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July 2, 2010

Mr. Julio Vazquez
U.S. Environmental Protection Agency, Region II
Superfund Federal Facilities Section
290 Broadway, 18th Floor
New York, NY 10007-1866

Mr. Kuldeep K. Gupta, P.E.
New York State Department of Environmental Conservation (NYSDEC)
Division of Environmental Remediation
Remedial Bureau A, Section C
625 Broadway
Albany, NY 12233-7015

Mr. Mark Sergott
Bureau of Environmental Exposure Investigation, Room 300
New York State Department of Health
547 River Street, Flanigan Square
Troy, NY 12180

SUBJECT: **Final RCRA Closure Report for the Mixed Waste Storage Facility, Building 803 (SEAD-72), Seneca Army Depot Activity, Romulus, New York; EPA Site ID# NY0213820830 and NY Site ID# 8-50-006**

Dear Mr. Vazquez/Mr. Gupta/Mr. Sergott:

Parsons Infrastructure & Technology Group Inc. (Parsons) is pleased to submit the Final RCRA Closure Report for SEAD-72, the former Mixed Waste Storage Facility (Building 803) located at the Seneca Army Depot Activity in Romulus, New York (EPA Site ID# NY0213820830 and NY Site ID# 8-50-006).

Should you have any questions, please do not hesitate to call me at 617-449-1570 to discuss them.

Sincerely,

Jeffrey W. Adams
Project Manager

Enclosures

cc: M. Heaney, TechLaw
S. Absolom, SEDA
R. Battaglia, USACE, NY
J. Nohrstedt, USACE, Huntsville
K. Hoddinott, USACHPPM

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July 2, 2010

Mr. John Nohrstedt
U.S. Army Corps of Engineers
Engineering and Support Center, Huntsville
Attn: CEHNC-FS-IS
4820 University Square
Huntsville, Alabama 35816-1822

SUBJECT: **Final RCRA Closure Report for the Mixed Waste Storage Facility, Building 803 (SEAD-72), Seneca Army Depot Activity, Romulus, New York; Contract W912DY-08-D-0003, Delivery Order 0003**

Dear Mr. Nohrstedt:

Parsons Infrastructure & Technology Group Inc. (Parsons) is pleased to submit the Final RCRA Closure Report for SEAD-72, the former Mixed Waste Storage Facility (Building 803) located at the Seneca Army Depot Activity in Romulus, New York. This work was performed in accordance with the Scope of Work for Delivery Order 0003 under Contract W912DY-08-D-0003.

Parsons appreciates the opportunity to provide you with the Closure Report for this work. Should you have any questions, please do not hesitate to call me at 617-449-1570 to discuss them.

Sincerely,

Jeffrey Adams
Project Manager

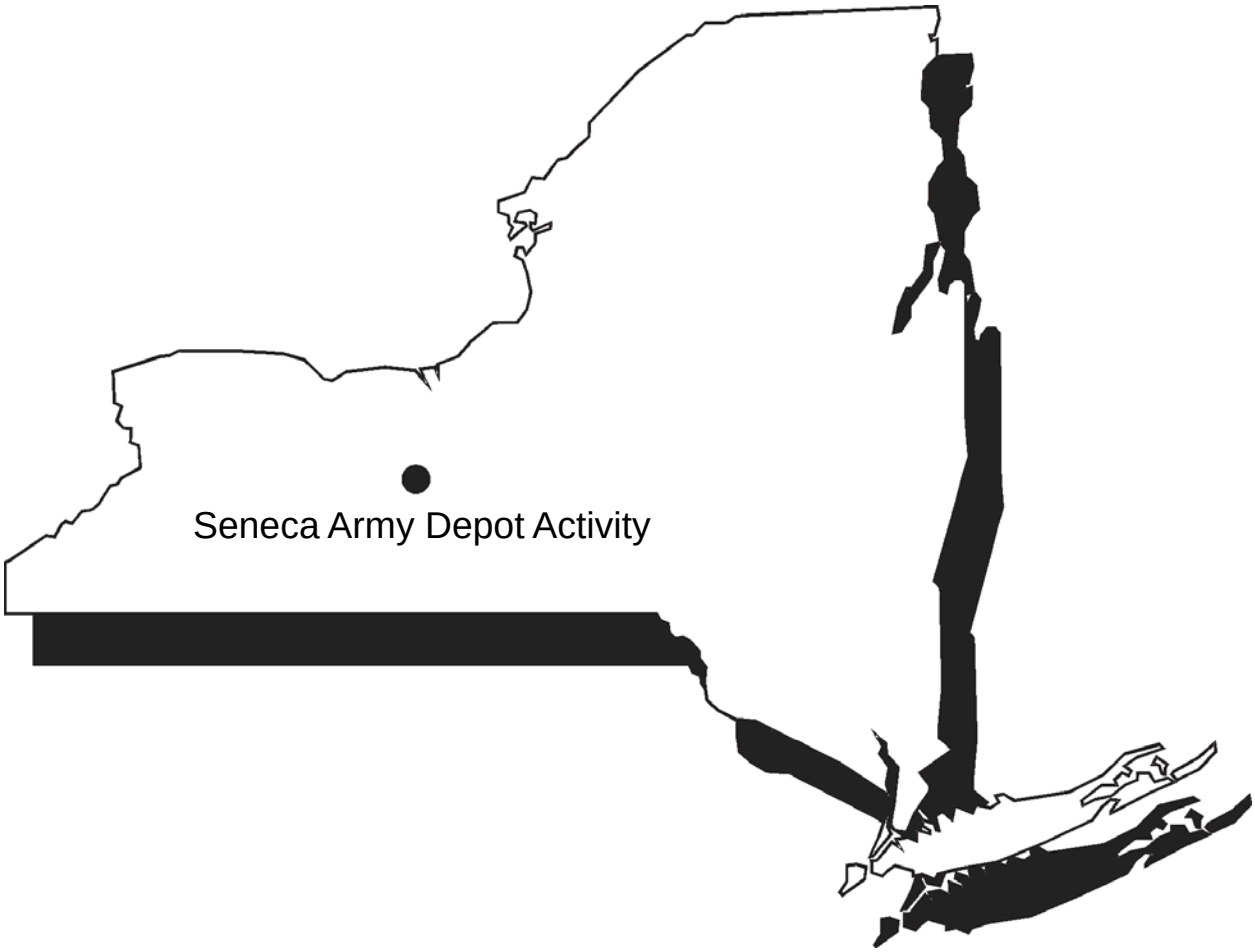
Enclosures

cc: S. Absolom, SEDA
K. Hoddinott, USACHPPM
R. Battaglia, USACE, NY
File

US Army, Engineering & Support Center
Huntsville, AL

00760

Seneca Army Depot Activity
Romulus, NY



FINAL
CLOSURE REPORT

THE FORMER MIXED WASTE STORAGE FACILITY, BUILDING 803 (SEAD-72)
SENECA ARMY DEPOT ACTIVITY

Contract No. W912DY-08-D-0003
Task Order No. 0003
EPA Site ID# NY0213820830
NY Site ID# 8-50-006

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July 2010

FINAL
CLOSURE REPORT

FOR THE FORMER MIXED WASTE STORAGE FACILITY, BUILDING 803 (SEAD-72) SENECA ARMY DEPOT ACTIVITY, ROMULUS, NEW YORK

Prepared for:

U.S. ARMY CORPS OF ENGINEERS, ENGINEERING AND SUPPORT CENTER HUNTSVILLE, ALABAMA

and

SENECA ARMY DEPOT ACTIVITY
ROMULUS, NEW YORK

Prepared by:

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100 High Street
Boston, MA 02110

Contract Number W912DY-08-D-0003
Task Order No. 0003
EPA Site ID# NY0213820830
NY Site ID# 8-50-006

July 2010

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REFERENCES

Parsons 2002. Final Remedial Investigation Report at the Radiological Waste Burial Sites (SEAD-12), Volumes 1 through 3, August 2002.

Parsons, 2003. Radiological Survey Report – SEAD-12, Phase I and Phase II Surveys, Volume 1 though 4, March 2003.

Parsons, 2005. Resource Conservation and Recovery Act (RCRA) Closure Plan, Former RCRA Unit Building 803-Mixed Waste Storage Facility, Solid Waste Management Unit (SWMU) – SEAD-72, Seneca Army Depot Activity in Romulus, New York, October, 2005.

PROFESSIONAL ENGINEER CERTIFICATION

To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Thomas Andrews, P.E.
Parsons Infrastructure & Technology Group, Inc.
NYS Professional Engineer 047438

1.0 INTRODUCTION

This Closure Report presents the details of the work performed and the results achieved as part of the closure of SEAD-72, the former Mixed Waste Storage Facility (Building 803) at the Seneca Army Depot Activity (SEDA or the Depot) in Seneca County, New York. Historically, SEAD-72 (Building 803) was used for the storage of mixed chemical and radiological wastes that were generated at the Depot during its military mission, prior to their characterization, and final disposal at licensed, off-site disposal sites. Building 803 was originally listed as a greater than 90 day storage facility for mixed hazardous and radiological wastes in SEDA's Resource Conservation and Recovery Act Part B Permit application; however, the Army rescinded the permit application prior to its approval by, and the facility operated under interim status throughout its operational life.

Closure of Building 803 was performed by personnel of Parsons Infrastructure & Technology Group Inc. (Parsons) and St. George Enterprise, Inc. (St. George) working under contract to the U.S. Army, Engineering and Support Center, Huntsville (Army) on behalf of the Seneca Army Depot Activity. The SEDA is a listed New York Inactive Waste Site ID# 8-50-006 and as a National Priorities List (NPL) Site CERCLIS ID # NY0213820830.

The work performed at SEAD-72, Building 803 was completed in accordance with the Closure Plan entitled *Resource Conservation and Recovery Act (RCRA) Closure Plan, Former RCRA Unit Building 803-Mixed Waste Storage Facility, Solid Waste Management Unit (SWMU) – SEAD-72, Seneca Army Depot Activity in Romulus, New York* (Parsons, 2005). The objective of the work was to obtain regulatory closure by meeting the objectives of Title 6 New York Code of Rules and Regulations (6 NYCRR) Subpart 373-3.7, Interim Status Standards for Owners and Operators of Hazardous Waste Facilities (NYSDEC, March 15, 2002). The Closure Plan for SEAD-72 was approved by the New York State Department of Environmental Conservation (NYSDEC) in a letter dated July 31, 2006. In accordance with agreements reached between representatives of the Army, the NYSDEC, and the U.S. Environmental Protection Agency Region II (EPA) closure of SEAD-72, Building 803 was delayed until such time as closure operations could be conducted in sequence with other remedial actions that were scheduled for SEAD-12, the Radiological Disposal Pit Site, within which SEAD-72 is located.

1.1 SUMMARY

Active use of SEAD-72 as a storage facility for mixed hazardous and radiological wastes ceased concurrent with the termination of Depot's military mission. This facility has been unoccupied and inactive since 1996, and has been a subject of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) studies and investigations performed in SEAD-12 since approximately 1999. SEAD-72 (Building 803) is located within the land that is designated as SEAD-12, and was a facility in which similar hazardous substances and materials were handled during the active days of the military mission of SEAD-12.

SEAD-72 was surveyed for evidence of residual radiological contaminants during the radiological survey that was performed as part of the overall SEAD-12 Remedial Investigation (RI) between 1999

and 2003. As is reported in Section 5.3.1 of the *Radiological Survey Report – SEAD-12* (Parsons, 2003), the only area identified within Building 803 that posed a potential concern due to residual levels of radioactive contaminants was a shelf located within Room 6 of the building. Elevated alpha and beta measurements (849 and 1649 counts per minute [cpm], respectively, compared to flag values of 12 and 824 cpm) were detected on this shelf during the Phase I building surveys; gamma measurements obtained for this shelf were within area background levels. Both dry and tritium smear samples collected from the shelf were within background levels, indicating that any contamination present on the shelf unit was not removable.

During subsequent Phase II building surveys, in-situ gamma spectroscopy analysis was performed on the shelf in an attempt to further identify the radionuclides that were present. However, the gamma component of the contamination was not of sufficient intensity or strength to allow for identification, and the gamma spectroscopy system was not able to differentiate between the contamination on the shelf and background levels found in the area of the shelf unit.

Based on the initial elevated alpha/beta measurements obtained, it was assumed that the residual detected radioactivity on the shelf was associated with radium paint, which is comprised of the alpha emitter Radium 226 (Ra-226) and the beta emitter Ra-228. Ra-226 also has a significant gamma emission at 186 kiloelectron Volts (keV); however, this emission was not notable during the survey since the FIDLER used with the gamma spectroscopy system is most efficient at detecting gamma energies less that 100 keV, and its efficiency drops as gamma energies increase. It is likely that the background gamma levels in the room (constructed of concrete) were sufficient to mask or drown out the Ra-226 gamma emissions.

As was discussed in Section 4 of the *Radiological Survey Report – SEAD-12* (Parsons, 2003), the survey area in which this elevated reading was found - Building 803, Room 6 - met the release criteria. The data set from the entire survey area passed the comparison to the wide-area derived concentration guideline level ($DCGL_W$) -adjusted background. In addition, while the hotspot on the shelf exceeded the $DCGL_{EMC/5}$, it was the only hotspot associated with the survey area and so met the localized elevated measurement criterion because the $DCGL_{EMC/5}$ allows for five exceedances.

However, in the interest of satisfying as-low-as-reasonably-achievable (ALARA) criteria, the Army decided to remove and dispose of the elevated shelf located in Building 803, Room 6. The Army completed this task when it shipped the shelf unit from Building 803, Room 6 to Duratek Consolidation & Support Facility, 16043 Dunbarton Boulevard, Barnwell, SC 29812 on August 21, 2003. Based on the removal and disposal of this shelf, no unacceptable residual levels of radioactive material were present within Building 803, and decontamination of Building 803 for radiological contaminants was not required or proposed as a component of the RCRA Closure of Building 803.

The land surrounding the exterior of Building 803 (SEAD-72) has also been evaluated as part of the SEAD-12 RI. The results of the SEAD-12 RI indicate that there are no chemical or radiological contaminants of concern identified at levels that posed potential risks or hazards to future receptors in environmental media surrounding the exterior of Building 803. The results of the RI are documented in the *Final Remediation Investigation Report* (Parsons 2002).

Closure of Building 803 was completed by surveying the interior of the former Mixed Waste Storage Facility (SEAD-72) for evidence of residual mixed or chemical waste inventories, followed by the removal and disposal of abandoned shelving units, and the cleaning of the building's interior surfaces to remove chemical contamination that may have remained within the building since its use was terminated. Once the interior surfaces were cleaned and decontaminated, aqueous rinsate samples were collected and analyzed for specific chemical contaminants known to have been accumulated in the facility during its operational life to confirm the efficacy of the decontamination process. The results obtained from the analysis of the rinsate samples were compared to Toxicity Characteristic regulatory limits for trichloroethene (0.5 milligrams per liter) defined in Title 6 NYCRR Part 371.3(e) (also Title 40 Code of Federal Regulations [CFR] Part 261.24).

Observations made at the time the decontamination work was performed at Building 803 indicated that there was no residual inventory of mixed or chemical hazardous waste present in the Mixed Waste Storage Facility (SEAD-72). Old metal shelving units were removed and sent as scrap to a metal recycler. Finally, the results of the confirmatory rinsate samples collected and characterized as part of the final closure operations indicate that there is no residual chemical contamination within the vacant building at levels in excess of approved clean up goals.

This remainder of this report documents and provides details of the closure activities conducted within Building 803. Included with the summary report are analytical results **(Appendix A**), disposal documentation (**Appendix B**)**,** and Daily Field Reports (**Appendix C**)**.**

1.2 SITE DESCRIPTION

Building 803 is located within the SEDA's former Weapons Storage Area (WSA) and is generally surrounded by activities that are located within SEAD-12, which is also known as the Radioactive Disposal Pit Sites. SEAD-72 is located in the northern portion of SEDA, approximately 3.5 miles northwest of the Depot's main entry gate off New York State Highway, Route 96 (**Figure 1**).

Building 803 was constructed in 1958. Building 803 meets requirements for conforming storage status for mixed waste storage facilities as defined in 6 NYCRR Part 373. This facility was designated as a RCRA unit in SEDA's Part 373 Permit Application and is a unit that remains regulated under RCRA interim status provisions (Facility Number NY0213820830).

Building 803 (SEAD-72) is built atop and into a mound of earth. The building consists of a fake above ground building, four subsurface interior vaults, two subsurface interior hallways, a covered and walled hallway leading into the building, and a loading platform. The above ground building measures approximately 55 by 42 feet in size and is composed entirely of concrete which is covered with exterior trim that include false windows and false doors. The subterranean portion of Building 803 measures approximately 35 by 25 feet in size and consists of four storage vaults situated exterior to a central underground entry hallway. The four storage vaults each measure approximately 10 feet by 13 feet in size and are separated from one another and the outside by concrete walls and ceilings that are 18 inches thick. The concrete floors of the subsurface structures are not sloped, but they originally contained floor drains in each of the vaults (**Figure 2)** that fed into a common discharge

line**.** As is indicated in **Figure 2**, the liquid wastes captured in the drains originally appear to have exited the building via an outflow pipe that discharged at the west end of the loading platform. However, at some time prior to the performance of the SEAD-12 RI and building survey work in 1999, the drains were plugged with concrete. The paint used on both the interior and exterior walls of the Building 803 is known to contain lead.

During Building 803's operational use, mixed waste generated by the cleaning and maintenance of mission components in neighboring buildings were transported to the building for storage prior to shipment off-site for disposal. Mixed wastes were stored in new, removable head type, 55-gallon drums that conformed to appropriate DOT specifications for containers holding hazardous waste in transport. The mixed waste consisted of solvent-wetted paper wipes that were used to clean low-level radioactive components. Solvents used on the paper wipes included isopropanol, Freon® 11, trichloroethene, acetone, and toluene.

Once used, the wipes were segregated by solvent type, bagged, sealed with tape, double bagged, sealed with tape again, labeled for identification, and then placed in the drum until it was shipped off-site under manifest. At any one time, Building 803 could hold a maximum of 96, 55-gallon drums (24 per vault) if the drums were double stacked in each vault. Building 803 was cleared of drummed hazardous and mixed waste in 1996 and has not been used as a waste storage facility since that time.

As part of the Army's military mission termination and Base Closure requirements, Building 803 was evaluated for the presence of residual radiological contamination between 1999 and 2003 using a combination of real-time alpha, beta, and gamma radiation detection equipment and the collection of smear and swipe samples for more detailed chemical evaluations. Wipe samples were also collected from the floor drains and vents of Building 803 and all resulting data was analyzed in accordance with the Multi Agency Radiation Survey and Site Investigation Manual (EPA 2002). The results of the scanning and wipe sample analysis indicated that Building 803 is compliant with the Derived Concentration Guideline Levels (DCGLs), which were based on NYSDEC Technical and Administrative Guidance Memorandum (TAGM) #4003 that allows for 10 milli-rem per year as an acceptable dose equivalent exposure.

1.3 CLOSURE PERFORMANCE STANDARD

The closure performance standard as written in 6 NYCRR Part 373-3.7(b) states that the facility must be closed in a manner that:

- Minimizes the need for further maintenance.
- Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere.

Subdivisions of 373 3.10(h), 3.11(f), 3.12(g), 3.13(g), 3.14(d), 3.15(e), 3.16(e), 3.17(e) and 3.30(c) are NOT applicable to this closure, as written in the standard.

1.4 CONCLUSIONS

The primary objective of the closure plan was to perform the work necessary to obtain clean closure of the building's interior in conformance with the closure performance standard. Review of the confirmatory rinsate analytical data indicates that the clean closure of Building 803 has been achieved. Therefore, it can be concluded that;

- No further maintenance is needed.
- The building poses no threat to human health or the environment.
- Because all hazardous materials have been removed and the building has been decontaminated, there is no chance for post closure escape of hazardous waste or hazardous constituents.
- Because the building is in good repair and is no longer used for storage of hazardous materials, there is no chance for future leachate, contained run-off or hazardous waste decomposition products migrating to the ground, surface waters or to the atmosphere.

2.0 CLOSURE ACTIVITIES

2.1 REMOVAL OF HAZARDOUS WASTE INVENTORY

All hazardous or mixed waste inventories were removed from Building 803 in 1996, prior to the start of final closure work. Upon accessing the building to perform closure operations, Parsons verified that there was no residual inventory of hazardous or mixed waste present within the building. Residual metal shelving units were found in the storage vaults and these were brushed and vacuumed clean prior to being removed and sent to a scrap metal dealer for recycle. Solid waste (e.g., accumulated dust, dirt, flaking paint, etc.) was generated and collected as part of the closure operations, but once these were characterized, they were determined to be non-hazardous and were disposed as solid wastes at licensed landfills. No hazardous or mixed wastes were generated or accumulated as a result of the closure activity.

2.2 DECONTAMINATION

The building was decontaminated manually to the fullest extent practical through the use of rigorous industrial cleaning methods. All interior floor, wall, and ceiling surfaces were initially manually abraded using stiff bristle brushes to capture removable peeling paint, dirt, and other debris. Accumulated paint, dirt, and debris were recovered using broom and dust pan and high efficiency particulate air (HEPA) vacuums. Approximately one-half of a 55-gallon open head drum of dirt, debris, and paint chips were collected using the brushes and HEPA-vacuum. At the conclusion of decontamination process, one sample of the accumulated dirt, debris, and dust was collected and sent to an analytical laboratory for waste disposal determinations.

Once the removal of gross levels of debris was completed, interior floor, wall, and ceiling surfaces were decontaminated using a high-pressure water wash. During the high-pressure water wash cycles, the entry doorway to Building 803 was sealed to prevent the spread of wash and waste waters beyond the inside of the building and the containment area. Additionally, as was noted earlier in Section 1.2, the floor drains located in each of the vault cells and in the entry hallway are plugged and prevent release of water to the surrounding environment. All resulting wash and waste water from the high-pressure water wash process were recovered, placed into a single fifty-five gallon drum, allowed to settle, and then recoverable solid components of the collected waste stream were removed and added to the accumulated dry debris container.

2.3 CONFIRMATORY SAMPLING

Upon the completion of the decontamination process, rinsate samples were collected to confirm the degree of decontamination achieved. Confirmation sampling required at Building 803 was limited to the collection of aqueous samples in accordance with the State of New York's *Rinsate Sample Collection Protocol* for the characterization of residual levels of five solvents previously used on the paper wipes that were stored in the building.

2.3.1 Rinsate Samples

Rinsate samples were collected from areas that were generally flat and horizontal (i.e., floors and ramps) where damming techniques could be successfully implemented. Prior to collecting rinsate samples, grids were laid out on the floors of the buildings by placing chalk marks at the appropriate intervals, and sampling locations were chosen based on a random numbering selection process.

An Ultra Spill Berm® (temporary floor dike made of flexible, non absorbing polyurethane material) was used to contain rinsate water. The berm was molded into an approximately 400 square inch surface area (i.e., 20 inches by 20 inches). Sampling was initiated by pouring approximately 2 liters of laboratory grade distilled, deionized water into the bermed area and letting it stand in contact with the building's surface for a period of time not less than ten minutes.

The water was then recovered from the bermed area using a dedicated, disposable plastic pipette and bulb and transferred into the sample collection vials. Each of the collected samples was labeled and recorded (Sample ID, Location ID, and time) in the field logbook and on the chain of custody.

After each sample was collected, the berm was decontaminated using alconox and water followed by a laboratory grade water rinse. The pipette assembly was disposed after each of the required samples was collected.

Rinsate samples were analyzed for isopropanol, Freon® 11 (trichlorofluoromethane), trichloroethylene, acetone, and toluene. The sample analyses were conducted by Columbia Analytical Services Inc , a laboratory certified by the NYSDOH, and were performed in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 (Third Edition (November 1986), as amended by Updates: I (July 1992), II (September 1994), IIA (August 1993), IIB (January 1995), III (December 1996), and IIIA (April 1998), and later approved revisions), hereinafter referred to as "SW-846".

2.3.2 Building 803 Confirmation Samples

Seven (7) locations were chosen for collection of rinsate samples, plus one additional quality assurance and quality control (QA/QC) sample. The samples were collected from the surfaces (i.e., ramps and contained floor) of Building 803 and the locations are shown on **Figure 3**. The analytical results for the conformational samples are presented in **Table 1**. A review of this table indicates that the results of the rinsate sample are all below the defined limit, and thus the decontamination of Building 803, SEAD-72 is considered complete.

2.4 DISPOSAL

2.4.1 Dirt and Debris Waste

All dirt and debris recovered from the interior cleaning of Building 803 were contained in approximately one-half of a 55-gallon open head drum. A sample of this material was collected and sent to the analytical laboratory for the characterization of TCLP metals. The results of this determination are shown in **Appendix B**. All reported results for metals were below TCLP

permissible levels. Based on this determination, dirt and debris recovered from the cleaning of SEAD-72 (Building 803) was disposed at Seneca Meadows Landfill as non-hazardous waste.

2.4.2 Decontamination Water

Wastewater generated from the power washing of Building 803 was collected and pumped into a single 55-gallon DOT approved drum. All pumps, hoses, containers and equipment used during the decontamination operations were decontaminated after use by triple flushing/rinsing all exposed or wetted surfaces with clean, potable water. The rinse waters were added to the drummed decontamination waste liquid drums. Approximately one full drum of wastewater was generated during the decontamination of Building 803.

The residual liquid waste water (approximately 50 to 55 gallons) collected from SEAD-72 was subsequently transferred into the Bakers tank that was brought to the SEAD-12 removal action work site to store surface water that was captured in the disposal pit excavations. Approximately 17,000 gallons of waste water was accumulated from the excavations at SEAD-12 and the decontamination of SEAD-72.

A sample of the water from the Bakers tank was collected and characterized prior to disposal. Results obtained for four of the designated contaminants of interest in Building 803 (i.e., acetone, Freon 11®, toluene, and trichloroethene) indicate that acetone was the only volatile organic compound detected in the wastewater at a level of 2.9 ug/L. Isopropanol is not a designated Superfund or Resource Conservation and Recovery Act hazardous substance, is not a compound of concern under the Clean Water Act, is not a regulated substance under the federal or state Drinking Water regulations, and as such is not typically characterized in analyses performed for these environmental programs. Based on the determination that it was not present in the rinsate confirmatory samples collected after the Building 803 decontamination process, this analyte was not characterized in the wastewater sample collected from the Bakers tank. The results of the chemical analysis for the water in the Bakers tank are provided in Appendix B. Based on the receipt and review of the analytical results for the water in the Bakers tank, the Seneca County Sewer Authority authorized the Army to dispose of the waste water from the SEAD-12 excavations and the SEAD-72 decontamination process in their sewage collection system, upstream of their treatment plant.

2.4.3 Personal Protective Equipment

Disposable personnel protective equipment worn by workers was collected and placed in a dumpster for disposal as a non-hazardous waste at the Ontario County Landfill.

2.5 DATA REPORTING AND ANALYSIS

2.5.1 Rinsate Samples

Analytical results from the rinsate samples are summarized on **Table 1** and the laboratory data sheets are provided in **Appendix A**. The analytical results were compared to the 500 microgram per liter (ug/L) Toxicity Characteristic (TC) level for trichloroethene described in 6 NYCRR 373.3(e) (also 40 CRF Part 261.24). This cleanup value was also used as the comparator value for isopropanol, Freon®

11, acetone, and toluene since there are no TC levels for these compounds. Concentrations of the five compounds detected in all rinsate samples were significantly below the TC cleanup value of 500 ug/L.

The chain-of custody for the confirmatory samples is included in **Appendix D** and the case narrative for the sample delivery group is presented in **Appendix E**. All of the analytical results were validated in a manner that is consistent with USEPA Region 2's Standard Operating Procedures (SOPs). A data validation report is provided in **Appendix F**.

2.6 SURVEY PLAT

A survey plat is not required because there is no indication that any hazardous or mixed hazardous waste remains at SEAD-72, the former Mixed Waste Storage Facility at the Seneca Army Depot.

2.7 PROFESSIONAL ENGINEER REVIEW AND CERTIFICATION

As per 6 NYCRR Part 373-3.7(f), this report shall serve as certification of the closures of Building 803. Tom Andrews, P.E. has reviewed this report and certifies that the work was done in accordance with the approved closure plan and 6 NYCRR Part 373-3.7. See Certification of Closure at the beginning of this report.

2.8 SCHEDULE

Building decontamination was performed between July 20 and 21, 2009.

Post decontamination confirmatory sampling was conducted on July 21, 2009.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 CONCLUSIONS

The decontamination effort performed on the interior of Building 803 removed all visible contamination. It can be concluded that clean closure has been achieved for Building 803 based on the results of confirmatory rinsate samples (see **Table 1**).

3.2 RECOMMENDATIONS

No further decontamination efforts are required based on the confirmatory sampling results.

Close SEAD-72 with regulatory concurrence.

TABLES

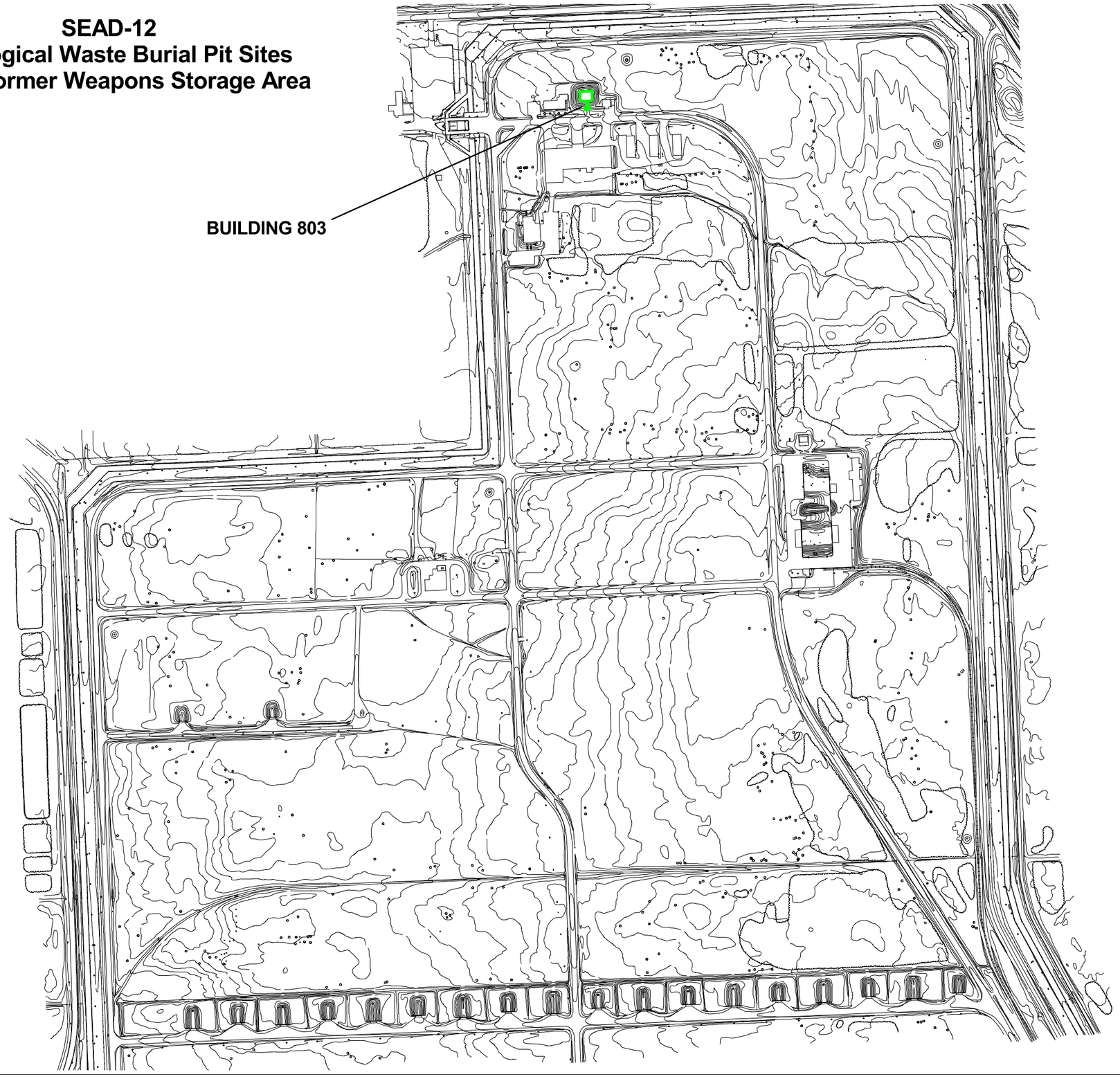
Table 1
SEAD-72 Rinseate Samples Results
Building 803 RCRA Closure Report
Seneca Army Depot Acitivity

SITE LOCATION								SEAD-72	SEAD-72	SEAD-72	SEAD-72	SEAD-72	SEAD-72	SEAD-72	SEAD-72
LOCATION ID								Grid-E26	Grid-L11	Grid-P14	Grid-VA12	Grid-VB3	Grid-VC18	Grid-VD25	Grid-VD25
MATRIX								RINSEATE	RINSEATE	RINSEATE	RINSEATE	RINSEATE	RINSEATE	RINSEATE	RINSEATE
SAMPLE ID								S72-G-E26	S72-G-L11	S72-G-P14	S72-G-VA12	S72-G-VB3	S72-G-VC18	S72-G-VD25-D	S72-G-VD25
SAMPLE DATE								7/22/2009	7/22/2009	7/22/2009	7/22/2009	7/22/2009	7/22/2009	7/22/2009	7/22/2009
QC CODE								SA	SA	SA	SA	SA	SA	DU	SA
STUDY ID								SEAD-12 RA	SEAD-12 RA	SEAD-12 RA	SEAD-12 RA	SEAD-12 RA	SEAD-12 RA	SEAD-12 RA	SEAD-12 RA
Parameter	**Units**	**Maximum Value**	**Frequency of Detection**	**Cleanup Goal Value [1]**	**Number of Exceedances**	**Number of Times Detected**	**Number of Samples Analyzed**	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)	Value (Q)
2-Propanol	UG/L	0	0%	500	0	0	8	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Acetone	UG/L	5.3	75%	500	0	6	8	2.7 J	1.9 J	5.3 J	3.1 J	20 U	20 U	4.4 J	3.2 J
Toluene	UG/L	0	0%	500	0	0	8	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	UG/L	0	0%	500	0	0	8	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichlorofluoromethane	UG/L	0	0%	500	0	0	8	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Notes:
1. The cleanup goal (CUG) values were based on the 0.5 mg/L Toxicity Characteristic (TC) for trichloroethylene described in 40 CRF Part 261.24, and was applied to all five parameters.

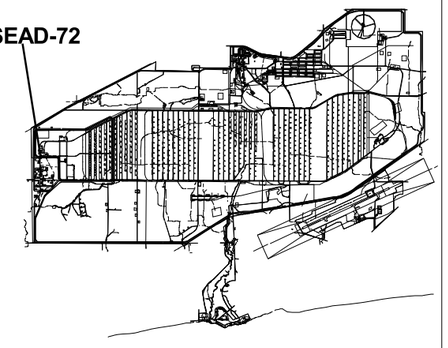
FIGURES

SEAD-12
Radiological Waste Burial Pit Sites within Former Weapons Storage Area



400 0 400 800 Feet

SEAD-72



PARSONS

SENECA ARMY DEPOT ACTIVITY
BLDG 803
RCRA CLOSURE REPORT

FIGURE 1
BUILDING 803
LOCATION MAP

1" = 150'	NOVEMBER 2009

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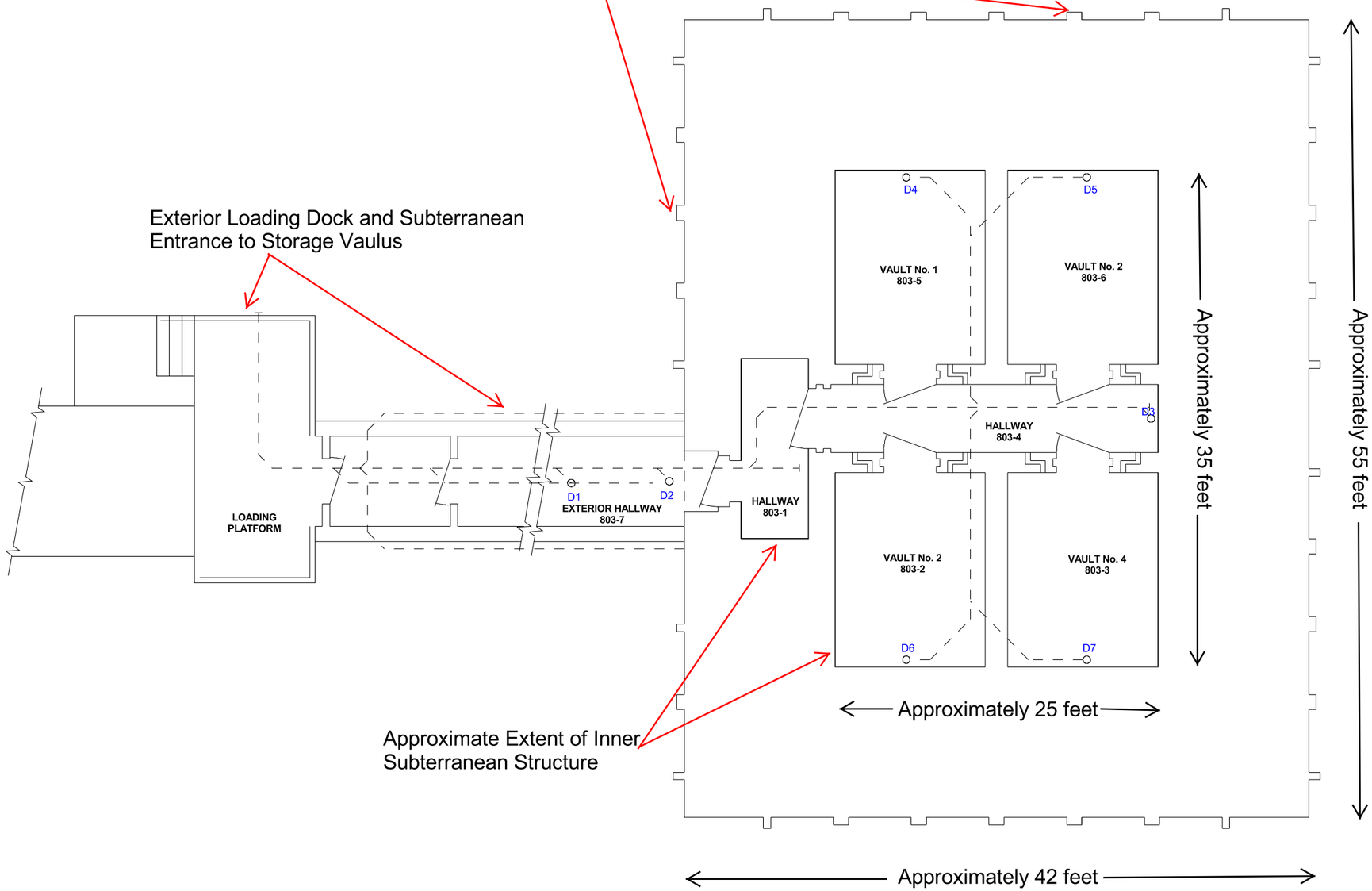
N

Approximate Extent of Fake
Above Ground Structure

Exterior Loading Dock and Subterranean
Entrance to Storage Vaulus



Approximate Extent of Inner
Subterranean Structure

LEGEND

Wall

Drain line

D - floor drain

Notes: Floor drains were plugged with concrete as reported during a NYSDEC and NYSDOH site inspection in 1993.

PARSONS

SENECA ARMY DEPOT ACTIVITY
BLDG 803
RCRA CLOSURE REPORT

FIGURE 2
BUILDING 803 LAYOUT

1" = 8'	NOVEMBER 2009

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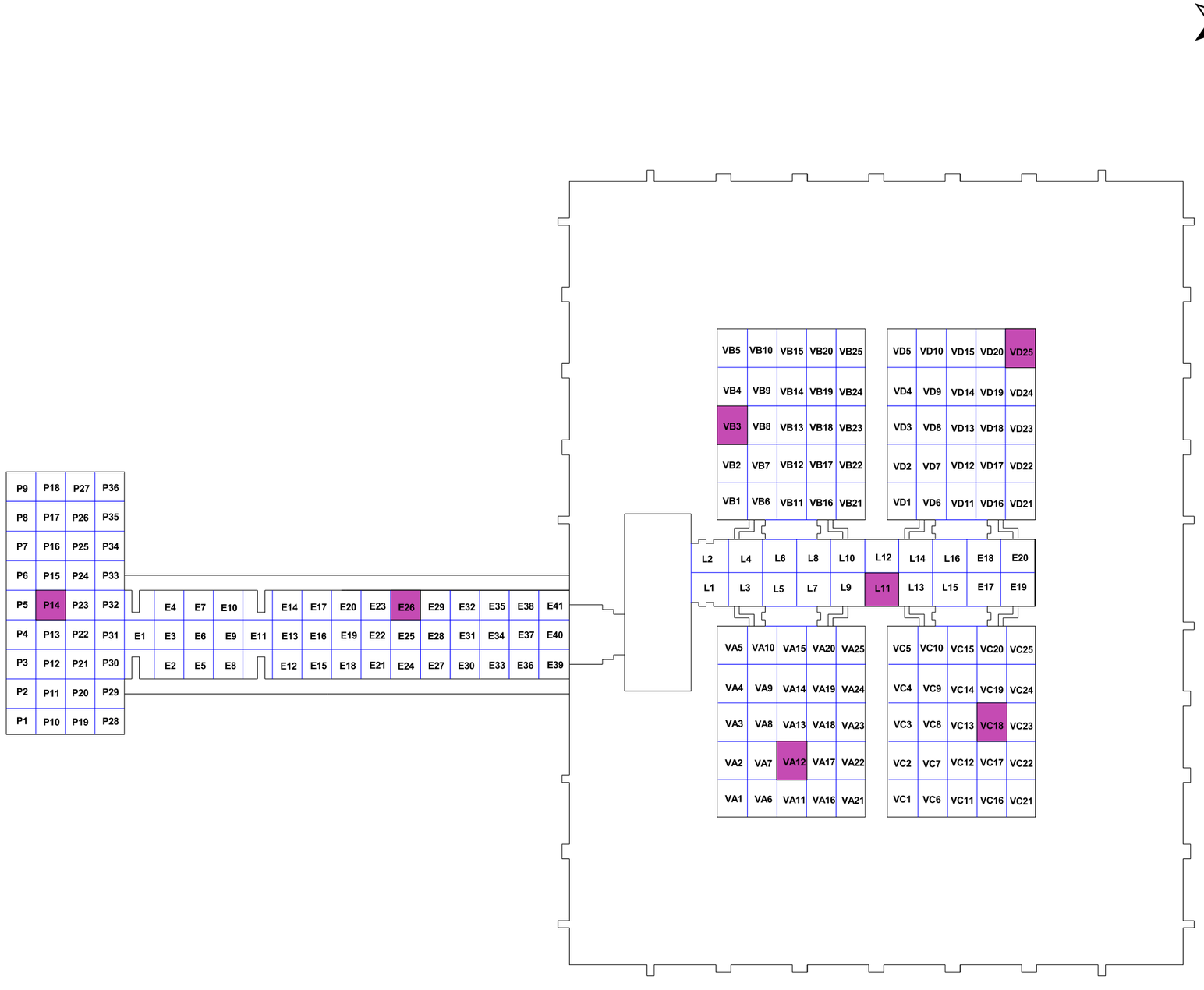

LEGEND

Wall

VA1 — Rinsate sample grid
P - Loading Platform
E - Exterior Hallway
L - Large Interior Hallway
V - Vault (A, B, C, or D)

Rinsate sample location

PARSONS

SENECA ARMY DEPOT ACTIVITY
BLDG 803
RCRA CLOSURE REPORT

FIGURE 3
BUILDING 803 -
RINSATE SAMPLING LOCATIONS

SCALE: 1" = 8' | NOVEMBER 2009

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APPENDICES

APPENDIX A

ANALYTICAL RESULTS

Columbia Analytical Services™

1 Mustard Street, Suite 250
Rochester, NY 14609

Date: August 03, 2009

Number of pages: _____

To:

Brendan Baranek-Olmstead
Parsons Engineering Science
100 High St. 4th Floor
Boston, MA 02110

Phone: 617-449-1570

Fax: 617-946-9777

From:

Michael Perry

Phone: 585-288-5380

Fax: 585-288-8475

RUSH REPORT

Submission #: R0904107

Project Reference: SEAD-72 803 Closure PROJECT #746762-02500

IMPORTANT NOTICE:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R0904107
Project:	SEAD-72 803 Closure/746762-02500	**Date Collected:**	7/22/09 1500
Sample Matrix:	Water	**Date Received:**	7/23/09
Sample Name:	S72-G-VA12	**Units:**	µg/L
Lab Code:	R0904107-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Isopropanol	ND	U	100	13	1	NA	7/29/09 14:41		163312	
Acetone	**3.1**	J	20	1.6	1	NA	7/29/09 14:41		163312	
Toluene	ND	U	5.0	0.42	1	NA	7/29/09 14:41		163312	
Trichloroethene (TCE)	ND	U	5.0	0.63	1	NA	7/29/09 14:41		163312	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	0.48	1	NA	7/29/09 14:41		163312	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	98	85-122	7/29/09 14:41		
Dibromofluoromethane	101	89-119	7/29/09 14:41		
Toluene-d8	96	87-121	7/29/09 14:41		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Parsons Engineering Science
Project: SEAD-72 803 Closure/746762-02500
Sample Matrix: Water

Sample Name: S72-G-VB3
Lab Code: R0904107-002

Service Request: R0904107
Date Collected: 7/22/09 1505
Date Received: 7/23/09

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Isopropanol	ND	U	100	13	1	NA	7/29/09 15:13		163312	
Acetone	ND	U	20	1.6	1	NA	7/29/09 15:13		163312	
Toluene	**0.47**	J	5.0	0.42	1	NA	7/29/09 15:13		163312	
Trichloroethene (TCE)	ND	U	5.0	0.63	1	NA	7/29/09 15:13		163312	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	0.48	1	NA	7/29/09 15:13		163312	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	98	85-122	7/29/09 15:13		
Dibromofluoromethane	99	89-119	7/29/09 15:13		
Toluene-d8	101	87-121	7/29/09 15:13		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Parsons Engineering Science
Project: SEAD-72 803 Closure/746762-02500
Sample Matrix: Water

Sample Name: S72-G-VC18
Lab Code: R0904107-003

Service Request: R0904107
Date Collected: 7/22/09 1510
Date Received: 7/23/09

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Isopropanol	ND	U	100	13	1	NA	7/29/09 15:45		163312	
Acetone	ND	U	20	1.6	1	NA	7/29/09 15:45		163312	
Toluene	ND	U	5.0	0.42	1	NA	7/29/09 15:45		163312	
Trichloroethene (TCE)	ND	U	5.0	0.63	1	NA	7/29/09 15:45		163312	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	0.48	1	NA	7/29/09 15:45		163312	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	98	85-122	7/29/09 15:45		
Dibromofluoromethane	97	89-119	7/29/09 15:45		
Toluene-d8	101	87-121	7/29/09 15:45		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Parsons Engineering Science
Project: SEAD-72 803 Closure/746762-02500
Sample Matrix: Water

Sample Name: S72-G-VD25
Lab Code: R0904107-004

Service Request: R0904107
Date Collected: 7/22/09 1525
Date Received: 7/23/09

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Isopropanol	ND	U	100	13	1	NA	7/29/09 16:17		163312	
Acetone	**3.2**	J	20	1.6	1	NA	7/29/09 16:17		163312	
Toluene	ND	U	5.0	0.42	1	NA	7/29/09 16:17		163312	
Trichloroethene (TCE)	ND	U	5.0	0.63	1	NA	7/29/09 16:17		163312	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	0.48	1	NA	7/29/09 16:17		163312	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	98	85-122	7/29/09 16:17		
Dibromofluoromethane	100	89-119	7/29/09 16:17		
Toluene-d8	95	87-121	7/29/09 16:17		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R0904107
Project:	SEAD-72 803 Closure/746762-02500	**Date Collected:**	7/22/09 1530
Sample Matrix:	Water	**Date Received:**	7/23/09
Sample Name:	S72-G-L11	**Units:**	µg/L
Lab Code:	R0904107-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Isopropanol	ND	U	100	13	1	NA	7/29/09 16:49		163312	
Acetone	**1.9**	J	20	1.6	1	NA	7/29/09 16:49		163312	
Toluene	**0.42**	J	5.0	0.42	1	NA	7/29/09 16:49		163312	
Trichloroethene (TCE)	ND	U	5.0	0.63	1	NA	7/29/09 16:49		163312	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	0.48	1	NA	7/29/09 16:49		163312	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	98	85-122	7/29/09 16:49		
Dibromofluoromethane	99	89-119	7/29/09 16:49		
Toluene-d8	102	87-121	7/29/09 16:49		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R0904107
Project:	SEAD-72 803 Closure/746762-02500	**Date Collected:**	7/22/09 1535
Sample Matrix:	Water	**Date Received:**	7/23/09
Sample Name:	S72-G-E26	**Units:**	µg/L
Lab Code:	R0904107-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Isopropanol	ND	U	100	13	1	NA	7/29/09 17:21		163312	
Acetone	**2.7**	J	20	1.6	1	NA	7/29/09 17:21		163312	
Toluene	ND	U	5.0	0.42	1	NA	7/29/09 17:21		163312	
Trichloroethene (TCE)	ND	U	5.0	0.63	1	NA	7/29/09 17:21		163312	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	0.48	1	NA	7/29/09 17:21		163312	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	97	85-122	7/29/09 17:21		
Dibromofluoromethane	100	89-119	7/29/09 17:21		
Toluene-d8	102	87-121	7/29/09 17:21		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Parsons Engineering Science
Project: SEAD-72 803 Closure/746762-02500
Sample Matrix: Water

Sample Name: S72-G-P14
Lab Code: R0904107-007

Service Request: R0904107
Date Collected: 7/22/09 1540
Date Received: 7/23/09

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Isopropanol	ND	U	100	13	1	NA	7/29/09 17:53		163312	
Acetone	**5.3**	J	20	1.6	1	NA	7/29/09 17:53		163312	
Toluene	ND	U	5.0	0.42	1	NA	7/29/09 17:53		163312	
Trichloroethene (TCE)	ND	U	5.0	0.63	1	NA	7/29/09 17:53		163312	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	0.48	1	NA	7/29/09 17:53		163312	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	98	85-122	7/29/09 17:53		
Dibromofluoromethane	99	89-119	7/29/09 17:53		
Toluene-d8	95	87-121	7/29/09 17:53		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Parsons Engineering Science
Project: SEAD-72 803 Closure/746762-02500
Sample Matrix: Water

Sample Name: S72-G-VD25-D
Lab Code: R0904107-008

Service Request: R0904107
Date Collected: 7/22/09 1525
Date Received: 7/23/09

Units: µg/L
Basis: NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Isopropanol	ND	U	100	13	1	NA	7/29/09 18:24		163312	
Acetone	**4.4**	J	20	1.6	1	NA	7/29/09 18:24		163312	
Toluene	ND	U	5.0	0.42	1	NA	7/29/09 18:24		163312	
Trichloroethene (TCE)	ND	U	5.0	0.63	1	NA	7/29/09 18:24		163312	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	0.48	1	NA	7/29/09 18:24		163312	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	96	85-122	7/29/09 18:24		
Dibromofluoromethane	98	89-119	7/29/09 18:24		
Toluene-d8	91	87-121	7/29/09 18:24		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R0904107
Project:	SEAD-72 803 Closure/746762-02500	**Date Collected:**	7/22/09 1700
Sample Matrix:	Water	**Date Received:**	7/23/09
Sample Name:	S72-G-BLK	**Units:**	µg/L
Lab Code:	R0904107-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Isopropanol	ND	U	100	13	1	NA	7/29/09 14:09		163312	
Acetone	ND	U	20	1.6	1	NA	7/29/09 14:09		163312	
Toluene	**0.52**	J	5.0	0.42	1	NA	7/29/09 14:09		163312	
Trichloroethene (TCE)	ND	U	5.0	0.63	1	NA	7/29/09 14:09		163312	
Trichlorofluoromethane (CFC 11)	ND	U	5.0	0.48	1	NA	7/29/09 14:09		163312	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	99	85-122	7/29/09 14:09		
Dibromofluoromethane	102	89-119	7/29/09 14:09		
Toluene-d8	103	87-121	7/29/09 14:09		

Comments:

APPENDIX B

DISPOSAL DOCUMENTATION

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R0905678
Project:	SEAD-12 RA/746762-02000	**Date Collected:**	10/ 6/09 0900
Sample Matrix:	Water	**Date Received:**	10/ 6/09
Sample Name:	WW1006-01	**Units:**	µg/L
Lab Code:	R0905678-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1-Trichloroethane (TCA)	1.0	U	1.0	0.45	1	NA	10/9/09 13:35		174059	
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.44	1	NA	10/9/09 13:35		174059	
1,1,2-Trichloroethane	1.0	U	1.0	0.45	1	NA	10/9/09 13:35		174059	
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.48	1	NA	10/9/09 13:35		174059	
1,1-Dichloroethane (1,1-DCA)	1.0	U	1.0	0.64	1	NA	10/9/09 13:35		174059	
1,1-Dichloroethene (1,1-DCE)	1.0	U	1.0	0.59	1	NA	10/9/09 13:35		174059	
1,2,4-Trichlorobenzene	1.0	U	1.0	0.46	1	NA	10/9/09 13:35		174059	
1,2-Dibromo-3-chloropropane (DBCP)	2.0	U	2.0	0.61	1	NA	10/9/09 13:35		174059	
1,2-Dibromoethane	1.0	U	1.0	0.43	1	NA	10/9/09 13:35		174059	
1,2-Dichlorobenzene	1.0	U	1.0	0.40	1	NA	10/9/09 13:35		174059	
1,2-Dichloroethane	1.0	U	1.0	0.42	1	NA	10/9/09 13:35		174059	
1,2-Dichloropropane	1.0	U	1.0	0.36	1	NA	10/9/09 13:35		174059	
1,3-Dichlorobenzene	1.0	U	1.0	0.84	1	NA	10/9/09 13:35		174059	
1,4-Dichlorobenzene	1.0	U	1.0	0.44	1	NA	10/9/09 13:35		174059	
2-Butanone (MEK)	5.0	U	5.0	1.0	1	NA	10/9/09 13:35		174059	
2-Hexanone	5.0	U	5.0	0.78	1	NA	10/9/09 13:35		174059	
4-Methyl-2-pentanone	5.0	U	5.0	0.71	1	NA	10/9/09 13:35		174059	
Acetone	**2.9**	J	10	1.6	1	NA	10/9/09 13:35		174059	
Benzene	1.0	U	1.0	0.42	1	NA	10/9/09 13:35		174059	
Bromodichloromethane	1.0	U	1.0	0.84	1	NA	10/9/09 13:35		174059	
Bromoform	1.0	U	1.0	0.32	1	NA	10/9/09 13:35		174059	
Bromomethane	2.0	U	2.0	0.58	1	NA	10/9/09 13:35		174059	
Carbon Disulfide	1.0	U	1.0	0.52	1	NA	10/9/09 13:35		174059	
Carbon Tetrachloride	1.0	U	1.0	0.36	1	NA	10/9/09 13:35		174059	
Chlorobenzene	1.0	U	1.0	0.44	1	NA	10/9/09 13:35		174059	
Chloroethane	2.0	U	2.0	0.36	1	NA	10/9/09 13:35		174059	
Chloroform	1.0	U	1.0	0.18	1	NA	10/9/09 13:35		174059	
Chloromethane	2.0	U	2.0	0.96	1	NA	10/9/09 13:35		174059	
Cyclohexane	2.0	U	2.0	0.66	1	NA	10/9/09 13:35		174059	
Dibromochloromethane	1.0	U	1.0	0.43	1	NA	10/9/09 13:35		174059	
Dichlorodifluoromethane (CFC 12)	1.0	U	1.0	0.53	1	NA	10/9/09 13:35		174059	
Dichloromethane	1.0	U	1.0	0.50	1	NA	10/9/09 13:35		174059	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R0905678
Project:	SEAD-12 RA/746762-02000	**Date Collected:**	10/ 6/09 0900
Sample Matrix:	Water	**Date Received:**	10/ 6/09
Sample Name:	WW1006-01	**Units:**	µg/L
Lab Code:	R0905678-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Ethylbenzene	1.0	U	1.0	0.43	1	NA	10/9/09 13:35		174059	
Isopropylbenzene (Cumene)	1.0	U	1.0	0.36	1	NA	10/9/09 13:35		174059	
Methyl Acetate	10	U	10	0.62	1	NA	10/9/09 13:35		174059	
Methyl tert-Butyl Ether	1.0	U	1.0	0.45	1	NA	10/9/09 13:35		174059	
Methylcyclohexane	1.0	U	1.0	0.54	1	NA	10/9/09 13:35		174059	
Styrene	1.0	U	1.0	0.37	1	NA	10/9/09 13:35		174059	
Tetrachloroethene (PCE)	1.0	U	1.0	0.43	1	NA	10/9/09 13:35		174059	
Toluene	1.0	U	1.0	0.42	1	NA	10/9/09 13:35		174059	
Trichloroethene (TCE)	1.0	U	1.0	0.63	1	NA	10/9/09 13:35		174059	
Trichlorofluoromethane (CFC 11)	1.0	U	1.0	0.48	1	NA	10/9/09 13:35		174059	
Vinyl Chloride	1.0	U	1.0	0.52	1	NA	10/9/09 13:35		174059	
cis-1,2-Dichloroethene	1.0	U	1.0	0.48	1	NA	10/9/09 13:35		174059	
cis-1,3-Dichloropropene	1.0	U	1.0	0.38	1	NA	10/9/09 13:35		174059	
m,p-Xylenes	2.0	U	2.0	0.85	1	NA	10/9/09 13:35		174059	
o-Xylene	1.0	U	1.0	0.56	1	NA	10/9/09 13:35		174059	
trans-1,2-Dichloroethene	1.0	U	1.0	0.45	1	NA	10/9/09 13:35		174059	
trans-1,3-Dichloropropene	1.0	U	1.0	0.25	1	NA	10/9/09 13:35		174059	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	101	85-122	10/9/09 13:35		
Dibromofluoromethane	104	89-119	10/9/09 13:35		
Toluene-d8	104	87-121	10/9/09 13:35		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R0905678
Project:	SEAD-12 RA/746762-02000	**Date Collected:**	10/ 6/09 0900
Sample Matrix:	Water	**Date Received:**	10/ 6/09
Sample Name:	WW1006-01	**Units:**	µg/L
Lab Code:	R0905678-005	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,2,4-Trichlorobenzene	10	U	10	0.92	1	10/ 7/09	10/10/09 01:31	97751	174300	
1,2-Dichlorobenzene	10	U	10	1.2	1	10/ 7/09	10/10/09 01:31	97751	174300	
1,3-Dichlorobenzene	10	U	10	0.73	1	10/ 7/09	10/10/09 01:31	97751	174300	
1,4-Dichlorobenzene	10	U	10	0.60	1	10/ 7/09	10/10/09 01:31	97751	174300	
2,4,5-Trichlorophenol	10	U	10	0.74	1	10/ 7/09	10/10/09 01:31	97751	174300	
2,4,6-Trichlorophenol	10	U	10	1.1	1	10/ 7/09	10/10/09 01:31	97751	174300	
2,4-Dichlorophenol	10	U	10	0.91	1	10/ 7/09	10/10/09 01:31	97751	174300	
2,4-Dimethylphenol	10	U	10	0.59	1	10/ 7/09	10/10/09 01:31	97751	174300	
2,4-Dinitrophenol	50	U	50	44	1	10/ 7/09	10/10/09 01:31	97751	174300	
2,4-Dinitrotoluene	10	U	10	1.3	1	10/ 7/09	10/10/09 01:31	97751	174300	
2,6-Dinitrotoluene	10	U	10	1.1	1	10/ 7/09	10/10/09 01:31	97751	174300	
2-Chloronaphthalene	10	U	10	0.55	1	10/ 7/09	10/10/09 01:31	97751	174300	
2-Chlorophenol	10	U	10	0.77	1	10/ 7/09	10/10/09 01:31	97751	174300	
2-Methylnaphthalene	10	U	10	0.66	1	10/ 7/09	10/10/09 01:31	97751	174300	
2-Methylphenol	10	U	10	0.99	1	10/ 7/09	10/10/09 01:31	97751	174300	
2-Nitroaniline	50	U	50	21	1	10/ 7/09	10/10/09 01:31	97751	174300	
2-Nitrophenol	10	U	10	0.87	1	10/ 7/09	10/10/09 01:31	97751	174300	
3,3'-Dichlorobenzidine	10	U	10	1.3	1	10/ 7/09	10/10/09 01:31	97751	174300	
3- and 4-Methylphenol Coelution	10	U	10	1.5	1	10/ 7/09	10/10/09 01:31	97751	174300	
3-Nitroaniline	50	U	50	14	1	10/ 7/09	10/10/09 01:31	97751	174300	
4,6-Dinitro-2-methylphenol	50	U	50	24	1	10/ 7/09	10/10/09 01:31	97751	174300	
4-Bromophenyl Phenyl Ether	10	U	10	1.1	1	10/ 7/09	10/10/09 01:31	97751	174300	
4-Chloro-3-methylphenol	10	U	10	0.86	1	10/ 7/09	10/10/09 01:31	97751	174300	
4-Chloroaniline	10	U	10	0.92	1	10/ 7/09	10/10/09 01:31	97751	174300	
4-Chlorophenyl Phenyl Ether	10	U	10	0.77	1	10/ 7/09	10/10/09 01:31	97751	174300	
4-Nitroaniline	50	U	50	18	1	10/ 7/09	10/10/09 01:31	97751	174300	
4-Nitrophenol	50	U	50	12	1	10/ 7/09	10/10/09 01:31	97751	174300	
Acenaphthene	10	U	10	0.84	1	10/ 7/09	10/10/09 01:31	97751	174300	
Acenaphthylene	10	U	10	0.73	1	10/ 7/09	10/10/09 01:31	97751	174300	
Anthracene	10	U	10	0.64	1	10/ 7/09	10/10/09 01:31	97751	174300	
Benz(a)anthracene	10	U	10	0.78	1	10/ 7/09	10/10/09 01:31	97751	174300	
Benzo(a)pyrene	10	U	10	0.63	1	10/ 7/09	10/10/09 01:31	97751	174300	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R0905678
Project:	SEAD-12 RA/746762-02000	**Date Collected:**	10/ 6/09 0900
Sample Matrix:	Water	**Date Received:**	10/ 6/09
Sample Name:	WW1006-01	**Units:**	µg/L
Lab Code:	R0905678-005	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Benzo(b)fluoranthene	10	U	10	0.62	1	10/ 7/09	10/10/09 01:31	97751	174300	
Benzo(g,h,i)perylene	10	U	10	0.83	1	10/ 7/09	10/10/09 01:31	97751	174300	
Benzo(k)fluoranthene	10	U	10	0.96	1	10/ 7/09	10/10/09 01:31	97751	174300	
Benzyl Alcohol	10	U	10	0.74	1	10/ 7/09	10/10/09 01:31	97751	174300	
2,2'-Oxybis(1-chloropropane)	10	U	10	1.1	1	10/ 7/09	10/10/09 01:31	97751	174300	
Bis(2-chloroethoxy)methane	10	U	10	1.3	1	10/ 7/09	10/10/09 01:31	97751	174300	
Bis(2-chloroethyl) Ether	10	U	10	1.2	1	10/ 7/09	10/10/09 01:31	97751	174300	
Bis(2-ethylhexyl) Phthalate	10	U	10	1.2	1	10/ 7/09	10/10/09 01:31	97751	174300	
Butyl Benzyl Phthalate	10	U	10	0.90	1	10/ 7/09	10/10/09 01:31	97751	174300	
Carbazole	10	U	10	0.78	1	10/ 7/09	10/10/09 01:31	97751	174300	
Chrysene	10	U	10	1.1	1	10/ 7/09	10/10/09 01:31	97751	174300	
Di-n-butyl Phthalate	10	U	10	0.99	1	10/ 7/09	10/10/09 01:31	97751	174300	
Di-n-octyl Phthalate	10	U	10	0.89	1	10/ 7/09	10/10/09 01:31	97751	174300	
Dibenz(a,h)anthracene	10	U	10	0.77	1	10/ 7/09	10/10/09 01:31	97751	174300	
Dibenzofuran	10	U	10	0.71	1	10/ 7/09	10/10/09 01:31	97751	174300	
Diethyl Phthalate	10	U	10	0.90	1	10/ 7/09	10/10/09 01:31	97751	174300	
Dimethyl Phthalate	10	U	10	0.74	1	10/ 7/09	10/10/09 01:31	97751	174300	
Fluoranthene	10	U	10	0.72	1	10/ 7/09	10/10/09 01:31	97751	174300	
Fluorene	10	U	10	0.76	1	10/ 7/09	10/10/09 01:31	97751	174300	
Hexachlorobenzene	10	U	10	0.96	1	10/ 7/09	10/10/09 01:31	97751	174300	
Hexachlorobutadiene	10	U	10	0.67	1	10/ 7/09	10/10/09 01:31	97751	174300	
Hexachlorocyclopentadiene	10	U	10	0.70	1	10/ 7/09	10/10/09 01:31	97751	174300	
Hexachloroethane	10	U	10	0.71	1	10/ 7/09	10/10/09 01:31	97751	174300	
Indeno(1,2,3-cd)pyrene	10	U	10	0.65	1	10/ 7/09	10/10/09 01:31	97751	174300	
Isophorone	10	U	10	0.96	1	10/ 7/09	10/10/09 01:31	97751	174300	
N-Nitrosodi-n-propylamine	10	U	10	1.1	1	10/ 7/09	10/10/09 01:31	97751	174300	
N-Nitrosodimethylamine	10	U	10	0.64	1	10/ 7/09	10/10/09 01:31	97751	174300	
N-Nitrosodiphenylamine	10	U	10	0.72	1	10/ 7/09	10/10/09 01:31	97751	174300	
Naphthalene	10	U	10	0.60	1	10/ 7/09	10/10/09 01:31	97751	174300	
Nitrobenzene	10	U	10	0.90	1	10/ 7/09	10/10/09 01:31	97751	174300	
Pentachlorophenol (PCP)	50	U	50	31	1	10/ 7/09	10/10/09 01:31	97751	174300	
Phenanthrene	10	U	10	0.75	1	10/ 7/09	10/10/09 01:31	97751	174300	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R0905678
Project:	SEAD-12 RA/746762-02000	**Date Collected:**	10/ 6/09 0900
Sample Matrix:	Water	**Date Received:**	10/ 6/09
Sample Name:	WW1006-01	**Units:**	µg/L
Lab Code:	R0905678-005	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Phenol	10	U	10	0.54	1	10/ 7/09	10/10/09 01:31	97751	174300	
Pyrene	10	U	10	0.84	1	10/ 7/09	10/10/09 01:31	97751	174300	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
2,4,6-Tribromophenol	89	46-134	10/10/09 01:31		
2-Fluorobiphenyl	75	46-110	10/10/09 01:31		
2-Fluorophenol	47	12-84	10/10/09 01:31		
Nitrobenzene-d5	77	44-117	10/10/09 01:31		
Phenol-d6	35	10-70	10/10/09 01:31		
p-Terphenyl-d14	88	40-133	10/10/09 01:31		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Parsons Engineering Science	**Service Request:**	R0905678
Project:	SEAD-12 RA/746762-02000	**Date Collected:**	10/ 6/09 0900
Sample Matrix:	Water	**Date Received:**	10/ 6/09
Sample Name:	WW1006-01		
Lab Code:	R0905678-005	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Aluminum, Total	6010B	**660**		µg/L	100	20	1	10/ 8/09	10/12/09 09:42
Antimony, Total	6010B	60	U	µg/L	60	4	1	10/ 8/09	10/12/09 09:42
Arsenic, Total	6010B	10	U	µg/L	10	4	1	10/ 8/09	10/12/09 09:42
Barium, Total	6010B	**147**		µg/L	20	8	1	10/ 8/09	10/12/09 09:42
Beryllium, Total	6010B	5.0	U	µg/L	5.0	0.2	1	10/ 8/09	10/12/09 09:42
Cadmium, Total	6010B	5.0	U	µg/L	5.0	0.2	1	10/ 8/09	10/12/09 09:42
Calcium, Total	6010B	**45600**		µg/L	1000	200	1	10/ 8/09	10/12/09 09:42
Chromium, Total	6010B	10	U	µg/L	10	2	1	10/ 8/09	10/12/09 09:42
Cobalt, Total	6010B	50	U	µg/L	50	2	1	10/ 8/09	10/12/09 09:42
Copper, Total	6010B	**3**	J	µg/L	20	3	1	10/ 8/09	10/12/09 09:42
Iron, Total	6010B	**1510**		µg/L	100	40	1	10/ 8/09	10/12/09 09:42
Lead, Total	6010B	50	U	µg/L	50	1	1	10/ 8/09	10/12/09 09:42
Magnesium, Total	6010B	**16600**		µg/L	1000	100	1	10/ 8/09	10/12/09 09:42
Manganese, Total	6010B	**225**		µg/L	10	1	1	10/ 8/09	10/12/09 09:42
Mercury, Total	7470A	0.30	U	µg/L	0.30	0.02	1	10/ 7/09	10/7/09 15:01
Nickel, Total	6010B	**6**	J	µg/L	40	3	1	10/ 8/09	10/12/09 09:42
Potassium, Total	6010B	**2300**		µg/L	2000	100	1	10/ 8/09	10/13/09 12:42
Selenium, Total	6010B	10	U	µg/L	10	5	1	10/ 8/09	10/12/09 09:42
Silver, Total	6010B	10	U	µg/L	10	3	1	10/ 8/09	10/12/09 09:42
Sodium, Total	6010B	**11800**		µg/L	1000	100	1	10/ 8/09	10/13/09 12:42
Thallium, Total	6010B	10	U	µg/L	10	3	1	10/ 8/09	10/12/09 09:42
Vanadium, Total	6010B	50	U	µg/L	50	5	1	10/ 8/09	10/12/09 09:42
Zinc, Total	6010B	**5**	J	µg/L	20	3	1	10/ 8/09	10/12/09 09:42

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Parsons Engineering Science
Project: SEAD-12/746762-02000
Sample Matrix: Soil

Service Request: R0904596
Date Collected: 8/13/09 1230
Date Received: 8/14/09
Pre-Prep Date: 8/17/09

Sample Name: S12DB01
Lab Code: R0904596-001

Basis: NA

Toxicity Characteristics Leachate Procedure (TCLP)
Inorganic Parameters

Pre-Prep Method: EPA 1311

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed
Arsenic	6010B	ND	U	mg/L	0.50	1	8/20/09	8/24/09 19:57
Barium	6010B	ND	U	mg/L	1.0	1	8/20/09	8/24/09 19:57
Cadmium	6010B	ND	U	mg/L	0.10	1	8/20/09	8/24/09 19:57
Chromium	6010B	**0.21**		mg/L	0.10	1	8/20/09	8/24/09 19:57
Lead	6010B	ND	U	mg/L	0.10	1	8/20/09	8/24/09 19:57
Mercury	7470A	ND	U	mg/L	0.00030	1	8/25/09	8/25/09 15:20
Selenium	6010B	ND	U	mg/L	0.50	1	8/20/09	8/24/09 19:57
Silver	6010B	ND	U	mg/L	0.10	1	8/20/09	8/24/09 19:57

Comments:

APPENDIX C

DAILY FIELD REPORTS

Daily Report

Date:	7/20/2008	**Day:**	Monday	**Weather Conditions:**	
Job #	746762			Hot 70's	

Site Name:	**Project:**
SEAD 72 Bldg 803	Seneca Army Depot

Parsons:		**St George**	
TC Andrews	11	Supt	1
Ben Mcallister		Operators	
		Laborers	2
Visitors	**Representing**	Teamster	

Equipment

Fan
Job Truck
Power wash
power vacuum
lights
generator

Health and Safety:	**PPE Level(s):**	C
Tool Box meeting	Discussed lead exposure and clean up requirements	

Work Performed:

Access, ventilate and inspect facility. Identified metals shelving units. No residual wastes identified.
Brush walls, floors, ceiling to removed coarse debris and dirt. Remove shelving units and transport for scrap.
Capture coarse debris place in 55 gallon drum
HEPA- vac all surfaces, add dust,debris to 55 gallon drum
Seal door to prevent water escape
Powerwash all surfaces, capture waste and drum

Disposal	**Loads**	**Total to date**	**Estimated tons**	**To. Tons to date**
			0	0
			0	0
				0

Sampling:

Deliveries Material	**Loads**	**CY**	**Tons**

Prepared by:

Thomas C Andrews

Daily Report

Date:	7/21/2008	**Day:**	Wednesday	**Weather Conditions:**
Job #	746762			cloudy 80's

Site Name:	**Project:**
SEAD 72 Bldg 803	Seneca Army Depot

Parsons:	**St George**
TC Andrews	Supt
Ben Mcallister	Operators
	Laborers
Visitors **Representing**	Teamster

Equipment
Fan
Job Truck
Power wash
power vacuum
lights
generator

Health and Safety:	**PPE Level(s):**	C
Tool Box meeting	Discussed lead exposure and clean up requirements	

Work Performed:

Sampled the test areas. Per work plan. Rinsate samples for VOCs
Prepared coc for sample transport
Ship samples to lab
Demob all equipment pending return of results.

Disposal	**Loads**	**Total to date**	**Estimated tons**	**To. Tons to date**
			0	0
			0	0
				0

Sampling:

Deliveries Material	**Loads**	**CY**	**Tons**

Prepared by:

Thomas C Andrews

APPENDIX D

RINSATE SAMPLE CHAIN OF CUSTODY FORMS

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

CAS/Rochester
1 Mustard St., suite 250
Rochester, NY 14609
ph.:585-288-5380
fax: 585-288-8475
e-mail: mperry@rochester.caslab.com

Serial or COC #:

Possible Hazards: Unknown

Sample Disposal: Lab Disposal

PROJECT & CLIENT INFORMATION

PROJECT REFERENCE/NAME: SEAD-72 803 Closure	PROJECT NO.: 746762-02500	Project State: NY
LAB PROJECT MANAGER: Mike Perry	P.O. NUMBER: 746762-02500-00	CONTRACT/Quote NO.: 746762-02500-00
CLIENT (SITE) PM: Jeff Adams/Brendan Baranek-Olmstead	CLIENT PHONE: 617-285-6821(BBO)	CLIENT FAX: 617-946-9777
CLIENT NAME: Parsons	CLIENT EMAIL: Brendan.Baranek-Olmstead@parsons.com	
CLIENT ADDRESS: 100 High Street, Boston, MA 02110		
Samplers Signature & Initials:		

PAGE 1 OF 1

Final Report Type (Circle at least one): ASP2000
Category B
EDD 15 calendar days
TAT/ DATE DUE 5 Per QAP/Quote
EXPEDITED REPORT (circle one)
FAX EMAIL POST Other
TAT/ DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLED ON DATE	SAMPLED ON TIME	SAMPLE IDENTIFICATION	LABORATORY SAMPLE ID	SAMPLE TYPE	FIELD FILTERED	MATRIX	NUMBER OF CONTAINERS SUBMITTED (isopropanol, Freon 11 (Trichlorofluoromethane), Trichloroethylene, Acetone, and Toluene - Method 8260B)
7/22/2009	1500	S72-G-VA12		G		W	3
7/22/2009	1505	S72-G-VB3		G		W	3
7/22/2009	1510	S72-G-VC18		G		W	3
7/22/2009	1525	S72-G-VD25		G		W	3
7/22/2009	1530	S72-G-L11		G		W	3
7/22/2009	1535	S72-G-E26		G		W	3
7/22/2009	1540	S72-G-P14		G		W	3
7/22/2009	1525	S72-G-VD25-D		G		W	3
7/22/2009	1700	S72-G-BLK		G		W	3

REMARKS

1. Please select one project sample for QA/QC analysis.
2. Please report only the requested VOCs: isopropanol, Freon 11 (Trichlorofluoromethane), Trichloroethylene, Acetone, and Toluene

Preservative

8 HCl

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Ben McAllister	7/23/09	1100						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
Mark R Peters	7/23	12:05						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES / NO	CUSTODY SEAL NO.	LABORATORY REMARKS:
			YES ○ NO ○		

R0904107
Parsons Engineering Science
SEAD-72

APPENDIX E

RINSATE SAMPLE LABORATORY CASE NARRATIVE

CASE NARRATIVE

COMPANY: Parsons Engineering Science
PROJECT: SEAD 72
SUBMISSION #: R0904107

Parsons samples were collected on 7/22/09 and received at CAS on 7/23/09 in good condition at a cooler temperature 2 ° C. An ASP-B validation package has been provided.

VOLATILE ORGANICS

Nine water samples were analyzed for a site Specific list Volatile Organics by SW-846 method 8260B. Values detected between the MDL and PQL have been flagged with a "J" as estimated.

All Tuning criteria for BFB were within QC limits.

All the initial and continuing calibration criteria were met for all analytes.

All Internal Standard Areas and surrogate standard recoveries were within QC limits.

The Blank Spike (LCS) recoveries were all acceptable.

The Matrix Spike/Matrix Spike Duplicate recoveries were requested to be analyzed on sample S72-G-VA12 and were all within QC limits.

The Method Blanks associated with these samples were free of contamination.

No analytical or QC problems were encountered.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the details conditioned above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

APPENDIX F

RINSATE SAMPLE DATA VALIDATION REPORT

APPENDIX F: DATA VALIDATION

This appendix presents an overall summary of data usability for the SEAD-72 confirmatory rinsate samples collected as part of the RCRA Closure completed between July and September 2009. The data reviewed included one sample delivery group (SDG) submitted by Columbia Analytical Service, Inc. (CAS) located in Rochester, NY. The SDG for which the data validation was performed was R0904107. **Table F-1** provides a summary of the data that were validated. In summary, nine confirmatory rinsate samples from SEAD-72 were submitted for analysis of five volatile organic compounds (VOCs), including acetone, isopropanol, toluene, trichlorofluormethane (Freon-11®), and trichloroethene. Analyses were conducted in accordance with the USEPA SW-846 Method 8260B.

Data validation was performed by Parsons' chemists and completed under the guidelines set forth in the Region 2 RCRA and CERCLA Data Validation Standard Operating Procedures (SOPs) with consideration for the site-specific quality assurance requirements presented in the general quality assurance requirements presented in the Generic Site-Wide Sampling and Analysis Plan (SAP) for the Seneca Army Depot Activity (Parsons, 2006). The Region 2 SOPs used for data validation include Validating Volatile Organic Compounds by SW-846 Method 8260B (HW-24), CLP Organics Data Review and Preliminary Review, and Training Course for CLP Organic Data Validation. If guidance could not be found in the above SOPs, the project SAP, or the Seneca Site-Wide SAP, requirements set forth in the USEPA CLP, the New York State Department of Environmental Conservation (NYSDEC) Contract Laboratory Program Analytical Services Protocol (ASP), USEPA (1999) Contract Laboratory Program National Functional Guidelines for Organic Data Review were considered during data validation. The data evaluation included performance of a completeness audit and a review of the following parameters, where applicable: holding times, sample preservations, quality control (QC) results of calibration, equipment/rinsate blanks, method blanks, matrix spike/matrix spike duplicate (MS/MSD) analyses, laboratory control sample (LCS) performances, laboratory and field duplicates, instrument performance, and reporting limits. In performing the data validation, the raw data were spot-checked in accordance with the Region 2 SOPs to evaluate whether there were any transcription errors.

The only data qualifier added to the data based on validation was "J" indicating an estimated sample result.

1.0 OVERALL SUMMARY OF DATA USABILITY

The data reviewed were determined to be 100% complete with all data usable and valid. No major QC problems were identified during validation of the data package. No reported sample results were qualified as unusable or rejected ("R").

2.0 ACCURACY

Accuracy was evaluated by reviewing the percent recovery (%R) of the MS/MSD and LCS. In addition, blank sample (laboratory preparation blank, initial calibration blank, and continuing calibration blank) results were reviewed to evaluate any potential contamination.

2.1 MS/MSD Results

MS/MSD sample analyses were conducted for one project sample (S72-G-VA12) for VOC analysis. The samples were spiked with all target compound analytes and the frequency of MS/MSD sample analyses conducted is consistent with the generic requirement for Seneca project presented in the Generic Site-Wide Sampling and Analysis Plan (Parsons, 2006).

Reported MS/MSD recoveries for all VOCs were within the laboratory established QC limits and the project limits (70% - 130%).

2.2 LCS Results

LCS results for VOC analyses were all within the laboratory established limits and the project advisory limits of 70 - 130%.

2.3 Blank Sample Results

A method blank analysis was conducted for the single SDG collected for VOC analyses. A filed/trip blank sample (S72-G-BLK) was submitted and analyzed with the other samples in the SDG.

Toluene was detected in the field/trip blank (S72-G-BLK) at a level of 0.52 μ/L. The affected sample results were qualified in accordance with the USEPA Region 2 SOPs and all reported concentrations for toluene were set to 5 "U" μg/L.

3.0 PRECISION

Precision is determined by evaluating the relative percent difference (RPD) between results that are reported for a parent/field duplicate (FD) sample pair or for results that are reported for a MS/MSD sample pair. The generic precision limits established for VOCs under the Seneca project are 70% – 130% as presented in the Generic Site-Wide Sampling and Analysis Plan for the Seneca Army Depot Activity (Parsons, 2006). Professional judgment was used based on the USEPA Region SOP for metal data validation (i.e., HW-2) when sample results are close to reporting limits. As an example, for sample results within five times of reporting limits, the difference was compared with two times of the reporting limits.

One (1) field sample duplicate pair was available for the confirmatory rinsate samples collected from SEAD-72 for VOC analysis. The field duplicate collection frequency is compliant with the

requirement specified in the Generic Site-Wide SAP. All field duplicate results comply with the project limits presented in the Generic Site-Wide SAP

4.0 REPRESENTATIVENESS AND OTHER TECHNICAL ISSUES

Representativeness expresses the degree to which sample data accurately and precisely represents actual site conditions. Representativeness has been evaluated by:

- Sample Package Completeness and Deliverables
- Sample Preservation and Technical Holding Time
- Laboratory Transcription Error
- Other Quality Assurance/Quality Control (QA/QC) Results

4.1 Sample Package Completeness and Deliverables

The data package submitted by Columbia Analytical Services, Inc. is sufficient for the data validation conducted for this project.

4.2 Sample Preservation and Technical Holding Time

All samples were preserved according to the preservation requirement presented in the Generic Site-Wide SAP and analyzed within the allowed holding time. All coolers were received with temperature in accordance with USEPA (1999) Contract Laboratory Program National Functional Guidelines for Organic Data Review, i.e., 4±2 ºC. All VOC samples were preserved with HCl. All samples received in lab within one day, and analyzed within 14 days.

4.3 Laboratory Transcription Error

The raw data were spot-checked in accordance with the Region 2 SOP and no transcription errors were observed.

4.4 Other QA/QC Results

4.4.1 Instrument Performance

GC/MS instrument performance check was performed for VOC analyses. GC/MS performance met the analytical method requirements for the single SDGs. Chromatography baselines were generally stable for organic analyses.

4.4.2 TCL/TIC Results

For VOC TCLs detected in the samples, a comparison of the sample relative ion intensities with the standard relative ion intensities for the respective reference TCL was conducted. All relative retention times (RRTs) for the identified analytes were within 0.06RRT units of the standard RRT from continuing calibration verification. The relative ion intensities generally agree within 20% of

the standard relative ion intensities with several exceptions. No action was taken based on the review of the mass spectrums.

Tentatively identified compounds (TICs) were not reported for VOC analyses for SEAD-12 confirmatory rinsate samples.

4.4.3 Reporting Limits

For VOC analyses, the lowest calibration standard was used as the reporting limit and the reporting limits are the same as the CRQL specified by the CLP OLM04.3.

4.4.4 Calibration

Initial calibration and continuing calibration verification were conducted for VOC analyses. No calibration compliance issues were observed for the single SDG of samples characterized for SEAD-72

Table F-1
Summary of Validated Data
RCRA Closure Report for SEAD-72
Seneca Army Depot Activity

SDG	Samp ID	Matrix	Analyses	Cooler Temperature
Columbia Analytical Services (CAS)				
R0904107	S72-G-VA12	Aqueous	Selected VOC (acetone, isopropanol, toluene, trichlorofluormethane, trichloroethene) only	2°C
	S72-G-VB3	Aqueous		
	S72-G-VC18	Aqueous		
	S72-G-V25	Aqueous		
	S72-G-L11	Aqueous		
	S72-G-E26	Aqueous		
	S72-G-P14	Aqueous		
	S72-G-VD25-D	Aqueous		
	S71-G-BLK	Aqueous		

APPENDIX G

RESPONSE TO COMMENTS

Army's Response to Comments from the U.S. Environmental Protection Agency, Region II

Subject: Draft Closure Report
The Former Mixed Waste Storage Facility
Building 803 (SEAD-72)
Seneca Army Depot
Romulus, New York

Comments Dated: January 5, 2010 (received via email)

Date of Comment Response: February 24, 2010

Army's Response to Comments

GENERAL COMMENTS

Comment 1: Data validation was not presented in the Draft Closure Report.

The Final Closure Plan for Former RCRA Unit Building 803 – Mixed Waste Storage Facility Solid Waste Management Unit – SEAD 72, dated October 2005 (Final Closure Plan), identified data validation as part of the closure procedure. EPA policy requires all data used to make environmental decisions to be of known quality. This would require data validation to be conducted by a third party, unaffiliated with the laboratory performing the work. EPA Region 2 Quality Assurance (QA) policy is described in Uniform Federal Policy (UFP) Quality Assurance Project Plans (QAPP) guidance documents. Applicable Region 2 Standard Operating Procedures (SOPs) are Evaluation of Metals Data for the Contract Laboratory Program (CLP), SOP HW-2, Revision 13, and Validating Volatile Organic Compound (VOC) by SW-846 Method 8260B, SOP No. HW-24, Revision 2. This might require obtaining additional quality control data from the laboratory, if not received with the initial data package.

Please clarify if the analytical data referenced in the Draft Closure Report have been validated, and provide a reference for this validation.

Response 1: Section 2.5.1 will be revised to read:

> Analytical results from the rinsate samples are summarized on Table 1 and the laboratory data sheets are provided in Appendix A. The analytical results were compared to the 500 microgram per liter (ug/L) Toxicity Characteristic (TC) level for trichloroethene described in 6 NYCRR 373.3(e) (also 40 CRF Part 261.24). This cleanup value was also used as the comparator value for isopropanol, Freon® 11, acetone, and toluene since there are no TC levels for these compounds. Concentrations of the five compounds detected in all rinsate samples were significantly below the TC cleanup value of 500 ug/L.
>
> The chain-of-custody for the confirmatory samples is included in **Appendix D** and the case narrative for the sample delivery group is presented in **Appendix E**. All of the analytical results were validated in a manner that is consistent with USEPA Region 2's Standard Operating Procedures (SOPs). A data validation report is provided in **Appendix F**.

SPECIFIC COMMENTS

Comment 1, Section 1.1, Summary, Top Half of Page 1-2: This section states, "As reported in the Radiological Survey Report – SEAD-12 (Parsons, 2003), the only area identified within Building 803 that posed a potential concern due to residual levels of radioactive contaminants was a shelf located within Room 6 of the building." However, the location of this shelf was not identified in the Final Closure Plan. This section further states, "[d]uring subsequent Phase II building surveys, in-situ gamma spectroscopy analysis was performed on the shelf in an attempt to further identify the radionuclides that were present." The data referenced is not included in the Draft Closure Report and reference for where this information can be found is not cited.

This section also describes disposal of the shelf as low level radioactive waste by the Army, but documentation of the disposal was not provided in the Draft Closure Report. Please revise the Draft Closure Report to include additional information on the testing, removal and disposal of this shelf, or provide one or more citations for where this information can be located.

Response 1: The identified discussion will be changed to read as is shown below:

> As is reported in Section 5.3.1 of the *Radiological Survey Report – SEAD-12* (Parsons, 2003), the only area identified within Building 803 that posed a potential concern due to residual levels of radioactive contaminants was a shelf located within Room 6 of the building. Elevated alpha and beta measurements (849 and 1649 counts per minute [cpm], respectively, compared to field flag values of 12 and 824 cpm) were detected on this shelf during the Phase I building surveys; gamma measurements obtained for this shelf were within area background levels. Both dry and tritium smear samples collected from the shelf were within background levels, indicating that any contamination present on the shelf unit was not removable.
>
> During subsequent Phase II building surveys, in-situ gamma spectroscopy analysis was performed on the shelf in an attempt to further identify the radionuclides that were present. However, the gamma component of the contamination was not of sufficient intensity or strength to allow for identification, and the gamma spectroscopy system was not able to differentiate between the contamination on the shelf and background levels found in the area of the shelf unit.
>
> Based on the initial elevated alpha/beta measurements obtained, it was assumed that the residual detected radioactivity on the shelf was associated with radium paint, which is comprised of the alpha emitter Radium 226 (Ra-226) and the beta emitter Ra-228. Ra-226 also has a significant gamma emission at 186 thousand electron volts (keV); however, this emission was not notable during the survey since the FIDLER used with the gamma spectroscopy system is most efficient at detecting gamma energies less that 100 keV, and its efficiency drops as gamma energies increase. It is likely that the background gamma levels in the room (constructed of concrete) were sufficient to mask or drown out the Ra-226 gamma emissions.
>
> As was discussed in Section 4 of the *Radiological Survey Report – SEAD-12* (Parsons, 2003), the survey area in which this elevated reading was found - Building 803, Room 6 - met the release criteria. The data set from the entire survey area passed the comparison to the wide-area derived concentration guideline level ($DCGL_W$)-adjusted background. In addition, while the hotspot on the shelf exceeded the $DCGL_{EMC/5}$,

it was the only hotspot associated with the survey area and so met the localized elevated measurement criterion because the $DCGL_{EMC/5}$ allows for five exceedances.

However, in the interest of satisfying as-low-as-reasonably-achievable (ALARA) criteria, the Army decided to remove and dispose of the elevated shelf located in Building 803, Room 6. The Army completed this task when it shipped the shelf unit from Building 803, Room 6 to Duratek Consolidation & Support Facility, 16043 Dunbarton Boulevard, Barnwell, SC 29812 on August 21, 2003. Based on the removal of this shelf, no unacceptable residual levels of radioactive material were present within Building 803, and decontamination of Building 803 for radiological contaminants was not required or proposed as a component of the RCRA Closure of Building 803.

Comment 2, Section 1.1, Summary, Bottom Half of Page 1-2: This section describes removal and disposal of abandoned old metal shelving units including sending these units as scrap to a metal recycler. However, there is no differentiation between disposal of the individual shelf by the Army due to the presence of radioactive constituents versus the work completed in July 2009 which included the disposal of metals shelves as scrap. In addition, no references were made to removal or disposal of other furniture or other items in the building interior. Please confirm that only one shelf was removed and disposed of as low level hazardous waste by the Army, and provide the overall volume of metal sent to a recycler by Parsons. Further, please confirm that no additional furniture or other large items were removed from the building prior to cleaning and incorporate this information into the Draft Closure Report.

Response 2: As is indicated in the response to General Comment 1, the shelving unit that was identified to exhibit elevated levels of gross alpha and beta contamination was removed from the site and shipped off-site in August of 2003. Other shelving units of similar construction to the one identified with elevated levels of gross alpha and gross beta radiation were present in each of the four vaults, and these were removed as part of the pre-decontamination work completed at Building 803. These shelf units were placed into a 20 cubic yard dumpster where they were compacted and mixed with metal debris recovered from the SEAD-12 which was subsequently sent to Luffman Metals in Seneca Falls New York for recycle. There was no other furniture or debris, other than dust, dirt, and flaking paint chips, found in Building 803 at the time of decontamination.

Comment 3, Section 2.2, Decontamination, Page 2-1: This section describes removal of accumulated paint, dirt, and debris using a broom, dust pan and high efficiency particulate air (HEPA) vacuums, followed by decontamination using a high pressure wash. However, the Final Closure Plan described collecting rinsate samples after using the broom, dust pan and HEPA vacuums and prior to using the high pressure wash. Please provide a clarification regarding the actual sequence of events.

Response 3: The Building 803 decontamination process consisted sequentially of the following steps.

1. The building was accessed.
2. Large shelving units were removed and placed into a rolloff container for recycle.

3. The flaking paint/dirt/debris on the internal wall, floor, and ceiling surfaces were abraded with stiff bristle brooms or brushes, and then the loosened debris was swept or vacuumed up using brooms and dustpan or a HEPA vacuum.
4. Recovered dirt, debris and paint placed into a collection drum.
5. All wall, floor, and ceiling surfaces were high-pressure washed, and the wash water and debris was captured and placed into a drum pending analysis.
6. The building walls, floor, and ceiling were allowed to dry.
7. Confirmatory rinsate samples were collected and submitted to the laboratory for chemical analysis.
8. The building was closed and secured, pending the results of the confirmatory rinsate samples.
9. Once the analytical data for the confirmatory samples were compared to the identified cleanup criteria level (0.5 mg/L or 500 μg/L) objective, the decontamination of Building 803 was considered complete.

Therefore, the decontamination process as listed in Section 2 of the Closure Report is accurate.

Comment 4, Section 2.4.2, Decontamination Water, Page 2-3: This section states, "The residual liquid waste water (approximately 50 to 55 gallons), collected from SEAD-72 was subsequently transferred into the Bakers tank that was brought to the SEAD-12 removal action work site to store surface water that was captured in the disposal pit excavations." It was unclear why this drum was transferred to the Bakers tank, as the Final Closure Plan indicated that residual liquid waste water would be sampled and disposed of individually, not transferred and mixed with other waste water.

In addition, this section indicates that a sample was collected from the Bakers tank and characterized prior to disposal. However, review of the analytical report included as Appendix B, did not indicate that one of the indicator contaminants, isopropanol from the SEAD-72 site, was included in the analysis. Please revise the Draft Closure Report to indicate why the water was transferred and mixed with water from other remedial activities and why isopropanol was not included in the disposal analysis.

Response 4: As is reflected in the report, only a limited quantity of waste wash/rinse water (~ 50 – 55 gallons) was collected from the decontamination of Building 803. After review of the analytical results of the rinsate samples which indicated a general lack of any contaminants of concern (only acetone was ever detected at levels less than 5.3 μg/L), it was presumed unlikely that significant quantities of the designated contaminants of interest (i.e., trichloroethene, acetone, toluene, isopropanol and Freon 11®) were present in the wastewater. As such, the most likely means of final disposal of this wastewater was via discharge to and treatment within the Seneca County Sewer District's wastewater treatment system. Concurrent with this determination, water wastes totaling approximately 16,000 – 17,000 gallons from the SEAD-12 removal action had been collected and sampling was being planned for disposal characterizations. On this basis, the water waste from the Building 803 decontamination process was

added to the larger volume of waste water from SEAD-12 so that it could all be tested and disposed for treatment as a single batch.

The text in Section 2.4.2 will be revised to read as follows:

> A sample of the water from the Bakers tank was collected and characterized prior to disposal. Results obtained for four of the designated contaminants of interest in Building 803 (i.e., acetone, Freon 11®, toluene, and trichloroethene) indicate that acetone was the only volatile organic compound detected in the wastewater at a level of 2.9 µg/L. Isopropanol is not a designated Superfund or Resource Conservation and Recovery Act hazardous substance, is not a compound of concern under the Clean Water Act, is not a regulated substance under the federal or state Drinking Water regulations, and as such is not typically characterized in analyses performed for these environmental programs. Based on the determination that it was not present in the rinsate confirmatory samples collected after the Building 803 decontamination process, this analyte was not characterized in the wastewater sample collected from the Bakers tank. The results of the chemical analysis for the water in the Bakers tank are provided in Appendix B. Based on the receipt and review of the analytical results for the water in the Bakers tank, the Seneca County Sewer Authority authorized the Army to dispose of the waste water from the SEAD-12 excavations and the SEAD-72 decontamination process in their sewage collection system, upstream of their treatment plant.

Army's Response to Comments from the New York State Department of Environmental Conservation

Subject: Draft Closure Report
The Former Mixed Waste Storage Facility
Building 803 (SEAD-72)
Seneca Army Depot
Romulus, New York

Comments Dated: February 1, 2010

Date of Comment Response: February 24, 2010

Army's Response to Comments

SPECIFIC COMMENTS:

Comment 1: Section 1.1, Page 1-2. Please describe adequately the steps for disposal of metal shelves located within Room 6 of the Building 803.

Response 1:

The identified discussion will be changed to read as is shown below:

> As is reported in Section 5.3.1 of the *Radiological Survey Report – SEAD-12* (Parsons, 2003), the only area identified within Building 803 that posed a potential concern due to residual levels of radioactive contaminants was a shelf located within Room 6 of the building. Elevated alpha and beta measurements (849 and 1649 cpm, respectively, compared to field flag values of 12 and 824 cpm) were detected on this shelf during the Phase I building surveys; gamma measurements obtained for this shelf were within area background levels. Both dry and tritium smear samples collected from the shelf were within background levels, indicating that any contamination present on the shelf unit was not removable.
>
> During subsequent Phase II building surveys, in-situ gamma spectroscopy analysis was performed on the shelf in an attempt to further identify the radionuclides that were present. However, the gamma component of the contamination was not of sufficient intensity or strength to allow for identification, and the gamma spectroscopy system was not able to differentiate between the contamination on the shelf and background levels found in the area of the shelf unit.
>
> Based on the initial elevated alpha/beta measurements obtained, it was assumed that the residual detected radioactivity on the shelf was associated with radium paint, which is comprised of the alpha emitter Radium 226 (Ra-226) and the beta emitter Ra-228. Ra-226 also has a significant gamma emission at 186 kiloelectron Volts (keV); however, this emission was not notable during the survey since the FIDLER used with the gamma spectroscopy system is most efficient at detecting gamma energies less that 100 keV, and its efficiency drops as gamma energies increase. It is likely that the background gamma levels in the room (constructed of concrete) were sufficient to mask or drown out the Ra-226 gamma emissions.
>
> As was discussed in Section 4 of the Radiological Survey Report – SEAD-12 (Parsons, 2003), the survey area in which this elevated reading was found - Building 803, Room 6 - met the release criteria. The data set from the entire survey area passed the comparison to the (DCGLW)-adjusted background. In addition,

while the hotspot on the shelf exceeded the DCGLEMC/5, it was the only hotspot associated with the survey area and so met the localized elevated measurement criterion because the DCGLEMC/5 allows for five exceedances.

However, in the interest of satisfying as-low-as-reasonably-achievable (ALARA) criteria, the Army decided to remove and dispose of the elevated shelf located in Building 803, Room 6. The Army completed this task when it shipped the shelf unit from Building 803, Room 6 to Duratek Consolidation & Support Facility, 16043 Dunbarton Boulevard, Barnwell, SC 29812 on August 21, 2003. Based on the removal of this shelf, no unacceptable residual levels of radioactive material were present within Building 803, and decontamination of Building 803 for radiological contaminants was not required or proposed as a component of the RCRA Closure of Building 803.

Comment 2: Section 2.2, page 2-1. Decontamination – Please clarify the statement of "…One half of a 55 gallon open head drum of dirt, debris and paint chips were collected…" and rinsate sampling with what sequence of events.

Response 2:

The Building 803 decontamination process consisted sequentially of the following steps.

1. The building was accessed.
2. Large shelving units were removed and placed into a rolloff container for recycle.
3. The flaking paint/dirt/debris on the internal wall, floor, and ceiling surfaces were abraded with stiff bristle brooms or brushes, and then the loosened debris was swept or vacuumed up using brooms and dustpan or a HEPA vacuum.
4. Recovered dirt, debris and paint placed into a collection drum.
5. All wall, floor, and ceiling surfaces were high-pressure washed, and the wash water and debris was captured and placed into a drum pending analysis.
6. The building walls, floor, and ceiling were allowed to dry.
7. Confirmatory rinsate samples were collected and submitted to the laboratory for chemical analysis.
8. The building was closed and secured, pending the results of the confirmatory rinsate samples.
9. Once the analytical data for the confirmatory samples were compared to the identified cleanup criteria level (0.5 mg/L or 500 μg/L) objective, the decontamination of Building 803 was considered complete.

Comment 3: Section 2.4.2, page 2-3. Please clarify the Statement "…subsequently transferred in to Bakers tank…" Why residual liquid waste water transferred and mixed with other waste water, instead of individually disposed of?

Response 3:

As is reflected in the report, only a limited quantity of waste wash/rinse water (~ 50 – 55 gallons) was collected from the decontamination of Building 803. After review of the analytical results of the rinsate samples which indicated a general lack of any contaminants of concern (only acetone was ever detected at levels less than 5.3 µg/L), it was presumed unlikely that significant quantities of the designated contaminants of interest (i.e., trichloroethene, acetone, toluene, isopropanol and Freon 11®) were likely to be present in the wastewater. As such, the most likely means of final disposal of this wastewater was via discharge to and treatment within the Seneca County Sewer District's wastewater treatment system. Concurrent with this determination, water wastes totaling approximately 16,000 – 17,000 gallons from the SEAD-12 removal action had been collected and sampling was being planned for disposal characterizations. On this basis, the water waste from the Building 803 decontamination process was added to the larger volume of waste water from SEAD-12 so that it could all be tested and disposed for treatment as a single batch.

The text in Section 2.4.2 will be revised to read as follows:

> A sample of the water from the Bakers tank was collected and characterized prior to disposal. Results obtained for four of the designated contaminants of interest in Building 803 (i.e., acetone, Freon 11®, toluene, and trichloroethene) indicate that acetone was the only volatile organic compound detected in the wastewater at a level of 2.9 µg/L. Isopropanol is not a designated Superfund or Resource Conservation and Recovery Act hazardous substance, is not a compound of concern under the Clean Water Act, is not a regulated substance under the federal or state Drinking Water regulations, and as such is not typically characterized in analyses performed for these environmental programs. Based on the determination that it was not present in the rinsate confirmatory samples collected after the Building 803 decontamination process, this analyte was not characterized in the wastewater sample collected from the Bakers tank. The results of the chemical analysis for the water in the Bakers tank are provided in Appendix B. Based on the receipt and review of the analytical results for the water in the Bakers tank, the Seneca County Sewer Authority authorized the Army to dispose of the waste water from the SEAD-12 excavations and the SEAD-72 decontamination process in their sewage collection system, upstream of their treatment plant.