OHM Remediation
Services Corp.
A Member of the IT Group

OHM Project 917257
25 September 2001

Final Closure Report for Removal Actions at the Washrack (Area 2891) and Building 2890 (Nose Dock 8)

Plattsburgh Air Force Base
Plattsburgh, New York

Air Force Center for Environmental Excellence
Brooks Air Force Base, Texas

Contract No. F41624-94-D-8106
Delivery Order 0003
CDRL A030; DCN DO03142

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Eastern Remedial Action, 11th Floor
625 Broadway, Albany, New York 12233-7015
Phone: (518) 402-9625 FAX: (518) 402-9020

Erin M. Crotty
Commissioner

MEMORANDUM

TO: Rich Wagner, Region 5 - Ray Brook

FROM: Jim Quinn, Federal Projects Section, BERA, DER JQ

SUBJECT: Plattsburgh Air Force Base ID No. 510003

DATE: October 2, 2001

Attached for your information and files are new narrative chapters, tables, figures and appendices for the previously forwarded draft Report for Equipment/Hardware Removals of Washrack (Area 2891) and Nose Dock 8 (Bldg 2890) at the former Plattsburgh Air Force Base. When these replacement pages are inserted into the draft report, the report will become the final version.

If you have any questions, please contact me at 402-9697.

Attachment

FINAL CLOSURE REPORT FOR REMOVAL ACTIONS AT THE WASHRACK (AREA 2891) AND BUILDING 2890 (NOSE DOCK 8) AT PLATTSBURGH AIR FORCE BASE

Contract No. F41624-94-D-8106
Delivery Order 0003
CDRL A030
Document Control No.: DO03142

Prepared for:

Air Force Center for Environmental Excellence
Brooks Air Force Base
San Antonio, Texas

Prepared by:

OHM Remediation Services Corp.
A Member of the IT Group
Hopkinton, MA

Michael G. Quinlan
Project Manager

25 September 2001
OHM Project 917257

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

ACM	asbestos-containing material
AEA	Adirondack Environmental Associates
AFCEE	Air Force Center for Environmental Excellence
AMSL	above mean sea level
ARARs	applicable or relevant and appropriate requirements
ASC	Allowable Soil Concentration
AST	aboveground storage tank
bgs	below ground surface
Bldg.	building
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cm/sec	centimeters per second
DOD	United States Department of Defense
EPA	United States Environmental Protection Agency
eV	electron Volt
FFA	Federal Facilities Agreement
ft	feet

H&S	health and safety
HASP	Health and Safety Plan
HTHW	high-temperature hot water
IRP	Installation Restoration Program
J	estimated concentration below the PQL and above the MDL
J&D	J&D Enterprises of Duluth, MN
LF	linear feet
MARCOR	MARCOR Remediation, Inc.
MBAS	methylene blue active substances (surfactants)
MDL	method detection limit
NCP	National Contingency Plan
NFADD	No Further Action Decision Document
NPL	National Priorities List
NYSDEC	New York State Department of Environmental Conservation
OHM	OHM Remediation Services Corp.
OVM	organic vapor monitor
PA	Preliminary Assessment
PAH	polycyclic aromatic hydrocarbons
PAFB	Plattsburgh Air Force Base
PARC	Plattsburgh Airbase Redevelopment Corp.
PCBs	polychlorinated biphenyls
PID	photoionization detector
POTW	publicly owned treatment works
ppb	parts-per-billion
ppm	parts-per-million
PQL	practical quantitation limit
R	rejected analytical results
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act of 1986
SOW	scope of work
SR	service rack
SS-016	Spill Site 016
ST-032	Storage Site 032
SVOCs	semi-volatile organic compounds
TAGM	Technical Assistance and Guidance Manual
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
U	non-detect analytical result
USAF	United States Air Force
UST	underground storage tank
VC	vitrified clay
VOCs	volatile organic compounds

1.0 INTRODUCTION

Removal actions are being conducted at the former Plattsburgh Air Force Base (PAFB) as part of the Department of Defense (DOD) Installation Restoration Program (IRP). PAFB was placed on the National Priorities List (NPL) by the United States Environmental Protection Agency (EPA) on 21 November 1989, 54 Federal Register 48184. A Federal Facilities Agreement (FFA), Administrative Docket Number II-CERCLA-FFA-10201, was executed by the EPA Regional Administrator, Region II, on 10 July 1991 between the EPA, the New York State Department of Environmental Conservation (NYSDEC), and the United States Air Force (USAF). The FFA was developed, in part, to implement the IRP in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), Pub. L. 99-499 (hereinafter jointly referred to as CERCLA); the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300 (NCP); Superfund guidance and policy; the Resource Conservation and Recovery Act as amended by the Hazardous and Solid Waste Amendments of 1984 (RCRA); RCRA guidance and policy; and Applicable or Relevant and Appropriate Requirements (ARARs).

The removal actions were conducted at the Washrack (PAFB Area 2891) by OHM Remediation Services Corp. (OHM), a Member of the IT Group, in October and November 1999 under Air Force Center for Environmental Excellence (AFCEE) Contract No. F41624-94-D-8106, Delivery Order 0003. The removal actions at Bldg. 2890 (Nose Dock 8) were conducted in April and May 1999 by J&D Enterprises of Duluth (J&D) and Adirondack Environmental Associates (AEA) under AFCEE Contract No. F41622-97-M-6943.

1.1 SITE DESCRIPTION AND HISTORY

This section contains a description of the geologic and hydrogeologic characteristics of the Washrack and Bldg. 2890 areas, site histories, past usage, a summary of past investigative and removal actions at the Washrack, and pertinent findings and results.

1.1.1 Site Location

PAFB is located in northeastern New York State, adjacent to Lake Champlain (Figure 1). It is approximately 26 miles south of the Canadian border and 167 miles north of Albany, New York. The base is bordered on the north by the City of Plattsburgh and on the east by Lake Champlain.

The Washrack is located between Florida Street and Perimeter Road on the northeast end of the flight line ramp in the industrial support operations area of PAFB. Building (Bldg.) 2887, the Industrial Waste Plant, is located to the southeast. When PAFB was active, drainage from the Washrack area was directed to Bldg. 2887 for pretreatment prior to discharge to the sanitary sewer system.

The Washrack area is adjacent to and upgradient of Spill Site 016 (SS-016), but is not part of SS-016. The SS-016 source area is located at the eastern end of Bldg. 2890 and consists

of a former solvent sump and its' associated piping runs. Building locations and site features are shown on Figure 2.

1.1.2 Physical Features

The ground surface in the Washrack area is relatively flat. Surface slopes within the immediate area vary to facilitate drainage. The Washrack is bordered by grassed areas to the east and south. Grassed strips separate the Washrack from the road to the north and the flightline located to the west. Two security fences are located to the east and south.

The center of the Washrack is at an elevation of 218 feet (ft) above mean sea level (AMSL). The area is paved with a 6-inch high concrete curb along the north, east, and south sides. Access is from the flight line to the west (see Photo 01 in Appendix A). The concrete surface of the Washrack slopes gently towards the center from the north and south, and then slopes east towards a catch basin inlet at the curb line (Photo 02).

Four service racks were present around the perimeter of the Washrack. Each service rack consisted of a 6-ft long x 1.5-ft wide concrete pad with four pipe and two conduit penetrations Piping is shown on the Service Rack Detail inset on Figure 2 and on Photo 03. The supply piping consisted of one 1.5-inch cold water pipe, one 1.5-inch hot water pipe, one 1-inch solvent line, and one 1-inch compressed air line (PAFB, 1954). All of the supply lines were installed using welded joints and a corrosion-preventive bituminous coating containing 10% chrysotile (asbestos) (AEA, 1999). Each supply line was connected to a common header that ran to the southwest corner of Bldg. 2887. Water, solvents and air were delivered to the service racks under pressure using booster pumps and an air compressor located in Bldg. 2887. One 0.75-inch and one 1.25-inch galvanized steel conduit were also installed in each service rack to support electric receptacles. Electric cables were installed in the same trenches as the supply piping but at a higher elevation. The service rack locations, detail drawings, utility locations, and other site features are shown on Figure 2.

Surface runoff entering the catch basin inlet discharged to Bldg. 2887 through a 24-inch diameter vitrified clay (VC) drain line installed at an invert depth of 7 ft below ground surface (bgs). Site plans show that Bldg. 2887 also received waste liquids from Bldg. 2890 through a 6-inch diameter pipe. It was discovered that the 6-inch line discharged to the 24-inch drain during the removal action conducted by J&D and AEA (AEA, 1999).

1.1.3 Site History and Past Usage

The Washrack (PAFB Area 2891) was constructed in 1957. It occupies an area of approximately 37,320 square ft, excluding the entrance ramp, and was reportedly used to clean and prepare aircraft for painting at Nose Dock 8 (Tetra Tech, 1994 and 1997). Water, detergent and solvents were sprayed onto the planes to remove dirt, paint, oil and grease. Waste liquids, paint chips and other solids were directed into the drain inlet and discharged to Bldg. 2887.

Bldg. 2887 was also constructed in 1957 and was originally operated as a wastewater pretreatment facility. The foundation and floor are constructed of concrete. A 30,000-gallon

capacity concrete wastewater underground storage tank (UST) measuring 30-ft long, 14.5-ft wide and 9-ft deep was incorporated into the building foundation. Oil and grease were skimmed off the top of the wastewater, then lime and ash were added for deflocculation. A 6-inch diameter vitrified clay pipe carried treated wastewater from the sedimentation tank beneath Building 2887 to a sanitary sewer manhole located in the parking lot to the south. This drain line was not identified during the ST-032 Preliminary Assessment and subsequent removal action conducted in 1992, which was closed out in 1994 with regulatory approval. Consequently, this pipe was left in place during the project.. Tank sediments were periodically removed and disposed of in former onsite landfill LF-021. This facility was later equipped with an autoclave used for sterilization of foreign garbage prior to disposal. The facility was operated until approximately 1980.

One 10,000-gallon aboveground storage tank (AST) AST-2889-1, used to store solvent, was located approximately 100-ft northeast of Bldg. 2887 in a diked enclosure. There was a 4-inch tank fill line from the edge of the parking lot to the tank, and a 4-inch solvent supply line from the tank to the northwest corner of Bldg. 2887 (Figure 2). The tank was removed during a previous removal action. Documentation concerning the tank removal was not available and the date of removal is unknown.

Bldg. 2887 also functioned as the utilities control center for the Washrack. Solvent was supplied from former AST-2889-1 through a 4-inch line using a solvent transfer pump. The solvent was then stored in two 1000-gallon solvent storage tanks equipped with mixers and delivered under pressure to the service racks using a solvent discharge pump. Water was also delivered to the service racks under pressure using booster pumps. An air compressor was used to service the compressed air lines.

Bldg. 2890 (Nose Dock 8) was completed in 1956 and was used for paint stripping and aircraft painting. Former AST-2886, a 10,000-gallon solvent storage tank, was located approximately 100-ft to the northeast. A 4-inch tank fill and 4-inch solvent supply line were attached to the AST. The solvent supply line entered the northeast corner of Bldg. 2890. A waste collection sump was installed in the northeast corner of Bldg. 2890. Waste liquids from this sump were discharged to Bldg. 2887 through a 6-inch pipe.

UST-2890, a 1,975-gallon steel tank, was also located in the northeast corner of Bldg. 2890 to store waste stripper and cleaning residues. Approximately 1,400 gallons of waste stripper and solvents were discharged when this tank ruptured in 1987 (Tetra Tech, 1994). Discharged contaminants included methylene chloride, 2-butanone, toluene, xylene, ethylbenzene, and trichloroethylene (TCE). UST-2890 was abandoned in-place in 1990 by filling it with cement. The discharge site was designated as SS-016 and was added to the IRP as an Attachment I site to the FFA.

1.1.4 Site Stratigraphy

Stratigraphy in the Washrack area consists of four generalized geologic units. The underlying bedrock consists of thin to thick-bedded limestone and dolostones with interbedded layers of sandstone and shale at an estimated depth of 60 ft bgs. Bedrock is overlain by sandy

glacial till and clayey glacial till that form a leaky aquiclude due to fractures and joints. These glacial units vary in thickness from zero to 24 feet. The glacial till is overlain by a grey, very stiff, layered marine silt and clay unit that varies in thickness from 10 to 15 feet. The uppermost stratigraphic unit is comprised of fine-to-medium grained unconsolidated sand with minor silt. Occasional layers of silt, coarser sand, and gravel have also been observed.

1.1.5 Site Hydrogeology

Hydrogeologic units at the site include a confined aquifer within the bedrock, semi-confined and confined water bearing units in the marine silt/clay and glacial till units, and an unconfined aquifer within the upper sand unit. The surface of the water table is at an estimated depth of 15 ft bgs. This estimate is based on groundwater data presented in the Nose Dock 8 (SS-016) Engineering Evaluation/Cost Analysis prepared by URS (1998). Additional data presented in this document indicate that groundwater in this area flows east toward Lake Champlain at a horizontal gradient of approximately 0.006 ft/ft, and that the estimated hydraulic conductivity ranges from 1.05×10^{-2} centimeters per second (cm/sec) to 1.78×10^{-2} cm/sec.

1.1.6 Site Utilities and Sensitive Site Features

A large number of active utilities are present at the site. A list of the known utilities and sensitive site features follows. Site features are shown on Figure 2.

1. Two underground primary power cables (one 3-cable 4160 volts and one 2-cable 2140 volts) and secondary underground power cables run through the two electrical manholes southeast of the wash rack (Photo 04). Site plans and interviews with Plattsburgh Airbase Redevelopment Corporation (PARC) utility personnel indicate that the power cables run north from the manholes between the Washrack and the security fence in a concrete utility conduit, and also run west towards the flight line.
2. Underground telephone communication lines run north and south from the communications junction box adjacent to the electrical manholes (Photo 04). The north-south lines are laid on top of the concrete utility conduit that contains the power conduits.
3. An east-west oriented 6-inch diameter water main servicing Bldg. 2887 located beneath the grassy area south of the wash rack.
4. Underground power cables between the light poles along the perimeter fencing.
5. Underground sensor, closed circuit television, and communications cables associated with the former perimeter security system.
6. Chain link security fences east and south of the Washrack and north and west of Bldg. 2887.
7. Inactive aboveground high-temperature hot water (HTHW) lines located north and west of the Bldg. 2887 (Photos 02 and 05). Information from the Base indicates that the insulation on these lines is an asbestos containing material (ACM).
8. Two utility poles located north of the wash rack (Photo 06).

1.2 PREVIOUS REMOVAL ACTIONS AT THE WASHRACK

This section contains summaries of all documented removal actions conducted at the Washrack. Reports describing these previous removal actions are available in the Information Repository and the Administrative Record.

The Washrack was originally assessed during a Phase I Record Search conducted in 1985. No further action was recommended at that time. However, in January 1992, it was discovered that the concrete UST beneath Bldg. 2887 contained a large amount of wastewater with unknown characteristics. Based on this information, Bldg. 2887 was designated Storage Site 032 (ST-032) and added to the IRP in 1992 as an Area of Concern. The preliminary assessment (PA) included a record search, interviews, a site inspection, and wastewater sampling in April 1992. The only contaminant of concern detected in the wastewater was lead at a concentration of 63 parts-per-billion (ppb).

The PA and wastewater sampling results caused PAFB to submit an Action Memorandum to the EPA and NYSDEC in October 1992, recommending that a time-critical removal action be conducted (PAFB, 1992). The removal action was conducted in November 1992 and consisted of discharging the UST contents to the sanitary sewer, triple rinsing the tank, and abandoning the tank in-place by filling it with concrete. Following the removal action, a No Further Action Decision Document (NFADD) was prepared for ST-032 (PAFB, 1993). The NFADD was signed by the Base Commander in January 1993 and received regulatory concurrence in June 1995.

1.3 CURRENT WASHRACK REMOVAL ACTION OBJECTIVES

The objectives of the removal action conducted by OHM at the Washrack were to:

- remove the service racks and service rack supply lines at the Washrack;
- remove the 4-inch diameter solvent transfer lines associated with former AST-2889-1;
- remove the Washrack catch basin inlet and associated 24-inch diameter VC drain line;
- collect and analyze confirmation soil samples to assess residual soil contamination;
- containerize, sample, characterize and dispose of all waste streams generated; and,
- site restoration.

All work was conducted in accordance with the approved work plans referenced in Section 5.0 (OHM, 1995, 1996a, 1996b, and 1996c). Site-specific methods and techniques employed at SS-016 (AEA, 1998 and J&D, 1998) were incorporated into the OHM Washrack work plan (OHM, 1999) to ensure consistency in task performance and analytical data results.

2.0 REMOVAL NARRATIVE

This section describes the 4-inch, 6-inch, 24-inch and solvent rack supply line removals.

2.1 SITE PREPARATION

During this removal action the following site preparation activities were conducted:

- site utility maps were reviewed;
- site inspections with appropriate Base personnel were conducted to identify aboveground and underground utilities and other sensitive site features;
- utilities and other site features were located and marked with flags, tape or paint to prevent damage;
- rolloffs and drums were placed onsite in a prepared storage area to accept waste materials as appropriate; and,
- sections of the security fencing were removed to allow access to excavation areas and to facilitate the movement of the excavation equipment.

No clearing, grubbing, cutting, or removal of concrete and/or asphalt was required during the Washrack removal actions conducted by OHM. Limited clearing and grubbing was required around the former AST-2886 location to allow removal of the 4-inch tank-fill and solvent supply lines by J&D. Asphalt cutting and removal was required during removal of the 6-inch waste solvent line.

2.2 HEALTH AND SAFETY

The OHM Site Superintendent served as the Site Health and Safety (H&S) Officer. He ensured that all OHM and subcontractor personnel were familiar with the approved site-specific H&S Plan (HASP) (OHM, 1996a) and conducted a site orientation for all personnel to familiarize them with site features and conditions, the scope of work, and site-specific hazards. He also conducted daily H&S meetings each morning prior to beginning work, and ensured that all work was conducted in accordance with the HASP.

The majority of onsite work was conducted at personal protection Level D (hard hat, safety glasses, steel-toed work boots, and work gloves). Tyvek coveralls and booties were worn when appropriate. Cleaning out the 24-inch drain line was conducted in Level C with full-face respirators due to the persistent presence of elevated levels of volatile organic vapors in the breathing zone. The ambient volatile organic vapor concentrations ranged from 25 to 60 ppm at the open end of the drain line, and from 40 to 55 ppm above the open drums being filled with the soil and sediment. Sustained vapor concentrations in the breathing zone ranged from 15 to 35 ppm with peaks ranging from 25 to 50 ppm. Access to open excavation areas was restricted using existing fencing and a combination of high-visibility fencing, caution tape, traffic cones, and warning signs (Photos 05 and 06).

The solvent rack supply lines and 4-inch solvent lines at the Washrack had been protected from corrosion with a black ACM coating. All ACM work was subcontracted by OHM to MARCOR Remediation, Inc. (MARCOR), a licensed asbestos contractor in the State of New

York. OHM primary subcontractors, other subcontracted service providers, and disposal facilities are shown on Table 2.1.

2.2.1 Volatile Organic Vapor Air Monitoring

A number of volatile organic contaminants (VOCs) and semi-volatile organic contaminants (SVOCs) were detected during previous work conducted at Bldg. 2890. The VOCs included carbon disulfide, ethylbenzene, xylenes, TCE, tetrachloroethene, methylene chloride, toluene, acetone, and chloroform. The SVOCs include naphthalene, 2-methylnaphthalene, phenol, 2-methylphenol, 4-methylphenol, and 2,4-methylphenol. Due to the varying ionization potentials of the different VOCs and SVOCs, air monitoring was conducted using both a PE Photovac Model 2020 intrinsically safe photoionization air monitor (PID) with a 10.6 electron volt (eV) lamp, and a Thermo Environmental Instruments Inc. Model 580B organic vapor monitor (OVM) with an 11.8 eV lamp.

2.2.2 Asbestos Air Monitoring

Personal and perimeter air monitoring for fugitive asbestos fibers during removal, cutting, and staging of the 4-inch solvent pipe and service rack supply lines was subcontracted by MARCOR to Testwell Laboratories, Inc. of Albany, NY. The air monitoring report is presented in Appendix B.

Fiber concentrations were determined using phase contrast microscopy (PCM). Perimeter air monitoring results ranged from 0.002 to 0.003 fibers per cubic centimeter (f/cc). The time-weighted average results for personal air monitoring samples ranged from 0.003 to 0.005 f/cc, well below the permissible exposure limit (PEL) of 0.1 f/cc.

2.3 SOIL SCREENING

Soil samples were collected from trench bottoms, pit bottoms and excavated soil piles for headspace screening using both the PID and OVM. Samples were also collected from areas of stained soil, from areas exhibiting a noticeable odor and from other areas of suspected contamination (i.e. pipe joints or connections). During the headspace screening approximately 4 ounces of soil were placed in an 8-ounce jar, the top was sealed with aluminum foil, and the jar was placed in a warm vehicle. Volatile organic vapors were allowed to collect in the headspace above the soil for 10 to 15 minutes. The foil seal was then punctured with the instrument probes and the highest vapor concentrations observed on each instrument were recorded in the field log book.

If the headspace volatile organic vapor concentration was <5 ppm above background, the soil was considered suitable for use as backfill and was staged next to the excavation area (Photo 05). If the headspace concentration was ≥5 ppm above background, the soil was segregated and not used as backfill. Segregated soil from the sump pit and 6-inch pipe removal conducted by J&D was staged on asphalt and covered with polyethylene sheeting.

No headspace soil vapor VOC concentrations above background were noted in excavted soil during removal of the service rack supply lines or the 4-inch solvent line at the Washrack. Approximate screening locations are shown on Figure 3. VOC concentrations in soil headspace samples collected from *in situ* stained soil along the length of the 24-inch vitrified clay drain line excavation ranged from 19.7 to 55.3 ppm. Approximate screening locations and maximum observed volatile organic vapor concentrations are shown on Figure 4. All soil excavated during the Washrack removals conducted by OHM was used for backfill.

2.4 EXCAVATION AND REMOVAL ACTIVITIES

Two excavation and removal techniques were employed during the removals to avoid damaging aboveground and underground utilities. Where possible, open trenches were excavated to expose the solvent lines to facilitate cutting and removal. However, in areas where the pipelines ran below known or suspected utilities, or where excavations might compromise the structural integrity of a nearby site feature (e.g. utility poles), pull pits were used. In some areas a soil "bridge" was left in place, the solvent lines were cut in the open trenches or pits on either side of the "bridge," and the pipe section was pulled out from under the utilities.

Confirmation and assessment soil sampling and analytical results are discussed in Section 3.0. Waste characterization sampling, analytical results, and waste disposal are discussed in Section 4.0.

2.4.1 Excavation and Removal of 4-Inch Solvent Lines

Ten-thousand gallon solvent ASTs serviced Bldgs. 2887 and 2890 (Figure 2). Four-inch diameter steel tank-fill (Photo 07) and solvent supply lines were connected to each tank. Although the ASTs had been removed previously, the 4-inch lines were left in place. The 4-inch lines at Bldg. 2890 were removed by J&D in April 1999, while the lines at Bldg. 2887 were removed by OHM in November 1999. Both sets of 4-inch lines were protected from corrosion with an ACM.

J&D recovered three drums (approximately 165 gallons) of liquid from the 4-inch lines at Bldg. 2890 prior to excavating and removing the pipelines. The drums of liquid were overpacked and staged onsite in a bermed area. The 4-inch pipe was uncovered, cut into 15-ft lengths, the ends were plugged with sorbent pads, and the pipe was staged onsite on polyethylene sheeting and covered.

OHM recovered approximately 100 gallons of liquid from the 4-inch lines at Bldg. 2887. The liquid was stored in drums 04-01 and 04-02. All drummed waste generated during the Washrack removals is listed on Table 2.2. Using glove bags, MARCOR stripped approximately 6-inches of the ACM coating from the pipe at 15-ft intervals to facilitate cutting, cut the pipe, and double-wrapped it for staging onsite. Site soil was impacted while recovering the residual liquids from the pipeline. The impacted soil was recovered and staged in drums 04-03 and 04-04.

The section of 4-inch solvent supply line from Bldg. 2887 to the 90° elbow was left in place to avoid compromising the integrity of a stanchion supporting the HTHW lines. This section of piping is indicted in blue on Figure 2. The pipe was swabbed out with pieces of sorbent pads prior to abandonment. The end of the pipe was grouted prior to backfilling (Photo 08). The 4-inch stickup inside Bldg. 2887 was cut off at floor level and plugged with grout.

2.4.2 Excavation and Removal of 6-Inch Solvent Line

J&D removed portions of the 6-inch waste solvent line from Bldg. 2890 to Bldg. 2887 in May 1999. Test pitting began at Bldg. 2890 to locate the pipeline and to determine the direction of the run. Due to the presence of utility poles and storage trailers over the run, the 6-inch pipe between Bldg. 2890 and the parking lot to the north was left in place. The in-place piping is indicated by the solid blue pipeline shown on Figure 2. The pipeline was not protected with an ACM coating.

Trench excavation began by J&D in the parking lot north of Bldg. 2890 (Photo 09). One-hundred and thirty-five feet of the 6-inch line was exposed from the south edge of the lot to the curbing by Florida Avenue. Before any of the pipe was removed and/or abandoned in place, all residual liquids were transferred to 55 gallon drums for proper characterization and disposal. Trenching was resumed north of Florida Avenue and extended to the aboveground HTHW line to the north. An excavation was then conducted north of Bldg. 2887 in the suspected location of the 6-inch pipeline. It was found at a depth of 5-ft bgs at the location shown on Figure 2. The 6-inch pipeline was found to discharge into the 24-inch vitrified clay drain line from the Washrack through an 8-inch connection. The 24-inch drain line was filled with approximately 10 inches of liquid and 14 inches of sediment. Thirty-seven feet of 6-inch pipeline was removed from behind Bldg. 2887. The excavated pipe was cut into 15-ft lengths, the sections were pressure washed, and the pipe sections were staged onsite (Photo 10). Nine drums were used to contain the approximately 380 gallons of residual liquid recovered from the 6-inch pipeline.

The south end of the 6-inch line extending from Bldg. 2890 to the south edge of the parking lot located to the north was opened at both ends and all residual liquids were removed, drummed and characterized for disposal as described in Section 4.2.2. The line was then flushed with clean potable water before plugging both ends with grout and 6-inch expansion plugs. The 6-inch line left in-place beneath Florida Avenue was also flushed with clean potable water before being completely filled with grout.The pipeline remaining in-place from Bldg. 2887 to the aboveground HTHW line (see Figure 2) was reamed out using Roto-Rooter and flushed 8 times with clean potable water. Approximately 800 gallons of rinse water were collected and staged onsite in a 1550 gallon holding tank equipped with a sump pump. The ends of the remaining pipeline were grouted and sealed with 6-inch diameter expansion plugs prior to backfilling. The sections of 6-inch pipeline that were removed are indicated in red on Figure 2. Sections left in place are shown in blue.

The trenches were backfilled to within six inches of the asphalt base with excavated soil and compacted. The backfill was then topped with stone in preparation for repaving. Unpaved areas were restored to original grades and elevations. All soil was screened during excavation. Approximately 10 cubic yards of soil from the sump pit, and 2 cubic yards of soil from the

6-inch pipeline removal trench, were segregated and staged for characterization and disposal. The remainder of the soil was used as backfill.

2.4.3 Excavation and Removal of Nose Dock 8 Sump

On 20 April 1999, saw cutting began on the concrete floor in preparation for the sump pit removal inside Nose Dock 8. No PID readings above 5 ppm were recorded in surface soils immediately beneath the floor slab adjacent to the concrete plug. As the plug was hoe-rammed apart, the concrete was separated and the excavation deepened. At 52 inches below the floor surface, an elevated PID reading of 45 ppm was encountered, just below an influent/effluent line connection. All soil and concrete below this level was segregated from that previously removed since elevated readings continued for the rest of the excavation. A high PID reading of 480 ppm was encountered at the bottom of the pit, approximately 12 feet below grade. The demolition was completed on 26 April 1999, with an estimated 10 cy of impacted soil removed. The soil was stockpiled in the parking area north of Nose Dock 8 and covered with plastic sheeting to await characterization sampling (see Section 4.1.2). All non-impacted soil was used as backfill. the concrete was staged adjacent to the soil in two separate stockpiles; one for the concrete floor slab and plug concrete above the 52-inch level, and the other for plug concrete below the 52-inch level. See Section 4.1.3 for discussion concerning the concrete characterization chip sample results.

2.4.4 Excavation and Removal of Service Rack Supply Lines

Each service rack contained the four supply lines with valves and two explosion proof electrical receptacles set in a concrete pad on the perimeter of the Washrack (see Service Rack Detail inset on Figure 2 and Photo 03). The service racks were supplied through pipelines from Bldg. 2887.

The service rack supply lines consisted of separate 1.5-inch diameter hot water and cold water lines, a 1-inch solvent line, and a 1-inch compressed air line. These individual lines were connected to a common header (Photo 11) where the pipe diameters for the water lines increased to 2.5 inches, and the compressed air line increased to 1.5 inches (see piping details on Figure 2 and Photo 12). The lines were constructed of steel with welded joints. Each pipeline was coated with a bituminous asbestos-containing corrosion preventive material. Water, solvent and compressed air were supplied from Bldg. 2887. No residual liquids were present in the lines at the time of removal.

Excavation began at each of the service racks and continued up the pipe run to the header or until a barrier to further excavation was encountered. All piping was removed from Service Rack (SR) 2, 3, and 4 to the common header line. Excavation of the SR-1 piping was halted at the first security fence line west of Bldg. 2887.

All header piping was removed from the connection with the SR-4 lines in the north, to the HTHW lines north of Bldg. 2887 in the south. No liquids were present in the pipelines and no evidence of corrosion or leakage was noted. The service rack supply lines that were removed are shown in red on Figure 2. The pipe left in place is shown in cyan.

Using glove bags, MARCOR stripped approximately 6-inches of the ACM coating from the pipes at 15-ft intervals to facilitate cutting, and cut the pipe in the open trenches. The pipe was then removed from the trench, staged on polyethylene sheeting, and double wrapped. Pipe that was pulled from the ground was staged on polyethylene sheeting and processed on the surface.

2.4.5 Excavation and Removal of 24-Inch Drain Line and Catch Basin Inlet

The 145-ft long drain line from the Washrack to Bldg. 2887 was constructed of 26-inch outside diameter (24-inch inside diameter) VC pipe sections (Photos 13 and 14). Each section was 39-inches long with bell and spigot connections. The connections were sealed with a black, petroleum-based compound. The sealant was firm to hard at the top of the drain line connections, but became more plastic towards the base of the joints where voids were also noted.

The catch basin inlet and drain line contained approximately 1,800 gallons of runoff water from the Washrack. One sample was collected from the catch basin inlet for VOC, SVOC, RCRA metals, and PCBs analyses to characterize the water. The analytical results were reviewed by the local POTW who granted the Base permission to discharge the water to the sanitary sewer. Prior to disassembling and removing the pipeline, the water was discharged to the sanitary sewer manhole located east of Bldg. 2887 (see Figure 2). Access to the pipe was gained through the 8-inch diameter connection point with the former 6-inch waste solvent line (Photo 13). A submersible pump was suspended from the excavator bucket, lowered into the open connection, and the water was pumped from the top to avoid discharging sediment. Waste characterization sampling and analytical results for the discharged water are discussed in Section 4.2.1.

Pipe removal began at the lower end of the drain line by Bldg. 2887. The first two pipe sections were broken open with a sledgehammer and the sediment was shoveled out by hand into 55-gallon open-topped 17-H drums numbered 24-01 to 24-04. Each drum of waste generated during the 24-inch VC pipe removal was assigned a unique number for inventory purposes. Each drum number was preceded by the prefix "24-" followed by a 2-digit number indicating the order in which the drum was filled. All drummed wastes generated during the Washrack removals are shown on Table 2.2.

Residual liquid seeping out of the saturated sediment at the lower end of the pipeline was pumped into one 55-gallon closed-topped 17-E drum (drum 24-05) before removing any pipe sections. After the first two pipe sections were removed from the excavation, each pipe section was shoveled out and the pipe section was removed from the trench using a sling and staged on polyethylene sheeting (Photo 15). Two sections of pipe were left in place beneath the fence line and the concrete encased electrical duct bank. The location is shown in blue on Figure 2. These pipe sections were shoveled out, wiped down, and filled with hand-compacted soil.

The catch basin inlet and cover were created as a steel-reinforced monolithic pour. The top of the inlet and parts of the walls were removed to allow access. Sediment in the inlet was removed by hand and staged in drums. Once cleaned, the remaining VC pipe section and inlet walls were removed and staged for disposal.

The staged pipe sections were scraped and brushed to remove all remaining dried soil and sediment. Four drums (drums 24-40 to 24–43) were generated during the cleaning. Chip sample 24CHIP-01 was collected to characterize the pipe for disposal. Analytical results and disposal of the VC pipe are discussed in Section 4.1.3.

Thirty-eight drums of sediment (drums 24-01 to 24-04, and 24-06 to 24-39), one drum of water (24-05) and four drums of dried soil and sediment (24-40 to 24-43) were generated during the VC pipe removal action. Due to the varying amount of liquid in the sediment removed from the pipeline, drums 24-01 to 24-28 were classified as liquid for disposal purposes. Drums 24-29 to 24-43 were classified as solid.

A halo of stained soil that exhibited a strong odor extended approximately 8 to 12-inches laterally away from the lower half of the drain line along its entire length (Photo 16). It is thought by OHM that solvents present in fluids entering the drain line dissolved the sealant in the lower half of the sealed joints allowing the fluids to leak from the pipe and migrate along the pipe run. Once the stained soil was discovered, excavation to uncover the drain pipe sections did not proceed past the midpoint (or springline) of the pipeline (Photo 16) in order to avoid removing contaminated soil.

In order to assess the depth of contaminated soil caused by the vertical migration of fluids from the leaking bell-and-socket drain line joints, a test pit was excavated to a depth of 15-ft bgs on 08 November 1999. All excavated soil was staged in the open drain line excavation and was used to backfill the test pit. Test pit results are discussed in Section 3.2.2.

2.5 SITE RESTORATION

All soil excavated during the Washrack and Bldg. 2890 removals was screened as described in Section 2.3. No PID or OVM headspace concentrations ≥5 ppm over background were noted in the excavated soil during the Washrack removals conducted by OHM. Therefore, all excavated soil was used as backfill and the Washrack area was restored to original grades and elevations.

OHM saw-cut the edges of the trench excavation through the parking lots conducted by J&D during the 6-inch pipeline removal. Additional stone was placed in order to prepare the surfaces for repaving. Asphalt paving was conducted by Luck Brothers of Plattsburgh, NY.

3.0 CONFIRMATION AND ASSESSMENT SAMPLING

This section describes sampling protocols and analytical results from the J&D 6-inch pipeline removal and the OHM Washrack removals.

3.1 DATA QUALITY OBJECTIVES

Confirmation samples were collected to support site closure recommendations. Therefore, appropriate QA/QC samples were collected to support independent validation for 100% of the confirmation soil sampling results. Assessment sampling results were not validated.

Waste characterization samples were analyzed for the parameters required by the potential waste disposal facilities. Waste characterization results are discussed in Section 4.0.

3.2 SAMPLING LOCATIONS AND RATIONALE

Samples collected during the Bldg. 2890 removals are shown on Table 3.1. The sample types, matrices, and analytical parameters are shown on Table 3.2. Samples collected during the Washrack removals are shown on Table 3.3. The Washrack sample types, matrices, and analytical parameters are shown on Table 3.4. All confirmation and assessment sampling locations are shown on Figure 2.

3.2.1 Confirmation Sampling

All service racks were inspected prior to removal. Particular attention was paid to the condition of the aboveground piping, surrounding soil and other areas likely to have been impacted by past site activities. The underground pipelines were inspected prior to removal for cracks, holes, loose joints, or other signs of deterioration or corrosion. The soil surrounding the pipelines was inspected and evaluated for staining, odors, and for the presence of residual contaminants by headspace screening.

No signs of corrosion, leakage, or soil staining were noted during the removal of the service rack supply lines or 4-inch tank fill and solvent supply lines at the Washrack. Minor soil contamination, indicated by elevated PID headspace soil screening results and stained soil, was noted during the 6-inch waste solvent line removal conducted by J&D. Contamination, as described in Section 2.4.4, was encountered during the 24-inch VC drain line removal conducted by OHM.

Confirmation soil samples were collected following removal of the solvent rack supply lines, the 4-inch solvent lines at the Washrack, and the 6-inch waste solvent line. Confirmation samples were not collected following removal of the 24-inch VC drain line due to the soil contamination encountered. Sampling locations were chosen based on observations made during the pipeline removals. All confirmation samples were collected from a depth of six inches below the exposed excavation surface.

Confirmation soil samples SC-1 through SC-8 were collected by J&D during removal of the 6-inch waste solvent line. Confirmation soil sample SC-1 was collected from the test pit

excavated to locate the 6-inch line north of Bldg. 2890. Samples SC-2, -3, and -4 were collected from areas where soil elevated PID readings and/or stained soil were noted. The highest PID reading encountered during the removal of the 6-inch transfer line was 28ppm, which was also in conjunction with an area of soil staining. This was the only soil (1.5CY) that had to be segregated IAW the Work Plans – all other readings were below 5ppm. SC-5 is a field duplicate of confirmation soil sample SC-4. SC-6 was collected from the northern limit of the trench excavation. SC-7 was collected during excavation behind Bldg. 2887 from below the 24-inch VC drain line at the point where the 6-inch line connection was made. SC-8 was a subsurface soil sample collected using a hand auger. This sampling point was located at a suspected turning point in the 6-inch pipe run. Confirmation soil sampling locations are shown on Figure 2. All sampling pertinent to the 6-inch line removal is shown on Table 3.1. Sample types, matrices, and analytical parameters are shown on Table 3.2.

Since no soil contamination was noted during the Washrack supply line removals, sampling points were located in areas thought most likely to have been impacted by past site activities and at the limits of excavation. Samples CSS-01, -03, -04 and -05 were collected from the bottoms of the service rack excavations. Sample CSS-07 was collected by the ends of the 4-inch lines at the former AST location. Samples CSS-02 and -06 were collected from below the supply lines at the limits of excavation.

3.2.2 Subsurface Soil Sampling

In order to assess the depth of the contaminated soil beneath the 24-inch drain line, a test pit was excavated by OHM to a depth of 15-ft bgs behind Bldg. 2887 (Figure 2) on 08 November 1999. Soil was screened at 1-ft intervals from the midpoint of the pipeline at 6-ft bgs to 15-ft bgs. The estimated top of groundwater was at 15-16 ft bgs. Headspace vapor concentrations ranged from 20.7 ppm at 6-7 ft bgs, to 606 ppm at 14-15 ft bgs. The test pit was backfilled immediately following completion. The headspace screening soil samples were retained. All headspace screening results and lithologic descriptions are shown on Figure 4.

After reviewing the headspace screening results, the Base decided to submit two soil samples for laboratory analysis to assess contaminant concentrations. Headspace screening soil from 6-7 ft bgs was submitted as sample 24TS-01 for analysis of Target Compound List (TCL) VOCs, TCL SVOCs, RCRA metals, and PCBs. Headspace screening soil from 13-15 ft bgs was submitted as sample 24TS-02 for TCL VOCs only due to a lack of sample volume. Analytical results are discussed in Section 3.5.1.

3.2.3 24-Inch VC Pipe Sampling

Water and sediment in the 24-inch diameter drain line were sampled by J&D through the opened 6-inch pipe connection on 18 May 1999. The samples were analyzed to assess RCRA hazardous waste characteristics and to provide the Base with data for planning and scoping purposes.

The water sample was analyzed for Toxicity Characteristic Leaching Procedure (TCLP) VOCs. The sediment sample was analyzed for TCLP VOCs, TCLP SVOCs, TCLP RCRA

metals, and total PCBs. The sample was also tested to assess the RCRA characteristics of ignitability, corrosivity, and reactivity. Analytical results are discussed in Section 3.5.2.

3.3 SAMPLE HANDLING AND DOCUMENTATION

All samples were immediately placed in appropriate laboratory-supplied sample jars. Labels with all pertinent data, including unique sample numbers, were fixed to each sample jar for identification. Samples were then placed on ice in a sample cooler to maintain a temperature of 4°C. All sampling locations, soil descriptions, dates, times, depths, and other observations were recorded in bound field books. Strict chain-of-custody (COC) procedures were followed in order to establish a complete sample custody record from time of sample collection to laboratory receipt.

3.4 CONFIRMATION SOIL SAMPLING RESULTS

All confirmation soil samples and QA/QC samples were analyzed for TCL VOCs. Each compound detected was compared with the soil cleanup objective (SCO) or allowable soil concentration (ASC), as appropriate, presented in Technical and Administrative Guidance Memorandum HWR-94-4046 (TAGM 4046), Determination of Soil Cleanup Objectives and Cleanup Levels (NYSDEC, 1994).

3.4.1 6-inch Waste Solvent Line

PCE was detected in sample SC-1 at an estimated concentration of 1 ug/Kg. The SCO for this compound is 1400 ug/Kg. This was the only positive detection reported for confirmation soil samples SC-1 through SC-8. Low concentrations of acetone and methylene chloride, common laboratory contaminants, were detected in the trip blank, equipment rinsate blank, and ambient blank. A summary of the confirmation soil sampling results is presented on Table 3.5. Validated analytical results and a copy of the COC are presented in Appendix C.

The confirmation soil sampling data were validated by URS Greiner Woodward Clyde. An EPA data quality Level III data validation was performed following the guidelines presented in EPA Region II Standard Operating Procedure for the Validation of Organic Data Acquired Using SW-846 Method 8260B, SOP No. HW-24, Revision 1, June 1999. The Data Usability Summary Report was prepared following the guidelines presented in NYSDEC, Division of Environmental Remediation, Guidance for the Development of Data Usability Summary Reports, June 1999. The summary report indicates that all data are usable except for the reported results for carbon disulfide. These results are rejected due to low carbon disulfide recoveries in the laboratory control samples. The text portion of the data validation report is contained in Appendix D.

3.4.2 The Washrack

Toluene (SCO = 1500 ug/Kg) and total xylenes (SCO = 1200 ug/Kg) were detected in confirmation sample CSS-05 at reported concentrations of 12 and 17.6 ug/Kg, respectively. Carbon disulfide was detected at estimated concentrations of 2.1 ug/Kg in sample CSS-06.

Methylene chloride is a common laboratory contaminant. No VOCs were detected in the ambient blank, the equipment rinsate blank, or the trip blanks. A summary of the confirmation soil sampling results is presented on Table 3.6. Validated analytical results and a copy of the COC are presented in Appendix E.

The confirmation soil sampling data were validated by Environmental Data Services of Concord, New Hampshire. The data validation report indicates that all data are usable except for the reported acetone result of <11 ug/Kg in sample CSS-05. This result was rejected due to a continuing calibration problem. The text portion of the data validation report is contained in Appendix F.

The Washrack data were reviewed according to the procedures and guidelines presented in EPA Region II SOP No. HW-6, Revision 11, June 1996, for CLP Organics Data Review and Preliminary Review. This guidance document was used by the validators in order to maintain consistency with previous work conducted by OHM at PAFB. The analytical results were also evaluated using the more recent method-specific guidance cited in Section 3.4.1 and no changes in the data validation report conclusions were required.

3.5 ASSESSSMENT SAMPLING RESULTS

Assessment sampling analytical results for the subsurface soil samples and 24-inch VC pipe samples are summarized on Tables 3.7 and 3.8, respectively. Laboratory analytical reports and copies of the COCs are contained in Appendix G.

3.5.1 Subsurface Soil Sampling

Sample 24TS-01 was collected from 6-7 ft bgs and analyzed for TCL VOCs, TCL SVOCs, PCBs and RCRA metals. Ethylbenzene was detected at a concentration of 16 ug/Kg (SCO=5500 ug/Kg) and total xylenes at 220 ug/Kg (SCO=1200 ug/Kg). Arsenic, chromium and selenium were detected at concentrations below their respective SCO. Lead was detected at a concentration of 270 mg/Kg. Cadmium was detected at its' SCO of 1 mg/Kg. No SVOCs or PCBs were detected.

Sample 24TS-02 was collected from 13-15 ft bgs and analyzed for VOCs only due to low sample volume. Total xylenes were detected at a concentration of 3000 ug/Kg, in excess of its' ASC of 12 ug/Kg. No other VOCs were detected.

3.5.2 24-Inch VC Pipe Sampling

Water sample '*24" Pipe behind Bldg. H2887 - water*' (Table 3.2) was analyzed for TCLP VOCs. No TCLP-listed VOCs were reported above detection limits.

The sediment sample was designated '*24" Pipe behind Bldg. H2887 - sludge*' (Table 3.2) and analyzed for TCLP VOCs, TCLP SVOCs, TCLP RCRA metals, and total PCBs. The sample was also tested to assess the RCRA characteristics of ignitability, corrosivity, and reactivity. The VOC chlorobenzene was detected at a reported concentration of 0.34 mg/L. No

SVOCs were reported above detection limits. Barium was detected at a reported concentration of 2.7 mg/L, cadmium at 0.5 mg/L, chromium at 0.6 mg/L, and lead at 42 mg/L. The reported lead concentration exceeds the RCRA maximum concentration of 5 mg/L. The PCB Aroclor 1254 was reported at a concentration of 0.37 mg/Kg. The sediment was 44.4% total solids, and was not hazardous with respect to ignitability, corrosivity, or reactivity.

4.0 WASTE CHARACTERIZATION AND DISPOSAL

This section contains a description of all waste streams, waste characterization sampling, analytical results, and waste disposal. OHM disposed of all wastes generated during the Washrack removals. OHM also disposed of the Bldg. 2890 4-inch ACM solvent pipe, the non-ACM 6-inch pipe, and other construction debris such as concrete, asphalt, and wood. Disposal of liquids recovered from the 6-inch pipeline and the rinse water used to decontaminate the 6-inch pipe was arranged by J&D.

The Bldg. 2890 waste characterization analytical results are summarized on Table 4.1. The Washrack results are summarized on Table 4.2.

4.1 SOLID WASTES

4.1.1 Asbestos-Containing Material

The ACM was characterized by AEA sample 'Nose Dock 8 Pipe Wrapping' collected from the 4-inch solvent lines at Bldg. 2890 (Tables 3.1 and 3.2). The corrosion-preventative coating contained 10.5% chrysotile (asbestos). Analytical results are presented on Table 4.1. Analytical reports are contained in Appendix H.

One rolloff was used to containerize the approximately 3300 ft of ACM-coated 4-inch solvent pipe and service rack supply piping removed at the Washrack by OHM and the 4-inch ACM-coated solvent pipe removed at Bldg. 2890 by J&D. The pipe had been cut into 15-ft lengths, double wrapped in sealed polyethylene sheets, and placed in a rolloff.

The rolloff was transported offsite by Waste Management of CT (WM Logano Trucking) for American Waste Management Service of Bethany, CT under Asbestos Disposal & Documentation Form 9910027. The ACM was disposed of at the Chicopee Valley Landfill in Chicopee, MA (Table 4.3). ACM disposal documentation is contained in Appendix I.

4.1.2 Soil and Sediment

Soil and sediment requiring offsite disposal were generated during removal of the 4-inch solvent and cleaning out the 24-inch vitrified clay drain line at the Washrack. Soil and sediment were also generated during removal of the Nose Dock 8 sump and the 6-inch steel drain line.

4.1.2.1 The Washrack

Drums 04-03 and 04-04 (Table 2.2) were generated during removal of the 4-inch solvent lines at Bldg. 2887. The drummed soil was impacted by fluids leaking out the 4-inch line as it was cut and was characterized by sample SW-01 that was analyzed for TCL VOCs, TCL SVOCs, and PCBs (Tables 3.3 and 3.4). No compounds were detected during the analyses. However, it was reported by the laboratory that minimum detection limits were elevated due to matrix interference. At the request of OHM, a library search was conducted by the laboratory and it was discovered that the matrix interference was caused by the presence of propylene glycol at a high concentration. Since propylene glycol was not a suspected contaminant of

concern at this site, the analytical instruments were not calibrated for this compound. As a result, it was not possible to quantify the concentration. Additional discussion concerning propylene glycol at this site is included in Section 4.2.3.

Drums 04-03 and 04-04 were disposed of as a non-RCRA hazardous, non-DOT regulated solid. Analytical results are summarized on Table 4.2. Analytical reports are contained in Appendix H.

Drums 24-29 to 24-43 (15 total) were generated during cleaning of the 24-inch VC drain line. These drums were filled with sediment collected from the drier sections of the drain line and from the catch basin installed at the Washrack. The drain line sediment was already known to be RCRA-hazardous for lead based on previous sampling results discussed in Section 3.5.2. The sediment was further characterized for treatment standards by OHM sample 24SED-01 that was analyzed for TCL VOCs, TCL SVOCs, PCBs and total RCRA metals. The VOCs TCE (13 mg/Kg), toluene (39 mg/Kg), chlorobenzene (30 mg/Kg), ethylbenzene (38 mg/Kg) and xylenes (260 mg/Kg) were detected. The SVOCs 2-methylnaphthalene and naphthalene were detected at concentrations of 320 and 250 mg/Kg, respectively. Aroclor 1260 was detected at a concentration of 0.24 mg/Kg. All eight RCRA metals were detected at concentrations ranging from 0.2 mg/Kg for mercury to 7500 mg/Kg for lead. Analytical results are presented on Table 4.2. Analytical reports are contained in appendix H. The 15 drums of sediment were disposed of as a RCRA-hazardous solid.

The 2 drums of soil and 15 drums of sediment were transported offsite by General Chemical Corp. for delivery to their temporary storage and disposal facility (TSDF) in Framingham, MA. The soil and sediment will be bulked with other wastes for eventual disposal at the Environmental Quality Co. (Michigan Disposal) facility in Belleville, MI (Table 4.3). Waste disposal documentation is contained in Appendix I.

4.1.2.2 Nose Dock 8

On 26 April 1999, 4-point composite soil sample S016-03 was collected from the estimated 10 cy of soil stockpile generated during the sump removal inside Nose Dock 8. The sample was analyzed for TCL VOCs, TCL SVOCs and total RCRA-8 metals. The VOCs methylene chloride, 2-butanone, toluene, ethylbenzene and xylenes were all detected at concentrations below their respective TAGM-4046 standards. Seventeen SVOCs, including 14 polycyclic aromatic hydrocarbons (PAHs), were detected. Phenol was detected at a concentration of 230 J ug/kg, in exceedance of its TAGM-4046 standard of 30 ug/kg, and was the only SVOC exceedance. The metals barium and lead were detected at concentrations of 13.8 B and 69.5 mg/kg, respectively. Cadmium (4.3 mg/kg) and chromium (41.8 mg/kg) were detected in exceedance of their TAGM-4046 standards of 1.3 and 19.5 mg/kg respectively. These data are presented on Table 4.1. The Data Assessment Summary for the analytical results are contained in Appendix H.

Based on discussions between the Base and NYSDEC concerning the analytical results, it was determined that some form of regulated disposal would be required; however, due to contractual issues, this soil remains onsite. While awaiting resolution, the sump pit soil was

inadvertently combined with the 1.5 cy of soil generated during the 6-inch solvent line removal. This 1.5 cy of soil was never sampled for waste characterization. Because of this error, the entire 11.5 cy of soil will be resampled for proper characterization and disposal as recommended in Section 5.5.

4.1.3 Construction Debris

Clean construction debris consisted of:

- concrete, metal, wood, pipe and site waste generated during the Washrack, Nose Dock 8 Sump, and 6-inch pipeline removal actions; and,
- vitrified clay pipe sections generated by the 24-inch drain line removal at the Washrack.

The VC pipe was characterized by sample 24CHIP-01 that was analyzed for TCLP VOCs, TCLP SVOCs, TCLP RCRA metals, and total PCBs (Tables 3.3 and 3.4). The only compounds detected in this sample were Aroclor 1260 at a concentration of 0.040 mg/L and lead at 0.8 mg/L. Analytical results are presented on Table 4.2. Analytical reports are contained in Appendix H.

The concrete generated by the Nose Dock 8 Sump Pit removal was staged in two piles as described in Section 2.4.3. The piles were characterized by concrete chip samples *Top of Sump Area* and *Bottom of Sump Area* that were analyzed for TCLP VOCs, TCLP SVOCs and TCLP RCRA metals. No compounds were detected above detection limits in the *Top of Sump Area* sample. VOCs were not detected in the Bottom of Sump Area sample. The SVOC (3+4)-methylphenol was detected at a concentration of 0.30 mg/L, and barium was detected at 0.9 mg/L. Based on these analytical results, the concrete generated during the Nose Dock 8 Sump Pit removal was disposed of as clean construction debris. Analytical results are presented in Table 4.1, and analytical reports are contained in Appendix H.

Demolition debris, non-ACM coated pipe, and debris from clean areas were not sampled. Scrap metal was disposed of at Atkinson's Scrap Metal of Morrisonville, New York. The value of the scrap covered the pick-up and transportation costs for the materials. Therefore, the disposal was conducted at no cost to the Base. All other clean construction debris was transported offsite by Northern Sanitation, Inc. of Plattsburgh, NY for disposal at the White Pit C&D Disposal Facility in Morrisonville, NY. Waste disposal documentation is contained in Appendix I.

4.2 LIQUID WASTES

4.2.1 Discharged Liquids

Approximately 1,800 gallons of water was present in the catch basin inlet and 24-inch VC drain line. This water was characterized by OHM sample CBW-01 that was analyzed for TCL VOCs, TCL SVOCs, PCBs and total RCRA metals (Tables 3.3 and 3.4). The VOCs cis-1,2-dichloroethene, toluene, chlorobenzene, ethylbenzene and xylenes were detected at concentrations ranging from 0.74 ug/L to 7.4 ug/L. No SVOCs, PCBs, or metals were detected.

The analytical results were forwarded to the local POTW for review. Analytical results are presented in Table 4.2. Analytical reports are contained in Appendix H.

After the Base received approval from the POTW, OHM discharged the water to the sanitary sewer on 05 November 1999. The location of the sanitary sewer manhole is shown on Figure 2.

4.2.2 Drummed Liquids - Bldg. 2890

Twelve drums of liquid waste were generated during the 4-inch and 6-inch pipe removals at Bldg. 2890. Sampling summaries are contained in Tables 3.1 and 3.2. Waste characterization results are summarized on Table 4.1. Laboratory analytical reports and COCs are contained in Appendix H.

Three drums of residual liquid were recovered during removal of the 4-inch solvent lines at Bldg. 2890. A sample of the liquid was collected on 27 April 1999 for analysis of TCLP VOCs, TCLP SVOCs, and TCLP RCRA metals. No VOCs or SVOCs were detected. However, minimum detection limits were extremely elevated due to matrix interference that was probably due to high concentrations of propylene glycol (see analytical results discussion for drums 04-01 and 04-02 in section 4.2.3). No RCRA metals were reported above detection limits.

Nine drums of residual liquid were recovered during removal of the 6-inch pipeline. The liquid was sampled on 30 April 1999 for analysis of VOCs and SVOCs. The VOCs sec-butylbenzene, n-propylbenzene, p-isopropyltoluene, 1,3,5-trimethylbenzene, ethylbenzene, and 1,2,4-trimethylbenzene were detected at concentrations ranging from 5.8 to 69 ug/L. Other VOCs detected were naphthalene at 120 ug/L, toluene at 200 ug/L, and total xylenes at 540 ug/L. The SVOCs detected were phenol at 12 ug/L, bis(2-ethylhexyl)phthalate at 50 ug/L, 4-methylphenol at 51 ug/L, naphthalene at 52 ug/L, and 2,4-dimethylphenol at 58 ug/L.

The 12 drums of waste liquid were transported offsite by Northeast Environmental Services, Inc. to their TSDF in Wampsville, New York. The liquids were batched with other waste liquids and transported to the Keystone Cement Company of Bath, Pennsylvania for reuse as fuel in onsite rotary kilns. Disposal documentation is contained in Appendix I.

4.2.3 Drummed Liquids - the Washrack

Two drums of liquid waste containing water and solvent (drums 24-05 and AEA-01), and two drums containing water and propylene glycol (drums 04-01 and 04-02) were generated during the removal actions (Table 2.2). The water/propylene glycol was recovered from the 4-inch tank-fill and solvent-supply lines at Bldg. 2887. Propylene glycol was not a process chemical used at this facility and was never a contaminant of concern at this site. It is believed that when the AST was removed, the common practice of using propylene glycol to inactivate the 4-inch pipeline was employed. Drum 24-05 contained residual liquids recovered from the 24-inch VC drain line during sediment removal. Drum AEA-01 was labeled as "5/18/99, 2nd RINSE WATER, PENDING ANALYTICAL."

Drum 24-05 was characterized by OHM sample 24RL-01 that was analyzed for TCL VOCs, TCL SVOCs, PCBs and total RCRA metals (Tables 3.3 and 3.4). The VOCs TCE, toluene, chlorobenzene, ethylbenzene, cis-1,2-dichloroethene, and xylenes were detected at concentrations ranging from 0.025 to 0.440 mg/L. The SVOCs 1,2-dichlorobenzene, naphthalene, 2-methylnaphthalene, phenol, 4-methylphenol, and bis(2-ethylhexyl)phthalate were detected at concentrations ranging from 0.013 to 0.210 mg/L. Aroclor 1254 was detected at a concentration of 0.00037 mg/L. All eight RCRA metals were detected at concentrations ranging from 0.0010 mg/L for mercury to 36 mg/L for lead. The liquid was RCRA hazardous for cadmium (1.1 mg/L), chromium (8.6 mg/L) and lead (36 mg/L) and was disposed of as a hazardous liquid (Table 4.3). Analytical results are presented on Table 4.2. Analytical reports are contained in Appendix H.

Drum AEA-01 was characterized using J&D samples RW-01 and RW-02. Both samples were analyzed for TCL VOCs only (Tables 3.1 and 3.2). The VOCs acetone, 2-butanone, carbon disulfide, chlorobenzene, chloroform, ethylbenzene, xylenes, methylene chloride, and toluene were detected at concentrations ranging from 0.0006 mg/L to 0.22 mg/L (Table 3.8). Although the contents were not RCRA hazardous based on the VOC constituents, it was more cost-effective to dispose of the drum as a hazardous waste liquid rather than perform additional analyses (Table 4.3). Analytical results are presented on Table 4.1. Analytical reports are contained in Appendix H.

Drums 04-01 and 04-02 were characterized by OHM samples LW-01 and LW-01T. Sample LW-01 was a composite sample collected using a dip tube and was analyzed for TCL VOCs, TCL SVOCs, and PCBs. Sample LW-01T was collected from a yellowish clear liquid that separated out and was present at the top of the drum. This sample was analyzed for TCL VOCs only. Xylenes were detected in sample LW-01 at a concentration of 0.770 mg/L. No other VOCs, SVOCs or PCBs were detected. No VOCs were detected in sample LW-01T. Minimum detection limits were extremely high for these two samples due to propylene glycol interference. The laboratory established that sample LW-01T was primarily composed of propylene glycol, and that sample LW-01 contained approximately 8 per cent propylene glycol. Drums 04-01 and 04-02 were disposed of as a non-RCRA hazardous, non-DOT regulated liquid (Table 4.3). Analytical results are presented on Table 4.2. Analytical reports are contained in Appendix H.

All four drums were transported offsite by the General Chemical Corp. to their temporary storage and disposal facility (TSDF) in Framingham, MA (Table 4.3). The drums will eventually be bulked with other liquid wastes for transportation to the DuPont Chambers wastewater treatment facility in Deepwater, NJ. Disposal documentation is contained in Appendix I.

4.2.4 Drummed Sediment (disposed of as a liquid)

Drums 24-01 to 24-04 and drums 24-06 to 24-28 (27 total) were generated during cleaning of the 24-inch VC drain line (Table 2.2). These drums were filled with sediment collected from the lower (eastern) and wetter sections of the drain line. The sediment was already known to be RCRA-hazardous for lead based on previous analytical results discussed in Section 3.5.2. The sediment was further characterized for treatment standards by OHM sample 24SED-01. Analytical results for this sample are discussed in Section 4.1.2.

These 27 drums of sediment were disposed of as a RCRA-hazardous liquid due to the high water content and were transported offsite by General Chemical Corp. for transportation to their TSDF in Framingham, MA (Table 4.3). The sediment will be bulked with other wastes for eventual stabilization and disposal at the Environmental Quality Co. (Michigan Disposal) facility in Belleville, MI. Disposal documentation is contained in Appendix I.

5.0 RECOMMENDATIONS

5.1 4-INCH SOLVENT LINES

Solvent lines were encountered at Buildings 2887 and 2890.

5.1.1 Building 2887

During the 4-inch solvent line removal, all residual liquids were removed, containerized, sampled and properly disposed. The remaining section of 4-inch line was abandoned in place by grouting. No impacted soil was identified during headspace soil screening, and no exceedances were noted in the confirmation soil samples. However, based on waste sampling characterization results obtained during the project, it is recommended that future confirmation sampling locations include analysis for SVOCs.

5.1.2 Building 2890

Recommendations for further action at Bldg. 2890 will be addressed during the forthcoming Feasibility Study (FS) being developed for IRP Site SS-016 (Nose Dock 8).

5.2 6-INCH SOLVENT LINE

During the 6-inch solvent line removal, all residual liquids were removed, containerized, sampled and properly disposed. The remaining sections of 6-inch line were abandoned in place by grouting. The 1.5 cy of impacted soil identified during headspace soil screening was stockpiled, but was never sampled. No exceedances were noted in the confirmation soil samples. However, based on characterization sampling results obtained during the project, it is recommended that future confirmation sampling include analysis for SVOCs.

5.3 SERVICE RACK SUPPLY LINES

There were no residual liquids in the service rack supply lines and no impacted soil was identified during headspace screening. The service lines were constructed of welded steel and in good condition, while the remaining sections of the supply lines were plugged with grout and abandoned in-place. No exceedances were noted in the confirmation soil sampling results. However, based on characterization sampling results obtained during the project, it is recommended that future confirmation sampling include analysis for SVOCs.

5.4 24-INCH VITRIFIED CLAY DRAIN LINE

Residual liquids and sediment were removed from the 24-inch VC drain line and containerized. All but two sections (under a high voltage utility duct) of the drain line were removed, cleaned and staged for disposal. The remaining two sections were cleaned out and filled with soil prior to backfilling the excavation. Impacted soil was noted along the entire length of the pipe run and headspace volatile organic vapor concentrations ≥5 ppm above background were noted. Impacted soil was noted from the base of the pipeline excavation to a

depth of 15-feet bgs at a test pit location north of Bldg. 2887. Consequently, the following actions are recommended with regard to the 24-inch VC drain line:

- Conduct soil sampling north of Bldg. 2887 to determine the vertical and lateral extent of impacted soil in the vicinity of the former 24" drain line;
- Conduct groundwater sampling to assess impacts to groundwater quality; and,
- Analyze assessment samples for TCL VOCs, TCL SVOCs, and TAL metals.

5.5 OTHER RECOMMENDATIONS

5.5.1 6-Inch Vitrified Clay Pipe

Site plans indicate that a 6-inch diameter vitrified clay pipe carried treated wastewater from the former sedimentation tank beneath Building 2887 to a sanitary sewer manhole located in the parking lot to the south. This drain line was not identified during the ST-032 Preliminary Assessment and subsequent removal action conducted in 1992, which was closed out in 1994 with regulatory approval. Consequently, this pipe was left in place during the washrack pipeline removals. The following actions are recommended:

- Remove the drain line from the building line to manhole;
- Conduct post-removal soil sampling to assess soil conditions along the pipe run; and,
- Analyze all samples for TCL VOCs, TCL SVOCs, and TAL metals.

5.5.2 Additional Waste Characterization and Disposal

As described in Section 4.1.2.2, 1.5 cy of soil generated during the 6-inch drain line removal at Nose Dock 8 was inadvertently combined with 10 cy of soil generated during the Nose Dock 8 Sump Pit removal. Due to contractual issues, this soil remains onsite. Since the 1.5 cy of soil was never sampled for waste characterization, the following actions are recommended:

- sample the combined waste soil for waste characterization;
- analyze the samples for TCLP VOCs, TCLP SVOCs, TCLP RCRA-8 metals and other parameters that may required by the proposed disposal facilities; and,
- arrange for T&D of the soil.

5.5.3 Additional Work

It is recommended that a Work Plan be prepared and submitted for regulatory approval. The plan should address additional work to be conducted to:

- assess the vertical and lateral extent of soil contamination beneath the former 24-inch vitrified clay drain line running from the Washrack to Bldg. 2887;
- excavation, removal, and disposal of the 6-inch vitrified clay drain line running from Bldg. 2887 to the sanitary sewer manhole; and,
- characterization and disposal of the 11.5 cy of soil remaining onsite.

6.0 REFERENCES

AEA, 1998, Field Sampling Plan, Removal of Oil Water Separators & Solvent Pipelines, Plattsburgh Air Force Base, New York: Adirondack Environmental Associates, October 1998 (Revision 1.6).

AEA, 1999, Close-Out Report for the Removal of Oil Water Separators and Solvent Pipelines, Contract #F41622-97-M-6943, at the Former Plattsburgh Air Force Base: Adirondack Environmental Associates, 1999.

J&D, 1998, Work Plan, Remove Oil/Water Separators and Solvent Pipelines, Plattsburgh, New York: J&D Enterprises of Duluth, MN, Inc., 29 October 1998 (Version 5.2).

NYSDEC, 1994, Determination of Soil Cleanup Objectives and Cleanup Levels: New York State Department of Environmental Conservation, Division of Hazardous Waste Remediation Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046, 24 January 1994 (Revised).

OHM, 1995, OHM Nationwide Environmental Sampling and Analysis Plan for AFCEE: OHM Remediation Services Corp., January.

OHM, 1996a, Final Site-Specific Environmental Health and Safety Plan for Remedial Actions at Fire Training Area 2, Spill Sites 10 and 17, Old and New Small Arms Ranges, and Aircraft Refuel System, Plattsburgh Air Force Base, Plattsburgh New York: OHM Remediation Services Corp., 30 January 1996 (Revision 01).

OHM, 1996b, Final Environmental Sampling and Analysis Plan for Remedial Actions at Fire Training Area 2, Spill Sites 10 and 17, Old and New Small Arms Ranges, and Aircraft Refuel System, Plattsburgh Air Force Base, Plattsburgh New York: OHM Remediation Services Corp., 25 January 1996 (Revision 01).

OHM, 1996c, Final Environmental Cleanup Plan for Remedial Actions at the Aircraft Refuel System, Plattsburgh Air Force Base, Plattsburgh New York: OHM Remediation Services Corp., 19 January 1996 (Revision 01).

OHM, 1996d, Final Site-Specific Quality Assurance Project Plan for Remedial Actions at Fire Training Area 2, Spill Sites 10 and 17, Old and New Small Arms Ranges, and Aircraft Refuel System, Plattsburgh Air Force Base, Plattsburgh New York: OHM Remediation Services Corp., 23 January 1996 (Revision 01).

OHM, 1999, Work Plan for Removal Actions at the Washrack (Area 2891), Plattsburgh Air Force Base, Plattsburgh, New York: OHM Remediation Services Corp., 02 November 1999.

PAFB, 1954, Washrack & Solvent Storage Tank Layout - Grading and Utilities (Sheet 1 of 2 - last revised 13 March 1957) and Wash Rack and Solvent Storage Tank Details (Sheet 2 of 2 - last revised 23 March 1970): Plattsburgh Air Force Base, Plattsburgh, New York, 22 December 1954.

6.0 REFERENCES

PAFB, 1992, Action Memorandum, Site ST-032, Industrial Pretreatment Facility Removal Action: 380 SPTG/DEV, Plattsburgh Air Force Base, New York, 07 October 1992 (Final).

PAFB, 1993, No Further Action Decision Document, Site ST-032, Industrial Pretreatment Facility: 380 SPTG/DEV, Plattsburgh Air Force Base, New York, 21 January 1993.

Tetra Tech, 1997, Basewide Environmental Baseline Survey, Plattsburgh Air Force Base, New York: Tetra Tech, Inc., May 1997.

Tetra Tech, 1994, Management Action Plan, Plattsburgh Air Force Base, Plattsburgh, New York: Tetra Tech, Inc., 15 September 1994.

URS, 1998, Nose Dock 8 (SS-016) Engineering Evaluation/Cost Analysis, Plattsburgh Air Force Base, Installation Restoration Program, Plattsburgh, New York: URS Consultants, Inc., April 1998 (Draft Final Report).

TABLES

TABLE 2.1 – OHM SUBCONTRACTORS

The Washrack (Area 2891), Plattsburgh AFB, Plattsburgh, NY

Task	Function	Subcontractor
Asbestos Abatement	Prime sub	MARCOR Remediation, Inc. 16 Walker Way Albany, NY 12205 ph: 518.456.5909 Contact: David A. Chainyk, II – Project Manager
	Air Monitoring	Testwell Laboratories, Inc. 30 Corporate Circle, Suite 131 Albany, NY 12203 ph: 518.464.6039 Contact: Bernard Moynihan - Environmental Inspector
Asbestos Disposal	Prime sub	American Waste Management Service 129 Woodcutters Drive Bethany, CT 06524 ph: 203-393-1686 Contact: James E. Smith
	Transportation	Waste Management of CT WM Logano Trucking P.O. Box 144 Portland, CT 06480 ph: 860.342.0667
	Disposal Facility	Chicopee Valley Landfill 161 New Lombard Road Chicopee, MA 01020 ph: 413.539.9036
Drum Disposal	Prime sub Transportation TSDF	General Chemical Corp. P.O. Box 608 133-138 Leland St. Framingham, MA 01701 ph: 508.872.5000 Contact: John McDonald
Construction Debris Disposal	Transportation	Northern Sanitation, Inc. 67 Carbide Road P.O. Box 950 Plattsburgh, NY 12901 ph: 518.561.7021
	Disposal Facility	White Pit C&D Disposal Facility RR #2, Box 380A Shingle Street Morrisonville, NY 12962 ph: 518.643.2731

TABLE 2.1 – OHM SUBCONTRACTORS

The Washrack (Area 2891), Plattsburgh AFB, Plattsburgh, NY

Task	Function	Subcontractor
Scrap Metal Disposal	Prime sub	Atkinson's Scrap Metal Rt. 22B Morrissonville, New York 12962 ph: 518.643.2749
Paving	Prime sub	Luck Brothers, Inc. 73 Trade Road Plattsburgh, NY 12901 ph: 518.561.4321 Contact: Christopher D. Luck
Data Validation	Prime sub	Environmental Data Services Four Bicentennial Square Suite 3A Concord, NH 03301 ph: 603.226.0118 Contact: Douglas Weaver
Analytical Services	Prime sub	O'Brien & Gere Laboratories, Inc. 5000 Brittonfield Parkway P.O. Box 4942 Syracuse, New York 13221 ph: 315.437.0200 Contact: Monica Santucci

TABLE 2.2 – WASHRACK DRUM AND WASTE INVENTORY

The Washrack (Area 2891), Plattsburgh AFB, Plattsburgh, NY

Waste Type	Drum No.	Gen. Date	Cont. Type	Sample Number	Contents/Remarks
The Washrack (Area 2891)					
Liquid	04-01	11/02/99	17-E		Liquid removed from 4" solvent line
	04-02	11/02/99	17-E	LW-01 LW-01T	Same as 04-01. Sampled on 11/03/99 with drum thief for VOCs, SVOCs, PCBs. Sample LW-01T from top phase in drum (2x40-ml).
	24-01	11/08/99	17-H		Sediment from 24" VC drain line - f-c sand, silt and clay with leaves, twigs, other organic matter, paint chips, residual chlorinated solvents, Speedy Dry.
	24-02	11/08/99	17-H		Same as 24-01
	24-03	11/08/99	17-H		Same as 24-01
	24-04	11/08/99	17-H		Same as 24-01
	24-05	11/08/99	17-E	24RL-01	Residual pumpable liquids in pipe sediment - sampled on 11/09/99 for TCL VOCs, TCL SVOCs, Total RCRA Metals, and PCBs
	24-06	11/08/99	17-H		Same as 24-01
	24-07	11/09/99	17-H	24SED-01	Same as 24-01 - sampled on 11/09/99 for VOCs, SVOCs, Metals, and PCBs
	24-08	11/09/99	17-H		Same as 24-01
	24-09	11/09/99	17-H		Same as 24-01
	24-10	11/09/99	17-H		Same as 24-01
	24-11	11/09/99	17-H		Same as 24-01
	24-12	11/09/99	17-H		Same as 24-01
	24-13	11/09/99	17-H		Same as 24-01
	24-14	11/09/99	17-H		Same as 24-01
	24-15	11/09/99	17-H		Same as 24-01
	24-16	11/11/99	17-H		Same as 24-01
	24-17	11/11/99	17-H		Same as 24-01
	24-18	11/11/99	17-H		Same as 24-01
	24-19	11/11/99	17-H		Same as 24-01
	24-20	11/11/99	17-H		Same as 24-01
	24-21	11/11/99	17-H		Same as 24-01
	24-22	11/11/99	17-H		Same as 24-01
	24-23	11/11/99	17-H		Same as 24-01
	24-24	11/12/99	17-H		Same as 24-01
	24-25	11/12/99	17-H		Same as 24-01

TABLE 2.2 – WASHRACK DRUM AND WASTE INVENTORY

The Washrack (Area 2891), Plattsburgh AFB, Plattsburgh, NY

Waste Type	Drum No.	Gen. Date	Cont. Type	Sample Number	Contents/Remarks
Liquid (cont.)	24-26	11/12/99	17-H		Same as 24-01
	24-27	11/12/99	17-H		Same as 24-01
	24-28	11/12/99	17-H		Same as 24-01
	AEA01	05/18/99	17-H	RW-02	Drum marked "5/18/99, 2ND RINSE WATER, PENDING ANALYTICAL." Sampled by J&D on 05/20/99 for TCLP VOCs and SVOCs
Solid	04-03	11/03/99	17-H		Soil removed from 4" solvent line trench - m-c sand, few fines, some gravel.
	04-04	11/03/99	17-H	SW-01	Same as 04-03 - sampled on 11/03/99 for VOCs, SVOCs, and PCBs
	24-29	11/12/99	17-H		Same as 24-01
	24-30	11/12/99	17-H		Same as 24-01
	24-31	11/12/99	17-H		Same as 24-01
	24-32	11/12/99	17-H		Same as 24-01
	24-33	11/12/99	17-H		Same as 24-01
	24-34	11/12/99	17-H		Same as 24-01
	24-35	11/12/99	17-H		Same as 24-01
	24-36	11/12/99	17-H		Same as 24-01
	24-37	11/12/99	17-H		Same as 24-01
	24-38	11/12/99	17-H		Same as 24-01
	24-39	11/12/99	17-H		Same as 24-01 - formerly drum AEA02 - 1/3 full of rinse water, sludge and sediment from cleaning 6" solvent line - filled by OHM with sediment from 24" line
	24-40	11/15/99	17-H		Residue from 24" VC pipe - scraped off and drummed
	24-41	11/15/99	17-H		Residue from 24" VC pipe - scraped off and drummed
	24-42	11/16/99	17-H		Residue from 24" VC pipe - scraped off and drummed
	24-43	11/16/99	17-H		Residue from 24" VC pipe - scraped off and drummed
Other Waste Streams					
Solid	n/a	11/08/99	Rolloff	24CHIP-01	24" VC drainpipe. Sampled on 11/09/99 for TCLP VOCs, SVOCs, RCRA Metals, and PCBs. Disposed of as clean construction debris.
Solid	n/a	n/a	Rolloff	ND8 Pipe Wrapping	Washrack piping and 4-inch solvent lines from Bldg. 2890. Sampled on 04/30/99 for asbestos. Disposed of as ACM.
Solid	n/a	10/19/99	Rolloff	n/a	Clean construction debris - concrete, metal, non-ACM pipe, and wood - concrete service racks with piping, metallic and wood debris uncovered during excavations, demolished storage shed, site wastes, etc.

TABLE 3.1 - BLDG. 2890 SAMPLING SUMMARY

Bldg. 2890 (Nose Dock 8), Plattsburgh AFB, Plattsburgh, NY

Sample No./Description	Date	Matrix	Remarks
Confirmation Soil Samples			
SC-1	10-May-99	Soil	Confirmation soil sample from 6" solvent line trench
SC-2	10-May-99	Soil	Confirmation soil sample from 6" solvent line trench
SC-3	11-May-99	Soil	Confirmation soil sample from 6" solvent line trench
SC-4	12-May-99	Soil	Confirmation soil sample from 6" solvent line trench
SC-5	12-May-99	Soil	QA/QC Sample - field duplicate of SC-4
SC-6	13-May-99	Soil	Confirmation soil sample from 6" solvent line trench
SC-7	20-May-99	Soil	Confirmation soil sample from below 24" drain line
SC-8	20-May-99	Soil	Subsurface soil sample from suspected 6" pipe run
Equipment Blank	12-May-99	Water	QA/QC Sample
Ambient Blank	12-May-99	Water	QA/QC Sample
QC Trip Blank	12-May-99	Water	QA/QC Sample
Waste Characterization and Disposal Samples			
Top of Sump Area	26-Apr-99	Concrete	Chip sample from Nose Dock 8 sump
Bottom of Sump Area	26-Apr-99	Concrete	Chip sample from Nose Dock 8 sump
S016-03	26-Apr-99	Soil	4-point composite soil sample from 10 cy of soil generated during Nose Dock 8 Sump removal
4" Pipe effluent	27-Apr-99	Liquid	Liquid sample from 4" solvent line at Nose Dock 8
6" Pipe effluent	30-Apr-99	Solid	Liquid sample from 6" solvent line at Nose Dock 8
4" Pipe wrapping	30-Apr-99	Liquid	Corrosion-preventive coating on 4" solvent line
24" Pipe behind Bldg H2887 - water	18-May-99	Sludge	Through 6" pipe connection with 24" drain line
24" Pipe behind Bldg H2887 - sludge	18-May-99	Water	Through 6" pipe connection with 24" drain line
RW-01	20-May-99	Water	Rinse water from pipe decontamination
RW-02	20-May-99	Water	Rinse water from pipe decontamination

TABLE 3.2 - BLDG. 2890 SAMPLING AND ANALYTICAL MATRIX

Bldg. 2890 (Nose Dock 8), Plattsburgh AFB, Plattsburgh, NY

Sample No./Description	Date	Sample Type	Sample Matrix	Grab or Comp.	TCL VOCs 8260	TCL SVOCs 8270	Total RCRA Metals	TCLP VOCs 8260	TCLP SVOCs 8270	TCLP RCRA Metals	Asbestos	PCBs 8082	RCRA Haz Waste
Confirmation Soil Samples													
SC-1	10-May-99	FS	Soil	G	X								
SC-2	10-May-99	FS	Soil	G	X								
SC-3	11-May-99	FS	Soil	G	X								
SC-4	12-May-99	FS	Soil	G	X								
SC-5 (field duplicate of SC-4)	12-May-99	QA/QC	Soil	G	X								
SC-6	13-May-99	FS	Soil	G	X								
SC-7	20-May-99	FS	Soil	G	X								
SC-8	20-May-99	FS	Soil	G	X								
Equipment Blank	12-May-99	QA/QC	Water	G	X								
Ambient Blank	12-May-99	QA/QC	Water	G	X								
QC Trip Blank	12-May-99	QA/QC	Water	G	X								
Waste Characterization and Disposal Samples													
Top of Sump Area	26-Apr-99	FS	Concrete	C				X	X	X			
Bottom of Sump Area	26-Apr-99	FS	Concrete	C				X	X	X			
S016-03	26-Apr-99	FS	Soil	C	X	X	X						
4" Pipe effluent	27-Apr-99	FS	Liquid	G				X	X	X			
6" Pipe effluent	30-Apr-99	FS	Liquid	G	X	X							
4" Pipe wrapping	30-Apr-99	FS	Solid	G							X		
24" Pipe behind Bldg H2887 - water	18-May-99	FS	Liquid	G				X					
24" Pipe behind Bldg H2887 - sludge	18-May-99	FS	Sediment	G				X	X	X		X	X
RW-1	20-May-99	FS	Liquid	G	X								
RW-2	20-May-99	FS	Liquid	G	X								

NOTES:

FS = field sample
QA/QC = quality assurance/quality control sample
TCL = target compound list
TCLP = toxicity characteristics leaching procedure
G = grab sample
C = composite sample

TABLE 3.3 - WASHRACK SAMPLING SUMMARY

The Washrack (Area 2891), Plattsburgh AFB, Plattsburgh, NY

Field Sample Number	Date Sample Collected	Sample Matrix	Remarks
Confirmation Soil Samples			
CSS-01	28-Oct-99	Soil	Confirmation soil sample from solvent line trench
CSS-02	28-Oct-99	Soil	Confirmation soil sample from solvent line trench
CSS-03	28-Oct-99	Soil	Confirmation soil sample from solvent line trench
CSS-04	28-Oct-99	Soil	Confirmation soil sample from solvent line trench
CSS-05	28-Oct-99	Soil	Confirmation soil sample from solvent line trench
CSS-06	02-Nov-99	Soil	Confirmation soil sample from solvent line trench
CSS-07	02-Nov-99	Soil	Confirmation soil sample from solvent line trench
CSS-MS	28-Oct-99	Soil	Matrix spike
CSS-SD	28-Oct-99	Soil	Matrix spike duplicate
CSS-FD	28-Oct-99	Soil	Field duplicate of CSS-02
CSS-AB01	28-Oct-99	Water	Ambient blank
CSS-RB01	28-Oct-99	Water	Equpment rinsate blank
TB991028	28-Oct-99	Water	Trip blank
TB991102	02-Nov-99	Water	Trip blank
Subsurface Soil Samples			
24TS-01	09-Nov-99	Soil	Trench soil from below 24" drail line at 7 ft bgs
24TS-02	09-Nov-99	Soil	Soil sample from below 24" drail line at 13-15 ft bgs
Waste Characterization and Disposal Samples			
CBW-01	26-Oct-99	Water	Water sample from catch basin inlet
LW-01	03-Nov-99	Liquid	Liquid collected from 4" solvent lines
LW-01T	03-Nov-99	Liquid	Clear yellowish layer at top of liquid from 4" solvent lines
SW-01	03-Nov-99	Soil	Drummed soil 4" solvent lines
24CHIP-01	09-Nov-99	Solid	Chip sample of vitrified clay from inside of 24" drain line
24SED-01	09-Nov-99	Sediment	Sediment/sludge sample from 24" drain line
24RL-01	09-Nov-99	Liquid	Residual liquids collected from 24" drain line

TABLE 3.4 - WASHRACK SAMPLING AND ANALYTICAL MATRIX

The Washrack (Area 2891), Plattsburgh AFB, Plattsburgh, NY

Field Sample Number	Date Sample Collected	Sample Type	Sample Matrix	Grab or Comp.	TCL VOCs 8260	TCL SVOCs 8270	PCBs 8082	Total RCRA Metals	TCLP VOCs 8260	TCLP SVOCs 8270	TCLP RCRA Metals
Confirmation Soil Samples											
CSS-01	28-Oct-99	FS	Soil	G	X						
CSS-02	28-Oct-99	FS	Soil	G	X						
CSS-03	28-Oct-99	FS	Soil	G	X						
CSS-04	28-Oct-99	FS	Soil	G	X						
CSS-05	28-Oct-99	FS	Soil	G	X						
CSS-06	02-Nov-99	FS	Soil	G	X						
CSS-07	02-Nov-99	FS	Soil	G	X						
CSS-MS	28-Oct-99	QA/QC	Soil	G	X						
CSS-SD	28-Oct-99	QA/QC	Soil	G	X						
CSS-FD	28-Oct-99	QA/QC	Soil	G	X						
CSS-AB01	28-Oct-99	QA/QC	Water	G	X						
CSS-RB01	28-Oct-99	QA/QC	Water	G	X						
TB991028	28-Oct-99	QA/QC	Water	G	X						
TB991102	02-Nov-99	QA/QC	Water	G	X						
Subsurface Soil Samples											
24TS-01	09-Nov-99	FS	Soil	G	X	X	X	X			
24TS-02	09-Nov-99	FS	Soil	C	X						
Waste Characterization and Disposal Samples											
CBW-01	26-Oct-99	FS	Water	G	X	X	X	X			
LW-01	03-Nov-99	FS	Liquid	C	X	X	X				
LW-01T	03-Nov-99	FS	Liquid	G	X						
SW-01	03-Nov-99	FS	Soil	G	X	X	X				
24CHIP-01	09-Nov-99	FS	Solid	G			X		X	X	X
24SED-01	09-Nov-99	FS	Sediment	G	X	X	X	X			
24RL-01	09-Nov-99	FS	Liquid	G	X	X	X	X			

NOTES: FS = field sample

QA/QC = quality assurance/quality control sample

TABLE 3.5 - BLDG. 2890 CONFIRMATION SOIL SAMPLING RESULTS

Bldg. 2890 (Nose Dock 8), Plattsburgh AFB, Plattsburgh, NY

Sample Type =>		Confirmation Soil Samples from 6" Pipe Trench							
Sample Number =>		SC-1	SC-2	SC-3	SC-4	SC-5	SC-6	SC-7	SC-8
Sampling Date =>		10-May-99	10-May-99	11-May-99	12-May-99	12-May-99	13-May-99	20-May-99	20-May-99
Sample Matrix =>		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Depth =>		3'	3.3'	3.5'	3.7'	3.7'	4.6'	3.5'	3.3'
Reporting Units =>		ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
VOCs	**SCOs[(1)]**								
Tetrachloroethene	1400	---	---	J 1	---	---	---	---	---
Wet Chemistry									
% Total Solids	n/a	96.6	95.6	95.5	96.3	96.3	96.9	85.9	96.6

Sample Type =>	QA/QC Samples		
Sample Number =>	Trip Blank	Equip Blank	Ambient Blank
Sampling Date =>	12-May-99	12-May-99	n/a
Sample Matrix =>	Water	Water	Water
Reporting Units =>	ug/L	ug/L	ug/L
VOCs			
Acetone	J 5	J 6	J 6
Methylene chloride	J 1	J 0.5	J 0.7

NOTES:

(1) Soil Cleanup Objectives (SCOs) from Appendix A, Table 1, Column b of NYSDEC TAGM HWR-94-4046 (Revised), Determination of Soil Cleanup Objectives and Cleanup Levels, 24 January 1994

--- = compound not detected above reporting limit

n/a = not applicable

J = estimated value below practical quantitation limit

TABLE 3.6 - WASHRACK CONFIRMATION SOIL SAMPLING RESULTS

The Washrack (Area 2891), Plattsburgh AFB, Plattsburgh, NY

Sample Type =>		Confirmation Soil Samples						
Sample Number =>		CSS-01	CSS-02	CSS-03	CSS-04	CSS-05	CSS-06	CSS-07
Sampling Date =>		28-Oct-99	28-Oct-99	28-Oct-99	28-Oct-99	28-Oct-99	02-Nov-99	02-Nov-99
Sample Matrix =>		Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Depth =>		5.7'	6'	6'	6'	3'	8'	4'
Reporting Units =>		ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
VOCs	**SCOs[1]**							
Toluene	1500	---	---	---	---	J 12	---	---
Xylene (total)	1200	---	---	---	---	J 17.6	---	---
Carbon disulfide	2700	---	---	---	---	---	J 2.1	---
Sample Type =>		QA/QC Samples						
Sample Number =>		CSS-AB01	CSS-RB01	TB991028	TB991102	CSS-FD[2]		
Sampling Date =>		28-Oct-99	28-Oct-99	28-Oct-99	02-Nov-99	28-Oct-99		
Sample Matrix =>		Water	Water	Water	Water	Soil		
Rporting Units =>		ug/L	ug/L	ug/L	ug/L	ug/Kg		
VOCs	n/a							
None detected	n/a	---	---	---	---	---		

NOTES:

(1) Soil Cleanup Objectives (SCOs) from Appendix A, Table 1, Column B of NYSDEC TAGM HWR-94-4046 (Revised), Determination of Soil Cleanup Objectives and Cleanup Levels, 24 January 1994.

--- = compound analyzed for but not detected above reporting limit

n/a = not applicable - sample not analyzed for this compound

J = estimated value below practical quantitation limit

TABLE 3.7 - ASSESSMENT SAMPLING RESULTS

The Washrack (Area 2891), Plattsburgh AFB, Plattsburgh, NY

Sample Type =>	Subsurface Soil				Water and Sludge	
Sample Number =>	24TS-01	Soil	24TS-02	Allowable	24" Pipe	24" Pipe
Sampling Date =>	27-Apr-99	Cleanup	26-Apr-99	Soil	18-May-99	18-May-99
Sample Matrix =>	Soil	Objectives	Soil	Conc.	Water	Sludge
Sampling Location =>	7 ft bgs	(1)	13-15 ft bgs	(2)	(3)	(3)
VOCs	**ug/Kg**	**ug/Kg**	**ug/Kg**	**ug/Kg**	**mg/L**	**mg/L**
Chlorobenzene	---	1700	---	17	---	0.34
Ethylbenzene	16	5500	---	55	n/a	n/a
Xylene (total)	220	1200	3000	12	n/a	n/a
Total VOCs	236	10000	3000	n/a	---	0.34
SVOCs	**ug/Kg**	**ug/Kg**	**n/a**	**n/a**	**n/a**	**mg/Kg**
No positive detections	---	n/a	n/a	n/a	n/a	n/a
PCBs	**mg/Kg**	**mg/Kg**	**n/a**	**n/a**	**n/a**	**mg/Kg**
Aroclor 1254	---	n/a	n/a	n/a	n/a	0.37
RCRA Metals	**mg/Kg**	**mg/Kg**	**n/a**	**n/a**	**n/a**	**mg/L**
Arsenic	0.6	7.5 or SB	n/a	n/a	n/a	---
Barium	---	n/a	n/a	n/a	n/a	2.7
Cadmium	1	1 or SB	n/a	n/a	n/a	0.5
Chromium	8	10 or SB	n/a	n/a	n/a	0.6
Lead	270	SB	n/a	n/a	n/a	42
Selenium	0.5	2 or SB	n/a	n/a	n/a	---
Wet Chemistry	**as shown**	**RCRA**	**as shown**	**n/a**	**n/a**	**as shown**
Total solids	92.8%	n/a	95.6%	n/a	n/a	44.4%
Flashpoint	n/a	>60°C	n/a	n/a	n/a	>60°C
Total releasable H2S	n/a	<5.0 mg/Kg	n/a	n/a	n/a	<5.0 mg/Kg
Total releasable HCN	n/a	<0.25 mg/Kg	n/a	n/a	n/a	<0.25 mg/Kg
pH	n/a	<2 or >12.5	n/a	n/a	n/a	6.8

NOTES:

(1) Soil Cleanup Objectives (SCOs) from Appendix A, Table 1, Column b of NYSDEC TAGM HWR-94-4046 (Revised), Determination of Soil Cleanup Objectives and Cleanup Levels, 24 January 1994

(2) Allowable Soil Concentrations (ASCs) from Appendix A, Table 1, Column a of NYSDEC TAGM HWR-94-4046 (Revised), Determination of Soil Cleanup Objectives and Cleanup Levels, 24 January 1994

(3) Samples collected from inside 24-inch VC pipe. Analyzed sludge for TCLP VOCs, TCLP SVOCs, TCLP Metals, total PCBs, and RCRA characteristics. Water sample analyzed for TCLP-list VOCs only.

--- = compound analyzed for but not detected above reporting limit

n/a = not applicable or sample not analyzed for this compound

J = estimated value below practical quantitation limit

SB = Site background concentrations

TABLE 4.1 - BLDG. 2890 WASTE CHARACTERIZATION SAMPLING RESULTS

Bldg. 2890 (Nose Dock 8), Plattsburgh AFB, Plattsburgh, NY

Sample Type =>		Waste Characterization and Disposal Samples							
Sample Number =>		4" Pipe	6" Pipe	4" Pipe Wrap	RW-1	RW-2	S016-03	Sump - Top	Sump - Base
Sampling Date =>		27-Apr-99	30-Apr-99	30-Apr-99	20-May-99	20-May-99	26-Apr-99	04/26/99	04/26/99
Sample Matrix =>		Liquid	Liquid	Solid	Water	Water	Soil	Concrete	Concrete
VOCs	**RCRA [1]**	**mg/L**	**ug/L**	**n/a**	**ug/L**	**ug/L**	**ug/kg**	**mg/L**	**mg/L**
1,2,4-Trimethylbenzene	n/a		69						
1,3,5-Trimethylbenzene	n/a		26						
2-Butanone (MEK)	n/a	---			---	12	J 5	---	---
Acetone	n/a				---	17	---		
Carbon disulfide	n/a				---	J 0.7	---		
Chlorobenzene	100.0	---	20		28	---	---	---	---
Chloroform	6.0	---			4	7	---	---	---
Ethylbenzene	n/a		67		25	---	J 2		
Methylene chloride	n/a		---		J 1	J 1	J 3		
Naphthalene	n/a		120						
n-Propylbenzene	n/a		7.6						
p-Isopropyltoluene	n/a		11						
sec-Butylbenzene	n/a		5.8						
Toluene	n/a		200		11	J 0.6	J 3		
Xylene (total)	n/a		540		220	J 2	13		
SVOCs	**RCRA [1]**	**mg/L**	**ug/L**	**n/a**	**n/a**	**n/a**	**ug/kg**	**mg/L**	**mg/L**
2,4-Dimethylphenol	n/a		58				---		
2-Methylnaphthalene	n/a						J 160		
(3+4)-Methylphenol	n/a							---	0.30
4-Methylphenol (p-cresol)	n/a	---	51				J 190		
Anthracene	n/a						J 8		
Benzo(a)anthracene	n/a						J 13		
Benzo(a)pyrene	n/a						J 16		
Benzo(b)fluoranthene	n/a						J 15		
Benzo(g,h,i)perylene	n/a						J 9		
Benzo(k)fluoranthene	n/a						J 14		
bis(2-Ethylhexyl)phthalate	n/a		50				J 640		
Butylbenzylphthalate	n/a						J 130		
Chrysene	n/a						J 17		
Fluoranthene	n/a						J 40		
Ideno(1,2,3-cd)pyrene	n/a						J 12		
Naphthalene	n/a		52				J 100		
Phenanthrene	n/a						J 45		
Phenol	n/a		12				J 230 [2]		
Pyrene	n/a						J 40		
PCBs	**RCRA [1]**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**		
Aroclor 1254	n/a								
RCRA Metals	**RCRA [1]**	**mg/L**	**n/a**	**n/a**	**n/a**	**n/a**	**mg/kg**	**mg/L**	**mg/L**
Barium	100.0	---					B 13.8	---	0.9
Cadmium	1.0	---					4.3 [3]	---	---
Chromium	5.0	---					41.8 [4]	---	---
Lead	5.0	---					69.5	---	---
Asbestos	**RCRA [1]**	**n/a**	**n/a**	**%**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
Chrysotile	n/a			10.5					

NOTES:

(1) RCRA maximum contaminante concentrations in mg/L for toxicity characteristic wastes
(2) Exceeds NYSDEC TAGM standard of 30 ug/kg
(3) Exceeds NYSDEC TAGM standard of 1.3 mg/kg
(4) Exceeds NYSDEC TAGM standard of 19.5 mg/kg
blank cell = sample not analyzed for this compound
--- = compound not detected above reporting limit
n/a = not applicable
B or J = estimated value below practical quantitation limit

TABLE 4.2 - WASHRACK WASTE CHARACTERIZATION SAMPLING RESULTS

The Washrack (Area 2891), Plattsburgh AFB, Plattsburgh, NY

Sample Type =>		Waste Characterization Samples from 4" Pipeline Removal			Waste Characterization Samples from 24" Drain Line Removal			
Sample Number =>		SW-01[1]	LW-01[1]	LW-01T[1]	CBW-01	24SED-01	24RL-01	24CHIP-01
Sampling Date =>		03-Nov-99	03-Nov-99	03-Nov-99	26-Oct-99	09-Nov-99	18-May-99	26-Apr-99
Sample Matrix =>		Soil	Water	Oil	Water	Solid	Liquid	Solid
Sampling Location =>		Drum	Drum	Drum	Inlet Sump	24" Pipe	24" Pipe	24" Pipe
VOCs	**RCRA[2]**	**mg/Kg**	**mg/L**	**n/a**	**mg/L**	**mg/Kg**	**mg/L**	**mg/L**
cis-1,2-Dichloroethene	n/a	---	---		0.0067	---	0.025	n/a
Trichloroethene	0.5	---	---		---	13	0.028	---
Toluene	n/a	---	---		0.0011	39	0.110	n/a
Chlorobenzene	100.0	---	---		0.0074	30	0.160	---
Ethylbenzene	n/a	---	---		0.00074	38	0.069	n/a
Xylene (total)	n/a	---	0.770		0.0044	260	0.440	n/a
SVOCs	**RCRA[2]**	**mg/Kg**	**mg/L**	**n/a**	**mg/L**	**mg/Kg**	**mg/L**	**mg/L**
1,2-Dichlorobenzene	n/a	---	---		---	---	0.013	---
Naphthalene	n/a	---	---		---	250	0.200	---
2-Methylnaphthalene	n/a	---	---		---	320	0.130	---
Phenol	n/a	---	---		---	---	0.210	---
4-Methylphenol	n/a	---	---		---	---	0.029	---
2,4-Dimethylphenol	n/a	---	---		---	---	n/a	---
bis(2-Ethylhexyl)phthalate	n/a	---	---		---	---	0.013	---
PCBs	**RCRA[2]**	**mg/Kg**	**mg/L**	**mg/L**	**mg/L**	**mg/Kg**	**mg/L**	**mg/Kg**
Aroclor 1254	n/a	---	---	---	---	---	0.00037	---
Aroclor 1260	n/a	---	---	---	---	0.24	---	0.040
RCRA Metals	**RCRA[2]**	**n/a**	**n/a**	**n/a**	**mg/L**	**mg/Kg**	**mg/L**	**mg/L**
Arsenic	5.0				---	8.1	0.026	---
Barium	100.0				---	530	0.8	---
Cadmium	1.0				---	220	1.1	---
Chromium	5.0				---	1400	8.6	---
Lead	5.0				---	7500	36	0.8
Mercury	0.2				---	0.2	0.0010	---
Selenium	1.0				---	1.4	0.007	---
Silver	5.0				---	19	0.02	---
Wet Chemistry	**RCRA[2]**	**as shown**	**n/a**	**as shown**	**n/a**	**n/a**	**n/a**	**n/a**
MBAS[3]	n/a			12 mg/L				
Total Solids	n/a	51.0%						

NOTES:

(1) elevated reporting levels due to high concentration of propylene glycol
(2) RCRA maximum contaminant concentrations for toxicity characteristic wastes (mg/L)
(3) methylene blue active substances
blank cell = sample not analyzed for this compound or evaluated for this parameter
--- = compound analyzed for but not detected above reporting limit
n/a = not applicable
J = estimated value below practical quantitation limit

TABLE 4.3 – DISPOSITION OF WASTE STREAMS

The Washrack (Area 2891) and Bldg. 2890 (Nose Dock 8), Plattsburgh AFB, Plattsburgh, NY

DRUMMED WASTES				
Waste Type - description - contaminants	**Number of Drums**	**Drum Numbers (inclusive)**	**Characterization Sample Number**	**Remarks**
RQ-Waste Fuel - 3 UN 1863 PG II	3	n/a	4" Pipe Effluent	Disposed of with Northeast Environmental Services, Inc. for transport to their TSDF in Wampsville, NY. Batched for transport to Keystone Cement Co. in Bath, PA for reuse as fuel.
Non-Regulated Liquid - (Oil Sludge)	9	n/a	Nose Dock 8 Steel Pipe 6"	Disposed of with Northeast Environmental Services, Inc. for transport to their TSDF in Wampsville, NY. Batched for transport to Keystone Cement Co. in Bath, PA for reuse as fuel.
Hazardous Waste Liquid - solvent sludge - TCE, Pb	27	24-01 to 24-04 24-06 to 24-28	24SED-01	Disposed of with General Chemical Corp. for transport to Environmental Quality Co. (Michigan Disposal) in Belleville, MI
Hazardous Waste Liquid - solvent/water - TCE, Toluene	1	24-05	24RL-01	Disposed of with General Chemical Corp. for transport to DuPont Chambers wastewater treatment facility in Deepwater, NJ
Hazardous Waste Liquid - solvent/water - chloroform, toluene	1	AEA-01	RW-1 RW-2	Disposed of with General Chemical Corp. for transport to DuPont Chambers wastewater treatment facility in Deepwater, NJ
Non-RCRA Liquid - water/propylene glycol	2	04-01, 04-02	LW-01 LW-01T	Disposed of with General Chemical Corp. for transport to DuPont Chambers wastewater treatment facility in Deepwater, NJ
Hazardous Waste Solid - degreasing solid - TCE, Pb	15	24-29 to 24-43	24SED-01	Disposed of with General Chemical Corp. for transport to Environmental Quality Co. (Michigan Disposal) in Belleville, MI
Non-RCRA Solid - soil/propylene glycol	2	04-03, 04-04	SW-01	Disposed of with General Chemical Corp. for transport to Environmental Quality Co. (Michigan Disposal) in Belleville, MI

TABLE 4.3 – DISPOSITION OF WASTE STREAMS (cont.)

The Washrack (Area 2891) and Bldg. 2890 (Nose Dock 8), Plattsburgh AFB, Plattsburgh, NY

OTHER WASTES				
Waste Type	**Number**	**Container Type**	**Characterization Sample Number**	**Remarks**
Non-RCRA Liquid - water from 24" VC pipe	n/a	n/a	CBW-01	1800 gallons discharged to sanitary sewer.
Non-RCRA Solid - 24" VC pipe	1	Rolloff	24CHIP-01	Disposed of as construction debris.
Non-RCRA Solid - solvent piping/ACM	1	Rolloff	Nose Dock 8 Pipe Wrapping	Double wrapped and transported offsite to ACM landfill.
Non-RCRA Solid - construction debris	1	Rolloff	n/a	Concrete, metal, wood, non-ACM pipe, and site wastes. Disposed of as construction debris.

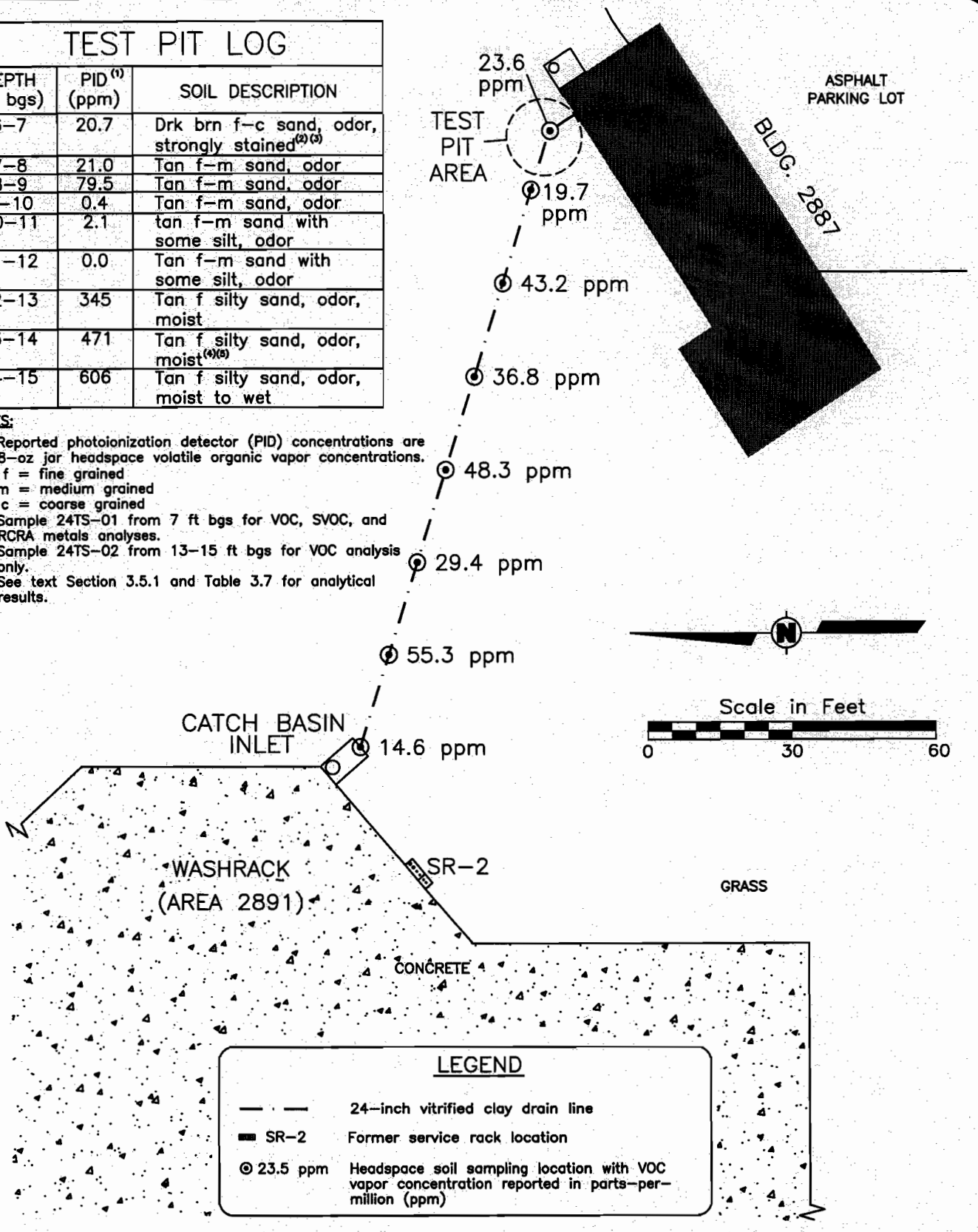
FIGURES

TEST PIT LOG

DEPTH (ft bgs)	PID[1] (ppm)	SOIL DESCRIPTION
6–7	20.7	Drk brn f–c sand, odor, strongly stained[2][3]
7–8	21.0	Tan f–m sand, odor
8–9	79.5	Tan f–m sand, odor
9–10	0.4	Tan f–m sand, odor
10–11	2.1	tan f–m sand with some silt, odor
11–12	0.0	Tan f–m sand with some silt, odor
12–13	345	Tan f silty sand, odor, moist
13–14	471	Tan f silty sand, odor, moist[4][5]
14–15	606	Tan f silty sand, odor, moist to wet

NOTES:

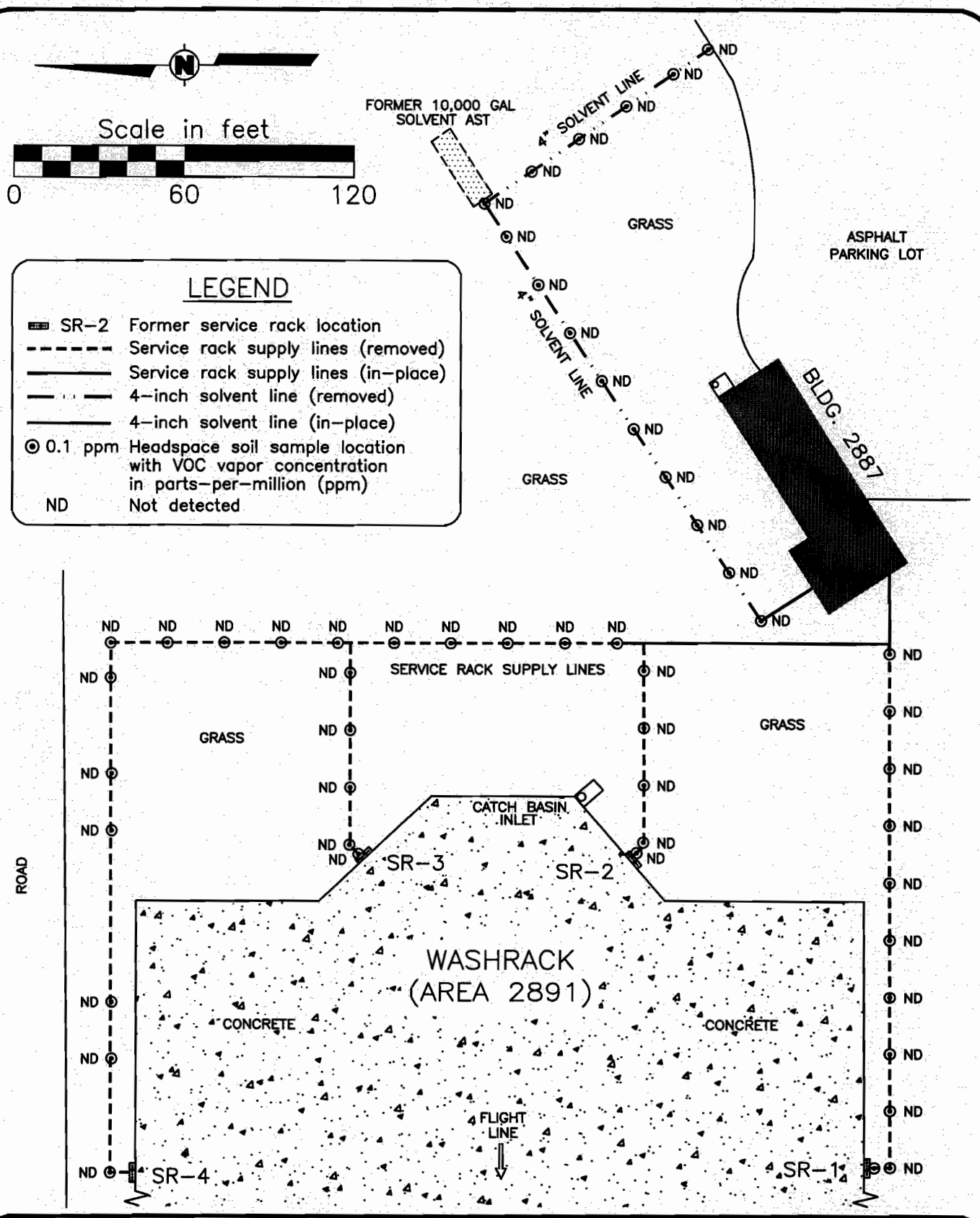
(1) Reported photoionization detector (PID) concentrations are 8–oz jar headspace volatile organic vapor concentrations.
(2) f = fine grained
m = medium grained
c = coarse grained
(3) Sample 24TS–01 from 7 ft bgs for VOC, SVOC, and RCRA metals analyses.
(4) Sample 24TS–02 from 13–15 ft bgs for VOC analysis only.
(5) See text Section 3.5.1 and Table 3.7 for analytical results.



OHM Remediation Services Corp.
OHM Project 917257

Drawn By:	Checked By:	Approved By:
S. McGinn	M. Quinlan	M. Quinlan
Date:	Scale:	Drawing No.
10/31/00	AS SHOWN	917257–A01

FIGURE 4
SOIL HEADSPACE VOC CONCENTRATIONS FOR THE 24–INCH DRAIN LINE EXCAVATION
PLATTSBURGH AIR FORCE BASE, NEW YORK
PREPARED FOR
AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS AIR FORCE BASE, TEXAS



OHM Remediation Services Corp.
OHM Project 917257

Drawn By:	Checked By:	Approved By:
S. McGinn	M. Quinlan	M. Quinlan
Date:	**Scale:**	**Drawing No.**
10/31/00	AS SHOWN	917257-A02

FIGURE 3
SOIL HEADSPACE VOC CONCENTRATIONS FOR THE SERVICE RACK AND 4-INCH PIPELINE EXCAVATIONS
PLATTSBURGH AIR FORCE BASE, NEW YORK
PREPARED FOR
AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS AIR FORCE BASE, TEXAS

BLDG. 2890 (NOSE DOCK 8) SUMP PIT REMOVAL WASTE CHARACTERIZATION SAMPLES:

- Concrete chip samples
  - Top of Sump Area
  - Bottom of Sump Area
- Soil
  - S016-03

BLDG. 2890 (NOSE DOCK 8) SUMP PIT REMOVAL WASTE CHARACTERIZATION SAMPLES:

- Concrete chip samples
  - Top of Sump Area
  - Bottom of Sump Area
- Soil
  - S016-03

O'Brien & Gere Laboratories, Inc.

5000 Brittonfield Parkway
East Syracuse, New York 13057
(315) 437-0200

1649

Chain of Custody

8047.001.517

Customer: Adirondack Environmental Assoc
Address: 9 Kastner Road
Plattsburgh NY 12941

Project: PAFB (Nose Dock 8
Report To: Daniel O. Sherwood
Invoice To: Adirondack Environmental Assoc.

Project P.O.: TNWA 97-6003
Phone #: (518) 563 5726
Fax #: (518) 562 0789

Client Sample – Information – Identification

Sampler's Signature: X Daniel O. Sherwood Date: 4-26-99

Analysis Requested

Item #	Customers Sample Ident	Sample Matrix	Date	Time	VOCs 8240	SVOCs 8270	Metals 6010/7470	40A VIALS	PL( ) GL( ) HNO_3 ( ) ML	PL( ) GL( ) $NaOH$ ( ) ML	PL( ) GL( ) AS IS ( ) ML	GL + H_2SO_4 ( ) ML	Field Filtered + HNO_3 ( ) ML	Bacteria Bottle	PHOENIX SAMPLE #
1	Top of sump area	Concrete chips	4-26-99	1030	X	X	X								
2	Bottom of sump area	Concrete chips	4-26-99	1040	X	X	X								

Item #	Relinquished by:	Accepted by:	Date:	Time:
1&2	Daniel Sherwood	M Harvey	4-26-99	1206
1&2	M Harvey	UPS	4/26/99	1450
		Mark Fuchs	4/27/99	09:30

Comments:
Samples to be screened by the TCLP method.
Work to be performed Per you quote dated 8/13/98. (Prospective 5'2)
No ice - cooler temp 18°C

Standard lab turnaround is 10 working days. Accelerated turnarounds are always available. Check with office on prevailing surcharge. ACCELERATED TURN-AROUND TIME REQUESTED: ___1 ___2 ___3 ___4 ___5 working days.

O'Brien & Gere Laboratories, Inc.

Analytical Results
Method: TCLP 8260

Client: Champlain Laboratories
Project: PAFB Nose Dock 8
Proj. Desc: Plattsburgh, NY

Job No.: 8047.001.517
Certification NY No.: 10155

Sample: M0856
Samp. Description: Top of Sump Area (TCLP)
Instrument: HP5970 GC/MS#2
Units: mg/L
Number of analytes: 14

Collected: 04/26/99
Received: 04/27/99
Prepared: 05/05/99

Matrix: Solid
QC Batch: 050599T2
%Solids:
Sample size: 25 ml

Parameter	Result	Surrog Limits	Dilution	Analyzed	Notes
Vinyl chloride	<.1		10	05/05/99	
1,1-Dichloroethene	<.050		10	05/05/99	
Chlorobenzene	<.050		10	05/05/99	
1,2-Dichloroethane	<.050		10	05/05/99	
Chloroform	<.050		10	05/05/99	
Benzene	<.050		10	05/05/99	
Trichloroethene	<.050		10	05/05/99	
2-Butanone	<.1		10	05/05/99	
Tetrachloroethene	<.050		10	05/05/99	
Carbon tetrachloride	<.050		10	05/05/99	
1,2-Dichloroethane-d4 (surrogate)	108.%	72-110	10	05/05/99	
Dibromofluoromethane (surrogate)	107.%	80-127	10	05/05/99	
Toluene-d8 (surrogate)	107.%	92-120	10	05/05/99	
Bromofluorobenzene (surrogate)	108.%	77-117	10	05/05/99	

Notes:

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: May 7,1999 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: TCLP 8270

Client: Champlain Laboratories
Project: PAFB Nose Dock 8
Proj. Desc: Plattsburgh, NY

Job No.: 8047.001.517
Certification NY No,: 10155

Sample: M0856
Samp. Description: Top of Sump Area (TCLP)
Instrument: HP5972A GCMS#5
Units: mg/L
Number of analytes: 18

Collected: 04/26/99
Received: 04/27/99
Prepared: 05/03/99

Matrix: Leachate
QC Batch: 050399W2
%Solids:
Sample Size: .1 L

Parameter	Result	Surrog Limits	Dilution	Analyzed	Notes
Pyridine	<.50		1	05/06/99	
1,4-Dichlorobenzene	<.1		1	05/06/99	
2-Methylphenol	<.1		1	05/06/99	
(3+4)-Methylphenol	<.1		1	05/06/99	
Hexachloroethane	<.1		1	05/06/99	
Nitrobenzene	<.1		1	05/06/99	
Hexachlorobutadiene	<.1		1	05/06/99	
2,4,6-Trichlorophenol	<.1		1	05/06/99	
2,4,5-Trichlorophenol	<.50		1	05/06/99	
2,4-Dinitrotoluene	<.1		1	05/06/99	
Hexachlorobenzene	<.1		1	05/06/99	
Pentachlorophenol	<.50		1	05/06/99	
2-Fluorophenol (surrogate)	82.%	50-111	1	05/06/99	
Phenol-d5 (surrogate)	82.%	42-126	1	05/06/99	
2,4,6-Tribromophenol (surrogate)	117.%	# 72-106	1	05/06/99	
Nitrobenzene-d5 (surrogate)	65.%	55-123	1	05/06/99	
2-Fluorobiphenyl (surrogate)	89.%	53-113	1	05/06/99	
Terphenyl-d14 (surrogate)	98.%	21-150	1	05/06/99	

Notes:

Date leachate created: 04/29/99

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: May 10,1999 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories,Inc.

Analytical Results Trace Metals

Client: Champlain Laboratories
Project: PAFB Nose Dock 8
Proj. Desc: Plattsburgh, NY

Job No.: 8047.001.517
Certification NY No.: 10155

Sample: M0856
Samp. Description: Top of Sump Area (TCLP)
Units: mg/L

Collected: 04/26/99
Received: 04/27/99

Matrix: Leachate
%Solids:
Number of analytes: 8

Parameter	Result	Method	Prepared	Analyzed	QC Batch	Dilut.	Note
TCLP Arsenic	<.5	1311/6010	05/05/99	05/06/99	050599W1	5	
TCLP Barium	<.5	1311/6010	05/05/99	05/06/99	050599W1	5	
TCLP Cadmium	<.1	1311/6010	05/05/99	05/06/99	050599W1	5	
TCLP Chromium	<.5	1311/6010	05/05/99	05/06/99	050599W1	5	
TCLP Lead	<.5	1311/6010	05/05/99	05/06/99	050599W1	5	
TCLP Mercury	<.0005	1311/7470	04/30/99	05/01/99	043099W3	1	
TCLP Selenium	<.1	1311/6010	05/05/99	05/06/99	050599W1	5	
TCLP Silver	<.5	1311/6010	05/05/99	05/06/99	050599W1	5	

Notes:

Date leachate created: 04/29/99

J-Estimated value

Authorized: Monika Santucci
Date: May 13,1999 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: TCLP 8260

Client: Champlain Laboratories
Project: PAFB Nose Dock 8
Proj. Desc: Plattsburgh, NY

Job No.: 8047.001.517
Certification NY No.: 10155

Sample: M0857
Samp. Description: Bottom of Sump Area (TCLP)
Instrument: HP5970 GC/MS#2
Units: mg/L
Number of analytes: 14

Collected: 04/26/99
Received: 04/27/99
Prepared: 05/05/99

Matrix: Solid
QC Batch: 050599T2
%Solids:
Sample size: 25 ml

Parameter	Result	Surrog Limits	Dilution	Analyzed	Notes
Vinyl chloride	<.1		10	05/05/99	
1,1-Dichloroethene	<.050		10	05/05/99	
Chlorobenzene	<.050		10	05/05/99	
1,2-Dichloroethane	<.050		10	05/05/99	
Chloroform	<.050		10	05/05/99	
Benzene	<.050		10	05/05/99	
Trichloroethene	<.050		10	05/05/99	
2-Butanone	<.1		10	05/05/99	
Tetrachloroethene	<.050		10	05/05/99	
Carbon tetrachloride	<.050		10	05/05/99	
1,2-Dichloroethane-d4 (surrogate)	104.%	72-110	10	05/05/99	
Dibromofluoromethane (surrogate)	105.%	80-127	10	05/05/99	
Toluene-d8 (surrogate)	105.%	92-120	10	05/05/99	
Bromofluorobenzene (surrogate)	107.%	77-117	10	05/05/99	

Notes:

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: May 7,1999 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

Nose Dock Concrete Bottom

O'Brien & Gere Laboratories, Inc.

Analytical Results Method: TCLP 8270

Client: Champlain Laboratories
Project: PAFB Nose Dock 8
Proj. Desc: Plattsburgh, NY

Job No.: 8047.001.517
Certification NY No.: 10155

Sample: M0857
Samp. Description: Bottom of Sump Area (TCLP)
Instrument: HP5972A GCMS#5
Units: mg/L
Number of analytes: 18

Collected: 04/26/99
Received: 04/27/99
Prepared: 05/03/99

Matrix: Leachate
QC Batch: 050399W2
%Solids:
Sample Size: .1 L

Parameter	Result	Surrog Limits	Dilution	Analyzed	Notes
Pyridine	<.50		1	05/06/99	
1,4-Dichlorobenzene	<.1		1	05/06/99	
2-Methylphenol	<.1		1	05/06/99	
(3+4)-Methylphenol	.30		1	05/06/99	
Hexachloroethane	<.1		1	05/06/99	
Nitrobenzene	<.1		1	05/06/99	
Hexachlorobutadiene	<.1		1	05/06/99	
2,4,6-Trichlorophenol	<.1		1	05/06/99	
2,4,5-Trichlorophenol	<.50		1	05/06/99	
2,4-Dinitrotoluene	<.1		1	05/06/99	
Hexachlorobenzene	<.1		1	05/06/99	
Pentachlorophenol	<.50		1	05/06/99	
2-Fluorophenol (surrogate)	83.%	50-111	1	05/06/99	
Phenol-d5 (surrogate)	83.%	42-126	1	05/06/99	
2,4,6-Tribromophenol (surrogate)	117.%	# 72-106	1	05/06/99	
Nitrobenzene-d5 (surrogate)	65.%	55-123	1	05/06/99	
2-Fluorobiphenyl (surrogate)	92.%	53-113	1	05/06/99	
Terphenyl-d14 (surrogate)	91.%	21-150	1	05/06/99	

Notes:

Date leachate created: 04/29/99

- Outside control limits J-Estimated value

Authorized: Monika Santucci
Date: May 10,1999 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

O'Brien & Gere Laboratories, Inc.

Analytical Results Trace Metals

Client: Champlain Laboratories
Project: PAFB Nose Dock 8
Proj. Desc: Plattsburgh, NY

Job No.: 8047.001.517
Certification NY No.: 10155

Sample: M0857
Samp. Description: Bottom of Sump Area (TCLP)
Units: mg/L

Collected: 04/26/99
Received: 04/27/99

Matrix: Leachate
%Solids:
Number of analytes: 8

Parameter	Result	Method	Prepared	Analyzed	QC Batch	Dilut.	Note
TCLP Arsenic	<.5	1311/6010	05/05/99	05/06/99	050599W1	5	
TCLP Barium	.9	1311/6010	05/05/99	05/06/99	050599W1	5	
TCLP Cadmium	<.1	1311/6010	05/05/99	05/06/99	050599W1	5	
TCLP Chromium	<.5	1311/6010	05/05/99	05/06/99	050599W1	5	
TCLP Lead	<.5	1311/6010	05/05/99	05/06/99	050599W1	5	
TCLP Mercury	<.0005	1311/7470	04/30/99	05/01/99	043099W3	1	
TCLP Selenium	<.1	1311/6010	05/05/99	05/06/99	050599W1	5	
TCLP Silver	<.5	1311/6010	05/05/99	05/06/99	050599W1	5	

Notes:

Date leachate created: 04/29/99

J-Estimated value

Authorized: Monika Santucci
Date: May 13,1999 Monika Santucci

5000 Brittonfield Parkway / Suite 300, Box 4942 / Syracuse, NY 13221 / (315) 437-0200

DATA ASSESSMENT SUMMARY

PAFB SS-016 STOCKPILE SOIL SAMPLING

DELIVERY ORDER 0026

One soil sample, one matrix spike/matrix spike duplicate (MS/MSD) and one equipment rinsate blank were collected on April 26, 1999 from SS-016 at Plattsburgh Air Force Base (PAFB), Plattsburgh, NY, and sent to Severn Trent Laboratories (Monroe, CT) for analysis. The samples were analyzed for USEPA Target Compound List (TCL) volatiles and semivolatiles by NYSDEC ASP (October 1995 edition) Method 95-1 and Method 95-2, respectively, and for RCRA metals (8) by USEPA Methods SW6010B and SW7470A.

The data package was reviewed for compliance with the above referenced methods, USEPA Region II Evaluation of Metals Data for the Contract Laboratory Program (CLP), SOP No. HW-2, Rev. XI, January 1992 and CLP Organic Data Review, SOP No. HW-6, Rev. 11, June 1996. Qualifications applied to the sample results include "U" (undetected) and "J" (estimated value due to QC outliers or concentration below the quantitation limit). Explanations for the qualification of data are presented below. The validated analytical results are presented in Table 1.

TCL Volatile Data (Method 95-1)

Acetone was detected in the soil method blank at a concentration of 5 ug/Kg. USEPA Region II validation guidelines require that sample concentrations of common laboratory contaminants (including acetone) less than ten times the amount detected in any associated blank be qualified "U". Following these guidelines, acetone was qualified "U" in soil sample S016-03.

The percent relative standard deviation (%RSD) for acetone in the initial calibration associated with the soil sample was above the USEPA Region II QC limit of 30% RSD. Following USEPA Region II validation guidelines, the result for acetone was qualified "UJ" in soil sample S016-03.

The percent difference (%D) for carbon tetrachloride and bromoform in the continuing calibration standard associated with the soil sample were above the USEPA Region II QC limit of 25% D. Following USEPA Region II validation guidelines, the results for these compounds (all were non-detected) were qualified "UJ" in soil sample S016-03.

The result for one tentatively identified compound (TIC) resulting from laboratory contamination (i.e., column bleed) was rejected ("R") in soil sample S016-03.

No other data qualifications were made, and all other data are usable as reported.

TCL Semivolatile Data (Method 95-2)

Soil sample S016-03 was extracted two days outside of USEPA Region II technical holding time criteria (i.e., seven days from date of sample collection). Following USEPA Region II validation guidelines, all samples results were qualified "J"/"UJ". It should be noted that NYSDEC ASP contractual holding times (i.e., ten days from validated time of sample receipt) were met.

Di-n-butlylphthalate was detected in the soil method blank at a concentration of 17 ug/Kg. USEPA Region II validation guidelines require that sample concentrations of common laboratory contaminants (including di-n-butlylphthalate) less than ten times the amount detected in any associated blank be qualified "U". Following these guidelines, di-n-butlylphthalate was qualified "U" in soil sample S016-03.

No other data qualifications were made, and all other data are usable as reported.

RCRA Metals (Methods 6010B/7470A)

The soil matrix spike percent recovery (%R) for selenium (i.e., 0% R) was below the USEPA Region II QC limits of 75%-125%. Following USEPA Region II validation guidelines, the non-detected result for selenium in soil sample S016-03 was rejected ("UR").

The %R for selenium in the contract required detection limit (CRDL) standard associated with rinsate blank S016-RB was below the USEPA Region II QC limits of 80%-120%. Following USEPA Region II validation guidelines, the non-detected result for selenium in rinsate blank S016-RB was qualified "UJ".

The result for cadmium in rinsate blank S016-RB and for barium in soil sample S016-03 were qualified "B" by the laboratory indicating concentrations above the instrument detection limit (IDL) but below the contract required detection limit (CRDL).

No other data qualifications were made, and all other data are usable as reported.

cc: B. Przybyl
M. Bitka
File 01.F0000026.00 (AD-1)

TABLE 1
PLATTSBURGH AIR FORCE BASE
SS-016 STOCKPILE SOIL SAMPLE RESULTS

Location ID			S016-03
Sample ID			S016-03
Matrix			Soil
Depth Interval (ft)			0.5-1.0
Date Sampled			04/26/99
Parameter	**Units**	**Criteria***	
Volatile Organic Compounds			
Chloromethane	UG/KG	-	10 U
Bromomethane	UG/KG	-	10 U
Vinyl chloride	UG/KG	200	10 U
Chloroethane	UG/KG	1900	10 U
Methylene chloride	UG/KG	100	3 J
Acetone	UG/KG	200	24 UJ
Carbon disulfide	UG/KG	2700	10 U
1,1-Dichloroethene	UG/KG	400	10 U
1,1-Dichloroethane	UG/KG	200	10 U
1,2-Dichloroethene (total)	UG/KG	300	10 U
Chloroform	UG/KG	300	10 U
1,2-Dichloroethane	UG/KG	100	10 U
Methyl ethyl ketone (2-Butanone)	UG/KG	300	5 J
1,1,1-Trichloroethane	UG/KG	800	10 U
Carbon tetrachloride	UG/KG	600	10 UJ
Bromodichloromethane	UG/KG	-	10 U
1,2-Dichloropropane	UG/KG	-	10 U
1,3-Dichloropropene (cis)	UG/KG	-	10 U
Trichloroethene	UG/KG	700	10 U
Dibromochloromethane	UG/KG	-	10 U
1,1,2-Trichloroethane	UG/KG	-	10 U
Benzene	UG/KG	60	10 U

*Criteria- * - NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

Flags assigned during chemistry validation are shown.

(oval symbol) Concentration Exceeds Criteria.

J - The analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample.
R - The data are unusable due to deficiencies in the ability to analyze the sample and meet quality control criteria.
U - The analyte was analyzed for, but was not detected above the reported quantitation limit.
UJ - The analyte was not detected above the reported sample quantitation limit. The quantitation limit is approximate.

J:\0100013.10\db\Program\program.mde
Printed: 8/28/2001 2:35:36 PM
[LOCID] = "S016-03" AND [LOGDATE] = #04/26/1999#

Detection Limits shown are PQL

TABLE 1
PLATTSBURGH AIR FORCE BASE
SS-016 STOCKPILE SOIL SAMPLE RESULTS

Location ID			S016-03
Sample ID			S016-03
Matrix			Soil
Depth Interval (ft)			0.5-1.0
Date Sampled			04/26/99
Parameter	**Units**	**Criteria***	
Volatile Organic Compounds			
1,3-Dichloropropene (trans)	UG/KG	-	10 U
Bromoform	UG/KG	-	10 UJ
4-Methyl-2-pentanone	UG/KG	1000	10 U
2-Hexanone	UG/KG	-	10 U
Tetrachloroethene	UG/KG	1400	10 U
Toluene	UG/KG	1500	3 J
1,1,2,2-Tetrachloroethane	UG/KG	600	10 U
Chlorobenzene	UG/KG	1700	10 U
Ethylbenzene	UG/KG	5500	2 J
Styrene	UG/KG	-	10 U
Xylene (total)	UG/KG	1200	13
Semivolatile Organic Compounds			
Phenol	UG/KG	30 or MDL	230 J
bis(2-Chloroethyl)ether	UG/KG	-	340 UJ
2-Chlorophenol	UG/KG	800	340 UJ
1,3-Dichlorobenzene	UG/KG	1600	340 UJ
1,4-Dichlorobenzene	UG/KG	8500	340 UJ
1,2-Dichlorobenzene	UG/KG	7900	340 UJ
2-Methylphenol (o-cresol)	UG/KG	100	340 UJ
2,2'-oxybis(1-Chloropropane)	UG/KG	-	340 UJ
4-Methylphenol (p-cresol)	UG/KG	900	190 J
N-Nitroso-di-n-propylamine	UG/KG	-	340 UJ

*Criteria- * - NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria.

J - The analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample.
R - The data are unusable due to deficiencies in the ability to analyze the sample and meet quality control criteria.
U - The analyte was analyzed for, but was not detected above the reported quantitation limit.
UJ - The analyte was not detected above the reported sample quantitation limit. The quantitation limit is approximate.

Detection Limits shown are PQL

TABLE 1
PLATTSBURGH AIR FORCE BASE
SS-016 STOCKPILE SOIL SAMPLE RESULTS

Location ID			S016-03
Sample ID			S016-03
Matrix			Soil
Depth Interval (ft)			0.5-1.0
Date Sampled			04/26/99
Parameter	**Units**	**Criteria***	
Semivolatile Organic Compounds			
Hexachloroethane	UG/KG	-	340 UJ
Nitrobenzene	UG/KG	200 or MDL	340 UJ
Isophorone	UG/KG	4400	340 UJ
2-Nitrophenol	UG/KG	330 or MDL	340 UJ
2,4-Dimethylphenol	UG/KG	-	340 UJ
bis(2-Chloroethoxy)methane	UG/KG	-	340 UJ
2,4-Dichlorophenol	UG/KG	400	340 UJ
1,2,4-Trichlorobenzene	UG/KG	3400	340 UJ
Naphthalene	UG/KG	13000	100 J
4-Chloroaniline	UG/KG	220 or MDL	340 UJ
Hexachlorobutadiene	UG/KG	-	340 UJ
4-Chloro-3-methylphenol	UG/KG	240 or MDL	340 UJ
2-Methylnaphthalene	UG/KG	36400	160 J
Hexachlorocyclopentadiene	UG/KG	-	340 UJ
2,4,6-Trichlorophenol	UG/KG	-	340 UJ
2,4,5-Trichlorophenol	UG/KG	100	860 UJ
2-Chloronaphthalene	UG/KG	-	340 UJ
2-Nitroaniline	UG/KG	430 or MDL	860 UJ
Dimethylphthalate	UG/KG	2000	340 UJ
Acenaphthylene	UG/KG	41000	340 UJ
2,6-Dinitrotoluene	UG/KG	1000	340 UJ
3-Nitroaniline	UG/KG	500 or MDL	860 UJ

*Criteria- * - NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels: HWR-94-4046 January 24, 1994 (Revised).

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria.

J - The analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample.
R - The data are unusable due to deficiencies in the ability to analyze the sample and meet quality control criteria.
U - The analyte was analyzed for, but was not detected above the reported quantitation limit.
UJ - The analyte was not detected above the reported sample quantitation limit. The quantitation limit is approximate.

Detection Limits shown are PQL

TABLE 1
PLATTSBURGH AIR FORCE BASE
SS-016 STOCKPILE SOIL SAMPLE RESULTS

Location ID			S016-03
Sample ID			S016-03
Matrix			Soil
Depth Interval (ft)			0.5-1.0
Date Sampled			04/26/99
Parameter	**Units**	**Criteria***	
Semivolatile Organic Compounds			
Acenaphthene	UG/KG	50000	340 UJ
2,4-Dinitrophenol	UG/KG	200 or MDL	860 UJ
4-Nitrophenol	UG/KG	100 or MDL	860 UJ
Dibenzofuran	UG/KG	6200	340 UJ
2,4-Dinitrotoluene	UG/KG	-	340 UJ
Diethylphthalate	UG/KG	7100	340 UJ
4-Chlorophenyl-phenylether	UG/KG	-	340 UJ
Fluorene	UG/KG	50000	340 UJ
4-Nitroaniline	UG/KG	-	860 UJ
4,6-Dinitro-2-methylphenol	UG/KG	-	860 UJ
N-Nitrosodiphenylamine	UG/KG	-	340 UJ
4-Bromophenyl-phenylether	UG/KG	-	340 UJ
Hexachlorobenzene	UG/KG	410	340 UJ
Pentachlorophenol	UG/KG	1000 or MDL	860 UJ
Phenanthrene	UG/KG	50000	45 J
Anthracene	UG/KG	50000	8 J
Carbazole	UG/KG	-	340 UJ
Di-n-butylphthalate	UG/KG	8100	340 UJ
Fluoranthene	UG/KG	50000	40 J
Pyrene	UG/KG	50000	40 J
Butylbenzylphthalate	UG/KG	50000	130 J
3,3'-Dichlorobenzidine	UG/KG	-	340 UJ

"Criteria- " - NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria.

J - The analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample.
R - The data are unusable due to deficiencies in the ability to analyze the sample and meet quality control criteria.
U - The analyte was analyzed for, but was not detected above the reported quantitation limit.
UJ - The analyte was not detected above the reported sample quantitation limit. The quantitation limit is approximate.

Detection Limits shown are PQL

TABLE 1
PLATTSBURGH AIR FORCE BASE
SS-016 STOCKPILE SOIL SAMPLE RESULTS

Location ID			S016-03
Sample ID			S016-03
Matrix			Soil
Depth Interval (ft)			0.5-1.0
Date Sampled			04/26/99
Parameter	**Units**	**Criteria***	
Semivolatile Organic Compounds			
Benzo(a)anthracene	UG/KG	224 or MDL	13 J
Chrysene	UG/KG	400	17 J
bis(2-Ethylhexyl)phthalate	UG/KG	50000	640 J
Di-n-octylphthalate	UG/KG	50000	340 UJ
Benzo(b)fluoranthene	UG/KG	1100	15 J
Benzo(k)fluoranthene	UG/KG	1100	14 J
Benzo(a)pyrene	UG/KG	61 or MDL	16 J
Indeno(1,2,3-cd)pyrene	UG/KG	3200	12 J
Dibenz(a,h)anthracene	UG/KG	14 or MDL	340 UJ
Benzo(g,h,i)perylene	UG/KG	50000	9 J
Total Metals			
Arsenic	MG/KG	7.5	1.2 U
Barium	MG/KG	300	13.8 B
Cadmium	MG/KG	1.3 (SB)	4.3
Chromium	MG/KG	19.5 (SB)	41.8
Lead	MG/KG	79.4 (SB)	69.5
Mercury	MG/KG	0.1	0.017 U
Selenium	MG/KG	2	0.84 UR
Silver	MG/KG	(SB)	0.42 U

*Criteria- * - NYSDEC TAGM: Determination of Soil Cleanup Objectives and Cleanup Levels; HWR-94-4046 January 24, 1994 (Revised).

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria.

J - The analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample.
R - The data are unusable due to deficiencies in the ability to analyze the sample and meet quality control criteria.
U - The analyte was analyzed for, but was not detected above the reported quantitation limit.
UJ - The analyte was not detected above the reported sample quantitation limit. The quantitation limit is approximate.

Detection Limits shown are PQL

TABLE 1
PLATTSBURGH AIR FORCE BASE
SS-016 FIELD QC SAMPLE RESULTS

Location ID		FIELDQC
Sample ID		SS16-RB
Matrix		Water Quality
Depth Interval (ft)		-
Date Sampled		04/26/99
Parameter	Units	Material Rinse Blank (1-1)
Volatile Organic Compounds		
Chloromethane	UG/L	10 U
Bromomethane	UG/L	10 U
Vinyl Chloride	UG/L	10 U
Chloroethane	UG/L	10 U
Methylene Chloride	UG/L	10 U
Acetone	UG/L	10 U
Carbon Disulfide	UG/L	10 U
1,1-Dichloroethene	UG/L	10 U
1,1-Dichloroethane	UG/L	10 U
1,2-Dichloroethene (total)	UG/L	10 U
Chloroform	UG/L	10 U
1,2-Dichloroethane	UG/L	10 U
Methyl ethyl ketone (2-Butanone)	UG/L	10 U
1,1,1-Trichloroethane	UG/L	10 U
Carbon Tetrachloride	UG/L	10 U
Bromodichloromethane	UG/L	10 U
1,2-Dichloropropane	UG/L	10 U
1,3-Dichloropropene (cis)	UG/L	10 U
Trichloroethene	UG/L	10 U
Dibromochloromethane	UG/L	10 U
1,1,2-Trichloroethane	UG/L	10 U
Benzene	UG/L	10 U
1,3-Dichloropropene (trans)	UG/L	10 U
Bromoform	UG/L	10 U

Flags assigned during chemistry validation are shown.

J - The analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample.
U - The analyte was analyzed for, but was not detected above the reported quantitation limit.
UJ - The analyte was not detected above the reported sample quantitation limit. The quantitation limit is approximate.

Detection Limits shown are PQL

TABLE 1
PLATTSBURGH AIR FORCE BASE
SS-016 FIELD QC SAMPLE RESULTS

Location ID		FIELDQC
Sample ID		SS16-RB
Matrix		Water Quality
Depth Interval (ft)		-
Date Sampled		04/26/99
Parameter	Units	Material Rinse Blank (1-1)
Volatile Organic Compounds		
4-Methyl-2-pentanone	UG/L	10 U
2-Hexanone	UG/L	10 U
Tetrachloroethene	UG/L	10 U
Toluene	UG/L	10 U
1,1,2,2-Tetrachloroethane	UG/L	10 U
Chlorobenzene	UG/L	10 U
Ethylbenzene	UG/L	10 U
Styrene	UG/L	10 U
Xylene (total)	UG/L	10 U
Semivolatile Organic Compounds		
bis(2-Chloroethyl)ether	UG/L	10 U
2-Chlorophenol	UG/L	10 U
1,3-Dichlorobenzene	UG/L	10 U
1,4-Dichlorobenzene	UG/L	10 U
1,2-Dichlorobenzene	UG/L	10 U
2-Methylphenol (o-cresol)	UG/L	10 U
2,2'-oxybis(1-Chloropropane)	UG/L	10 U
4-Methylphenol (p-cresol)	UG/L	10 U
N-Nitroso-di-n-propylamine	UG/L	10 U
Hexachloroethane	UG/L	10 U
Nitrobenzene	UG/L	10 U
Isophorone	UG/L	10 U
2-Nitrophenol	UG/L	10 U
2,4-Dimethylphenol	UG/L	10 U

Flags assigned during chemistry validation are shown.

J - The analyte was positively identified. the associated numerical value is the approximate concentration of the analyte in the sample.
U - The analyte was analyzed for, but was not detected above the reported quantitation limit.
UJ - The analyte was not detected above the reported sample quantitation limit. The quantitation limit is approximate.

Detection Limits shown are PQL

TABLE 1
PLATTSBURGH AIR FORCE BASE
SS-016 FIELD QC SAMPLE RESULTS

Location ID		FIELDQC
Sample ID		SS16-RB
Matrix		Water Quality
Depth Interval (ft)		-
Date Sampled		04/26/99
Parameter	Units	Material Rinse Blank (1-1)
Semivolatile Organic Compounds		
bis(2-Chloroethoxy)methane	UG/L	10 U
2,4-Dichlorophenol	UG/L	10 U
1,2,4-Trichlorobenzene	UG/L	10 U
Naphthalene	UG/L	10 U
4-Chloroaniline	UG/L	10 U
Hexachlorobutadiene	UG/L	10 U
4-Chloro-3-methylphenol	UG/L	10 U
2-Methylnaphthalene	UG/L	10 U
Hexachlorocyclopentadiene	UG/L	10 U
2,4,6-Trichlorophenol	UG/L	10 U
2,4,5-Trichlorophenol	UG/L	25 U
2-Chloronaphthalene	UG/L	10 U
2-Nitroaniline	UG/L	25 U
Dimethylphthalate	UG/L	10 U
Acenaphthylene	UG/L	10 U
2,6-Dinitrotoluene	UG/L	10 U
3-Nitroaniline	UG/L	25 U
Acenaphthene	UG/L	10 U
2,4-Dinitrophenol	UG/L	25 U
4-Nitrophenol	UG/L	25 U
Dibenzofuran	UG/L	10 U
2,4-Dinitrotoluene	UG/L	10 U
Diethylphthalate	UG/L	0.1 J
4-Chlorophenyl-phenylether	UG/L	10 U

Flags assigned during chemistry validation are shown.

J - The analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample.
U - The analyte was analyzed for, but was not detected above the reported quantitation limit.
UJ - The analyte was not detected above the reported sample quantitation limit. The quantitation limit is approximate.

Detection Limits shown are PQL

TABLE 1
PLATTSBURGH AIR FORCE BASE
SS-016 FIELD QC SAMPLE RESULTS

Location ID		FIELDQC
Sample ID		S016-RB
Matrix		Water Quality
Depth Interval (ft)		-
Date Sampled		04/26/99
Parameter	Units	Material Rinse Blank (1-1)
Semivolatile Organic Compounds		
Fluorene	UG/L	10 U
4-Nitroaniline	UG/L	25 U
4,6-Dinitro-2-methylphenol	UG/L	25 U
N-Nitrosodiphenylamine	UG/L	10 U
4-Bromophenyl-phenylether	UG/L	10 U
Hexachlorobenzene	UG/L	10 U
Pentachlorophenol	UG/L	25 U
Phenanthrene	UG/L	10 U
Anthracene	UG/L	10 U
Carbazole	UG/L	10 U
Di-n-butylphthalate	UG/L	0.8 J
Fluoranthene	UG/L	10 U
Pyrene	UG/L	10 U
Butylbenzylphthalate	UG/L	0.2 J
3,3'-Dichlorobenzidine	UG/L	10 U
Benzo(a)anthracene	UG/L	10 U
Chrysene	UG/L	10 U
bis(2-Ethylhexyl)phthalate	UG/L	0.7 J
Di-n-octylphthalate	UG/L	0.1 J
Benzo(b)fluoranthene	UG/L	10 U
Benzo(k)fluoranthene	UG/L	10 U
Benzo(a)pyrene	UG/L	10 U
Indeno(1,2,3-cd)pyrene	UG/L	10 U
Dibenz(a,h)anthracene	UG/L	10 U

Flags assigned during chemistry validation are shown.

J - The analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample.
U - The analyte was analyzed for, but was not detected above the reported quantitation limit.
UJ - The analyte was not detected above the reported sample quantitation limit. The quantitation limit is approximate.

Detection Limits shown are PQL

TABLE 1
PLATTSBURGH AIR FORCE BASE
SS-016 FIELD QC SAMPLE RESULTS

Location ID		FIELDQC
Sample ID		S016-RB
Matrix		Water Quality
Depth Interval (ft)		-
Date Sampled		04/26/99
Parameter	Units	Material Rinse Blank (1-1)
Semivolatile Organic Compounds		
Benzo(g,h,i)perylene	UG/L	10 U
Total Metals		
Arsenic	UG/L	6.0 U
Barium	UG/L	1.0 U
Cadmium	UG/L	1.1 B
Chromium	UG/L	1.0 U
Lead	UG/L	3.8
Mercury	UG/L	0.10 U
Selenium	UG/L	4.0 UJ
Silver	UG/L	2.0 U

Flags assigned during chemistry validation are shown.

J - The analyte was positively identified, the associated numerical value is the approximate concentration of the analyte in the sample.
U - The analyte was analyzed for, but was not detected above the reported quantitation limit.
UJ - The analyte was not detected above the reported sample quantitation limit. The quantitation limit is approximate.

Detection Limits shown are PQL