be sampled during each monitoring event, because they were dry when the OM&M activities were conducted. The locations of the monitoring points are shown on Figure 1. Site inspections were conducted in March and November 2003 (refer to Attachment B).

Groundwater and Spring Monitoring Results

The groundwater and spring samples were analyzed for VOCs, PCBs, metals, and total cyanide, as specified in the OM&M Plan. The laboratory reports and a database summary report, with data validation flags, are contained in Attachment C. The following groundwater monitoring wells and springs could not be sampled during the respective monitoring event, either because they were dry, or because the water did not recharge within a reasonable amount of time after being bailed dry.

March 2003	October 2003
▪ MW-8002-8975	▪ Spring #2
▪ MW-8002-8979	▪ Spring #4
▪ Spring #4	

No VOCs, PCBs, or total cyanide was detected in the water samples during 2003, with the exception of cyanide (0.011 mg/L) at Spring #3 in October. The cyanide concentration of 0.011 mg/L was just above the Estimated Quantitation Limits (EQL) of 0.010 mg/L. This is the second time cyanide was detected in Spring #3 (November 2002 at 0.011 mg/L). The result from the next monitoring event will be reviewed to assess if an increasing trend for cyanide is occurring at Spring #3.

The following metals were analyzed during each sampling event: antimony, arsenic, barium, cadmium, chromium, lead, and nickel. The metals that were detected during the 2003 monitoring activities were as follows:

Metal	Minimum Concentration (µg/L)	Maximum Concentration (µg/L)	Frequency of Detection Above the EQL
Arsenic	<10	11.7	1/9
Barium	39.2	364	9/9
Chromium	< 3.0	5.3	1/9
Nickel	< 5.0	41.0	5/9

Figures 2 through 8 show the time trends for the following parameters: arsenic, barium, cadmium, chromium, lead, nickel, and total cyanide. On Figures 2 through 8, the parameters that were detected in the groundwater samples in 2003 show a stable to downward trend when compared with the results from 2001 and 2002, with the exception of barium at Spring #3. The results from the next monitoring event will be reviewed to assess the potential trend of barium at Spring #3.

Leachate Head Levels

The pre- and post-construction leachate head data are presented in Table 1 and graphed on Figure 9. Completion of the final cover occurred in the fall of 2000. The leachate head data indicate that the final cover continues to reduce surface water infiltration into the waste and has significantly reduced the leachate head levels. Leachate head level trends will be evaluated following the 5-year post-construction monitoring period, as required in the Final Remedial Design.

Site Inspections

Site inspection activities included inspecting the final cover and performing maintenance or repairs as necessary for the following items:

- Surface water controls (*e.g.,* diversion berms and the spillway)
- Final cover (*e.g.,* vegetation, erosion, settlement, and burrowing animals)
- Groundwater and leachate monitoring wells
- Site access control

A summary of the maintenance and repair activities performed during 2003 is included in Table 2. The semiannual site inspection report is included in Appendix B. Many of the maintenance items that were identified during the 2003 inspections were addressed either during the same site visit, or during the following site visit. The remaining maintenance items are scheduled for spring or summer 2004, when the final cover can support truck traffic without it causing rutting or other damage to the cover soil.

Please call me, at (608) 662-5271, if you have any questions regarding this report.

Sincerely,

RMT, Inc.

Michael J. Amstadt P.E.
Project Manager

Attachments: Tables
Figures
Attachment A: Correspondence
Attachment B: Site Inspection Reports
Attachment C: Laboratory Results and Database Summary Reports

cc: Jim Forney, Waste Management, Inc.
Jeff Hartland, Ford Motor Land Services Corporation
Linda Hicken, RMT, Inc.

Table 1
Red Penn Landfill
Pewee Valley, Kentucky
Leachate Head Measurements and Calculated Elevations

Date	Top of PVC Casing (ft. M.S.L.)	Depth of Leachate Below Top of PVC Casing (ft.)	Leachate Elevation (ft. M.S.L.)	Bottom of PVC Screen (ft. M.S.L.)[1]	Height of Leachate Above Bottom of PVC Screen (ft.)
LEACHATE HEAD WELL LH-1					
6-May-99	709.83	8.0	701.83	675.30	26.53
15-Sep-99	709.83	13.0	696.83	675.30	21.53
12-Aug-00	709.83	21.9	687.93	675.30	12.63
29-Aug-00	709.83	22.5	687.33	675.30	12.03
26-Sep-00	709.83	21.45	688.38	675.30	13.08
28-Feb-01	709.83	21.09	688.74	675.30	13.44
4-May-01	709.83	21.22	688.61	675.30	13.31
21-Aug-01	709.83	21.46	688.37	675.30	13.07
27-Nov-01	709.83	21.58	688.25	675.30	12.95
18-Feb-02	709.35	23.88	685.47	675.30	10.17
21-May-02	709.35	24.02	685.33	675.30	10.03
08-Aug-02	709.35	23.98	685.37	675.30	10.07
18-Nov-02	709.35	23.99	685.36	675.30	10.06
25-Mar-03	709.35	24.14	685.21	675.30	9.91
29-Oct-03	709.35	26.47	682.88	675.30	7.58

Notes:
(1) Bottom of PVC screen is approximately 1 foot above the base of the landfill.
(2) Leachate head well LH-3 was initially dry when the well was completed. The depth of leachate in LH-3 on May 6, 1999, was measured 24 hours after the completion of LH-3, in accordance with the Leachate Head Well Installation Workplan; however, the leachate level was still rising at the time of the measurement. Therefore, it is not believed that this was a representative leachate head level.

By: MMR
Checked by: PPD
Date: 12/3/03

Table 1 *(continued)*
Red Penn Landfill
Pewee Valley, Kentucky
Leachate Head Measurements and Calculated Elevations

Date	Top of PVC Casing (ft. M.S.L.)	Depth of Leachate Below Top of PVC Casing (ft.)	Leachate Elevation (ft. M.S.L.)	Bottom of PVC Screen (ft. M.S.L.)[1]	Height of Leachate Above Bottom of PVC Screen (ft.)
LEACHATE HEAD WELL LH-2					
6-May-99	687.72	6.0	681.72	636.27	45.45
15-Sep-99	687.72	14.0	673.72	636.27	37.45
12-Aug-00	687.72	10.2	677.52	636.27	41.25
29-Aug-00	687.72	11.0	676.72	636.27	40.45
26-Sep-00	687.72	10.2	677.52	636.27	41.25
28-Feb-01	687.72	17.44	670.28	636.27	34.01
4-May-01	687.72	20.87	666.85	636.27	30.58
21-Aug-01	687.72	20.61	667.11	636.27	30.84
27-Nov-01	687.72	20.43	667.29	636.27	31.02
18-Feb-02	687.72	21.57	666.15	636.27	29.88
21-May-02	687.72	21.71	666.01	636.27	29.74
08-Aug-02	687.39	22.52	664.87	636.27	28.60
18-Nov-02	687.39	23.98	663.41	636.27	27.14
25-Mar-03	687.39	22.9	664.49	636.27	28.22
29-Oct-03	687.39	22.65	664.74	636.27	28.47

Notes:
(1) Bottom of PVC screen is approximately 1 foot above the base of the landfill.
(2) Leachate head well LH-3 was initially dry when the well was completed. The depth of leachate in LH-3 on May 6, 1999, was measured 24 hours after the completion of LH-3, in accordance with the Leachate Head Well Installation Workplan; however, the leachate level was still rising at the time of the measurement. Therefore, it is not believed that this was a representative leachate head level.

By: MMR
Checked by: PPD
Date: 12/3/03

Table 1 (*continued*)
Red Penn Landfill
Pewee Valley, Kentucky
Leachate Head Measurements and Calculated Elevations

Date	Top of PVC Casing (ft. M.S.L.)	Depth of Leachate Below Top of PVC Casing (ft.)	Leachate Elevation (ft. M.S.L.)	Bottom of PVC Screen (ft. M.S.L.)[1]	Height of Leachate Above Bottom of PVC Screen (ft.)
LEACHATE HEAD WELL LH-3					
6-May-99	704.49	23.0[2]	681.49	677.58	3.91[2]
15-Sep-99	704.49	14.0	690.49	677.58	12.91
12-Aug-00	704.49	19.4	685.09	677.58	7.51
29-Aug-00	704.49	19.5	684.99	677.58	7.41
26-Sep-00	704.49	20.4	684.09	677.58	6.51
28-Feb-01	704.49	22.39	682.10	677.58	4.52
4-May-01	704.49	22.06	682.43	677.58	4.85
21-Aug-01	704.49	22.92	681.57	677.58	3.99
27-Nov-01	704.49	23.12	681.37	677.58	3.79
18-Feb-02	704.49	23.65	680.84	677.58	3.26
21-May-02	704.49	24.99	679.50	677.58	1.92
08-Aug-02	704.49	25.79	678.70	677.58	1.12
18-Nov-02	704.49	24.66	679.83	677.58	2.25
25-Mar-03	704.49	23.94	680.55	677.58	2.97
29-Oct-03	704.49	26.83	677.66	677.58	0.08

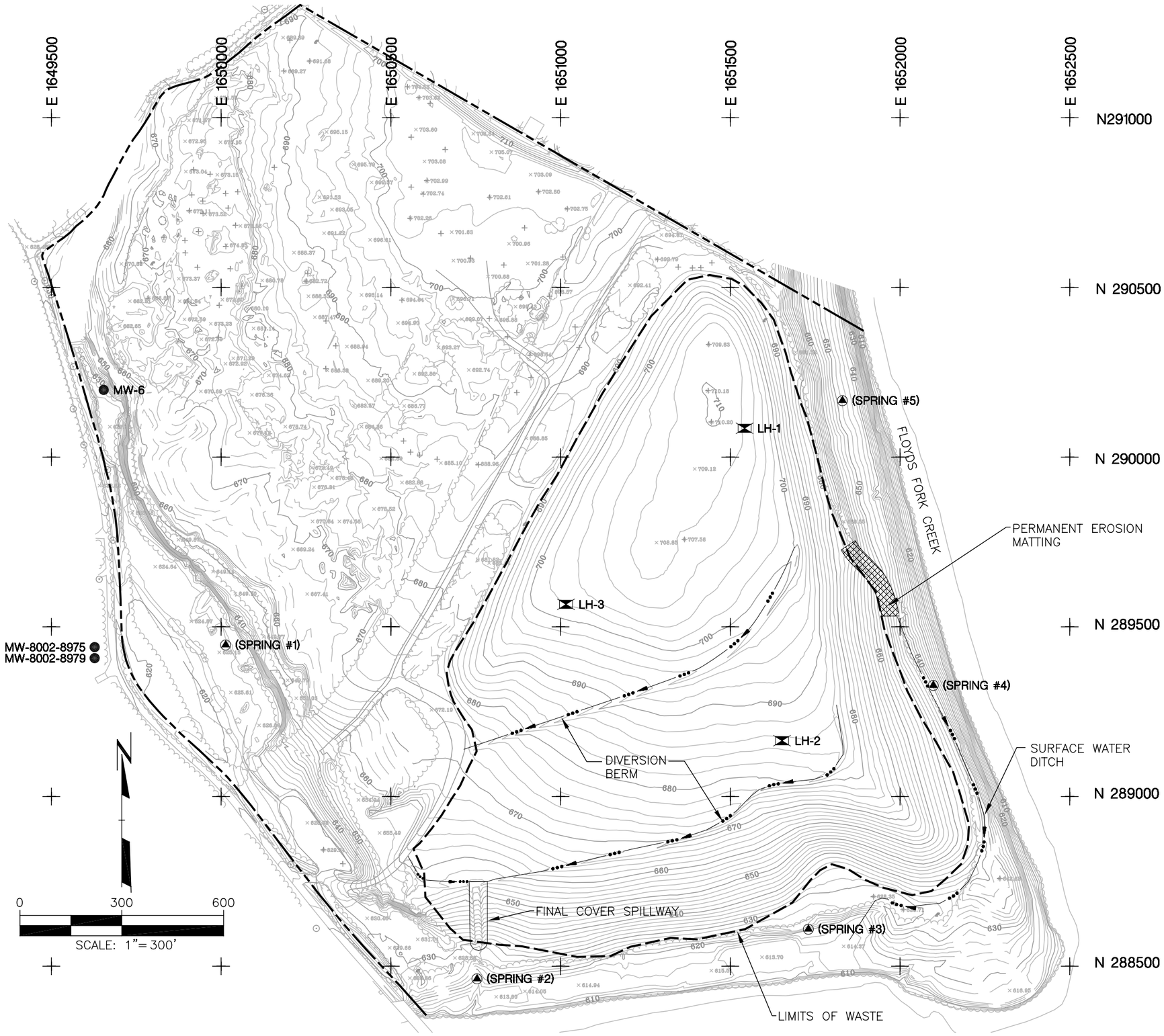
Notes:
(1) Bottom of PVC screen is approximately 1 foot above the base of the landfill.
(2) Leachate head well LH-3 was initially dry when the well was completed. The depth of leachate in LH-3 on May 6, 1999, was measured 24 hours after the completion of LH-3, in accordance with the Leachate Head Well Installation Workplan; however, the leachate level was still rising at the time of the measurement. Therefore, it is not believed that this was a representative leachate head level.

By: MMR
Checked by: PPD
Date: 12/3/03

Table 2
Red Penn Landfill
Pewee Valley, Kentucky
Status of Maintenance Items

Item	Description of Maintenance Item	Date Identified	Date Repair/ Maintenance Completed	Scheduled Date for Repair
1	Erosion ruts and bare areas were noted on the southern side of the landfill between Spring #3 and LH-2.	3/25/03	6/23/03	
2	Replace corroded locks on leachate head wells LH-2 and LH-3. Re-evaluate corroded hinges on LH-2 and LH-3 during the next sampling event.	3/25/03	6/23/03[1]	
3	Entire site mowed to a height of approximately 12 inches.	_____	6/18/03	
4	Entire site overseeded and fertilized.	_____	6/19/03	
5	Trash removed from front entrance.	_____	6/19/03	
6	Standing water surrounding vicinity of MW-6.	10/29/03	_____	Spring 2004
7	Vehicle tire rutting in southwestern corner of site, off the landfill cover area.	11/18/03	_____	Spring 2004
8	Area lacking vegetative cover east of upper diversion berm (an approximate 20' x 20' area).	11/18/03	_____	Spring 2004
9	Lock operable at leachate headwell LH-3, but will be replaced with a new lock during the next site visit.	11/18/03	_____	Spring 2004

Note
[1] The lock at leachate headwell LH-3 was still operable in June; thus, it was not replaced.



LEGEND

- APPROXIMATE PROPERTY LINE
- GRID TICK LOCATION
- EXISTING 10' CONTOUR INTERVAL
- EXISTING 2' CONTOUR INTERVAL
- EXISTING TREELINE
- EXISTING SPOT ELEVATION
- EXISTING BUILDING
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- SP-5 — APPROXIMATE GEOPROBE LOCATION AND NUMBER
- LH-1 — EXISTING LEACHATE HEAD WELL LOCATION AND NUMBER
- (SPRING #1) — APPROXIMATE SURFACE WATER SAMPLING LOCATION AND NUMBER
- MW-6 — APPROXIMATE MONITORING WELL LOCATION AND NUMBER

NOTES

1. BASE MAP WAS DEVELOPED FROM AN AERIAL SURVEY PERFORMED BY OAS INC., ON NOVEMBER 15, 2000.
2. CONTOUR INTERVAL IS TWO FEET.
3. VERTICAL DATUM IS REFERENCED TO USGS MEAN SEA LEVEL DATUM.
4. THE PROJECT GRID SYSTEM IS PARALLEL AND PERPENDICULAR TO THE KENTUCKY STATE PLANE COORDINATE GRID SYSTEM, NORTH AMERICAN DATUM OF 1927.
5. THE LOCATIONS OF THE LEACHATE HEAD WELLS WERE OBTAINED DURING A SURVEY PERFORMED BY WESTERMAN & ASSOCIATES, LOUISVILLE, KENTUCKY. DATE OF SURVEY: MAY 19, 1999.
6. THE LOCATIONS OF THE SPRINGS ARE APPROXIMATE AND ARE BASED ON FIELD OBSERVATIONS.
7. THE LOCATIONS OF MW–6, MW–8002–8975 AND MW–8002–8979 ARE APPROXIMATE AND ARE BASED ON A LOCATION MAP SUPPLIED BY THE KENTUCKY DIVISION OF WASTE MANAGEMENT.

PROJECT:

RED PENN LANDFILL
PEWEE VALLEY, KENTUCKY

SHEET TITLE:

ENVIRONMENTAL MONITORING LOCATIONS

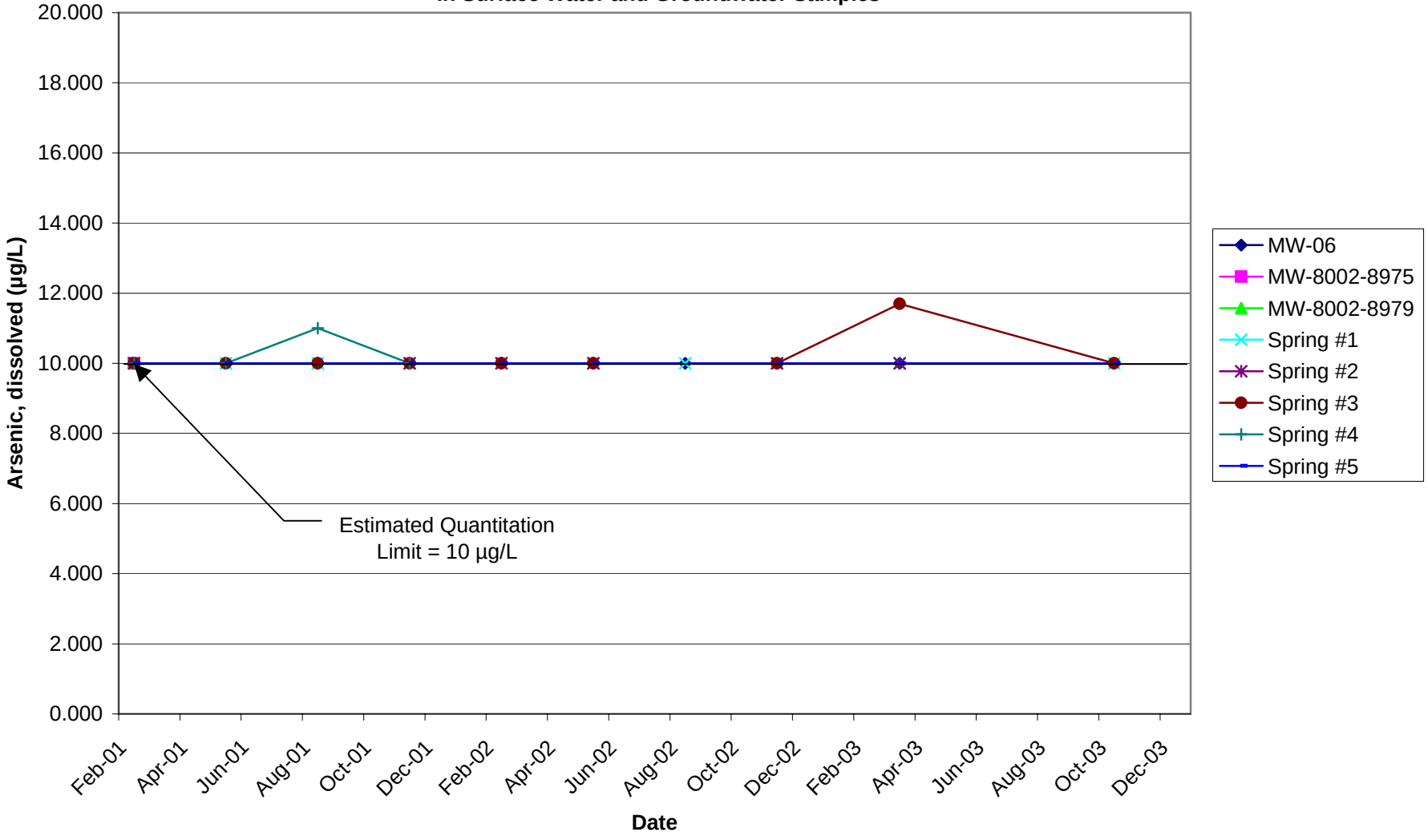
DRAWN BY: DEFOEJ	SCALE:	PROJ. NO. 04896.21
CHECKED BY: MJA	1"=300'	FILE NO. 48962101.DWG
APPROVED BY: MJA	DATE PRINTED:	**FIGURE 1**
DATE: DECEMBER 2003		

RMT INC.
744 Heartland Trail
Madison, WI 53717–1934
P.O. Box 8923 53708–8923
Phone: 608–831–4444
Fax: 608–831–3334

Plot Date: Thursday, December 4, 2003
Plot Time: 11:15:39 AM
Attached Xref's: JNKLOW; BM12–2000;
Attached Image's: No images attached

PLOT DATA
Drawing Name: J:\04896\21\48962103.dwg
Operator Name: defoej
Scale: 1"=40'
Dwg Size: 143667 Bytes

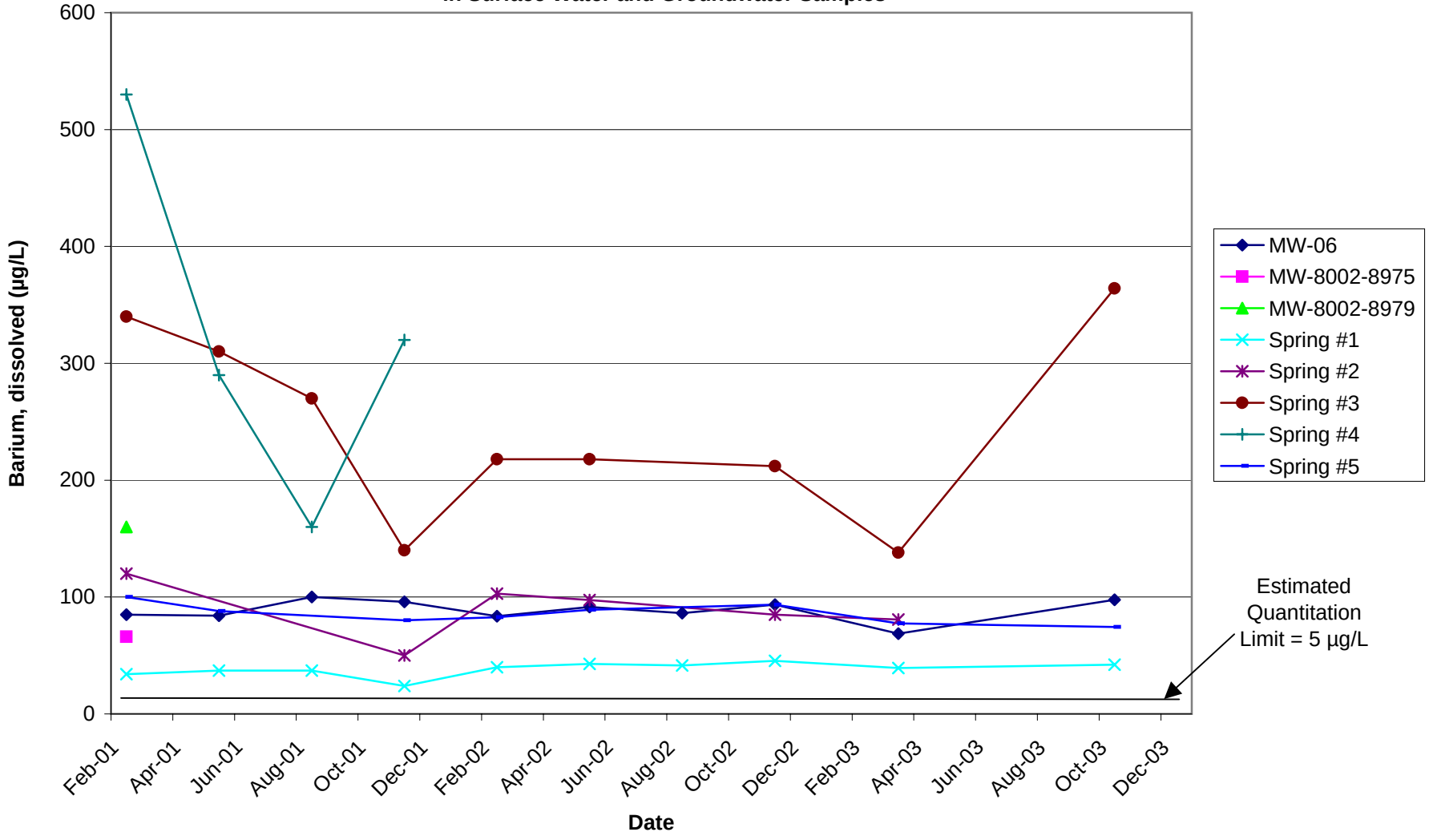
Figure 2
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Arsenic
in Surface Water and Groundwater Samples



Note: MW-8002-8975, MW-8002-8979, Spring No. 2, Spring No. 3, Spring No. 4, and Spring No. 5 were dry during one or more sampling events.

I:\WPMSN\PJT\00-04896\21\000489621-002.XLS 10/12/2005

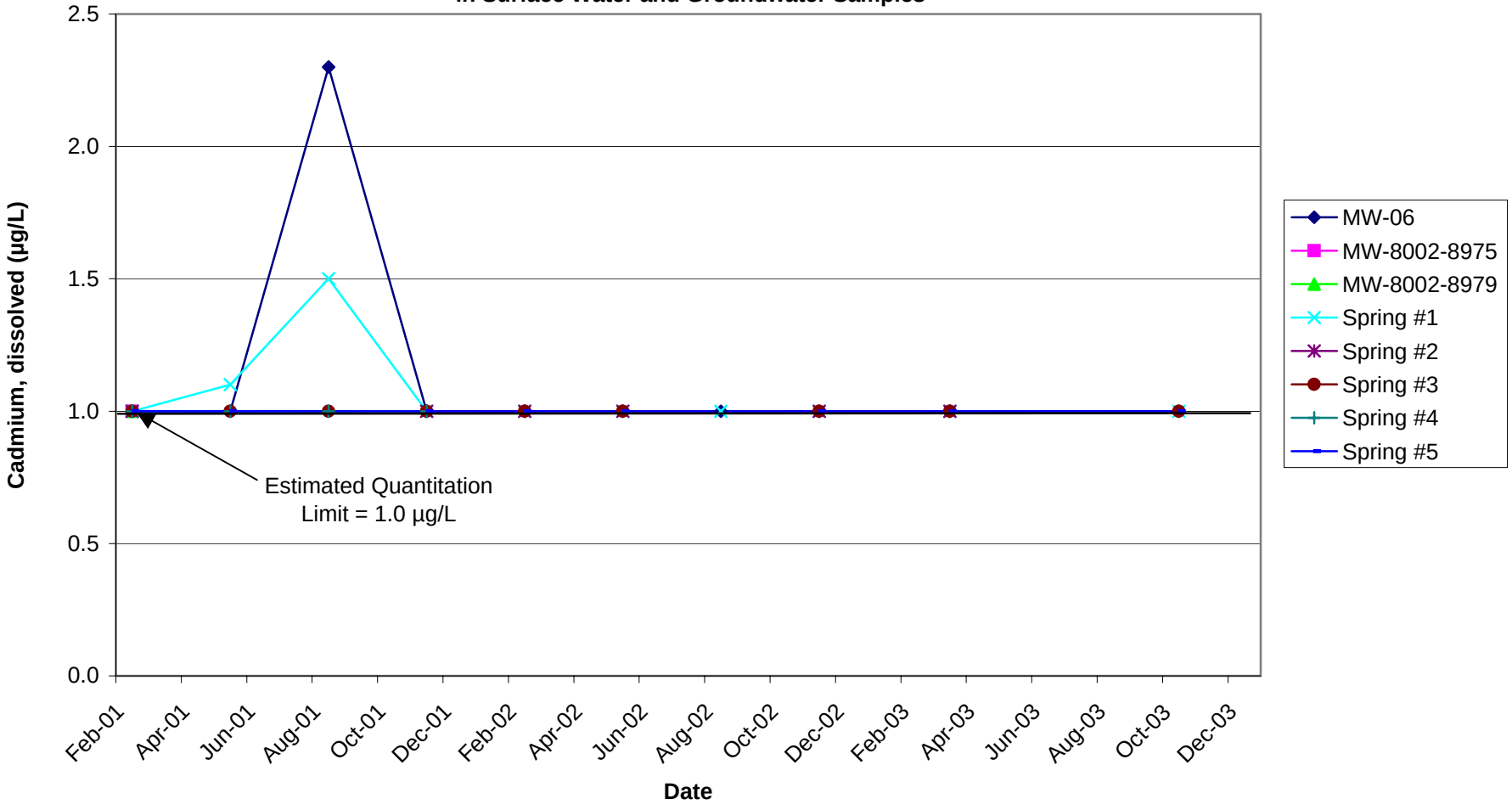
Figure 3
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Barium
in Surface Water and Groundwater Samples



Note: MW-8002-8975, MW-8002-8979, Spring No. 2, Spring No. 3, Spring No. 4, and Spring No. 5 were dry during one or more sampling events.

I:\WPMSN\PJT\00-04896\21\000489621-002.XLS 10/12/2005

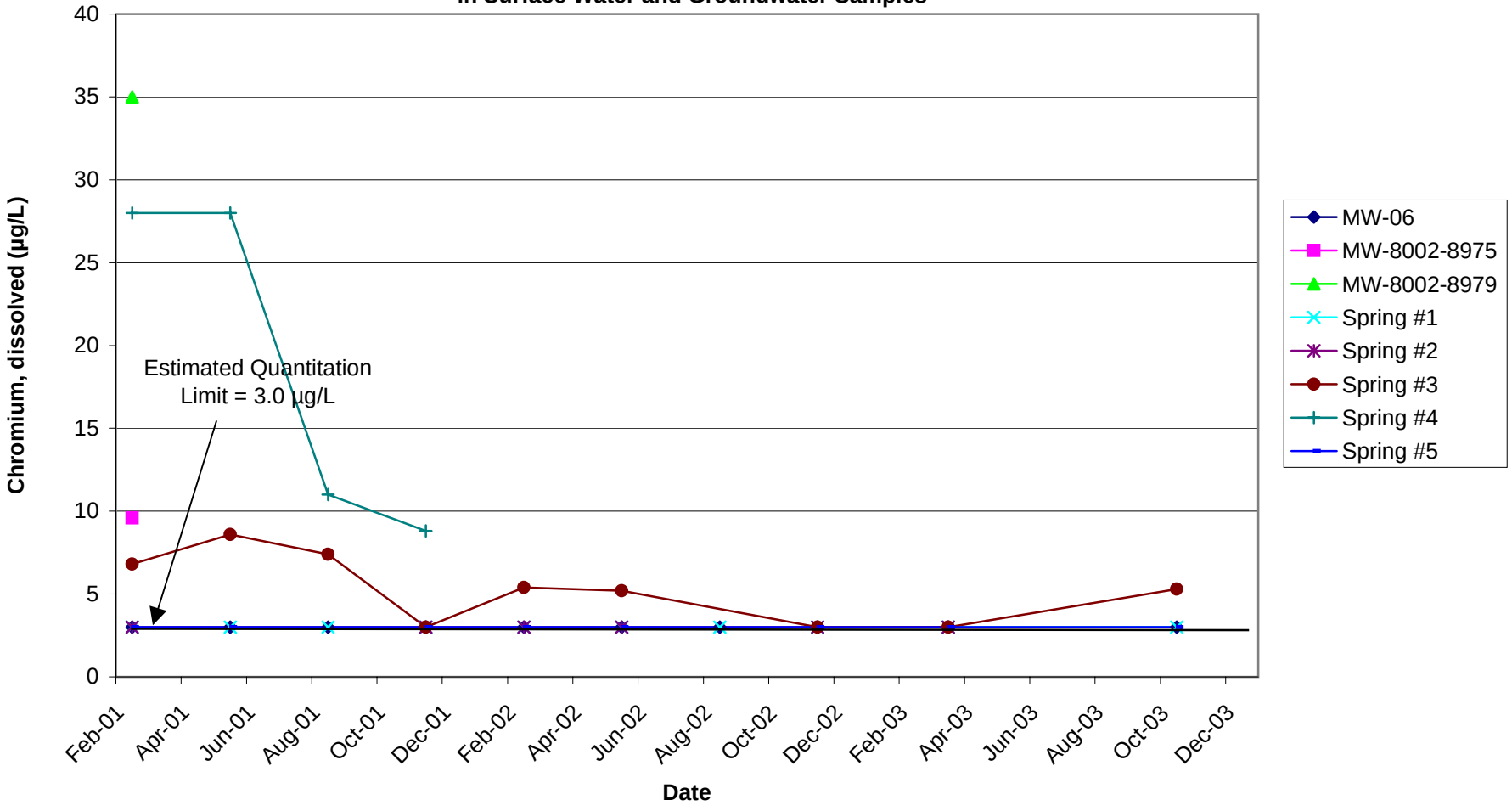
Figure 4
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Cadmium
in Surface Water and Groundwater Samples



Note: MW-8002-8975, MW-8002-8979, Spring No. 2, Spring No. 3, Spring No. 4, and Spring No. 5 were dry during one or more sampling events.

I:\WPMSN\PJT\00-04896\21\000489621-002.XLS 10/12/2005

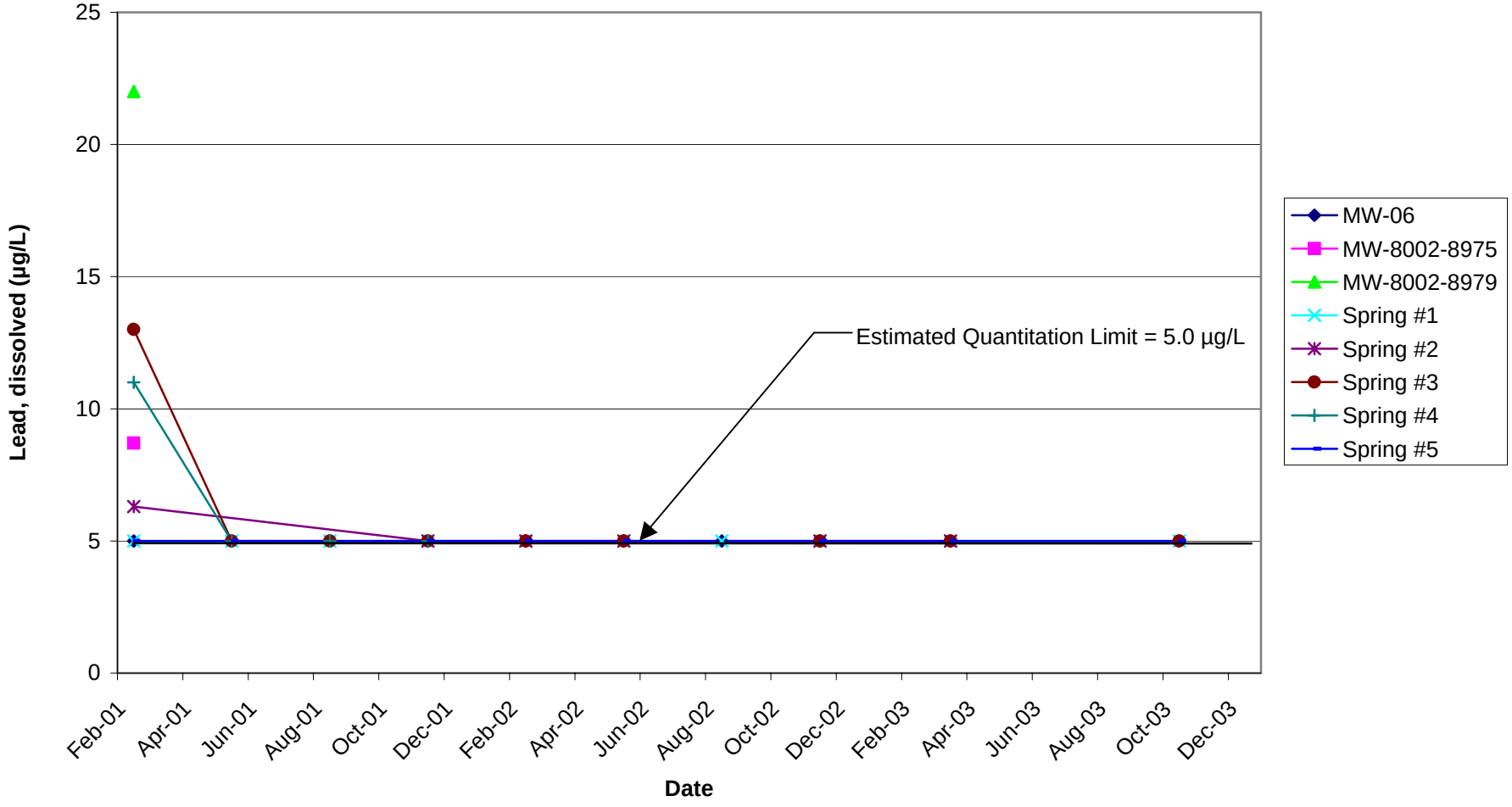
Figure 5
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Chromium
in Surface Water and Groundwater Samples



Note: MW-8002-8975, MW-8002-8979, Spring No. 2, Spring No. 3, Spring No. 4, and Spring No. 5 were dry during one or more sampling events.

I:\WPMSN\PJT\00-04896\21\000489621-002.XLS 10/12/2005

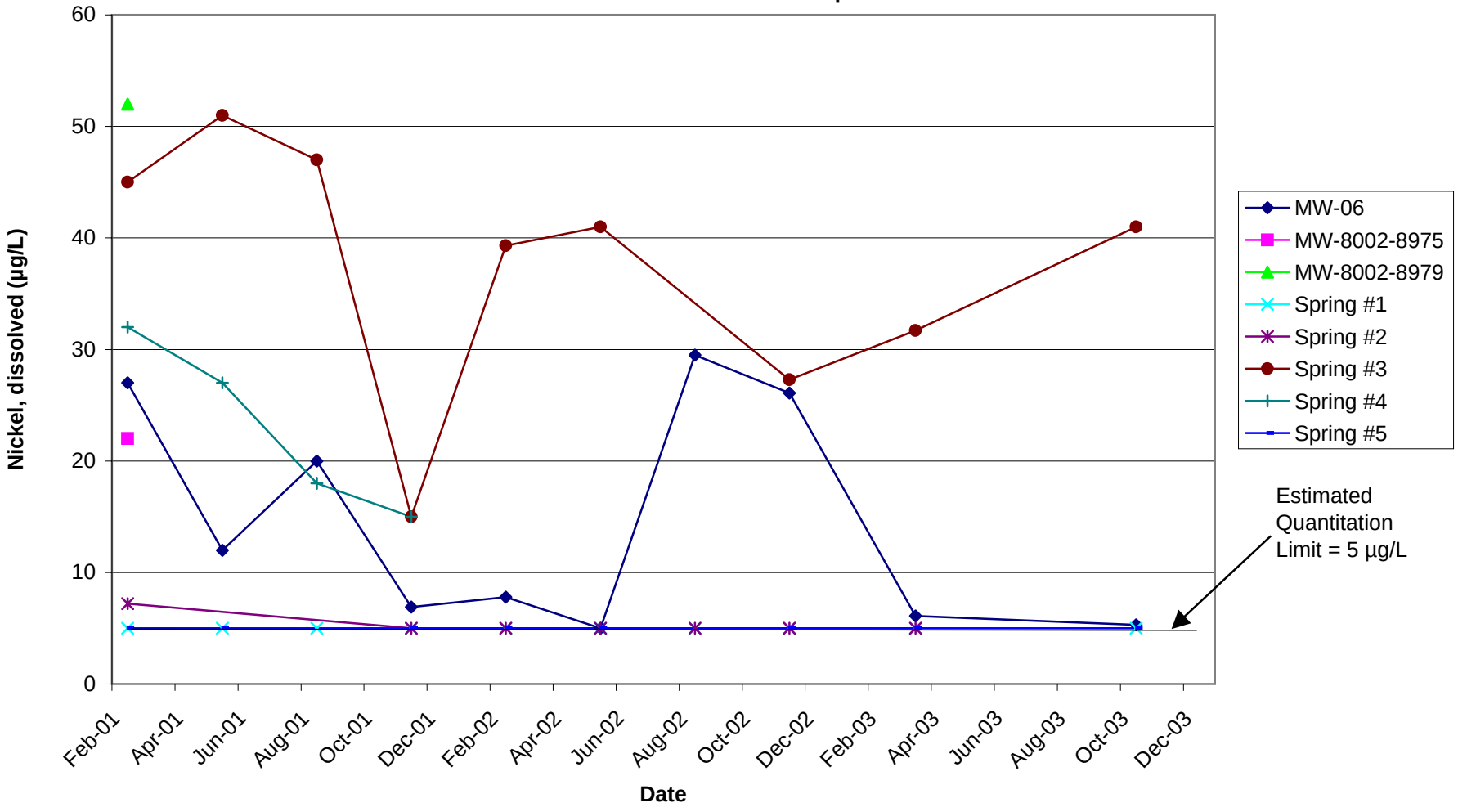
Figure 6
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Lead
in Surface Water and Groundwater Samples



Note: MW-8002-8975, MW-8002-8979, Spring No. 2, Spring No. 3, Spring No. 4, and Spring No. 5 were dry during one or more sampling events.

I:\WPMSN\PJT\00-04896\21\000489621-002.XLS 10/12/2005

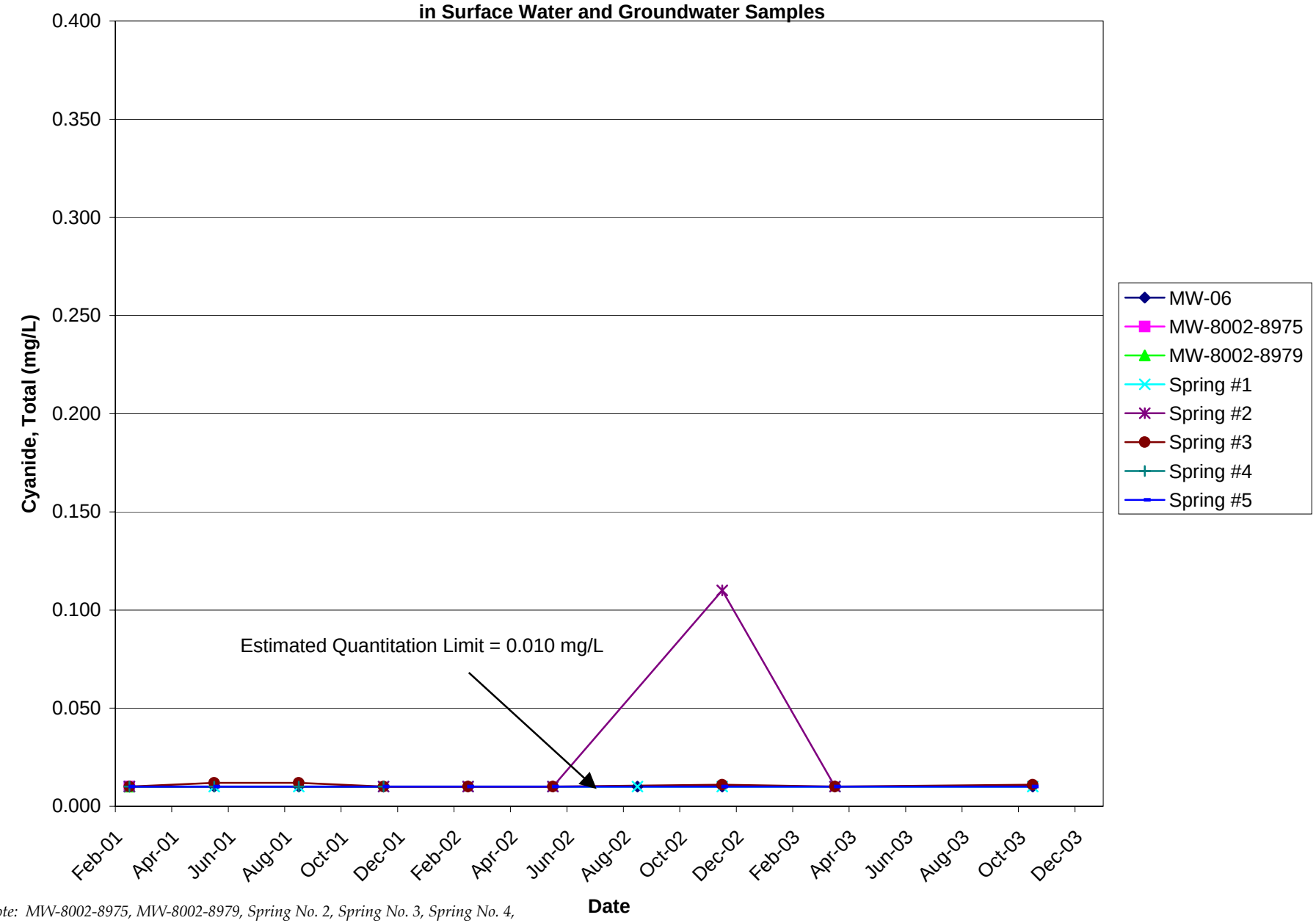
Figure 7
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Nickel
in Surface Water and Groundwater Samples



Note: MW-8002-8975, MW-8002-8979, Spring No. 2, Spring No. 3, Spring No. 4, and Spring No. 5 were dry during one or more sampling events.

I:\WPMSN\PJT\00-04896\21\000489621-002.XLS 10/12/2005

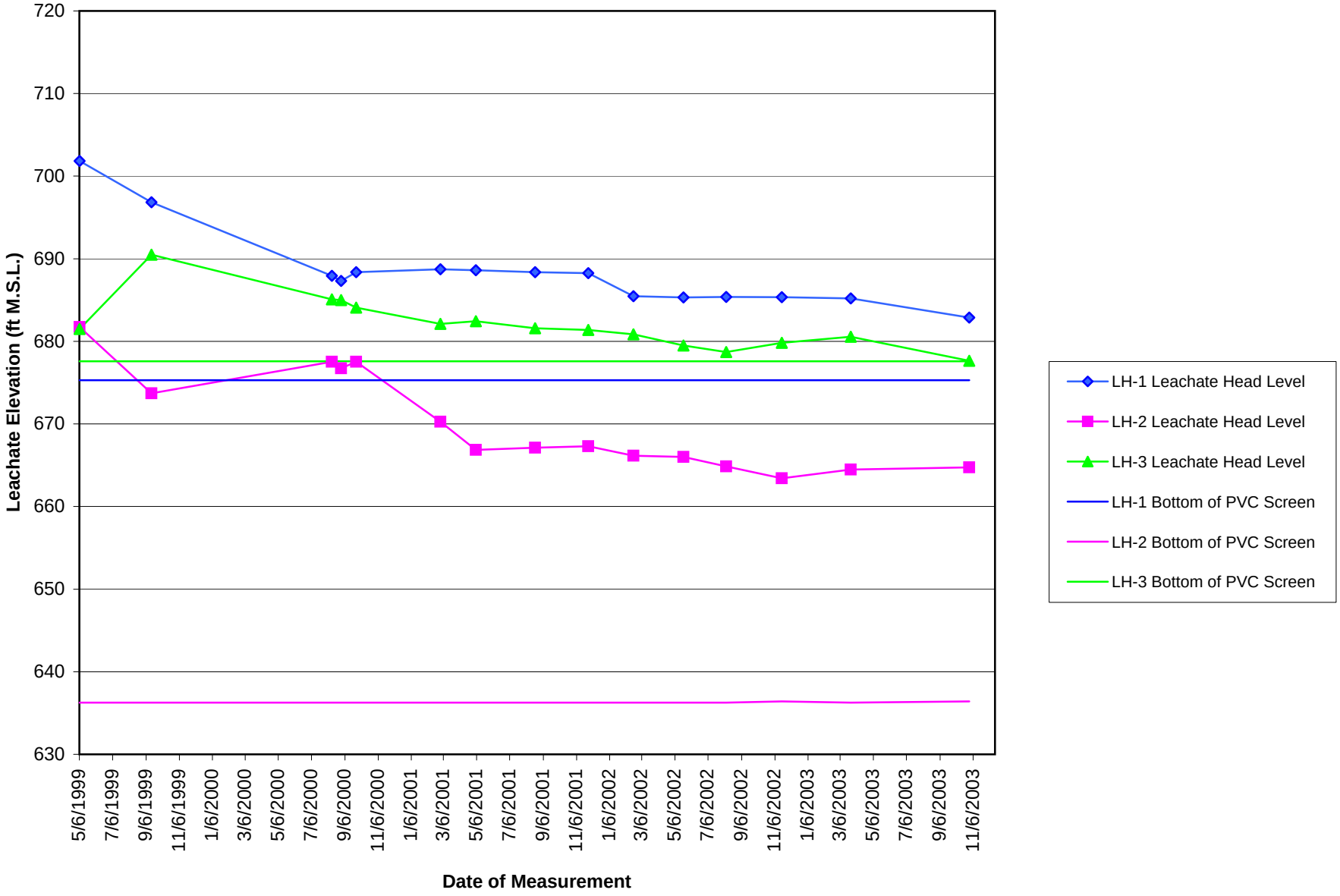
Figure 8
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Total Cyanide
in Surface Water and Groundwater Samples



Note: MW-8002-8975, MW-8002-8979, Spring No. 2, Spring No. 3, Spring No. 4, and Spring No. 5 were dry during one or more sampling events.

I:\WPMSN\PJT\00-04896\21\000489621-002.XLS 10/12/2005

Figure 9
Red Penn Landfill
Pewee Valley, Kentucky
Leachate Head Elevations and Depth of Leachate



Note: Bottom of PVC screen is approximately 1 foot above the base of the landfill.

I:\WPMSN\PJT\00-04896\21\000489621-002.XLS 10/12/2005

Attachment A

Correspondence

March 13, 2003

Ms. Susan Mallette
Geologist
Frankfort Office Park
Department of Environmental Protection, Superfund Branch
Division of Waste Management
18 Reilly Road
Frankfort, KY 40601-1190

Subject: Changes to Environmental Monitoring Activities
Red Penn Landfill, Pewee Valley, Kentucky

Dear Ms. Mallette:

On behalf of the PRPs for the Red Penn Landfill in Pewee Valley, Kentucky, RMT is requesting that monitoring wells MW8002-8975 and MW8002-8979 be eliminated from the monitoring program because period of these wells do not recover after being bailed dry to allow for samples to be collected in a reasonable time (24 hours). With the exception of the first time these wells were sampled (in February 2000), MW8002-8975 has not recovered enough to collect any samples in the last 2 years, and MW8002-8979 has recovered enough to only allow a 40 mL sample for VOCs to be collected in about half of the sampling events. Furthermore, the results for the samples from MW8002-8975 and -8979 that have been collected over the last 2 years do not indicate that the groundwater at these locations has been affected by the landfill. We would appreciate if the Kentucky Division of Waste Management (KDWM) could respond to this letter by March 30, so that we can make the necessary arrangements prior to the next sampling event in April.

We are also notifying the KDWM that the PRPs intend to reduce the frequency of environmental monitoring from quarterly to semiannually beginning in April 2003. This reduction in monitoring frequency for groundwater and the springs is consistent with the Final Remedial Design (RMT, Inc., October 1999).

Please call me, at (608) 662-5271, if you have any questions regarding this letter.

Sincerely,

RMT, Inc.

Michael J. Amstadt, P.E.
Project Manager

cc: Jim Forney, Waste Management, Inc.
Jeff Hartlund, Ford Motor Land Services Corporation

HENRY C. LIST
SECRETARY

PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
14 REILLY RD
FRANKFORT KY 40601-1190

April 2, 2003

James C. Forney, Director~Closed Sites
Waste Management, Inc.
3970 Heritage Avenue, Suite A
Okemos, MI 48864

Re: Red Penn Sanitation Company Landfill
Oldham County
Not/Com #20363, Mars # 9326

Dear Mr. Forney:

The Kentucky Division of Waste Management has reviewed the monitoring records and observed the most recent sampling of wells MW-8002-8975 and MW-8002-8979 at the Red Penn Landfill.

According to the records, a sample attempt was made quarterly as required, but only one actual sample was collected from these monitoring wells in the two-year sampling period. This was due to insufficient water volume, apparently because of very slow recharge to the wells.

Therefore, please change the well sampling frequency of MW-8002-8975 and MW-8002-8979 to annual. The next sampling of these two wells will therefore be in March 2004.

Thank you for your continuing cooperation with the maintenance and monitoring of this site. Please continue to notify this office of site activities at least five days prior to the activity. If you have any questions, or to notify me of planned site activities, I may be reached by telephone at (502) 564-6716, extension 263, or by email at susan.mallette@mail.state.ky.us.

Sincerely,

Susan L. Mallette

Susan L. Mallette, PG
Geologist Registered
Superfund Branch

c: Femi Akindale, US EPA
Michael Amstadt, RMT, Inc
Randall McDowell, NREPC, OLS
Fazi Sherkat, NREPC, DWM, Superfund Branch

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Attachment B

2003 Site Inspection Reports

Red-Penn Landfill

Inspection Report

Date: March 25, 2003

Temperature: Upper 60's °F

Inspector: Lew Ditto

Weather: Clear skies and then cloudy

Ground Conditions: Moist

ITEM	Adequate	Requires Maintenance	COMMENTS/OBSERVATIONS
Final Cover			
Vegetation		X	Bare areas were noted. Areas that were seeded in the fall of 2002 were doing well.
Erosion		X	Areas of erosion were noted on the attached map, but consist of the following areas: along the northwestern sideslopes of the cap, specifically in the area between Springs #4 and #5, the area west of Spring #4, the area north of Spring #3, and the areas north of both diversion berms. Some eroded areas are approximately 6 to 18 inches deep. Large rocks (1.5 feet x 0.5 ft) were noted on the surface. Erosion will be repaired in the spring or summer of 2003 when field conditions allow for construction traffic without causing rutting.
Burrowing animals	X		
Settlement	X		
Surface Water Controls			
Diversion berms	X		
Final cover spillway	X		
Other			
Groundwater and Leachate Head Wells			
Locks		X	Locks will likely need to be replaced at leachate head wells LH-2 and LH-3 during the next sampling event
Structural integrity		X	Hinged cover is rather corroded.
Entrance Gate and Lock	X		Some debris was noted outside of the locked gate.

Red-Penn Landfill

Inspection Report

Date: November 18, 2003

Temperature: 50 degrees °F

Inspector: Lew Ditto

Weather: Partly Cloudy

Ground Conditions: Dry

ITEM	Adequate	Requires Maintenance	COMMENTS/OBSERVATIONS
Final Cover			
Vegetation		X	An area east of the upper diversion berm is lacking adequate vegetation.
Erosion	X		
Burrowing animals	X		
Settlement	X		
Other	X		
Surface Water Controls			
Diversion berms	X		
Final cover spillway	X		
Groundwater and Leachate Head Wells			
Locks		X	New lock required at LH-3.
Structural integrity	X		
Entrance Gate and lock			
Structural integrity	X		

Additional Comments:

Evidence of vehicle traffic noted in the southwest corner of the site, off the landfill cover area.

Attachment C

Laboratory Results and Database Summary Reports for 2003 Groundwater Samples

RED PENN LANDFILL
MONITORING WELL RESULTS
FIELD, INORGANIC, METALS, VOLATILES, AND PCBS
2003

PARAMETER	UNITS	MW-06 25-MAR-2003 A3284203	MW-06 29-OCT-2003 A3A51803	MW-06 DUP 25-MAR-2003 A3284201	MW-8002-8975 25-MAR-2003 030325-X04	MW-8002-8979 25-MAR-2003 030325-X05
COLOR, FIELD		CLEAR	CLEAR			
CONDUCTANCE, SPECIFIC	UMHOS/CM	395	468		5800	
DEPTH TO WATER	FEET	2.68	3.27		46.94	64.04
PH, FIELD	SU	6.89	7.20		7.13	
TEMPERATURE	DEG C	10.5	16.5		14.8	
WELL DRY					YES	YES
CYANIDE, TOTAL	MG/L	< 0.010	< 0.010	< 0.010		
ANTIMONY, DISSOLVED	UG/L	< 10	< 10	< 10		
ARSENIC, DISSOLVED	UG/L	< 10	< 10	< 10		
BARIUM, DISSOLVED	UG/L	68.6	97.7	69.0		
CADMIUM, DISSOLVED	UG/L	< 1.0	< 1.0	< 1.0		
CHROMIUM, DISSOLVED	UG/L	< 3.0	< 3.0	< 3.0		
LEAD, DISSOLVED	UG/L	< 5.0	< 5.0	< 5.0		
NICKEL, DISSOLVED	UG/L	6.1	5.3	5.5		
AROCLOR-1016	UG/L	< 0.50	< 0.50	< 0.50		
AROCLOR-1221	UG/L	< 0.50	< 0.50	< 0.50		
AROCLOR-1232	UG/L	< 0.50	< 0.50	< 0.50		
AROCLOR-1242	UG/L	< 0.50	< 0.50	< 0.50		
AROCLOR-1248	UG/L	< 0.50	< 0.50	< 0.50		
AROCLOR-1254	UG/L	< 0.50	< 0.50	< 0.50		
AROCLOR-1260	UG/L	< 0.50	< 0.50	< 0.50		
BENZENE	UG/L	< 1.0	< 1.0	< 1.0		
CHLOROBENZENE	UG/L	< 1.0	< 1.0	< 1.0		
CHLOROETHANE	UG/L	< 2.0	< 2.0	< 2.0		
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1.0	< 1.0		

2

RED PENN LANDFILL

SURFACE WATER RESULTS

FIELD, INORGANIC, METALS, VOLATILES, AND PCBS

2003

PARAMETER	UNITS	SPRING-01 25-MAR-2003 A3284204	SPRING-01 29-OCT-2003 A3A51804	SPRING-01 DUP 29-OCT-2003 A3A51801	SPRING-02 25-MAR-2003 A3284205	SPRING-02 29-OCT-2003 031029-X04	SPRING-03 25-MAR-2003 A3284206
COLOR, FIELD		CLEAR			CLEAR		AMBER
CONDUCTANCE, SPECIFIC	UMHOS/CM	450	500		7000		2950
PH, FIELD	SU	5.88	6.75		7.20		7.93
TEMPERATURE	DEG C	13.5	16.2		13.8		19.7
WELL DRY						YES	
CYANIDE, TOTAL	MG/L	< 0.010	< 0.010	< 0.010	< 0.010		< 0.010
ANTIMONY, DISSOLVED	UG/L	< 10	< 10	< 10	< 10		< 10
ARSENIC, DISSOLVED	UG/L	< 10	< 10	< 10	< 10		11.7
BARIUM, DISSOLVED	UG/L	39.2	42.1	41.7	80.7		138
CADMIUM, DISSOLVED	UG/L	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0
CHROMIUM, DISSOLVED	UG/L	< 3.0	< 3.0	< 3.0	< 3.0		< 3.0
LEAD, DISSOLVED	UG/L	< 5.0	< 5.0	< 5.0	< 5.0		< 5.0
NICKEL, DISSOLVED	UG/L	< 5.0	< 5.0	< 5.0	< 5.0		31.7
AROCLOR-1016	UG/L	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50
AROCLOR-1221	UG/L	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50
AROCLOR-1232	UG/L	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50
AROCLOR-1242	UG/L	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50
AROCLOR-1248	UG/L	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50
AROCLOR-1254	UG/L	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50
AROCLOR-1260	UG/L	< 0.50	< 0.50	< 0.50	< 0.50		< 0.50
BENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0		< 4.0
CHLOROBENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0		< 3.9
CHLOROETHANE	UG/L	< 2.0	< 2.0	< 2.0	< 2.0		< 4.5
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0		< 2.8

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RED PENN LANDFILL

SURFACE WATER RESULTS

FIELD, INORGANIC, METALS, VOLATILES, AND PCBS

2003

PARAMETER	UNITS	SPRING-03 29-OCT-2003 A3A51805	SPRING-04 25-MAR-2003 030325-X06	SPRING-04 29-OCT-2003 031029-X05	SPRING-05 25-MAR-2003 A3284207	SPRING-05 29-OCT-2003 A3A51806
COLOR, FIELD		YELLOW			CLEAR	CLEAR
CONDUCTANCE, SPECIFIC	UMHOS/CM	3700			8000	650
PH, FIELD	SU	7.94			7.46	8.17
TEMPERATURE	DEG C	13.8			16.7	13.2
WELL DRY			YES	STAGNANT		
CYANIDE, TOTAL	MG/L	0.011			< 0.010	< 0.010
ANTIMONY, DISSOLVED	UG/L	< 10			< 10	< 10
ARSENIC, DISSOLVED	UG/L	< 10			< 10	< 10
BARIUM, DISSOLVED	UG/L	364			77.5	74.3
CADMIUM, DISSOLVED	UG/L	< 1.0			< 1.0	< 1.0
CHROMIUM, DISSOLVED	UG/L	5.3			< 3.0	< 3.0
LEAD, DISSOLVED	UG/L	< 5.0			< 5.0	< 5.0
NICKEL, DISSOLVED	UG/L	41.0			< 5.0	< 5.0
AROCLOR-1016	UG/L	< 0.50			< 0.50	< 0.50
AROCLOR-1221	UG/L	< 0.50			< 0.50	< 0.50
AROCLOR-1232	UG/L	< 0.50			< 0.50	< 0.50
AROCLOR-1242	UG/L	< 0.50			< 0.50	< 0.50
AROCLOR-1248	UG/L	< 0.50			< 0.50	< 0.50
AROCLOR-1254	UG/L	< 0.50			< 0.50	< 0.50
AROCLOR-1260	UG/L	< 0.50			< 0.50	< 0.50
BENZENE	UG/L	< 2.8			< 1.0	< 1.0
CHLOROBENZENE	UG/L	< 2.1			< 1.0	< 1.0
CHLOROETHANE	UG/L	< 4.7			< 2.0	< 2.0
CIS-1,2-DICHLOROETHENE	UG/L	< 3.2			< 1.0	< 1.0

RED PENN LANDFILL

LEACHATE WELL RESULTS

FIELD, INORGANIC, METALS, VOLATILES, AND PCBS

2003

PARAMETER	UNITS	LH-01 25-MAR-2003 030325-X01	LH-01 29-OCT-2003 031029-X01	LH-02 25-MAR-2003 030325-X02	LH-02 29-OCT-2003 031029-X02	LH-03 25-MAR-2003 030325-X03	LH-03 29-OCT-2003 031029-X03
DEPTH TO LEACHATE	FEET	24.14	26.47	22.90	22.65	23.94	26.83
LEACHATE HEAD ELEVATION	FEET	685.21	682.88	664.49	664.74	680.55	677.66

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RED PENN LANDFILL

QUALITY CONTROL SAMPLE RESULTS

INORGANIC, METALS, VOLATILES, AND PCBS

2003

PARAMETER	UNITS	FIELD BLANK-01 25-MAR-2003 A3284202	FIELD BLANK-01 29-OCT-2003 A3A51802	TRIP BLANK-01 25-MAR-2003 A3284208	TRIP BLANK-01 29-OCT-2003 A3A51807
CYANIDE, TOTAL	MG/L	< 0.010	< 0.010		
ANTIMONY, DISSOLVED	UG/L	< 10	< 10		
ARSENIC, DISSOLVED	UG/L	< 10	< 10		
BARIUM, DISSOLVED	UG/L	< 5.0	< 5.0		
CADMIUM, DISSOLVED	UG/L	< 1.0	< 1.0		
CHROMIUM, DISSOLVED	UG/L	< 3.0	< 3.0		
LEAD, DISSOLVED	UG/L	< 5.0	< 5.0		
NICKEL, DISSOLVED	UG/L	< 5.0	< 5.0		
AROCLOR-1016	UG/L	< 0.50	< 0.50		
AROCLOR-1221	UG/L	< 0.50	< 0.50		
AROCLOR-1232	UG/L	< 0.50	< 0.50		
AROCLOR-1242	UG/L	< 0.50	< 0.50		
AROCLOR-1248	UG/L	< 0.50	< 0.50		
AROCLOR-1254	UG/L	< 0.50	< 0.50		
AROCLOR-1260	UG/L	< 0.50	< 0.50		
BENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0
CHLOROBENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0
CHLOROETHANE	UG/L	< 2.0	< 2.0	< 2.0	< 2.0
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0

Laboratory Results for March 2003

SEVERN TRENT STL

ANALYTICAL REPORT

Job#: A03-2842

STL Project#: NY2A8892
Site Name: Red Penn Landfill
Task: Quarterly Wells & Springs

Mike Amstadt
RMT, Inc.
744 Heartland Trail
Madison, WI 53717

CC: Cheryl Shaw

STL Buffalo

Amy Lynn Haag
Project Manager

04/11/2003

This report contains 36 pages which are individually numbered.

Severn Trent Laboratories, Inc.
STL Buffalo • 10 Hazelwood Drive, Suite 106, Amherst, NY 14228
Tel 716 691 2600 Fax 716 691 7991 • www.stl-inc.com

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8

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A3284201	DUPA303	03/25/2003		03/27/2003	09:30
A3284202	FLDBLK303	03/25/2003	17:45	03/27/2003	09:30
A3284203	MW-6	03/25/2003	12:45	03/27/2003	09:30
A3284204	Spring #1	03/25/2003	13:50	03/27/2003	09:30
A3284205	Spring #2	03/25/2003	17:15	03/27/2003	09:30
A3284206	Spring #3	03/25/2003	15:42	03/27/2003	09:30
A3284207	Spring #5	03/25/2003	14:35	03/27/2003	09:30
A3284208	TRIP BLANK	03/25/2003		03/27/2003	09:30

METHODS SUMMARY

Job#: A03-2842

STL Project#: NY2A8892
Site Name: Red Penn Landfill

PARAMETER	ANALYTICAL METHOD
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS	SW8463 8260
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS	SW8463 8082
Antimony - Soluble	SW8463 6010
Arsenic - Soluble	SW8463 6010
Barium - Soluble	SW8463 6010
Cadmium - Soluble	SW8463 6010
Chromium - Soluble	SW8463 6010
Lead - Soluble	SW8463 6010
Nickel - Soluble	SW8463 6010
Cyanide - Total	SW8463 9012A

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A03-2842

STL Project#: NY2A8892
Site Name: Red Penn Landfill

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A03-2842
Sample Cooler(s) were received at the following temperature(s); 2 @ 2.0 °C
All samples were received in good condition.

GC/MS Volatile Data

No deviations from protocol were encountered during the analytical procedures.

GC Extractable Data

For method 8082, the recovery of surrogate Decachlorobiphenyl in samples FLDBLK303 and MW-6 is outside of established quality control limits. The recovery of surrogate Tetrachloro-m-xylene is within quality control limits; no corrective action is required.

For method 8082, the recovery of Aroclor 1260 in the matrix spike and matrix spike duplicate of sample MW-6 exceeds the quality control limits. The recovery of Aroclor 1260 in the matrix spike blank is compliant with quality control limits; no corrective action is indicated.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

Wet Chemistry Data

No deviations from protocol were encountered during the analytical procedures.

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The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Date: 04/11/2003
Time: 16:42:00

Dilution Log W/Code Information
For Job A03-2842

Client Sample ID	Lab Sample ID	Parameter (Inorganic)/Method (Organic)	Dilution	Code
Spring #3	A3284206	8260	10.00	003

Dilution Code Definition:

002 - sample matrix effects
003 - excessive foaming
004 - high levels of non-target compounds
005 - sample matrix resulted in method non-compliance for an Internal Standard
006 - sample matrix resulted in method non-compliance for Surrogate
007 - nature of the TCLP matrix
008 - high concentration of target analyte(s)
009 - sample turbidity
010 - sample color
011 - insufficient volume for lower dilution
012 - sample viscosity
013 - other

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U Indicates compound was analyzed for, but not detected at or above the reporting limit.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

C This flag applies to pesticide results where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the associated blank, as well as in the sample.

E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

D This flag identifies all compounds identified in an analysis at the secondary dilution factor.

N Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.

P This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".

A This flag indicates that a TIC is a suspected aldol-condensation product.

1 Indicates coelution.

* Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U Indicates element was analyzed for, but not detected at or above the reporting limit.

J or B Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.

N Indicates spike sample recovery is not within the quality control limits.

K Indicates the post digestion spike recovery is not within the quality control limits.

S Indicates value determined by the Method of Standard Addition.

M Indicates duplicate injection results exceeded quality control limits.

W Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

E Indicates a value estimated or not reported due to the presence of interferences.

H Indicates analytical holding time exceedance. The value obtained should be considered an estimate.

* Indicates analysis is not within the quality control limits.

+ Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

Sample Data Package

Date: 04/11/2
Time: 16:42:04

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Re AN1246

Client ID Job No Sample Date	Lab ID	DUPA303 A03-2842 03/25/2003	A3284201	FLDBLK303 A03-2842 03/25/2003	A3284202	MW-6 A03-2842 03/25/2003	A3284203	Spring #1 A03-2842 03/25/2003	A3284204
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chloroethane	UG/L	ND	2.0	ND	2.0	ND	2.0	ND	2.0
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
IS/SURROGATE(S)									
Chlorobenzene-D5	%	77	50-200	77	50-200	78	50-200	79	50-200
1,4-Difluorobenzene	%	94	50-200	94	50-200	95	50-200	90	50-200
1,4-Dichlorobenzene-D4	%	64	50-200	65	50-200	65	50-200	67	50-200
Toluene-D8	%	103	73-119	102	73-119	102	73-119	98	73-119
p-Bromofluorobenzene	%	91	70-116	90	70-116	89	70-116	89	70-116
1,2-Dichloroethane-D4	%	81	72-138	82	72-138	80	72-138	84	72-138

Client ID Job No Sample Date	Lab ID	Spring #2 A03-2842 03/25/2003	A3284205	Spring #3 A03-2842 03/25/2003	A3284206	Spring #5 A03-2842 03/25/2003	A3284207		
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	4.0	ND	1.0	NA	
Chlorobenzene	UG/L	ND	1.0	ND	3.9	ND	1.0	NA	
Chloroethane	UG/L	ND	2.0	ND	4.5	ND	2.0	NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	2.8	ND	1.0	NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	76	50-200	80	50-200	83	50-200	NA	
1,4-Difluorobenzene	%	91	50-200	91	50-200	94	50-200	NA	
1,4-Dichlorobenzene-D4	%	64	50-200	64	50-200	68	50-200	NA	
Toluene-D8	%	102	73-119	101	73-119	97	73-119	NA	
p-Bromofluorobenzene	%	89	70-116	86	70-116	88	70-116	NA	
1,2-Dichloroethane-D4	%	82	72-138	84	72-138	83	72-138	NA	

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NA = Not Applicable ND = Not Detected

STL Buffalo

16

Date: 04/1[illegible]
Time: 16:42:1[illegible]

Red Penn [illegible]ndfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID Job No Sample Date	Lab ID	DUPA303 A03-2842 03/25/2003	A3284201	FLDBLK303 A03-2842 03/25/2003	A3284202	MW-6 A03-2842 03/25/2003	A3284203	Spring #1 A03-2842 03/25/2003	A3284204
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1221	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1232	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1242	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1248	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1254	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1260	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
SURROGATE(S)									
Tetrachloro-m-xylene	%	76	36-132	84	36-132	58	36-132	88	36-132
Decachlorobiphenyl	%	34	28-132	20 *	28-132	20 *	28-132	80	28-132

Client ID Job No Sample Date	Lab ID	Spring #2 A03-2842 03/25/2003	A3284205	Spring #3 A03-2842 03/25/2003	A3284206	Spring #5 A03-2842 03/25/2003	A3284207		
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1221	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1232	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1242	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1248	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1254	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1260	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	85	36-132	70	36-132	82	36-132	NA	
Decachlorobiphenyl	%	60	28-132	34	28-132	78	28-132	NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 04/11,
Time: 16:42:1

Red Penn dfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID Job No Sample Date	Lab ID	DUPA303 A03-2842 03/25/2003	A3284201	FLDBLK303 A03-2842 03/25/2003	A3284202	MW-6 A03-2842 03/25/2003	A3284203	Spring #1 A03-2842 03/25/2003	A3284204
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Arsenic, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Barium, Dissolved	UG/L	69.0	5.0	ND	5.0	68.6	5.0	39.2	5.0
Cadmium, Dissolved	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chromium, Dissolved	UG/L	ND	3.0	ND	3.0	ND	3.0	ND	3.0
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Nickel, Dissolved	UG/L	5.5	5.0	ND	5.0	6.1	5.0	ND	5.0

Client ID Job No Sample Date	Lab ID	Spring #2 A03-2842 03/25/2003	A3284205	Spring #3 A03-2842 03/25/2003	A3284206	Spring #5 A03-2842 03/25/2003	A3284207		
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	ND	10	NA	
Arsenic, Dissolved	UG/L	ND	10	11.7	10	ND	10	NA	
Barium, Dissolved	UG/L	80.7	5.0	138	5.0	77.5	5.0	NA	
Cadmium, Dissolved	UG/L	ND	1.0	ND	1.0	ND	1.0	NA	
Chromium, Dissolved	UG/L	ND	3.0	ND	3.0	ND	3.0	NA	
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Nickel, Dissolved	UG/L	ND	5.0	31.7	5.0	ND	5.0	NA	

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NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 04/11/2003
Time: 16:42:19

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Rev. AN1246

Client ID / Job No / Sample Date / Lab ID		DUPA303 A03-2842 03/25/2003 A3284201		FLDBLK303 A03-2842 03/25/2003 A3284202		MW-6 A03-2842 03/25/2003 A3284203		Spring #1 A03-2842 03/25/2003 A3284204	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010

Client ID / Job No / Sample Date / Lab ID		Spring #2 A03-2842 03/25/2003 A3284205		Spring #3 A03-2842 03/25/2003 A3284206		Spring #5 A03-2842 03/25/2003 A3284207			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	ND	0.010	NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

19

Date: 04/11/2003
Time: 16:42:24

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

R... AN1246

Client ID / Job No / Sample Date	Lab ID	VBLK03 / A03-2842	A3284209						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	81	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	95	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	68	50-200	NA		NA		NA	
Toluene-D8	%	99	73-119	NA		NA		NA	
p-Bromofluorobenzene	%	89	70-116	NA		NA		NA	
1,2-Dichloroethane-D4	%	83	72-138	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

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Chronology and QC Summary Package

Date: 04/11/2003
Time: 16:42:24

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID Job No Sample Date	Lab ID	TRIP BLANK A03-2842 03/25/2003	A3284208						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	78	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	93	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	66	50-200	NA		NA		NA	
Toluene-D8	%	102	73-119	NA		NA		NA	
p-Bromofluorobenzene	%	88	70-116	NA		NA		NA	
1,2-Dichloroethane-D4	%	84	72-138	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

22

Date: 04/11/2000
Time: 16:42:31

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Report AN1246

Client ID Job No Sample Date	Lab ID	Method Blank A03-2842	A3B0340402						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	NA		NA		NA	
PCB 1221	UG/L	ND	0.50	NA		NA		NA	
PCB 1232	UG/L	ND	0.50	NA		NA		NA	
PCB 1242	UG/L	ND	0.50	NA		NA		NA	
PCB 1248	UG/L	ND	0.50	NA		NA		NA	
PCB 1254	UG/L	ND	0.50	NA		NA		NA	
PCB 1260	UG/L	ND	0.50	NA		NA		NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	84	36-132	NA		NA		NA	
Decachlorobiphenyl	%	72	28-132	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

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16/36

Date: 04/11/2003
Time: 16:42:35

Red Penn [illegible]fill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

R[illegible] AN1246

Client ID Job No Sample Date	Lab ID	Method Blank A03-2842 03/25/2003	A3284212						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	NA		NA		NA	
Arsenic, Dissolved	UG/L	ND	10	NA		NA		NA	
Barium, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Cadmium, Dissolved	UG/L	ND	1.0	NA		NA		NA	
Chromium, Dissolved	UG/L	ND	3.0	NA		NA		NA	
Lead, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Nickel, Dissolved	UG/L	ND	5.0	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

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17/36

Date: 04/11/2..
Time: 16:42:38

Red Penn L..fill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Re, . AN1246

Client ID Job No Sample Date	Lab ID	Method Blank A03-2842	A3B0367902						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

Client Sample ID: VBLK03 MSB03
Lab Sample ID: A3284209 A3284210

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL -8260 - SELECT VOLATIL					
Benzene	UG/L	9.86	10.0	99	69-126
Chlorobenzene	UG/L	9.49	10.0	95	72-117

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Date : 04/11/2003 16:42:48

SAMPLE DATE 03/25/2003

...pt: AND364

Client Sample ID: MW-6 | MW-6 | MW-6
Lab Sample ID: A3284203 | A3284203MS | A3284203SD

Analyte	Units of Measure	Concentration Sample	Concentration Matrix Spike	Concentration Spike Duplicate	Spike Amount MS	Spike Amount MSD	% Recovery MS	% Recovery MSD	% Recovery Avg	% RPD	QC LIMITS RPD	QC LIMITS REC.
RED PENN LANDFILL 8082 - POLYCHLORINATED												
PCB 1260	UG/L	0	3.57	3.80	9.61	9.61	37 *	40 *	39	8	30.0	50-122
PCB 1016	UG/L	0	7.13	7.33	9.61	9.61	74	76	75	3	30.0	29-123

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

STL Buffalo

Date : 04/11/03 16:42:48

Rept: AN0364

Client Sample ID: Method Blank
Lab Sample ID: A3B0340402

Matrix Spike Blank
A3B0340401

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL 8082 - POLYCHLORINATED					
PCB 1260	UG/L	4.63	5.00	93	50-122
PCB 1016	UG/L	4.64	5.00	93	29-123

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

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STL Buffalo

Client Sample ID: Method Blank LFB
Lab Sample ID: A3284212 A3284211

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)					
SOLUBLE ANTIMONY	UG/L	195.4	200	97	80-120
SOLUBLE ARSENIC	UG/L	200.6	200	100	80-120
SOLUBLE BARIUM	UG/L	201.4	200	100	80-120
SOLUBLE CADMIUM	UG/L	199.0	200	99	80-120
SOLUBLE CHROMIUM	UG/L	202.4	200	101	80-120
SOLUBLE LEAD	UG/L	200.5	200	100	80-120
SOLUBLE NICKEL	UG/L	203.6	200	101	80-120

*/ Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

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Client Sample ID: Method Blank LCS
Lab Sample ID: A3B0367902 A3B0367901

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
WET CHEMISTRY ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0.393	0.40	98	90-110

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

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RED PENN LANDFILL -B260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	DUPA303 A03-2842 A3284201	FLDBLK303 A03-2842 A3284202	MW-6 A03-2842 A3284203	Spring #1 A03-2842 A3284204	Spring #2 A03-2842 A3284205
Sample Date	03/25/2003	03/25/2003 17:45	03/25/2003 12:45	03/25/2003 13:50	03/25/2003 17:15
Received Date	03/27/2003 09:30	03/27/2003 09:30	03/27/2003 09:30	03/27/2003 09:30	03/27/2003 09:30
Extraction Date					
Analysis Date	04/03/2003 02:12	04/03/2003 01:41	04/03/2003 01:11	04/03/2003 00:40	04/03/2003 00:09
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS
% Dry					

NA = Not Applicable

3/

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	Spring #3 A03-2842 A3284206	Spring #5 A03-2842 A3284207			
Sample Date	03/25/2003 15:42	03/25/2003 14:35			
Received Date	03/27/2003 09:30	03/27/2003 09:30			
Extraction Date					
Analysis Date	04/02/2003 23:39	04/02/2003 23:08			
Extraction HT Met?	-	-			
Analytical HT Met?	YES	YES			
Sample Matrix	GW	GW			
Dilution Factor	10.0	1.0			
Sample wt/vol	0.025 LITERS	0.025 LITERS			
% Dry					

NA = Not Applicable

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QC SAMPLE CHRONOLOGY

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	TRIP BLANK A03-2842 A3284208				
Sample Date	03/25/2003				
Received Date	03/27/2003 09:30				
Extraction Date					
Analysis Date	04/02/2003 22:37				
Extraction HT Met?	-				
Analytical HT Met?	YES				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

NA = Not Applicable

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	VBLK03 A03-2842 A3284209				
Sample Date					
Received Date					
Extraction Date					
Analysis Date	04/02/2003 22:07				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

NA = Not Applicable

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SAMPLE CHRONOLOGY

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	DUPA303 A03-2842 A3284201	FLDBLK303 A03-2842 A3284202	MW-6 A03-2842 A3284203	Spring #1 A03-2842 A3284204	Spring #2 A03-2842 A3284205
Sample Date	03/25/2003	03/25/2003 17:45	03/25/2003 12:45	03/25/2003 13:50	03/25/2003 17:15
Received Date	03/27/2003 09:30	03/27/2003 09:30	03/27/2003 09:30	03/27/2003 09:30	03/27/2003 09:30
Extraction Date	03/31/2003 16:00	03/31/2003 16:00	03/31/2003 16:00	03/31/2003 16:00	03/31/2003 16:00
Analysis Date	04/01/2003 13:14	04/01/2003 13:40	04/01/2003 14:05	04/01/2003 15:21	04/01/2003 15:46
Extraction HT Met?	YES	YES	YES	YES	YES
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	0.99 LITERS	0.96 LITERS	1.0 LITERS	1.05 LITERS	1.05 LITERS
% Dry					

NA = Not Applicable

35

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Spring #3 A03-2842 A3284206	Spring #5 A03-2842 A3284207			
Sample Date	03/25/2003 15:42	03/25/2003 14:35			
Received Date	03/27/2003 09:30	03/27/2003 09:30			
Extraction Date	03/31/2003 16:00	03/31/2003 16:00			
Analysis Date	04/01/2003 16:12	04/01/2003 16:37			
Extraction HT Met?	YES	YES			
Analytical HT Met?	YES	YES			
Sample Matrix	GW	GW			
Dilution Factor	1.0	1.0			
Sample wt/vol	1.04 LITERS	1.04 LITERS			
% Dry					

NA = Not Applicable

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RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Method Blank A03-2842 A3B0340402				
Sample Date					
Received Date					
Extraction Date	03/31/2003 16:00				
Analysis Date	04/01/2003 11:59				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	1.0 LITERS				
% Dry					

NA = Not Applicable

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Date: 04/11/2003 16:43
Job No: A03-2842

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample Wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A3284201	DUPA303	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	03/25/03	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	03/25/03	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	03/25/03	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	03/25/03	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	03/25/03	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	03/25/03	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	03/25/03	03/27 09:30	NA		03/31	BKL	Y	GW
A3284202	FLDBLK303	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	03/25/03 17:45	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	03/25/03 17:45	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	03/25/03 17:45	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	03/25/03 17:45	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	03/25/03 17:45	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	03/25/03 17:45	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	03/25/03 17:45	03/27 09:30	NA		03/31	BKL	Y	GW
A3284203	MW-6	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	03/25/03 12:45	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	03/25/03 12:45	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	03/25/03 12:45	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	03/25/03 12:45	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	03/25/03 12:45	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	03/25/03 12:45	03/27 09:30	NA		03/31	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	03/25/03 12:45	03/27 09:30	NA		03/31	BKL	Y	GW
A3284204	Spring #1	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	03/25/03 13:50	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	03/25/03 13:50	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	03/25/03 13:50	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	03/25/03 13:50	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	03/25/03 13:50	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	03/25/03 13:50	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	03/25/03 13:50	03/27 09:30	NA		04/01	BKL	Y	GW
A3284205	Spring #2	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	03/25/03 17:15	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	03/25/03 17:15	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	03/25/03 17:15	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	03/25/03 17:15	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	03/25/03 17:15	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	03/25/03 17:15	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	03/25/03 17:15	03/27 09:30	NA		04/01	BKL	Y	GW
A3284206	Spring #3	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	03/25/03 15:42	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	03/25/03 15:42	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	03/25/03 15:42	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	03/25/03 15:42	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	03/25/03 15:42	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	03/25/03 15:42	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	03/25/03 15:42	03/27 09:30	NA		04/01	BKL	Y	GW
A3284207	Spring #5	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	03/25/03 14:35	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	03/25/03 14:35	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	03/25/03 14:35	03/27 09:30	NA		04/03	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	03/25/03 14:35	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	03/25/03 14:35	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	03/25/03 14:35	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	03/25/03 14:35	03/27 09:30	NA		04/01	BKL	Y	GW

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STL Buffalo

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

Date: 04/11/2003 16:43
Job No: A03-2842

QUARTERLY WELLS & SPRINGS
QC CHRONOLOGY

Rept: AN1250
Page: 3

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A3284212	Method Blank	RECNY	Antimony, Dissolved	6010	1.0	0.1	L	03/25/03	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.1	L	03/25/03	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.1	L	03/25/03	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.1	L	03/25/03	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.1	L	03/25/03	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.1	L	03/25/03	03/27 09:30	NA		04/01	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.1	L	03/25/03	03/27 09:30	NA		04/01	BKL	Y	GW

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffalo

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Date: 04/11/2003 16:43
Job No: A03-2842

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Rept: AN1250
Page: 1

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A3284201	DUPA303	RECNY	Cyanide, Total	9012A	1.0		03/25/03	03/27 09:30	NA		04/07	JMS	Y	GW
A3284202	FLDBLK303	RECNY	Cyanide, Total	9012A	1.0		03/25/03 17:45	03/27 09:30	NA		04/07	JMS	Y	GW
A3284203	MW-6	RECNY	Cyanide, Total	9012A	1.0		03/25/03 12:45	03/27 09:30	NA		04/07	JMS	Y	GW
A3284204	Spring #1	RECNY	Cyanide, Total	9012A	1.0		03/25/03 13:50	03/27 09:30	NA		04/07	JMS	Y	GW
A3284205	Spring #2	RECNY	Cyanide, Total	9012A	1.0		03/25/03 17:15	03/27 09:30	NA		04/07	JMS	Y	GW
A3284206	Spring #3	RECNY	Cyanide, Total	9012A	1.0		03/25/03 15:42	03/27 09:30	NA		04/07	JMS	Y	GW
A3284207	Spring #5	RECNY	Cyanide, Total	9012A	1.0		03/25/03 14:35	03/27 09:30	NA		04/07	JMS	Y	GW

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffalo

Date: 04/11/2003 16:43
Job No: A03-2842

QUARTERLY WELLS & SPRINGS
QC CHRONOLOGY

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A3B0367902	Method Blank	RECNY	Cyanide, Total	9012A	1.0		-	-	NA		04/07	JMS	Y	WATER

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffalo

Chain of Custody

Chain of Custody Record

SEVERN TRENT SERVICES **Severn Trent Laboratories, Inc.**

STL-4124 (0901)

Client: RMT, Inc	Project Manager: Mike Amstadt	Date: 3/25/03	Chain of Custody Number: 114065
Address: PO Box 8923	Telephone Number (Area Code)/Fax Number: (608) 831-4444 / (608) 831-3334	Lab Number	Page 1 of 1
City: Madison; State: WI; Zip Code: 53708	Site Contact	Lab Contact	
Project Name and Location (State): Red Penn Landfill, Louisville, KY	Carrier/Waybill Number: FedEx 8400-4371-5125 / 8400-4371-5114		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres	H2SO4	HNO3	HCl	NaOH	Zn/Ac/NaOH	Analysis (Attach list if more space is needed): Soluble Metals	Select VOCs	PCBs	Total Cyanide	Special Instructions/ Conditions of Receipt
MW-6	3/25/03	1245		X			2		1	3	1		X	X	X	X	
Spring #1	3/25/03	1350		X			2		1	3	1		X	X	X	X	
Spring #5	3/25/03	1435		X			2		1	3	1		X	X	X	X	
Spring #3	3/25/03	1542		X			2		1	3	1		X	X	X	X	
Spring #2	3/25/03	1715		X			2		1	3	1		X	X	X	X	
FLDBLK303	3/25/03	1745		X			2		1	3	1		X	X	X	X	
DUPA303	—	—		X			2		1	3	1		X	X	X	X	
Trip Blank	—	—		X						2				X			

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other ____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: William L. Ditto	3/26/03	1500	1. Received By: [signature] STL	03/27/03	0730
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments: 202.0°C

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

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Laboratory Results for October 2003

SEVERN TRENT STL

STL Buffalo
10 Hazelwood Drive, Suite 106
Amherst, NY 14228

Tel: 716 691 2600 Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A03-A518

STL Project#: NY2A8892
Site Name: Red Penn Landfill
Task: Quarterly Wells & Springs

Mike Amstadt
RMT, Inc.
744 Heartland Trail
Madison, WI 53717

CC: Cheryl Shaw

STL Buffalo

Amy Lynn Haag
Project Manager

11/14/2003

STL Buffalo
Current Certifications

STATE	Program	Cert # / Lab ID
A2LA (ISO 17025)	SDWA, CWA, RCRA	0732-01
Arizona	SDWA, CWA, RCRA	AZ0525
Arkansas	SDWA, CWA, RCRA, SOIL	03-054-D/88-0686
California	NELAP SDWA, CWA, RCRA	01169CA
Canada	GENERAL	SCC 1007-15/10B
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida	NELAP RCRA	E87672
Georgia	SDWA	956
Illinois	NELAP SDWA, CWA, RCRA	200003
Kansas	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	CWA, RCRA	036-999-337
New Hampshire	NELAP SDWA, CWA	233701
New Jersey	SDWA, CWA, RCRA, CLP	NY455
New York	NELAP, AIR, SDWA, CWA, RCRA	10026
North Carolina	CWA	411
North Dakota	SDWA, CWA, RCRA	R-176
Oklahoma	CWA, RCRA	9421
Oregon	NELAP,SDWA, CWA, RCRA	NY200001
Pennsylvania	NELAP, SDWA, CWA, Env. Lab Reg.	68-281
South Carolina	RCRA	91013
Tennessee	SDWA	2970
USDA	FOREIGN SOIL PERMIT	S-4650
Virginia	SDWA	278
Washington	CWA	C254
West Virginia	CWA	252
Wisconsin	CWA	998310390
Wyoming UST	UST	NA

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A3A51801	DUPA1003	10/29/2003		10/30/2003	09:45
A3A51802	FLDBLK1003	10/29/2003	14:15	10/30/2003	09:45
A3A51803	MW-6	10/29/2003	10:00	10/30/2003	09:45
A3A51804	Spring #1	10/29/2003	10:52	10/30/2003	09:45
A3A51805	Spring #3	10/29/2003	13:30	10/30/2003	09:45
A3A51806	Spring #5	10/29/2003	12:40	10/30/2003	09:45
A3A51807	TRIP BLANK	10/29/2003		10/30/2003	09:45

METHODS SUMMARY

Job#: A03-A518

STL Project#: NY2A8892
Site Name: Red Penn Landfill

PARAMETER	ANALYTICAL METHOD
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS	SW8463 8260
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS	SW8463 8082
Antimony - Soluble	SW8463 6010
Arsenic - Soluble	SW8463 6010
Barium - Soluble	SW8463 6010
Cadmium - Soluble	SW8463 6010
Chromium - Soluble	SW8463 6010
Lead - Soluble	SW8463 6010
Nickel - Soluble	SW8463 6010
Cyanide - Total	SW8463 9012A

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A03-A518

STL Project#: NY2A8892
Site Name: Red Penn Landfill

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A03-A518
Sample Cooler(s) were received at the following temperature(s); 2@2.2 °C
All samples were received in good condition.

GC/MS Volatile Data

No deviations from protocol were encountered during the analytical procedures.

GC Extractable Data

No deviations from protocol were encountered during the analytical procedures.

Metals Data

The analyte Antimony was detected in the Method Blank (A3B1246602) at a level above the project established reporting limit. All samples were non-detect for this analyte, therefore, no corrective action was necessary.

Wet Chemistry Data

No deviations from protocol were encountered during the analytical procedures.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Dilution Log w/Code Information
For Job A03-A518

Client Sample ID	Lab Sample ID	Parameter (Inorganic)/Method (Organic)	Dilution	Code
Spring #3	A3A51805	8260	10.00	003

Dilution Code Definition:

002 - sample matrix effects
003 - excessive foaming
004 - high levels of non-target compounds
005 - sample matrix resulted in method non-compliance for an Internal Standard
006 - sample matrix resulted in method non-compliance for Surrogate
007 - nature of the TCLP matrix
008 - high concentration of target analyte(s)
009 - sample turbidity
010 - sample color
011 - insufficient volume for lower dilution
012 - sample viscosity
013 - other

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected at or above the reporting limit.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected at or above the reporting limit.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

Sample Data Package

Date: 11/14/2003
Time: 13:35:14

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID / Job No / Sample Date / Lab ID		DUPA1003 A03-A518 10/29/2003	A3A51801	FLDBLK1003 A03-A518 10/29/2003	A3A51802	MW-6 A03-A518 10/29/2003	A3A51803	Spring #1 A03-A518 10/29/2003	A3A51804
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chloroethane	UG/L	ND	2.0	ND	2.0	ND	2.0	ND	2.0
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
IS/SURROGATE(S)									
Chlorobenzene-D5	%	98	50-200	92	50-200	94	50-200	96	50-200
1,4-Difluorobenzene	%	100	50-200	101	50-200	96	50-200	99	50-200
1,4-Dichlorobenzene-D4	%	92	50-200	84	50-200	92	50-200	92	50-200
Toluene-D8	%	98	76-116	104	76-116	99	76-116	98	76-116
p-Bromofluorobenzene	%	89	73-117	83	73-117	89	73-117	87	73-117
1,2-Dichloroethane-D4	%	91	72-143	80	72-143	93	72-143	88	72-143

Client ID / Job No / Sample Date / Lab ID		Spring #3 A03-A518 10/29/2003	A3A51805	Spring #5 A03-A518 10/29/2003	A3A51806				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	2.8	ND	1.0	NA		NA	
Chlorobenzene	UG/L	ND	2.1	ND	1.0	NA		NA	
Chloroethane	UG/L	ND	4.7	ND	2.0	NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	3.2	ND	1.0	NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	98	50-200	96	50-200	NA		NA	
1,4-Difluorobenzene	%	100	50-200	98	50-200	NA		NA	
1,4-Dichlorobenzene-D4	%	96	50-200	95	50-200	NA		NA	
Toluene-D8	%	99	76-116	99	76-116	NA		NA	
p-Bromofluorobenzene	%	89	73-117	90	73-117	NA		NA	
1,2-Dichloroethane-D4	%	88	72-143	89	72-143	NA		NA	

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NA = Not Applica[illegible] ND = Not Detected

STL Buffalo

Date: 11/14/20r
Time: 13:35:20

Red Penn 1fill
Quarterly We... & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

pt: AN1246

Client ID / Job No / Sample Date		DUPA1003 A03-A518 10/29/2003		FLDBLK1003 A03-A518 10/29/2003		MW-6 A03-A518 10/29/2003		Spring #1 A03-A518 10/29/2003	
Lab ID		A3A51801		A3A51802		A3A51803		A3A51804	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1221	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1232	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1242	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1248	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1254	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1260	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
==========SURROGATE(S)==========									
Tetrachloro-m-xylene	%	54	36-132	72	36-132	74	36-132	76	36-132
Decachlorobiphenyl	%	70	28-132	49	28-132	65	28-132	82	28-132

Client ID / Job No / Sample Date		Spring #3 A03-A518 10/29/2003		Spring #5 A03-A518 10/29/2003					
Lab ID		A3A51805		A3A51806					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1221	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1232	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1242	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1248	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1254	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1260	UG/L	ND	0.50	ND	0.50	NA		NA	
==========SURROGATE(S)==========									
Tetrachloro-m-xylene	%	68	36-132	84	36-132	NA		NA	
Decachlorobiphenyl	%	47	28-132	82	28-132	NA		NA	

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54

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 11/14/2003
Time: 13:35:24

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID / Job No / Sample Date	Lab ID	DUPA1003 / A03-A518 / 10/29/2003	A3A51801	FLDBLK1003 / A03-A518 / 10/29/2003	A3A51802	MW-6 / A03-A518 / 10/29/2003	A3A51803	Spring #1 / A03-A518 / 10/29/2003	A3A51804
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Arsenic, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Barium, Dissolved	UG/L	41.7	5.0	ND	5.0	97.7	5.0	42.1	5.0
Cadmium, Dissolved	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chromium, Dissolved	UG/L	ND	3.0	ND	3.0	ND	3.0	ND	3.0
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Nickel, Dissolved	UG/L	ND	5.0	ND	5.0	5.3	5.0	ND	5.0

Client ID / Job No / Sample Date	Lab ID	Spring #3 / A03-A518 / 10/29/2003	A3A51805	Spring #5 / A03-A518 / 10/29/2003	A3A51806				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	NA		NA	
Arsenic, Dissolved	UG/L	ND	10	ND	10	NA		NA	
Barium, Dissolved	UG/L	364	5.0	74.3	5.0	NA		NA	
Cadmium, Dissolved	UG/L	ND	1.0	ND	1.0	NA		NA	
Chromium, Dissolved	UG/L	5.3	3.0	ND	3.0	NA		NA	
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	NA		NA	
Nickel, Dissolved	UG/L	41.0	5.0	ND	5.0	NA		NA	

11\37

NA = Not Applicable ND = Not Detected

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STL Buffalo

Date: 11/14/20[illegible]
Time: 13:35:26

Red Penn [illegible]fill
Quarterly We[illegible] & Springs
WET CHEMISTRY ANALYSIS

[illegible]pt: AN1246

Client ID Job No Sample Date	Lab ID	DUPA1003 A03-A518 10/29/2003	A3A51801	FLDBLK1003 A03-A518 10/29/2003	A3A51802	MW-6 A03-A518 10/29/2003	A3A51803	Spring #1 A03-A518 10/29/2003	A3A51804
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010

Client ID Job No Sample Date	Lab ID	Spring #3 A03-A518 10/29/2003	A3A51805	Spring #5 A03-A518 10/29/2003	A3A51806				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	0.011	0.010	ND	0.010	NA		NA	

12\37

NA = Not Applicable ND = Not Detected

STL Buffalo

Chronology and QC Summary Package

Date: 11/14/20(
Time: 13:35:30

Red Penn 'fill
Quarterly We & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

pt: AN1246

Client ID Job No Lab ID Sample Date		VBLK44 A03-A518 A3A51808							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
==========IS/SURROGATE(S)==========									
Chlorobenzene-D5	%	93	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	86	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	97	50-200	NA		NA		NA	
Toluene-D8	%	93	76-116	NA		NA		NA	
p-Bromofluorobenzene	%	94	73-117	NA		NA		NA	
1,2-Dichloroethane-D4	%	98	72-143	NA		NA		NA	

14\37

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 11/14/2003
Time: 13:35:30

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		TRIP BLANK							
Job No	Lab ID	A03-A518	A3A51807						
Sample Date		10/29/2003							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	88	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	85	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	91	50-200	NA		NA		NA	
Toluene-D8	%	97	76-116	NA		NA		NA	
p-Bromofluorobenzene	%	92	73-117	NA		NA		NA	
1,2-Dichloroethane-D4	%	94	72-143	NA		NA		NA	

15\37

NA = Not Applic ND = Not Detected

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STL Buffalo

Date: 11/14/200
Time: 13:35:37

Red Penn fill
Quarterly Wel & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

t: AN1246

Client ID Job No Sample Date	Lab ID	Method Blank A03-A518	A3B1254002						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	NA		NA		NA	
PCB 1221	UG/L	ND	0.50	NA		NA		NA	
PCB 1232	UG/L	ND	0.50	NA		NA		NA	
PCB 1242	UG/L	ND	0.50	NA		NA		NA	
PCB 1248	UG/L	ND	0.50	NA		NA		NA	
PCB 1254	UG/L	ND	0.50	NA		NA		NA	
PCB 1260	UG/L	ND	0.50	NA		NA		NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	70	36-132	NA		NA		NA	
Decachlorobiphenyl	%	58	28-132	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

1637

8

Date: 11/14/2003
Time: 13:35:40

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID / Job No / Sample Date	Lab ID	Method Blank A03-A518	A3B1246602						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	11.5	10	NA		NA		NA	
Arsenic, Dissolved	UG/L	ND	10	NA		NA		NA	
Barium, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Cadmium, Dissolved	UG/L	ND	1.0	NA		NA		NA	
Chromium, Dissolved	UG/L	ND	3.0	NA		NA		NA	
Lead, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Nickel, Dissolved	UG/L	ND	5.0	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

17\37

Date: 11/14/20C
Time: 13:35:43

Red Penn 'fill
Quarterly Wel & Springs
WET CHEMISTRY ANALYSIS

pt: AN1246

Client ID Job No Sample Date	Lab ID	Method Blank A03-A518	A3B1263602	Method Blank A03-A518	A3B1269502				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	NA		NA	

18\37

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NA = Not Applicable ND = Not Detected

STL Buffalo

Date : 11/14/2003 13:35:46

Rept: AN0364

Client Sample ID: VBLK44 MSB44
Lab Sample ID: A3A51808 A3A51809

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL -8260 - SELECT VOLATIL					
Benzene	UG/L	9.36	10.0	94	71-124
Chlorobenzene	UG/L	9.00	10.0	90	72-120

19\37

* Indicates Result is outside QC Limits,
NC = Not Calculated ND = Not Detected

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Date : 11/14/2C 3:35:54

Rept: AN0364

Client Sample ID: Method Blank
Lab Sample ID: A3B1254002

Matrix Spike Blank
A3B1254001

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL 8082 - POLYCHLORINATED					
PCB 1260	UG/L	3.61	5.00	72	50-122
PCB 1016	UG/L	4.14	5.00	83	29-123

20\37

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

STL Buffalo

Date : 11/14/2003 13:35:58

SAMPLE DATE 10/29/2003

Rept: AN0364

Client Sample ID: MW-6 | MW-6 | MW-6
Lab Sample ID: A3A51803 | A3A51803MS | A3A51803SD

Analyte	Units of Measure	Concentration			Spike Amount		% Recovery			%	QC LIMITS	
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg	RPD	RPD	REC.
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)												
SOLUBLE ANTIMONY	UG/L	2.80	205.6	213.8	200.0	200.0	101	106	104	5	20.0	80-120
SOLUBLE ARSENIC	UG/L	0	203.8	209.1	200.0	200.0	102	104	103	2	20.0	80-120
SOLUBLE BARIUM	UG/L	97.70	295.6	304.4	200.0	200.0	99	103	101	4	20.0	80-120
SOLUBLE CADMIUM	UG/L	0	200.6	209.3	200.0	200.0	100	105	103	5	20.0	80-120
SOLUBLE CHROMIUM	UG/L	0	208.1	207.1	200.0	200.0	104	104	104	0	20.0	80-120
SOLUBLE LEAD	UG/L	0	202.6	210.9	200.0	200.0	101	105	103	4	20.0	80-120
SOLUBLE NICKEL	UG/L	5.30	208.1	211.0	200.0	200.0	101	103	102	2	20.0	80-120

21\37

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

STL Buffalo

Date : 11/14/20 | 3:35:58

Rept: AN0364

Client Sample ID: Method Blank
Lab Sample ID: A3B1246602

LFB
A3B1246601

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)					
SOLUBLE ANTIMONY	UG/L	211.3	200.0	100	80-120
SOLUBLE ARSENIC	UG/L	211.8	200.0	106	80-120
SOLUBLE BARIUM	UG/L	206.9	200.0	103	80-120
SOLUBLE CADMIUM	UG/L	210.6	200.0	105	80-120
SOLUBLE CHROMIUM	UG/L	207.9	200.0	104	80-120
SOLUBLE LEAD	UG/L	217.6	200.0	109	80-120
SOLUBLE NICKEL	UG/L	208.8	200.0	104	80-120

22\37

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

STL Buffalo

Date : 11/14/2003 13:36:01

Rept: AN0364

Client Sample ID: Method Blank LCS
Lab Sample ID: A3B1263602 A3B1263601

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
WET CHEMISTRY ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0.390	0.400	98	90-110

23\37

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

67

Date : 11/14/20 | 3:36:01 | Dept: AN0364

Client Sample ID: Method Blank
Lab Sample ID: A3B1269502

LCS
A3B1269501

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
WET CHEMISTRY ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0.395	0.400	99	90-110

24\37

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

STL Buffalo

Date: 11/14/2003
Time: 13:36:04

SAMPLE CHRONOLOGY

Rept: AN1248
Page: 1

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	DUPA1003 A03-A518 A3A51801	FLDBLK1003 A03-A518 A3A51802	MW-6 A03-A518 A3A51803	Spring #1 A03-A518 A3A51804	Spring #3 A03-A518 A3A51805
Sample Date	10/29/2003	10/29/2003 14:15	10/29/2003 10:00	10/29/2003 10:52	10/29/2003 13:30
Received Date	10/30/2003 09:45	10/30/2003 09:45	10/30/2003 09:45	10/30/2003 09:45	10/30/2003 09:45
Extraction Date					
Analysis Date	11/05/2003 16:17	11/05/2003 16:48	11/05/2003 17:19	11/05/2003 17:50	11/05/2003 18:21
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	WATER	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	10.0
Sample wt/vol	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS
% Dry					

25\37

NA = Not Applicable

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STL Buffalo

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	Spring #5 A03-A518 A3A51806				
Sample Date	10/29/2003 12:40				
Received Date	10/30/2003 09:45				
Extraction Date					
Analysis Date	11/05/2003 18:52				
Extraction HT Met?	-				
Analytical HT Met?	YES				
Sample Matrix	GW				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

26\37

NA = Not Applicable

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	TRIP BLANK A03-A518 A3A51807				
Sample Date	10/29/2003				
Received Date	10/30/2003 09:45				
Extraction Date					
Analysis Date	11/05/2003 11:37				
Extraction HT Met?	-				
Analytical HT Met?	YES				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

NA = Not Applicable

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	VBLK44 A03-A518 A3A51808				
Sample Date					
Received Date					
Extraction Date					
Analysis Date	11/05/2003 10:33				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

28\37

NA = Not Applicable

Date: 11/14/2003
Time: 13:36:11

SAMPLE CHRONOLOGY

Rept: AN1248
Page: 1

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	DUPA1003 A03-A518 A3A51801	FLDBLK1003 A03-A518 A3A51802	MW-6 A03-A518 A3A51803	Spring #1 A03-A518 A3A51804	Spring #3 A03-A518 A3A51805
Sample Date	10/29/2003	10/29/2003 14:15	10/29/2003 10:00	10/29/2003 10:52	10/29/2003 13:30
Received Date	10/30/2003 09:45	10/30/2003 09:45	10/30/2003 09:45	10/30/2003 09:45	10/30/2003 09:45
Extraction Date	11/03/2003 16:00	11/03/2003 16:00	11/03/2003 16:00	11/03/2003 16:00	11/03/2003 16:00
Analysis Date	11/04/2003 17:38	11/04/2003 17:51	11/04/2003 18:03	11/04/2003 18:16	11/04/2003 18:28
Extraction HT Met?	YES	YES	YES	YES	YES
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	WATER	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	1.0 LITERS	1.04 LITERS	1.045 LITERS	0.98 LITERS	0.9 LITERS
% Dry					

NA = Not Applicable

STL Buffalo

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Spring #5 A03-A518 A3A51806				
Sample Date	10/29/2003 12:40				
Received Date	10/30/2003 09:45				
Extraction Date	11/03/2003 16:00				
Analysis Date	11/04/2003 18:41				
Extraction HT Met?	YES				
Analytical HT Met?	YES				
Sample Matrix	GW				
Dilution Factor	1.0				
Sample wt/vol	0.92 LITERS				
% Dry					

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NA = Not Applicable

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Method Blank A03-A518 A3B1254002				
Sample Date					
Received Date					
Extraction Date	11/03/2003 16:00				
Analysis Date	11/04/2003 14:43				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	1.0 LITERS				
% Dry					

31\37

NA = Not Applicable

76

Date: 11/14/2 13:36
Job No: A03-A518

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Rept: AN1250
Page: 1

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A3A51801	DUPA1003	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	10/29/03	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	10/29/03	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	10/29/03	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	10/29/03	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	10/29/03	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	10/29/03	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	10/29/03	10/30 09:45	NA		11/03	BKL	Y	GW
A3A51802	FLDBLK1003	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	10/29/03 14:15	10/30 09:45	NA		11/03	BKL	Y	WATER
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	10/29/03 14:15	10/30 09:45	NA		11/03	BKL	Y	WATER
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	10/29/03 14:15	10/30 09:45	NA		11/03	BKL	Y	WATER
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	10/29/03 14:15	10/30 09:45	NA		11/03	BKL	Y	WATER
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	10/29/03 14:15	10/30 09:45	NA		11/03	BKL	Y	WATER
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	10/29/03 14:15	10/30 09:45	NA		11/03	BKL	Y	WATER
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	10/29/03 14:15	10/30 09:45	NA		11/03	BKL	Y	WATER
A3A51803	MW-6	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	10/29/03 10:00	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	10/29/03 10:00	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	10/29/03 10:00	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	10/29/03 10:00	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	10/29/03 10:00	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	10/29/03 10:00	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	10/29/03 10:00	10/30 09:45	NA		11/03	BKL	Y	GW
A3A51804	Spring #1	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	10/29/03 10:52	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	10/29/03 10:52	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	10/29/03 10:52	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	10/29/03 10:52	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	10/29/03 10:52	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	10/29/03 10:52	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	10/29/03 10:52	10/30 09:45	NA		11/03	BKL	Y	GW
A3A51805	Spring #3	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	10/29/03 13:30	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	10/29/03 13:30	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	10/29/03 13:30	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	10/29/03 13:30	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	10/29/03 13:30	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	10/29/03 13:30	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	10/29/03 13:30	10/30 09:45	NA		11/03	BKL	Y	GW
A3A51806	Spring #5	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	10/29/03 12:40	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	10/29/03 12:40	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	10/29/03 12:40	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	10/29/03 12:40	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	10/29/03 12:40	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	10/29/03 12:40	10/30 09:45	NA		11/03	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	10/29/03 12:40	10/30 09:45	NA		11/03	BKL	Y	GW

32\37

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffalo

Date: 11/14/2003 13:36
Job No: A03-A518

QUARTERLY WELLS & SPRINGS
QC CHRONOLOGY

Rept: AN1250
Page: 2

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A3B1246602	Method Blank	RECNY	Antimony, Dissolved	6010	1.0	0.05 L	-	-	NA		11/03	BKL	Y	WATER
		RECNY	Arsenic, Dissolved	6010	1.0	0.05 L	-	-	NA		11/03	BKL	Y	WATER
		RECNY	Barium, Dissolved	6010	1.0	0.05 L	-	-	NA		11/03	BKL	Y	WATER
		RECNY	Cadmium, Dissolved	6010	1.0	0.05 L	-	-	NA		11/03	BKL	Y	WATER
		RECNY	Chromium, Dissolved	6010	1.0	0.05 L	-	-	NA		11/03	BKL	Y	WATER
		RECNY	Lead, Dissolved	6010	1.0	0.05 L	-	-	NA		11/03	BKL	Y	WATER
		RECNY	Nickel, Dissolved	6010	1.0	0.05 L	-	-	NA		11/03	BKL	Y	WATER

33\37

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applica

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffalo

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Date: 11/14/7 13:36
Job No: A03-A51

QUARTERLY W S & SPRINGS
SAMPLE CHRONOLOGY

Rept: AN1250
Page: 1

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A3A51801	DUPA1003	RECNY	Cyanide, Total	9012A	1.0		10/29/03	10/30 09:45	NA		11/04	JMS	Y	GW
A3A51802	FLDBLK1003	RECNY	Cyanide, Total	9012A	1.0		10/29/03 14:15	10/30 09:45	NA		11/06	JMS	Y	WATER
A3A51803	MW-6	RECNY	Cyanide, Total	9012A	1.0		10/29/03 10:00	10/30 09:45	NA		11/06	JMS	Y	GW
A3A51804	Spring #1	RECNY	Cyanide, Total	9012A	1.0		10/29/03 10:52	10/30 09:45	NA		11/06	JMS	Y	GW
A3A51805	Spring #3	RECNY	Cyanide, Total	9012A	1.0		10/29/03 13:30	10/30 09:45	NA		11/06	JMS	Y	GW
A3A51806	Spring #5	RECNY	Cyanide, Total	9012A	1.0		10/29/03 12:40	10/30 09:45	NA		11/06	JMS	Y	GW

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AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffalo

Date: 11/14/2003 13:36
Job No: A03-A518

QUARTERLY WELLS & SPRINGS
QC CHRONOLOGY

Rept: AN1250
Page: 2

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A3B1263602	Method Blank	RECNY	Cyanide, Total	9012A	1.0		-	-	NA		11/04	JMS	Y	WATER
A3B1269502	Method Blank	RECNY	Cyanide, Total	9012A	1.0		-	-	NA		11/06	JMS	Y	WATER

35\37

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applica

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffalo

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Chain of Custody

SEVERN TRENT **STL**

WASTE MANAGEMENT CHAIN OF CUSTODY

Internal Use Only

Sampler Name (Print): W. Lew Ditto
Signature: W Lew Ditto
Site Name: Red Penn Landfill
Spec Request: Send data to WI AC Mike Amstadt - RMT Madison,
Site Location: Louisville, KY
Event Name:

INDICATE PRESERVATIVE BY USING KEY BELOW (OPTIONAL)
INDICATE CONTAINER BY USING KEY BELOW

STL Sample No.	Client Sample ID	Sampling Date	Sampling Time	MATRIX	COMP / GRAB	8260VOA (HCl) Select VOCs	T-METALS	D-METALS (HNO_3) Select	CHLORIDE/SULFATE/NITRATE PH, TSS, TDS	ALK / CARB / BICARB	HARDNESS	NH_3 / COD	TOC	9012 Total Cyanide (NaOH)	8082 PCBs (None)					Additional Analysis/Remarks
	MW-6	10/29/03	1000	W	G	2		1						1	4					
	Spring #1	↓	1052	W	G	2		1						1	4					
	Spring #5	↓	1240	W	G	2		1						1	4					
	Spring #3	↓	1330	W	G	2		1						1	4					
	FLDBLK1003	↓	1415	W	G	2		1						1	4					
	DUPA1003	10/29/03	—	W	G	2		1						1	4					
	Trip Blanks			W	G	2														

ELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
W Lew Ditto	RMT	10/29/03	2115	FedEx Airbill # 8435 9527 2470			
				[signature]	STL-Buffalo	10/30/03	09:45

Matrix Key
W = Wastewater
= Water/Groundwater
= Solid
= Sludge
S = Miscellaneous Solids
= Oil
= Air
=

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

Preservation Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn Acetate, Cool to 4°
6. Cool to 4°
7. None

COMMENTS
2 @ 2.2°C

Courier:

Bill of Lading:

8/1/81

37\37

STL-8219 (1002)

January 17, 2005

Ms. Susan Mallette
Geologist
Kentucky Division of Waste Management
18 Reilly Road
Frankfort, KY 40601

Subject: Red Penn Landfill, Pewee Valley, Kentucky
Year 2004 Annual OM&M Report

Dear Susan:

This letter report presents the results for the fourth year (2004) of post-construction operation, maintenance, and monitoring (OM&M) activities at the Red Penn Landfill. The semiannual OM&M activities, which included groundwater sampling, leachate head monitoring, and site inspection, were performed in accordance with the Post-Construction Performance Standards Verification Plan (Section 3 of the Final Remedial Design [RMT, October 1999]); the Operation, Monitoring, and Maintenance Plan (Appendix G of the Final Remedial Design); and revisions to these plans approved by the Kentucky Department for Environmental Protection (KDEP) dated April 2, 2003 (refer to Attachment A). The KDEP was notified of the proposed OM&M activities 5 days prior to the activity, and they were present for a portion of each monitoring event.

Monitoring was conducted in April and October 2004, and consisted of the following activities:

- Sampling groundwater monitoring wells
- Sampling surface water springs
- Measuring the liquid levels in the leachate head wells

As discussed below, not all of the groundwater monitoring wells and surface water springs could be sampled during each monitoring event, because they were dry when the OM&M activities were conducted. The locations of the monitoring points are shown on Figure 1. Site inspections were also conducted in April and October 2004 (refer to Attachment B).

Groundwater and Spring Monitoring Results

The groundwater and spring samples were analyzed for VOCs, PCBs, metals, and total cyanide, as specified in the OM&M Plan. The laboratory reports and a database summary report, with data validation flags, are contained in Attachment C. The following groundwater monitoring wells and springs could not be sampled during the respective monitoring event, either because they were dry, or because the water did not recharge within a reasonable amount of time after being bailed dry (as the OM&M Plan requires the well to be purged).

Wells and Springs Not Sampled in 2004

April 2004	October 2004
■ MW-8002-8979	■ MW-8002-8975 ■ MW-8002-8979 ■ Spring #4 ■ Spring #5

No VOCs, PCBs, or total cyanide was detected in any of the water samples during 2004, with the exception of benzene in groundwater monitoring well MW-8002-8975 in April (0.67 µg/L) and cyanide at Spring #3 in October (0.012 mg/L). The benzene result of 0.67 µg/L was below the Estimated Quantitation Limit (EQL) of 1.0 µg/L, and was "J" flagged by the laboratory. The cyanide result of 0.012 mg/L was just above the EQL of 0.010 mg/L. This is the third time cyanide was detected in Spring #3 (November 2002 at 0.011 mg/L, and October 2003 at 0.11 mg/L). The results from the next monitoring event will be reviewed to assess if the benzene detection at groundwater monitoring well MW-8002-8975 is repeatable (this well is sampled annually) and to look for a potential trend for cyanide concentrations at Spring #3. The laboratory data summary reports, with data validation flags (as applicable), are contained in Attachment C.

The following metals were analyzed for during each sampling event: antimony, arsenic, barium, cadmium, chromium, lead, and nickel. The metals that were detected during the 2004 monitoring activities were as follows:

Metal	Minimum Concentration (µg/L)	Maximum Concentration (µg/L)	Frequency of Detection Above the EQL
Barium	38.9	443	10/10
Cadmium	<1.0	6.3	2/10
Chromium	< 3.0	4.4	1/10
Nickel	< 5.0	39.1	6/10

Figures 2 through 8 show the time trends for the following parameters: arsenic, barium, cadmium, chromium, lead, nickel, and total cyanide. On Figures 2 through 8, the parameters that were detected in the groundwater samples in 2004 show a stable to downward trend when compared with the results from 2001 through 2003, with the possible exception of barium at Spring #3. The results from the next monitoring event will be reviewed to assess the potential trend of barium concentrations at Spring #3. It should be noted that the concentration of barium has fluctuated over time since monitoring commenced in February 2001.

Leachate Head Levels

The pre- and post-construction leachate head data are presented in Table 1 and graphed on Figure 9. The final landfill cover was completed in the fall of 2000. The leachate head data indicate that the final cover continues to reduce surface water infiltration into the waste and has significantly reduced the leachate levels. Leachate head trends will be evaluated following the 5-year post-construction monitoring period, as required in the Final Remedial Design.

Site Inspections

Site inspection activities included inspecting the final landfill cover, and performing maintenance or repairs as necessary, for the following items:

- Surface water controls (*e.g.*, diversion berms and the spillway)
- Final cover (*e.g.*, vegetation, erosion, settlement, and burrowing animals)
- Groundwater and leachate monitoring wells
- Site access control

Site Improvements

In addition to the work required by the Operation, Monitoring, and Maintenance Plan, Waste Management, Inc., and the Ford Motor Company retained the services of Simply Natural, of Louisville Kentucky, to assist in the planting of native plant species in areas outside of the limits of the landfill cover. The purpose of these plantings was to prevent future erosion of areas off of the cover that had previously eroded and were subsequently repaired, and to provide additional wildlife habitat. The plantings consisted of native grasses and 14 different kinds of bushes and trees. Over 200 bushes and trees were planted in the two areas indicated on Figure 1. Attachment D contains Photographic documentation of the plantings.

A summary of the maintenance and repair activities performed during 2004 is included in Table 2. The semiannual site inspection reports are included in Attachment B. The maintenance items that were identified during the 2004 inspections have been addressed.

Please call me, at (608) 662-5271, if you have any questions regarding this report.

Sincerely,

RMT, Inc.

Michael J. Amstadt P.E.
Project Manager

Attachments: Tables
Figures
Attachment A: Correspondence
Attachment B: Site Inspection Reports
Attachment C: Laboratory Results and Database Summary Reports
Attachment D: Photographic Documentation of Plantings

cc: Jim Forney, Waste Management, Inc.
Jeff Hartland, Ford Motor Land Services Corporation
Linda Hicken, RMT, Inc.

Table 1
Red Penn Landfill
Pewee Valley, Kentucky
Leachate Head Measurements and Calculated Elevations

Date	Top of PVC Casing (ft. M.S.L.)	Depth of Leachate Below Top of PVC Casing (ft.)	Leachate Elevation (ft. M.S.L.)	Bottom of PVC Screen (ft. M.S.L.)[1]	Height of Leachate Above Bottom of PVC Screen (ft.)
LEACHATE HEAD WELL LH-1					
6-May-99	709.83	8.0	701.83	675.30	26.53
15-Sep-99	709.83	13.0	696.83	675.30	21.53
12-Aug-00	709.83	21.9	687.93	675.30	12.63
29-Aug-00	709.83	22.5	687.33	675.30	12.03
26-Sep-00	709.83	21.45	688.38	675.30	13.08
28-Feb-01	709.83	21.09	688.74	675.30	13.44
4-May-01	709.83	21.22	688.61	675.30	13.31
21-Aug-01	709.83	21.46	688.37	675.30	13.07
27-Nov-01	709.83	21.58	688.25	675.30	12.95
18-Feb-02	709.35	23.88	685.47	675.30	10.17
21-May-02	709.35	24.02	685.33	675.30	10.03
08-Aug-02	709.35	23.98	685.37	675.30	10.07
18-Nov-02	709.35	23.99	685.36	675.30	10.06
25-Mar-03	709.35	24.14	685.21	675.30	9.91
29-Oct-03	709.35	26.47	682.88	675.30	7.58
21-Apr-04	709.35	28.30	681.05	675.30	5.75
13-Oct-04	709.35	27.60	681.75	675.30	6.45

Notes:

(1) Bottom of PVC screen is approximately 1 foot above the base of the landfill.

(2) Leachate head well LH-3 was initially dry when the well was completed. The depth of leachate in LH-3 on May 6, 1999, was measured 24 hours after the completion of LH-3, in accordance with the Leachate Head Well Installation Workplan; however, the leachate level was still rising at the time of the measurement. Therefore, it is not believed that this was a representative leachate head level.

(3) The actual depth of leachate below the top of the PVC casing was recorded as 27.00 ft. The leachate head well depth is 26.91 ft; thus, it is assumed that water was present at the bottom of the well in the end cap and the measurement contained a small amount of error.

By: ECW
Checked by: NFB
Date: 12/04

Table 1 *(continued)*
Red Penn Landfill
Pewee Valley, Kentucky
Leachate Head Measurements and Calculated Elevations

Date	Top of PVC Casing (ft. M.S.L.)	Depth of Leachate Below Top of PVC Casing (ft.)	Leachate Elevation (ft. M.S.L.)	Bottom of PVC Screen (ft. M.S.L.)[1]	Height of Leachate Above Bottom of PVC Screen (ft.)
LEACHATE HEAD WELL LH-2					
6-May-99	687.72	6.0	681.72	636.27	45.45
15-Sep-99	687.72	14.0	673.72	636.27	37.45
12-Aug-00	687.72	10.2	677.52	636.27	41.25
29-Aug-00	687.72	11.0	676.72	636.27	40.45
26-Sep-00	687.72	10.2	677.52	636.27	41.25
28-Feb-01	687.72	17.44	670.28	636.27	34.01
4-May-01	687.72	20.87	666.85	636.27	30.58
21-Aug-01	687.72	20.61	667.11	636.27	30.84
27-Nov-01	687.72	20.43	667.29	636.27	31.02
18-Feb-02	687.72	21.57	666.15	636.27	29.88
21-May-02	687.72	21.71	666.01	636.27	29.74
08-Aug-02	687.39	22.52	664.87	636.27	28.60
18-Nov-02	687.39	23.98	663.41	636.27	27.14
25-Mar-03	687.39	22.9	664.49	636.27	28.22
29-Oct-03	687.39	22.65	664.74	636.27	28.47
21-Apr-04	687.39	22.60	664.79	636.27	28.52
13-Oct-04	687.39	22.00	665.39	636.27	29.12

Notes:

(1) Bottom of PVC screen is approximately 1 foot above the base of the landfill.

(2) Leachate head well LH-3 was initially dry when the well was completed. The depth of leachate in LH-3 on May 6, 1999, was measured 24 hours after the completion of LH-3, in accordance with the Leachate Head Well Installation Workplan; however, the leachate level was still rising at the time of the measurement. Therefore, it is not believed that this was a representative leachate head level.

(3) The actual depth of leachate below the top of the PVC casing was recorded as 27.00 ft. The leachate head well depth is 26.91 ft; thus, it is assumed that water was present at the bottom of the well in the end cap and the measurement contained a small amount of error.

By: ECW
Checked by: NFB
Date: 12/04

Table 1 (*continued*)
Red Penn Landfill
Pewee Valley, Kentucky
Leachate Head Measurements and Calculated Elevations

Date	Top of PVC Casing (ft. M.S.L.)	Depth of Leachate Below Top of PVC Casing (ft.)	Leachate Elevation (ft. M.S.L.)	Bottom of PVC Screen (ft. M.S.L.)[1]	Height of Leachate Above Bottom of PVC Screen (ft.)
LEACHATE HEAD WELL LH-3					
6-May-99	704.49	23.0[2]	681.49	677.58	3.91[2]
15-Sep-99	704.49	14.0	690.49	677.58	12.91
12-Aug-00	704.49	19.4	685.09	677.58	7.51
29-Aug-00	704.49	19.5	684.99	677.58	7.41
26-Sep-00	704.49	20.4	684.09	677.58	6.51
28-Feb-01	704.49	22.39	682.10	677.58	4.52
4-May-01	704.49	22.06	682.43	677.58	4.85
21-Aug-01	704.49	22.92	681.57	677.58	3.99
27-Nov-01	704.49	23.12	681.37	677.58	3.79
18-Feb-02	704.49	23.65	680.84	677.58	3.26
21-May-02	704.49	24.99	679.50	677.58	1.92
08-Aug-02	704.49	25.79	678.70	677.58	1.12
18-Nov-02	704.49	24.66	679.83	677.58	2.25
25-Mar-03	704.49	23.94	680.55	677.58	2.97
29-Oct-03	704.49	26.83	677.66	677.58	0.08
21-Apr-04	704.49	25.45	679.04	677.58	1.46
13-Oct-04	704.49	27.00[3]	677.49	677.58	-0.09[3]

Notes:

(1) Bottom of PVC screen is approximately 1 foot above the base of the landfill.

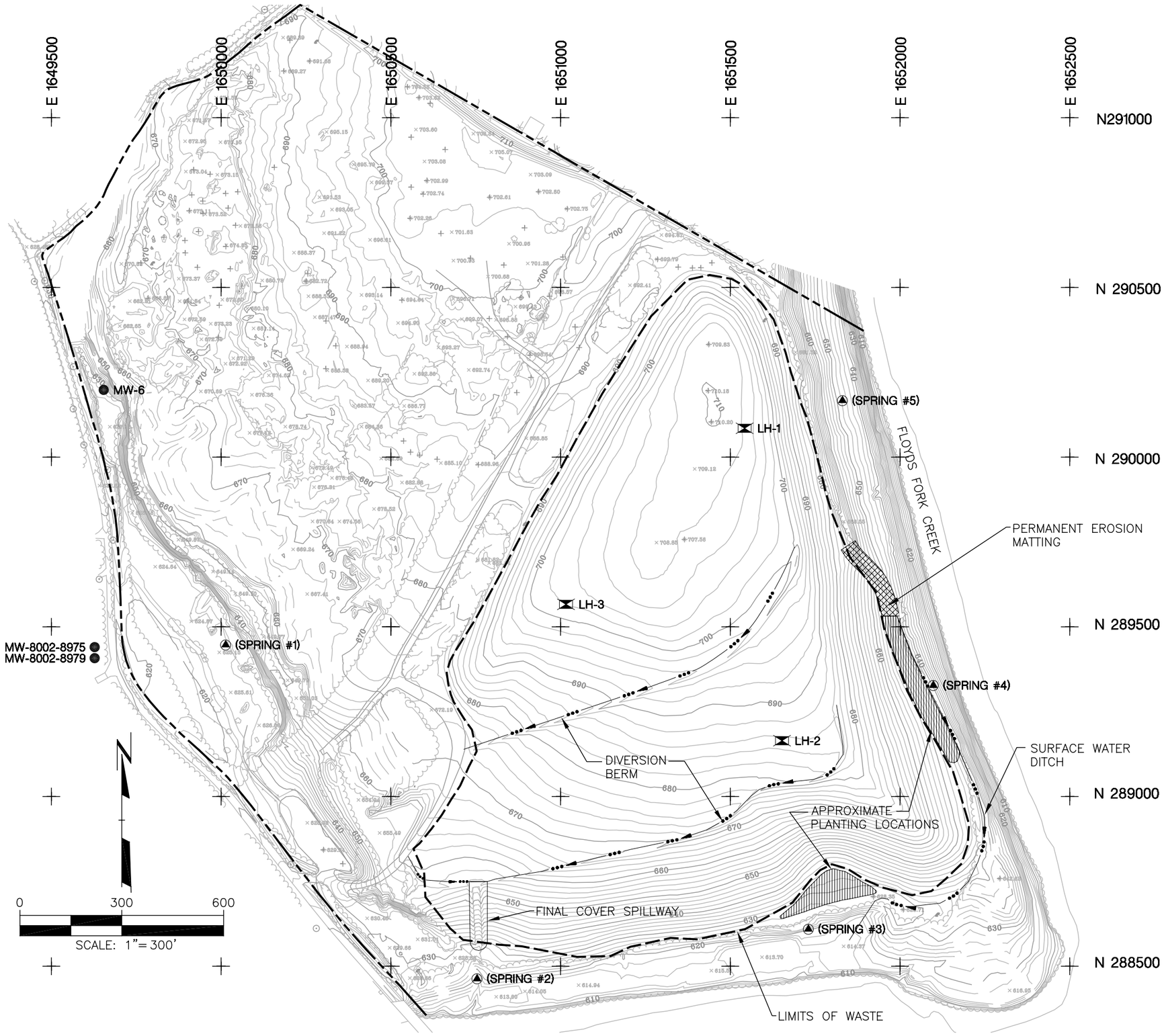
(2) Leachate head well LH-3 was initially dry when the well was completed. The depth of leachate in LH-3 on May 6, 1999, was measured 24 hours after the completion of LH-3, in accordance with the Leachate Head Well Installation Workplan; however, the leachate level was still rising at the time of the measurement. Therefore, it is not believed that this was a representative leachate head level.

(3) The actual depth of leachate below the top of the PVC casing was recorded as 27.00 ft. The leachate head well depth is 26.91 ft; thus, it is assumed that water was present at the bottom of the well in the end cap and the measurement contained a small amount of error.

By: ECW
Checked by: NFB
Date: 12/04

Table 2
Red Penn Landfill
Pewee Valley, Kentucky
Status of Maintenance Items

Item	Description of Maintenance Item	Date Identified	Date Repair/ Maintenance Completed	Scheduled Date for Repair
1	Erosion observed in the northeastern and northwestern slopes of the final cover.	4/21/04	5/19/04	
2	Some bare areas on northeastern and northwestern portions of the final cover require additional reseeding to re-establish vegetative cover.	4/21/04	5/19/04	
3	Area lacking vegetative cover east of upper diversion berm (an approximately 20' x 20' area).	11/18/03	5/19/04	
4	Locks replaced on LH-2 and LH-3.	4/21/04	4/21/04	
5	Erosion observed off of the final cover near Spring #4 was repaired using soil and small riprap and native grasses, bushes, and trees were installed to prevent erosion in the future.	4/21/04 and 10/13/04	5/19/04 and 12/20/04	
6	All well locks were corroded and therefore replaced.	10/13/04	10/13/04	



LEGEND

- APPROXIMATE PROPERTY LINE
- GRID TICK LOCATION
- EXISTING 10' CONTOUR INTERVAL
- EXISTING 2' CONTOUR INTERVAL
- EXISTING TREELINE
- EXISTING SPOT ELEVATION
- EXISTING BUILDING
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- SP-5 — APPROXIMATE GEOPROBE LOCATION AND NUMBER
- LH-1 — EXISTING LEACHATE HEAD WELL LOCATION AND NUMBER
- (SPRING #1) — APPROXIMATE SURFACE WATER SAMPLING LOCATION AND NUMBER
- MW-6 — APPROXIMATE MONITORING WELL LOCATION AND NUMBER

NOTES

1. BASE MAP WAS DEVELOPED FROM AN AERIAL SURVEY PERFORMED BY OAS INC., ON NOVEMBER 15, 2000.
2. CONTOUR INTERVAL IS TWO FEET.
3. VERTICAL DATUM IS REFERENCED TO USGS MEAN SEA LEVEL DATUM.
4. THE PROJECT GRID SYSTEM IS PARALLEL AND PERPENDICULAR TO THE KENTUCKY STATE PLANE COORDINATE GRID SYSTEM, NORTH AMERICAN DATUM OF 1927.
5. THE LOCATIONS OF THE LEACHATE HEAD WELLS WERE OBTAINED DURING A SURVEY PERFORMED BY WESTERMAN & ASSOCIATES, LOUISVILLE, KENTUCKY. DATE OF SURVEY: MAY 19, 1999.
6. THE LOCATIONS OF THE SPRINGS ARE APPROXIMATE AND ARE BASED ON FIELD OBSERVATIONS.
7. THE LOCATIONS OF MW–6, MW–8002–8975 AND MW–8002–8979 ARE APPROXIMATE AND ARE BASED ON A LOCATION MAP SUPPLIED BY THE KENTUCKY DIVISION OF WASTE MANAGEMENT.

PROJECT:
RED PENN LANDFILL
PEWEE VALLEY, KENTUCKY

SHEET TITLE:
ENVIRONMENTAL MONITORING LOCATIONS

DRAWN BY: NOLDENR	SCALE:	PROJ. NO. 4896.22
CHECKED BY: MJA	1"=300'	FILE NO. 48962201.DWG
APPROVED BY: MJA	DATE PRINTED:	**FIGURE 1**
DATE: JANUARY 2005		

RMT INC.
744 Heartland Trail
Madison, WI 53717–1934
P.O. Box 8923 53708–8923
Phone: 608–831–4444
Fax: 608–831–3334

Plot Date: Tuesday, June 8, 2004
Plot Time: 1:16.52 PM
Attached Xref's: JNKLOW; BM12–2000;
Attached Image's: No images attached

PLOT DATA
Drawing Name: J:\04896\22\48962201.dwg
Operator Name: noldenr
Scale: 1"=40'
Dwg Size: 130144 Bytes

Figure 2
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Arsenic
in Surface Water and Groundwater Samples

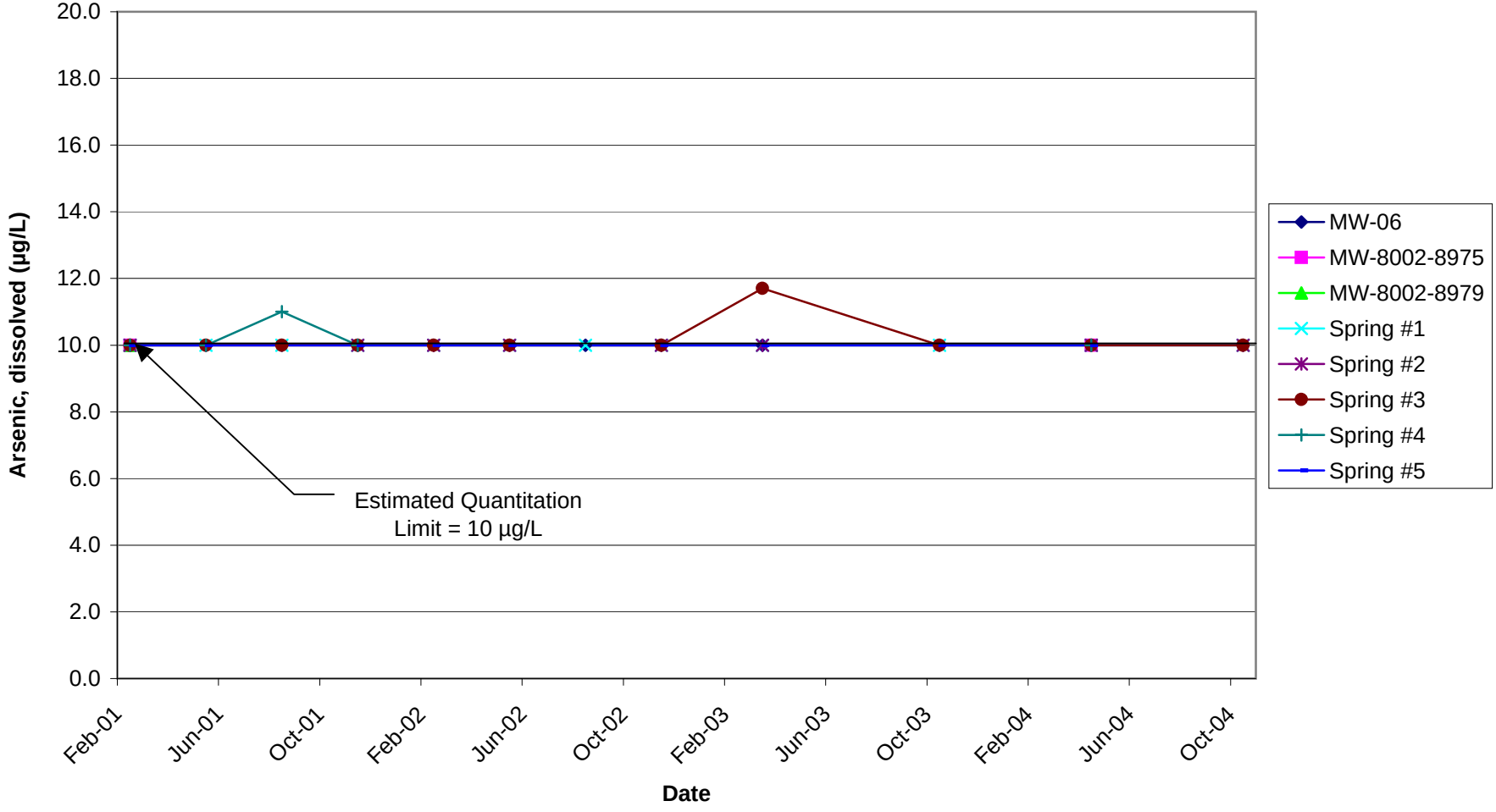


Figure 3
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Barium
in Surface Water and Groundwater Samples

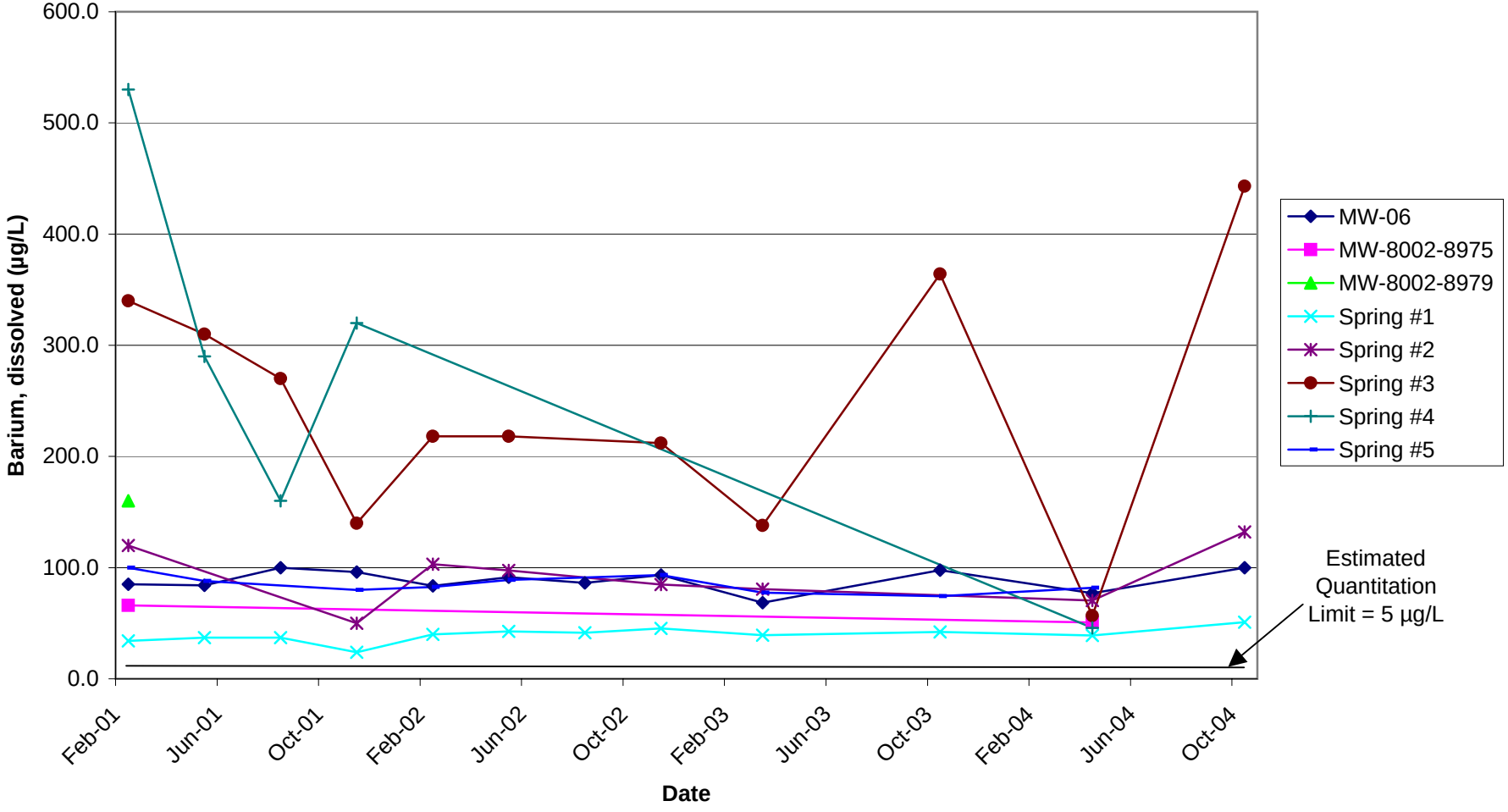


Figure 4
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Cadmium
in Surface Water and Groundwater Samples

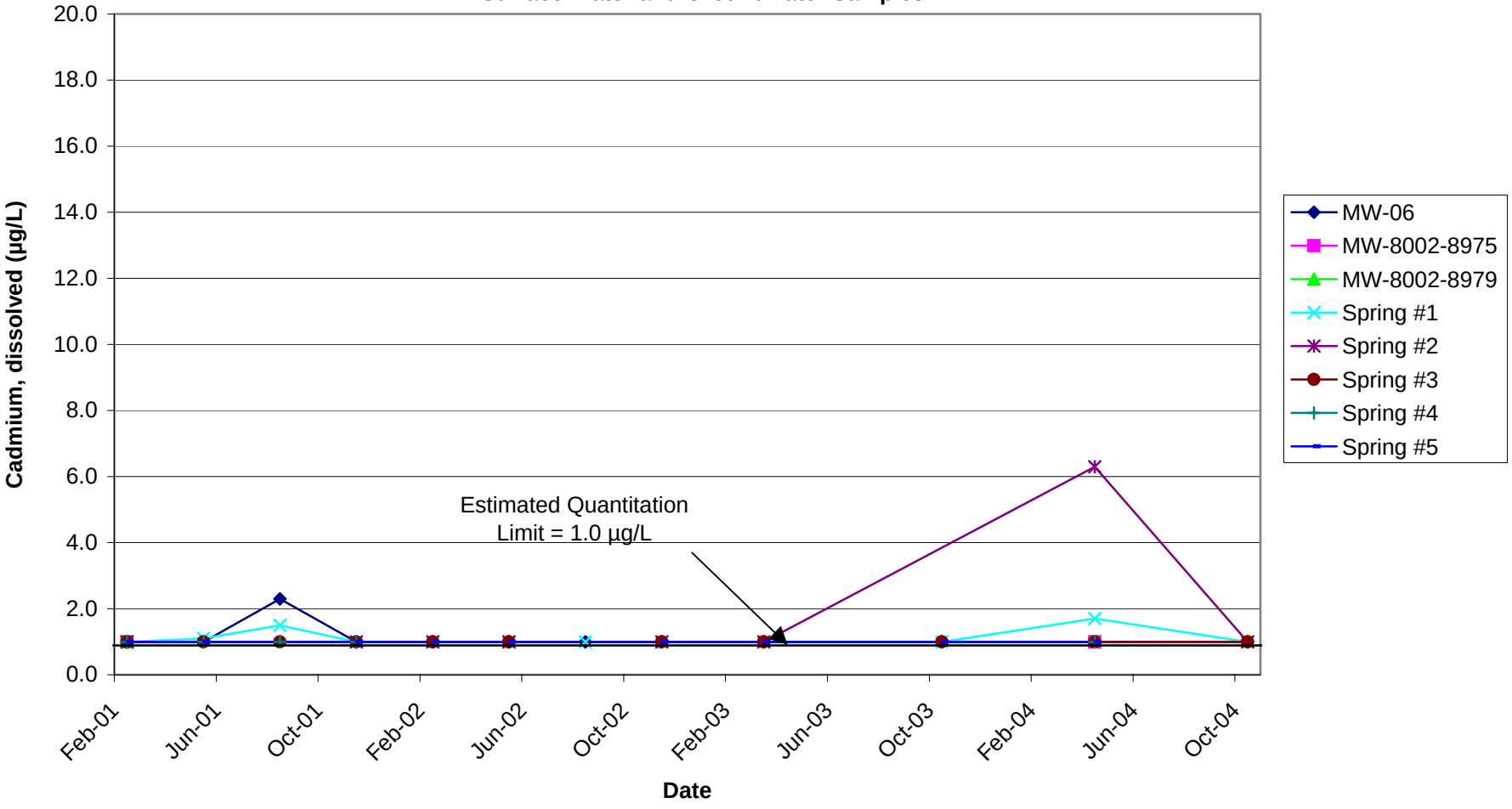


Figure 5
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Chromium
in Surface Water and Groundwater Samples

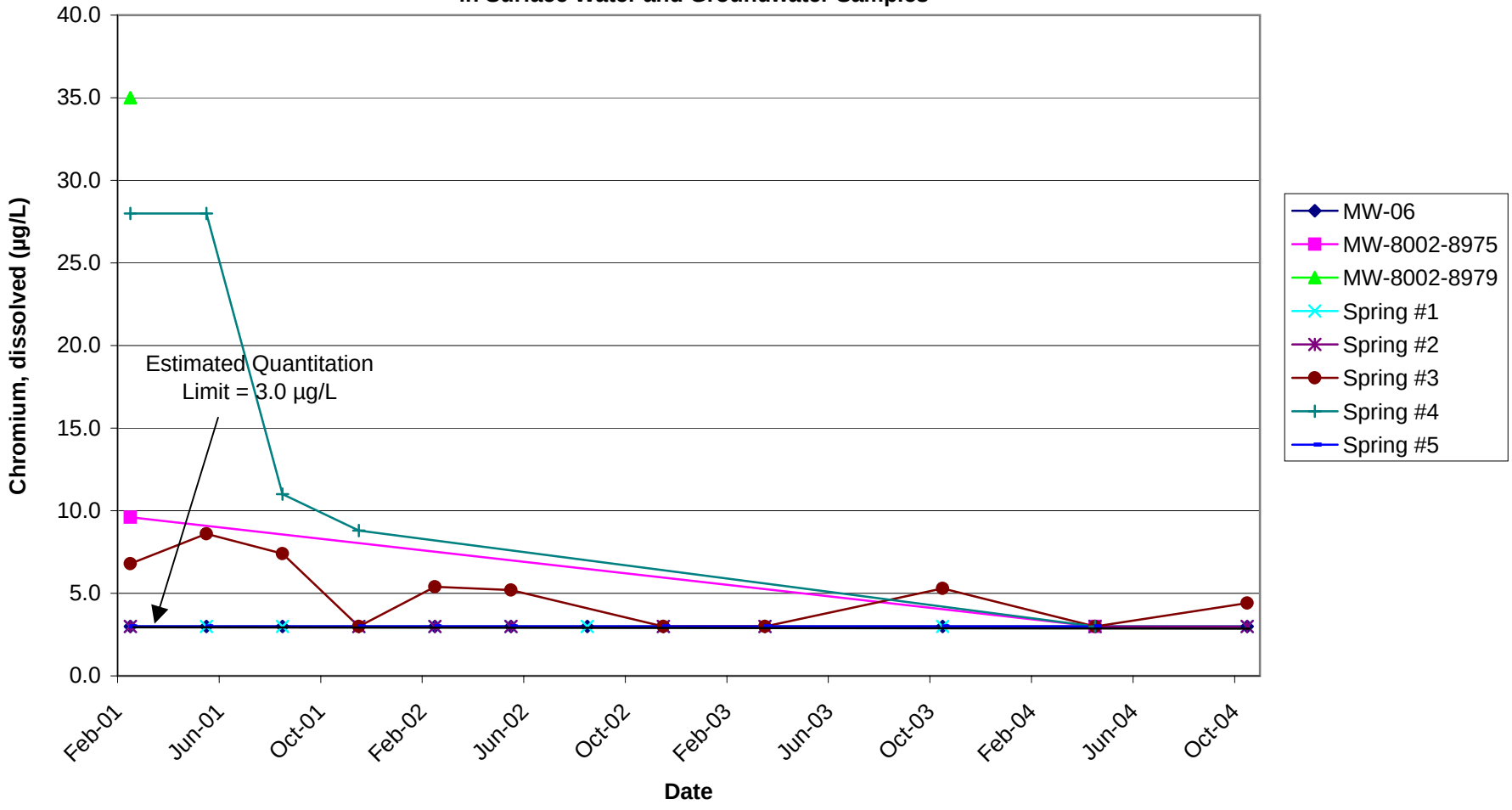


Figure 6
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Lead
in Surface Water and Groundwater Samples

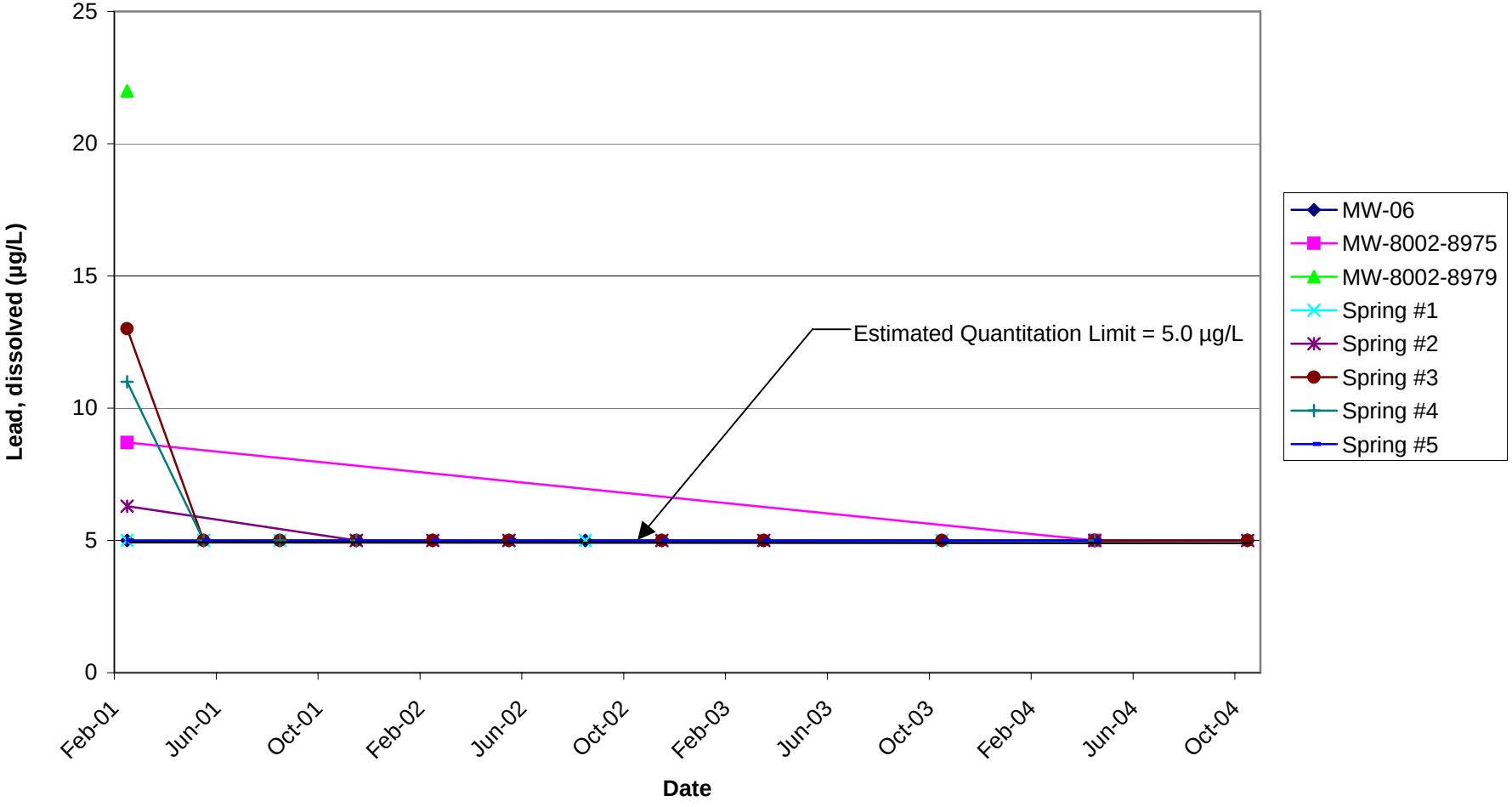


Figure 7
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Nickel
in Surface Water and Groundwater Samples

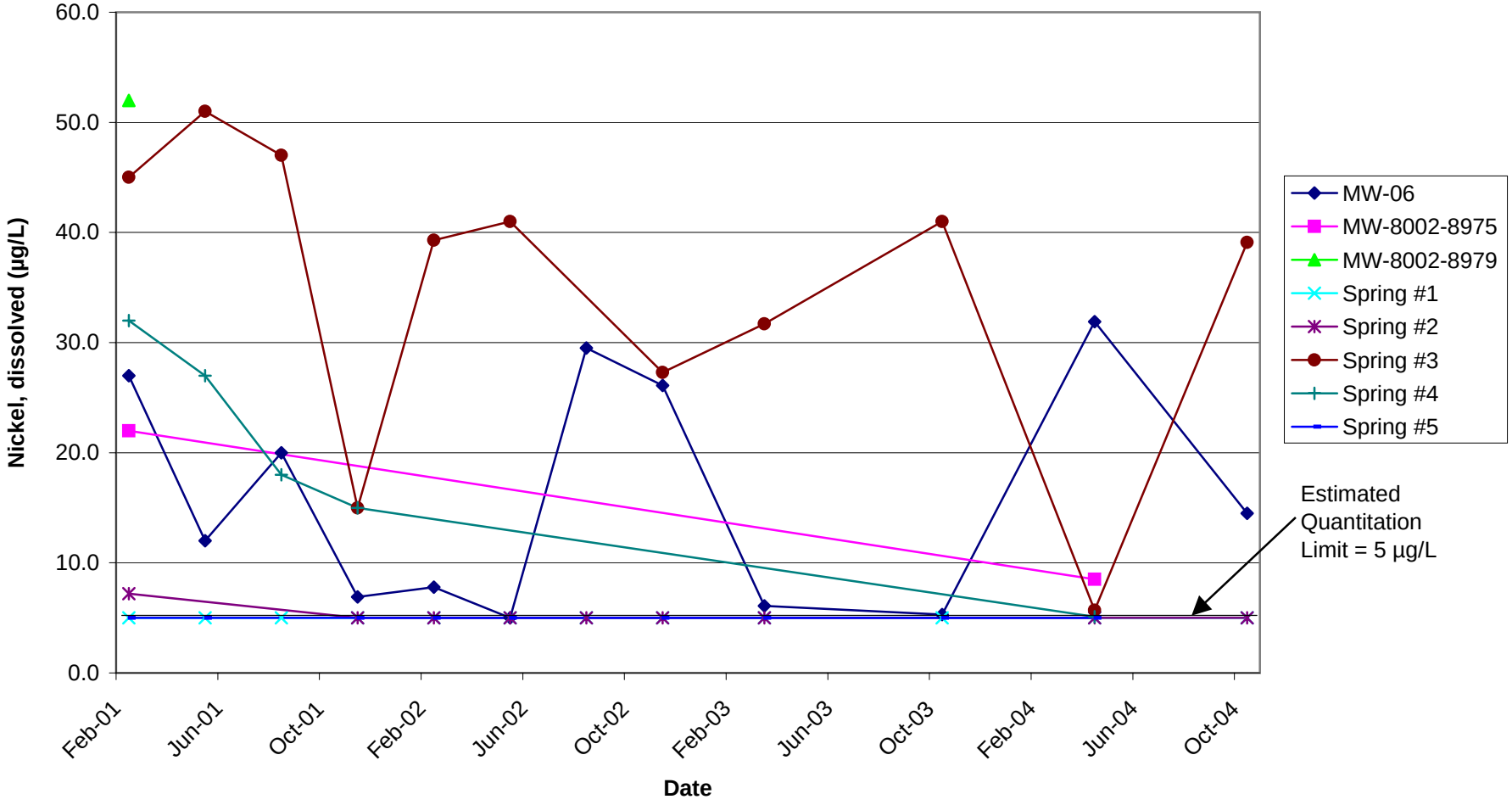


Figure 8
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Total Cyanide
in Surface Water and Groundwater Samples

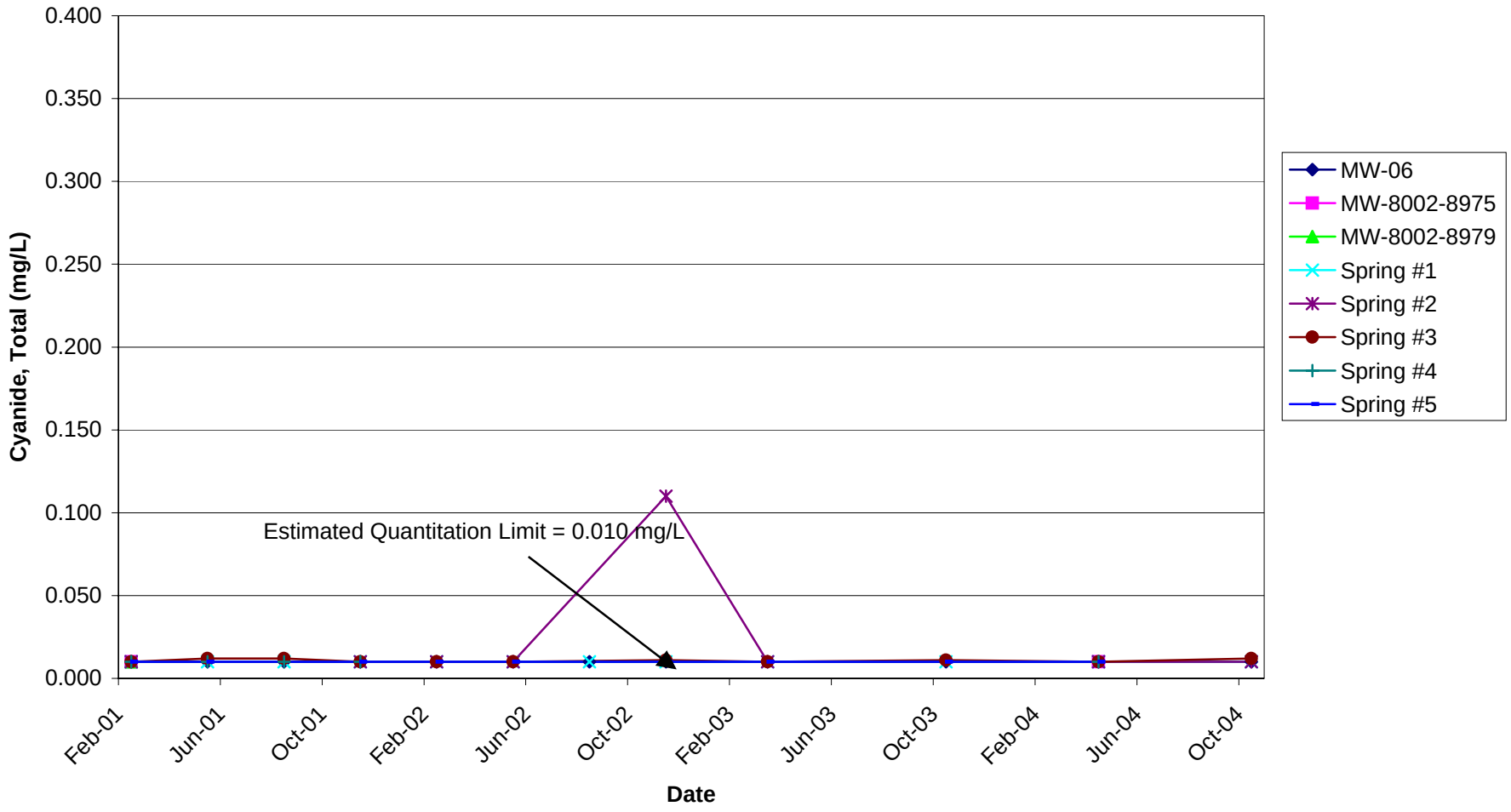
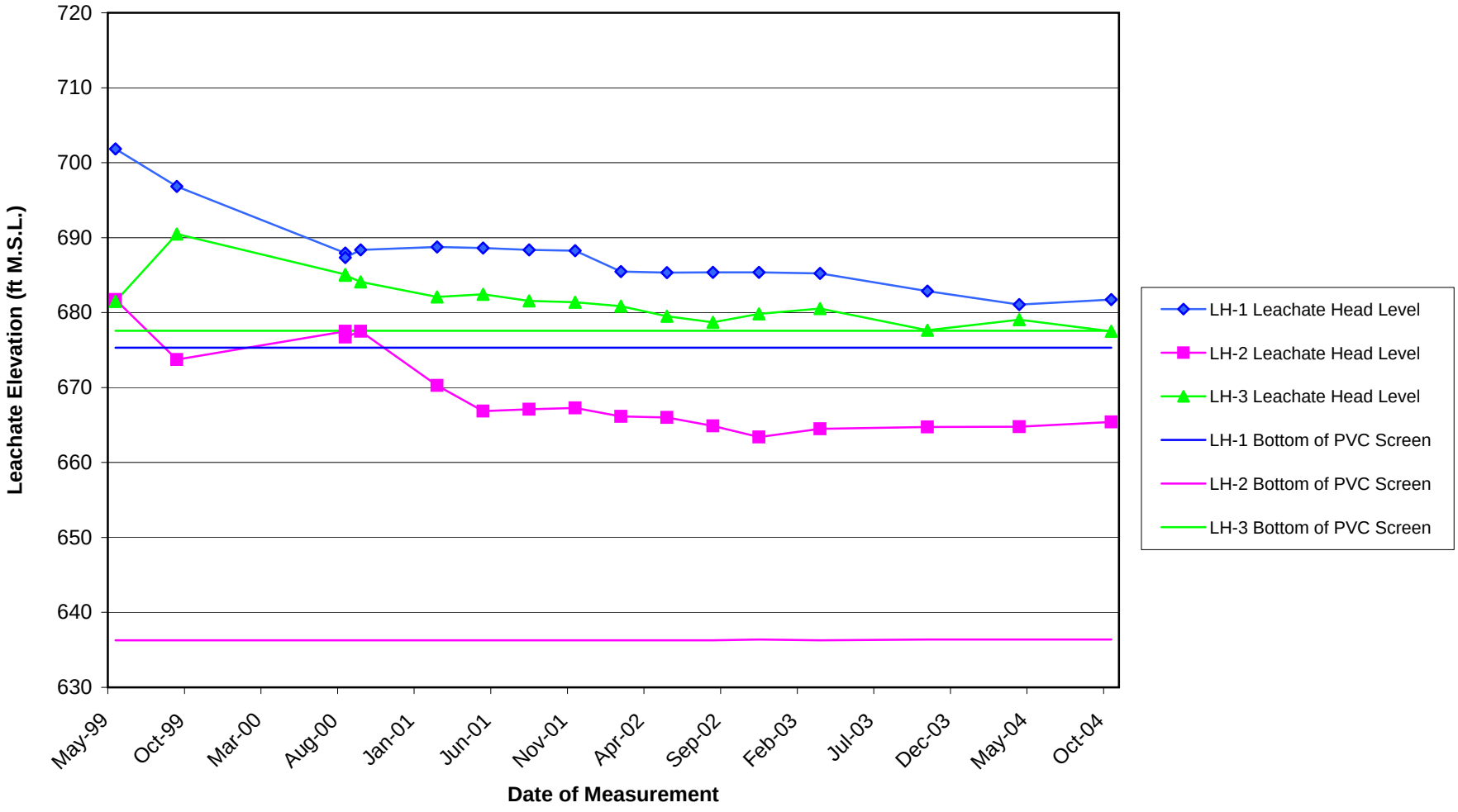


Figure 9
Red Penn Landfill
Pewee Valley, Kentucky
Leachate Head Elevations and Depth of Leachate



Attachment A

Correspondence

March 13, 2003

Ms. Susan Mallette
Geologist
Frankfort Office Park
Department of Environmental Protection, Superfund Branch
Division of Waste Management
18 Reilly Road
Frankfort, KY 40601-1190

Subject: Changes to Environmental Monitoring Activities
Red Penn Landfill, Pewee Valley, Kentucky

Dear Ms. Mallette:

On behalf of the PRPs for the Red Penn Landfill in Pewee Valley, Kentucky, RMT is requesting that monitoring wells MW8002-8975 and MW8002-8979 be eliminated from the monitoring program because period of these wells do not recover after being bailed dry to allow for samples to be collected in a reasonable time (24 hours). With the exception of the first time these wells were sampled (in February 2000), MW8002-8975 has not recovered enough to collect any samples in the last 2 years, and MW8002-8979 has recovered enough to only allow a 40 mL sample for VOCs to be collected in about half of the sampling events. Furthermore, the results for the samples from MW8002-8975 and -8979 that have been collected over the last 2 years do not indicate that the groundwater at these locations has been affected by the landfill. We would appreciate if the Kentucky Division of Waste Management (KDWM) could respond to this letter by March 30, so that we can make the necessary arrangements prior to the next sampling event in April.

We are also notifying the KDWM that the PRPs intend to reduce the frequency of environmental monitoring from quarterly to semiannually beginning in April 2003. This reduction in monitoring frequency for groundwater and the springs is consistent with the Final Remedial Design (RMT, Inc., October 1999).

Please call me, at (608) 662-5271, if you have any questions regarding this letter.

Sincerely,

RMT, Inc.

Michael J. Amstadt, P.E.
Project Manager

cc: Jim Forney, Waste Management, Inc.
Jeff Hartlund, Ford Motor Land Services Corporation

Attachment B

2004 Site Inspection Reports

Red-Penn Landfill

Inspection Report

Date: April 21, 2004

Temperature: 60 °F

Inspector: John Leffew

Weather: Rain showers

Ground Conditions: Wet

ITEM	Adequate	Requires Maintenance	COMMENTS/OBSERVATIONS
Final Cover			
Vegetation		X	Vegetation adequate except in noted areas of erosion on the northeastern and northwestern slopes. Reseeded on May 19, 2004.
Erosion		X	Erosion observed on the northeastern and northwestern slopes. Erosion repaired May 19, 2004.
Burrowing animals	X		None observed.
Settlement	X		None observed.
Ground Surface Conditions	X		Conditions wet, but firm.
Surface Water Controls			
Diversion berms	X		All appeared to be in good condition. No build-up of sediment observed.
Final cover spillway	X		Appeared to be in good condition.
Groundwater and Leachate Head Wells			
Locks		X	Locks on LH-2 and LH-3 replaced on April 21, 2004.
Structural integrity	X		Some corrosion on casings.
Entrance Gate and Lock	X		Lock in good condition.
Additional Comments:			Heavy erosion observed off of the final cover near Spring #4. This erosion does not require maintenance as it is outside the limits of the final cover. RMT will continue to monitor.

Red-Penn Landfill

Inspection Report

Date: October 13, 2004

Temperature: 60 °F

Inspector: John Leffew

Weather: Light rain, overcast

Ground Conditions: Wet

ITEM	Adequate	Requires Maintenance	COMMENTS/OBSERVATIONS
Final Cover			
Vegetation	X		Vegetation good. Bare spot on east side.
Erosion	X		No erosion on landfill cover. Erosion noted off of the cover near Spring #4, as previously identified in April 2004.
Burrowing animals	X		None observed.
Settlement	X		None observed.
Ground Surface Conditions	X		Good condition.
Surface Water Controls			
Diversion berms	X		
Final cover spillway	X		No erosion or sediment build-up observed.
Groundwater and Leachate Head Wells			
Locks	X		All wells locked, but the locks were corroded. All three locks were replaced.
Structural integrity	X		Good condition.
Entrance Gate and lock	X		Gate was locked upon arrival.
Additional Comments:			

Attachment C

Laboratory Results and Database Summary Reports for 2004 Groundwater Samples

Database Summary Reports

RED PENN LANDFILL

MONITORING WELL RESULTS

FIELD, INORGANIC, METALS, VOLATILES, AND PCBS

2004

PARAMETER	UNITS	MW-06 21-APR-2004 A4368504	MW-06 13-OCT-2004 A4A11904	MW-06 DUP 21-APR-2004 A4368501	MW-8002-8975 21-APR-2004 A4368505	MW-8002-8979 21-APR-2004 040421-X04
COLOR, FIELD			CLEAR			
CONDUCTANCE, SPECIFIC	UMHOS/CM		480		2500	
DEPTH TO WATER	FEET	3.10	3.34		63.35	
PH, FIELD	SU	7.43	7.72		7.23	
TEMPERATURE	DEG C	12.2	17.7		15.1	
WELL DRY						YES
CYANIDE, TOTAL	MG/L	< 0.010	< 0.01	< 0.010	< 0.010	
ANTIMONY, DISSOLVED	UG/L	< 10	< 10	< 10	< 10	
ARSENIC, DISSOLVED	UG/L	< 10	< 10	< 10	< 10	
BARIUM, DISSOLVED	UG/L	77.0	100	74.9	50.7	
CADMIUM, DISSOLVED	UG/L	< 1.0	< 1	< 1.0	< 1.0	
CHROMIUM, DISSOLVED	UG/L	< 3.0	< 3	< 3.0	< 3.0	
LEAD, DISSOLVED	UG/L	< 5.0	< 5	< 5.0	< 5.0	
NICKEL, DISSOLVED	UG/L	31.9	14.5	29.8	8.5	
AROCLOR-1016	UG/L	< 0.50	< 0.5	< 0.50	< 0.50	
AROCLOR-1221	UG/L	< 0.50	< 0.5	< 0.50	< 0.50	
AROCLOR-1232	UG/L	< 0.50	< 0.5	< 0.50	< 0.50	
AROCLOR-1242	UG/L	< 0.50	< 0.5	< 0.50	< 0.50	
AROCLOR-1248	UG/L	< 0.50	< 0.5	< 0.50	< 0.50	
AROCLOR-1254	UG/L	< 0.50	< 0.5	< 0.50	< 0.50	
AROCLOR-1260	UG/L	< 0.50	< 0.5	< 0.50	< 0.50	
BENZENE	UG/L	< 1.0	< 1	< 1.0	0.67 J	
CHLOROBENZENE	UG/L	< 1.0	< 1	< 1.0	< 1.0	
CHLOROETHANE	UG/L	< 2.0	< 2	< 2.0	< 2.0	
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1	< 1.0	< 1.0	

RED PENN LANDFILL
SURFACE WATER RESULTS
FIELD, INORGANIC, METALS, VOLATILES, AND PCBS
2004

PARAMETER	UNITS	SPRING-01 21-APR-2004 A4368506	SPRING-01 13-OCT-2004 A4A11905	SPRING-01 DUP 13-OCT-2004 A4A11902	SPRING-02 21-APR-2004 A4368507	SPRING-02 13-OCT-2004 A4A11906	SPRING-02 DUP 21-APR-2004 A4368502
COLOR, FIELD		CLEAR			CLEAR		
CONDUCTANCE, SPECIFIC	UMHOS/CM	2500	600		2700	700	
PH, FIELD	SU	7.10			5.75	9.2	
TEMPERATURE	DEG C	15.1	23		16.2	3.2	
WELL DRY							
CYANIDE, TOTAL	MG/L	< 0.010	< 0.01	< 0.01	< 0.010	< 0.01	< 0.010
ANTIMONY, DISSOLVED	UG/L	< 10	< 10	< 10	< 10	< 10	< 10
ARSENIC, DISSOLVED	UG/L	< 10	< 10	< 10	< 10	< 10	< 10
BARIUM, DISSOLVED	UG/L	38.9	51	51	70.4	132	70.0
CADMIUM, DISSOLVED	UG/L	1.7	< 1	< 1	6.3	< 1	1.8
CHROMIUM, DISSOLVED	UG/L	< 3.0	< 3	< 3	< 3.0	< 3	< 3.0
LEAD, DISSOLVED	UG/L	< 5.0	< 5	< 5	< 5.0	< 5	< 5.0
NICKEL, DISSOLVED	UG/L	< 5.0	< 5	< 5	< 5.0	< 5	< 5.0
AROCLOR-1016	UG/L	< 0.50	< 0.5	< 0.5	< 0.50	< 0.5	< 0.50
AROCLOR-1221	UG/L	< 0.50	< 0.5	< 0.5	< 0.50	< 0.5	< 0.50
AROCLOR-1232	UG/L	< 0.50	< 0.5	< 0.5	< 0.50	< 0.5	< 0.50
AROCLOR-1242	UG/L	< 0.50	< 0.5	< 0.5	< 0.50	< 0.5	< 0.50
AROCLOR-1248	UG/L	< 0.50	< 0.5	< 0.5	< 0.50	< 0.5	< 0.50
AROCLOR-1254	UG/L	< 0.50	< 0.5	< 0.5	< 0.50	< 0.5	< 0.50
AROCLOR-1260	UG/L	< 0.50	< 0.5	< 0.5	< 0.50	< 0.5	< 0.50
BENZENE	UG/L	< 1.0	< 1	< 1	< 1.0	< 1	< 1.0
CHLOROBENZENE	UG/L	< 1.0	< 1	< 1	< 1.0	< 1	< 1.0
CHLOROETHANE	UG/L	< 2.0	< 2	< 2	< 2.0	< 2	< 2.0
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1	< 1	< 1.0	< 1	< 1.0

RED PENN LANDFILL

SURFACE WATER RESULTS

FIELD, INORGANIC, METALS, VOLATILES, AND PCBS

2004

PARAMETER	UNITS	SPRING-02 DUP 13-OCT-2004 A4A11901	SPRING-03 21-APR-2004 A4368508	SPRING-03 13-OCT-2004 A4A11907	SPRING-04 21-APR-2004 A4368509	SPRING-04 13-OCT-2004 041013-X04	SPRING-05 21-APR-2004 A4368510
COLOR, FIELD			YELLOW	LT YELLO	YELLOW		CLEAR
CONDUCTANCE, SPECIFIC	UMHOS/CM		550	3000	600		700
PH, FIELD	SU		7.52		8.09		8.17
TEMPERATURE	DEG C		17.3	24	16.4		15.3
WELL DRY						YES	
CYANIDE, TOTAL	MG/L	< 0.01	< 0.010	0.012	< 0.010		< 0.010
ANTIMONY, DISSOLVED	UG/L	< 10	< 10	< 10	< 10		< 10
ARSENIC, DISSOLVED	UG/L	< 10	< 10	< 10	< 10		< 10
BARIUM, DISSOLVED	UG/L	129	56.8	443	45.8		81.8
CADMIUM, DISSOLVED	UG/L	< 1	< 1.0	< 1	< 1.0		< 1.0
CHROMIUM, DISSOLVED	UG/L	< 3	< 3.0	4.4	< 3.0		< 3.0
LEAD, DISSOLVED	UG/L	< 5	< 5.0	< 5	< 5.0		< 5.0
NICKEL, DISSOLVED	UG/L	< 5	5.7	39.1	5.1		< 5.0
AROCLOR-1016	UG/L	< 0.5	< 0.50	< 0.5	< 0.50		< 0.50
AROCLOR-1221	UG/L	< 0.5	< 0.50	< 0.5	< 0.50		< 0.50
AROCLOR-1232	UG/L	< 0.5	< 0.50	< 0.5	< 0.51		< 0.50
AROCLOR-1242	UG/L	< 0.5	< 0.50	< 0.5	< 0.50		< 0.50
AROCLOR-1248	UG/L	< 0.5	< 0.50	< 0.5	< 0.50		< 0.50
AROCLOR-1254	UG/L	< 0.5	< 0.50	< 0.5	< 0.50		< 0.50
AROCLOR-1260	UG/L	< 0.5	< 0.50	< 0.5	< 0.50		< 0.50
BENZENE	UG/L	< 1	< 1.4	< 1.4	< 1.4		< 1.0
CHLOROBENZENE	UG/L	< 1	< 1.0	< 1	< 1.0		< 1.0
CHLOROETHANE	UG/L	< 2	< 2.4	< 2.4	< 2.4		< 2.0
CIS-1,2-DICHLOROETHENE	UG/L	< 1	< 1.6	< 1.6	< 1.6		< 1.0

RED PENN LANDFILL
SURFACE WATER RESULTS
FIELD, INORGANIC, METALS, VOLATILES, AND PCBS
2004

PARAMETER	UNITS	SPRING-05 13-OCT-2004 041013-X05
COLOR, FIELD		
CONDUCTANCE, SPECIFIC	UMHOS/CM	
PH, FIELD	SU	
TEMPERATURE	DEG C	
WELL DRY		YES
CYANIDE, TOTAL	MG/L	
ANTIMONY, DISSOLVED	UG/L	
ARSENIC, DISSOLVED	UG/L	
BARIUM, DISSOLVED	UG/L	
CADMIUM, DISSOLVED	UG/L	
CHROMIUM, DISSOLVED	UG/L	
LEAD, DISSOLVED	UG/L	
NICKEL, DISSOLVED	UG/L	
AROCLOR-1016	UG/L	
AROCLOR-1221	UG/L	
AROCLOR-1232	UG/L	
AROCLOR-1242	UG/L	
AROCLOR-1248	UG/L	
AROCLOR-1254	UG/L	
AROCLOR-1260	UG/L	
BENZENE	UG/L	
CHLOROBENZENE	UG/L	
CHLOROETHANE	UG/L	
CIS-1,2-DICHLOROETHENE	UG/L	

RED PENN LANDFILL

QUALITY CONTROL SAMPLE RESULTS

INORGANIC, METALS, VOLATILES, AND PCBS

2004

PARAMETER	UNITS	FIELD BLANK-01 21-APR-2004 A4368503	FIELD BLANK-01 13-OCT-2004 A4A11903	TRIP BLANK-01 21-APR-2004 A4368511	TRIP BLANK-01 13-OCT-2004 A4A11908
CYANIDE, TOTAL	MG/L	< 0.010	< 0.01		
ANTIMONY, DISSOLVED	UG/L	< 10	< 10		
ARSENIC, DISSOLVED	UG/L	< 10	< 10		
BARIUM, DISSOLVED	UG/L	< 5.0	< 5		
CADMIUM, DISSOLVED	UG/L	< 1.0	< 1		
CHROMIUM, DISSOLVED	UG/L	< 3.0	< 3		
LEAD, DISSOLVED	UG/L	< 5.0	< 5		
NICKEL, DISSOLVED	UG/L	< 5.0	< 5		
AROCLOR-1016	UG/L	< 0.50	< 0.5		
AROCLOR-1221	UG/L	< 0.50	< 0.5		
AROCLOR-1232	UG/L	< 0.50	< 0.5		
AROCLOR-1242	UG/L	< 0.50	< 0.5		
AROCLOR-1248	UG/L	< 0.50	< 0.5		
AROCLOR-1254	UG/L	< 0.50	< 0.5		
AROCLOR-1260	UG/L	< 0.50	< 0.5		
BENZENE	UG/L	< 1.0	< 1	< 1.0	< 1
CHLOROBENZENE	UG/L	< 1.0	< 1	< 1.0	< 1
CHLOROETHANE	UG/L	< 2.0	< 2	< 2.0	< 2
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1	< 1.0	< 1

RED PENN LANDFILL

LEACHATE WELL FIELD RESULTS

2004

PARAMETER	UNITS	LH-01 21-APR-2004 040421-X01	LH-01 13-OCT-2004 041013-X01	LH-02 21-APR-2004 040421-X02	LH-02 13-OCT-2004 041013-X02	LH-03 21-APR-2004 040421-X03	LH-03 13-OCT-2004 041013-X03
DEPTH TO LEACHATE	FEET	28.3	27.6	22.6	22.0	25.45	27.0
LEACHATE HEAD ELEVATION	FEET	681.05	681.75	664.79	665.39	679.04	677.49

Laboratory Results for April 2004

SEVERN TRENT STL

STL Buffalo
10 Hazelwood Drive, Suite 106
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ANALYTICAL REPORT

Job#: A04-3685

STL Project#: NY2A8892
Site Name: Red Penn Landfill
Task: Quarterly Wells & Springs

Mike Amstadt
RMT, Inc.
744 Heartland Trail
Madison, WI 53717

CC: Cheryl Shaw

STL Buffalo

Amy Lynn Haag
Project Manager

05/11/2004

STL Buffalo
Current Certifications

STATE	Program	Cert # / Lab ID
A2LA (ISO 17025)	SDWA, CWA, RCRA	0732-01
Arkansas	SDWA, CWA, RCRA, SOIL	03-054-D/88-0686
California	NELAP SDWA, CWA, RCRA	01169CA
Canada	GENERAL	SCC 1007-15/10B
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida	NELAP RCRA	E87672
Georgia	SDWA	956
Illinois	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	CWA, RCRA	036-999-337
New Hampshire	NELAP SDWA, CWA	233701
New Jersey	SDWA, CWA, RCRA, CLP	NY455
New York	NELAP, AIR, SDWA, CWA, RCRA	10026
North Carolina	CWA	411
North Dakota	SDWA, CWA, RCRA	R-176
Oklahoma	CWA, RCRA	9421
Pennsylvania	Env. Lab Reg.	68-281
South Carolina	RCRA	91013
USDA	FOREIGN SOIL PERMIT	S-4650
Virginia	SDWA	278
Washington	CWA	C254
West Virginia	CWA	252
Wisconsin	CWA	998310390
Wyoming UST	UST	NA

Sample Data Package

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A4368501	DUPA0404	04/21/2004		04/23/2004	10:00
A4368502	DUPB0404	04/21/2004		04/23/2004	10:00
A4368503	FLDBLK	04/21/2004	19:10	04/23/2004	10:00
A4368504	MW-6	04/21/2004	10:45	04/23/2004	10:00
A4368505	MW-8002-8975	04/21/2004	12:50	04/23/2004	10:00
A4368506	Spring #1	04/21/2004	15:20	04/23/2004	10:00
A4368507	Spring #2	04/21/2004	16:10	04/23/2004	10:00
A4368508	Spring #3	04/21/2004	18:55	04/23/2004	10:00
A4368509	Spring #4	04/21/2004	18:00	04/23/2004	10:00
A4368510	Spring #5	04/21/2004	17:20	04/23/2004	10:00
A4368511	TRIP BLANK	04/21/2004		04/23/2004	10:00

METHODS SUMMARY

Job#: A04-3685

STL Project#: NY2A8892
Site Name: Red Penn Landfill

PARAMETER	ANALYTICAL METHOD
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS	SW8463 8260
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS	SW8463 8082
Antimony - Soluble	SW8463 6010
Arsenic - Soluble	SW8463 6010
Barium - Soluble	SW8463 6010
Cadmium - Soluble	SW8463 6010
Chromium - Soluble	SW8463 6010
Lead - Soluble	SW8463 6010
Nickel - Soluble	SW8463 6010
Cyanide - Total	SW8463 9012A

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A04-3685

STL Project#: NY2A8892
Site Name: Red Penn Landfill

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A04-3685
Sample Cooler(s) were received at the following temperature(s); 2 @ 2.0 °C
All samples were received in good condition.

GC/MS Volatile Data

No deviations from protocol were encountered during the analytical procedures.

GC Extractable Data

For method 8082, the recovery of surrogate Tetrachloro-m-xylene in sample MW-8002-8975 is outside of established quality control limits due to the sample matrix. The recovery of surrogate Decachlorobiphenyl is within quality control criteria; no corrective action is required.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

Wet Chemistry Data

It has been determined through discussion with the client that the Total Cyanide samples that were originally received had been inadvertantly field filtered. Per instructions from the client, additional unpreserved volume that was obtained for the PCB analysis has been poured off and preserved at the bench to proceed with the Total Cyanide analysis.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Dilution Log W/Code Information
For Job A04-3685

Client Sample ID	Lab Sample ID	Parameter (Inorganic)/Method (Organic)	Dilution	Code
Spring #3	A4368508	8260	5.00	003
Spring #4	A4368509	8260	5.00	003

Dilution Code Definition:

002 - sample matrix effects
003 - excessive foaming
004 - high levels of non-target compounds
005 - sample matrix resulted in method non-compliance for an Internal Standard
006 - sample matrix resulted in method non-compliance for Surrogate
007 - nature of the TCLP matrix
008 - high concentration of target analyte(s)
009 - sample turbidity
010 - sample color
011 - insufficient volume for lower dilution
012 - sample viscosity
013 - other

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U Indicates compound was analyzed for, but not detected at or above the reporting limit.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

C This flag applies to pesticide results where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the associated blank, as well as in the sample.

E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

D This flag identifies all compounds identified in an analysis at the secondary dilution factor.

N Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.

P This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".

A This flag indicates that a TIC is a suspected aldol-condensation product.

1 Indicates coelution.

* Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U Indicates element was analyzed for, but not detected at or above the reporting limit.

J or B Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.

N Indicates spike sample recovery is not within the quality control limits.

K Indicates the post digestion spike recovery is not within the quality control limits.

S Indicates value determined by the Method of Standard Addition.

M Indicates duplicate injection results exceeded quality control limits.

W Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

E Indicates a value estimated or not reported due to the presence of interferences.

H Indicates analytical holding time exceedance. The value obtained should be considered an estimate.

* Indicates analysis is not within the quality control limits.

+ Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

Date: 05/11/2004
Time: 13:41:19

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		DUPA0404		DUPB0404		FLDBLK		MW-6	
Job No	Lab ID	A04-3685	A4368501	A04-3685	A4368502	A04-3685	A4368503	A04-3685	A4368504
Sample Date		04/21/2004		04/21/2004		04/21/2004		04/21/2004	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chloroethane	UG/L	ND	2.0	ND	2.0	ND	2.0	ND	2.0
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
IS/SURROGATE(S)									
Chlorobenzene-D5	%	83	50-200	80	50-200	78	50-200	83	50-200
1,4-Difluorobenzene	%	84	50-200	83	50-200	88	50-200	84	50-200
1,4-Dichlorobenzene-D4	%	70	50-200	72	50-200	72	50-200	72	50-200
Toluene-D8	%	97	76-116	100	76-116	103	76-116	95	76-116
p-Bromofluorobenzene	%	90	73-117	94	73-117	92	73-117	90	73-117
1,2-Dichloroethane-D4	%	128	72-143	128	72-143	122	72-143	128	72-143

Client ID		MW-8002-8975		Spring #1		Spring #2		Spring #3	
Job No	Lab ID	A04-3685	A4368505	A04-3685	A4368506	A04-3685	A4368507	A04-3685	A4368508
Sample Date		04/21/2004		04/21/2004		04/21/2004		04/21/2004	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	0.67 J	1.0	ND	1.0	ND	1.0	ND	1.4
Chlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chloroethane	UG/L	ND	2.0	ND	2.0	ND	2.0	ND	2.4
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.6
IS/SURROGATE(S)									
Chlorobenzene-D5	%	82	50-200	82	50-200	79	50-200	80	50-200
1,4-Difluorobenzene	%	86	50-200	83	50-200	83	50-200	83	50-200
1,4-Dichlorobenzene-D4	%	70	50-200	75	50-200	73	50-200	72	50-200
Toluene-D8	%	99	76-116	95	76-116	98	76-116	102	76-116
p-Bromofluorobenzene	%	90	73-117	92	73-117	92	73-117	88	73-117
1,2-Dichloroethane-D4	%	125	72-143	132	72-143	125	72-143	130	72-143

10\41

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 05/11/2004
Time: 13:41:19

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		Spring #4		Spring #5					
Job No	Lab ID	A04-3685	A4368509	A04-3685	A4368510				
Sample Date		04/21/2004		04/21/2004					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.4	ND	1.0	NA		NA	
Chlorobenzene	UG/L	ND	1.0	ND	1.0	NA		NA	
Chloroethane	UG/L	ND	2.4	ND	2.0	NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.6	ND	1.0	NA		NA	
==========IS/SURROGATE(S)==========									
Chlorobenzene-D5	%	80	50-200	78	50-200	NA		NA	
1,4-Difluorobenzene	%	81	50-200	86	50-200	NA		NA	
1,4-Dichlorobenzene-D4	%	69	50-200	70	50-200	NA		NA	
Toluene-D8	%	100	76-116	103	76-116	NA		NA	
p-Bromofluorobenzene	%	93	73-117	92	73-117	NA		NA	
1,2-Dichloroethane-D4	%	127	72-143	121	72-143	NA		NA	

11\41

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 05/11/2004
Time: 13:41:27

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID			DUPA0404		DUPB0404		FLDBLK		MW-6	
Job No	Lab ID		A04-3685	A4368501	A04-3685	A4368502	A04-3685	A4368503	A04-3685	A4368504
Sample Date			04/21/2004		04/21/2004		04/21/2004		04/21/2004	
Analyte		Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016		UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1221		UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1232		UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1242		UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1248		UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1254		UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1260		UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
SURROGATE(S)										
Tetrachloro-m-xylene		%	79	36-132	81	36-132	76	36-132	72	36-132
Decachlorobiphenyl		%	50	28-132	62	28-132	48	28-132	46	28-132

Client ID			MW-8002-8975		Spring #1		Spring #2		Spring #3	
Job No	Lab ID		A04-3685	A4368505	A04-3685	A4368506	A04-3685	A4368507	A04-3685	A4368508
Sample Date			04/21/2004		04/21/2004		04/21/2004		04/21/2004	
Analyte		Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016		UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1221		UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1232		UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1242		UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1248		UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1254		UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
PCB 1260		UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
SURROGATE(S)										
Tetrachloro-m-xylene		%	170 *	36-132	74	36-132	74	36-132	78	36-132
Decachlorobiphenyl		%	52	28-132	68	28-132	45	28-132	42	28-132

12\41

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 05/11/2004
Time: 13:41:27

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID		Spring #4		Spring #5					
Job No / Lab ID		A04-3685	A4368509	A04-3685	A4368510				
Sample Date		04/21/2004		04/21/2004					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1221	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1232	UG/L	ND	0.51	ND	0.50	NA		NA	
PCB 1242	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1248	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1254	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1260	UG/L	ND	0.50	ND	0.50	NA		NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	80	36-132	76	36-132	NA		NA	
Decachlorobiphenyl	%	50	28-132	64	28-132	NA		NA	

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NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 05/11/2004
Time: 13:41:31

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID			DUPA0404		DUPB0404		FLDBLK		MW-6	
Job No	Lab ID		A04-3685	A4368501	A04-3685	A4368502	A04-3685	A4368503	A04-3685	A4368504
Sample Date			04/21/2004		04/21/2004		04/21/2004		04/21/2004	
Analyte		Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved		UG/L	ND	10	ND	10	ND	10	ND	10
Arsenic, Dissolved		UG/L	ND	10	ND	10	ND	10	ND	10
Barium, Dissolved		UG/L	74.9	5.0	70.0	5.0	ND	5.0	77.0	5.0
Cadmium, Dissolved		UG/L	ND	1.0	1.8	1.0	ND	1.0	ND	1.0
Chromium, Dissolved		UG/L	ND	3.0	ND	3.0	ND	3.0	ND	3.0
Lead, Dissolved		UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Nickel, Dissolved		UG/L	29.8	5.0	ND	5.0	ND	5.0	31.9	5.0

Client ID			MW-8002-8975		Spring #1		Spring #2		Spring #3	
Job No	Lab ID		A04-3685	A4368505	A04-3685	A4368506	A04-3685	A4368507	A04-3685	A4368508
Sample Date			04/21/2004		04/21/2004		04/21/2004		04/21/2004	
Analyte		Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved		UG/L	ND	10	ND	10	ND	10	ND	10
Arsenic, Dissolved		UG/L	ND	10	ND	10	ND	10	ND	10
Barium, Dissolved		UG/L	50.7	5.0	38.9	5.0	70.4	5.0	56.8	5.0
Cadmium, Dissolved		UG/L	ND	1.0	1.7	1.0	6.3	1.0	ND	1.0
Chromium, Dissolved		UG/L	ND	3.0	ND	3.0	ND	3.0	ND	3.0
Lead, Dissolved		UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Nickel, Dissolved		UG/L	8.5	5.0	ND	5.0	ND	5.0	5.7	5.0

Client ID			Spring #4		Spring #5					
Job No	Lab ID		A04-3685	A4368509	A04-3685	A4368510				
Sample Date			04/21/2004		04/21/2004					
Analyte		Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved		UG/L	ND	10	ND	10	NA		NA	
Arsenic, Dissolved		UG/L	ND	10	ND	10	NA		NA	
Barium, Dissolved		UG/L	45.8	5.0	81.8	5.0	NA		NA	
Cadmium, Dissolved		UG/L	ND	1.0	ND	1.0	NA		NA	
Chromium, Dissolved		UG/L	ND	3.0	ND	3.0	NA		NA	
Lead, Dissolved		UG/L	ND	5.0	ND	5.0	NA		NA	
Nickel, Dissolved		UG/L	5.1	5.0	ND	5.0	NA		NA	

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NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 05/11/2004
Time: 13:41:33

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Rept: AN1246

Client ID Job No Sample Date	Lab ID	DUPA0404 A04-3685 04/21/2004	A4368501	DUPB0404 A04-3685 04/21/2004	A4368502	FLDBLK A04-3685 04/21/2004	A4368503	MW-6 A04-3685 04/21/2004	A4368504
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010

Client ID Job No Sample Date	Lab ID	MW-8002-8975 A04-3685 04/21/2004	A4368505	Spring #1 A04-3685 04/21/2004	A4368506	Spring #2 A04-3685 04/21/2004	A4368507	Spring #3 A04-3685 04/21/2004	A4368508
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010

Client ID Job No Sample Date	Lab ID	Spring #4 A04-3685 04/21/2004	A4368509	Spring #5 A04-3685 04/21/2004	A4368510				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

Chronology and QC Summary Package

Date: 05/11/2004
Time: 13:41:38

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		VBLK62							
Job No	Lab ID	A04-3685	A4368512						
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
==========IS/SURROGATE(S)==========									
Chlorobenzene-D5	%	86	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	91	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	78	50-200	NA		NA		NA	
Toluene-D8	%	100	76-116	NA		NA		NA	
p-Bromofluorobenzene	%	88	73-117	NA		NA		NA	
1,2-Dichloroethane-D4	%	118	72-143	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 05/11/2004
Time: 13:41:38

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		TRIP BLANK							
Job No / Lab ID		A04-3685	A4368511						
Sample Date		04/21/2004							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	84	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	85	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	73	50-200	NA		NA		NA	
Toluene-D8	%	95	76-116	NA		NA		NA	
p-Bromofluorobenzene	%	92	73-117	NA		NA		NA	
1,2-Dichloroethane-D4	%	127	72-143	NA		NA		NA	

18\41

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 05/11/2004
Time: 13:41:46

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID		Method Blank							
Job No	Lab ID	A04-3685	A4B0887002						
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	NA		NA		NA	
PCB 1221	UG/L	ND	0.50	NA		NA		NA	
PCB 1232	UG/L	ND	0.50	NA		NA		NA	
PCB 1242	UG/L	ND	0.50	NA		NA		NA	
PCB 1248	UG/L	ND	0.50	NA		NA		NA	
PCB 1254	UG/L	ND	0.50	NA		NA		NA	
PCB 1260	UG/L	ND	0.50	NA		NA		NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	96	36-132	NA		NA		NA	
Decachlorobiphenyl	%	56	28-132	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

19\41

Date: 05/11/2004
Time: 13:41:49

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID Job No Sample Date	Lab ID	Method Blank A04-3685	A4B0879802						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	NA		NA		NA	
Barium, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Cadmium, Dissolved	UG/L	ND	1.0	NA		NA		NA	
Chromium, Dissolved	UG/L	ND	3.0	NA		NA		NA	
Arsenic, Dissolved	UG/L	ND	10	NA		NA		NA	
Lead, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Nickel, Dissolved	UG/L	ND	5.0	NA		NA		NA	

20\41

NA = Not Applicable ND = Not Detected

STL Buffalo

Date: 05/11/2004
Time: 13:41:52

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Rept: AN1246

Client ID Job No Sample Date	Lab ID	Method Blank A04-3685	A4B0915002	Method Blank A04-3685	A4B0924502				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

21\41

Client Sample ID: VBLK62 MSB62
Lab Sample ID: A4368512 A4368513

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL -8260 - SELECT VOLATIL					
Benzene	UG/L	9.79	10.0	98	67-126
Chlorobenzene	UG/L	9.56	10.0	96	74-120

22\41

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Date : 05/11/2004 13:42:04

SAMPLE DATE 04/21/2004

Rept: AN0364

Client Sample ID: MW-6 MW-6 MW-6
Lab Sample ID: A4368504 A4368504MS A4368504SD

Analyte	Units of Measure	Concentration Sample	Matrix Spike	Spike Duplicate	Spike Amount MS	MSD	% Recovery MS	MSD	Avg	% RPD	QC LIMITS RPD	REC.
RED PENN LANDFILL 8082 - POLYCHLORINATED												
PCB 1260	UG/L	0	8.34	4.97	9.80	9.80	85	51	68	50 *	30.0	50-122
PCB 1016	UG/L	0	9.25	7.04	9.80	9.80	94	72	83	26	30.0	29-123

23\41

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

STL.Buffalo

Client Sample ID: Method Blank
Lab Sample ID: A4B0887002

Matrix Spike Blank
A4B0887001

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL 8082 - POLYCHLORINATED					
PCB 1260	UG/L	4.37	5.00	87	50-122
PCB 1016	UG/L	5.80	5.00	116	29-123

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Date : 05/11/2004 13:42:08

Rept: AN0364

Client Sample ID: Method Blank LFB
Lab Sample ID: A4B0879802 A4B0879801

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)					
SOLUBLE ANTIMONY	UG/L	195.0	200.0	98	80-120
SOLUBLE ARSENIC	UG/L	197.5	200.0	99	80-120
SOLUBLE BARIUM	UG/L	199.7	200.0	100	80-120
SOLUBLE CADMIUM	UG/L	195.4	200.0	98	80-120
SOLUBLE CHROMIUM	UG/L	195.9	200.0	98	80-120
SOLUBLE LEAD	UG/L	198.8	200.0	99	80-120
SOLUBLE NICKEL	UG/L	199.9	200.0	100	80-120

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Client Sample ID: Method Blank LCS
Lab Sample ID: A4B0915002 A4B0915001

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
WET CHEMISTRY ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0.411	0.400	103	90-110

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Date : 05/11/2004 13:42:10

Rept: AN0364

Client Sample ID: Method Blank LCS
Lab Sample ID: A4B0924502 A4B0924501

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
WET CHEMISTRY ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0.400	0.400	100	90-110

27\41

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

STL Buffalo

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	DUPA0404 A04-3685 A4368501	DUPB0404 A04-3685 A4368502	FLDBLK A04-3685 A4368503	MW-6 A04-3685 A4368504	MW-8002-8975 A04-3685 A4368505
Sample Date	04/21/2004	04/21/2004	04/21/2004 19:10	04/21/2004 10:45	04/21/2004 12:50
Received Date	04/23/2004 10:00	04/23/2004 10:00	04/23/2004 10:00	04/23/2004 10:00	04/23/2004 10:00
Extraction Date					
Analysis Date	04/29/2004 03:21	04/29/2004 03:49	04/29/2004 04:18	04/29/2004 04:47	04/29/2004 05:16
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS
% Dry					

28\41

NA = Not Applicable

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	Spring #1 A04-3685 A4368506	Spring #2 A04-3685 A4368507	Spring #3 A04-3685 A4368508	Spring #4 A04-3685 A4368509	Spring #5 A04-3685 A4368510
Sample Date	04/21/2004 15:20	04/21/2004 16:10	04/21/2004 18:55	04/21/2004 18:00	04/21/2004 17:20
Received Date	04/23/2004 10:00	04/23/2004 10:00	04/23/2004 10:00	04/23/2004 10:00	04/23/2004 10:00
Extraction Date					
Analysis Date	04/29/2004 05:44	04/29/2004 06:13	04/29/2004 06:42	04/29/2004 07:10	04/29/2004 07:39
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	5.0	5.0	1.0
Sample wt/vol	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS
% Dry					

NA = Not Applicable

STL Buffalo

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	TRIP BLANK A04-3685 A4368511				
Sample Date	04/21/2004				
Received Date	04/23/2004 10:00				
Extraction Date					
Analysis Date	04/28/2004 23:30				
Extraction HT Met?	-				
Analytical HT Met?	YES				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

30\41

NA = Not Applicable

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	VBLK62 A04-3685 A4368512				
Sample Date					
Received Date					
Extraction Date					
Analysis Date	04/28/2004 23:01				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

NA = Not Applicable

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	DUPA0404 A04-3685 A4368501	DUPB0404 A04-3685 A4368502	FLDBLK A04-3685 A4368503	MW-6 A04-3685 A4368504	MW-8002-8975 A04-3685 A4368505
Sample Date	04/21/2004	04/21/2004	04/21/2004 19:10	04/21/2004 10:45	04/21/2004 12:50
Received Date	04/23/2004 10:00	04/23/2004 10:00	04/23/2004 10:00	04/23/2004 10:00	04/23/2004 10:00
Extraction Date	04/27/2004 07:00	04/27/2004 07:00	04/27/2004 07:00	04/27/2004 07:00	04/27/2004 07:00
Analysis Date	04/28/2004 15:40	04/28/2004 15:52	04/28/2004 16:05	04/28/2004 16:18	04/28/2004 16:55
Extraction HT Met?	YES	YES	YES	YES	YES
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	1.05 LITERS	0.97 LITERS	0.97 LITERS	1.0 LITERS	0.77 LITERS
% Dry					

32\41

NA = Not Applicable

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Spring #1 A04-3685 A4368506	Spring #2 A04-3685 A4368507	Spring #3 A04-3685 A4368508	Spring #4 A04-3685 A4368509	Spring #5 A04-3685 A4368510
Sample Date	04/21/2004 15:20	04/21/2004 16:10	04/21/2004 18:55	04/21/2004 18:00	04/21/2004 17:20
Received Date	04/23/2004 10:00	04/23/2004 10:00	04/23/2004 10:00	04/23/2004 10:00	04/23/2004 10:00
Extraction Date	04/27/2004 07:00	04/27/2004 07:00	04/27/2004 07:00	04/27/2004 07:00	04/27/2004 07:00
Analysis Date	04/28/2004 17:08	04/28/2004 17:47	04/28/2004 17:59	04/28/2004 18:12	04/28/2004 18:24
Extraction HT Met?	YES	YES	YES	YES	YES
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	1.0 LITERS	1.0 LITERS	0.96 LITERS	0.72 LITERS	0.81 LITERS
% Dry					

NA = Not Applicable

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Method Blank A04-3685 A4B0887002				
Sample Date					
Received Date					
Extraction Date	04/27/2004 07:00				
Analysis Date	04/28/2004 15:27				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	1.0 LITERS				
% Dry					

34\41

NA = Not Applicable

Date: 05/11/2004 13:42
Job No: A04-3685

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A4368501	DUPA0404	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/21/04	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/21/04	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/21/04	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/21/04	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/21/04	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/21/04	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/21/04	04/23 10:00	NA		04/27	BKL	Y	GW
A4368502	DUPB0404	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/21/04	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/21/04	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/21/04	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/21/04	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/21/04	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/21/04	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/21/04	04/23 10:00	NA		04/27	BKL	Y	GW
A4368503	FLDBLK	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/21/04 19:10	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/21/04 19:10	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/21/04 19:10	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/21/04 19:10	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/21/04 19:10	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/21/04 19:10	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/21/04 19:10	04/23 10:00	NA		04/27	BKL	Y	GW
A4368504	MW-6	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/21/04 10:45	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/21/04 10:45	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/21/04 10:45	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/21/04 10:45	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/21/04 10:45	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/21/04 10:45	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/21/04 10:45	04/23 10:00	NA		04/27	BKL	Y	GW
A4368505	MW-8002-8975	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/21/04 12:50	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/21/04 12:50	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/21/04 12:50	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/21/04 12:50	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/21/04 12:50	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/21/04 12:50	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/21/04 12:50	04/23 10:00	NA		04/27	BKL	Y	GW
A4368506	Spring #1	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/21/04 15:20	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/21/04 15:20	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/21/04 15:20	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/21/04 15:20	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/21/04 15:20	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/21/04 15:20	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/21/04 15:20	04/23 10:00	NA		04/27	BKL	Y	GW
A4368507	Spring #2	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/21/04 16:10	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/21/04 16:10	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/21/04 16:10	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/21/04 16:10	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/21/04 16:10	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/21/04 16:10	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/21/04 16:10	04/23 10:00	NA		04/27	BKL	Y	GW

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AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffalo

Date: 05/11/2004 13:42
Job No: A04-3685

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Rept: AN1250
Page: 1

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A4368501	DUPA0404	RECNY	Cyanide, Total	9012A	1.0		04/21/04	04/23 10:00	NA		05/03	LRM	Y	GW
A4368502	DUPB0404	RECNY	Cyanide, Total	9012A	1.0		04/21/04	04/23 10:00	NA		05/03	LRM	Y	GW
A4368503	FLDBLK	RECNY	Cyanide, Total	9012A	1.0		04/21/04 19:10	04/23 10:00	NA		05/03	LRM	Y	GW
A4368504	MW-6	RECNY	Cyanide, Total	9012A	1.0		04/21/04 10:45	04/23 10:00	NA		05/05	LRM	Y	GW
A4368505	MW-8002-8975	RECNY	Cyanide, Total	9012A	1.0		04/21/04 12:50	04/23 10:00	NA		05/03	LRM	Y	GW
A4368506	Spring #1	RECNY	Cyanide, Total	9012A	1.0		04/21/04 15:20	04/23 10:00	NA		05/03	LRM	Y	GW
A4368507	Spring #2	RECNY	Cyanide, Total	9012A	1.0		04/21/04 16:10	04/23 10:00	NA		05/03	LRM	Y	GW
A4368508	Spring #3	RECNY	Cyanide, Total	9012A	1.0		04/21/04 18:55	04/23 10:00	NA		05/03	LRM	Y	GW
A4368509	Spring #4	RECNY	Cyanide, Total	9012A	1.0		04/21/04 18:00	04/23 10:00	NA		05/03	LRM	Y	GW
A4368510	Spring #5	RECNY	Cyanide, Total	9012A	1.0		04/21/04 17:20	04/23 10:00	NA		05/03	LRM	Y	GW

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AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffalo

Date: 05/11/2004 13:42
Job No: A04-3685

QUARTERLY WELLS & SPRINGS
QC CHRONOLOGY

Rept: AN1250
Page: 2

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A4B0915002	Method Blank	RECNY	Cyanide, Total	9012A	1.0		-	-	NA		05/03	LRM	Y	WATER
A4B0924502	Method Blank	RECNY	Cyanide, Total	9012A	1.0		-	-	NA		05/05	LRM	Y	WATER

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffalo

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A4368508	Spring #3	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/21/04 18:55	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/21/04 18:55	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/21/04 18:55	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/21/04 18:55	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/21/04 18:55	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/21/04 18:55	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/21/04 18:55	04/23 10:00	NA		04/27	BKL	Y	GW
A4368509	Spring #4	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/21/04 18:00	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/21/04 18:00	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/21/04 18:00	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/21/04 18:00	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/21/04 18:00	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/21/04 18:00	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/21/04 18:00	04/23 10:00	NA		04/27	BKL	Y	GW
A4368510	Spring #5	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/21/04 17:20	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/21/04 17:20	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/21/04 17:20	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/21/04 17:20	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/21/04 17:20	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/21/04 17:20	04/23 10:00	NA		04/27	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/21/04 17:20	04/23 10:00	NA		04/27	BKL	Y	GW

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AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A4B0879802	Method Blank	RECNY	Antimony, Dissolved	6010	1.0	0.05 L	-	-	NA		04/27	BKL	Y	WATER
		RECNY	Arsenic, Dissolved	6010	1.0	0.05 L	-	-	NA		04/27	BKL	Y	WATER
		RECNY	Barium, Dissolved	6010	1.0	0.05 L	-	-	NA		04/27	BKL	Y	WATER
		RECNY	Cadmium, Dissolved	6010	1.0	0.05 L	-	-	NA		04/27	BKL	Y	WATER
		RECNY	Chromium, Dissolved	6010	1.0	0.05 L	-	-	NA		04/27	BKL	Y	WATER
		RECNY	Lead, Dissolved	6010	1.0	0.05 L	-	-	NA		04/27	BKL	Y	WATER
		RECNY	Nickel, Dissolved	6010	1.0	0.05 L	-	-	NA		04/27	BKL	Y	WATER

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AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

Chain of Custody

Chain of Custody Record

SEVERN TRENT SERVICES

Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client: AMT (Bill Directly to Waste management)	Project Manager: Mike Amstadt	Date: 4/21/04	Chain of Custody Number: 099246
Address: 744 Heartland Trail P.O. Box 8923	Telephone Number (Area Code)/Fax Number: 608-831-4444	Lab Number	Page 1 of 1
City: Madison; State: WI; Zip Code: 53708-8923	Site Contact: Waste management; Lab Contact: Amy Haag		
Project Name and Location (State): Red Penn Landfill Louisville KY	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			

Analysis (Attach list if more space is needed): Benzene; Chloroform; Chloroethane; 1,2,3 Trichloropropane; 1,2,3 Trichlorobenzene; 1,2,4 Trichlorobenzene; 1,2 Dichlorobenzene; 1,3 Dichlorobenzene; 1,4 Dichlorobenzene; Metals DISS*; Cyanide AIJ

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous	Sed.	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Benzene	Chloroform	Chloroethane	1,2,3 Trichloropropane	1,2,3 Trichlorobenzene	1,2,4 Trichlorobenzene	1,2 Dichlorobenzene	1,3 Dichlorobenzene	1,4 Dichlorobenzene	Metals DISS*	Cyanide AIJ	Special Instructions/ Conditions of Receipt
MW-6	4/21/04	10:45		X			2		1	3	1													
MW-8002-8475		12:50																						
Spring 1		15:20																						
Spring 2		16:10																						
Spring 3		18:55																						
Spring 4		18:00																						
Spring 5		17:20																						
FLD BLK		19:10																						
DUPA0404		—																						
DUPB0404		—																						
Trip BLK	—	—								3														

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

1. Relinquished By: [signature]	Date: 4/21/04	Time: 20:00	1. Received By: [signature] SR-[illegible]	Date: 04/23/04	Time: 10:00
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments: * metals: Antimony, Arsenic, Barium, Cadmium, Chromium, lead, Nickel

3@2.0°C

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

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Laboratory Results for October 2004

SEVERN TRENT STL

STL Buffalo
10 Hazelwood Drive, Suite 106
Amherst, NY 14228

Tel: 716 691 2600 Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A04-A119

STL Project#: NY2A8892
Site Name: Red Penn Landfill
Task: Quarterly Wells & Springs

Mike Amstadt
RMT, Inc.
744 Heartland Trail
Madison, WI 53717

CC: Cheryl Shaw

STL Buffalo

Amy Haag

Amy Lynn Haag
Project Manager

10/29/2004

STL Buffalo
Current Certifications

STATE	Program	Cert # / Lab ID
Arkansas	SDWA, CWA, RCRA, SOIL	03-054-D/88-0686
California	NELAP SDWA, CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida	NELAP RCRA	E87672
Georgia	SDWA	956
Illinois	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	CWA, RCRA	036-999-337
New Hampshire	NELAP SDWA, CWA	233701
New Jersey	SDWA, CWA, RCRA, CLP	NY455
New York	NELAP, AIR, SDWA, CWA, RCRA	10026
North Carolina	CWA	411
North Dakota	SDWA, CWA, RCRA	R-176
Oklahoma	CWA, RCRA	9421
Pennsylvania	Env. Lab Reg.	68-281
South Carolina	RCRA	91013
USDA	FOREIGN SOIL PERMIT	S-41579
Virginia	SDWA	278
Washington	CWA	C254
West Virginia	CWA	252
Wisconsin	CWA	998310390

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A4A11901	DUPA0404	10/13/2004		10/14/2004	09:15
A4A11902	DUPB0404	10/13/2004		10/14/2004	09:15
A4A11903	FLDBLK	10/13/2004		10/14/2004	09:15
A4A11904	MW-6	10/13/2004	10:45	10/14/2004	09:15
A4A11905	Spring #1	10/13/2004	14:05	10/14/2004	09:15
A4A11906	Spring #2	10/13/2004	13:30	10/14/2004	09:15
A4A11907	Spring #3	10/13/2004	16:05	10/14/2004	09:15
A4A11908	TRIP BLANK	10/13/2004		10/14/2004	09:15

METHODS SUMMARY

Job#: A04-A119

STL Project#: NY2A8892
Site Name: Red Penn Landfill

PARAMETER	ANALYTICAL METHOD
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS	SW8463 8260
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS	SW8463 8082
Antimony - Soluble	SW8463 6010
Arsenic - Soluble	SW8463 6010
Barium - Soluble	SW8463 6010
Cadmium - Soluble	SW8463 6010
Chromium - Soluble	SW8463 6010
Lead - Soluble	SW8463 6010
Nickel - Soluble	SW8463 6010
Cyanide - Total	SW8463 9012A

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A04-A119

STL Project#: NY2A8892
Site Name: Red Penn Landfill

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A04-A119
Sample Cooler(s) were received at the following temperature(s); 3 @ 2.0 °C
All samples were received in good condition.

GC/MS Volatile Data

No deviations from protocol were encountered during the analytical procedures.

GC Extractable Data

No deviations from protocol were encountered during the analytical procedures.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

Wet Chemistry Data

The value obtained for Total Cyanide on sample Spring #3 is inconsistent with historical trends. Reanalysis was performed and the value was confirmed. Only the result from the original analysis is provided in this data package.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Dilution Log w/Code Information
For Job A04-A119

Client Sample ID	Lab Sample ID	Parameter (Inorganic)/Method (Organic)	Dilution	Code
Spring #3	A4A11907	8260	5.00	003

ilution Code Definition:

002 - sample matrix effects
003 - excessive foaming
004 - high levels of non-target compounds
005 - sample matrix resulted in method non-compliance for an Internal Standard
006 - sample matrix resulted in method non-compliance for Surrogate
007 - nature of the TCLP matrix
008 - high concentration of target analyte(s)
009 - sample turbidity
010 - sample color
011 - insufficient volume for lower dilution
012 - sample viscosity
013 - other

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U Indicates compound was analyzed for, but not detected at or above the reporting limit.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

C This flag applies to pesticide results where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the associated blank, as well as in the sample.

E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

D This flag identifies all compounds identified in an analysis at the secondary dilution factor.

N Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds; where the identification is based on the Mass Spectral library search. It is applied to all TIC results.

P This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".

A This flag indicates that a TIC is a suspected aldol-condensation product.

1 Indicates coelution.

* Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U Indicates element was analyzed for, but not detected at or above the reporting limit.

J or B Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.

N Indicates spike sample recovery is not within the quality control limits.

K Indicates the post digestion spike recovery is not within the quality control limits.

S Indicates value determined by the Method of Standard Addition.

M Indicates duplicate injection results exceeded quality control limits.

W Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

E Indicates a value estimated or not reported due to the presence of interferences.

H Indicates analytical holding time exceedance. The value obtained should be considered an estimate.

* Indicates analysis is not within the quality control limits.

+ Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

Sample Data Package

Date: 10/29/2004
Time: 08:35:59

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		DUPA0404		DUPB0404		FLDBLK		MW-6	
Job No		A04-A119		A04-A119		A04-A119		A04-A119	
Sample Date	Lab ID	10/13/2004	A4A11901	10/13/2004	A4A11902	10/13/2004	A4A11903	10/13/2004	A4A11904
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chloroethane	UG/L	ND	2.0	ND	2.0	ND	2.0	ND	2.0
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
IS/SURROGATE(S)									
Chlorobenzene-D5	%	92	50-200	91	50-200	91	50-200	92	50-200
1,4-Difluorobenzene	%	92	50-200	93	50-200	91	50-200	91	50-200
1,4-Dichlorobenzene-D4	%	88	50-200	86	50-200	87	50-200	87	50-200
Toluene-D8	%	88	76-116	90	76-116	88	76-116	90	76-116
p-Bromofluorobenzene	%	85	73-117	84	73-117	86	73-117	84	73-117
1,2-Dichloroethane-D4	%	101	72-143	100	72-143	102	72-143	101	72-143

Client ID		Spring #1		Spring #2		Spring #3			
Job No		A04-A119		A04-A119		A04-A119			
Sample Date	Lab ID	10/13/2004	A4A11905	10/13/2004	A4A11906	10/13/2004	A4A11907		
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	ND	1.4	NA	
Chlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	NA	
Chloroethane	UG/L	ND	2.0	ND	2.0	ND	2.4	NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.6	NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	92	50-200	90	50-200	91	50-200	NA	
1,4-Difluorobenzene	%	91	50-200	92	50-200	92	50-200	NA	
1,4-Dichlorobenzene-D4	%	88	50-200	85	50-200	86	50-200	NA	
Toluene-D8	%	88	76-116	89	76-116	89	76-116	NA	
p-Bromofluorobenzene	%	85	73-117	85	73-117	85	73-117	NA	
1,2-Dichloroethane-D4	%	103	72-143	100	72-143	103	72-143	NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

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lient ID ob No ample Date	Lab ID	DUPA0404 A04-A119 10/13/2004	A4A11901	DUPB0404 A04-A119 10/13/2004	A4A11902	FLDBLK A04-A119 10/13/2004	A4A11903	MW-6 A04-A119 10/13/2004	A4A11904
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
:B 1016	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
:B 1221	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
:B 1232	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
:B 1242	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
:B 1248	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
:B 1254	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
CB 1260	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
SURROGATE(S)									
etrachloro-m-xylene	%	88	36-132	87	36-132	90	36-132	82	36-132
ecachlorobiphenyl	%	59	28-132	66	28-132	88	28-132	57	28-132

Client ID Job No Sample Date	Lab ID	Spring #1 A04-A119 10/13/2004	A4A11905	Spring #2 A04-A119 10/13/2004	A4A11906	Spring #3 A04-A119 10/13/2004	A4A11907		
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1221	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1232	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1242	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1248	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1254	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
PCB 1260	UG/L	ND	0.50	ND	0.50	ND	0.50	NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	90	36-132	87	36-132	61	36-132	NA	
Decachlorobiphenyl	%	69	28-132	55	28-132	34	28-132	NA	

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A = Not Applicable ND = Not Detected

Date: 10/29/2004
Time: 08:36:09

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID		DUPA0404		DUPB0404		FLDBLK		MW-6	
Job No		A04-A119		A04-A119		A04-A119		A04-A119	
Sample Date	Lab ID	10/13/2004	A4A11901	10/13/2004	A4A11902	10/13/2004	A4A11903	10/13/2004	A4A11904
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Arsenic, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
Barium, Dissolved	UG/L	129	5.0	51.0	5.0	ND	5.0	100	5.0
Cadmium, Dissolved	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
Chromium, Dissolved	UG/L	ND	3.0	ND	3.0	ND	3.0	ND	3.0
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
Nickel, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	14.5	5.0

Client ID		Spring #1		Spring #2		Spring #3			
Job No		A04-A119		A04-A119		A04-A119			
Sample Date	Lab ID	10/13/2004	A4A11905	10/13/2004	A4A11906	10/13/2004	A4A11907		
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	ND	10	NA	
Arsenic, Dissolved	UG/L	ND	10	ND	10	ND	10	NA	
Barium, Dissolved	UG/L	51.0	5.0	132	5.0	443	5.0	NA	
Cadmium, Dissolved	UG/L	ND	1.0	ND	1.0	ND	1.0	NA	
Chromium, Dissolved	UG/L	ND	3.0	ND	3.0	4.4	3.0	NA	
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	NA	
Nickel, Dissolved	UG/L	ND	5.0	ND	5.0	39.1	5.0	NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

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Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

lient ID ob No ample Date	Lab ID	DUPA0404 A04-A119 10/13/2004	A4A11901	DUPB0404 A04-A119 10/13/2004	A4A11902	FLDBLK A04-A119 10/13/2004	A4A11903	MW-6 A04-A119 10/13/2004	A4A11904
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
vanide, Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010

client ID Job No Sample Date	Lab ID	Spring #1 A04-A119 10/13/2004	A4A11905	Spring #2 A04-A119 10/13/2004	A4A11906	Spring #3 A04-A119 10/13/2004	A4A11907		
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
yanide, Total	MG/L	ND	0.010	ND	0.010	0.012	0.010	NA	

12\46

A = Not Applicable ND = Not Detected

STL Buffalo

Batch Quality Control Data

Date: 10/29/2004 08:54:52
tch No: A4B18194

MS/MSD Batch QC Results

Rept: AN1392

Lab Sample ID: A4A11501 A4A11501MS A4A11501SD

Analyte	Units of Measure	Concentration Sample	Matrix Spike	Spike Duplicate	Spike Amount MS	MSD	% Recovery MS	MSD	Avg	% RPD	QC LIMITS RPD	REC.
:THOD 8260												
1,1-Dichloroethene	UG/L	0	98.0	112	100	100	98	112	105	13	16.0	65-138
Trichloroethene	UG/L	0	94.5	109	100	100	94	109	102	15 *	14.0	71-120
Benzene	UG/L	8.37	102	118	100	100	94	110	102	16 *	11.0	67-126
Toluene	UG/L	129	224	242	100	100	95	113	104	17 *	15.0	71-120
Chlorobenzene	UG/L	0	95.6	108	100	100	96	109	103	13	13.0	74-120

14\46

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

STL Buffalo

Date: 10/29/2004 08:54:52
Batch No: A4B17743

MS/MSD Batch QC Results

Rept: AN1392

Lab Sample ID: A4A11904 A4A11904MS A4A11904SD

Analyte	Units of Measure	Concentration Sample	Concentration Matrix Spike	Concentration Spike Duplicate	Spike Amount MS	Spike Amount MSD	% Recovery MS	% Recovery MSD	% Recovery Avg	% RPD	QC LIMITS RPD	QC LIMITS REC.
RED PENN LANDFILL 8082 - POLYCHLORINATED												
Aroclor 1260	UG/L	0	8.34	8.56	9.09	9.09	92	94	93	2	30.0	50-122
Aroclor 1016	UG/L	0	8.39	9.63	9.09	9.09	92	106	99	14	30.0	29-123

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

15\46

Date: 10/29/2004 08:54:52
tch No: A4B18092

MS/MSD Batch QC Results

Rept: AN1392

Lab Sample ID: A4A05104 A4A05104MS A4A05104SD

Analyte	Units of Measure	Concentration Sample	Matrix Spike	Spike Duplicate	Spike Amount MS	MSD	% Recovery MS	MSD	Avg	% RPD	QC LIMITS RPD	REC.
'ANIDE ANALYSIS METHOD 335.4 - TOTAL CYANIDE	MG/L	0.00290	0.101	0.0957	0.100	0.100	98	93	96	5	15.0	85-115

1646

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

STL Buffalo

Date: 10/29/2004 08:54:52
Batch No: A4B18092

MS/MSD Batch QC Results

Rept: AN1392

Lab Sample ID: A4A10201 A4A10201MS A4A10201SD

Analyte	Units of Measure	Concentration			Spike Amount		% Recovery			%	QC LIMITS	
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg	RPD	RPD	REC.
CYANIDE ANALYSIS METHOD 335.4 - TOTAL CYANIDE	MG/L	0.00750	0.0894	0.0998	0.100	0.100	82 *	92	87	11	15.0	85-115

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

17\46

STL Buffalo

Date: 10/29/2004 08:54:52
ıtch No: A4B18092

MS/MSD Batch QC Results

Rept: AN1392

Lab Sample ID: A4A16106 A4A16106MS

Analyte	Units of Measure	Concentration Sample	Concentration Matrix Spike	Spike Amount	% Recovery MS	QC LIMITS
YANIDE ANALYSIS Z: METHOD 335.4 - DISSOLVED CYANIDE	MG/L	0	0.0890	0.100	89	85-115

* Indicates Result is outside QC Limits
IC = Not Calculated ND = Not Detected

Date: 10/29/2004 08:54:52
Batch No: A4B18092

MS/MSD Batch QC Results

Rept: AN1392

Lab Sample ID: A4A35104 A4A35104MS

Analyte	Units of Measure	Concentration Sample	Concentration Matrix Spike	Spike Amount	% Recovery MS	QC LIMITS
CYANIDE ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0	0.0747	0.100	75 *	85-115

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

STL Buffalo

Date: 10/29/2004 08:54:52
ıtch No: A4B18173

MS/MSD Batch QC Results

Rept: AN1392

Lab Sample ID: A4A40025 A4A40025MS

Analyte	Units of Measure	Concentration Sample	Concentration Matrix Spike	Spike Amount	% Recovery MS	QC LIMITS
YANIDE ANALYSIS METHOD 9012 - TOTAL CYANIDE	UG/G	11.89	20.00	10.0	81 *	85-115

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

20\46

STL Buffalo

Chronology and QC Summary Package

ate: 10/29/2004
ime: 08:36:16

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

lient ID		VBLK 65							
ob No / Lab ID		A04-A119	A4B1819402						
ample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
enzene	UG/L	ND	1.0	NA		NA		NA	
lorobenzene	UG/L	ND	1.0	NA		NA		NA	
loroethane	UG/L	ND	2.0	NA		NA		NA	
is-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
IS/SURROGATE(S)									
lorobenzene-D5	%	93	50-200	NA		NA		NA	
,4-Difluorobenzene	%	93	50-200	NA		NA		NA	
,4-Dichlorobenzene-D4	%	88	50-200	NA		NA		NA	
oluene-D8	%	89	76-116	NA		NA		NA	
-Bromofluorobenzene	%	84	73-117	NA		NA		NA	
,2-Dichloroethane-D4	%	100	72-143	NA		NA		NA	

A = Not Applicable ND = Not Detected

STL Buffalo

22\46

Date: 10/29/2004
Time: 08:36:16

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		TRIP BLANK							
Job No	Lab ID	A04-A119	A4A11908						
Sample Date		10/13/2004							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
==========IS/SURROGATE(S)==========									
Chlorobenzene-D5	%	90	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	91	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	85	50-200	NA		NA		NA	
Toluene-D8	%	89	76-116	NA		NA		NA	
p-Bromofluorobenzene	%	85	73-117	NA		NA		NA	
1,2-Dichloroethane-D4	%	101	72-143	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

23\46

ate: 10/29/2004
ime: 08:36:23

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

:lient ID ob No ample Date	Lab ID	Method Blank A04-A119	A4B1774302						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
CB 1016	UG/L	ND	0.50	NA		NA		NA	
CB 1221	UG/L	ND	0.50	NA		NA		NA	
CB 1232	UG/L	ND	0.50	NA		NA		NA	
CB 1242	UG/L	ND	0.50	NA		NA		NA	
CB 1248	UG/L	ND	0.50	NA		NA		NA	
CB 1254	UG/L	ND	0.50	NA		NA		NA	
CB 1260	UG/L	ND	0.50	NA		NA		NA	
SURROGATE(S)									
etrachloro-m-xylene	%	90	36-132	NA		NA		NA	
ecachlorobiphenyl	%	68	28-132	NA		NA		NA	

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A = Not Applicable ND = Not Detected

STL Buffalo

Date: 10/29/2004
Time: 08:36:26

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID		Method Blank							
Job No	Lab ID	A04-A119	A4B1776702						
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Barium, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Chromium, Dissolved	UG/L	ND	3.0	NA		NA		NA	
Antimony, Dissolved	UG/L	ND	10	NA		NA		NA	
Arsenic, Dissolved	UG/L	ND	10	NA		NA		NA	
Cadmium, Dissolved	UG/L	ND	1.0	NA		NA		NA	
Lead, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Nickel, Dissolved	UG/L	ND	5.0	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

ate: 10/29/2004
ime: 08:36:28

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Rept: AN1246

Client ID Job No Sample Date	Lab ID	Method Blank A04-A119	A4B1809202	Method Blank A04-A119	A4B1817302				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
yanide, Total	MG/L	ND	0.010	ND	0.010	NA		NA	

IA = Not Applicable ND = Not Detected

STL Buffalo

26\46

Date : 10/29/2004 08:36:31

Rept: AN0364

Client Sample ID: VBLK 65 MSB 65
Lab Sample ID: A4B1819402 A4B1819401

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL -8260 - SELECT VOLATIL					
Benzene	UG/L	9.31	10.0	93	67-126
Chlorobenzene	UG/L	9.23	10.0	92	74-120

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

27\46

te : 10/29/2004 08:36:39

Rept: AN0364

SAMPLE DATE 10/13/2004

ient Sample ID: MW-6 MW-6 MW-6
Lab Sample ID: A4A11904 A4A11904MS A4A11904SD

Analyte	Units of Measure	Concentration Sample	Matrix Spike	Spike Duplicate	Spike Amount MS	MSD	% Recovery MS	MSD	Avg	% RPD	QC LIMITS RPD	REC.
ED PENN LANDFILL 8082 - POLYCHLORINATED												
PCB 1260	UG/L	0	8.34	8.56	9.09	9.09	92	94	93	2	30.0	50-122
PCB 1016	UG/L	0	8.39	9.63	9.09	9.09	92	106	99	14	30.0	29-123

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Date : 10/29/2004 08:36:39

Rept: AN0364

Client Sample ID: Method Blank
Lab Sample ID: A4B1774302

Matrix Spike Blank
A4B1774301

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL 8082 - POLYCHLORINATED					
PCB 1260	UG/L	4.55	5.00	91	50-122
PCB 1016	UG/L	4.73	5.00	95	29-123

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

29\46

ate : 10/29/2004 08:36:42

Rept: AN0364

ient Sample ID: Method Blank LFB
Lab Sample ID: A4B1776702 A4B1776701

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
OLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)					
SOLUBLE ANTIMONY	UG/L	215.4	200.0	107	80-120
SOLUBLE ARSENIC	UG/L	237.7	200.0	119	80-120
SOLUBLE BARIUM	UG/L	216.2	200.0	108	80-120
SOLUBLE CADMIUM	UG/L	213.7	200.0	107	80-120
SOLUBLE CHROMIUM	UG/L	211.5	200.0	106	80-120
SOLUBLE LEAD	UG/L	211.4	200.0	105	80-120
SOLUBLE NICKEL	UG/L	215.7	200.0	108	80-120

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

30\46

Date : 10/29/2004 08:36:45

Rept: AN0364

Client Sample ID: Method Blank LCS
Lab Sample ID: A4B1809202 A4B1809201

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
WET CHEMISTRY ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0.429	0.400	107	90-110

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

31\46

ient Sample ID: Method Blank LCS
Lab Sample ID: A4B1817302 A4B1817301

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
ET CHEMISTRY ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0.425	0.400	106	90-110

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Date: 10/29/2004
Time: 08:36:48

SAMPLE CHRONOLOGY

Rept: AN1248
Page: 1

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	DUPA0404 A04-A119 A4A11901	DUPB0404 A04-A119 A4A11902	FLDBLK A04-A119 A4A11903	MW-6 A04-A119 A4A11904	Spring #1 A04-A119 A4A11905
Sample Date	10/13/2004	10/13/2004	10/13/2004	10/13/2004 10:45	10/13/2004 14:05
Received Date	10/14/2004 09:15	10/14/2004 09:15	10/14/2004 09:15	10/14/2004 09:15	10/14/2004 09:15
Extraction Date	10/22/2004 02:45	10/22/2004 03:15	10/22/2004 03:45	10/22/2004 04:14	10/22/2004 04:44
Analysis Date	-	-	-	-	-
Extraction HT Met?	YES	YES	YES	YES	YES
Analytical HT Met?	GW	GW	GW	GW	GW
Sample Matrix	1.0	1.0	1.0	1.0	1.0
Dilution Factor	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS
Sample wt/vol					
% Dry					

NA = Not Applicable

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!ED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	Spring #2 A04-A119 A4A11906	Spring #3 A04-A119 A4A11907			
ample Date	10/13/2004 13:30	10/13/2004 16:05			
eceived Date	10/14/2004 09:15	10/14/2004 09:15			
xtraction Date					
nalysis Date	10/22/2004 05:14	10/22/2004 05:43			
xtraction HT Met?	-	-			
nalytical HT Met?	YES	YES			
ample Matrix	GW	GW			
ilution Factor	1.0	5.0			
ample wt/vol	0.025 LITERS	0.025 LITERS			
Dry					

34\46

QC SAMPLE CHRONOLOGY

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	TRIP BLANK A04-A119 A4A11908				
Sample Date	10/13/2004				
Received Date	10/14/2004 09:15				
Extraction Date					
Analysis Date	10/22/2004 06:13				
Extraction HT Met?	-				
Analytical HT Met?	YES				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

NA = Not Applicable

35\46

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	VBLK 65 A04-A119 A4B1819402				
Sample Date					
Received Date					
Extraction Date					
Analysis Date	10/21/2004 22:18				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

NA = Not Applicable

Date: 10/29/2004
Time: 08:36:54

SAMPLE CHRONOLOGY

Rept: AN1248
Page: 1

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	DUPA0404 A04-A119 A4A11901	DUPB0404 A04-A119 A4A11902	FLDBLK A04-A119 A4A11903	MW-6 A04-A119 A4A11904	Spring #1 A04-A119 A4A11905
Sample Date	10/13/2004	10/13/2004	10/13/2004	10/13/2004 10:45	10/13/2004 14:05
Received Date	10/14/2004 09:15	10/14/2004 09:15	10/14/2004 09:15	10/14/2004 09:15	10/14/2004 09:15
Extraction Date	10/14/2004 14:30	10/14/2004 14:30	10/14/2004 14:30	10/14/2004 14:30	10/14/2004 14:30
Analysis Date	10/15/2004 11:27	10/15/2004 11:40	10/15/2004 11:52	10/15/2004 12:05	10/15/2004 12:43
Extraction HT Met?	YES	YES	YES	YES	YES
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	1.01 LITERS	1.02 LITERS	1.03 LITERS	1.0 LITERS	1.03 LITERS
% Dry					

NA = Not Applicable

37\46

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Spring #2 A04-A119 A4A11906	Spring #3 A04-A119 A4A11907			
Sample Date	10/13/2004 13:30	10/13/2004 16:05			
Received Date	10/14/2004 09:15	10/14/2004 09:15			
Extraction Date	10/14/2004 14:30	10/14/2004 14:30			
Analysis Date	10/15/2004 12:55	10/15/2004 13:08			
Extraction HT Met?	YES	YES			
Analytical HT Met?	YES	YES			
Sample Matrix	GW	GW			
Dilution Factor	1.0	1.0			
Sample wt/vol	1.05 LITERS	0.9 LITERS			
% Dry					

NA = Not Applicable

QC SAMPLE CHRONOLOGY

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Method Blank A04-A119 A4B1774302				
Sample Date					
Received Date					
Extraction Date	10/14/2004 14:30				
Analysis Date	10/15/2004 10:37				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	1.0 LITERS				
% Dry					

NA = Not Applicable

39\46

Date: 10/29/2004 08:36
Job No: A04-A119

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
4A11901	DUPA0404	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
4A11902	DUPB0404	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
A4A11903	FLDBLK	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	10/13/04	10/14 09:15	NA		10/16	BKL	Y	GW
A4A11904	MW-6	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	10/13/04 10:45	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	10/13/04 10:45	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	10/13/04 10:45	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	10/13/04 10:45	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	10/13/04 10:45	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	10/13/04 10:45	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	10/13/04 10:45	10/14 09:15	NA		10/16	BKL	Y	GW
A4A11905	Spring #1	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	10/13/04 14:05	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	10/13/04 14:05	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	10/13/04 14:05	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	10/13/04 14:05	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	10/13/04 14:05	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	10/13/04 14:05	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	10/13/04 14:05	10/14 09:15	NA		10/16	BKL	Y	GW
A4A11906	Spring #2	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	10/13/04 13:30	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	10/13/04 13:30	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	10/13/04 13:30	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	10/13/04 13:30	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	10/13/04 13:30	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	10/13/04 13:30	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	10/13/04 13:30	10/14 09:15	NA		10/16	BKL	Y	GW
A4A11907	Spring #3	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	10/13/04 16:05	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	10/13/04 16:05	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	10/13/04 16:05	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	10/13/04 16:05	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	10/13/04 16:05	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	10/13/04 16:05	10/14 09:15	NA		10/16	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	10/13/04 16:05	10/14 09:15	NA		10/16	BKL	Y	GW

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL_INI = Analyst Initials
DF = Dilution Factor

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QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

41\46

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
4B1776702	Method Blank	RECNY	Antimony, Dissolved	6010	1.0	0.05 L	-	-	NA		10/16	BKL	Y	WATER
		RECNY	Arsenic, Dissolved	6010	1.0	0.05 L	-	-	NA		10/16	BKL	Y	WATER
		RECNY	Barium, Dissolved	6010	1.0	0.05 L	-	-	NA		10/16	BKL	Y	WATER
		RECNY	Cadmium, Dissolved	6010	1.0	0.05 L	-	-	NA		10/16	BKL	Y	WATER
		RECNY	Chromium, Dissolved	6010	1.0	0.05 L	-	-	NA		10/16	BKL	Y	WATER
		RECNY	Lead, Dissolved	6010	1.0	0.05 L	-	-	NA		10/16	BKL	Y	WATER
		RECNY	Nickel, Dissolved	6010	1.0	0.05 L	-	-	NA		10/16	BKL	Y	WATER

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

Date: 10/29/2004 08:37
Job No: A04-A119

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Rept: AN125(
Page: 1

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matri:
A4A11901	DUPA0404	RECNY	Cyanide, Total	9012A	1.0		10/13/04	10/14 09:15	NA		10/22	LRM	Y	GW
A4A11902	DUPB0404	RECNY	Cyanide, Total	9012A	1.0		10/13/04	10/14 09:15	NA		10/22	LRM	Y	GW
A4A11903	FLDBLK	RECNY	Cyanide, Total	9012A	1.0		10/13/04	10/14 09:15	NA		10/22	LRM	Y	GW
A4A11904	MW-6	RECNY	Cyanide, Total	9012A	1.0		10/13/04 10:45	10/14 09:15	NA		10/22	LRM	Y	GW
A4A11905	Spring #1	RECNY	Cyanide, Total	9012A	1.0		10/13/04 14:05	10/14 09:15	NA		10/22	LRM	Y	GW
A4A11906	Spring #2	RECNY	Cyanide, Total	9012A	1.0		10/13/04 13:30	10/14 09:15	NA		10/22	LRM	Y	GW
A4A11907	Spring #3	RECNY	Cyanide, Total	9012A	1.0		10/13/04 16:05	10/14 09:15	NA		10/25	LRM	Y	GW

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

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STL Buffalo

Date: 10/29/2004 08:37
Job No: A04-A119

QUARTERLY WELLS & SPRINGS
QC CHRONOLOGY

Rept: AW1250
Page: 2

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
4B1809202	Method Blank	RECNY	Cyanide, Total	9012A	1.0		-	-	NA		10/22	LRM	Y	WATER
4B1817302	Method Blank	RECNY	Cyanide, Total	9012A	1.0		-	-	NA		10/25	LRM	Y	WATER

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

STL Buffalo

Chain of Custody

Chain of Custody Record

SEVERN TRENT STL
Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	RMT Bill Directly to waste management
Project Manager	Mike Amstadt
Date	10/13/04
Chain of Custody Number	139182
Address	744 Heartland Trail
Telephone Number (Area Code)/Fax Number	608-831-4444
Lab Number	
Page	1 of 1
City	Madison
State	WI
Zip Code	53708-8922
Site Contact	Waste management
Lab Contact	Amy Hagg
Project Name and Location (State)	Red Penn Landfill Louisville KY
Carrier/Waybill Number	
Contract/Purchase Order/Quote No.	

Analysis (Attach list if more space is needed)

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Benzene, Chloroform, Chlorobenzene, Cis-1,2-Dichloroethene	PCB-1221, 1242, 1254, 1260, 1016/1221	Dis. metals *	Cyanide (total)	Special Instructions/ Conditions of Receipt
MW-6	10-13-04	10:45		X			2		1	4			X	X	X	X	
Spring 1		14:05															
Spring 2		13:30															
Spring 3		16:05															
DUP A 1004		–															
DUP B 1004		–															
FLDBLK		–															
Trip Blank		–								2							

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other_____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: John W. [illegible]	10/13/04	22:00	1. Received By: Jerry Alg STLBuffalo	10/14/04	0915
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments
*Dissolved metals:
Antimony, Arsenic, Barium, Cadmium, Chromium, lead, Nickel

3 @ 2-10°C

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

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Attachment D

Photographic Documentation of Plantings

DEC 16 2004

DO NOT MOW
DEC 16 2004

RMT®
Integrated Environmental Solutions

744 Heartland Trail 53717-1934
P.O. Box 8923 53708-8923
Madison, WI
Telephone: 608-831-4444
Fax: 608-831-3334
www.rmtinc.com

December 5, 2005

Ms. Susan Mallette
Geologist
Kentucky Division of Waste Management
18 Reilly Road
Frankfort, KY 40601

Subject: Red Penn Landfill, Pewee Valley, Kentucky
Year 2005 Annual OM&M Report

Dear Susan:

This letter report presents the results for the fifth year (2005) of post-construction operation, maintenance, and monitoring (OM&M) activities at the Red Penn Landfill. The semiannual OM&M activities, which included groundwater and surface water monitoring, leachate head monitoring, and site inspections, were performed in accordance with the Post-Construction Performance Standards Verification Plan (Section 3 of the Final Remedial Design [RMT, October 1999]); the Operation, Monitoring, and Maintenance Plan (Appendix G of the Final Remedial Design); and revisions to these plans approved by the Kentucky Department for Environmental Protection (KDEP) dated April 2, 2003 (refer to Attachment A). The KDEP was notified of the proposed OM&M activities 5 days prior to the activity, and was present for a portion of only the first semiannual monitoring event.

Monitoring was conducted in April and October 2005, and consisted of the following activities:

- Sampling groundwater monitoring wells
- Sampling surface water springs
- Measuring the liquid levels in the leachate head wells

As discussed below, not all of the groundwater monitoring wells and surface water springs could be sampled during each monitoring event, because they were dry when the OM&M activities were conducted. The locations of the monitoring points are shown on Figure 1.

Site inspections were also conducted in April and October 2005 (refer to Attachment B).

Groundwater and Spring Monitoring Results

The groundwater and spring samples were analyzed for VOCs, PCBs, metals, and total cyanide, as specified in the OM&M Plan. The laboratory reports and a database summary report, with data validation flags, are contained in Attachment C. The following groundwater monitoring wells and springs could not be sampled during the respective monitoring event, either because they were dry,

or because the water did not recharge within a reasonable amount of time after being bailed dry (as the OM&M Plan requires that the well be purged prior to sampling).

Wells and Springs Not Sampled in 2005

APRIL 2005	OCTOBER 2005
■ MW-8002-8975 ■ MW-8002-8979 ■ Spring #4	■ MW-8002-8975 ■ MW-8002-8979 ■ Spring #1 ■ Spring #2 ■ Spring #3 ■ Spring #4 ■ Spring #5

No VOCs, PCBs, or total cyanide was detected in any of the water samples collected during the 2005 monitoring events. The laboratory data summary reports, with data validation flags (as applicable), are contained in Attachment C.

The following metals were analyzed for during each sampling event: antimony, arsenic, barium, cadmium, chromium, lead, and nickel. The metals that were detected during the 2005 monitoring activities were as follows:

METAL	MINIMUM CONCENTRATION (µg/L)	MAXIMUM CONCENTRATION (µg/L)	FREQUENCY OF DETECTION ABOVE THE EQL
Barium	49.1	215	7/8
Nickel	9.2	24.7	3/8

Figures 2 through 8 show the time trends for the following parameters: arsenic, barium, cadmium, chromium, lead, nickel, and total cyanide. On Figures 2 through 8, the parameters that were detected in the groundwater samples in 2005 show a stable to downward trend when compared with the results from 2001 through 2004.

Leachate Head Levels

The pre- and post-construction leachate head data are presented in Table 1 and graphed on Figure 9. The final landfill cover was completed in the fall of 2000. The leachate head data indicate that the final cover continues to reduce surface water infiltration into the waste and has significantly reduced the leachate levels. Leachate head trends will be evaluated now that the 5-year post-construction

monitoring period has been completed, as required by the Final Remedial Design and Scope of Work. This evaluation will be included in the Agreed Order 5-Year Review.

Site Inspections

Site inspection activities included inspecting the final landfill cover, and performing maintenance or repairs as necessary, for the following items:

- Surface water controls (*e.g.*, diversion berms and the spillway)
- Final cover (*e.g.*, vegetation, erosion, settlement, and burrowing animals)
- Groundwater and leachate monitoring wells
- Site access control

A summary of the maintenance and repair activities performed during 2005 is included in Table 2. The semiannual site inspection reports are included in Attachment B. The maintenance items that were identified during the 2005 inspections have been addressed.

Please call me, at (608) 662-5271, if you have any questions regarding this report.

Sincerely,

RMT, Inc.

Michael J. Amstadt P.E.
Project Manager

Attachments: Tables
Figures
Attachment A: Correspondence
Attachment B: Site Inspection Reports
Attachment C: Laboratory Results and Database Summary Reports

cc: Jim Forney, Waste Management, Inc.
March Smith, Waste Management, Inc.
Jeff Hartland, Ford Motor Land Services Corporation
Linda Hicken, RMT, Inc.

Table 1
Leachate Head Measurements and Calculated Elevations at LH-1 through LH-3
Red Penn Landfill
Pewee Valley, Kentucky

Date	Top of PVC Casing (ft. M.S.L.)	Depth of Leachate Below Top of PVC Casing (ft.)	Leachate Elevation (ft. M.S.L.)	Bottom of PVC Screen (ft. M.S.L.)[1]	Height of Leachate Above Bottom of PVC Screen (ft.)
LEACHATE HEAD WELL LH-1					
6-May-99	709.83	8.0	701.83	675.30	26.53
15-Sep-99	709.83	13.0	696.83	675.30	21.53
12-Aug-00	709.83	21.9	687.93	675.30	12.63
29-Aug-00	709.83	22.5	687.33	675.30	12.03
26-Sep-00	709.83	21.45	688.38	675.30	13.08
28-Feb-01	709.83	21.09	688.74	675.30	13.44
4-May-01	709.83	21.22	688.61	675.30	13.31
21-Aug-01	709.83	21.46	688.37	675.30	13.07
27-Nov-01	709.83	21.58	688.25	675.30	12.95
18-Feb-02	709.35	23.88	685.47	675.30	10.17
21-May-02	709.35	24.02	685.33	675.30	10.03
08-Aug-02	709.35	23.98	685.37	675.30	10.07
18-Nov-02	709.35	23.99	685.36	675.30	10.06
25-Mar-03	709.35	24.14	685.21	675.30	9.91
29-Oct-03	709.35	26.47	682.88	675.30	7.58
21-Apr-04	709.35	28.30	681.05	675.30	5.75
13-Oct-04	709.35	27.60	681.75	675.30	6.45
14-Apr-05	709.35	30.30	679.05	675.30	3.75
11-Oct-05	709.35	31.35	678.00	675.30	2.70

Notes:
[1] Bottom of PVC screen is approximately 1 foot above the base of the landfill.

By: GLB
Checked by: NFB
Date: 11/09/05

Table 1 *(continued)*
Leachate Head Measurements and Calculated Elevations at LH-1 through LH-3
Red Penn Landfill
Pewee Valley, Kentucky

Date	Top of PVC Casing (ft. M.S.L.)	Depth of Leachate Below Top of PVC Casing (ft.)	Leachate Elevation (ft. M.S.L.)	Bottom of PVC Screen (ft. M.S.L.)(1)	Height of Leachate Above Bottom of PVC Screen (ft.)
LEACHATE HEAD WELL LH-2					
6-May-99	687.72	6.0	681.72	636.27	45.45
15-Sep-99	687.72	14.0	673.72	636.27	37.45
12-Aug-00	687.72	10.2	677.52	636.27	41.25
29-Aug-00	687.72	11.0	676.72	636.27	40.45
26-Sep-00	687.72	10.2	677.52	636.27	41.25
28-Feb-01	687.72	17.44	670.28	636.27	34.01
4-May-01	687.72	20.87	666.85	636.27	30.58
21-Aug-01	687.72	20.61	667.11	636.27	30.84
27-Nov-01	687.72	20.43	667.29	636.27	31.02
18-Feb-02	687.72	21.57	666.15	636.27	29.88
21-May-02	687.72	21.71	666.01	636.27	29.74
08-Aug-02	687.39(2)	22.52	664.87	636.27	28.60
18-Nov-02	687.39	23.98	663.41	636.27	27.14
25-Mar-03	687.39	22.9	664.49	636.27	28.22
29-Oct-03	687.39	22.65	664.74	636.27	28.47
21-Apr-04	687.39	22.60	664.79	636.27	28.52
13-Oct-04	687.39	22.00	665.39	636.27	29.12
14-Apr-05	687.39	22.62	664.77	636.27	28.50
11-Oct-05	686.97(2)	17.90	669.07	636.27	32.80

Notes:
(1) Bottom of PVC screen is approximately 1 foot above the base of the landfill.
(2) A portion of the PVC casing was cut to permit locking of the protective casing.

By: GLB
Checked by: NFB
Date: 11/09/05

Table 1 (*continued*)
Leachate Head Measurements and Calculated Elevations at LH-1 through LH-3
Red Penn Landfill
Pewee Valley, Kentucky

Date	Top of PVC Casing (ft. M.S.L.)	Depth of Leachate Below Top of PVC Casing (ft.)	Leachate Elevation (ft. M.S.L.)	Bottom of PVC Screen (ft. M.S.L.)[1]	Height of Leachate Above Bottom of PVC Screen (ft.)
LEACHATE HEAD WELL LH-3					
6-May-99	704.49	23.0[2]	681.49	677.58	3.91[2]
15-Sep-99	704.49	14.0	690.49	677.58	12.91
12-Aug-00	704.49	19.4	685.09	677.58	7.51
29-Aug-00	704.49	19.5	684.99	677.58	7.41
26-Sep-00	704.49	20.4	684.09	677.58	6.51
28-Feb-01	704.49	22.39	682.10	677.58	4.52
4-May-01	704.49	22.06	682.43	677.58	4.85
21-Aug-01	704.49	22.92	681.57	677.58	3.99
27-Nov-01	704.49	23.12	681.37	677.58	3.79
18-Feb-02	704.49	23.65	680.84	677.58	3.26
21-May-02	704.49	24.99	679.50	677.58	1.92
08-Aug-02	704.49	25.79	678.70	677.58	1.12
18-Nov-02	704.49	24.66	679.83	677.58	2.25
25-Mar-03	704.49	23.94	680.55	677.58	2.97
29-Oct-03	704.49	26.83	677.66	677.58	0.08
21-Apr-04	704.49	25.45	679.04	677.58	1.46
13-Oct-04	704.49	27.00[3]	677.49	677.58	-0.09[3]
14-Apr-05	704.49	24.39	680.10	677.58	2.52
11-Oct-05	704.49	27.10[3]	677.39	677.58	-0.19[3]

Notes:

(1) Bottom of PVC screen is approximately 1 foot above the base of the landfill.

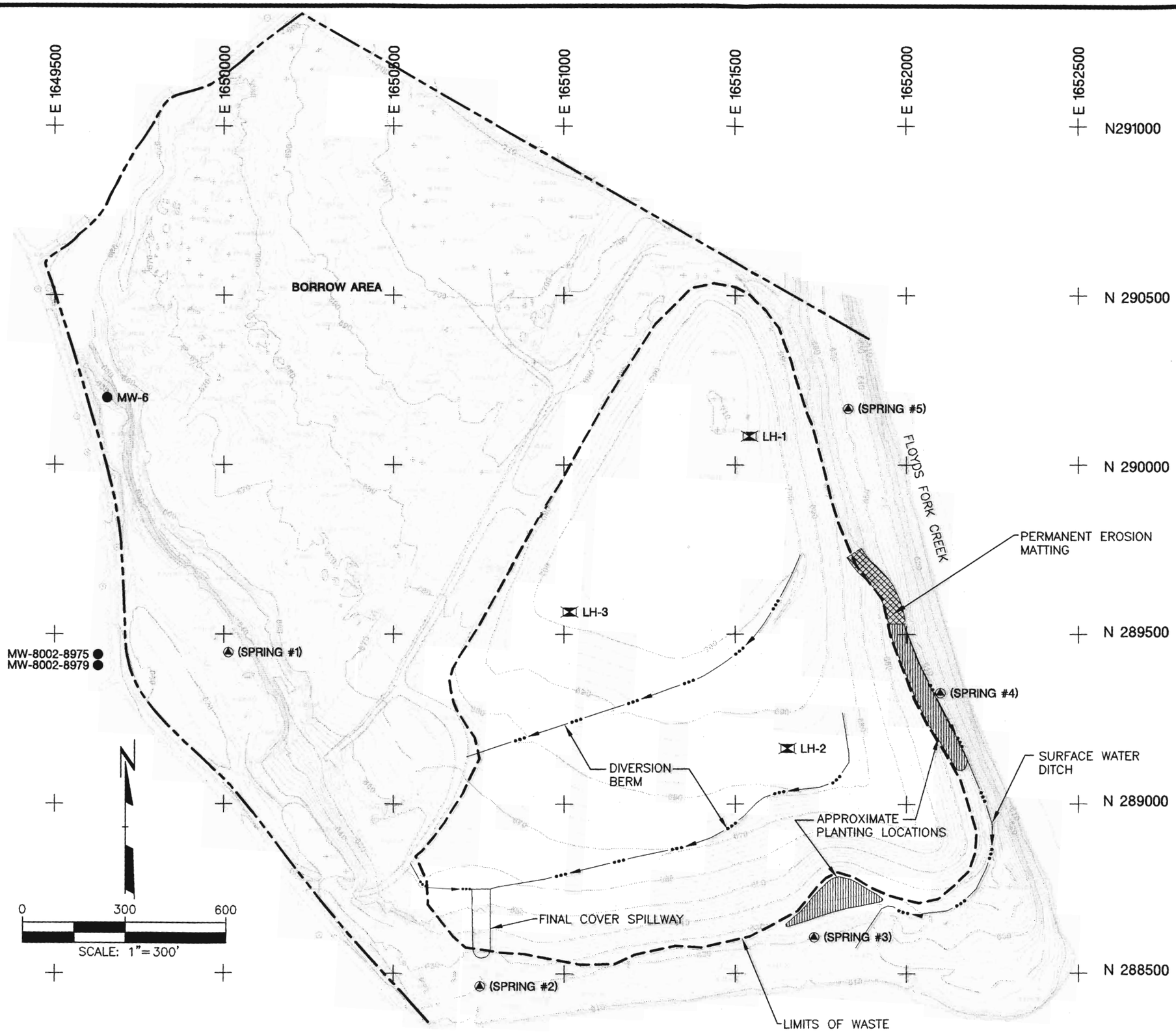
(2) Leachate head well LH-3 was initially dry when the well was completed. The depth of leachate in LH-3 on May 6, 1999, was measured 24 hours after the completion of LH-3, in accordance with the Leachate Head Well Installation Workplan; however, the leachate level was still rising at the time of the measurement. Therefore, it is not believed that this was a representative leachate head level.

(3) The depth of leachate below the top of the PVC casing was recorded at a depth below the base of LH-3. Thus, it is assumed that water was present at the bottom of the well in the end cap and the measurement was in error.

By: GLB
Checked by: NFB
Date: 11/09/05

Table 2
Status of Maintenance Items
Red Penn Landfill
Pewee Valley, Kentucky

Item	Description of Maintenance Item	Date Identified	Date Repair/ Maintenance Completed	Scheduled Date for Repair
1	Erosion was observed near Spring #4.	4/14/05	5/18/05	N/A
2	Areas seeded in May 2004 on the south side of the landfill near Spring #3 are not growing.	4/14/05	5/18/05	N/A
3	The riser pipe was higher than the casing lid for LH-2, and the well could not be closed and locked. The riser pipe was cut to allow the lid to be closed.	4/14/05	5/18/05	N/A
4	The riser pipe was higher than the casing lid for LH-1. The riser pipe was cut (0.03′) to allow the lid to be closed.	10/11/05	10/11/05	N/A
5	New Waste Management locks are needed for LH-1, LH-2, LH-3, and the front gate. Temporary locks were installed.	10/11/05		Spring of 2006



LEGEND

- APPROXIMATE PROPERTY LINE
- GRID TICK LOCATION
- EXISTING 10' CONTOUR INTERVAL
- EXISTING 2' CONTOUR INTERVAL
- EXISTING TREELINE
- EXISTING SPOT ELEVATION
- LH-1 — EXISTING LEACHATE HEAD WELL LOCATION AND NUMBER
- (SPRING #1) — APPROXIMATE SURFACE WATER SAMPLING LOCATION AND NUMBER
- MW-6 — APPROXIMATE MONITORING WELL LOCATION AND NUMBER

NOTES

1. BASE MAP WAS DEVELOPED FROM AN AERIAL SURVEY PERFORMED BY OAS INC., ON NOVEMBER 15, 2000.
2. CONTOUR INTERVAL IS TWO FEET.
3. VERTICAL DATUM IS REFERENCED TO USGS MEAN SEA LEVEL DATUM.
4. THE PROJECT GRID SYSTEM IS PARALLEL AND PERPENDICULAR TO THE KENTUCKY STATE PLANE COORDINATE GRID SYSTEM, NORTH AMERICAN DATUM OF 1927.
5. THE LOCATIONS OF THE LEACHATE HEAD WELLS WERE OBTAINED DURING A SURVEY PERFORMED BY WESTERMAN & ASSOCIATES, LOUISVILLE, KENTUCKY. DATE OF SURVEY: MAY 19, 1999.
6. THE LOCATIONS OF THE SPRINGS ARE APPROXIMATE AND ARE BASED ON FIELD OBSERVATIONS.
7. THE LOCATIONS OF MW-6, MW-8002-8975 AND MW-8002-8979 ARE APPROXIMATE AND ARE BASED ON A LOCATION MAP SUPPLIED BY THE KENTUCKY DIVISION OF WASTE MANAGEMENT.

PROJECT:
RED PENN LANDFILL
PEWEE VALLEY, KENTUCKY

SHEET TITLE:
ENVIRONMENTAL MONITORING LOCATIONS

DRAWN BY: STORMERL	SCALE:	PROJ. NO. 04896.23
CHECKED BY: MJA	1"=300'	FILE NO. 48962306.DWG
APPROVED BY: MJA	DATE PRINTED:	**FIGURE 1**
DATE: DECEMBER 2005	DEC 0 5 2005	

RMT INC.
744 Heartland Trail
Madison, WI 53717-1934
P.O. Box 8923 53708-8923
Phone: 608-831-4444
Fax: 608-831-3334

Plot Date: Friday, November 11, 2005
Plot Time: 10:10:40 AM
Attached Xref's: JNKLOW; BM12-2000;
Attached Image's: No images attached
J:\04896\23\48962204.dwg
Name: noldenr
Name: 1"=40'
ze: 130144 Bytes

Figure 2
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Arsenic
in Surface Water and Groundwater Samples

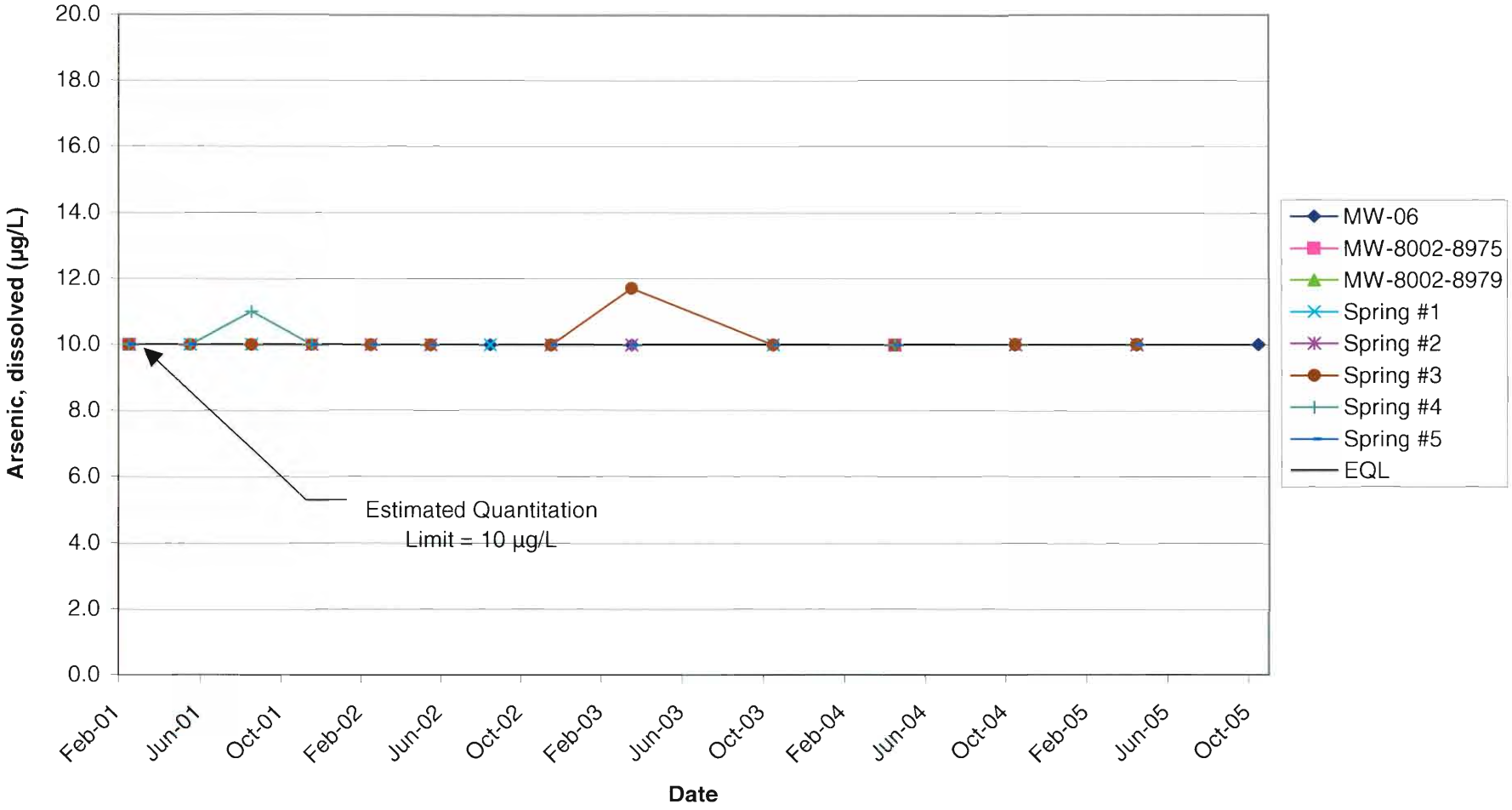
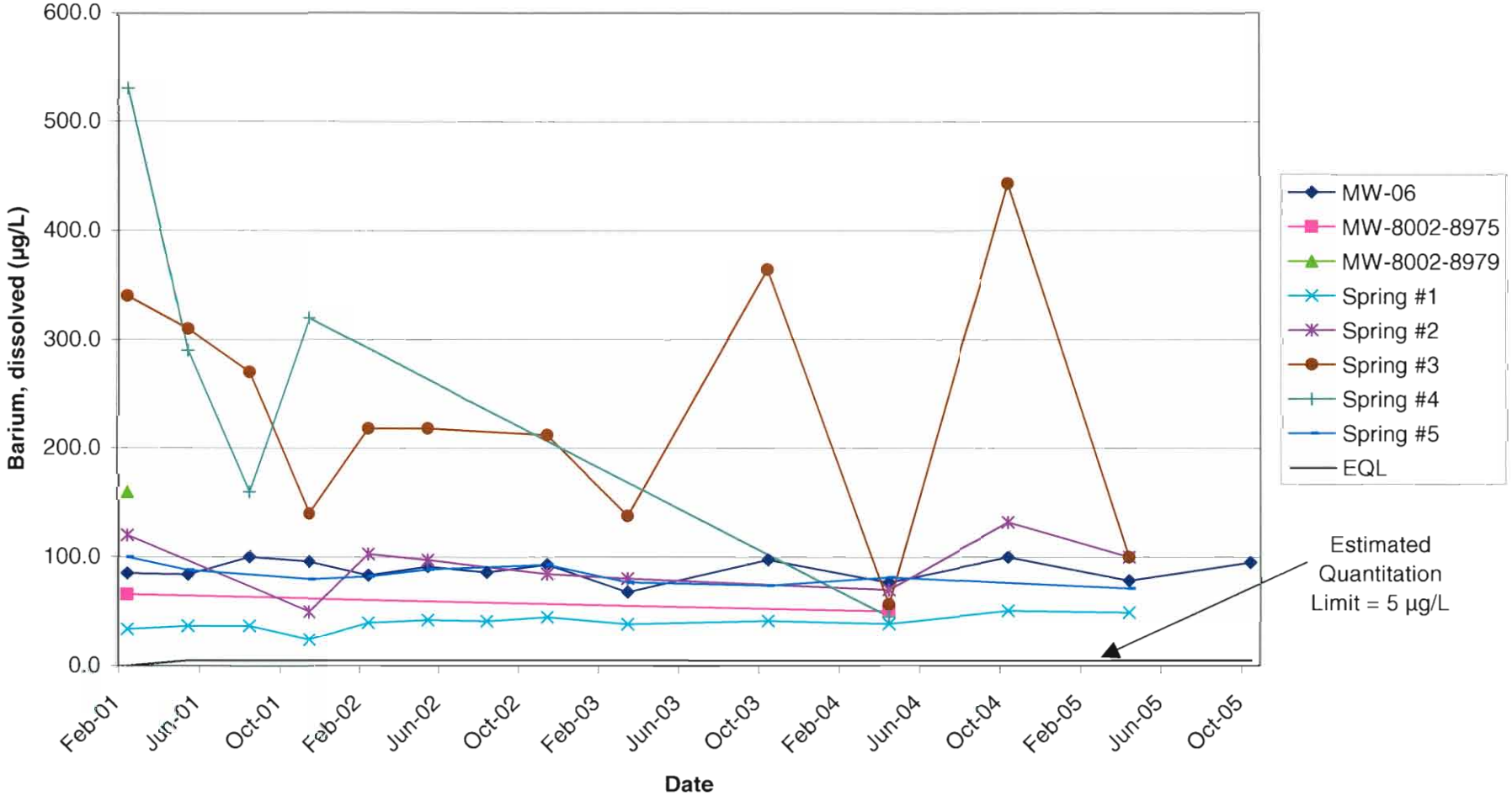
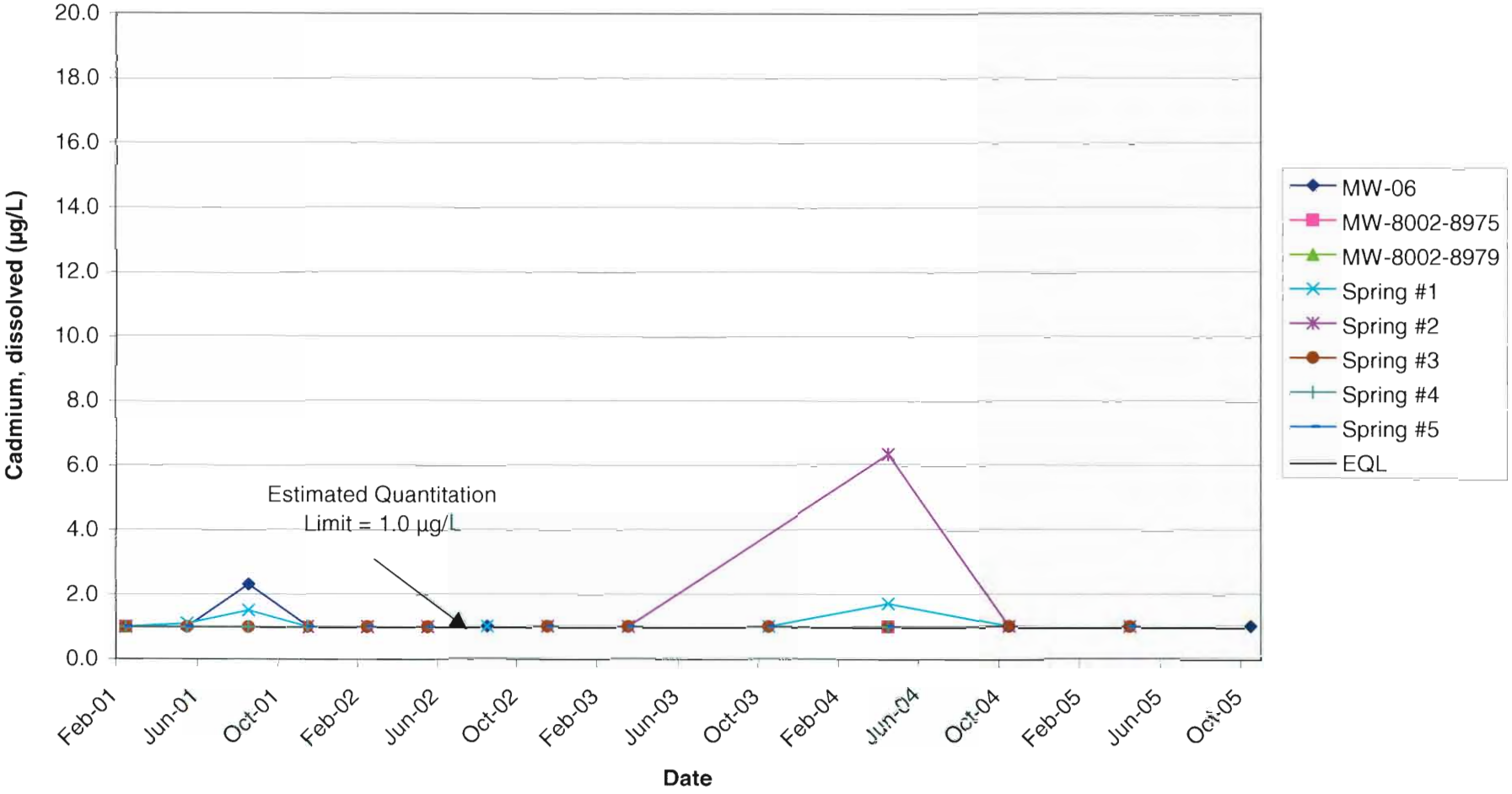


Figure 3
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Barium
in Surface Water and Groundwater Samples



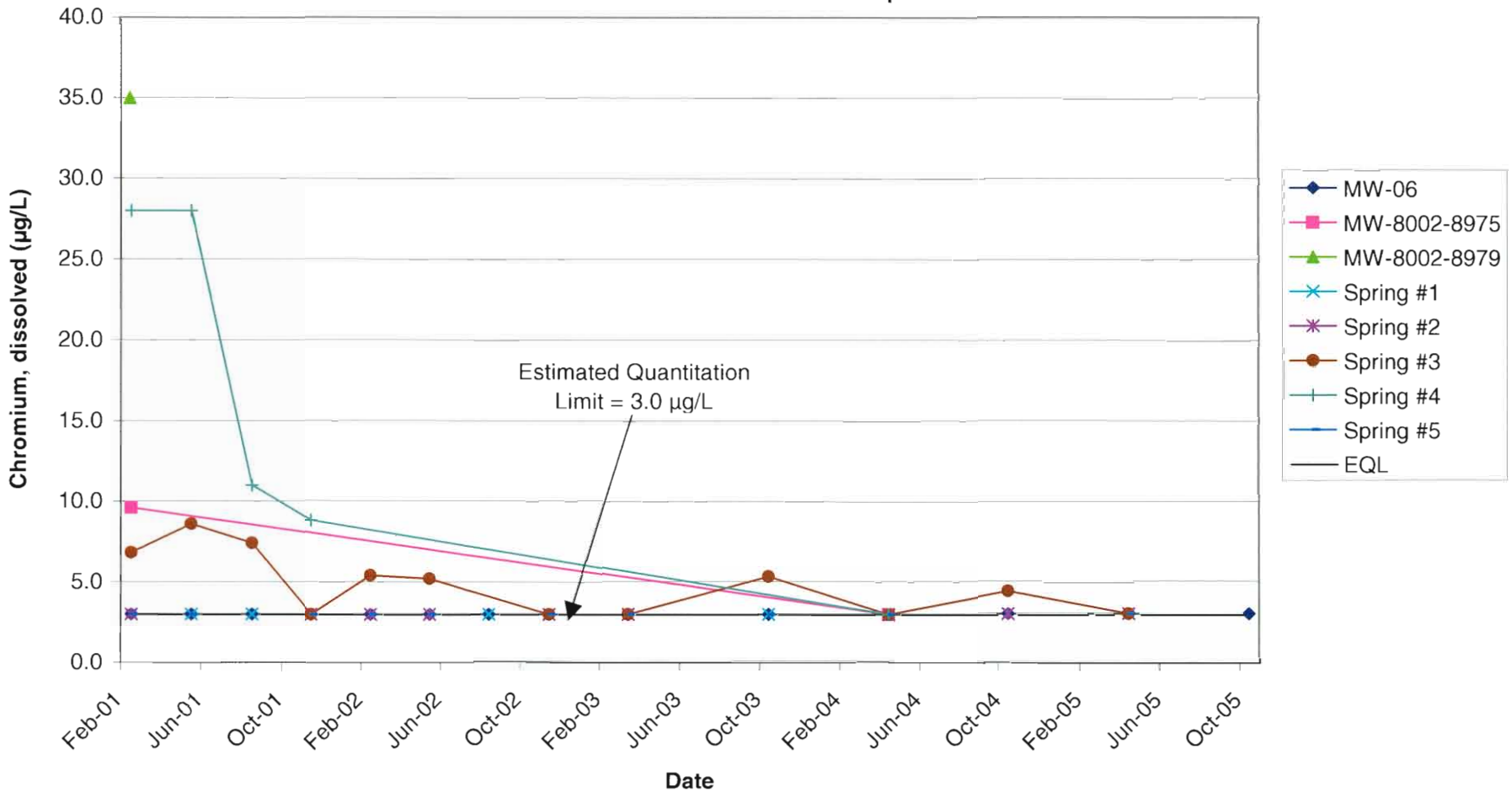
I:\WPMSN\PJT\00-04896\23\AnnualRpt figures.XLS 12/5/2005

Figure 4
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Cadmium
in Surface Water and Groundwater Samples



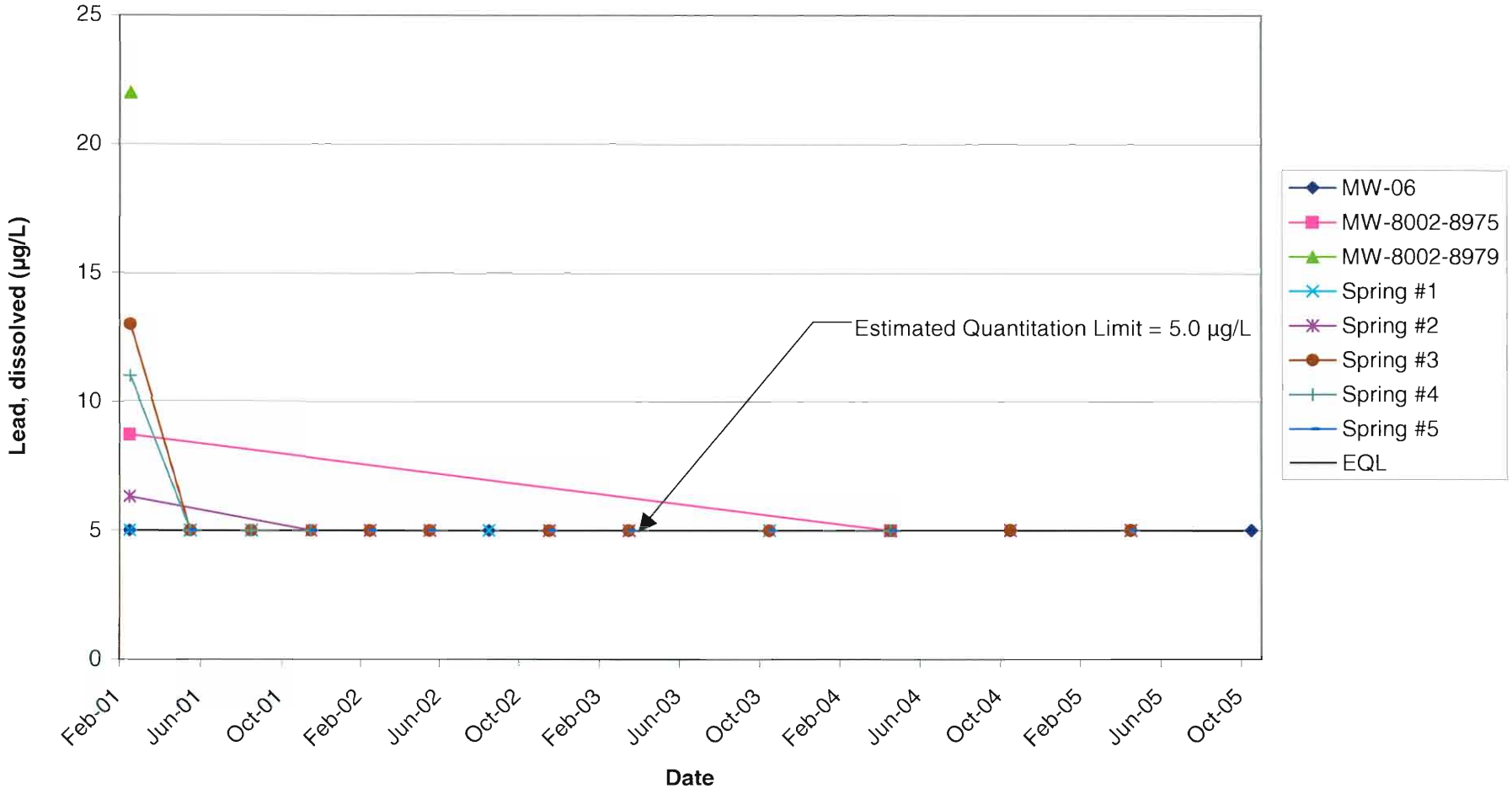
I:\WPMSN\PJT\00-04896\23\AnnualRpt figures.XLS 12/5/2005

Figure 5
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Chromium
in Surface Water and Groundwater Samples



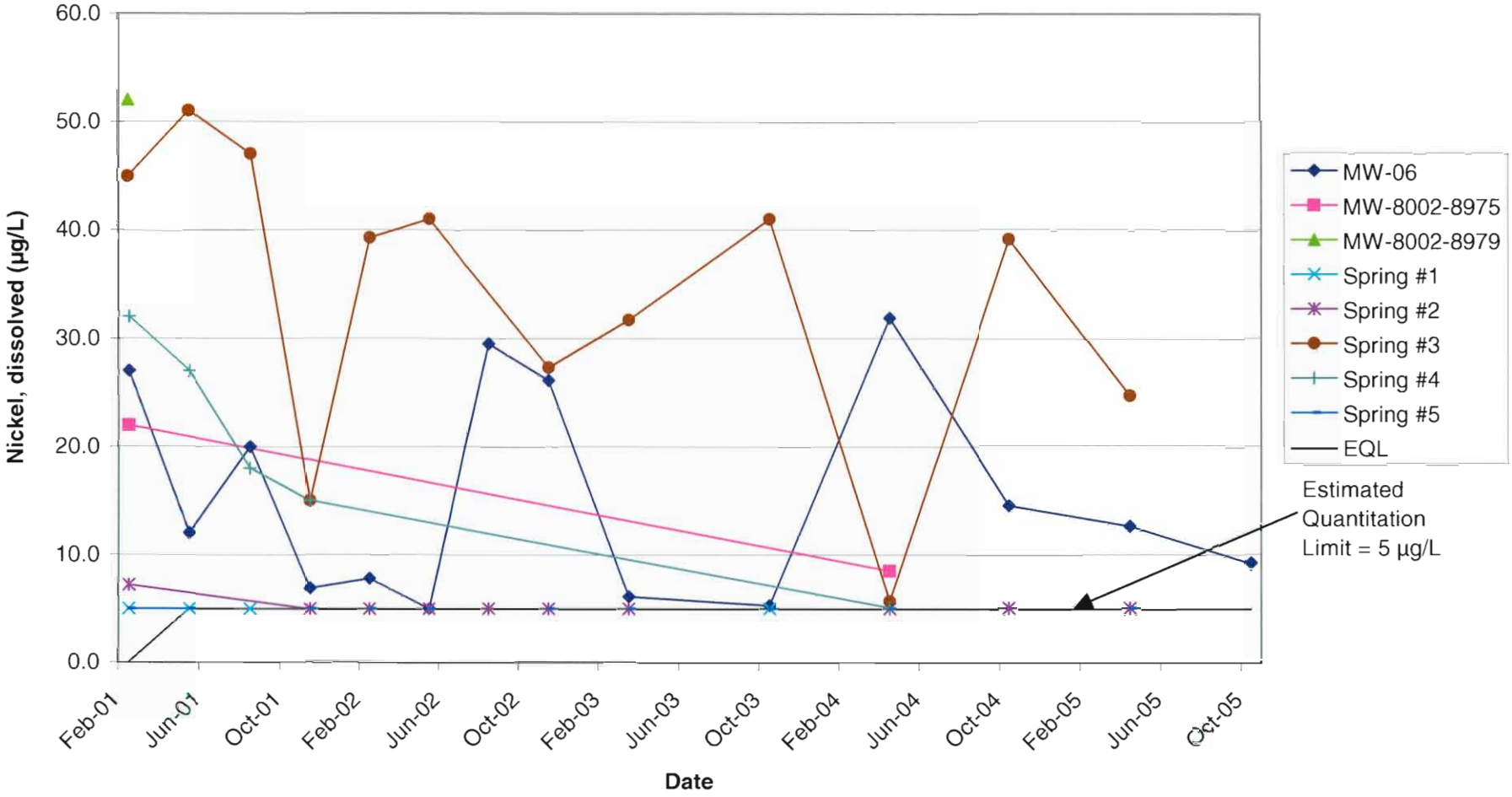
I:\WPMSN\PJT\00-04896\23\AnnualRpt figures.XLS 12/5/2005

Figure 6
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Lead
in Surface Water and Groundwater Samples



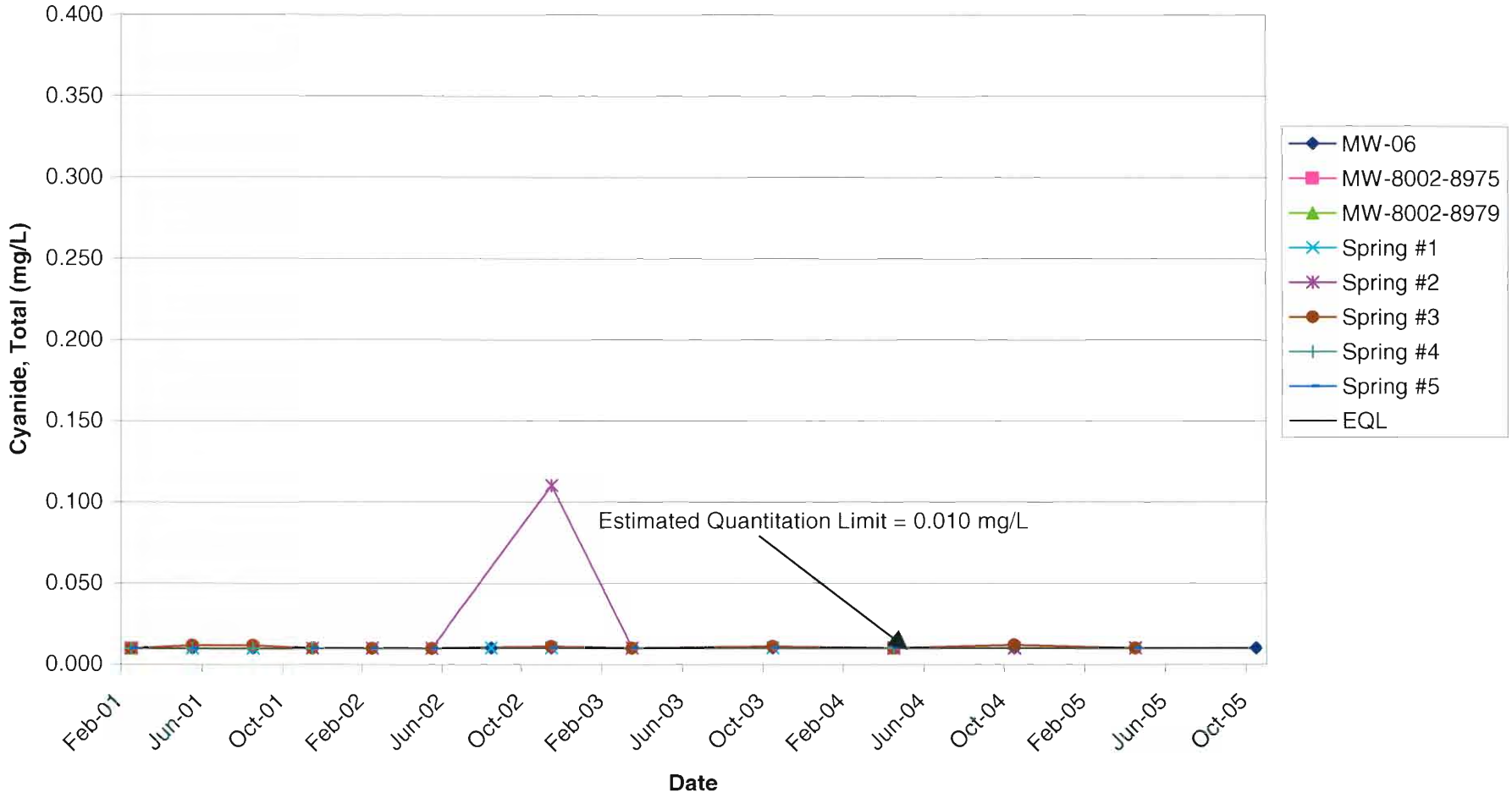
I:\WPMSN\PJT\00-04896\23\AnnualRpt figures.XLS 12/5/2005

Figure 7
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Dissolved Nickel
in Surface Water and Groundwater Samples



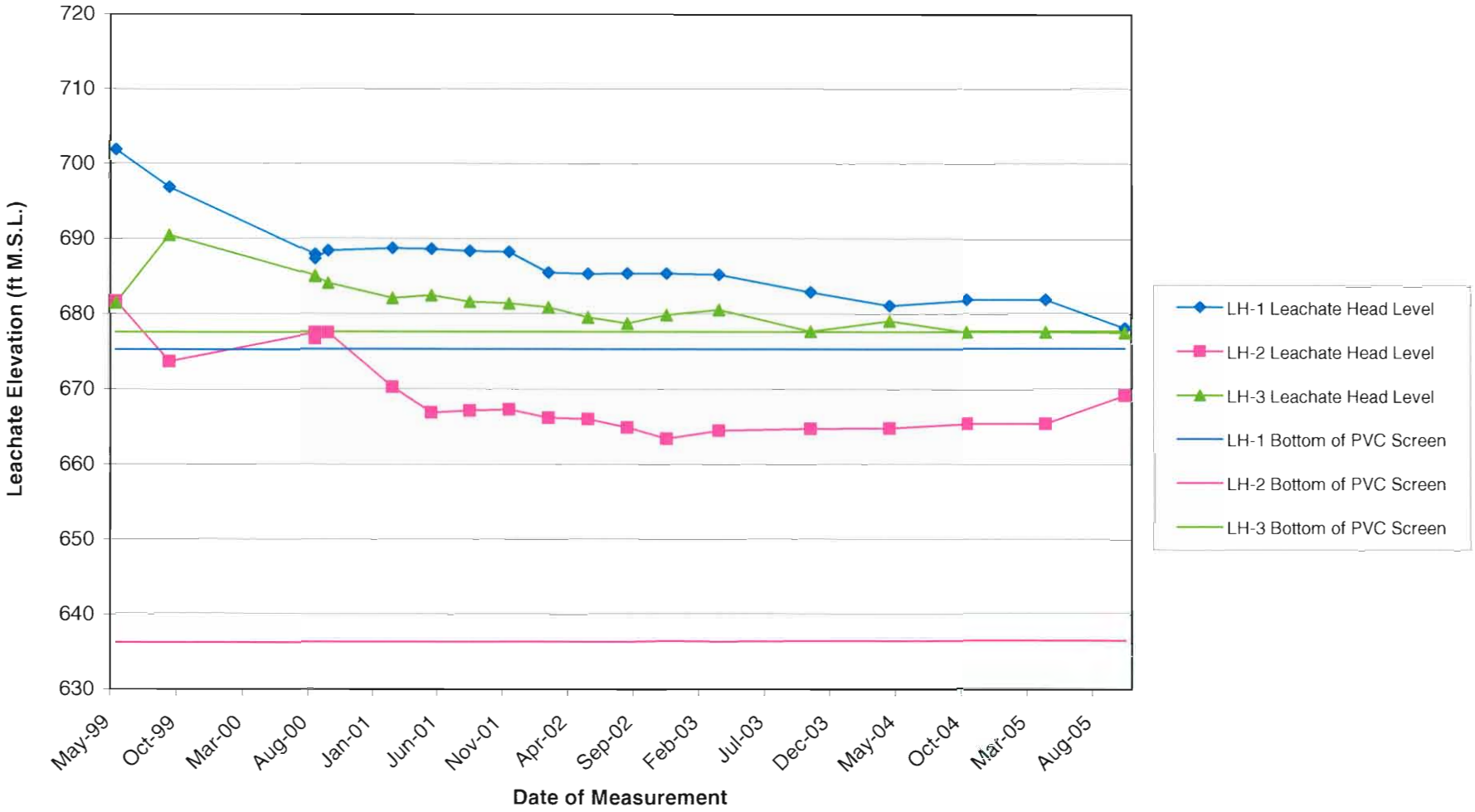
I:\WPMSN\PJT\00-04896\23\AnnualRpt figures.XLS 12/5/2005

Figure 8
Red Penn Landfill
Pewee Valley, Kentucky
Post-Construction Concentrations of Total Cyanide
in Surface Water and Groundwater Samples



I:\WPMSN\PJT\00-04896\23\AnnualRpt figures.XLS 12/5/2005

Figure 9
Red Penn Landfill
Pewee Valley, Kentucky
Leachate Head Elevations and Depth of Leachate



I:\WPMSN\PJT\00-04896\23\AnnualRpt figures.XLS 12/5/2005

Attachment A

Correspondence

RMT®
Integrated Environmental Solutions

744 Heartland Trail 53717 1934
P.O. Box 8923 53708-8923
Madison, WI
Telephone: 608-831-4444
Fax: 608-831-3334
www.rmtinc.com

March 13, 2003

Ms. Susan Mallette
Geologist
Frankfort Office Park
Department of Environmental Protection, Superfund Branch
Division of Waste Management
18 Reilly Road
Frankfort, KY 40601-1190

Subject: Changes to Environmental Monitoring Activities
Red Penn Landfill, Pewee Valley, Kentucky

Dear Ms. Mallette:

On behalf of the PRPs for the Red Penn Landfill in Pewee Valley, Kentucky, RMT is requesting that monitoring wells MW8002-8975 and MW8002-8979 be eliminated from the monitoring program because period of these wells do not recover after being bailed dry to allow for samples to be collected in a reasonable time (24 hours). With the exception of the first time these wells were sampled (in February 2000), MW8002-8975 has not recovered enough to collect any samples in the last 2 years, and MW8002-8979 has recovered enough to only allow a 40 mL sample for VOCs to be collected in about half of the sampling events. Furthermore, the results for the samples from MW8002-8975 and -8979 that have been collected over the last 2 years do not indicate that the groundwater at these locations has been affected by the landfill. We would appreciate if the Kentucky Division of Waste Management (KDWM) could respond to this letter by March 30, so that we can make the necessary arrangements prior to the next sampling event in April.

We are also notifying the KDWM that the PRPs intend to reduce the frequency of environmental monitoring from quarterly to semiannually beginning in April 2003. This reduction in monitoring frequency for groundwater and the springs is consistent with the Final Remedial Design (RMT, Inc., October 1999).

Please call me, at (608) 662-5271, if you have any questions regarding this letter.

Sincerely,

RMT, Inc.

Michael J. Amstadt, P.E.
Project Manager

cc: Jim Forney, Waste Management, Inc.
Jeff Hartlund, Ford Motor Land Services Corporation

HENRY C. LIST
SECRETARY

PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
14 REILLY RD
FRANKFORT KY 40601-1190

April 2, 2003

James C. Forney, Director~Closed Sites
Waste Management, Inc.
3970 Heritage Avenue, Suite A
Okemos, MI 48864

Re: Red Penn Sanitation Company Landfill
Oldham County
Not/Com #20363, Mars # 9326

Dear Mr. Forney:

The Kentucky Division of Waste Management has reviewed the monitoring records and observed the most recent sampling of wells MW-8002-8975 and MW-8002-8979 at the Red Penn Landfill.

According to the records, a sample attempt was made quarterly as required, but only one actual sample was collected from these monitoring wells in the two-year sampling period. This was due to insufficient water volume, apparently because of very slow recharge to the wells.

Therefore, please change the well sampling frequency of MW-8002-8975 and MW-8002-8979 to annual. The next sampling of these two wells will therefore be in March 2004.

Thank you for your continuing cooperation with the maintenance and monitoring of this site. Please continue to notify this office of site activities at least five days prior to the activity. If you have any questions, or to notify me of planned site activities, I may be reached by telephone at (502) 564-6716, extension 263, or by email at susan.mallette@mail.state.ky.us.

Sincerely,

Susan L. Mallette

Susan L. Mallette, PG
Geologist Registered
Superfund Branch

c: Femi Akindale, US EPA
Michael Amstadt, RMT, Inc
Randall McDowell, NREPC, OLS
Fazi Sherkat, NREPC, DWM, Superfund Branch

Attachment B

2005 Site Inspection Reports

Red-Penn Landfill

Inspection Report

Date: April 14, 2005

Temperature: 75°F

Inspector: John Leffew

Weather: Clear

Ground Conditions: Moist

ITEM	Adequate	Requires Maintenance	COMMENTS/OBSERVATIONS
Final Cover			
Vegetation	X		Vegetation was adequate except in noted areas on the south side.
Erosion		X	Erosion was observed near Spring #4.
Burrowing animals	X		None observed.
Settlement		X	The riser pipe is higher than the casing lid for LH-2, which may be a result of settlement. The PVC riser pipe was cut to permit locking of the protective casing.
Ground Surface Conditions	X		Conditions were moist to wet.
Vegetation/Cap Conditions	X		Conditions were good.
Other	X		NA
Surface Water Controls			
Diversion berms	X		Berms appeared to be in good condition.
Final cover spillway	X		Spillway appeared to be in good condition.
Groundwater and Leachate Head Wells			
Locks	X		All wells were locked upon arrival.
Structural integrity		X	LH-2 would not close. 5 inches of PVC were cut off of LH-2 on May 18, 2005, to allow the protective casing to be locked.
Entrance Gate and lock	X		Lock was in good condition.
Additional Comments:			

Red-Penn Landfill

Inspection Report

Date: October 11, 2005

Temperature: 70 °F

Inspector: John Leffew

Weather: Partly Cloudy

Ground Conditions: Dry

ITEM	Adequate	Requires Maintenance	COMMENTS/OBSERVATIONS
Final Cover			
Vegetation	X		Vegetation was thick and dry. Erosion mat was reseeded.
Erosion	X		Erosion appears to be under control.
Burrowing animals	X		No evidence of burrowing animals was observed.
Settlement	X		Settlement was observed near LH-1. The PVC riser was cut (0.03 ft) to permit locking of the protective casing.
Ground Surface Conditions	X		Vegetation was thick.
Surface Water Controls			
Diversion berms	X		No problems were observed.
Final cover spillway	X		No problems were observed.
Groundwater and Leachate Head Wells			
Locks		X	Waste Management locks are needed for LH-1, LH-2, and LH-3.
Structural integrity	X		Structure appears to be in good condition.
Entrance Gate and lock		X	Lock was damaged. A new chain and RMT locks were installed. A new WM lock is needed.
Additional Comments:	WM locks are needed for front gate, LH-1, LH-2, and LH-3. RMT (#536) locks were temporarily installed.		

Attachment C

Laboratory Results and Database Summary Reports for 2005 Groundwater Samples

Database Summary Reports

RED PENN LANDFILL

MONITORING WELL RESULTS

FIELD, INORGANIC, METALS, VOLATILES, AND PCBS

2005

;AMETER	UNITS	MW-06 14-APR-2005 A5365804	MW-06 11-OCT-2005 A5B44801	MW-06 DUP 14-APR-2005 A5365801	MW-8002-8975 14-APR-2005 050414-X04	MW-8002-8979 14-APR-2005 050414-X05
;OR, FIELD			CLEAR			
IDUCTANCE, SPECIFIC	UMHOS/CM	410.2	500			
'TH TO WATER	FEET	2.94	3.76		45.31	59.55
FIELD	SU	8.12	6.70			
IPERATURE	DEG C	10.9	19.3			
;L DRY					YES	YES
;NIDE, TOTAL	MG/L	< 0.010	< 0.010	< 0.010		
'IMONY, DISSOLVED	UG/L	< 10	< 10	< 10		
;ENIC, DISSOLVED	UG/L	< 10	< 10	< 10		
:IUM, DISSOLVED	UG/L	78.6	95.1	78.5		
)MIUM, DISSOLVED	UG/L	< 1.0	< 1.0	< 1.0		
:OMIUM, DISSOLVED	UG/L	< 3.0	< 3.0	< 3.0		
;D, DISSOLVED	UG/L	< 5.0	< 5.0	< 5.0		
:KEL, DISSOLVED	UG/L	12.6	9.2	13.2		
)CLOR-1016	UG/L	< 0.50	< 0.50	< 0.50		
)CLOR-1221	UG/L	< 0.50	< 0.50	< 0.50		
)CLOR-1232	UG/L	< 0.50	< 0.50	< 0.50		
)CLOR-1242	UG/L	< 0.50	< 0.50	< 0.50		
)CLOR-1248	UG/L	< 0.50	< 0.50	< 0.50		
)CLOR-1254	UG/L	< 0.50	< 0.50	< 0.50		
)CLOR-1260	UG/L	< 0.50	< 0.50	< 0.50		
IZENE	UG/L	< 1.0	< 1.0	< 1.0		
;OROBENZENE	UG/L	< 1.0	< 1.0	< 1.0		
;OROETHANE	UG/L	< 2.0	< 2.0	< 2.0		
;-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1.0	< 1.0		

RED PENN LANDFILL

SURFACE WATER RESULTS

FIELD, INORGANIC, METALS, VOLATILES, AND PCBS

2005

:AMETER	UNITS	SPRING-01 14-APR-2005 A5365805	SPRING-01 11-OCT-2005 051011-X04	SPRING-02 14-APR-2005 A5365806	SPRING-02 11-OCT-2005 051011-X05	SPRING-02 DUP 14-APR-2005 A5365802	SPRING-03 14-APR-2005 A5365807
IDUCTANCE, SPECIFIC	UMHOS/CM	625.9		720.5			2432
FIELD	SU	9.51		8.61			8.62
IPERATURE	DEG C	15.8		14.9			16.5
L DRY			YES		YES		
NIDE, TOTAL	MG/L	< 0.010		< 0.010		< 0.010	< 0.010
IMONY, DISSOLVED	UG/L	< 10		< 10		< 10	< 10
ENIC, DISSOLVED	UG/L	< 10		< 10		< 10	< 10
IUM, DISSOLVED	UG/L	49.1		99.9		100	215
MIUM, DISSOLVED	UG/L	< 1.0		< 1.0		< 1.0	< 1.0
OMIUM, DISSOLVED	UG/L	< 3.0		< 3.0		< 3.0	< 3.0
D, DISSOLVED	UG/L	< 5.0		< 5.0		< 5.0	< 5.0
KEL, DISSOLVED	UG/L	< 5.0		< 5.0		< 5.0	24.7
CLOR-1016	UG/L	< 0.50		< 0.50		< 0.50	< 0.50
CLOR-1221	UG/L	< 0.50		< 0.50		< 0.50	< 0.50
CLOR-1232	UG/L	< 0.50		< 0.50		< 0.50	< 0.50
CLOR-1242	UG/L	< 0.50		< 0.50		< 0.50	< 0.50
CLOR-1248	UG/L	< 0.50		< 0.50		< 0.50	< 0.50
CLOR-1254	UG/L	< 0.50		< 0.50		< 0.50	< 0.50
CLOR-1260	UG/L	< 0.50		< 0.50		< 0.50	< 0.50
ZENE	UG/L	< 1.0		< 1.0		< 1.0	< 1.4
OROBENZENE	UG/L	< 1.0		< 1.0		< 1.0	< 1.0
OROETHANE	UG/L	< 2.0		< 2.0		< 2.0	< 2.4
-1,2-DICHLOROETHENE	UG/L	< 1.0		< 1.0		< 1.0	< 1.6

RED PENN LANDFILL

SURFACE WATER RESULTS

FIELD, INORGANIC, METALS, VOLATILES, AND PCBS

2005

RAMETER	UNITS	SPRING-03 11-OCT-2005 051011-X06	SPRING-04 14-APR-2005 050414-X06	SPRING-04 11-OCT-2005 051011-X07	SPRING-05 14-APR-2005 A5365808	SPRING-05 11-OCT-2005 051011-X08
NDUCTANCE, SPECIFIC	UMHOS/CM					
, FIELD	SU				9.06	
MPERATURE	DEG C				17.1	
LL DRY		YES	YES	YES		YES
ANIDE, TOTAL	MG/L				< 0.010	
TIMONY, DISSOLVED	UG/L				< 10	
SENIC, DISSOLVED	UG/L				< 10	
RIUM, DISSOLVED	UG/L				71.4	
DMIUM, DISSOLVED	UG/L				< 1.0	
ROMIUM, DISSOLVED	UG/L				< 3.0	
AD, DISSOLVED	UG/L				< 5.0	
CKEL, DISSOLVED	UG/L				< 5.0	
OCLOR-1016	UG/L				< 0.50	
OCLOR-1221	UG/L				< 0.50	
OCLOR-1232	UG/L				< 0.59	
OCLOR-1242	UG/L				< 0.50	
OCLOR-1248	UG/L				< 0.50	
OCLOR-1254	UG/L				< 0.50	
OCLOR-1260	UG/L				< 0.50	
NZENE	UG/L				< 1.0	
LOROBENZENE	UG/L				< 1.0	
LOROETHANE	UG/L				< 2.0	
S-1,2-DICHLOROETHENE	UG/L				< 1.0	

RED PENN LANDFILL

QUALITY CONTROL SAMPLE RESULTS

INORGANIC, METALS, VOLATILES, AND PCBS

2005

RAMETER	UNITS	FIELD BLANK-01 14-APR-2005 A5365803	FIELD BLANK-01 11-OCT-2005 A5B44802	TRIP BLANK-01 14-APR-2005 A5365809	TRIP BLANK-01 11-OCT-2005 A5B44803
ANIDE, TOTAL	MG/L	< 0.010	< 0.010		
TIMONY, DISSOLVED	UG/L	< 10	< 10		
SENIC, DISSOLVED	UG/L	< 10	< 10		
RIUM, DISSOLVED	UG/L	< 5.0	< 5.0		
DMIUM, DISSOLVED	UG/L	< 1.0	< 1.0		
ROMIUM, DISSOLVED	UG/L	< 3.0	< 3.0		
AD, DISSOLVED	UG/L	< 5.0	< 5.0		
CKEL, DISSOLVED	UG/L	< 5.0	< 5.0		
OCLOR-1016	UG/L	< 0.50	< 0.50		
OCLOR-1221	UG/L	< 0.50	< 0.50		
OCLOR-1232	UG/L	< 0.50	< 0.50		
OCLOR-1242	UG/L	< 0.50	< 0.50		
OCLOR-1248	UG/L	< 0.50	< 0.50		
OCLOR-1254	UG/L	< 0.50	< 0.50		
OCLOR-1260	UG/L	< 0.50	< 0.50		
NZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0
LOROBENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0
LOROETHANE	UG/L	< 2.0	< 2.0	< 2.0	< 2.0
S-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0

RED PENN LANDFILL

LEACHATE WELL FIELD RESULTS

2005

RAMETER	UNITS	LH-01 14-APR-2005 050414-X01	LH-01 11-OCT-2005 051011-X01	LH-02 14-APR-2005 050414-X02	LH-02 11-OCT-2005 051011-X02	LH-03 14-APR-2005 050414-X03	LH-03 11-OCT-2005 051011-X03
PTH TO LEACHATE	FEET	30.30	31.35	22.62	17.90	24.39	27.10
ACHATE HEAD ELEVATION	FEET	679.05	678.00	664.77	669.07	680.10	677.39

Laboratory Results for April 2005

SEVERN TRENT STL

STL Buffalo
10 Hazelwood Drive, Suite 106
Amherst, NY 14228

Tel: 716 691 2600 Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A05-3658

STL Project#: NY2A8892
Site Name: Red Penn Landfill
Task: Quarterly Wells & Springs

Mike Amstadt
RMT, Inc.
744 Heartland Trail
Madison, WI 53717

CC: Cheryl Shaw

STL Buffalo

Amy Lynn Haag
Project Manager

04/29/2005

STL Buffalo
Current Certifications

STATE	Program	Cert # / Lab ID
Arkansas	SDWA, CWA, RCRA, SOIL	03-054-D/88-0686
California	NELAP SDWA, CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida	NELAP RCRA	E87672
Georgia	SDWA	956
Illinois	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	CWA, RCRA	036-999-337
New Hampshire	NELAP SDWA, CWA	233701
New Jersey	SDWA, CWA, RCRA, CLP	NY455
New York	NELAP, AIR, SDWA, CWA, RCRA	10026
North Carolina	CWA	411
North Dakota	SDWA, CWA, RCRA	R-176
Oklahoma	CWA, RCRA	9421
Pennsylvania	Env. Lab Reg.	68-281
South Carolina	RCRA	91013
USDA	FOREIGN SOIL PERMIT	S-41579
Virginia	SDWA	278
Washington	CWA	C254
West Virginia	CWA	252
Wisconsin	CWA	998310390

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A5365801	DUPA0405	GW	04/14/2005		04/15/2005	09:15
A5365802	DUPB0405	GW	04/14/2005		04/15/2005	09:15
A5365803	FLDBLK	GW	04/14/2005	17:30	04/15/2005	09:15
A5365804	MW-6	GW	04/14/2005	10:42	04/15/2005	09:15
A5365805	Spring #1	GW	04/14/2005	12:10	04/15/2005	09:15
A5365806	Spring #2	GW	04/14/2005	14:40	04/15/2005	09:15
A5365807	Spring #3	GW	04/14/2005	17:05	04/15/2005	09:15
A5365808	Spring #5	GW	04/14/2005	15:40	04/15/2005	09:15
A5365809	TRIP BLK	WATER	04/14/2005		04/15/2005	09:15

METHODS SUMMARY

Job#: A05-3658

STL Project#: NY2A8892
Site Name: Red Penn Landfill

PARAMETER	ANALYTICAL METHOD
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS	SW8463 8260
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS	SW8463 8082
Antimony - Soluble	SW8463 6010
Arsenic - Soluble	SW8463 6010
Barium - Soluble	SW8463 6010
Cadmium - Soluble	SW8463 6010
Chromium - Soluble	SW8463 6010
Lead - Soluble	SW8463 6010
Nickel - Soluble	SW8463 6010
Cyanide - Total	SW8463 9012A

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A05-3658

STL Project#: NY2A8892
Site Name: Red Penn Landfill

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A05-3658
Sample Cooler(s) were received at the following temperature(s); 3@2.0 °C
All samples were received in good condition.

GC/MS Volatile Data

No deviations from protocol were encountered during the analytical procedures.

GC Extractable Data

No deviations from protocol were encountered during the analytical procedures.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

Wet Chemistry Data

No deviations from protocol were encountered during the analytical procedures.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Dilution Log w/Code Information
For Job A05-3658

Client Sample ID	Lab Sample ID	Parameter (Inorganic)/Method (Organic)	Dilution	Code
Spring #3	A5365807	8260	5.00	003
Spring #3	A5365807MS	8260	5.00	003
Spring #3	A5365807SD	8260	5.00	003

)ilution Code Definition:

002 - sample matrix effects
003 - excessive foaming
004 - high levels of non-target compounds
005 - sample matrix resulted in method non-compliance for an Internal Standard
006 - sample matrix resulted in method non-compliance for Surrogate
007 - nature of the TCLP matrix
008 - high concentration of target analyte(s)
009 - sample turbidity
010 - sample color
011 - insufficient volume for lower dilution
012 - sample viscosity
013 - other

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U Indicates compound was analyzed for, but not detected at or above the reporting limit.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

C This flag applies to pesticide results where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the associated blank, as well as in the sample.

E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

D This flag identifies all compounds identified in an analysis at the secondary dilution factor.

N Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.

P This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".

A This flag indicates that a TIC is a suspected aldol-condensation product.

1 Indicates coelution.

* Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U Indicates element was analyzed for, but not detected at or above the reporting limit.

J or B Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.

N Indicates spike sample recovery is not within the quality control limits.

K Indicates the post digestion spike recovery is not within the quality control limits.

S Indicates value determined by the Method of Standard Addition.

M Indicates duplicate injection results exceeded quality control limits.

W Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.

E Indicates a value estimated or not reported due to the presence of interferences.

H Indicates analytical holding time exceedance. The value obtained should be considered an estimate.

* Indicates analysis is not within the quality control limits.

+ Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

Sample Data Package

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client ID		DUPA0405		DUPB0405		FLDBLK		MW-6	
Job No	Lab ID	A05-3658	A5365801	A05-3658	A5365802	A05-3658	A5365803	A05-3658	A5365804
Sample Date		04/14/2005		04/14/2005		04/14/2005		04/14/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
enzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
hlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
hloroethane	UG/L	ND	2.0	ND	2.0	ND	2.0	ND	2.0
is-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
IS/SURROGATE(S)									
hlorobenzene-D5	%	95	50-200	94	50-200	95	50-200	97	50-200
,4-Difluorobenzene	%	93	50-200	90	50-200	93	50-200	95	50-200
,4-Dichlorobenzene-D4	%	77	50-200	77	50-200	79	50-200	79	50-200
oluene-D8	%	99	76-116	99	76-116	100	76-116	98	76-116
-Bromofluorobenzene	%	80	73-117	80	73-117	82	73-117	79	73-117
,2-Dichloroethane-D4	%	110	72-143	112	72-143	110	72-143	111	72-143

Client ID		Spring #1		Spring #2		Spring #3		Spring #5	
Job No	Lab ID	A05-3658	A5365805	A05-3658	A5365806	A05-3658	A5365807	A05-3658	A5365808
Sample Date		04/14/2005		04/14/2005		04/14/2005		04/14/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
enzene	UG/L	ND	1.0	ND	1.0	ND	1.4	ND	1.0
hlorobenzene	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
hloroethane	UG/L	ND	2.0	ND	2.0	ND	2.4	ND	2.0
is-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	ND	1.6	ND	1.0
IS/SURROGATE(S)									
hlorobenzene-D5	%	97	50-200	96	50-200	95	50-200	97	50-200
,4-Difluorobenzene	%	95	50-200	95	50-200	96	50-200	95	50-200
,4-Dichlorobenzene-D4	%	82	50-200	80	50-200	77	50-200	82	50-200
oluene-D8	%	98	76-116	99	76-116	101	76-116	98	76-116
-Bromofluorobenzene	%	83	73-117	81	73-117	81	73-117	83	73-117
,2-Dichloroethane-D4	%	105	72-143	107	72-143	106	72-143	105	72-143

9/49

\ = Not Applicable ND = Not Detected

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

ient ID		DUPA0405		DUPB0405		FLDBLK		MW-6	
) No	Lab ID	A05-3658	A5365801	A05-3658	A5365802	A05-3658	A5365803	A05-3658	A5365804
mple Date		04/14/2005		04/14/2005		04/14/2005		04/14/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1016	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
1221	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
1232	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
1242	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
1248	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
1254	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
1260	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
SURROGATE(S)									
rachloro-m-xylene	%	60	36-132	70	36-132	71	36-132	60	36-132
achlorobiphenyl	%	50	28-132	68	28-132	70	28-132	64	28-132

ient ID		Spring #1		Spring #2		Spring #3		Spring #5	
) No	Lab ID	A05-3658	A5365805	A05-3658	A5365806	A05-3658	A5365807	A05-3658	A5365808
mple Date		04/14/2005		04/14/2005		04/14/2005		04/14/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1016	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
1221	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
1232	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.59
1242	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
1248	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
1254	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
1260	UG/L	ND	0.50	ND	0.50	ND	0.50	ND	0.50
SURROGATE(S)									
achloro-m-xylene	%	74	36-132	75	36-132	63	36-132	70	36-132
chlorobiphenyl	%	72	28-132	70	28-132	48	28-132	85	28-132

Not Applicable ND = Not Detected

STL Buffalo

Date: 04/29/2005
Time: 14:07:29

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID		DUPA0405		DUPB0405		FLDBLK		MW-6	
Job No	Lab ID	A05-3658	A5365801	A05-3658	A5365802	A05-3658	A5365803	A05-3658	A5365804
Sample Date		04/14/2005		04/14/2005		04/14/2005		04/14/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
ntimony, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
rsenic, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
arium, Dissolved	UG/L	78.5	5.0	100	5.0	ND	5.0	78.6	5.0
admium, Dissolved	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
hromium, Dissolved	UG/L	ND	3.0	ND	3.0	ND	3.0	ND	3.0
ead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
ickel, Dissolved	UG/L	13.2	5.0	ND	5.0	ND	5.0	12.6	5.0

Client ID		Spring #1		Spring #2		Spring #3		Spring #5	
Job No	Lab ID	A05-3658	A5365805	A05-3658	A5365806	A05-3658	A5365807	A05-3658	A5365808
Sample Date		04/14/2005		04/14/2005		04/14/2005		04/14/2005	
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
ntimony, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
rsenic, Dissolved	UG/L	ND	10	ND	10	ND	10	ND	10
arium, Dissolved	UG/L	49.1	5.0	99.9	5.0	215	5.0	71.4	5.0
admium, Dissolved	UG/L	ND	1.0	ND	1.0	ND	1.0	ND	1.0
hromium, Dissolved	UG/L	ND	3.0	ND	3.0	ND	3.0	ND	3.0
ead, Dissolved	UG/L	ND	5.0	ND	5.0	ND	5.0	ND	5.0
ickel, Dissolved	UG/L	ND	5.0	ND	5.0	24.7	5.0	ND	5.0

= Not Applicable ND = Not Detected

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

nt ID No le Date	Lab ID	DUPA0405 A05-3658 04/14/2005	A5365801	DUPB0405 A05-3658 04/14/2005	A5365802	FLDBLK A05-3658 04/14/2005	A5365803	MW-6 A05-3658 04/14/2005	A5365804
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
de, Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010

nt ID No le Date	Lab ID	Spring #1 A05-3658 04/14/2005	A5365805	Spring #2 A05-3658 04/14/2005	A5365806	Spring #3 A05-3658 04/14/2005	A5365807	Spring #5 A05-3658 04/14/2005	A5365808
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
de, Total	MG/L	ND	0.010	ND	0.010	ND	0.010	ND	0.010

Batch Quality Control Data

ate: 04/29/2005 14:24:43
No: A5B05365

MS/MSD Batch QC Results

Rept: AN1392

Sample ID: A5365801 A5365801MS A5365801SD

lyte	Units of Measure	Concentration Sample	Matrix Spike	Spike Duplicate	Spike Amount MS	MSD	% Recovery MS	MSD	Avg	% RPD	QC LIMITS RPD	REC.
ENN LANDFILL 8082 - POLYCHLORINATED												
clor 1260	UG/L	0	8.95	8.16	11.3	11.3	79	72	76	9	30.0	50-122
clor 1016	UG/L	0	9.80	9.58	11.3	11.3	86	84	85	2	30.0	29-123

icates Result is outside QC Limits

MS/MSD Batch QC Results

Lab Sample ID: A5363501 A5363501MS A5363501SD

Analyte	Units of Measure	Concentration Sample	Matrix Spike	Spike Duplicate	Spike Amount MS	MSD	% Recovery MS	MSD	Avg	% RPD	QC LIMITS RPD	REC.
SOLUBLE METALS (AS,FE,MN)												
200.7 - SOLUBLE IRON - RL=0.10 MG/L	MG/L	5.43	16.93	16.04	10.0	10.0	115	106	111	8	20.0	75-125
200.7 - SOLUBLE MANGANESE - R.= 0.015	MG/L	0.422	0.671	0.633	0.200	0.200	124	106	115	16	20.0	75-125
SOLUBLE ARSENIC	MG/L	0.0304	0.269	0.262	0.200	0.200	120	116	118	3	20.0	75-125

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

)ate: 04/29/2005 14:24:43
ı No: A5B05413

MS/MSD Batch QC Results

Rept: AN1392

) Sample ID: A5365805 A5365805MS

ılyte	Units of Measure	Concentration Sample	Matrix Spike	Spike Amount	% Recovery MS	QC LIMITS
ıDE ANALYSIS 'HOD 9012 - TOTAL CYANIDE	MG/L	0	0.110	0.100	110	85-115

icates Result is outside QC Limits

Lab Sample ID: A5374603 A5374603MS

Analyte	Units of Measure	Concentration Sample	Concentration Matrix Spike	Spike Amount	% Recovery MS	QC LIMITS
CYANIDE ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0	0.217	0.200	109	85-115

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

ate: 04/29/2005 14:24:43
No: A5B05593

MS/MSD Batch QC Results

Rept: AN1392

Sample ID: A5374801 A5374801MS A5374801SD

lyte	Units of Measure	Concentration Sample	Matrix Spike	Spike Duplicate	Spike Amount MS	MSD	% Recovery MS	MSD	Avg	% RPD	QC LIMITS RPD	REC.
DE ANALYSIS												
A - ASP00 9012 TOTAL CYANIDE	UG/L	0	161.3	160.7	200.0	200.0	81 *	80 *	81	1	15.0	85-115

icates Result is outside QC Limits

MS/MSD Batch QC Results

Lab Sample ID: A5380304 A5380304MS

Analyte	Units of Measure	Concentration Sample	Concentration Matrix Spike	Spike Amount	% Recovery MS	QC LIMITS
CYANIDE ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0	0.167	0.200	84 *	85-115

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Chronology and QC Summary Package

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client ID Job No Sample Date	Lab ID	VBLK63 A05-3658	A5B0600802	VBLK64 A05-3658	A5B0604902				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	NA		NA	
Chlorobenzene	UG/L	ND	1.0	ND	1.0	NA		NA	
Chloroethane	UG/L	ND	2.0	ND	2.0	NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	99	50-200	99	50-200	NA		NA	
1,4-Difluorobenzene	%	100	50-200	98	50-200	NA		NA	
1,4-Dichlorobenzene-D4	%	84	50-200	81	50-200	NA		NA	
Toluene-D8	%	96	76-116	98	76-116	NA		NA	
p-Bromofluorobenzene	%	83	73-117	80	73-117	NA		NA	
1,2-Dichloroethane-D4	%	105	72-143	106	72-143	NA		NA	

NA = Not Applicable ND = Not Detected

e: 04/29/2005
e: 14:07:36

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

ent ID		TRIP BLK							
No	Lab ID	A05-3658	A5365809						
ple Date		04/14/2005							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
ene	UG/L	ND	1.0	NA		NA		NA	
robenzene	UG/L	ND	1.0	NA		NA		NA	
roethane	UG/L	ND	2.0	NA		NA		NA	
1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
==IS/SURROGATE(S)==									
robenzene-D5	%	95	50-200	NA		NA		NA	
Difluorobenzene	%	93	50-200	NA		NA		NA	
Dichlorobenzene-D4	%	79	50-200	NA		NA		NA	
ene-D8	%	100	76-116	NA		NA		NA	
omofluorobenzene	%	80	73-117	NA		NA		NA	
Dichloroethane-D4	%	109	72-143	NA		NA		NA	

Date: 04/29/2005
Time: 14:07:43

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Rept: AN1246

Client ID Job No Sample Date	Lab ID	Method Blank A05-3658	A5B0536502						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	NA		NA		NA	
PCB 1221	UG/L	ND	0.50	NA		NA		NA	
PCB 1232	UG/L	ND	0.50	NA		NA		NA	
PCB 1242	UG/L	ND	0.50	NA		NA		NA	
PCB 1248	UG/L	ND	0.50	NA		NA		NA	
PCB 1254	UG/L	ND	0.50	NA		NA		NA	
PCB 1260	UG/L	ND	0.50	NA		NA		NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	76	36-132	NA		NA		NA	
Decachlorobiphenyl	%	78	28-132	NA		NA		NA	

23/49

IA = Not Applicable ND = Not Detected

STL Buffalo

: 04/29/2005
: 14:07:46

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

ıt ID Vo le Date	Lab ID	Method Blank A05-3658	A5B0543202						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
ic, Dissolved	UG/L	ND	10	NA		NA		NA	
n, Dissolved	UG/L	ND	5.0	NA		NA		NA	
ony, Dissolved	UG/L	ND	10	NA		NA		NA	
um, Dissolved	UG/L	ND	1.0	NA		NA		NA	
ium, Dissolved	UG/L	ND	3.0	NA		NA		NA	
Dissolved	UG/L	ND	5.0	NA		NA		NA	
l, Dissolved	UG/L	ND	5.0	NA		NA		NA	

Red Penn Landfill
Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Client ID Job No Sample Date	Lab ID	Method Blank A05-3658	A5B0541302	Method Blank A05-3658	A5B0559302				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	NA		NA	

NA = Not Applicable ND = Not Detected

: 04/29/2005 14:07:52

SAMPLE DATE 04/14/2005

Rept: AN0364

: Sample ID: Spring #3 Spring #3 Spring #3
) Sample ID: A5365807 A5365807MS A5365807SD

lyte	Units of Measure	Concentration Sample	Matrix Spike	Spike Duplicate	Spike Amount MS	MSD	% Recovery MS	MSD	Avg	% RPD	QC LIMITS RPD	REC.
'ENN LANDFILL -8260 - SELECT VOLATIL												
zene	UG/L	0	46.6	47.7	50.0	50.0	93	95	94	2	11.0	67-126
orobenzene	UG/L	0	48.4	49.7	50.0	50.0	97	100	99	3	13.0	74-120

icates Result is outside QC Limits

Client Sample ID: VBLK63 MSB63
Lab Sample ID: A5B0600802 A5B0600801

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL -8260 - SELECT VOLATIL					
Benzene	UG/L	10.2	10.0	103	67-126
Chlorobenzene	UG/L	9.94	10.0	99	74-120

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Sample ID: VBLK64 MSB64
Sample ID: A5B0604902 A5B0604901

lyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
ENN LANDFILL -8260 - SELECT VOLATIL					
zene	UG/L	9.17	10.0	92	67-126
orobenzene	UG/L	9.77	10.0	98	74-120

cates Result is outside QC Limits

SAMPLE DATE 04/14/2005

lient Sample ID: DUPA0405 DUPA0405 DUPA0405
Lab Sample ID: A5365801 A5365801MS A5365801SD

Analyte	Units of Measure	Concentration Sample	Matrix Spike	Spike Duplicate	Spike Amount MS	MSD	% Recovery MS	MSD	Avg	% RPD	QC LIMITS RPD	REC.
RED PENN LANDFILL 8082 - POLYCHLORINATED												
PCB 1260	UG/L	0	8.95	8.16	11.3	11.3	79	72	76	9	30.0	50-122
PCB 1016	UG/L	0	9.80	9.58	11.3	11.3	86	84	85	2	30.0	29-123

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

t Sample ID: Method Blank Matrix Spike Blank
) Sample ID: A5B0536502 A5B0536501

ılyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
ʔENN LANDFILL 8082 - POLYCHLORINATED					
) 1260	UG/L	4.15	5.00	83	50-122
ı 1016	UG/L	4.09	5.00	82	29-123

icates Result is outside QC Limits

Client Sample ID: Method Blank LFB
Lab Sample ID: A5B0543202 A5B0543201

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)					
SOLUBLE ANTIMONY	UG/L	182.3	200.0	91	80-120
SOLUBLE ARSENIC	UG/L	226.3	200.0	113	80-120
SOLUBLE BARIUM	UG/L	197.7	200.0	99	80-120
SOLUBLE CADMIUM	UG/L	211.8	200.0	106	80-120
SOLUBLE CHROMIUM	UG/L	206.4	200.0	103	80-120
SOLUBLE LEAD	UG/L	203.3	200.0	102	80-120
SOLUBLE NICKEL	UG/L	203.9	200.0	102	80-120

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

SAMPLE DATE 04/14/2005

Sample ID: Spring #1 Spring #1
Sample ID: A5365805 A5365805MS

lyte	Units of Measure	Concentration Sample	Concentration Matrix Spike	Spike Amount	% Recovery MS	QC LIMITS
HEMISTRY ANALYSIS						
HOD 9012 - TOTAL CYANIDE	MG/L	0	0.110	0.100	110	85-115

cates Result is outside QC Limits

Client Sample ID: Method Blank LCS
Lab Sample ID: A5B0541302 A5B0541301

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
WET CHEMISTRY ANALYSIS					
METHOD 9012 - TOTAL CYANIDE	MG/L	0.418	0.400	104	90-110

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Sample ID: Method Blank LCS
Sample ID: A5B0559302 A5B0559301

lyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
HEMISTRY ANALYSIS					
HOD 9012 - TOTAL CYANIDE	MG/L	0.368	0.400	92	90-110

cates Result is outside QC Limits

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	DUPA0405 A05-3658 A5365801	DUPB0405 A05-3658 A5365802	FLDBLK A05-3658 A5365803	MW-6 A05-3658 A5365804	Spring #1 A05-3658 A5365805
Sample Date	04/14/2005	04/14/2005	04/14/2005 17:30	04/14/2005 10:42	04/14/2005 12:10
Received Date	04/15/2005 09:15	04/15/2005 09:15	04/15/2005 09:15	04/15/2005 09:15	04/15/2005 09:15
Extraction Date					
Analysis Date	04/26/2005 19:38	04/26/2005 20:16	04/26/2005 20:53	04/26/2005 21:31	04/27/2005 00:23
Extraction HT Met?	-	-	-	-	-
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS	0.025 LITERS
% Dry					

NA = Not Applicable

PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID b No & Lab Sample ID	Spring #2 A05-3658 A5365806	Spring #3 A05-3658 A5365807	Spring #5 A05-3658 A5365808		
e Date	04/14/2005 14:40	04/14/2005 17:05	04/14/2005 15:40		
ved Date	04/15/2005 09:15	04/15/2005 09:15	04/15/2005 09:15		
ction Date					
sis Date	04/27/2005 01:00	04/27/2005 01:38	04/27/2005 00:23		
ction HT Met?	-	-	-		
tical HT Met?	YES	YES	YES		
e Matrix	GW	GW	GW		
ion Factor	1.0	5.0	1.0		
e wt/vol	0.025 LITERS	0.025 LITERS	0.025 LITERS		

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	TRIP BLK A05-3658 A5365809				
Sample Date	04/14/2005				
Received Date	04/15/2005 09:15				
Extraction Date					
Analysis Date	04/27/2005 02:52				
Extraction HT Met?	-				
Analytical HT Met?	YES				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.025 LITERS				
% Dry					

NA = Not Applicable

PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID ob No & Lab Sample ID	VBLK63 A05-3658 A5B0600802	VBLK64 A05-3658 A5B0604902			
le Date					
ived Date					
action Date					
ysis Date	04/26/2005 12:47	04/26/2005 23:45			
action HT Met?	-	-			
ytical HT Met?	-	-			
.e Matrix	WATER	WATER			
:ion Factor	1.0	1.0			
.e wt/vol	0.025 LITERS	0.025 LITERS			

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	DUPA0405 A05-3658 A5365801	DUPB0405 A05-3658 A5365802	FLDBLK A05-3658 A5365803	MW-6 A05-3658 A5365804	Spring #1 A05-3658 A5365805
Sample Date	04/14/2005	04/14/2005	04/14/2005 17:30	04/14/2005 10:42	04/14/2005 12:10
Received Date	04/15/2005 09:15	04/15/2005 09:15	04/15/2005 09:15	04/15/2005 09:15	04/15/2005 09:15
Extraction Date	04/18/2005 07:00	04/18/2005 07:00	04/18/2005 07:00	04/18/2005 07:00	04/18/2005 07:00
Analysis Date	04/19/2005 15:08	04/19/2005 16:02	04/19/2005 16:20	04/19/2005 16:38	04/19/2005 16:56
Extraction HT Met?	YES	YES	YES	YES	YES
Analytical HT Met?	YES	YES	YES	YES	YES
Sample Matrix	GW	GW	GW	GW	GW
Dilution Factor	1.0	1.0	1.0	1.0	1.0
Sample wt/vol	1.0 LITERS	1.0 LITERS	0.91 LITERS	1.0 LITERS	1.04 LITERS
% Dry					

NA = Not Applicable

PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID ob No & Lab Sample ID	Spring #2 A05-3658 A5365806	Spring #3 A05-3658 A5365807	Spring #5 A05-3658 A5365808		
le Date	04/14/2005 14:40	04/14/2005 17:05	04/14/2005 15:40		
ived Date	04/15/2005 09:15	04/15/2005 09:15	04/15/2005 09:15		
action Date	04/18/2005 07:00	04/18/2005 07:00	04/18/2005 07:00		
ysis Date	04/19/2005 17:15	04/19/2005 18:08	04/19/2005 18:27		
action HT Met?	YES	YES	YES		
ytical HT Met?	YES	YES	YES		
le Matrix	GW	GW	GW		
tion Factor	1.0	1.0	1.0		
le wt/vol y	1.06 LITERS	1.05 LITERS	0.615 LITERS		

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Method Blank A05-3658 A5B0536502				
Sample Date					
Received Date					
Extraction Date	04/18/2005 07:00				
Analysis Date	04/19/2005 14:50				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	1.0 LITERS				
% Dry					

NA = Not Applicable

b ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	T H	Analysis Date	ANL INI	A H	Matrix
5801	DUPA0405	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/14/05	04/15 09:15	NA		04/22 17:55	TRB	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/14/05	04/15 09:15	NA		04/22 17:55	TRB	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/14/05	04/15 09:15	NA		04/22 17:55	TRB	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/14/05	04/15 09:15	NA		04/19 20:44	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/14/05	04/15 09:15	NA		04/19 20:44	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/14/05	04/15 09:15	NA		04/19 20:44	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/14/05	04/15 09:15	NA		04/19 20:44	BKL	Y	GW
5802	DUPB0405	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/14/05	04/15 09:15	NA		04/22 17:59	TRB	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/14/05	04/15 09:15	NA		04/22 17:59	TRB	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/14/05	04/15 09:15	NA		04/22 17:59	TRB	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/14/05	04/15 09:15	NA		04/19 20:49	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/14/05	04/15 09:15	NA		04/19 20:49	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/14/05	04/15 09:15	NA		04/19 20:49	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/14/05	04/15 09:15	NA		04/19 20:49	BKL	Y	GW
5803	FLDBLK	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/14/05 17:30	04/15 09:15	NA		04/19 21:03	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/14/05 17:30	04/15 09:15	NA		04/22 18:14	TRB	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/14/05 17:30	04/15 09:15	NA		04/22 18:14	TRB	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/14/05 17:30	04/15 09:15	NA		04/19 21:03	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/14/05 17:30	04/15 09:15	NA		04/19 21:03	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/14/05 17:30	04/15 09:15	NA		04/19 21:03	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/14/05 17:30	04/15 09:15	NA		04/19 21:03	BKL	Y	GW
5804	MW-6	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/14/05 10:42	04/15 09:15	NA		04/19 21:08	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/14/05 10:42	04/15 09:15	NA		04/22 18:18	TRB	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/14/05 10:42	04/15 09:15	NA		04/22 18:18	TRB	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/14/05 10:42	04/15 09:15	NA		04/19 21:08	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/14/05 10:42	04/15 09:15	NA		04/19 21:08	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/14/05 10:42	04/15 09:15	NA		04/19 21:08	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/14/05 10:42	04/15 09:15	NA		04/19 21:08	BKL	Y	GW
5805	Spring #1	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/14/05 12:10	04/15 09:15	NA		04/19 21:12	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/14/05 12:10	04/15 09:15	NA		04/22 18:23	TRB	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/14/05 12:10	04/15 09:15	NA		04/22 18:23	TRB	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/14/05 12:10	04/15 09:15	NA		04/19 21:12	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/14/05 12:10	04/15 09:15	NA		04/19 21:12	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/14/05 12:10	04/15 09:15	NA		04/19 21:12	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/14/05 12:10	04/15 09:15	NA		04/19 21:12	BKL	Y	GW
5806	Spring #2	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/14/05 14:40	04/15 09:15	NA		04/19 21:16	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/14/05 14:40	04/15 09:15	NA		04/22 18:27	TRB	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/14/05 14:40	04/15 09:15	NA		04/22 18:27	TRB	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/14/05 14:40	04/15 09:15	NA		04/19 21:16	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/14/05 14:40	04/15 09:15	NA		04/19 21:16	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/14/05 14:40	04/15 09:15	NA		04/19 21:16	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/14/05 14:40	04/15 09:15	NA		04/19 21:16	BKL	Y	GW
807	Spring #3	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	04/14/05 17:05	04/15 09:15	NA		04/19 21:21	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	04/14/05 17:05	04/15 09:15	NA		04/22 18:31	TRB	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	04/14/05 17:05	04/15 09:15	NA		04/22 18:31	TRB	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	04/14/05 17:05	04/15 09:15	NA		04/19 21:21	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	04/14/05 17:05	04/15 09:15	NA		04/19 21:21	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	04/14/05 17:05	04/15 09:15	NA		04/19 21:21	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	04/14/05 17:05	04/15 09:15	NA		04/19 21:21	BKL	Y	GW

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QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	T H	Analysis Date	ANL INI	A H	Matrix
A5365808	Spring #5	RECNY	Antimony, Dissolved	6010	1.0	0.05 L	04/14/05 15:40	04/15 09:15	NA		04/19 21:25	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05 L	04/14/05 15:40	04/15 09:15	NA		04/22 18:36	TRB	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05 L	04/14/05 15:40	04/15 09:15	NA		04/22 18:36	TRB	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05 L	04/14/05 15:40	04/15 09:15	NA		04/19 21:25	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05 L	04/14/05 15:40	04/15 09:15	NA		04/19 21:25	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05 L	04/14/05 15:40	04/15 09:15	NA		04/19 21:25	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05 L	04/14/05 15:40	04/15 09:15	NA		04/19 21:25	BKL	Y	GW

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

ab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	T H	Analysis Date	ANL INI	A H	Matrix
0543202	Method Blank	RECNY	Antimony, Dissolved	6010	1.0	0.05 L	-	-	NA		04/19 19:24	BKL	Y	WATER
		RECNY	Arsenic, Dissolved	6010	1.0	0.05 L	-	-	NA		04/22 17:29	TRB	Y	WATER
		RECNY	Barium, Dissolved	6010	1.0	0.05 L	-	-	NA		04/22 17:29	TRB	Y	WATER
		RECNY	Cadmium, Dissolved	6010	1.0	0.05 L	-	-	NA		04/19 19:24	BKL	Y	WATER
		RECNY	Chromium, Dissolved	6010	1.0	0.05 L	-	-	NA		04/19 19:24	BKL	Y	WATER
		RECNY	Lead, Dissolved	6010	1.0	0.05 L	-	-	NA		04/19 19:24	BKL	Y	WATER
		RECNY	Nickel, Dissolved	6010	1.0	0.05 L	-	-	NA		04/19 19:24	BKL	Y	WATER

Analysis Holding Time Met
TCLP Holding Time Met

ANL INI = Analyst Initials

QUARTERLY WELLS & SPRINGS
SAMPLE CHRONOLOGY

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A5365801	DUPA0405	RECNY	Cyanide, Total	9012A	1.0		04/14/05	04/15 09:15	NA		04/19 14:06	LRM	Y	GW
A5365802	DUPB0405	RECNY	Cyanide, Total	9012A	1.0		04/14/05	04/15 09:15	NA		04/19 14:06	LRM	Y	GW
A5365803	FLDBLK	RECNY	Cyanide, Total	9012A	1.0		04/14/05 17:30	04/15 09:15	NA		04/21 11:31	LRM	Y	GW
A5365804	MW-6	RECNY	Cyanide, Total	9012A	1.0		04/14/05 10:42	04/15 09:15	NA		04/19 14:06	LRM	Y	GW
A5365805	Spring #1	RECNY	Cyanide, Total	9012A	1.0		04/14/05 12:10	04/15 09:15	NA		04/19 14:06	LRM	Y	GW
A5365806	Spring #2	RECNY	Cyanide, Total	9012A	1.0		04/14/05 14:40	04/15 09:15	NA		04/19 14:06	LRM	Y	GW
A5365807	Spring #3	RECNY	Cyanide, Total	9012A	1.0		04/14/05 17:05	04/15 09:15	NA		04/19 14:06	LRM	Y	GW
A5365808	Spring #5	RECNY	Cyanide, Total	9012A	1.0		04/14/05 15:40	04/15 09:15	NA		04/19 14:06	LRM	Y	GW

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

QUARTERLY WELLS & SPRINGS
QC CHRONOLOGY

ab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	T H	Analysis Date	ANL INI	A H	Matrix
0541302	Method Blank	RECNY	Cyanide, Total	9012A	1.0		-	-	NA		04/19 14:06	LRM	Y	WATER
0559302	Method Blank	RECNY	Cyanide, Total	9012A	1.0		-	-	NA		04/21 11:31	LRM	Y	WATER

Analysis Holding Time Met
TCLP Holding Time Met

ANL INI = Analyst Initials

Chain of Custody

SEVERN TRENT **STL**

WASTE MANAGEMENT CHAIN OF CUSTODY

Internal Use Only

Sampler Name (Print)	Signature
John Leffew	John W. Leffew
Site Name: Red Penn LF	Spec Request: AC [redacted]
Site Location: Louisville KY	Event Name:

STL Sample No.	Client Sample ID	Sampling Date	Sampling Time	MATRIX	COMP / GRAB	8260VOA	T-METALS	D-METALS	CHLORIDE/SULFATE/NITRATE PH, TSS, TDS	ALK / CARB / BICARB	HARDNESS	NH_3 / COD	TOC	Select VOC's Benzene, Chloroethene, Chlorobenzene, Cis-1,2-DCE	PCB's Aroclor 1016/1221, 1242, 1248, 1259, 1260	Dis. metals Select Antimony, Arsenic, Barium, Cadmium, Lead, Nickel	Cyanide (total)			Additional Analysis/Remarks
				INDICATE PRESERVATIVE BY USING KEY BELOW (OPTIONAL) / INDICATE CONTAINER BY USING KEY BELOW																
	mw-6	4/14/05	10:42																	
	Spring 1		12:10																	
	Spring 2		14:40																	
	Spring 3		17:05																	
	Spring 5		15:40																	
	DUP A0405		–																	
	DUP B0405		–																	
	FLD BLK		17:30																	
	Trip BLK		–																	

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
John W. Leffew	Rmt	4/14/05	20:30	Fed Ex Airbill 8488 3752 4408			
				C Bell	STL Buffalo	4/15/05	0915

Matrix Key
- WW = Wastewater
- W = Water/Groundwater
- S = Solid
- Sl = Sludge
- MS = Miscellaneous Solids
- Ol = Oil
- A = Air
- O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

Preservation Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn Acetate, Cool to 4°
6. Cool to 4°
7. None

COMMENTS
RMT Contact
Mike Amstadt
RMT Inc.
744 Hartland Trail
Madison WI 53708-8923
608-831-4444

Amy Hagg
STL Contact

Courier:

Bill of Lading:

SEVERN TRENT **STL**

WASTE MANAGEMENT CHAIN OF CUSTODY

Internal Use Only

Sampler Name (Print)	Signature:
John Leffew	John W. Leffew
Site Name: Red Penn LF	Spec Request: AC ~~[illegible]~~
Site Location: Louisville ky	Event Name:

STL Sample No.	Client Sample ID	Sampling Date	Sampling Time	MATRIX	COMP / GRAB	8260VOA	~~T-METALS~~	D-METALS	CHLORIDE/SULFATE/NITRATE PH, TSS, TDS	ALK / CARB / BICARB	HARDNESS	NH_3 / COD	TOC	~~Benzene~~ Select VOCs	PCBs Aroclor 1016, 1221, 1242, 1248, 1254, 1260	D.S. metals Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Lead, Nickel	Cyanide (total)			Additional Analysis/Remarks
				INDICATE PRESERVATIVE BY USING KEY BELOW (OPTIONAL)																
				INDICATE CONTAINER BY USING KEY BELOW																
	MW-6	4/14/05	10:42	W	G	4		1						4	2	1	1			
	Spring 1	↓	12:10	↓	↓	↓		↓						↓	↓	↓	↓			
	Spring 2		14:40																	
	Spring 3		17:05																	
	Spring 5		15:40																	
	Dup A0405	–	–																	
	Dup B0405	–	–																	
	FLD BLK	4/14/05	17:30																	
	Trip BLK	–	–			3								3						

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
John W. Leffew	RMT	4/14/05	20:30	Fed Ex Airbill 8488 3752 4408		4/14/05	20:30
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
				LBW	STL BUFFALO	4/15/05	0915
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key	Container Key	Preservation Key
WW = Wastewater	1. Plastic	1. HCl, Cool to 4°
W = Water/Groundwater	2. VOA Vial	2. H_2SO_4, Cool to 4°
S = Solid	3. Sterile Plastic	3. HNO_3, Cool to 4°
Sl = Sludge	4. Amber Glass	4. NaOH, Cool to 4°
MS = Miscellaneous Solids	5. Widemouth Glass	5. NaOH/Zn Acetate, Cool to 4°
Oil = Oil	6. Other	6. Cool to 4°
A = Air		7. None
O = _____		

COMMENTS ~~[illegible]~~ RMT Contact: mike Amstadt RMT, Inc 744 Hartland Trail Madison WI 53708-8923 608-831-4444

Courier: Amy Nagy STL Contact

Bill of Lading:

3 @ 2.0°C

STL-8219 (1002)

Laboratory Results for October 2005

SEVERN TRENT STL

STL Buffalo
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ANALYTICAL REPORT

Job#: A05-B448

STL Project#: NY2A8892
Site Name: Red Penn Landfill
Task: Quarterly Wells & Springs

Mike Amstadt
RMT, Inc.
744 Heartland Trail
Madison, WI 53717

CC: Cheryl Shaw

STL Buffalo

Amy Lynn Haag
Project Manager

10/28/2005

STL Buffalo
Current Certifications

STATE	Program	Cert # / Lab ID
Arkansas	SDWA, CWA, RCRA, SOIL	03-054-D/88-0686
California	NELAP SDWA, CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida	NELAP RCRA	E87672
Georgia	SDWA	956
Illinois	NELAP SDWA, CWA, RCRA	200003
Iowa	SW/CS	374
Kansas	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	CWA, RCRA	036-999-337
New Hampshire	NELAP SDWA, CWA	233701
New Jersey	SDWA, CWA, RCRA, CLP	NY455
New York	NELAP, AIR, SDWA, CWA, RCRA	10026
North Carolina	CWA	411
North Dakota	SDWA, CWA, RCRA	R-176
Oklahoma	CWA, RCRA	9421
Pennsylvania	Env. Lab Reg.	68-281
South Carolina	RCRA	91013
USDA	FOREIGN SOIL PERMIT	S-41579
Virginia	SDWA	278
Washington	CWA	C254
West Virginia	CWA	252
Wisconsin	CWA	998310390

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A5B44802	FLDBLK	WATER	10/11/2005	11:00	10/12/2005	10:00
A5B44801	MW-6	GW	10/11/2005	10:32	10/12/2005	10:00
A5B44803	TRIP BLANK	WATER	10/11/2005		10/12/2005	10:00

METHODS SUMMARY

Job#: A05-B448

STL Project#: NY2A8892
Site Name: Red Penn Landfill

PARAMETER	ANALYTICAL METHOD
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS	SW8463 8260
RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS	SW8463 8082
Antimony - Soluble	SW8463 6010
Arsenic - Soluble	SW8463 6010
Barium - Soluble	SW8463 6010
Cadmium - Soluble	SW8463 6010
Chromium - Soluble	SW8463 6010
Lead - Soluble	SW8463 6010
Nickel - Soluble	SW8463 6010
Cyanide - Total	SW8463 9012A

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A05-B448

STL Project#: NY2A8892
Site Name: Red Penn Landfill

General Comments

The enclosed data may or may not have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A05-B448
Sample Cooler(s) were received at the following temperature(s); 2.0 °C
All samples were received in good condition.

GC/MS Volatile Data

No deviations from protocol were encountered during the analytical procedures.

GC Extractable Data

No deviations from protocol were encountered during the analytical procedures.

Metals Data

The analyte Chromium and Nickel was detected in the Initial Calibration Blank at a level above quality control limits. All samples associated with this ICB were non-detect for these analytes, therefore, no corrective action was necessary.

Wet Chemistry Data

The recovery of sample MW-8 Matrix Spike exhibited results above the quality control limits for Total Cyanide. However, the LCS was acceptable.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

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DATA QUALIFIER PAGE

These definitions are provided in the event the data in this report requires the use of one or more of the qualifiers. Not all qualifiers defined below are necessarily used in the accompanying data package.

ORGANIC DATA QUALIFIERS

ND or U Indicates compound was analyzed for, but not detected.

J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

C This flag applies to pesticide results where the identification has been confirmed by GC/MS.

B This flag is used when the analyte is found in the associated blank, as well as in the sample.

E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

D This flag identifies all compounds identified in an analysis at the secondary dilution factor.

N Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.

P This flag is used for CLP methodology only. For Pesticide/Aroclor target analytes, when a difference for detected concentrations between the two GC columns is greater than 25%, the lower of the two values is reported on the data page and flagged with a "P".

A This flag indicates that a TIC is a suspected aldol-condensation product.

1 Indicates coelution.

* Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U Indicates element was analyzed for, but not detected. Report with the detection limit value.

J or B Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.

N Indicates spike sample recovery is not within the quality control limits.

S Indicates value determined by the Method of Standard Addition.

E Indicates a value estimated or not reported due to the presence of interferences.

H Indicates analytical holding time exceedance. The value obtained should be considered an estimate.

* Indicates the spike or duplicate analysis is not within the quality control limits.

+ Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

Date: 10/28/2005
Time: 17:41:52

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		FLDBLK		MW-6					
Job No / Lab ID		A05-B448	A5B44802	A05-B448	A5B44801				
Sample Date		10/11/2005		10/11/2005					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	ND	1.0	NA		NA	
Chlorobenzene	UG/L	ND	1.0	ND	1.0	NA		NA	
Chloroethane	UG/L	ND	2.0	ND	2.0	NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	ND	1.0	NA		NA	
IS/SURROGATE(S)									
Chlorobenzene-D5	%	79	50-200	82	50-200	NA		NA	
1,4-Difluorobenzene	%	80	50-200	83	50-200	NA		NA	
1,4-Dichlorobenzene-D4	%	70	50-200	68	50-200	NA		NA	
Toluene-D8	%	104	76-122	104	76-122	NA		NA	
p-Bromofluorobenzene	%	100	73-120	95	73-120	NA		NA	
1,2-Dichloroethane-D4	%	93	72-143	92	72-143	NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

Client ID		FLDBLK		MW-6					
Job No / Lab ID		A05-B448	A5B44802	A05-B448	A5B44801				
Sample Date		10/11/2005		10/11/2005					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1221	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1232	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1242	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1248	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1254	UG/L	ND	0.50	ND	0.50	NA		NA	
PCB 1260	UG/L	ND	0.50	ND	0.50	NA		NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	76	36-132	67	36-132	NA		NA	
Decachlorobiphenyl	%	36	28-132	44	28-132	NA		NA	

NA = Not Applicable ND = Not Detected

Date: 10/28/2005
Time: 17:42:02

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID		FLDBLK		MW-6					
Job No	Lab ID	A05-B448	A5B44802	A05-B448	A5B44801				
Sample Date		10/11/2005		10/11/2005					
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	ND	10	NA		NA	
Arsenic, Dissolved	UG/L	ND	10	ND	10	NA		NA	
Barium, Dissolved	UG/L	ND	5.0	95.1	5.0	NA		NA	
Cadmium, Dissolved	UG/L	ND	1.0	ND	1.0	NA		NA	
Chromium, Dissolved	UG/L	ND	3.0	ND	3.0	NA		NA	
Lead, Dissolved	UG/L	ND	5.0	ND	5.0	NA		NA	
Nickel, Dissolved	UG/L	ND	5.0	9.2	5.0	NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Client ID Job No Sample Date	Lab ID	FLDBLK A05-B448 10/11/2005	A5B44802	MW-6 A05-B448 10/11/2005	A5B44801				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	NA		NA	

NA = Not Applicable ND = Not Detected

Batch Quality Control Data

Lab Sample ID: A5B44801 A5B44801MS

Analyte	Units of Measure	Concentration Sample	Concentration Matrix Spike	Spike Amount	% Recovery MS	QC LIMITS
WET CHEMISTRY ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0	0.136	0.100	137 *	85-115

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Chronology and QC Summary Package

Client ID		VBLK42							
Job No / Lab ID		A05-B448	A5B44805						
Sample Date									
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
==========IS/SURROGATE(S)==========									
Chlorobenzene-D5	%	97	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	98	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	88	50-200	NA		NA		NA	
Toluene-D8	%	100	76-122	NA		NA		NA	
p-Bromofluorobenzene	%	96	73-120	NA		NA		NA	
1,2-Dichloroethane-D4	%	92	72-143	NA		NA		NA	

NA = Not Applicable ND = Not Detected

Date: 10/28/2005
Time: 17:42:08

Red Penn Landfill
Quarterly Wells & Springs
RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Rept: AN1246

Client ID		TRIP BLANK							
Job No / Lab ID		A05-B448	A5B44803						
Sample Date		10/11/2005							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	ND	1.0	NA		NA		NA	
Chlorobenzene	UG/L	ND	1.0	NA		NA		NA	
Chloroethane	UG/L	ND	2.0	NA		NA		NA	
cis-1,2-Dichloroethene	UG/L	ND	1.0	NA		NA		NA	
==========IS/SURROGATE(S)==========									
Chlorobenzene-D5	%	99	50-200	NA		NA		NA	
1,4-Difluorobenzene	%	101	50-200	NA		NA		NA	
1,4-Dichlorobenzene-D4	%	85	50-200	NA		NA		NA	
Toluene-D8	%	103	76-122	NA		NA		NA	
p-Bromofluorobenzene	%	93	73-120	NA		NA		NA	
1,2-Dichloroethane-D4	%	96	72-143	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client ID Job No Lab ID Sample Date		Method Blank A05-B448 A5B1585502							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
PCB 1016	UG/L	ND	0.50	NA		NA		NA	
PCB 1221	UG/L	ND	0.50	NA		NA		NA	
PCB 1232	UG/L	ND	0.50	NA		NA		NA	
PCB 1242	UG/L	ND	0.50	NA		NA		NA	
PCB 1248	UG/L	ND	0.50	NA		NA		NA	
PCB 1254	UG/L	ND	0.50	NA		NA		NA	
PCB 1260	UG/L	ND	0.50	NA		NA		NA	
SURROGATE(S)									
Tetrachloro-m-xylene	%	64	36-132	NA		NA		NA	
Decachlorobiphenyl	%	66	28-132	NA		NA		NA	

NA = Not Applicable ND = Not Detected

Date: 10/28/2005
Time: 17:42:17

Red Penn Landfill
Quarterly Wells & Springs
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)

Rept: AN1246

Client ID Job No Sample Date	Lab ID	Method Blank A05-B448	A5B1604402						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Antimony, Dissolved	UG/L	ND	10	NA		NA		NA	
Arsenic, Dissolved	UG/L	ND	10	NA		NA		NA	
Barium, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Chromium, Dissolved	UG/L	ND	3.0	NA		NA		NA	
Lead, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Nickel, Dissolved	UG/L	ND	5.0	NA		NA		NA	
Cadmium, Dissolved	UG/L	ND	1.0	NA		NA		NA	

NA = Not Applicable ND = Not Detected

STL Buffalo

Quarterly Wells & Springs
WET CHEMISTRY ANALYSIS

Client ID Job No Sample Date	Lab ID	Method Blank A05-B448	A5B1582802	Method Blank A05-B448	A5B1598102				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Cyanide, Total	MG/L	ND	0.010	ND	0.010	NA		NA	

NA = Not Applicable ND = Not Detected

Client Sample ID: VBLK42 MB42
Lab Sample ID: A5B44805 A5B44804

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
RED PENN LANDFILL -8260 - SELECT VOLATIL					
Benzene	UG/L	19.7	25.0	79	67-126
Chlorobenzene	UG/L	21.8	25.0	87	73-120

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Client Sample ID: Method Blank Matrix Spike Blank Matrix Spike Blk Dup
Lab Sample ID: A5B1585502 A5B1585501 A5B1585503

Analyte	Units of Measure	Concentration Spike Blank	Concentration Spike Blank Dup	Spike Amount SB	Spike Amount SBD	% Recovery SB	% Recovery SBD	% Recovery Avg	% RPD	QC LIMITS RPD	QC LIMITS REC.
RED PENN LANDFILL 8082 - POLYCHLORINATED											
PCB 1260	UG/L	4.57	4.77	5.00	5.00	91	95	93	4	30.0	50-122
PCB 1016	UG/L	5.06	5.42	5.00	5.00	101	108	105	7	30.0	29-123

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Client Sample ID: Method Blank LFB
Lab Sample ID: A5B1604402 A5B1604401

Analyte	Units of Measure	Concentration Blank Spike	Spike Amount	% Recovery Blank Spike	QC LIMITS
SOLUBLE METALS (SB,AS,BA,CD,CR,PB,NI)					
SOLUBLE ANTIMONY	UG/L	203.9	200.0	101	80-120
SOLUBLE ARSENIC	UG/L	207.6	200.0	104	80-120
SOLUBLE BARIUM	UG/L	202.0	200.0	101	80-120
SOLUBLE CADMIUM	UG/L	212.1	200.0	106	80-120
SOLUBLE CHROMIUM	UG/L	206.2	200.0	103	80-120
SOLUBLE LEAD	UG/L	215.1	200.0	108	80-120
SOLUBLE NICKEL	UG/L	206.2	200.0	103	80-120

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Client Sample ID: MW-6 MW-6
Lab Sample ID: A5B44801 A5B44801MS

Analyte	Units of Measure	Concentration Sample	Concentration Matrix Spike	Spike Amount	% Recovery MS	QC LIMITS
WET CHEMISTRY ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0	0.136	0.100	137 *	85-115

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Client Sample ID: Method Blank LCS
Lab Sample ID: A5B1582802 A5B1582801

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
WET CHEMISTRY ANALYSIS METHOD 9012 - TOTAL CYANIDE	MG/L	0.398	0.400	100	90-110

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

Client Sample ID: Method Blank LCS
Lab Sample ID: A5B1598102 A5B1598101

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
WET CHEMISTRY ANALYSIS					
METHOD 9012 - TOTAL CYANIDE	MG/L	0.241	0.250	96	90-110

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Detected

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	FLDBLK A05-B448 A5B44802	MW-6 A05-B448 A5B44801			
Sample Date	10/11/2005 11:00	10/11/2005 10:32			
Received Date	10/12/2005 10:00	10/12/2005 10:00			
Extraction Date					
Analysis Date	10/20/2005 15:32	10/20/2005 15:55			
Extraction HT Met?	-	-			
Analytical HT Met?	YES	YES			
Sample Matrix	WATER	GW			
Dilution Factor	1.0	1.0			
Sample wt/vol	0.005 LITERS	0.005 LITERS			
% Dry					

NA = Not Applicable

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	TRIP BLANK A05-B448 A5B44803				
Sample Date	10/11/2005				
Received Date	10/12/2005 10:00				
Extraction Date					
Analysis Date	10/20/2005 10:31				
Extraction HT Met?	-				
Analytical HT Met?	YES				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.005 LITERS				
% Dry					

NA = Not Applicable

RED PENN LANDFILL -8260 - SELECT VOLATILE ORGANICS

Client Sample ID Job No & Lab Sample ID	VBLK42 A05-B448 A5B44805				
Sample Date					
Received Date					
Extraction Date					
Analysis Date	10/20/2005 09:01				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	0.005 LITERS				
% Dry					

NA = Not Applicable

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	FLDBLK A05-B448 A5B44802	MW-6 A05-B448 A5B44801			
Sample Date	10/11/2005 11:00	10/11/2005 10:32			
Received Date	10/12/2005 10:00	10/12/2005 10:00			
Extraction Date	10/14/2005 07:00	10/14/2005 07:00			
Analysis Date	10/19/2005 14:56	10/19/2005 14:37			
Extraction HT Met?	YES	YES			
Analytical HT Met?	YES	YES			
Sample Matrix	WATER	GW			
Dilution Factor	1.0	1.0			
Sample wt/vol	1.05 LITERS	1.05 LITERS			
% Dry					

NA = Not Applicable

RED PENN LANDFILL 8082 - POLYCHLORINATED BIPHENYLS

Client Sample ID Job No & Lab Sample ID	Method Blank A05-B448 A5B1585502				
Sample Date					
Received Date					
Extraction Date	10/14/2005 07:00				
Analysis Date	10/19/2005 14:17				
Extraction HT Met?	-				
Analytical HT Met?	-				
Sample Matrix	WATER				
Dilution Factor	1.0				
Sample wt/vol	1.0 LITERS				
% Dry					

NA = Not Applicable

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A5B44802	FLDBLK	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	10/11/05 11:00	10/12 10:00	NA		10/21 00:31	BKL	Y	WATER
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	10/11/05 11:00	10/12 10:00	NA		10/21 00:31	BKL	Y	WATER
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	10/11/05 11:00	10/12 10:00	NA		10/21 00:31	BKL	Y	WATER
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	10/11/05 11:00	10/12 10:00	NA		10/21 00:31	BKL	Y	WATER
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	10/11/05 11:00	10/12 10:00	NA		10/21 00:31	BKL	Y	WATER
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	10/11/05 11:00	10/12 10:00	NA		10/21 00:31	BKL	Y	WATER
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	10/11/05 11:00	10/12 10:00	NA		10/21 00:31	BKL	Y	WATER
A5B44801	MW-6	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	10/11/05 10:32	10/12 10:00	NA		10/21 00:15	BKL	Y	GW
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	10/11/05 10:32	10/12 10:00	NA		10/21 00:15	BKL	Y	GW
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	10/11/05 10:32	10/12 10:00	NA		10/21 00:15	BKL	Y	GW
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	10/11/05 10:32	10/12 10:00	NA		10/21 00:15	BKL	Y	GW
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	10/11/05 10:32	10/12 10:00	NA		10/21 00:15	BKL	Y	GW
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	10/11/05 10:32	10/12 10:00	NA		10/21 00:15	BKL	Y	GW
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	10/11/05 10:32	10/12 10:00	NA		10/22 08:02	SW	Y	GW

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol	g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A5B1604402	Method Blank	RECNY	Antimony, Dissolved	6010	1.0	0.05	L	-	-	NA		10/20 23:10	BKL	Y	WATER
		RECNY	Arsenic, Dissolved	6010	1.0	0.05	L	-	-	NA		10/20 23:10	BKL	Y	WATER
		RECNY	Barium, Dissolved	6010	1.0	0.05	L	-	-	NA		10/20 23:10	BKL	Y	WATER
		RECNY	Cadmium, Dissolved	6010	1.0	0.05	L	-	-	NA		10/20 23:10	BKL	Y	WATER
		RECNY	Chromium, Dissolved	6010	1.0	0.05	L	-	-	NA		10/20 23:10	BKL	Y	WATER
		RECNY	Lead, Dissolved	6010	1.0	0.05	L	-	-	NA		10/20 23:10	BKL	Y	WATER
		RECNY	Nickel, Dissolved	6010	1.0	0.05	L	-	-	NA		10/22 07:43	SW	Y	WATER

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

SAMPLE CHRONOLOGY

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A5B44802	FLDBLK	RECNY	Cyanide, Total	9012A	1.0		10/11/05 11:00	10/12 10:00	NA		10/18 12:03	LRM	Y	WATER
A5B44801	MW-6	RECNY	Cyanide, Total	9012A	1.0		10/11/05 10:32	10/12 10:00	NA		10/17 10:23	LRM	Y	GW

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

QUARTERLY WELLS & SPRINGS
QC CHRONOLOGY

Lab ID	Sample ID	Lab	Analyte	Method	DF	Sample wt/vol g/L	Sample Date	Receive Date	TCLP Date	TH	Analysis Date	ANL INI	AH	Matrix
A5B1582802	Method Blank	RECNY	Cyanide, Total	9012A	1.0		-	-	NA		10/17 10:23	LRM	Y	WATER
A5B1598102	Method Blank	RECNY	Cyanide, Total	9012A	1.0		-	-	NA		10/18 12:03	LRM	Y	WATER

AH = Analysis Holding Time Met
TH = TCLP Holding Time Met
NA = Not Applicable

ANL INI = Analyst Initials
DF = Dilution Factor

Chain of Custody Record

SEVERN TRENT STL
Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: AMT — Bill Directly to Waste Management	Project Manager: Mike Amstadt	Date: 10/21/05	Chain of Custody Number: 241957
Address: 744 Heartland Trail — P.O. Box 8923	Telephone Number (Area Code)/Fax Number: 608-831-4444	Lab Number:	Page 1 of 1
City: Madison; State: WI; Zip Code: 53708-8923	Site Contact: Waste Management	Lab Contact: Amy Hong	
Project Name and Location (State): Red Rock Landfill Louisville Ky	Carrier/Waybill Number: Fed EX / 8534 7566 4079		
Contract/Purchase Order/Quote No.: 00-4896.23			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed	Soil	Containers & Preservatives: Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis (Attach list if more space is needed): Select VOCs	PCBs	Diss. metals (Select)	Cyanide (total)	Special Instructions/ Conditions of Receipt
MW-6	10-11-05	10:32		X			2		1	4	1						
FLD BLK 1005	↓	11:00		↓			↓		↓	↓	↓						
Trip Blank	—	—		↓						3							

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished By: [signature]	10-11-05	18:00	1. Received By: Fed-EX Airbill 8534 7566 4097	10-11-05	18:00
2. Relinquished By: Fed EX Airbill 8534 7566 4097			2. Received By: [signature]	10/12/05	1000
3. Relinquished By:			3. Received By: [signature]		

Comments: VOC's Benzene, Chloroethane, Chlorobenzene, Cis 1,2 Dichloroethene | metals Dissolved Antimony, Arsenic, Barium, Cadmium, Chromium, Lead, Nickel

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

35/35

Appendix B
Correspondence

Table of Contents

- September 17, 2009: Letter from RMT, Inc. to Waste Management, Inc., documenting the abandonment of the leachate head wells
- July 15, 2009: E-mail from the KDWM to Waste Management, Inc., approving the Workplan for the abandonment of the leachate head wells
- March 10, 2009: E-mail from Waste Management, Inc., to the KDWM regarding the submittal of the Final Revised Operation, Maintenance, & Monitoring Plan
- March 3, 2009: E-mail from the KDWM to Waste Management, Inc., regarding requested additions to the Revised Operation, Maintenance, & Monitoring Plan
- February 26, 2009: Letter from Waste Management, Inc., to the KDWM regarding the submittal of the Revised Operation, Maintenance, & Monitoring Plan
- February 4, 2009: Letter from Waste Management, Inc. to the KDWM, regarding the KDWM's conclusions on the 5-year review
- November 6, 2008: Letter from the KDWM to Waste Management, Inc., concluding that the first 5-year review is complete
- February 26, 2007: Letter from the KDWM to Waste Management, Inc., regarding the 5-Year Review Report
- February 11, 2004: Letter from the KDWM to Waste Management, Inc., regarding the Year 2003 Annual OM&M Report
- April 2, 2003: Letter from the KDWM to Waste Management, Inc., in response to RMT's March 13, 2003, letter regarding the sampling of wells MW-8002-8975 and MW-8002-8179

- March 13, 2003: Letter from RMT, Inc., to the KDWM requesting changes to the environmental monitoring requirements
- July 23, 2002: Letter from the KDWM to RMT, Inc., regarding the 2001 Annual OM&M Report
- March 26, 2001: Letter from the KDWM to RMT, Inc., approving the Construction Documentation Report

September 17, 2009
Letter from RMT, Inc. to Waste Management, Inc., documenting the abandonment of the leachate head wells

RMT

• ENVIRONMENT • ENERGY • ENGINEERING

September 17, 2009

Mr. Jim Forney
Director Closed Sites Group
Waste Management, Inc.
Heritage Office Park West
3965 Okemos Road, Suite B4
Okemos, MI 48864

Subject: Leachate Head Well Abandonment - Red Penn Landfill
Pewee Valley, Kentucky

Dear Jim:

On August 31, 2009, American Drilling Services (ADS) from Indianapolis, Indiana, abandoned the three leachate head wells (LH-1, LH-2, and LH-3) at the Red Penn Landfill in Pewee Valley, Kentucky. The abandonments were performed in accordance with the Leachate Head Well Abandonment Workplan dated April 2009, which was approved by the Kentucky Department for Environmental Protection (KDEP) in an e-mail dated April 22, 2009.

Specifically, the leachate head well pipes were filled with medium bentonite chips prior to removing the protective casing or any portion of the pipe. ADS used a Kobelco 27SR mini-excavator to excavate the areas around the leachate head wells to expose the geosynthetic clay liner (GCL). The pipes were then cut off below the GCL layer, and the void left by the protective casing and leachate head well was filled with medium bentonite chips. A piece of GCL (approximately 3 feet by 4 feet) was placed in the excavation as a patch. Additional granular bentonite was then placed along all four edges of the patch. The excavated soil was then replaced and compacted. The existing metal posts, with polyvinyl chloride (PVC) pipe attached to the top, were left in place at each of the leachate head wells so that the location of the head wells can be determined once the vegetation is re-established. Monitoring well decommissioning logs and a photographic log documenting the work are attached.

If you have any questions, please contact me, at (608) 662-5271

Sincerely,

RMT, Inc.

Michael Amstadt

Michael Amstadt, P.E.
Senior Project Manager

Attachments: Photographic Log, Monitoring Well Decommissioning Log

I:\WPMSN\PJT\00-04896\31\L0004S9631-001.DOCX

2

Photographic Log

RMT

Photographic Log

Client Name	Site Location	Project No.
Waste Management	Red Penn Landfill – Pewee Valley, Kentucky	4896.31

Photo No.	Date
1	

Description

LH-3.

Photo No.	Date
2	

Description

LH-3 location after the pro cover has been removed.

RMT

Photographic Log

Client Name	Site Location	Project No.
Waste Management	Red Penn Landfill – Pewee Valley, Kentucky	4896.31

Photo No.	Date
3	

Description

LH-3 geosynthetic clay liner (GCL) patch. Note the granular bentonite around the edges.

Photo No.	Date
4	

Description

LH-3 GCL patch. Note the granular bentonite around the edges.

RMT

Photographic Log

Client Name	Site Location	Project No.
Waste Management	Red Penn Landfill – Pewee Valley, Kentucky	4896.31

Photo No.	Date
5	

Description

LH-3 backfill of the excavated soil.

Photo No.	Date
6	

Description

LH-3 backfill of the excavated topsoil and vegetation.

6

RMT

Photographic Log

Client Name	Site Location	Project No.
Waste Management	Red Penn Landfill – Pewee Valley, Kentucky	4896.31

Photo No.	Date
7	

Description

LH-3 location after completion.

Photo No.	Date
8	

Description

LH-1 location, pro cover removed.

RMT

Photographic Log

Client Name	Site Location	Project No.
Waste Management	Red Penn Landfill – Pewee Valley, Kentucky	4896.31

Photo No.	Date
9	

Description

LH-1 before the polyvinyl chloride (PVC) pipe was removed below the GCL at a slip coupling.

Photo No.	Date
10	

Description

LH-1 after PVC well casing removal.

8

RMT

Photographic Log

Client Name	Site Location	Project No.
Waste Management	Red Penn Landfill – Pewee Valley, Kentucky	4896.31

Photo No.	Date
11	

Description

The GCL patch at LH-1 location. Note the granular bentonite around the edges.

Photo No.	Date
12	

Description

Completed GCL patch at the LH-1 location.

9

RMT

Photographic Log

Client Name	Site Location	Project No.
Waste Management	Red Penn Landfill – Pewee Valley, Kentucky	4896.31

Photo No.	Date
13	

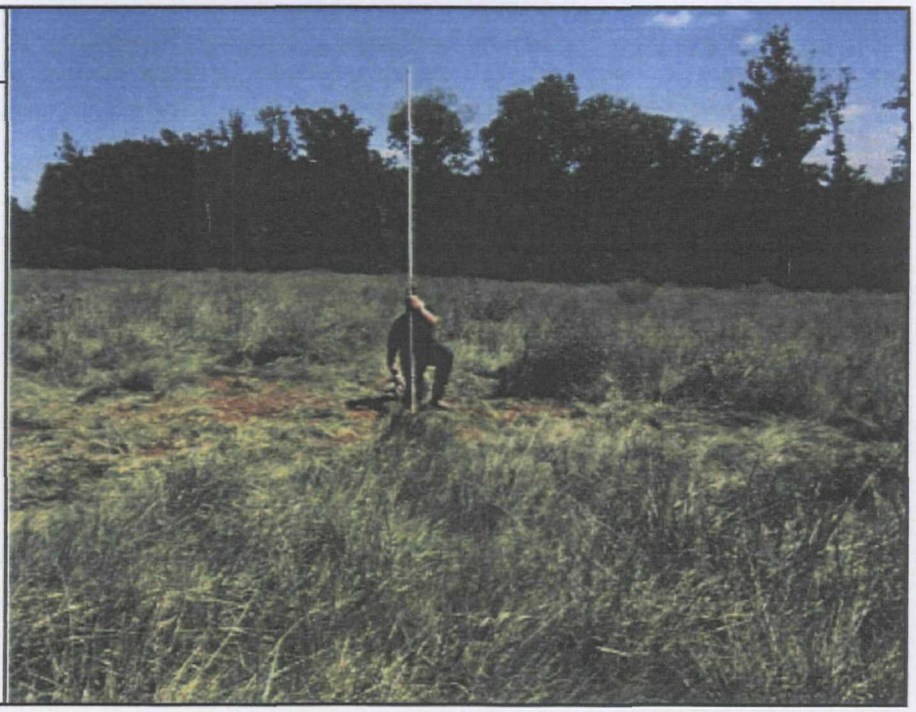
Description

Completed backfilling at LH-1.

Photo No.	Date
14	

Description

Completed well removal at LH-1.



RMT

Photographic Log

Client Name	Site Location	Project No.
Waste Management	Red Penn Landfill – Pewee Valley, Kentucky	4896.31

Photo No.	Date
15	

Description

LH-2 location.

Photo No.	Date
16	

Description

LH-2 after pro cover removal.

RMT

Photographic Log

Client Name	Site Location	Project No.
Waste Management	Red Penn Landfill – Pewee Valley, Kentucky	4896.31

Photo No.	Date
17	

Description

LH-2 location after PVC casing was unscrewed below the GCL and backfilled with bentonite chips.

Photo No.	Date
18	

Description

Granular bentonite base for the GCL patch.

12

RMT

Photographic Log

Client Name	Site Location	Project No.
Waste Management	Red Penn Landfill – Pewee Valley, Kentucky	4896.31

Photo No.	Date
19	

Description

Granular bentonite seal around the edges of the GCL patch.

Photo No.	Date
20	

Description

Completed LH-2 location.

13

RMT

Photographic Log

Client Name	Site Location	Project No.
Waste Management	Red Penn Landfill – Pewee Valley, Kentucky	4896.31

Photo No.	Date
21	

Description

Completed LH-2 location.

14

July 15, 2009
E-mail from the KDWM to Waste Management, Inc., approving the Workplan for the abandonment of the leachate head wells

Amstadt, Mike

From: EEC [Susan.Mallette@ky.gov]
Sent: Wednesday, July 15, 2009 10:07 AM
To: Forney, Jim
Cc: Turner, Wesley (EEC); Amstadt, Michael J.
Subject: Plan for plugging leachate monitoring, Red Penn

Jim,
The Kentucky Division of Waste Management, Superfund Branch, has reviewed the Leachate Well Abandonment Workplan for Red Penn dated April 22, 2009.

It is noted that the plan does not include the removal of the well casing, which is the usual procedure for plugging monitoring wells. However, since these wells are located entirely in the waste material and since they will be filled with granular bentonite, this requirement will be waived for these wells.

The plan is approved as written. Please notify this office when work is scheduled to commence at the site.

We appreciate your continued involvement with the Red Penn Landfill.

Thanks,
Susan

Susan Mallette
Kentucky Registered Professional Geologist 2282
Superfund Branch
Division of Waste Management
200 Fair Oaks Lane, Second Floor
Frankfort, KY 40601
Phone 502 564-6716
FAX 502 564-2704
http://www.waste.ky.gov/

Please consider the environment before printing this e-mail.

March 10, 2009
E-mail from Waste Management, Inc., to the KDWM regarding the submittal of the Final Revised Operation, Maintenance, & Monitoring Plan

Forney, Jim

From: Forney, Jim
Sent: Tuesday, March 10, 2009 1:25 PM
To: Mallette, Susan (EEC)
Cc: Turner, Wesley (EEC); Akindele.Femi@epamail.epa.gov
Subject: RE: Red Penn-Revised OM&M Plan
Attachments: Red Penn EntireOandMPlan.pdf; Red Penn MarchChanges.pdf

Susan,

Per your request the OM &M Plan has been revised to address your two comments. I have attached a complete new document and just the four page changes. Please confirm that these are acceptable and also confirm your availability for a meeting on the afternoon of 1 Apr or morning of 2 Apr. Thanks, Jim

James Forney
Group Director-CSMG
Waste Management, Inc
3965 Okemos Road Suite B4
Okemos, MI 48864
Off: 517.381.0177
Fax: 517.381.0176
Cell: 517.974.3104
jforney@wm.com

From: Mallette, Susan (EEC) [mailto:Susan.Mallette@ky.gov]
Sent: Tuesday, March 03, 2009 2:52 PM
To: Forney, Jim
Cc: Turner, Wesley (EEC); Akindele.Femi@epamail.epa.gov
Subject: RE: Red Penn-Revised OM&M Plan

Jim,
We have reviewed the revised Operation, Maintenance and Monitoring Plan for Red Penn dated February 2009. This email is the response to that submittal.

The O, M & M Plan looks good, and will be complete with the following two additions:

1) Please add the Kentucky Environmental Emergency 24 hour number to the list of emergency contacts in Section 5, under emergency response guidelines. That number is (502) 564-2380 or (800) 928-2380. You could also include this number on page two of the Risk Analysis, under local emergency resources.

2) You mentioned that "personnel from the KDEP Superfund Branch" will be included in the walkover inspection, on page 3-1, which is good. Please also include the notification of KDEP at least five days before sampling, perhaps in the introduction to the Sampling Plan. That number is 502 564-6716.

In addition, we have reviewed the cover letter dated February 26, 2009, wherein you would like to schedule a meeting in early April. We are available most anytime the first two weeks in April, and can meet with you then in person, or by voice via a conference call. Do you have specific questions or areas you want to discuss at that time? Let us know when is good for you.

Thanks,

18

Susan

* *

Susan Mallette
Kentucky Registered Professional Geologist 2282
Superfund Branch
Division of Waste Management
200 Fair Oaks Lane, Second Floor
Frankfort, KY 40601
Phone 502 564-6716
FAX 502 564-2704

Please consider the environment before printing this e-mail.

March 3, 2009
E-mail from the KDWM to Waste Management, Inc., regarding requested additions to the Revised Operation, Maintenance, & Monitoring Plan

Forney, Jim

From: Mallette, Susan (EEC) [Susan.Mallette@ky.gov]
Sent: Tuesday, March 03, 2009 2:52 PM
To: Forney, Jim
Cc: Turner, Wesley (EEC); Akindele.Femi@epamail.epa.gov
Subject: RE: Red Penn-Revised OM&M Plan

Jim,
We have reviewed the revised Operation, Maintenance and Monitoring Plan for Red Penn dated February 2009. This email is the response to that submittal.

The O, M & M Plan looks good, and will be complete with the following two additions:

1) Please add the Kentucky Environmental Emergency 24 hour number to the list of emergency contacts in Section 5, under emergency response guidelines. That number is (502) 564-2380 or (800) 928-2380. You could also include this number on page two of the Risk Analysis, under local emergency resources.

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Thanks,
Susan

* *

Susan Mallette
Kentucky Registered Professional Geologist 2282
Superfund Branch
Division of Waste Management
200 Fair Oaks Lane, Second Floor
Frankfort, KY 40601
Phone 502 564-6716
FAX 502 564-2704

Please consider the environment before printing this e-mail.

February 26, 2009
Letter from Waste Management, Inc., to the KDWM regarding the submittal of the Revised Operation, Maintenance, & Monitoring Plan

WASTE MANAGEMENT

CLOSED SITE MANAGEMENT GROUP · MIDEAST
3965 Okemos Road, Suite B4
Okemos, MI 48864
(517) 381-0175
(517) 381-0176 Fax

Direct Dial (517) 381-0177
jforney@wm.com

February 26, 2009

Ms. Susan Mallette
Division of Waste Management
Kentucky Department of Environmental Protection
200 Fair Oaks Lane
Frankfort, KY 40601-1190

RE: Red Penn Sanitation Landfill
Submittal of Revised Operation, Maintenance & Monitoring Plan

Dear Ms. Mallette:

This letter is submitted as a follow up to my letter of February 4, 2009. Enclosed for the Kentucky Division of Waste Management review and approval is a Revised Operation, Maintenance and Monitoring Plan for the Red Penn Landfill. This plan has been revised to reflect the changes outlined in your letter of November 6, 2008.

Once you have reviewed this plan, I would like to schedule a meeting in early April. Please contact me at your earliest convenience to schedule the meeting.

Respectfully,

James C. Forney
Director ~ Closed Sites

cc: Rachel Schneider, via email
Brian Bussa, Ford Motor, via email
Matthew Carey, via email
Femi Akindele, USEPA-IV, via email
Wesley Turner, KDWM, via email
File/Red Penn/2A #2 outgoing

Printed on 100% post-consumer recycled paper.

February 4, 2009
Letter from Waste Management, Inc. to the KDWM, regarding the KDWM's conclusions on the 5-year review

WASTE MANAGEMENT

CLOSED SITE MANAGEMENT GROUP - MIDEAST
3965 Okemos Road, Suite B4
Okemos, MI 48864
(517) 381-0175
(517) 381-0176 Fax

Direct Dial (517) 381-0177
jforney@wm.com

February 4, 2009

Ms. Susan Mallette
Division of Waste Management
Kentucky Department of Environmental Protection
200 Fair Oaks Lane
Frankfort, KY 40601-1190

RE: Red Penn Sanitation Landfill

Dear Ms. Mallette:

This letter is submitted in response to your November 6, 2008 letter regarding Red Penn Sanitation Landfill. In your letter, the Kentucky Division of Waste Management concludes that the settling parties have completed all of the requirements of the Agreed Order through the completion of the First Five-Year Review. Your letter then states that due to the continued presence of waste at the site additional five-year reviews will be necessary. Based on the agency determinations set forth in that letter, only the following items will be required for compliance:

- Site access must continue to be controlled by means of a locked gate.
- The property owner must provide annual certification in the form of a letter that the condition of the site has not changed. This letter will describe all changes made at the site, if any and the letter will be due on January 30th of each year.
- Conduct a round of groundwater sampling (three wells and five springs) in the six-month time frame prior to January 30, 2011;
- Arrange for a site walkover with personnel from the KDWM Superfund Branch to take place in the six-month time frame prior to January 30, 2011;
- Prepare a second five-year review report to be submitted by January 30, 2011; and document the condition of the cap and site access controls in the second five-year review report.

Pursuant to your letter, the property owner for Red Penn Sanitation remains responsible for controlling site access through the locked gate, and certifying annually by January 30th of each year, that site conditions have not changed.

Based on the above determinations, the O&M Plan will be revised to document these modifications to the O&M Plan, specifically discontinuance of yearly monitoring and mowing and the requirement

to perform additional five-year review activities. The revised O&M Plan will be submitted to the agency by February 28, 2009 and we will request a meeting with the agency at that time.

If you have any questions, please contact me.

Respectfully,

James C. Forney
Director ~ Closed Sites

cc: Rachel Schneider, via email
Brian Bussa, Ford Motor, via email
Matthew Carey, via email
Femi Akindele, USEPA-IV, via email
Wesley Turner, KDWM, via email
File/Red Penn/2A

November 6, 2008
Letter from the KDWM to Waste Management, Inc., concluding that the first 5-year review is complete

RECEIVED
NOV 14 2008
CLOSED SITES

ENERGY AND ENVIRONMENT CABINET

Steven L. Beshear
Governor

Leonard K. Peters
Secretary

Department for Environmental Protection
Division of Waste Management
200 Fair Oaks Lane
Frankfort, Kentucky 40601-1190
www.kentucky.gov

November 6, 2008

James C. Forney
Waste Management, Inc.
3965 Okemos Road, Suite B4
Okemos, MI 48864

Re: Red Penn Sanitation Company Landfill
Oldham County
AI # 6302, Mars # 9326
CERCLIS # KYD981469794

Dear Mr. Forney:

The Kentucky Division of Waste Management (KDWM), Superfund Branch, has reviewed the Agreed Order and the Five Year Review Report, as well as the site operation and maintenance plans from the Final Remedial Design and the Remedial Action Workplan, for the Red Penn Landfill, Pewee Valley, Kentucky, an NPL site.

As originally required by the Workplan, the following protective measures have been completed or are now in place at the site:

- The land use restriction (Environmental Covenant) was recorded in the office of the clerk of the Oldham County Court on June 30, 2008.
- The entrance features a locked gate to control access to the site.
- The landfill cover has been established over the waste area to minimize the potential of direct contact with the land fill contents and to reduce the infiltration of precipitation.
- Erosion matting and/or riprap has been placed in selected steep areas.
- Permanent vegetative cover has been established on the cap and adjacent areas to minimize erosion and sediment transport.
- The groundwater monitoring, consisting of samples collected from wells MW-6, MW8002-8975 and MW 8002-8979 and Springs #1 through #5, was conducted through the five year period as described in Table 1 of the Workplan
- The leachate head levels were measured and recorded for the five years as described in Table 1.

This concludes the first five years of the Operation and Maintenance phase of the site remedy. This information is documented in the Five Year Review report written by RMT, Inc. and dated January 2006. At this time, the site was evaluated to determine what additional maintenance is required, if any, and whether further monitoring is necessary.

In accordance with Kentucky Revised Statute (KRS) 224.01-400 (18) (b), this landfill is designated a site with waste managed in place. Therefore the maintenance of the engineering and institutional controls that allow the waste to be contained in such a way as to protect human health, safety, and the environment must be assured.

After reviewing the site data from the previous five year period and in conjunction with the site documents, the US EPA's guidelines for a five year review report, and the statutes and regulations of the Commonwealth of Kentucky, it is determined that:

- Yearly monitoring and site mowing may be discontinued.
- The site access must continue to be controlled by means of a locked gate.
- The property owner must provide annual certification in the form of a letter that the condition of the site has not changed. This letter will describe all changes made at the site, if any. The letter will be due on January 30th of each year.
- The next five year review will be due by January 30, 2011. This will be the responsibility of the original PRPs listed in the Agreed Order. It will include a round of groundwater sampling (the three wells and five springs as described above), description of the condition of the cap and site access controls, and a brief site walkover with personnel from the KDWM Superfund Branch.
- The O & M plan should be updated to reflect these changes.

If conditions change or additional data indicates their necessity, then additional sampling and maintenance may be required.

Pursuant to the Agreed Order (paragraph 26), the settling parties were required to perform the O & M work as outlined in the Remedial Design (RD). In accordance with the plan outlined in the RD (page 12), after five years the data collected will be used to determine whether further monitoring and management is necessary. The initial five year review has been completed, and it has been determined that due to the continued presence of waste at the site additional five year reviews will be necessary. Therefore, the Agreed Order may not be terminated.

Thank you for your continued work at this site. If you have any questions, you may contact me by telephone at (502) 564-6716 and by email at susan.mallette@ky.gov. We look forward to the continuing successful remediation of the Red Penn Landfill site.

Sincerely,

Susan L. Mallette

Susan L. Mallette, PG
Geologist Registered
Superfund Branch

SLM/slm

cc: Red Penn Sanitation Co., Inc., c/o/ Statutory Agent: Andrew M. Guelda, John G. Guelda, the Estate of John R. Redmon, the Estate of Guy Redmon, Katherine A. Moertl, Matthew Carey

ec: Femi Akendale, US EPA
Wesley Turner, Virginia Baker, Tim Hubbard, Tim Harrod, Jerri Martin, EPPC

February 26, 2007
Letter from the KDWM to Waste Management, Inc., regarding the 5-Year Review Report

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Ernie Fletcher
Governor

Department for Environmental Protection
Division of Waste Management
14 Reilly Road
Frankfort, Kentucky 40601-1190
www.kentucky.gov

Teresa J. Hill
Secretary

February 26, 2007

James C. Forney
Waste Management, Inc.
3965 Okemos Road, Suite B4
Okemos, MI 48864

Re: Red Penn Sanitation Company Landfill
Oldham County
AI # 6302, Mars # 9326

Dear Mr. Forney:

The Kentucky Division of Waste Management (KDWM), Superfund Branch, has received the Five Year Review Report for the Red Penn Landfill, Pewee Valley, Kentucky, dated January 2006.

Pursuant to Kentucky Revised Statute (KRS) 224.01-400 (18) (b), this landfill is to be reviewed as a waste site that is managed in place. The general purpose of a five year review is to determine that the waste left in place is managed in a manner that minimizes the harmful effects of the release and protects human health, safety and the environment. In this case, the purpose of the five year review is also to determine if the conditions of Agreed Order DWM-4870 have been met.

The following additional items are required before the Five Year Review Report can be approved:

- The Biological Study must be addressed as in the original documents
- The Deep Aquifer must be sampled off-site as in the original documents
- An Environmental Covenant (EC) signed by the owner(s) of the property must be registered at the Oldham County Courthouse as per our Office of Legal Services. This EC will include a one day public notice
- The Five Year Inspection and walk-over of the site by the interested parties must occur after the EC has been registered, and must include a representative of KDWM

Based on information supplied during the previous five year period and the information requested in the above bullets, a plan will be required to address the long term maintenance requirements for the site. These may include additional review periods and sampling programs in addition to routine cap maintenance.

Please note: In order to ensure timely processing and review of submittals, please include the above referenced AI number (#6302) on any correspondence regarding the site. When submitting reports, electronic documents in PDF format are preferred and must be attached to a paper cover letter with an original signature. If submitting hardcopies of reports, they must be unstapled and unbound for ease of scanning. Duplicate copies are not necessary, but paper versions of large and detailed maps are appreciated.

Thank you for your continued interest in this site. If you have any questions, my telephone is (502) 564-6716, extension 263, and my email is susan.mallette@ky.gov .

Sincerely,

Susan L. Mallette

Susan L. Mallette, PG
Geologist Registered
Superfund Branch

SLM/slm

cc: Red Penn Sanitation Co., Inc., c/o/ Statutory Agent: Andrew M. Guelda, John G. Guelda, the Estate of John R. Redmon, the Estate of Guy Redmon, Katherine A. Moertl, Matthew Carey

ec: Femi Akendale, US EPA
Fazi Sherkat, Wesley Turner, Virginia Baker, Tim Harrod, Jerri Martin, EPPC

February 11, 2004
Letter from the KDWM to Waste Management, Inc., regarding the Year 2003 Annual OM&M Report

ERNIE FLETCHER
GOVERNOR

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
14 REILLY ROAD
FRANKFORT, KENTUCKY 40601-1190
www.kentucky.gov

LAJUANA S. WILCHER
SECRETARY

February 11, 2004

James C. Forney
Waste Management, Inc.
3970 Heritage Avenue, Suite A
Okemos, MI 48864

Re: Red Penn Sanitation Company Landfill
Oldham County
Not/Com #20363, Mars # 9326

Dear Mr. Forney:

The Kentucky Division of Waste Management has received and reviewed the Year 2003 Annual OM&M Report for the Red Penn Landfill.

As you will note in my previous letter, dated April 2, 2003, and included in Appendix B of the report, this office requires five-day notification of any on-site activity. Site activities that require notification include cap repairs, such as those done in June, and the monitoring conducted on November 18th. (Note the discrepancy: the report says November but the cover letter says October.) However, we did not receive notification of either event.

You are required to notify this office of all site activities at least five days prior to the activity. If you have any questions, or to notify me of planned site activities, I may be reached by telephone at (502) 564-6716, extension 263, or by email at susan.mallette@ky.gov . Thank you for your continuing maintenance and monitoring of this site.

Sincerely,

Susan L. Mallette

Susan L. Mallette, PG
Geologist Registered
Superfund Branch

c: Femi Akindale, US EPA
Michael Amstadt, RMT, Inc
ec: Randall McDowell, Fazi Sherkat, Wesley Turner, EPPC

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April 2, 2003
Letter from the KDWM to Waste Management, Inc., in response to RMT's March 13, 2003, letter regarding the sampling of wells MW-8002-8975 and MW-8002-8179

HENRY C. LIST
SECRETARY

PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
14 REILLY RD
FRANKFORT KY 40601-1190

April 2, 2003

James C. Forney, Director~Closed Sites
Waste Management, Inc.
3970 Heritage Avenue, Suite A
Okemos, MI 48864

Re: Red Penn Sanitation Company Landfill
Oldham County
Not/Com #20363, Mars # 9326

Dear Mr. Forney:

The Kentucky Division of Waste Management has reviewed the monitoring records and observed the most recent sampling of wells MW-8002-8975 and MW-8002-8979 at the Red Penn Landfill.

According to the records, a sample attempt was made quarterly as required, but only one actual sample was collected from these monitoring wells in the two-year sampling period. This was due to insufficient water volume, apparently because of very slow recharge to the wells.

Therefore, please change the well sampling frequency of MW-8002-8975 and MW-8002-8979 to annual. The next sampling of these two wells will therefore be in March 2004.

Thank you for your continuing cooperation with the maintenance and monitoring of this site. Please continue to notify this office of site activities at least five days prior to the activity. If you have any questions, or to notify me of planned site activities, I may be reached by telephone at (502) 564-6716, extension 263, or by email at susan.mallette@mail.state.ky.us.

Sincerely,

Susan L. Mallette

Susan L. Mallette, PG
Geologist Registered
Superfund Branch

c: Femi Akindale, US EPA
Michael Amstadt, RMT, Inc
Randall McDowell, NREPC, OLS
Fazi Sherkat, NREPC, DWM, Superfund Branch

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March 13, 2003
Letter from RMT, Inc., to the KDWM requesting changes to the environmental monitoring requirements

RMT Integrated Environmental Solutions

744 Heartland Trail 53717 1934
P.O. Box 8923 53708-8923
Madison, WI
Telephone: 608-831-4444
Fax: 608-831-3334
www.rmtinc.com

March 13, 2003

Ms. Susan Mallette
Geologist
Frankfort Office Park
Department of Environmental Protection, Superfund Branch
Division of Waste Management
18 Reilly Road
Frankfort, KY 40601-1190

Subject: Changes to Environmental Monitoring Activities
Red Penn Landfill, Pewee Valley, Kentucky

Dear Ms. Mallette:

On behalf of the PRPs for the Red Penn Landfill in Pewee Valley, Kentucky, RMT is requesting that monitoring wells MW8002-8975 and MW8002-8979 be eliminated from the monitoring program because period of these wells do not recover after being bailed dry to allow for samples to be collected in a reasonable time (24 hours). With the exception of the first time these wells were sampled (in February 2000), MW8002-8975 has not recovered enough to collect any samples in the last 2 years, and MW8002-8979 has recovered enough to only allow a 40 mL sample for VOCs to be collected in about half of the sampling events. Furthermore, the results for the samples from MW8002-8975 and -8979 that have been collected over the last 2 years do not indicate that the groundwater at these locations has been affected by the landfill. We would appreciate if the Kentucky Division of Waste Management (KDWM) could respond to this letter by March 30, so that we can make the necessary arrangements prior to the next sampling event in April.

We are also notifying the KDWM that the PRPs intend to reduce the frequency of environmental monitoring from quarterly to semiannually beginning in April 2003. This reduction in monitoring frequency for groundwater and the springs is consistent with the Final Remedial Design (RMT, Inc., October 1999).

Please call me, at (608) 662-5271, if you have any questions regarding this letter.

Sincerely,

RMT, Inc.

Michael J. Amstadt, P.E.
Project Manager

cc: Jim Forney, Waste Management, Inc.
Jeff Hartlund, Ford Motor Land Services Corporation

I:\WPMSN\PIT\00-04896\21\L000489621-002.DOC

July 23, 2002
Letter from the KDWM to RMT, Inc., regarding the 2001 Annual OM&M Report

JAMES E. BICKFORD
SECRETARY

PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WASTE MANAGEMENT
14 REILLY RD
FRANKFORT KY 40601-1190

July 23, 2002

Jim Forney
Waste Management, Inc.
3970 Heritage Avenue, Suite A
Okemos, MI 48864

Re: Red Penn Sanitation Company Landfill
Oldham County
Not/Com #20363, Mars # 9326

Dear Mr. Forney:

The Kentucky Division of Waste Management has reviewed the 2001 Annual OM&M Report for the Red Penn Landfill.

We noted that only one quarterly sample was collected from the down gradient monitoring wells, MW-8002-8975 and MW-8002-8979. This was explained, "the water did not recharge within a reasonable amount of time after being bailed dry."

Please note that these quarterly samples are required. You may have to adjust your sampling plan to accommodate the slow recharge of these wells at certain times of the year.

If you have any questions, I may be contacted by telephone at (502) 564-6716, extension 263, or by email susan.mallette@mail.state.ky.us.

Sincerely,

Susan L. Mallette

Susan L. Mallette, PG
Geologist Registered
Superfund Branch

c: Femi Akindale, US EPA
Michael Amstadt, RMT, Inc
Fazi Sherkat, KDWM, Superfund Branch
Eric Liebenauer, KDWM, Superfund Branch
Central File

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March 26, 2001
Letter from the KDWM to RMT, Inc., approving the Construction Documentation Report

JAMES E. BICKFORD
SECRETARY

PAUL E. PATTON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
14 REILLY RD
FRANKFORT KY 40601

March 26,2001

Michael J. Amstadt, P.E.
RMT
744 Heartland Trail
Madison WI 53717-1934

RE: Construction Documentation Report
Red Penn Landfill
Oldham County, Kentucky

Dear Mike:

The Kentucky Division of Waste Management has reviewed the December, 2000 Construction Documentation Report for the Red Penn Landfill site. We have concluded that the report accurately documents construction activities and that the construction was completed in conformance with the Scope of Work and the project construction plans and specifications.

Please keep me informed as to the timing of planned activities for this season and send a copy of the environmental sampling results when you have received them. If you have any questions or concerns, please call me at 502 564-2225 ext. 229.

Sincerely,

Rick Hogan

Rick Hogan, P.E.
Federal Superfund Section

C: Jim Forney
Jeff Hartlund
File

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42/42

Appendix C
Deed Restriction and Environmental Covenant

F/Red Penn 8.0
cc: JCF - Red Penn Binder

Quarles & Brady LLP

411 East Wisconsin Avenue
Milwaukee, Wisconsin 53202-4497
Tel 414.277.5000
Fax 414.271.3552
www.quarles.com

Attorneys at Law in:
Phoenix and Tucson, Arizona
Naples and Boca Raton, Florida
Chicago, Illinois (Quarles & Brady LLC)
Milwaukee and Madison, Wisconsin

Writer's Direct Dial: 414.277.5829
Writer's Fax: 414.978.8829
E-Mail: rschneider@quarles.com

March 14, 2003

Randall G. McDowell
Manager, Waste Legal Branch
Natural Resources and Environmental Protection Cabinet
Capital Plaza Tower, 5th Floor
Frankfurt, Kentucky 40601

RE: Red Penn Sanitation Co., Inc. Landfill

Dear Mr. McDowell:

Enclosed for your files please find a copy of the recorded Declaration of Restrictions for the Red Penn Sanitation Co., Inc. properties comprising the landfill.

Thank you for your assistance in this matter.

Very truly yours,

QUARLES & BRADY LLP

Rachel A. Schneider

RS2:lgl
Enclosure
cc: Jim Forney
Matt Carey
Jonathan Goldberg

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MAR 17 2003
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DECLARATION OF RESTRICTIONS

THIS DECLARATION is made as of the 24 day of February, 2003, by Waste Management of Kentucky L.L.C. (Declarant).

WHEREAS, Declarant and Ford Motor Company, on the one hand, and Red-Penn Sanitation Co., Inc. (Red-Penn) and its Shareholders John R. Redmon, Guy Redmon and John G. Guelda (collectively, Red-Penn and its shareholders are referred to as Owner), on the other hand, entered into an Agreed Order with the Kentucky Natural Resources and Environmental Protection Cabinet (the Cabinet) for the development and implementation of a Remedial Design for the Red Penn Landfill.

WHEREAS, Owner is the owner of approximately 151 acres of real property located on State Route 362 in Oldham and Shelby Counties, Kentucky (the Property), more particularly described in Deed Book 94, Page 439; Deed Book 99, Page 56; Deed Book 99, Page 381 and Deed Book 118, Page 422 of the Oldham County Clerk's Office, and with legal description as set forth on Attachment A.

WHEREAS, from approximately 1954 to 1986 Red-Penn owned and operated a licensed landfill on the Property. The Cabinet has alleged that hazardous substances and/or pollutants and contaminants were disposed of at the landfill in violation of certain permit provisions.

WHEREAS, Declarant and Ford Motor Company are the Settling Parties (as that term is used in the Agreed Order) that undertook the actions necessary to correct the effects of the release on the environment pursuant to KRS 224.01-400, the Agreed Order and the Final Remedial Design approved by the Cabinet.

WHEREAS, Declarant has proposed and implemented the Final Remedial Design (the Plan) to correct the effects of the release which includes controlling exposure to the hazardous substances, pollutants or contaminants by restricting use of the Property.

WHEREAS, the Cabinet has approved the Plan and the Declarant has taken the actions required by the approved Plan. Declarant shall continue performing operation and maintenance (O&M) activities as required by and in accordance with the Plan or Cabinet-approved modification thereto. Implementation of the Plan, in addition to the restrictions contained within this restrictive covenant, is designed to reduce the risk of exposure to hazardous substances, pollutants or contaminants.

WHEREAS, further information concerning the release and the activities performed to correct the effects of the release may be obtained by contacting the Custodian of Records of the Division of Waste Management at 14 Reilly Road, Frankfort, Kentucky 40601. Records concerning this property may be found under File No. DWM-4870.

NOW THEREFORE, pursuant to KRS 224.01-400 and the Plan, the following restrictions are imposed:

Leo H Johnson
225 W Main; 2000
Lou 40202

2

1.) Definitions

A. "Residential use" means any use of the Property related to a (i) residence or dwelling, including but not limited to a house, apartment, or condominium, or (ii) school, hospital, day care center, playground, or outdoor recreational area.

B. "Owner" means Owner (as described above) or any successor owner or owners.

2.) Restrictions Applicable to the Property

Owner shall assure that the use, occupancy, and activity of and at the property are restricted as follows:

A. Use. No residential use of the Property shall be permitted. Uses of the Property are restricted to those uses that are consistent with the exposure assumptions modeled in the baseline risk assessment (CDM Federal Programs Corp. and ARCS Region IV, June 18, 1993). A copy of the baseline risk assessment can be obtained from the Division of Waste Management. Activities at the Property are restricted to those activities that will not or could not interfere with the remedial action, operation and maintenance, monitoring, and other measures necessary to ensure the effectiveness and integrity of the remedial action, including without limitation the cap installed on the landfill.

B. Groundwater. Groundwater at the Property shall not be used for drinking or other domestic purposes. Goundwater well installation and groundwater use within the property boundary for all domestic, commercial, and industrial uses is prohibited, except groundwater monitoring wells necessary to implement and monitor the remedial action. Construction of groundwater-fed impoundments is prohibited within the property boundary.

C. Except as necessary to protect human health, safety or the environment, no action shall be taken, allowed, suffered, or omitted on the Property if such action or omission is reasonably likely to:

i. Create a risk of migration of hazardous substances, pollutants or contaminants or a potential hazard to human health or the environment; or

ii. Result in a disturbance of the structural integrity of any engineering controls designed or utilized at the Property to contain hazardous substances, pollutants or contaminants or limit human exposure to hazardous substances, pollutants or contaminants;

iii. Prior to any construction activity or disturbance of any approved cap placed on the Property, the Owner shall submit to the Cabinet a written rationale for the disturbance and detailed plans of the proposed construction for their review and written approval. No such construction activity or disturbance is permitted without this prior written approval.

D. Disturbances. Excavation of soil at the property is prohibited without approval of the Cabinet. This prohibition does not preclude cap maintenance/repair conducted by the Settling Parties pursuant to the approved O&M plan.

E. Construction. No building shall be constructed on the Property without prior approval of the Cabinet.

3.) Restrictions Run With Land

A. Unless cancelled, altered or amended under the provision of Paragraph 4 of this Declaration, these restrictions are to run with the land and shall be binding on Owner, its successors, heirs and assigns unless an instrument signed by the Owner and the Cabinet has been recorded, agreeing to change these restrictions in whole or in part.

B. The Owner shall provide written notice to the Cabinet at least thirty (30) days prior to the sale, assignment, or lease of this property or any portion thereof, and provide the name, address, and telephone number of the new owner or occupant of the property. The written notice shall be sent to: Manager, Superfund Branch, 14 Reilly Road, Frankfort, Kentucky 40601.

C. Except as provided in paragraph 4 of this Declaration, the Property shall hereafter be held, transferred, sold, leased, conveyed and occupied subject to the restrictions set forth herein, each and all of which is and are for, and shall inure to the benefit of and pass with each and every part of the Property and shall apply to and bind the heirs, assignees and successors in interest of the Owner.

4.) Release of Restriction

These restrictions may not be cancelled, altered or amended without the affirmative action of the Owner and the Cabinet, in an instrument executed by both parties agreeing to change these restrictions in whole or in part. The Cabinet shall not approve any change in use or restrictions on the Property that would fail to protect human health, safety, and the environment in accordance with KRS 224.01-400.

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5.) No Waiver

Failure of any Owner or the Cabinet to demand or insist upon observance of any of these restrictions, or to proceed for restraint of violations, shall not be deemed a waiver of the violation, or the right to seek enforcement of these restrictions.

6.) Enforcement

Enforcement of these restrictions shall be by proceeding of law or in equity, brought by any Owner of the Property or by the Cabinet, against any party, including owner, violating or attempting to violate any covenant or restriction, either to restrain violation, to direct restoration or to recover damages.

7.) Effect of Invalidation

Invalidation of any one of these restrictions, conditions or covenants by judgment or court order shall in no way affect any of the other provisions, which shall remain in full force and effect.

IN WITNESS WHEREOF, Declarant has executed this Declaration of Restrictions as of the date set forth above.

WASTE MANAGEMENT OF KENTUCKY L.L.C.

James C. Forney

STATE OF MICHIGAN

COUNTY OF INGHAM

The foregoing instrument was acknowledged before me this 24th day of February, 2003, by James Forney of Waste Management, Inc. on behalf of Waste Management of Kentucky L.L.C.

Sandra Carl
NOTARY PUBLIC

My Commission expires: 12/2/05

SANDRA CARL
Notary Public, Ingham County, MI
My Comm. Expires Dec. 2, 2005

This document prepared by:
Rachel Schneider by SAJ
Rachel A. Schneider
Quarles & Brady LLP
411 East Wisconsin Avenue
Milwaukee, WI 53202-4497
(414) 277-5000

This document approved by:

Randall G. McDowell
Manager, Waste Legal Branch Natural Resources and Environmental Protection Cabinet
Capital Plaza Tower
5th Floor
Frankfort, KY 40601
(502) 564-5576 x342

STATE OF KENTUCKY

COUNTY OF OLDHAM

I, Ann B Brown, Clerk of the Oldham County Court, do certify that the foregoing Notice was lodged in my office for record, and that I have recorded it, and the certificate thereon, this 5 day of March, 2003.

Ann B Brown by
Oldham County Clerk
Nicole Overman DC

6

ATTACHMENT A

1. Deed Book 94, Page 439

BEGINNING at an iron pipe at a corner post in the east right-of-way line of Kentucky Highway No. 362, formerly Pewee Valley & Flat Rock Road, said iron pipe being the Northwest corner of the Ed Hall farm and being the Southwest corner of the W. M. Gill Tract as recorded in Deed Book 70, Page 52 in the Oldham County Court Clerk's office; thence with the right-of-way line North 29 degrees 05 minutes West 146.5 feet to a point in the entrance road; thence passing a gate post at 36.0 feet, North 85 degrees 15 minutes East 215.0 feet to an iron pipe at a fence post; thence continuing with the remaining lands of Gill North 59 degrees 45 minutes East 110.0 feet to an iron pipe at a fence post at the East side of a gate; thence North 47 degrees 30 minutes East 153.5 feet to an iron pipe at a fence post; thence North 55 degrees 10 minutes East 93.0 feet to an iron pipe at a fence post; thence North 76 degrees 20 minutes East 132.0 feet to an iron pipe at a fence post; thence North 69 degrees 30 minutes East 100.0 feet to an iron pipe at a fence post; thence North 28 degrees 30 minutes East 573.5 feet to an iron pipe at the West post of a gap in the fence; thence North 07 degrees 15 minutes East 266.5 feet to an iron pipe at a fence post; thence North 20 degrees 25 minutes East 199.0 feet to an iron pipe at a fence post in a branch; thence with said branch North 56 degrees 35 minutes West 309.0 feet to a railroad spike in a 12 inch hackberry; then with an existing fence North 28 degrees 38 minutes East 733.0 feet to an iron pipe at a corner post in the line with W. M. Gill, said fence being a portion of the Northwest line of the Price Tract as recorded in Deed Book 60, Page 295; thence along an existing fence South 64 degrees 45 minutes East 178.0 feet to a 30 inch sugar tree at the brow of the bluff, being a corner with Jack Ott; thence continuing over the bluff South 64 degrees 45 minutes East 102.0 feet to a 10 inch walnut; thence North 89 degrees 15 minutes East 153.0 feet to a point in the center of Floyds Fork, having passed an iron pipe at 30.0 feet; thence continuing downstream with Floyds Fork South 01 degrees 52 minutes West 105.0 feet to a point in the center of the stream; thence with the center of the stream South 13 degrees 05 minutes East 300.0 feet to a point; thence South 19 degrees 35 minutes East 307.0 feet to a point; thence South 17 degrees 09 minutes East 360.0 feet to a point; thence South 23 degrees and 15 minutes East 485 feet to a point in the center of Floyds Fork, being the Northeast corner of the Ed Hall farm; thence along a fence with Hall, passing an iron pipe at 60.0 feet, South 71 degrees 30 minutes West 787.0 feet to a fence post; thence South 72 degrees 30 minutes West 1270.0 feet to the beginning; containing 35.90 acres more or less, and being South end of the Allender Place formerly owned by Gill as recorded in Deed Book 70, Page 52, and being the Southeast end of the Price Tract formerly owned by Gill as recorded in Deed Book 89, Page 229, in the Oldham County Court Clerk's office.

BEING the same property conveyed to Guy L. Redmon, Jr. and Chris P. Pennington, doing business as the Red-Penn Sanitation Company by deed from W. M. Gill and Frances L. Gill, his wife, dated March 1, 1962, and recorded in Deed Book 92, Page 571 in the office of the Clerk of the County Court of Oldham County, Kentucky.

2. Deed Book 99, Page 56

Tract 1. Beginning at a point under the bridge in the middle of Floyds Fork Creek and running thence with the East right-of-way line of Kentucky Highway 362 North 24 degrees 30 minutes West 359 feet to an iron pipe for corner with the land of Redmon and Pennington; thence with the land of Redmon and Pennington North 72 degrees 30 minutes East 1270 feet to a point and North 71 degrees 30 minutes East 787 feet to a 20-inch sycamore corner to Kentucky Women's Prison property; thence South 22 degrees East 440 feet to a 22-inch sycamore; thence South 11 degrees 30 minutes East 210 feet to an 18-inch elm; thence South 19 degrees 15 minutes West 170 feet to a 4-inch elm; thence South 83 degrees 30 minutes West 207 feet to a 6-inch maple; thence North 66 degrees West 143 feet to a 15-inch ash; thence North 86 degrees 45 minutes West 195 feet to corner with said prison property; thence continuing with said prison property South 3 degrees 30 minutes East 222 feet to a 10-inch walnut; thence South 11 degrees West 116 feet to a corner post in the north right-of-way line of Kentucky Highway 362; thence with said right-of-way line as follows: South 85 degrees 30 minutes West 395 feet to a spike, South 54 degrees West 181.5 feet to a spike, South 75 degrees 15 minutes West 181.5 feet to a spike, North 83 degrees 45 minutes West 247 feet to a spike, South 63 degrees 30 minutes West 90 feet to a spike, South 86 degrees West 160 feet to a point, North 53 degrees 30 minutes West 155 feet to a point, North 20 degrees West 235 feet to the center of Floyds Fork Creek at the point of beginning containing 36 acres, more or less.

And being the same property conveyed to Ed Hall and Bettie Hall, his wife, (also known as Bettie Elizabeth Hall) in joint survivorship by H. Elliott Netherton and wife, by deed dated July 3, 1945, and recorded in Deed Book 65, page 351, in the office of the County Court Clerk of Oldham County, Kentucky, and the same of which Bettie Elizabeth Hall became the sole owner upon the death of Ed Hall on November 27, 1952, and the same which Charles Hall was directed to sell under the will of Bettie Elizabeth Hall, dated March 12, 1958, and recorded in Will Book 12, page 317, in the office of the clerk aforesaid.

Tract 2. Beginning in the southwest right-of-way of Kentucky Highway 362 at a point opposite the northwest corner of the tract conveyed to Ed Hall and Bettie Hall, his wife, (Tract 1 above) and near a 15-inch elm; thence South 3 degrees West 215 feet to a point in the branch; thence South 44 degrees 30 minutes East 150 feet to a point in the center of Floyds Fork Creek; thence with the center of said creek North 63 degrees East 60 feet to the southwest line of Kentucky

Highway 362; thence with the southwest line of said highway North 24 degrees 30 minutes West 340 feet to the point of beginning.

And being a tract of land claimed and held in open, notorious, adverse possession by Ed Hall and Bettie Hall, (also known as Bettie Elizabeth Hall) for more than 40 years.

3. Deed Book 99, Page 381

Beginning at a spike in the east right-of-way line of Highway No. 362 common to the property now owned by the Red-Penn Sanitation Co.; thence running with the property lines of the Red-Penn Sanitation Co. North 85 degrees 15 minutes East 215 feet; North 59 degrees 45 minutes East 110 feet; North 47 degrees 30 minutes East 153.5 feet; North 55 degrees 10 minutes East 93 feet; North 76 degrees 20 minutes East 132 feet; North 69 degrees 30 minutes East 100 feet; North 28 degrees 30 minutes East 573.5 feet; North 7 degrees 15 minutes East 266.5 feet; North 20 degrees 25 minutes East 199 feet; North 56 degrees 35 minutes West 309 feet to the remaining land of W.M. Gill; thence with the remaining land of W.M. Gill South 28 degrees 38 minutes West 1275.5 feet to a spike in a 22 inch hickory tree; thence South 65 degrees 30 minutes West approximately 325 feet to the east right-of-way line of State Highway No. 362; thence with the east right-of-way line of Kentucky Highway No. 362 in a southwardly direction to the point of beginning a distance of 175 feet, and being a tract of land containing approximately 12 ½ acres, more or less.

And being a part of the same land conveyed W.M. Gill by deed recorded in Deed Book 60, page 295, and known as the Price Tract, and a part of the land conveyed W.M. Gill by deed recorded in Deed Book 70, page 52, known as the Allender Tract, all in the Oldham County Court Clerk's office.

4. Deed Book 118, Page 422

Beginning at an iron pipe in the easterly line of Hawley-Gibson Road being corner with William Lee Gill; thence with the line of William Lee Gill south 68 degrees and 05 minutes east 1,374.0 feet to an iron pipe at a corner post with Red-Penn Sanitation Co.; thence with the line of the Red-Penn Sanitation Co. south 28 degrees and 38 minutes west 2,257 feet to a stake; thence south 48 degrees and 30 minutes west 124.0 feet to an iron pipe at a corner post on the easterly side of Kentucky Highway No. 362; thence with the easterly right-of-way line of Kentucky Highway No. 362 north 40 degrees and 20 minutes west 300.0 feet to an iron pipe; thence north 40 degrees and 45 minutes west 150.0 feet to an iron pipe; thence north 20 degrees and 45 minutes west 100.0 feet to an iron pipe; thence north 04 degrees and 45 minutes west 435.0 feet to an iron pipe; thence north 17 degrees and 15 minutes west 415.0 feet to an iron pipe; thence north 19 degrees and 40 minutes west 345.0 feet to an iron pipe at a corner post at the intersection with the easterly line of the Hawley-Gibson Road; thence with the

eastern line of the road north 48 degrees and 00 minutes east 196.0 feet to a railroad spike in a 12 inch cedar; thence north 33 degrees and 40 minutes east 184.0 feet to a point; thence north 37 degrees and 10 minutes east 200.0 feet to a point; thence north 47 degrees and 45 minutes east 93.0 feet to a 30 inch cherry; thence north 48 degrees and 30 minutes east 412.0 feet in all, having passed an 8 inch walnut at 5.5 feet, to the beginning, containing 66.35 acres more or less.

Being the last remaining part of the same property conveyed to W.M. Gill by Deed dated the _____ day of _____, 19__, and recorded in Deed Book 70, Page 52, in the office of the Clerk of the County Court of Oldham County, Kentucky; the said W.M. Gill died on May 14, 1967, and Frances L. Gill, the party of the first part acquired her interest under the Will of said W.M. Gill, which is recorded in Will Book 13, Page 177, in the aforesaid Clerk's office.

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DOCUMENT NO: 277255
RECORDED ON: MARCH 05,2003 03:33:13PM
TOTAL FEES: $24.00
COUNTY CLERK: ANN B BROWN
COUNTY: OLDHAM COUNTY
DEPUTY CLERK: MICHELE A OVERMAN

BOOK R8 PAGES 189 - 197

LAW OFFICES
CAREY, NIEMI, STOUT & LUEKE

ONE RIVERFRONT PLAZA
401 W. MAIN ST., SUITE 2000
LOUISVILLE, KENTUCKY 40202

JAMES T. CAREY
BRUCE A. NIEMI
J. MATTHEW CAREY
THOMAS W. STOUT
H. MARK LUEKE

TELEPHONE
(502) 582-2277

FACSIMILE
(502) 582-3525

July 2, 2008

RECEIVED
JUL 07 2008
CLOSED SITES

TO ALL PERSONS ON THE ATTACHED DISTRIBUTION LIST:

RE: Red Penn Sanitation Co., Inc.
Red Penn Landfill
State Route 362
Oldham County, Kentucky

Pursuant to paragraph 3.N. of the Environmental Covenant recorded in the office of the Clerk of the Oldham County Court on June 30, 2008, pertaining to the above-referenced property, we are distributing a file and date stamped copy of the said Environmental Covenant.

Very truly yours,

J. Matthew Carey
Counsel for Red Penn Sanitation Co., Inc.

JMC/tjf

Enclosures: Environmental Covenant
Distribution List

DISTRIBUTION LIST

Director, Kentucky Division of Waste Management
14 Reilly Road
Frankfort, Kentucky 40601-1109

Duane Murner
Judge Executive of Oldham County
100 West Jefferson Street, Suite 4
LaGrange, Kentucky 40031

Red-Penn Sanitation Co., Inc.
c/o John G. Guelda
2500 Melody Way
Louisville, Kentucky 40299

John G. Guelda
2500 Melody Way
Louisville, Kentucky 40299

Waste Management of Kentucky, LLC
3965 Okemos Road, Suite B4
Okemos, MI 48864
ATTN: JAMES C. FORNEY

Ford Motor Company
15031 S. Commerce Drive
Dearborn, Michigan 48120
ATTN: Louis J. Ghilardi, Assistant Secretary

Kentucky Environmental and Public Protection Cabinet
Capital Plaza Tower, 5th Floor
Frankfort, Kentucky 40601
ATTN: VIRGINIA BAKER GORLEY, OFFICE OF LEGAL SERVICES

Texas Gas Transmission Company
3800 Frederica Street
Owensboro, Kentucky 42304

Louisville Gas & Electric Company
220 W. Main Street
LG&E-11 Legal Dept.
Louisville, Kentucky 40202

South Central Bell Telephone Company
601 West Chestnut Street
Louisville, Kentucky 40232

THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL COVENANT PURSUANT TO KRS 224 Subchapter 80
ENVIRONMENTAL COVENANT

Red Penn Sanitation Co., Inc. (hereinafter "Grantor") grants an Environmental Covenant (hereinafter "Covenant") this 14 day of DECEMBER, 2007 to the following Holder(s) pursuant to KRS Chapter 224 Subchapter 80: Red Penn Sanitiation Co., Inc., Waste Management of Kentucky L.L.C. ("Waste Management"), John G. Guelda, and Ford Motor Company ("Ford").

WHEREAS, Grantor is the owner of approximately 137.295 acres of real property located on State Route 362 in Oldham County, Kentucky (hereinafter "the Property"), more particularly described in Deed Book 94, Page 439; Deed Book 99, Page 56; Deed Book 99, Page 381 and Deed Book 118, Page 422 of the Oldham County Clerk's Office, and with legal description as set forth on Attachment A;

WHEREAS, this instrument is an Environmental Covenant developed and executed pursuant to KRS 224.80-100 to KRS 224.80-210;

WHEREAS, from approximately 1954 to 1986 Grantor owned and operated a permitted landfill on the Property. During the operation of the landfill, a release of hazardous substances, pollutants and/or contaminants occurred to the soil and groundwater on the Property. The specific contaminants released are documented in the files of the Division of Waste Management under Agency Interest No. 6302 and include, but are not limited to, the following: EPA Fact Sheet, dated August 1991, Kentucky's Preliminary Assessment Site Investigation Report dated July 3, 1986, and EPA's Hazardous Ranking System Evaluation for Groundwater. The area where the releases of hazardous constituents, pollutants and contaminants remains on the Property is known as the Impacted Area more particularly described in Attachment B;

WHEREAS, pursuant to Agreed Order File No. DWM-4870, the Property is the subject of a remedial action pursuant to KRS 224.01-400;

WHEREAS, John G. Guelda, Waste Management and Ford proposed a Final Remedial Design (the Plan) to correct the effects of the release on the Property pursuant to KRS 224.01-400 which included controlling exposure to the hazardous substances, pollutants or contaminants by restricting the use of the Property and the activities on the Property. The Cabinet approved the Plan and Waste Management and Ford conducted all remedial actions required by the approved Plan. Atlantic Richfield Company and John G. Guelda contributed financially to the peformance of the Plan. Monitoring, maintenance of engineering controls, and sampling activities occur in accordance with the Plan;

WHEREAS, the purpose of this Covenant is to ensure protection of human health and the environment by placing restrictions on the use of the Property to reduce the risk to human health to below the target risk levels for those hazardous constitutents, substances, pollutants, or contaminants that remain on the Property;

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WHEREAS, further information concerning the release and the activities performed to correct the effects of the release may be obtained by contacting the Custodian of Records of the Kentucky Division of Waste Management at 14 Reilly Road, Frankfort, Kentucky 40601. Records concerning this property may be found under Agency Interest Number 6302 and DWM File No. 4870.

NOW, THEREFORE, Grantor hereby grants this Covenant to the Holders and declares that the Property shall hereinafter be bound by, held, sold, used, improved, occupied, leased, hypothecated, encumbered and/or conveyed subject to the following requirements set forth in paragraphs 1 through 3 below:

1. DEFINITIONS

A. Owner. "Owner" means Grantor, its successors and assigns in interest.

B. Residential Use. "Residential Use" includes single family or multi family residences; child or adult care facilities; nursing home or assisted living facilities; use as a church; and any type of educational purpose for children/young adults in grades kindergarten through twelfth grade.

2. RESTRICTIONS APPLICABLE TO THE PROPERY

A. Restrictions Applicable to Entire Property:

i. Groundwater well installation and groundwater use on the Property for all domestic, commercial, and industrial uses is prohibited, except for groundwater monitoring wells which are necessary to implement and monitor the remedial action. Construction of groundwater-fed impoundments is prohibited on the Property.

ii. Except as necessary to protect human health, safety or the environment, no action shall be taken, allowed, suffered, or omitted on the Property if such action or omission is reasonably likely to:

a. Create a risk of migration of hazardous substances, pollutants or contaminants or a potential hazard to human health or the environment; or
b. Result in a disturbance of the structural integrity of any engineering controls, including but not limited to landfill caps and monitoring wells, designed or utilized at the Property to contain hazardous substances, pollutants or contaminants or limit human exposure to hazardous substances, pollutants or contaminants;

B. Restrictions Applicable to the Impacted Area:

i. No Residential Use shall be permitted on the Impacted Area.

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ii. Other than for cap maintenance activities, prior to any construction activity or disturbance of the approved cap placed on the Impacted Area, the Owner(s) shall submit to the Director, Kentucky Division of Waste Management, a written rationale for the disturbance and detailed plans of the proposed construction for the Cabinet's review and written approval.

iii. No building shall be constructed on the Impacted Area without the Owner(s) obtaining prior approval of the Director, Kentucky Division of Waste Management.

iv. No recreational use at the Impacted Area shall interfere with the cap or cap maintenance activities.

3. GENERAL PROVISIONS

A. Restrictions to Run with the Land. This Covenant runs with the land pursuant to KRS 224.80-140; is perpetual unless modified or terminated pursuant to the terms of this Covenant as set forth in paragraph 31 of this Covenant; is imposed upon the entire Property unless expressly stated as applicable only to a specific portion thereof; and inures to the benefit of and passes with each and every portion of the Property; and binds the Owner(s), the Holders, all persons using the land, their heirs, successors and assigns having any right, title or interest in the Property, or any part thereof who have subordinated those interests to this Covenant, and all persons, their heirs, successors and assigns who obtain any right, title or interest in the Property, or any part thereof after the recordation of this Covenant.

B. Conveyances of the Property. Owner(s) shall notify the Director of the Kentucky Division of Waste Management at least thirty (30) days in advance of any proposed sale, assignment, lease, grant, transfer, or conveyance of any interest in any or all of the Property. Notice shall include the name, address, and telephone number of the prospective owner or occupier, a copy of the proposed deed or other documentation evidencing the conveyance, and a survey map that shows the boundaries of the Property being transferred. The Owner shall also provide the prospective owner or occupier written notice of (i) the KDWM approved Scope of Work (May 1, 1998), (ii) any instrument by which an interest in the Property has been conveyed that confers a right to access to the site, and (iii) any instrument by which an interest in the Property has been conveyed that confers a right to enforce restrictions on the use of the Property, including but not limited to, this Covenant.

C. Incorporation into Deeds and Leases. Each instrument hereafter conveying any interest in the Property or any portion of the Property shall contain a notice of the activity and use limitations set forth in this Covenant and provide the recorded location of this Covenant. The notice shall be substantially in the following form:

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THE INTEREST CONVEYED HEREBY IS SUBJECT TO AN ENVIRONMENTAL COVENANT, DATED DECEMBER 14, 2007, RECORDED IN THE OFFICIAL RECORDS OF THE OLDHAM COUNTY CLERK'S OFFICE IN DEED BOOK R 10, PAGE 211.

D. Zoning Changes. Owner(s) shall notify the Director of the Kentucky Division of Waste Management simultaneously when any application is submitted to a local government for a building permit for the Property. Owner(s) shall notify the Kentucky Division of Waste Management of any proposed change in the land use for the Property.

E. Compliance Certification. Owner(s) shall submit an annual report to the Director of the Kentucky Division of Waste Management, on the anniversary of the date this Covenant was signed by the Grantor(s), detailing the Owner(s) compliance, and any lack of compliance with the terms of the Covenant.

F. Right of Access. Owner(s) hereby grants the Cabinet, its agents, contractors and employees and all Holders, their agents, contractors and employees, the right of access to the Property for implementation or enforcement of this Covenant.

G. Representations and Warranties. Grantor hereby represents and warrants to the other signatories hereto:

i. that the Grantor has the power and authority to enter into this Environmental Covenant, to grant the rights and interests herein provided and to carry out all obligations hereunder;

ii. that the Grantor is the sole owner of the Property and holds fee simple title which is free, clear and unencumbered;

iii. that the Grantor has identified all other parties that hold any interest (e.g., encumbrance) in the Property and notified such parties of the Grantor's intention to enter into this Environmental Covenant;

iv. that the Grantor has complied with all public notice requirements in KRS 224.80-110.

v. that this Environmental Covenant will not materially violate or contravene or constitute a material default under any other agreement, document or instrument to which Grantor is a party, by which Grantor may be bound or affected.

vi. that this Environmental Covenant will not materially violate or contravene any zoning law or other law regulating use of the Property.

vii. that this Environmental Covenant does not authorize a use of the Property that is otherwise prohibited by a recorded instrument that has priority over the Environmental Covenant.

H. Compliance Enforcement. The terms of the Environmental Covenant may be enforced by the Kentucky Environmental and Public Protection Cabinet or any person identified in KRS 224.80-200 in accordance with applicable law. Failure to timely enforce compliance with this Environmental Covenant or the use limitations contained herein by any person shall not bar subsequent enforcement by such person and shall not be deemed a waiver of the person's right to take action to enforce any non-compliance. Nothing in this Environmental Covenant shall restrict the Kentucky Environmental and Public Protection Cabinet from exercising any authority under applicable law.

I. Modification/Termination. This Environmental Covenant runs with the land and is perpetual unless modified or terminated in accordance with KRS 224.80-180 or KRS 224.80-190. The term "Amendment" as used in this Environmental Covenant, shall mean any changes to the Environmental Covenant, including the activity and use limitations set forth herein, or the elimination of one or more activity and use limitations when there is at least one limitation remaining. The term "Termination" as used in this Environmental Covenant, shall mean the elimination of all activity and use limitations set forth herein and all other obligations under this Environmental Covenant

J. Notices. Any document or communication required to be sent to the Cabinet under this Covenant shall be sent to:

Director, Division of Waste Management
Department for Environmental Protection
14 Reilly Road
Frankfort, Kentucky 40601

K. Severability. If any provision of this Covenant is found to be unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired.

L. Recordation. Within ten (10) business days after the date of the final required signature upon this Covenant, Grantor(s) shall file this Covenant in the county clerk's office in each county that contains any portion of the real property subject to this Covenant.

M. Effective Date. The effective date of this Covenant shall be the date upon which the fully executed Covenant has been recorded as a deed record for the Property with the Oldham County Clerk's Office.

N. Distribution of Environmental Covenant. The Grantor shall within thirty (30) days of filing this Covenant in the Oldham County Clerk's Office, distribute a file and date stamped copy of the recorded Covenant to the following persons: Director, Kentucky Division of Waste Management; Judge Executive of Oldham County; every Holder of this Covenant; each person who is in possession of the Property; each person who holds a recorded interest in the Property; and each person who signed this Covenant.

O. Cabinet and Division References. All references to the Kentucky Environmental and Public Protection Cabinet and the Kentucky Division of Waste Management shall include successor agencies/departments/divisions or other successor entities.

Grantor has caused this Environmental Covenant to be executed pursuant to KRS 224.80-100 to KRS 224.80-210 on this 14 day of DECEMBER, 2007.

IN TESTIMONY WHEREOF, the parties have hereunto set their hands this the day and year first above written.

This document drafted by:

J. Matthew Carey
Carey, Niemi, Stout & Lueke
One Riverfront Plaza
401 West Main Street, Suite 2000
Louisville, KY 40202

RED-PENN SANITATION CO., INC.

Grantor and Grantee/Holder

STATE OF KENTUCKY

COUNTY OF JEFFERSON

The foregoing instrument was acknowledged before me this 14TH day of OCTOBER, 2007, by JOHN G. GUELDA on behalf of Red-Penn Sanitation Co., Inc.

Notary Public, State of Kentucky
My commission expires: 10/27/09

WASTE MANAGEMENT OF KENTUCKY L.L.C.

James C. Forney

Grantee/Holder

STATE OF
Michigan

COUNTY OF
Eaton

The foregoing instrument was acknowledged before me this 3rd day of December 2007, by James C. Forney on behalf of Waste Management of Kentucky L.L.C.

Angel A. Bushman

Notary Public, State of Michigan
My commission expires: 12/22/2012

ANGEL A. BUSHMAN
NOTARY PUBLIC - STATE OF MICHIGAN
COUNTY OF EATON
My Commission expires Dec. 22, 2012
Acting in the County of Ingham

FORD MOTOR COMPANY

Grantee/Holder
Louis J. Ghilardi
Assistant Secretary

STATE OF

Michigan

COUNTY OF

Wayne

The foregoing instrument was acknowledged before me this 29th day of Nov., 2007, by Louis J. Ghilardi, Assistant Secretary of Ford Motor Company on behalf of Ford Motor Company.

Notary Public, State of Michigan
My commission expires:

JESSICA WESTBROOK
NOTARY PUBLIC-STATE OF MICHIGAN
COUNTY OF WAYNE
My Commission Expires March 17, 2013
Acting in the County of Wayne

Jessica Westbrook

JOHN G. GUELDA

Grantee/Holder

STATE OF KENTUCKY

COUNTY OF JEFFERSON

The foregoing instrument was acknowledged before me this 14th day of October, 2007, by John G. Guelda.

Notary Public, State of Kentucky
My commission expires: 10/27/09

KENTUCKY ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

This Environmental Covenant is hereby approved by the Environmental and Public Protection Cabinet this 24 day of June, 2008.

By: _____ 6/24/08
~~R. Bruce Scott, Director~~, Division of Waste Management — Date

Anthony R. Hatton

The foregoing instrument was acknowledged before me this 24 day of June, 2008, by ~~R. Bruce Scott~~ on behalf of the Environmental and Public Protection Cabinet..
Anthony R. Hatton

Notary Public, State of Kentucky
My commission expires: 8-3-09

Chris Craig

STATE OF KENTUCKY

COUNTY OF OLDHAM

I, Julia K. Lentz, Clerk of the Oldham County Court, do certify that the foregoing Notice was lodged in my office for record, and that I have recorded it, and the certificate thereon, this 30th day of June, 2008.

Julia K. Lentz by Betty T. Parrish
Oldham County Clerk — Deputy Clerk

ATTACHMENT A

LEGAL DESCRIPTION

1. Deed Book 94, Page 439

BEGINNING at an iron pipe at a corner post in the east right-of-way line of Kentucky Highway No. 362, formerly Pewee Valley & Flat Rock Road, said iron pipe being the Northwest corner of the Ed Hall farm and being the Southwest corner of the W. M. Gill Tract as recorded in Deed Book 70, Page 52 in the Oldham County Court Clerk's office; thence with the right-of-way line North 29 degrees 05 minutes West 146.5 feet to a point in the entrance road; thence passing a gate post at 36.0 feet, North 85 degrees 15 minutes East 215.0 feet to an iron pipe at a fence post; thence continuing with the remaining lands of Gill North 59 degrees 45 minutes East 110.0 feet to an iron pipe at a fence post at the East side of a gate; thence North 47 degrees 30 minutes East 153.5 feet to an iron pipe at a fence post; thence North 55 degrees 10 minutes East 93.0 feet to an iron pipe at a fence post; thence North 76 degrees 20 minutes East 132.0 feet to an iron pipe at a fence post; thence North 69 degrees 30 minutes East 100.0 feet to an iron pipe at a fence post; thence North 28 degrees 30 minutes East 573.5 feet to an iron pipe at the West post of a gap in the fence; thence North 07 degrees 15 minutes East 266.5 feet to an iron pipe at a fence post; thence North 20 degrees 25 minutes East 199.0 feet to an iron pipe at a fence post in a branch; thence with said branch North 56 degrees 35 minutes West 309.0 feet to a railroad spike in a 12 inch hackberry; then with an existing fence North 28 degrees 38 minutes East 733.0 feet to an iron pipe at a corner post in the line with W. M. Gill, said fence being a portion of the Northwest line of the Price Tract as recorded in Deed Book 60, Page 295; thence along an existing fence South 64 degrees 45 minutes East 178.0 feet to a 30 inch sugar tree at the brow of the bluff, being a corner with Jack Ott; thence continuing over the bluff South 64 degrees 45 minutes East 102.0 feet to a 10 inch walnut; thence North 89 degrees 15 minutes East 153.0 feet to a point in the center of Floyds Fork, having passed an iron pipe at 30.0 feet; thence continuing downstream with Floyds Fork South 01 degrees 52 minutes West 105.0 feet to a point in the center of the stream; thence with the center of the stream South 13 degrees 05 minutes East 300.0 feet to a point; thence South 19 degrees 35 minutes East 307.0 feet to a point; thence South 17 degrees 09 minutes East 360.0 feet to a point; thence South 23 degrees and 15 minutes East 485 feet to a point in the center of Floyds Fork, being the Northeast corner of the Ed Hall farm; thence along a fence with Hall, passing an iron pipe at 60.0 feet, South 71 degrees 30 minutes West 787.0 feet to a fence post; thence South 72 degrees 30 minutes West 1270.0 feet to the beginning; containing 35.90 acres more or less, and being South end of the Allender Place formerly owned by Gill as recorded in Deed Book 70, Page 52, and being the Southeast end of the Price Tract formerly owned by Gill as recorded in Deed Book 89, Page 229, in the Oldham County Court Clerk's office.

BEING the same property conveyed to Guy L. Redmon, Jr. and Chris P. Pennington, doing business as the Red-Penn Sanitation Company by deed from W. M. Gill and Frances L. Gill,

his wife, dated March 1, 1962, and recorded in Deed Book 92, Page 571 in the office of the Clerk of the County Court of Oldham County, Kentucky.

2. Deed Book 99, Page 56

Tract 1. Beginning at a point under the bridge in the middle of Floyds Fork Creek and running thence with the East right-of-way line of Kentucky Highway 362 North 24 degrees 30 minutes West 359 feet to an iron pipe for corner with the land of Redmon and Pennington; thence with the land of Redmon and Pennington North 72 degrees 30 minutes East 1270 feet to a point and North 71 degrees 30 minutes East 787 feet to a 20-inch sycamore corner to Kentucky Women's Prison property; thence South 22 degrees East 440 feet to a 22-inch sycamore; thence South 11 degrees 30 minutes East 210 feet to an 18-inch elm; thence South 19 degrees 15 minutes West 170 feet to a 4-inch elm; thence South 83 degrees 30 minutes West 207 feet to a 6-inch maple; thence North 66 degrees West 143 feet to a 15-inch ash; thence North 86 degrees 45 minutes West 195 feet to corner with said prison property; thence continuing with said prison property South 3 degrees 30 minutes East 222 feet to a 10-inch walnut; thence South 11 degrees West 116 feet to a corner post in the north right-of-way line of Kentucky Highway 362; thence with said right-of-way line as follows: South 85 degrees 30 minutes West 395 feet to a spike, South 54 degrees West 181.5 feet to a spike, South 75 degrees 15 minutes West 181.5 feet to a spike, North 83 degrees 45 minutes West 247 feet to a spike, South 63 degrees 30 minutes West 90 feet to a spike, South 86 degrees West 160 feet to a point, North 53 degrees 30 minutes West 155 feet to a point, North 20 degrees West 235 feet to the center of Floyds Fork Creek at the point of beginning containing 36 acres, more or less.

And being the same property conveyed to Ed Hall and Bettie Hall, his wife, (also known as Bettie Elizabeth Hall) in joint survivorship by H. Elliott Netherton and wife, by deed dated July 3, 1945, and recorded in Deed Book 65, page 351, in the office of the County Court Clerk of Oldham County, Kentucky, and the same of which Bettie Elizabeth Hall became the sole owner upon the death of Ed Hall on November 27, 1952; and the same which Charles Hall was directed to sell under the will of Bettie Elizabeth Hall, dated March 12, 1958, and recorded in Will Book 12, page 317, in the office of the clerk aforesaid.

Tract 2. Beginning in the southwest right-of-way of Kentucky Highway 362 at a point opposite the northwest corner of the tract conveyed to Ed Hall and Bettie Hall, his wife, (Tract 1 above) and near a 15-inch elm; thence South 3 degrees West 215 feet to a point in the branch; thence South 44 degrees 30 minutes East 150 feet to a point in the center of Floyds Fork Creek; thence with the center of said creek North 63 degrees East 60 feet to the southwest line of Kentucky Highway 362; thence with the southwest line of said highway North 24 degrees 30 minutes West 340 feet to the point of beginning.

And being a tract of land claimed and held in open, notorious, adverse possession by Ed Hall and Bettie Hall, (also known as Bettie Elizabeth Hall) for more than 40 years.

3. Deed Book 99, Page 381

Beginning at a spike in the east right-of-way line of Highway No. 362 common to the property now owned by the Red-Penn Sanitation Co.; thence running with the property lines of the Red-Penn Sanitation Co. North 85 degrees 15 minutes East 215 feet; North 59 degrees 45 minutes East 110 feet; North 47 degrees 30 minutes East 153.5 feet; North 55 degrees 10 minutes East 93 feet; North 76 degrees 20 minutes East 132 feet; North 69 degrees 30 minutes East 100 feet; North 28 degrees 30 minutes East 573.5 feet; North 7 degrees 15 minutes East 266.5 feet; North 20 degrees 25 minutes East 199 feet; North 56 degrees 35 minutes West 309 feet to the remaining land of W.M. Gill; thence with the remaining land of W.M. Gill South 28 degrees 38 minutes West 1275.5 feet to a spike in a 22 inch hickory tree; thence South 65 degrees 30 minutes West approximately 325 feet to the east right-of-way line of State Highway No. 362; thence with the east right-of-way line of Kentucky Highway No. 362 in a southwardly direction to the point of beginning a distance of 175 feet, and being a tract of land containing approximately 12 ½ acres, more or less.

And being a part of the same land conveyed W.M. Gill by deed recorded in Deed Book 60, page 295, and known as the Price Tract, and a part of the land conveyed W.M. Gill by deed recorded in Deed Book 70, page 52, known as the Allender Tract, all in the Oldham County Court Clerk's office.

4. Deed Book 118, Page 422

Beginning at an iron pipe in the easterly line of Hawley-Gibson Road being corner with William Lee Gill; thence with the line of William Lee Gill south 68 degrees and 05 minutes east 1,374.0 feet to an iron pipe at a corner post with Red-Penn Sanitation Co.; thence with the line of the Red-Penn Sanitation Co. south 28 degrees and 38 minutes west 2,257 feet to a stake; thence south 48 degrees and 30 minutes west 124.0 feet to an iron pipe at a corner post on the easterly side of Kentucky Highway No. 362; thence with the easterly right-of-way line of Kentucky Highway No. 362 north 40 degrees and 20 minutes west 300.0 feet to an iron pipe; thence north 40 degrees and 45 minutes west 150.0 feet to an iron pipe; thence north 20 degrees and 45 minutes west 100.0 feet to an iron pipe; thence north 04 degrees and 45 minutes west 435.0 feet to an iron pipe; thence north 17 degrees and 15 minutes west 415.0 feet to an iron pipe; thence north 19 degrees and 40 minutes west 345.0 feet to an iron pipe at a corner post at the intersection with the easterly line of the Hawley-Gibson Road; thence with the eastern line of the road north 48 degrees and 00 minutes east 196.0 feet to a railroad spike in a 12 inch cedar; thence north 33 degrees and 40 minutes east 184.0 feet to a point; thence north 37 degrees and 10 minutes east 200.0 feet to a point; thence north 47 degrees and 45 minutes east 93.0 feet to a 30 inch cherry; thence north 48 degrees and 30 minutes east 412.0 feet in all, having passed an 8 inch walnut at 5.5 feet, to the beginning, containing 66.35 acres more or less.

Being the last remaining part of the same property conveyed to W.M. Gill by Deed dated the _____ day of _____, 19__, and recorded in Deed Book 70, Page 52, in the office of the Clerk of the County Court of Oldham County, Kentucky; the said W.M. Gill died on May 14,

1967, and Frances L. Gill, the party of the first part acquired her interest under the Will of said W.M. Gill, which is recorded in Will Book 13, Page 177, in the aforesaid Clerk's office.

ATTACHMENT B

PROPERTY AND IMPACTED AREA

W. H. BROWN
Principal Engineer and Land Surveyor

DOUG PRESTON
CADD Operator

W. H. BROWN & ASSOCIATES
Consulting Engineers and Land Surveyors
527 MAIN STREET
SHELBYVILLE, KENTUCKY 40065
(502) 633-4754
1-800-588-1449

TODD BROWN
Party Chief

CHRIS MORGAN
Instrumentman

LEGAL DESCRIPTION
FOR
JOHN G. GUELDA

OLDHAM COUNTY
R10 PG 227

This description is not for recording, there is no road frontage and only describes landfill area:

A certain tract of land in Oldham County, Kentucky, and being more particularly described as follows:

Unless otherwise stated, any monument referred to herein as an "iron pin" is a set 18" No. 4 rebar capped W.H.B., LPLS 221. All bearings stated herein are referred to the magnetic meridian as observed 05-24-2002 along the west side of Tract A in Deed Book 158, Page 309, in Shelby County, Kentucky.

BEGINNING at an iron pin, completely within the boundaries of property recorded in Deed Book 158, Page 309, said iron pin is **N 25° 29' 02" 203.85 feet** from the intersection of the east right-of-way of Kentucky Highway 362 and Floyds Fork Creek, said point is corner to Red-Penn Sanitation property and Angela K. & Terry Gagel Jr., Deed Book 349, Page 374; **Thence N 30° 36' 33" W 342.87 feet** to an iron pin; **Thence N 10° 57' 08" E 291.24 feet** to an iron pin; **Thence N 31° 37' 50" W 250.45 feet** to an iron pin; **N 39° 36' 57" E 267.61 feet** to an iron pin; **Thence N 25° 24' 06" E 293.30 feet** to an iron pin; **Thence N 28° 37' 06" E 1,031.99 feet** to an iron pin; **Thence S 59° 27' 58" E 252.44 feet** to an iron pin; **Thence S 36° 03' 57" E 120.71 feet** to an iron pin; **Thence S 19° 02' 11" E 314.76 feet** to an iron pin; **Thence S 10° 17' 08" E 112.57 feet** to an iron pin; **Thence S 21° 21' 23" E 334.45 feet** to an iron pin; **Thence S 47° 54' 27" E 182.79 feet** to an iron pin; **Thence S 02° 28' 15" E 93.80 feet** to an iron pin; **Thence S 24° 31' 17" E 537.76 feet** to an iron pin; **Thence S 11° 09' 05" E 175.87 feet** to an iron pin; **Thence S 36° 48' 06" W 244.18 feet** to an iron pin; **Thence N 86° 44' 45" W 103.58 feet** to an iron pin; **Thence N 35° 56' 41" W 69.01 feet** to an iron pin; **Thence S 76° 35' 11" W 475.01 feet** to an iron pin; **Thence S 81° 47' 08" W 725.28 feet** to the point-of-beginning, containing **50.844 Acres** as surveyed by W.H.Brown of W.H.Brown & Associates on 07-17-2006 and being part of the same property conveyed to Red-Penn Sanitation Co. Inc. by Bettie Elizabeth Hall Estate by deed dated 07-24-1964 and recorded in Deed Book 158, Page 309, in the records of Shelby County, Kentucky.

I HEREBY CERTIFY THAT THIS DESCRIPTION WAS MADE UNDER MY PERSONAL DIRECTION AND THAT THE ANGULAR AND LINEAR MEASUREMENTS, AS WITNESSED BY THE MONUMENTS DESCRIBED ABOVE, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS DESCRIPTION IS SUBJECT TO EASEMENTS APPARENT AND OF RECORD AND IS VALID ONLY TO THE ORIGINAL CLIENT WITH LIABILITY LIMITED TO THE COST OF THE ORIGINAL SURVEY PLUS SURVEYING, LEGAL AND RECORDING COSTS FOR ANY DEEDS OF CORRECTION, IF NEEDED.

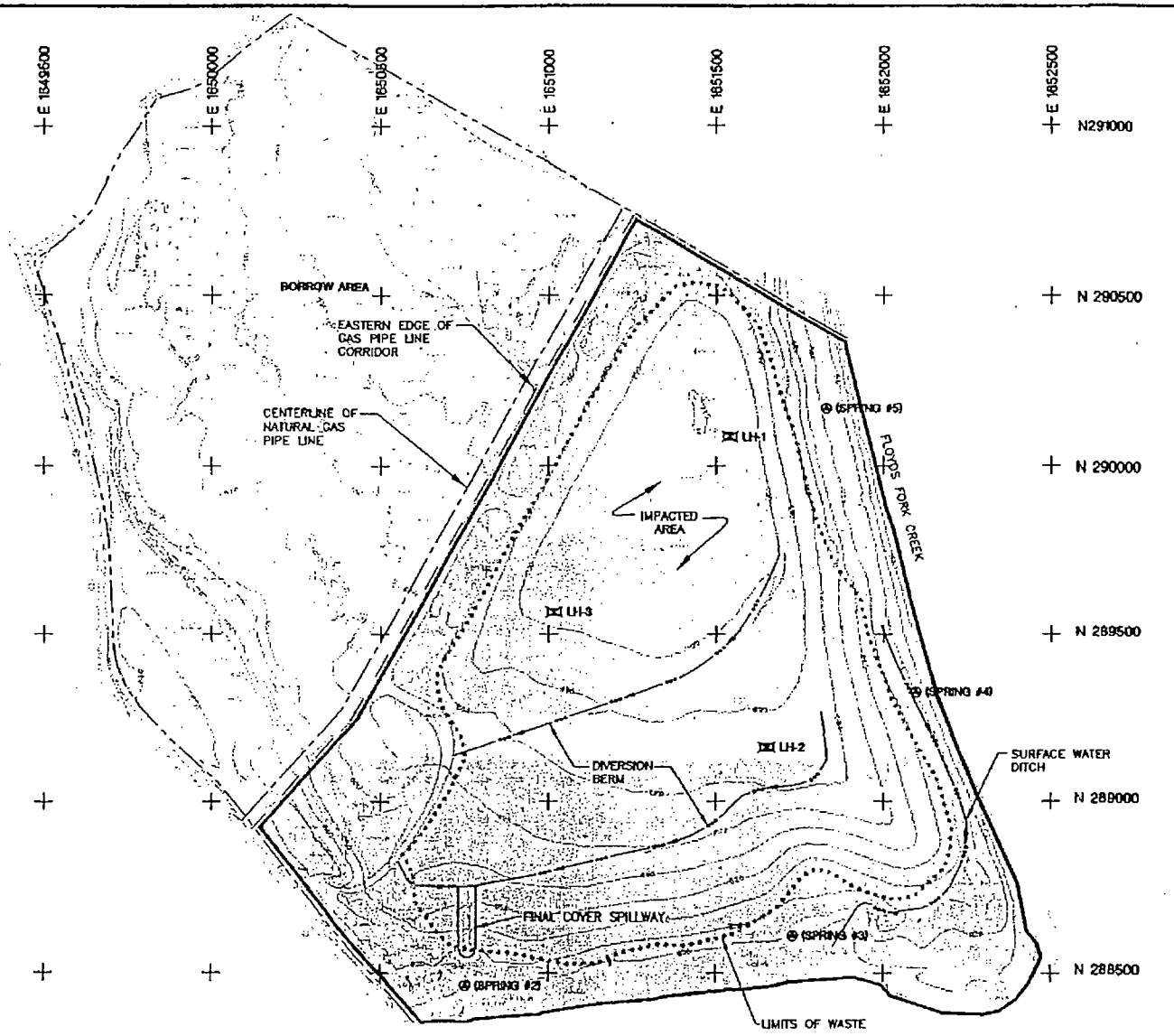
, LPLS #221 — 07/18/06

W. H. BROWN — DATE
Licensed Professional Land Surveyor #221

STATE OF KENTUCKY
W.H. BROWN 221
LICENSED PROFESSIONAL LAND SURVEYOR

LPLS #221
07/18/06

OLDHAM COUNTY
R10
PG 229



LEGEND

- APPROXIMATE PROPERTY LINE
- GRID TICK LOCATION
- EXISTING 10' CONTOUR INTERVAL
- EXISTING 2' CONTOUR INTERVAL
- EXISTING TREELINE
- EXISTING SPOT ELEVATION
- EXISTING BUILDING
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- APPROXIMATE LIMITS OF WASTE
- LH-1 — EXISTING LEACHATE HEAD WELL LOCATION AND NUMBER
- SPRING #9 — APPROXIMATE SURFACE WATER SAMPLING LOCATION AND NUMBER
- (IMPACTED AREA FOR PURPOSE OF ENVIRONMENTAL COVENANT)

NOTES

1. BASE MAP WAS DEVELOPED FROM AN AERIAL SURVEY PERFORMED BY OAS INC., ON NOVEMBER 15, 2000.
2. CONTOUR INTERVAL IS TWO FEET.
3. VERTICAL DATUM IS REFERENCED TO USGS MEAN SEA LEVEL DATUM.
4. THE PROJECT GRID SYSTEM IS PARALLEL AND PERPENDICULAR TO THE KENTUCKY STATE PLANE COORDINATE GRID SYSTEM, NORTH AMERICAN DATUM OF 1927.
5. THE LOCATIONS OF THE LEACHATE HEAD WELLS WERE OBTAINED DURING A SURVEY PERFORMED BY WESTERMAN & ASSOCIATES, LOUISVILLE, KENTUCKY. DATE OF SURVEY: MAY 19, 1999.
6. THE LOCATIONS OF THE SPRINGS ARE APPROXIMATE AND ARE BASED ON FIELD OBSERVATIONS.

N

0 300 600

SCALE: 1"=300'

PROJECT:
RED PENN LANDFILL
PEWEE VALLEY, KENTUCKY

SHEET TITLE:
ATTACHMENT B ENVIRONMENTAL COVENANT

DRAWN BY: REZZEKIO	SCALE:	PROJ. NO. 84828.28
CHECKED BY: TEH	1"=300'	FILE NO. 48828D1.DWG
APPROVED BY: MJA	DATE PRINTED:	FIGURE 1
DATE: AUGUST 2007		

RMT INC.
744 Heartland Trail
Madison, WI 53717-1934
P.O. Box 8923 53708-8923
Phone: 608-831-4444
Fax: 608-831-3334

Plot Date: Wednesday, July 25, 2007
Plot Time: 3:45:19 PM
Attached Xref's: JAKLOH; BM13-2000;
Attached Image's: No Images attached

AUTOCAD
Drawing Name: 4:\04848\CD\48828D4.dwg
Drawing Name: Holiday
Scale: 1"=40'
Dwg Size: 130144 Bytes

33

the Review, Modification, and Continuation of Energy Efficient Programs and DSM Cost Recovery Mechanisms.

KENTUCKY UTILITIES COMPANY
LOUISVILLE GAS AND ELECTRIC COMPANY
220 West Main Street
Louisville, Kentucky

This information is made available pursuant to the requirements of KRS 424.250

COMMISSIONER SALE
DOREEN GOODWIN, COMMISSIONER

NO. 06-CI-00760 OLDHAM CIRCUIT COURT

MONUMENT STREET FUNDING, II, LLC PLAINTIFF

VS.

DAVID KEITH CORNETET, ET AL DEFENDANTS

Per Judgment in Oldham Circuit Court, Commissioner will sell at 10:00 am on January 8, 2008 at public auction to the highest bidder at the Oldham County Courthouse, Oldham Co., Ky., the property described as PROPERTY ADDRESS: 1106 E. Mailback Way, Crestwood, Kentucky. Being Lot No. 32 of Lakewood Valley Subdivision, as shown on the plat of same recorded in Plat Book 3, Page 523 in the office of the County Court Clerk of Oldham County, Kentucky. Terms are 10% of purchase price & bond per KRS 426.705, balance due in 30 days; property is indivisible; sold free & clear of all liens encumbrances & interest of the parties except A) All outstanding Commonwealth, County and City ad valorem taxes for the year 2006, and all subsequent taxes due thereafter, for which the purchaser shall have no credit; B) Easements, restrictions and stipulations of record; C) Assessments for public improvements levied against the property; D) Any facts which an inspection and accurate survey of the property may disclose. No warranty of title. Amt to be raised-$81,500.00. Reisenfeld & Associates 513.322.7000, Plaintiff's Atty. Doreen Goodwin, Master Commissioner, Post Office Box 54, LaGrange, Kentucky; (502) 222-9898.

COMMISSIONER SALE
DOREEN GOODWIN, COMMISSIONER

NO. 07-CI-00506 OLDHAM CIRCUIT COURT

AMERICA'S WHOLESALE LENDER PLAINTIFF

VS.

WILLIAM J. LIEBERT, ET AL DEFENDANTS

Per Judgment in Oldham Circuit Court, Commissioner will sell at 10:00 am on January 8, 2008 at public auction to the highest bidder at the Oldham County Courthouse, Oldham Co., Ky., the property described as PROPERTY ADDRESS: 3712 Barbara Ann Blvd., Crestwood, Kentucky. Being Lot No. 25 of Lockwood Estates, Section Two, as shown on the plat of same recorded in Plat Book 3, Page 46 in the office of the Oldham County Court Clerk. Terms are 10% of purchase price & bond per KRS 426.705, balance due in 60 days; property is indivisible; sold free & clear of all liens encumbrances & interest of the parties except A) All outstanding Commonwealth, County and City ad valorem taxes for the year 2007

PUBLIC NOTICE

Pursuant to KRS 224.80-110(2)(d), Red Penn Sanitation Co., Inc. hereby gives notice that it intends to place an environmental covenant on the property known as the Red Penn Sanitation Co., Inc. landfill, located at 9401 Ash Avenue in Oldham County, Kentucky and more particularly described in Deed Book 94, Page 439, Deed Book 99, Page 5, Deed Book 99, Page 381, and Deed Book 118, Page 422, recorded in the Oldham County Clerk's office.

A list of interest holders of record is as follows:

Texas Gas Transmission Company
Southern Bell Telephone & Telegraph Company
Louisville Gas & Electric Company
South Central Bell Telephone Company

RED PENN SANITATION CO., INC.

PUBLIC NOTICE
LA GRANGE CITY COUNCIL

Monday January 7, 2008

The La Grange City Council will conduct a Public Hearing on Monday, January 7, 2008 for the final approval on the following docket, which has been recommended by the Oldham County Planning and Zoning Commission:

APPROXIMATE STARTING TIME 6:30 P.M.

DOCKET PZ-07-044 - ORDINANCE #30-2007 - Application has been filed by Milestone Development Group, LLC for the approval of a Revised Development Plan to be known as Milestone Village for a development consisting of a hotel. The property is located at 1807 Milestone Village Drive, tract 5, and is zoned C-4 HIGHWAY SERVICE DISTRICT.

DOCKET PZ-07-035 - ORDINANCE #31-2007 - Application has been filed by Oracle Design Group for the approval of a Zoning Map Amendment on approximately 5.64 acres to be known as Chilewick Apartments. The property is located at 1500 Ft. Pickens Road, in the Incorporated City of LaGrange. The proposed zoning change is from C-2 COMMUNITY BUSINESS DISTRICT TO R-4 HIGH DENSITY RESIDENTIAL DISTRICT.

DOCKET PZ-07-036 - Application has been filed by Oracle Design Group for the approval of a Development Plan to be known as Chilewick Apartments. The property is located at 1500 Ft. Pickens Road, in the Incorporated City of LaGrange. The proposed zoning is R-4 High Density Residential District.

The Public Hearing will be held on the Second Floor of the Oldham County Fiscal Court Building, 100 West Jefferson Street, La Grange. All persons interested in this application are invited to be

The Oldham Era
204 S. First Street
P.O. Box 5
La Grange, KY 40031
(502) 222-7183 • Fax: (502) 222-7194

AFFIDAVIT OF PUBLICATON

I, Julie A. Satterly, do hereby certify that I hold the position of General Manager/Editor of The Oldham Era in La Grange, Oldham County, Kentucky and in such position have the responsibility for the publication of a legal advertisement for Red Penn Sanitation Co., Inc. in said newspaper and have custody of the records of said newspaper concerning the publication of advertising and that the attached advertisement has been published in all editions of said newspapers on the following dates:

December 27, 2007

Signed: Julie Satterly

Julie A. Satterly, General Manager/Editor

Subscribed and sworn before me in my presence this

31st day of January, 2008

Mary Johns

Notary Public

My commission expires the 11th day of Sept 2008

DOCUMENT NO: 388782
RECORDED ON: JUNE 30,2008 03:17:17PM
TOTAL FEES: $67.00
COUNTY CLERK: JULIE K. LENTZ
COUNTY: OLDHAM COUNTY
DEPUTY CLERK: NANCY DONNER
BOOK R10 PAGES 211 - 231

December 18, 2008

Energy and Environment Cabinet
Division of Waste Management
200 Fair Oaks Lane
Frankfort, Kentucky 40601-1190
ATTN: LEONARD K. PETERS, SECRETARY

RE: Red-Penn Sanitation Co., Inc. Landfill
Oldham County, Kentucky

Dear Sir:

This will constitute the Compliance Certification and annual report of Red-Penn Sanitation Co., Inc. as required by Section 3.E. of the Environmental Covenant recorded on June 30, 2008 in the Office of the Oldham County Clerk at Record Book 10, page 214. To the best of its knowledge and belief, Red-Penn Sanitation Co., Inc. has complied with the terms of the aforesaid Covenant. To the best of its knowledge and belief, the condition of the site has not changed.

RED PENN SANITATION CO., INC.

BY: /S/ John G. Guelda, Sr.
John G. Guelda, Sr., President

SCHNEIDER

NOV 1 8 2009

November 11, 2009

Energy and Environment Cabinet
Division of Waste Management
200 Fair Oaks Lane
Frankfort, Kentucky 40601-1190
ATTN: JERRI DAWN MARTIN

RE: Red-Penn Sanitation Co., Inc. Landfill
Oldham County, Kentucky

Dear Ms. Martin:

This will constitute the Compliance Certification and annual report of Red-Penn Sanitation Co., Inc. as required by Section 3.E. of the Environmental Covenant recorded on June 30, 2008 in the Office of the Oldham County Clerk at Record Book 10, page 214. To the best of its knowledge and belief, Red-Penn Sanitation Co., Inc. has complied with the terms of the aforesaid Covenant. To the best of its knowledge and belief, the condition of the site has not changed.

RED PENN SANITATION CO., INC.

BY: John G. Guelda Sr.
John G. Guelda, Sr., President

Appendix D
Documents Reviewed

Documents Reviewed

CDM Federal Programs Corporation (CDM). 1993. Revised draft remedial investigation report, Red Penn Sanitation Co. Landfill. June 18, 1993.

Kentucky Division of Waste Management (KDWM). 1999. Agreed Order August 17, 1999.

Kentucky Division of Waste Management (KDWM). 2007. Letter to Waste Management, Inc., regarding the 5-Year Review Report. February 26, 2007.

RMT, Inc. 1991. Phase I hydrogeologic study for the Red Penn Landfill. November 1991.

RMT, Inc. 1999. Final remedial design for the Red Penn Landfill. October 1999.

RMT, Inc. 2000. Construction documentation report. December 2000.

RMT, Inc. 2001. Year 2001 annual OM&M report. April 10, 2002.

RMT, Inc. 2002. Year 2002 annual OM&M report. March 13, 2003.

RMT, Inc. 2003. Year 2003 annual OM&M report. December 19, 2003.

RMT, Inc. 2004. Year 2004 annual OM&M report. January 17, 2005.

RMT, Inc. 2005. Year 2005 annual OM&M report. December 5, 2005.

RMT, Inc. 2008. Agreed Order 5-Year Review. January 2006/ Revised May 2008.

RMT, Inc. 2009. Operation, Maintenance, and Monitoring Plan for the Red Penn Landfill. October 1999/Revised February 2009/Revised March 2009.

USEPA. 2000. Record of Decision: Red Penn Landfill Superfund site. EPA/ROD/R04-00/081. September 19, 2000.

USEPA. 2001. Comprehensive five-year review guidance. EPA 540-R-01-007. June 2001.

Waste Management. 1998. Final scope of work, Red Penn Landfill remedial design. May 1998.

Appendix E
Database Summary Reports

RED PENN LANDFILL
MONITORING WELL RESULTS
2001 - 2010

PARAMETER	UNITS	MW-06 2/21/2001 910520-001	MW-06 5/4/2001 911348-001	MW-06 8/21/2001 912796-001	MW-06 11/27/2001 914170-002	MW-06 2/18/2002 A2160701	MW-06 5/21/2002 A2515501	MW-06 8/8/2002 A2807803	MW-06 11/18/2002 A2B57004	MW-06 3/25/2003 A3284203	MW-06 10/29/2003 A3A51803
COLOR, FIELD		CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
CONDUCTANCE, SPECIFIC	UMHOS/CM	430	460	510	600	385	420	440	490	395	468
DEPTH TO BOTTOM	FEET										
DEPTH TO WATER	FEET	2.49	3.07	3.36	2.65	2.77	2.77	3.54	2.71	2.68	3.27
ODOR, FIELD								SL SULF			
PH, FIELD	SU	7.20	6.89	7.14	6.86	6.93	7.31	7.26	6.90	6.89	7.20
TEMPERATURE	DEG C	9.2	12.7	19.2	15.0	10.5	13.1	18.4	15.5	10.5	16.5
TURBIDITY, FIELD											
WELL DRY											
CYANIDE, TOTAL	MG/L	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
ANTIMONY, DISSOLVED	UG/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
ARSENIC, DISSOLVED	UG/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
BARIUM, DISSOLVED	UG/L	85	84	100	96	83.7	91.5	86.3	93.4	68.6	97.7
CADMIUM, DISSOLVED	UG/L	< 1.0	< 1.0	2.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CHROMIUM, DISSOLVED	UG/L	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
LEAD, DISSOLVED	UG/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
NICKEL, DISSOLVED	UG/L	27	12	20	6.9	7.8	< 5.0	29.5	26.1	6.1	5.3
AROCLOR-1016	UG/L	< 1.0	< 1.0	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1221	UG/L	< 1.0	< 1.0	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1232	UG/L	< 1.0	< 1.0	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1242	UG/L	< 1.0	< 1.0	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1248	UG/L	< 1.0	< 1.0	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1254	UG/L	< 1.0	< 1.0	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1260	UG/L	< 1.0	< 1.0	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CHLOROBENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CHLOROETHANE	UG/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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RED PENN LANDFILL
MONITORING WELL RESULTS
2001 - 2010

PARAMETER	UNITS	MW-06 4/21/2004 A4368504	MW-06 10/13/2004 A4A11904	MW-06 4/14/2005 A5365804	MW-06 10/11/2005 A5B44801	MW-06 9/29/2010 RTJ0520-01	MW-06 DUP 5/4/2001 911348-006	MW-06 DUP 8/21/2001 912796-006	MW-06 DUP 2/18/2002 A2160708	MW-06 DUP 11/19/2002 A2B57002	MW-06 DUP 3/25/2003 A3284201
COLOR, FIELD			CLEAR		CLEAR	NONE					
CONDUCTANCE, SPECIFIC	UMHOS/CM		480	410.2	500	594					
DEPTH TO BOTTOM	FEET					19.86					
DEPTH TO WATER	FEET	3.10	3.34	2.94	3.76	5.83					
ODOR, FIELD						NONE					
PH, FIELD	SU	7.43	7.72	8.12	6.70	7.70					
TEMPERATURE	DEG C	12.2	17.7	10.9	19.3	19.5					
TURBIDITY, FIELD						SLIGHT					
WELL DRY											
CYANIDE, TOTAL	MG/L	< 0.010	< 0.01	< 0.010	< 0.010	< 0.01	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
ANTIMONY, DISSOLVED	UG/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
ARSENIC, DISSOLVED	UG/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
BARIUM, DISSOLVED	UG/L	77.0	100	78.6	95.1	87.6	84	94	81.2	97.2	69.0
CADMIUM, DISSOLVED	UG/L	< 1.0	< 1	< 1.0	< 1.0	< 1	< 1.0	1.0	< 1.0	< 1.0	< 1.0
CHROMIUM, DISSOLVED	UG/L	< 3.0	< 3	< 3.0	< 3.0	< 3	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
LEAD, DISSOLVED	UG/L	< 5.0	< 5	< 5.0	< 5.0	< 5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
NICKEL, DISSOLVED	UG/L	31.9	14.5	12.6	9.2	31.4	18	19	7.5	26.5	5.5
AROCLOR-1016	UG/L	< 0.50	< 0.5	< 0.50	< 0.50	< 0.51	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1221	UG/L	< 0.50	< 0.5	< 0.50	< 0.50	< 0.51	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1232	UG/L	< 0.50	< 0.5	< 0.50	< 0.50	< 0.51	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1242	UG/L	< 0.50	< 0.5	< 0.50	< 0.50	< 0.51	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1248	UG/L	< 0.50	< 0.5	< 0.50	< 0.50	< 0.51	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1254	UG/L	< 0.50	< 0.5	< 0.50	< 0.50	< 0.51	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1260	UG/L	< 0.50	< 0.5	< 0.50	< 0.50	< 0.51	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50
BENZENE	UG/L	< 1.0	< 1	< 1.0	< 1.0	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CHLOROBENZENE	UG/L	< 1.0	< 1	< 1.0	< 1.0	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CHLOROETHANE	UG/L	< 2.0	< 2	< 2.0	< 2.0	< 2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1	< 1.0	< 1.0	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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RED PENN LANDFILL
MONITORING WELL RESULTS
2001 - 2010

PARAMETER	UNITS	MW-06 DUP 4/21/2004 A4368501	MW-06 DUP 4/14/2005 A5365801	MW-06 DUP 9/29/2010 RTJ0520-05	MW-8002-8975 2/28/2001 910584-004	MW-8002-8975 5/4/2001 010504-X04	MW-8002-8975 8/21/2001 010821-X06	MW-8002-8975 11/27/2001 011127-X01	MW-8002-8975 2/18/2002 A2160706
COLOR, FIELD					CLEAR		MILKY	CLOUDY	CLOUDY
CONDUCTANCE, SPECIFIC	UMHOS/CM				4800		5500	6500	6100
DEPTH TO BOTTOM	FEET								
DEPTH TO WATER	FEET				39.11		46.92	46.92	47.43
ODOR, FIELD									
PH, FIELD	SU				7.91		7.11	7.01	7.21
TEMPERATURE	DEG C				13.1		13.7	13.4	12.3
TURBIDITY, FIELD									
WELL DRY						YES			
CYANIDE, TOTAL	MG/L	< 0.010	< 0.010	< 0.01	< 0.010				
ANTIMONY, DISSOLVED	UG/L	< 10	< 10	< 10	< 10				
ARSENIC, DISSOLVED	UG/L	< 10	< 10	< 10	< 10				
BARIUM, DISSOLVED	UG/L	74.9	78.5	91.2	66				
CADMIUM, DISSOLVED	UG/L	< 1.0	< 1.0	< 1	< 1.0				
CHROMIUM, DISSOLVED	UG/L	< 3.0	< 3.0	< 3	9.6				
LEAD, DISSOLVED	UG/L	< 5.0	< 5.0	< 5	8.7				
NICKEL, DISSOLVED	UG/L	29.8	13.2	32.6	22				
AROCLOR-1016	UG/L	< 0.50	< 0.50	< 0.51	< 0.50				
AROCLOR-1221	UG/L	< 0.50	< 0.50	< 0.51	< 0.50				
AROCLOR-1232	UG/L	< 0.50	< 0.50	< 0.51	< 0.50				
AROCLOR-1242	UG/L	< 0.50	< 0.50	< 0.51	< 0.50				
AROCLOR-1248	UG/L	< 0.50	< 0.50	< 0.51	< 0.50				
AROCLOR-1254	UG/L	< 0.50	< 0.50	< 0.51	< 0.50				
AROCLOR-1260	UG/L	< 0.50	< 0.50	< 0.51	< 0.50				
BENZENE	UG/L	< 1.0	< 1.0	< 1	< 1.0				1.2
CHLOROBENZENE	UG/L	< 1.0	< 1.0	< 1	< 1.0				< 1.0
CHLOROETHANE	UG/L	< 2.0	< 2.0	< 2	< 2.0				< 2.0
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1.0	< 1	< 1.0				< 1.0

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RED PENN LANDFILL
MONITORING WELL RESULTS
2001 - 2010

PARAMETER	UNITS	MW-8002-8975 5/21/2002 020521-X04	MW-8002-8975 8/9/2002 A2807804	MW-8002-8975 11/18/2002 A2B57005	MW-8002-8975 3/25/2003 030325-X04	MW-8002-8975 4/21/2004 A4368505	MW-8002-8975 4/14/2005 050414-X04	MW-8002-8975 4/19/2007 A7410101	MW-8002-8975 9/28/2010 RTJ0520-X1
COLOR, FIELD		CLEAR	CLEAR	CLEAR				LT BRWN	
CONDUCTANCE, SPECIFIC	UMHOS/CM	4900	5500	4500	5800	2500		8193	
DEPTH TO BOTTOM	FEET								84.23
DEPTH TO WATER	FEET	43.18	47.41	47.50	46.94	63.35	45.31	43.19	53.90
ODOR, FIELD			NONE					NONE	
PH, FIELD	SU	7.27	7.15	7.22	7.13	7.23		7.25	
TEMPERATURE	DEG C	13.0	17.4	11.9	14.8	15.1		12.9	
TURBIDITY, FIELD									
WELL DRY		YES			YES		YES		
CYANIDE, TOTAL	MG/L					< 0.010		< 0.010	
ANTIMONY, DISSOLVED	UG/L					< 10		< 10	
ARSENIC, DISSOLVED	UG/L					< 10		< 10	
BARIUM, DISSOLVED	UG/L					50.7		50.4	
CADMIUM, DISSOLVED	UG/L					< 1.0		< 1.0	
CHROMIUM, DISSOLVED	UG/L					< 3.0		< 3.0	
LEAD, DISSOLVED	UG/L					< 5.0		< 5.0	
NICKEL, DISSOLVED	UG/L					8.5		5.4	
AROCLOR-1016	UG/L					< 0.50		< 0.50	
AROCLOR-1221	UG/L					< 0.50		< 0.50	
AROCLOR-1232	UG/L					< 0.50		< 0.50	
AROCLOR-1242	UG/L					< 0.50		< 0.50	
AROCLOR-1248	UG/L					< 0.50		< 0.50	
AROCLOR-1254	UG/L					< 0.50		< 0.50	
AROCLOR-1260	UG/L					< 0.50		< 0.50	
BENZENE	UG/L		< 1.0	2.4		0.67 J		< 1.0	
CHLOROBENZENE	UG/L		< 1.0	< 1.0		< 1.0		< 1.0	
CHLOROETHANE	UG/L		< 2.0	< 2.0		< 2.0		< 2.0	
CIS-1,2-DICHLOROETHENE	UG/L		< 1.0	< 1.0		< 1.0		< 1.0	

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RED PENN LANDFILL
MONITORING WELL RESULTS
2001 - 2010

PARAMETER	UNITS	MW-8002-8975 9/29/2010 RTJ0520-X3	MW-8002-8979 2/28/2001 910584-005	MW-8002-8979 5/4/2001 010504-X05	MW-8002-8979 8/21/2001 010821-X07	MW-8002-8979 11/27/2001 011127-X02	MW-8002-8979 2/18/2002 020218-X04	MW-8002-8979 5/21/2002 020521-X05	MW-8002-8979 8/8/2002 020808-X04
COLOR, FIELD			CLOUDY		MILKY	CLOUDY	CLEAR		
CONDUCTANCE, SPECIFIC	UMHOS/CM		5000		6100	7500	7500	5000	
DEPTH TO BOTTOM	FEET								
DEPTH TO WATER	FEET	63.81	50.35		63.45	63.86	64.04	64.0	
ODOR, FIELD									
PH, FIELD	SU		7.58		6.93	6.65	6.98	6.99	
TEMPERATURE	DEG C		13.1		13.7	13.9	12.2	12.9	
TURBIDITY, FIELD									
WELL DRY				00000			00000	YES	YES
CYANIDE, TOTAL	MG/L		< 0.010						
ANTIMONY, DISSOLVED	UG/L		< 10						
ARSENIC, DISSOLVED	UG/L		10						
BARIUM, DISSOLVED	UG/L		160						
CADMIUM, DISSOLVED	UG/L		< 1.0						
CHROMIUM, DISSOLVED	UG/L		35						
LEAD, DISSOLVED	UG/L		22						
NICKEL, DISSOLVED	UG/L		52						
AROCLOR-1016	UG/L		< 0.50						
AROCLOR-1221	UG/L		< 0.50						
AROCLOR-1232	UG/L		< 0.50						
AROCLOR-1242	UG/L		< 0.50						
AROCLOR-1248	UG/L		< 0.50						
AROCLOR-1254	UG/L		< 0.50						
AROCLOR-1260	UG/L		< 0.50						
BENZENE	UG/L		1.1						
CHLOROBENZENE	UG/L		< 1.0						
CHLOROETHANE	UG/L		< 2.0						
CIS-1,2-DICHLOROETHENE	UG/L		< 1.0						

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RED PENN LANDFILL
MONITORING WELL RESULTS
2001 - 2010

PARAMETER	UNITS	MW-8002-8979 11/18/2002 021118-X04	MW-8002-8979 3/25/2003 030325-X05	MW-8002-8979 4/21/2004 040421-X04	MW-8002-8979 4/14/2005 050414-X05	MW-8002-8979 4/19/2007 A7410102	MW-8002-8979 9/28/2010 RTJ0520-X2	MW-8002-8979 9/29/2010 RTJ0520-X4
COLOR, FIELD		CLEAR				LT BROWN		
CONDUCTANCE, SPECIFIC	UMHOS/CM	7350				7492		
DEPTH TO BOTTOM	FEET						48.36	
DEPTH TO WATER	FEET	63.99	64.04	-	59.55	58.89	40.45	47.95
ODOR, FIELD						NONE		
PH, FIELD	SU	6.92				7.21		
TEMPERATURE	DEG C	13.7				12.9		
TURBIDITY, FIELD								
WELL DRY		YES	YES	YES	YES			
CYANIDE, TOTAL	MG/L					< 0.010		
ANTIMONY, DISSOLVED	UG/L					< 10		
ARSENIC, DISSOLVED	UG/L					< 10		
BARIUM, DISSOLVED	UG/L					24.5		
CADMIUM, DISSOLVED	UG/L					< 1.0		
CHROMIUM, DISSOLVED	UG/L					< 3.0		
LEAD, DISSOLVED	UG/L					< 5.0		
NICKEL, DISSOLVED	UG/L					5.2		
AROCLOR-1016	UG/L					< 0.50		
AROCLOR-1221	UG/L					< 0.50		
AROCLOR-1232	UG/L					< 0.50		
AROCLOR-1242	UG/L					< 0.50		
AROCLOR-1248	UG/L					< 0.50		
AROCLOR-1254	UG/L					< 0.50		
AROCLOR-1260	UG/L					< 0.50		
BENZENE	UG/L					0.68 J		
CHLOROBENZENE	UG/L					< 1.0		
CHLOROETHANE	UG/L					< 2.0		
CIS-1,2-DICHLOROETHENE	UG/L					< 1.0		

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RED PENN LANDFILL
SURFACE WATER RESULTS
2001 - 2010

PARAMETER	UNITS	SPRING-01 2/28/2001 910584-003	SPRING-01 5/4/2001 911348-005	SPRING-01 8/21/2001 912796-002	SPRING-01 11/27/2001 914170-001	SPRING-01 2/18/2002 A2160702	SPRING-01 5/21/2002 A2515502	SPRING-01 8/8/2002 A2807805	SPRING-01 11/18/2002 A2B57006	SPRING-01 3/25/2003 A3284204
COLOR, FIELD		CLEAR	CLEAR	CLEAR	CLOUDY	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
CONDUCTANCE, SPECIFIC	UMHOS/CM	470	500	500	300	475	410	420	495	450
ODOR, FIELD								NONE		
PH, FIELD	SU	7.62	7.94	6.60	5.75	5.56	6.69	6.74	6.59	5.88
TEMPERATURE	DEG C	10.8	14.3	17.3	16.3	12.1	13.2	13.8	15.9	13.5
TURBIDITY, FIELD										
WELL DRY										
CYANIDE, TOTAL	MG/L	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
ANTIMONY, DISSOLVED	UG/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
ARSENIC, DISSOLVED	UG/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
BARIUM, DISSOLVED	UG/L	34	37	37 E	24	40.0	42.7	41.5	45.4	39.2
CADMIUM, DISSOLVED	UG/L	< 1.0	1.1	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CHROMIUM, DISSOLVED	UG/L	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
LEAD, DISSOLVED	UG/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
NICKEL, DISSOLVED	UG/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
AROCLOR-1016	UG/L	< 0.50	< 1.0	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1221	UG/L	< 0.50	< 1.0	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1232	UG/L	< 0.50	< 1.0	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1242	UG/L	< 0.50	< 1.0	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1248	UG/L	< 0.50	< 1.0	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1254	UG/L	< 0.50	< 1.0	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1260	UG/L	< 0.50	< 1.0	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
BENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CHLOROBENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CHLOROETHANE	UG/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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RED PENN LANDFILL
SURFACE WATER RESULTS
2001 - 2010

PARAMETER	UNITS	SPRING-01 10/29/2003 A3A51804	SPRING-01 4/21/2004 A4368506	SPRING-01 10/13/2004 A4A11905	SPRING-01 4/14/2005 A5365805	SPRING-01 10/11/2005 051011-X04	SPRING-01 9/29/2010 RTJ0520-02	SPRING-01 DUP 5/4/2001 911348-007	SPRING-01 DUP 8/21/2001 912796-007	SPRING-01 DUP 11/27/2001 914170-008
COLOR, FIELD			CLEAR				NONE			
CONDUCTANCE, SPECIFIC	UMHOS/CM	500	2500	600	625.9		728			
ODOR, FIELD			NONE				NONE			
PH, FIELD	SU	6.75	7.10		9.51		7.77			
TEMPERATURE	DEG C	16.2	15.1	23	15.8		16.2			
TURBIDITY, FIELD							SLIGHT			
WELL DRY						YES				
CYANIDE, TOTAL	MG/L	< 0.010	< 0.010	< 0.01	< 0.010		< 0.01	< 0.010	< 0.010	< 0.010
ANTIMONY, DISSOLVED	UG/L	< 10	< 10	< 10	< 10		< 10	< 10	< 10	< 10
ARSENIC, DISSOLVED	UG/L	< 10	< 10	< 10	< 10		< 10	< 10	< 10	< 10
BARIUM, DISSOLVED	UG/L	42.1	38.9	51	49.1		104	37	35	24
CADMIUM, DISSOLVED	UG/L	< 1.0	1.7	< 1	< 1.0		< 1	< 1.0	1.2	< 1.0
CHROMIUM, DISSOLVED	UG/L	< 3.0	< 3.0	< 3	< 3.0		< 3	< 3.0	< 3.0	< 3.0
LEAD, DISSOLVED	UG/L	< 5.0	< 5.0	< 5	< 5.0		< 5	< 5.0	< 5.0	< 5.0
NICKEL, DISSOLVED	UG/L	< 5.0	< 5.0	< 5	< 5.0		< 5	< 5.0	< 5.0	< 5.0
AROCLOR-1016	UG/L	< 0.50	< 0.50	< 0.5	< 0.50		< 0.48	< 1.0	< 0.50	< 0.98
AROCLOR-1221	UG/L	< 0.50	< 0.50	< 0.5	< 0.50		< 0.48	< 1.0	< 0.50	< 0.98
AROCLOR-1232	UG/L	< 0.50	< 0.50	< 0.5	< 0.50		< 0.48	< 1.0	< 0.50	< 0.98
AROCLOR-1242	UG/L	< 0.50	< 0.50	< 0.5	< 0.50		< 0.48	< 1.0	< 0.50	< 0.98
AROCLOR-1248	UG/L	< 0.50	< 0.50	< 0.5	< 0.50		< 0.48	< 1.0	< 0.50	< 0.98
AROCLOR-1254	UG/L	< 0.50	< 0.50	< 0.5	< 0.50		< 0.48	< 1.0	< 0.50	< 0.98
AROCLOR-1260	UG/L	< 0.50	< 0.50	< 0.5	< 0.50		< 0.48	< 1.0	< 0.50	< 0.98
BENZENE	UG/L	< 1.0	< 1.0	< 1	< 1.0		< 1	< 1.0	< 1.0	< 1.0
CHLOROBENZENE	UG/L	< 1.0	< 1.0	< 1	< 1.0		< 1	< 1.0	< 1.0	< 1.0
CHLOROETHANE	UG/L	< 2.0	< 2.0	< 2	< 2.0		< 2	< 2.0	< 2.0	< 2.0
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1.0	< 1	< 1.0		< 1	< 1.0	< 1.0	< 1.0

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RED PENN LANDFILL
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PARAMETER	UNITS	SPRING-01 DUP 5/21/2002 A2515506	SPRING-01 DUP 8/9/2002 A2807801	SPRING-01 DUP 11/18/2002 A2B57001	SPRING-01 DUP 10/29/2003 A3A51801	SPRING-01 DUP 10/13/2004 A4A11902	SPRING-02 2/21/2001 910520-002	SPRING-02 5/4/2001 010504-X06	SPRING-02 8/21/2001 010821-X01
COLOR, FIELD							CLEAR		
CONDUCTANCE, SPECIFIC	UMHOS/CM						890		
ODOR, FIELD									
PH, FIELD	SU						7.34		
TEMPERATURE	DEG C						4.3		
TURBIDITY, FIELD									
WELL DRY								00000	00000
CYANIDE, TOTAL	MG/L	< 0.010	< 0.010	< 0.010	< 0.010	< 0.01	< 0.010		
ANTIMONY, DISSOLVED	UG/L	< 10	< 10	< 10	< 10	< 10	< 10		
ARSENIC, DISSOLVED	UG/L	< 10	< 10	< 10	< 10	< 10	< 10		
BARIUM, DISSOLVED	UG/L	52.9	39.7	46.2	41.7	51	120		
CADMIUM, DISSOLVED	UG/L	3.3	< 1.0	< 1.0	< 1.0	< 1	< 1.0		
CHROMIUM, DISSOLVED	UG/L	3.5	< 3.0	< 3.0	< 3.0	< 3	< 3.0		
LEAD, DISSOLVED	UG/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5	6.3		
NICKEL, DISSOLVED	UG/L	5.1	< 5.0	< 5.0	< 5.0	< 5	7.2		
AROCLOR-1016	UG/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 1.0		
AROCLOR-1221	UG/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 1.0		
AROCLOR-1232	UG/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 1.0		
AROCLOR-1242	UG/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 1.0		
AROCLOR-1248	UG/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 1.0		
AROCLOR-1254	UG/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 1.0		
AROCLOR-1260	UG/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.5	< 1.0		
BENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1.0		
CHLOROBENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1.0		
CHLOROETHANE	UG/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2	< 2.0		
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1	< 1.0		

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RED PENN LANDFILL
SURFACE WATER RESULTS
2001 - 2010

PARAMETER	UNITS	SPRING-02 11/27/2001 914170-003	SPRING-02 2/18/2002 A2160703	SPRING-02 5/21/2002 A2515503	SPRING-02 8/8/2002 020808-X05	SPRING-02 11/19/2002 A2B57007	SPRING-02 3/25/2003 A3284205	SPRING-02 10/29/2003 031029-X04	SPRING-02 4/21/2004 A4368507	SPRING-02 10/13/2004 A4A11906
COLOR, FIELD		S CLOUDY	CLEAR	CLEAR		CLEAR	CLEAR		CLEAR	
CONDUCTANCE, SPECIFIC	UMHOS/CM	590	725	650		500	7000		2700	700
ODOR, FIELD									NONE	
PH, FIELD	SU	6.29	6.55	7.21		7.33	7.20		5.75	9.2
TEMPERATURE	DEG C	14.4	5.6	12.2		9.5	13.8		16.2	3.2
TURBIDITY, FIELD										
WELL DRY					YES			YES		
CYANIDE, TOTAL	MG/L	< 0.010	< 0.010	< 0.010		0.11	< 0.010		< 0.010	< 0.01
ANTIMONY, DISSOLVED	UG/L	< 10	< 10	< 10		< 10	< 10		< 10	< 10
ARSENIC, DISSOLVED	UG/L	< 10	< 10	< 10		< 10	< 10		< 10	< 10
BARIUM, DISSOLVED	UG/L	50	103	97.4		84.9	80.7		70.4	132
CADMIUM, DISSOLVED	UG/L	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0		6.3	< 1
CHROMIUM, DISSOLVED	UG/L	< 3.0	< 3.0	< 3.0		< 3.0	< 3.0		< 3.0	< 3
LEAD, DISSOLVED	UG/L	< 5.0	< 5.0	< 5.0		< 5.0	< 5.0		< 5.0	< 5
NICKEL, DISSOLVED	UG/L	< 5.0	< 5.0	< 5.0		< 5.0	< 5.0		< 5.0	< 5
AROCLOR-1016	UG/L	< 1.0	< 0.50	< 0.50		< 0.50	< 0.50		< 0.50	< 0.5
AROCLOR-1221	UG/L	< 1.0	< 0.50	< 0.50		< 0.50	< 0.50		< 0.50	< 0.5
AROCLOR-1232	UG/L	< 1.0	< 0.50	< 0.50		< 0.50	< 0.50		< 0.50	< 0.5
AROCLOR-1242	UG/L	< 1.0	< 0.50	< 0.50		< 0.50	< 0.50		< 0.50	< 0.5
AROCLOR-1248	UG/L	< 1.0	< 0.50	< 0.50		< 0.50	< 0.50		< 0.50	< 0.5
AROCLOR-1254	UG/L	< 1.0	< 0.50	< 0.50		< 0.50	< 0.50		< 0.50	< 0.5
AROCLOR-1260	UG/L	< 1.0	< 0.50	< 0.50		< 0.50	< 0.50		< 0.50	< 0.5
BENZENE	UG/L	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0		< 1.0	< 1
CHLOROBENZENE	UG/L	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0		< 1.0	< 1
CHLOROETHANE	UG/L	< 2.0	< 2.0	< 2.0		< 2.0	< 2.0		< 2.0	< 2
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0		< 1.0	< 1

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RED PENN LANDFILL
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PARAMETER	UNITS	SPRING-02 4/14/2005 A5365806	SPRING-02 10/11/2005 051011-X05	SPRING-02 DUP 4/21/2004 A4368502	SPRING-02 DUP 10/13/2004 A4A11901	SPRING-02 DUP 4/14/2005 A5365802	SPRING-03 2/21/2001 910520-003	SPRING-03 5/4/2001 911348-002	SPRING-03 8/21/2001 912796-004	SPRING-03 11/27/2001 914170-004
COLOR, FIELD								L AMBER	L AMBER	L BROWN
CONDUCTANCE, SPECIFIC	UMHOS/CM	720.5					2400	475	4800	1450
ODOR, FIELD										
PH, FIELD	SU	8.61					7.65	8.21	7.33	6.29
TEMPERATURE	DEG C	14.9					6.3	21.9	21.5	14.4
TURBIDITY, FIELD										
WELL DRY			YES							
CYANIDE, TOTAL	MG/L	< 0.010		< 0.010	< 0.01	< 0.010	< 0.010	0.012	0.012	< 0.010
ANTIMONY, DISSOLVED	UG/L	< 10		< 10	< 10	< 10	< 10	< 10	< 10	< 10
ARSENIC, DISSOLVED	UG/L	< 10		< 10	< 10	< 10	< 10	< 10	< 10	< 10
BARIUM, DISSOLVED	UG/L	99.9		70.0	129	100	340	310	270	140
CADMIUM, DISSOLVED	UG/L	< 1.0		1.8	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CHROMIUM, DISSOLVED	UG/L	< 3.0		< 3.0	< 3	< 3.0	6.8	8.6	7.4	< 3.0
LEAD, DISSOLVED	UG/L	< 5.0		< 5.0	< 5	< 5.0	13	< 5.0	< 5.0	< 5.0
NICKEL, DISSOLVED	UG/L	< 5.0		< 5.0	< 5	< 5.0	45	51	47	15
AROCLOR-1016	UG/L	< 0.50		< 0.50	< 0.5	< 0.50	< 1.0	< 1.0	< 0.50	< 1.0
AROCLOR-1221	UG/L	< 0.50		< 0.50	< 0.5	< 0.50	< 1.0	< 1.0	< 0.50	< 1.0
AROCLOR-1232	UG/L	< 0.50		< 0.50	< 0.5	< 0.50	< 1.0	< 1.0	< 0.50	< 1.0
AROCLOR-1242	UG/L	< 0.50		< 0.50	< 0.5	< 0.50	< 1.0	< 1.0	< 0.50	< 1.0
AROCLOR-1248	UG/L	< 0.50		< 0.50	< 0.5	< 0.50	< 1.0	< 1.0	< 0.50	< 1.0
AROCLOR-1254	UG/L	< 0.50		< 0.50	< 0.5	< 0.50	< 1.0	< 1.0	< 0.50	< 1.0
AROCLOR-1260	UG/L	< 0.50		< 0.50	< 0.5	< 0.50	< 1.0	< 1.0	< 0.50	< 1.0
BENZENE	UG/L	< 1.0		< 1.0	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CHLOROBENZENE	UG/L	< 1.0		< 1.0	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CHLOROETHANE	UG/L	< 2.0		< 2.0	< 2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0		< 1.0	< 1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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SURFACE WATER RESULTS
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PARAMETER	UNITS	SPRING-03 2/18/2002 A2160704	SPRING-03 5/21/2002 A2515505	SPRING-03 8/8/2002 020808-X06	SPRING-03 11/18/2002 A2B57008	SPRING-03 11/18/2002 A2B57008RE	SPRING-03 12/18/2002 A2C73701	SPRING-03 3/25/2003 A3284206	SPRING-03 10/29/2003 A3A51805	SPRING-03 4/21/2004 A4368508
COLOR, FIELD		AMBER	AMBER		YELLOW			AMBER	YELLOW	YELLOW
CONDUCTANCE, SPECIFIC	UMHOS/CM	2900	3500		2500			2950	3700	550
ODOR, FIELD										NONE
PH, FIELD	SU	6.46	7.81		7.21			7.93	7.94	7.52
TEMPERATURE	DEG C	4.6	12.8		8.1			19.7	13.8	17.3
TURBIDITY, FIELD										
WELL DRY				YES						
CYANIDE, TOTAL	MG/L	< 0.010	< 0.010		0.011			< 0.010	0.011	< 0.010
ANTIMONY, DISSOLVED	UG/L	< 10	< 10		< 10			< 10	< 10	< 10
ARSENIC, DISSOLVED	UG/L	< 10	< 10		< 10			11.7	< 10	< 10
BARIUM, DISSOLVED	UG/L	218	218		212			138	364	56.8
CADMIUM, DISSOLVED	UG/L	< 1.0	< 1.0		< 1.0			< 1.0	< 1.0	< 1.0
CHROMIUM, DISSOLVED	UG/L	5.4	5.2		< 3.0			< 3.0	5.3	< 3.0
LEAD, DISSOLVED	UG/L	< 5.0	< 5.0		< 5.0			< 5.0	< 5.0	< 5.0
NICKEL, DISSOLVED	UG/L	39.3	41.0		27.3			31.7	41.0	5.7
AROCLOR-1016	UG/L	< 0.50	< 0.50		< 0.50	< 0.50 H	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1221	UG/L	< 0.50	< 0.50		< 0.50	< 0.50 H	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1232	UG/L	< 0.50	< 0.50		< 0.50	< 0.50 H	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1242	UG/L	< 0.50	< 0.50		< 0.50	< 0.50 H	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1248	UG/L	< 0.50	< 0.50		< 0.50	< 0.50 H	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1254	UG/L	< 0.50	< 0.50		0.79	< 0.50 H	< 0.50	< 0.50	< 0.50	< 0.50
AROCLOR-1260	UG/L	< 0.50	< 0.50		0.59	< 0.50 H	< 0.50	< 0.50	< 0.50	< 0.50
BENZENE	UG/L	< 1.0	< 1.0		< 1.2			< 4.0	< 2.8	< 1.4
CHLOROBENZENE	UG/L	< 1.0	< 1.0		< 1.6			< 3.9	< 2.1	< 1.0
CHLOROETHANE	UG/L	< 2.0	< 2.0		< 2.0			< 4.5	< 4.7	< 2.4
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1.0		< 1.6			< 2.8	< 3.2	< 1.6

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RED PENN LANDFILL
SURFACE WATER RESULTS
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PARAMETER	UNITS	SPRING-03 10/13/2004 A4A11907	SPRING-03 4/14/2005 A5365807	SPRING-03 10/11/2005 051011-X06	SPRING-04 2/28/2001 910584-002	SPRING-04 5/4/2001 911348-003	SPRING-04 8/21/2001 912796-003	SPRING-04 11/27/2001 914170-005	SPRING-04 2/18/2002 020218-X05	SPRING-04 5/21/2002 020521-X06
COLOR, FIELD		LT YELLO			CLEAR	CLOUDY				
CONDUCTANCE, SPECIFIC	UMHOS/CM	3000	2432		4050	5900	5500	3700		
ODOR, FIELD										
PH, FIELD	SU		8.62		8.44	8.3	7.90	6.18		
TEMPERATURE	DEG C	24	16.5		9.4	28.0	25.4	14.4		
TURBIDITY, FIELD										
WELL DRY				YES					00000	YES
CYANIDE, TOTAL	MG/L	0.012	< 0.010		< 0.010	< 0.010	< 0.010	< 0.010		
ANTIMONY, DISSOLVED	UG/L	< 10	< 10		< 10	< 10	< 10	< 10		
ARSENIC, DISSOLVED	UG/L	< 10	< 10		< 10	< 10	11	< 10		
BARIUM, DISSOLVED	UG/L	443	215		530	290	160	320		
CADMIUM, DISSOLVED	UG/L	< 1	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0		
CHROMIUM, DISSOLVED	UG/L	4.4	< 3.0		28	28	11	8.8		
LEAD, DISSOLVED	UG/L	< 5	< 5.0		11	< 5.0	< 5.0	< 5.0		
NICKEL, DISSOLVED	UG/L	39.1	24.7		32	27	18	15		
AROCLOR-1016	UG/L	< 0.5	< 0.50		< 0.50	< 1.0	< 0.50	< 1.0		
AROCLOR-1221	UG/L	< 0.5	< 0.50		< 0.50	< 1.0	< 0.50	< 1.0		
AROCLOR-1232	UG/L	< 0.5	< 0.50		< 0.50	< 1.0	< 0.50	< 1.0		
AROCLOR-1242	UG/L	< 0.5	< 0.50		< 0.50	< 1.0	< 0.50	< 1.0		
AROCLOR-1248	UG/L	< 0.5	< 0.50		< 0.50	< 1.0	< 0.50	< 1.0		
AROCLOR-1254	UG/L	< 0.5	< 0.50		< 0.50	< 1.0	< 0.50	< 1.0		
AROCLOR-1260	UG/L	< 0.5	< 0.50		< 0.50	< 1.0	< 0.50	< 1.0		
BENZENE	UG/L	< 1.4	< 1.4		< 1.0	< 1.0	< 1.0	< 1.0		
CHLOROBENZENE	UG/L	< 1	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0		
CHLOROETHANE	UG/L	< 2.4	< 2.4		< 2.0	< 2.0	< 2.0	< 2.0		
CIS-1,2-DICHLOROETHENE	UG/L	< 1.6	< 1.6		< 1.0	< 1.0	< 1.0	< 1.0		

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RED PENN LANDFILL
SURFACE WATER RESULTS
2001 - 2010

PARAMETER	UNITS	SPRING-04 8/8/2002 020808-X07	SPRING-04 11/18/2002 021118-X05	SPRING-04 3/25/2003 030325-X06	SPRING-04 10/29/2003 031029-X05	SPRING-04 4/21/2004 A4368509	SPRING-04 10/13/2004 041013-X04	SPRING-04 4/14/2005 050414-X06	SPRING-04 10/11/2005 051011-X07	SPRING-05 2/28/2001 910584-001
COLOR, FIELD						YELLOW				CLEAR
CONDUCTANCE, SPECIFIC	UMHOS/CM					600				750
ODOR, FIELD										
PH, FIELD	SU					8.09				8.07
TEMPERATURE	DEG C					16.4				8.6
TURBIDITY, FIELD										
WELL DRY		YES	STAGNANT	YES	STAGNANT		YES	YES	YES	
CYANIDE, TOTAL	MG/L					< 0.010				< 0.010
ANTIMONY, DISSOLVED	UG/L					< 10				< 10
ARSENIC, DISSOLVED	UG/L					< 10				< 10
BARIUM, DISSOLVED	UG/L					45.8				100
CADMIUM, DISSOLVED	UG/L					< 1.0				< 1.0
CHROMIUM, DISSOLVED	UG/L					< 3.0				< 3.0
LEAD, DISSOLVED	UG/L					< 5.0				< 5.0
NICKEL, DISSOLVED	UG/L					5.1				< 5.0
AROCLOR-1016	UG/L					< 0.50				< 0.50
AROCLOR-1221	UG/L					< 0.50				< 0.50
AROCLOR-1232	UG/L					< 0.51				< 0.50
AROCLOR-1242	UG/L					< 0.50				< 0.50
AROCLOR-1248	UG/L					< 0.50				< 0.50
AROCLOR-1254	UG/L					< 0.50				< 0.50
AROCLOR-1260	UG/L					< 0.50				< 0.50
BENZENE	UG/L					< 1.4				< 1.0
CHLOROBENZENE	UG/L					< 1.0				< 1.0
CHLOROETHANE	UG/L					< 2.4				< 2.0
CIS-1,2-DICHLOROETHENE	UG/L					< 1.6				< 1.0

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RED PENN LANDFILL
SURFACE WATER RESULTS
2001 - 2010

PARAMETER	UNITS	SPRING-05 5/4/2001 911348-004	SPRING-05 8/21/2001 010821-X02	SPRING-05 11/27/2001 914170-006	SPRING-05 2/18/2002 A2160705	SPRING-05 5/21/2002 A2515504	SPRING-05 8/8/2002 020808-X08	SPRING-05 11/18/2002 A2B57009	SPRING-05 3/25/2003 A3284207	SPRING-05 10/29/2003 A3A51806
COLOR, FIELD		CLEAR		CLEAR	S CLOUDY	CLEAR		CLEAR	CLEAR	CLEAR
CONDUCTANCE, SPECIFIC	UMHOS/CM	805		385	700	650		850	8000	650
ODOR, FIELD										
PH, FIELD	SU	8.98		6.19	6.35	7.29		6.89	7.46	8.17
TEMPERATURE	DEG C	22.7		14.4	8.8	11.9		11.7	16.7	13.2
TURBIDITY, FIELD										
WELL DRY			00000				YES			
CYANIDE, TOTAL	MG/L	< 0.010		< 0.010	< 0.010	< 0.010		< 0.010	< 0.010	< 0.010
ANTIMONY, DISSOLVED	UG/L	< 10		< 10	< 10	< 10		< 10	< 10	< 10
ARSENIC, DISSOLVED	UG/L	< 10		< 10	< 10	< 10		< 10	< 10	< 10
BARIUM, DISSOLVED	UG/L	88		80	82.7	89.0		93.4	77.5	74.3
CADMIUM, DISSOLVED	UG/L	< 1.0		< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0
CHROMIUM, DISSOLVED	UG/L	< 3.0		< 3.0	< 3.0	< 3.0		< 3.0	< 3.0	< 3.0
LEAD, DISSOLVED	UG/L	< 5.0		< 5.0	< 5.0	< 5.0		< 5.0	< 5.0	< 5.0
NICKEL, DISSOLVED	UG/L	< 5.0		< 5.0	< 5.0	< 5.0		< 5.0	< 5.0	< 5.0
AROCLOR-1016	UG/L	< 1.0		< 0.99	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50
AROCLOR-1221	UG/L	< 1.0		< 0.99	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50
AROCLOR-1232	UG/L	< 1.0		< 0.99	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50
AROCLOR-1242	UG/L	< 1.0		< 0.99	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50
AROCLOR-1248	UG/L	< 1.0		< 0.99	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50
AROCLOR-1254	UG/L	< 1.0		< 0.99	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50
AROCLOR-1260	UG/L	< 1.0		< 0.99	< 0.50	< 0.50		< 0.50	< 0.50	< 0.50
BENZENE	UG/L	< 1.0		< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0
CHLOROBENZENE	UG/L	< 1.0		< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0
CHLOROETHANE	UG/L	< 2.0		< 2.0	< 2.0	< 2.0		< 2.0	< 2.0	< 2.0
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0		< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0

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RED PENN LANDFILL
SURFACE WATER RESULTS
2001 - 2010

PARAMETER	UNITS	SPRING-05 4/21/2004 A4368510	SPRING-05 10/13/2004 041013-X05	SPRING-05 4/14/2005 A5365808	SPRING-05 10/11/2005 051011-X08
COLOR, FIELD		CLEAR			
CONDUCTANCE, SPECIFIC	UMHOS/CM	700			
ODOR, FIELD		NONE			
PH, FIELD	SU	8.17		9.06	
TEMPERATURE	DEG C	15.3		17.1	
TURBIDITY, FIELD					
WELL DRY			YES		YES
CYANIDE, TOTAL	MG/L	< 0.010		< 0.010	
ANTIMONY, DISSOLVED	UG/L	< 10		< 10	
ARSENIC, DISSOLVED	UG/L	< 10		< 10	
BARIUM, DISSOLVED	UG/L	81.8		71.4	
CADMIUM, DISSOLVED	UG/L	< 1.0		< 1.0	
CHROMIUM, DISSOLVED	UG/L	< 3.0		< 3.0	
LEAD, DISSOLVED	UG/L	< 5.0		< 5.0	
NICKEL, DISSOLVED	UG/L	< 5.0		< 5.0	
AROCLOR-1016	UG/L	< 0.50		< 0.50	
AROCLOR-1221	UG/L	< 0.50		< 0.50	
AROCLOR-1232	UG/L	< 0.50		< 0.59	
AROCLOR-1242	UG/L	< 0.50		< 0.50	
AROCLOR-1248	UG/L	< 0.50		< 0.50	
AROCLOR-1254	UG/L	< 0.50		< 0.50	
AROCLOR-1260	UG/L	< 0.50		< 0.50	
BENZENE	UG/L	< 1.0		< 1.0	
CHLOROBENZENE	UG/L	< 1.0		< 1.0	
CHLOROETHANE	UG/L	< 2.0		< 2.0	
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0		< 1.0	

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RED PENN LANDFILL
QUALITY CONTROL SAMPLE RESULTS
2001 - 2010

PARAMETER	UNITS	FIELD BLANK-01 5/4/2001 911348-008	FIELD BLANK-01 8/21/2001 912796-005	FIELD BLANK-01 11/27/2001 914170-007	FIELD BLANK-01 2/18/2002 A2160707	FIELD BLANK-01 5/21/2002 A2515507	FIELD BLANK-01 8/9/2002 A2807802	FIELD BLANK-01 11/18/2002 A2B57003	FIELD BLANK-01 11/18/2002 A2B57003RE	FIELD BLANK-01 12/18/2002 A2C73702
CYANIDE, TOTAL	MG/L	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010		
ANTIMONY, DISSOLVED	UG/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10		
ARSENIC, DISSOLVED	UG/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10		
BARIUM, DISSOLVED	UG/L	< 5.0	< 5.0	< 5.0	< 5.0	16.0	< 5.0	< 5.0		
CADMIUM, DISSOLVED	UG/L	< 1.0	< 1.0	< 1.0	< 1.0	2.5	< 1.0	< 1.0		
CHROMIUM, DISSOLVED	UG/L	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0		
LEAD, DISSOLVED	UG/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		
NICKEL, DISSOLVED	UG/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0		
AROCLOR-1016	UG/L	< 1.0	< 0.50	< 0.99	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 H	< 0.50
AROCLOR-1221	UG/L	< 1.0	< 0.50	< 0.99	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 H	< 0.50
AROCLOR-1232	UG/L	< 1.0	< 0.50	< 0.99	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 H	< 0.50
AROCLOR-1242	UG/L	< 1.0	< 0.50	< 0.99	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 H	< 0.50
AROCLOR-1248	UG/L	< 1.0	< 0.50	< 0.99	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 H	< 0.50
AROCLOR-1254	UG/L	< 1.0	< 0.50	< 0.99	< 0.50	< 0.50	< 0.50	0.76	< 0.50 H	< 0.50
AROCLOR-1260	UG/L	< 1.0	< 0.50	< 0.99	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 H	< 0.50
BENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
CHLOROBENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
CHLOROETHANE	UG/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0		
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		

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RED PENN LANDFILL
QUALITY CONTROL SAMPLE RESULTS
2001 - 2010

PARAMETER	UNITS	FIELD BLANK-01 3/25/2003 A3284202	FIELD BLANK-01 10/29/2003 A3A51802	FIELD BLANK-01 4/21/2004 A4368503	FIELD BLANK-01 10/13/2004 A4A11903	FIELD BLANK-01 4/14/2005 A5365803	FIELD BLANK-01 10/11/2005 A5B44802	FIELD BLANK-01 9/29/2010 RTJ0520-03	FIELD BLANK-02 9/29/2010 RTJ0520-04	TRIP BLANK-01 2/21/2001 910520-004
CYANIDE, TOTAL	MG/L	< 0.010	< 0.010	< 0.010	< 0.01	< 0.010	< 0.010	< 0.01	< 0.01	
ANTIMONY, DISSOLVED	UG/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	
ARSENIC, DISSOLVED	UG/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	
BARIUM, DISSOLVED	UG/L	< 5.0	< 5.0	< 5.0	< 5	< 5.0	< 5.0	< 5	< 5	
CADMIUM, DISSOLVED	UG/L	< 1.0	< 1.0	< 1.0	< 1	< 1.0	< 1.0	< 1	< 1	
CHROMIUM, DISSOLVED	UG/L	< 3.0	< 3.0	< 3.0	< 3	< 3.0	< 3.0	< 3	< 3	
LEAD, DISSOLVED	UG/L	< 5.0	< 5.0	< 5.0	< 5	< 5.0	< 5.0	< 5	< 5	
NICKEL, DISSOLVED	UG/L	< 5.0	< 5.0	< 5.0	< 5	< 5.0	< 5.0	< 5	< 5	
AROCLOR-1016	UG/L	< 0.50	< 0.50	< 0.50	< 0.5	< 0.50	< 0.50	< 0.48	< 0.51	
AROCLOR-1221	UG/L	< 0.50	< 0.50	< 0.50	< 0.5	< 0.50	< 0.50	< 0.48	< 0.51	
AROCLOR-1232	UG/L	< 0.50	< 0.50	< 0.50	< 0.5	< 0.50	< 0.50	< 0.48	< 0.51	
AROCLOR-1242	UG/L	< 0.50	< 0.50	< 0.50	< 0.5	< 0.50	< 0.50	< 0.48	< 0.51	
AROCLOR-1248	UG/L	< 0.50	< 0.50	< 0.50	< 0.5	< 0.50	< 0.50	< 0.48	< 0.51	
AROCLOR-1254	UG/L	< 0.50	< 0.50	< 0.50	< 0.5	< 0.50	< 0.50	< 0.48	< 0.51	
AROCLOR-1260	UG/L	< 0.50	< 0.50	< 0.50	< 0.5	< 0.50	< 0.50	< 0.48	< 0.51	
BENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1	< 1.0	< 1.0	< 1	< 1	< 1.0
CHLOROBENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1	< 1.0	< 1.0	< 1	< 1	< 1.0
CHLOROETHANE	UG/L	< 2.0	< 2.0	< 2.0	< 2	< 2.0	< 2.0	< 2	< 2	< 2.0
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1.0	< 1.0	< 1	< 1.0	< 1.0	< 1	< 1	< 1.0

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RED PENN LANDFILL
QUALITY CONTROL SAMPLE RESULTS
2001 - 2010

PARAMETER	UNITS	TRIP BLANK-01 2/28/2001 910584-006	TRIP BLANK-01 5/4/2001 911348-009	TRIP BLANK-01 8/21/2001 912796-008	TRIP BLANK-01 11/27/2001 914170-009	TRIP BLANK-01 2/18/2002 A2160709	TRIP BLANK-01 5/21/2002 A2515508	TRIP BLANK-01 8/9/2002 A2807806	TRIP BLANK-01 11/18/2002 A2B57010	TRIP BLANK-01 3/25/2003 A3284208
CYANIDE, TOTAL	MG/L									
ANTIMONY, DISSOLVED	UG/L									
ARSENIC, DISSOLVED	UG/L									
BARIUM, DISSOLVED	UG/L									
CADMIUM, DISSOLVED	UG/L									
CHROMIUM, DISSOLVED	UG/L									
LEAD, DISSOLVED	UG/L									
NICKEL, DISSOLVED	UG/L									
AROCLOR-1016	UG/L									
AROCLOR-1221	UG/L									
AROCLOR-1232	UG/L									
AROCLOR-1242	UG/L									
AROCLOR-1248	UG/L									
AROCLOR-1254	UG/L									
AROCLOR-1260	UG/L									
BENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CHLOROBENZENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CHLOROETHANE	UG/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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RED PENN LANDFILL
QUALITY CONTROL SAMPLE RESULTS
2001 - 2010

PARAMETER	UNITS	TRIP BLANK-01 10/29/2003 A3A51807	TRIP BLANK-01 4/21/2004 A4368511	TRIP BLANK-01 10/13/2004 A4A11908	TRIP BLANK-01 4/14/2005 A5365809	TRIP BLANK-01 10/11/2005 A5B44803	TRIP BLANK-01 4/19/2007 A7410103	TRIP BLANK-01 9/29/2010 RTJ0520-06	TRIP BLANK-02 8/21/2001 912796-009
CYANIDE, TOTAL	MG/L								
ANTIMONY, DISSOLVED	UG/L								
ARSENIC, DISSOLVED	UG/L								
BARIUM, DISSOLVED	UG/L								
CADMIUM, DISSOLVED	UG/L								
CHROMIUM, DISSOLVED	UG/L								
LEAD, DISSOLVED	UG/L								
NICKEL, DISSOLVED	UG/L								
AROCLOR-1016	UG/L								
AROCLOR-1221	UG/L								
AROCLOR-1232	UG/L								
AROCLOR-1242	UG/L								
AROCLOR-1248	UG/L								
AROCLOR-1254	UG/L								
AROCLOR-1260	UG/L								
BENZENE	UG/L	< 1.0	< 1.0	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1.0
CHLOROBENZENE	UG/L	< 1.0	< 1.0	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1.0
CHLOROETHANE	UG/L	< 2.0	< 2.0	< 2	< 2.0	< 2.0	< 2.0	< 2	< 2.0
CIS-1,2-DICHLOROETHENE	UG/L	< 1.0	< 1.0	< 1	< 1.0	< 1.0	< 1.0	< 1	< 1.0

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Appendix F
5-Year Inspection Report

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- Inspection Report
- Photographs From 5 Year Inspection

Inspection Report

Red-Penn Landfill
Inspection Report

Date: 29 Sept 2010

Inspector: Jim Forney

Temperature: 25°-70° F

Weather: Clear / Sunny

Ground Conditions: Dry

ITEM	ADEQUATE	REQUIRES MAINTENANCE	COMMENTS/OBSERVATIONS
Final Cover			
Vegetation	✓		
Erosion	✓		
Burrowing animals	✓		No evidence of burrowing animals
Settlement	✓		
Ground Surface Conditions			
Surface Water Controls			
Diversion berms	✓		
Final cover spillway	✓		
Groundwater Wells			
Locks	✓		Replace locks on all 3 wells
Structural integrity	✓		
Entrance Gate Lock	✓		
Additional Comments:	Only Spring #1 had flowing water		

Springs #2-5 - Dry

Attendees at 5-year Site Inspection: Jim Forney & March Smith - Waste Management
Susan Mallette - Superfund - KDWM

Brent Ritchie RMT - on-site to collect groundwater and spring samples.

Photographs From 5 Year Inspection

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