WORK PLAN
FOR
SUPPLEMENTAL REMEDIAL INVESTIGATION
AT
SPILL SITE SS-013

PLATTSBURGH AIR FORCE BASE
NEW YORK

CONTRACT NO. F41624-97-D-8016
DELIVERY ORDER 46

Prepared For:

AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS AIR FORCE BASE TEXAS

Prepared By:

URS CONSULTANTS, INC.

JULY 2000

In March 1996, the 6,000-gallon UST and the buried piping on the south side of building 3578 were removed. Soils around the tank and piping were excavated to 10 and 4 feet respectively, and were taken to an on-base treatment cell. The excavation was then backfilled with clean soil (OHM 1997a).

After removing the tank and piping, soil staining and hydrocarbon odors were noted in the former piping trench. Analysis of confirmatory soil samples from the sidewalls of the excavation and groundwater samples from nearby monitoring well MW-13-008 indicated contaminant concentrations (VOCs and SVOCs) exceeding their respective NYSDEC criteria (OHM 1997a). The Air Force is planning a time-critical removal action in the area of the former tank and pipe trench to address the residual soil contamination remaining after the initial removal action. The time-critical removal action will occur in August 2000.

In September 1996, a 7,500-gallon septic tank and a lift station on the north side of Building 3578 and some of the septic system piping to the buildings and former leach fields were removed (OHM 1997b). A confirmatory soil sample from the excavation did not indicate any exceedances of the New York State Department of Environmental Conservation (NYSDEC) soil cleanup criteria.

In November 1997, the concrete solvent storage pad at the waste accumulation area and surrounding contaminated soil were removed. The excavated soil stockpile was transported to the on-site soil treatment cell and the excavation was backfilled to grade with imported clean fill. NYSDEC and USEPA concurred that no further action is required at this location (OHM 1999).

3.0 PURPOSE OF SUPPLEMENTAL INVESTIGATION

In its 01 July 1997 letter to the Air Force, the USEPA conditionally accepted the RI report provided that another round of groundwater sampling is performed. USEPA requested that the onsite monitoring wells be re-sampled, particularly for semi-volatile organic compounds (SVOCs), to evaluate the extent of contamination downgradient of MW-13-008 (USEPA 1997a). MW 13-005, a downgradient monitoring well, was frozen during the first two rounds of RI groundwater sampling in January and February 1994. Volatile organic compounds (VOCs) and

SVOCs exceeding NYSDEC groundwater quality criteria were detected in groundwater samples, particularly in MW-13-008. During the third round of sampling in October 1995, MW-13-005 was sampled but the samples were analyzed only for VOCs. USEPA is, therefore, concerned that the extent of SVOC contamination downgradient of MW-13-008 has not been completely addressed.

4.0 SAMPLING PROGRAM

As was done for the RI, field sampling will be conducted in a manner consistent with the *Final Work Plan* (Malcolm Pirnie 1992a) and the *Site Safety and Health Plan* (Malcolm Pirnie 1992b). The following modifications to the *Final Work Plan* were used for the RI and will also be used for this sampling program:

- Methanol will be used to decontaminate sampling equipment instead of hexane.

- Each well will be purged using a Waterra hydro-lift pump or an Isco peristaltic pump equipped with dedicated and disposable polyethylene tubing and foot-valve (i.e., new tubing and foot-valves will be used in each well). Submersible pumps will not be used. Six well volumes will be purged from each well prior to sample collection. The factor used to calculate purge volumes for 2" diameter wells will be increased from 0.17 gallons/foot to 2.5 gallons/foot for the portion of the well that has a filter pack to ensure that the filter pack surrounding the well has also been purged of any stagnant water. The sixth well volume will be purged with a dedicated/disposable bailer to ensure that stagnant water has been removed from the top of the water column.

- Pre-cleaned, factory sealed, disposable Teflon bailers will be used to collect groundwater samples.

One round of groundwater samples will be collected from the twelve SS-013 monitoring wells (MW-13-001 through -012; see Figure 2). All groundwater samples from the current round of sampling will be analyzed for target compound list (TCL) VOCs and TCL SVOCs. The

samples from monitoring wells MW-13-003, MW-13-006, and MW-13-007 also will be analyzed for total (unfiltered) target analyte list (TAL) metals to evaluate the downgradient impacts at two former leach fields. A complete round of water level/elevation measurements will be collected on a single day from all SS-013 monitoring wells, piezometers, and stream gauging stations (Figure 3). These data will be used to evaluate current groundwater flow conditions and the interrelationship between groundwater and surface water in the vicinity of SS-013.

5.0 ANALYTICAL PROGRAM

Quality assurance requirements for field sampling, chain-of-custody, laboratory analysis, and reporting will be in accordance with the AFCEE *Quality Assurance Plan (QAPP) Version 3.0* (AFCEE 1998). Variances to the requirements of the AFCEE *QAPP* that are requested by the laboratory selected to do the work will be provided after the variances are approved by AFCEE. Holding times will begin with the validated time of sample receipt at the laboratory, which conforms to NYSDEC's Analytical Services Protocols (ASP). The analytical program parameters, test methods, number of soil/groundwater samples, and quality control samples are specified in Table 1.

6.0 REPORTING

The results from this investigation will be presented in a report that supplements and incorporates by reference the original RI report (URS 1996). The supplemental remedial investigation report also will include:

- Analytical data from the three Air Force removal actions in 1996 and 1997
- Groundwater data relevant to SS-013 from the Fire Training Area (FT-002)/ Industrial Area Groundwater Operable Unit Remedial Investigation/Feasibility Study (URS 2000)
- Results of the year 2000 time-critical soil removal action in the vicinity of the former Building 3578 UST/piping

- A revised and updated human health risk assessment utilizing all available SS-013 analytical data and evaluating a potential future residential reuse exposure scenario

REFERENCES

Air Force Center for Environmental Excellence (AFCEE), 1998; *Quality Assurance Project Plan, Version 3.0*; March.

Malcolm Pirnie, Inc., 1992a; *Final Work Plan Remedial Investigation/Feasibility Study.*

Malcolm Pirnie, Inc., 1992b; *Final Site Safety and Health Plan for Environmental Investigations at Plattsburgh, New York.*

OHM Remediation Services Corp. (OHM), 1997a; *UST-3578-A-2 Closure Report, Plattsburgh Air Force Base*; prepared for the Air Force Center for Environmental Excellence; January.

OHM Remediation Services Corp. (OHM), 1997b; *SPT-3578 Closure Report, Plattsburgh Air Force Base*; prepared for the Air Force Center for Environmental Excellence; October.

OHM Remediation Services Corp. (OHM), 1999; *Final Closure Report Removal of Contaminated Soil at the Former Waste Accumulation Area, Spill Site SS-013, Plattsburgh Air Force Base*; prepared for the Air Force Center for Environmental Excellence; March.

United States Environmental Protection Agency (USEPA), 1997a; Letter to Michael Sorel (AFBCA -Plattsburgh) regarding *Draft Final Remedial Investigation Report, Munitions Maintenance Squadron (SS-013);* July 1.

United States Environmental Protection Agency (USEPA), 1997b; *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition, Final Update*; June

URS Consultants, Inc. (URS), 2000; *Draft-Final Fire Training Area (FT-002)/Industrial Area Groundwater Operable Unit Remedial Investigation/Feasibility Study*; prepared for the Air Force Center for Environmental Excellence; February.

TABLE 1

ANALYTICAL PROGRAM

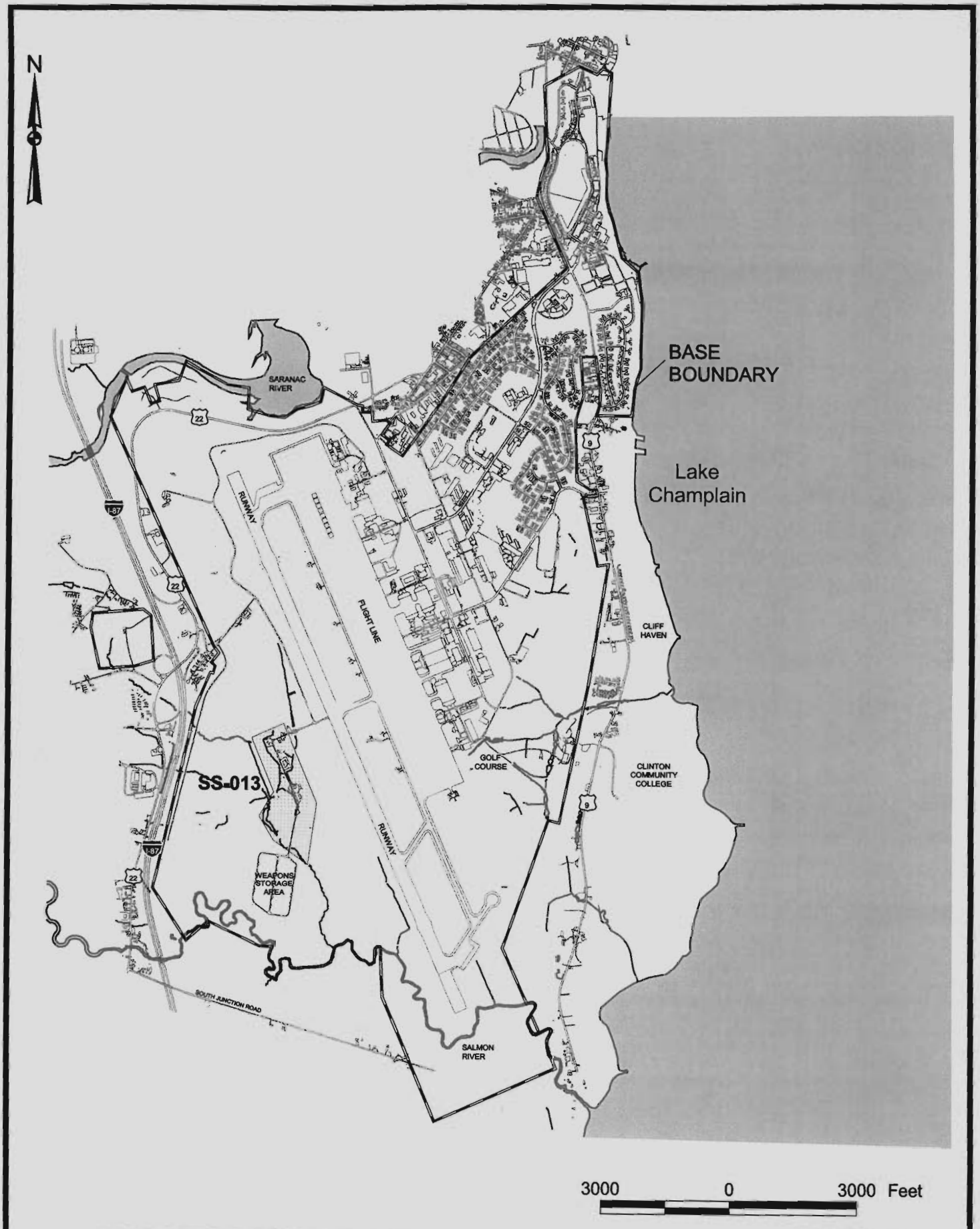
SUPPLEMENTAL INVESTIGATION AT SS-013

Analytical Parameters	Groundwater		
	TCL VOCs	TCL SVOCs	TAL Metals
USEPA Method [1]	8260B	8270C	6010B/7470A
Samples	12	12	3
Equipment Blanks	1	1	1
Trip Blanks	1	0	0
Field Replicates	2	2	1
MS/MSD Samples	1/1	1/1	1/1
Total Samples	18	17	7

1. Method reference USEPA (1997b).

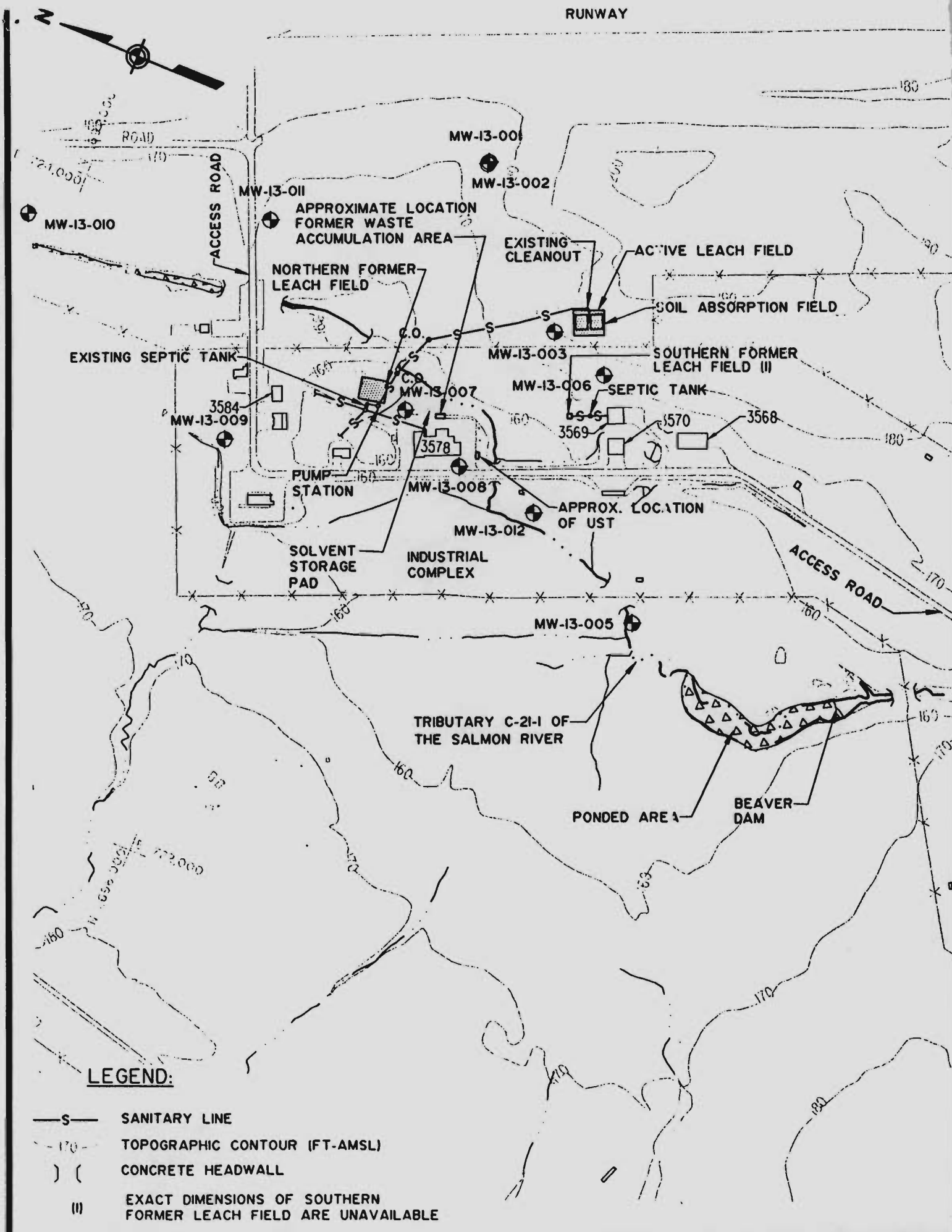
MS = Matrix spike

MSD = Matrix spike duplicate



URS Consultants, Inc.	LOCATION PLAN MUNITIONS MAINTENANCE SQUADRON (SS-013)	FIGURE 1

J:\0100013\DB\GIS\1999\ss-013.apr SITE LOCATION
7/11/2000



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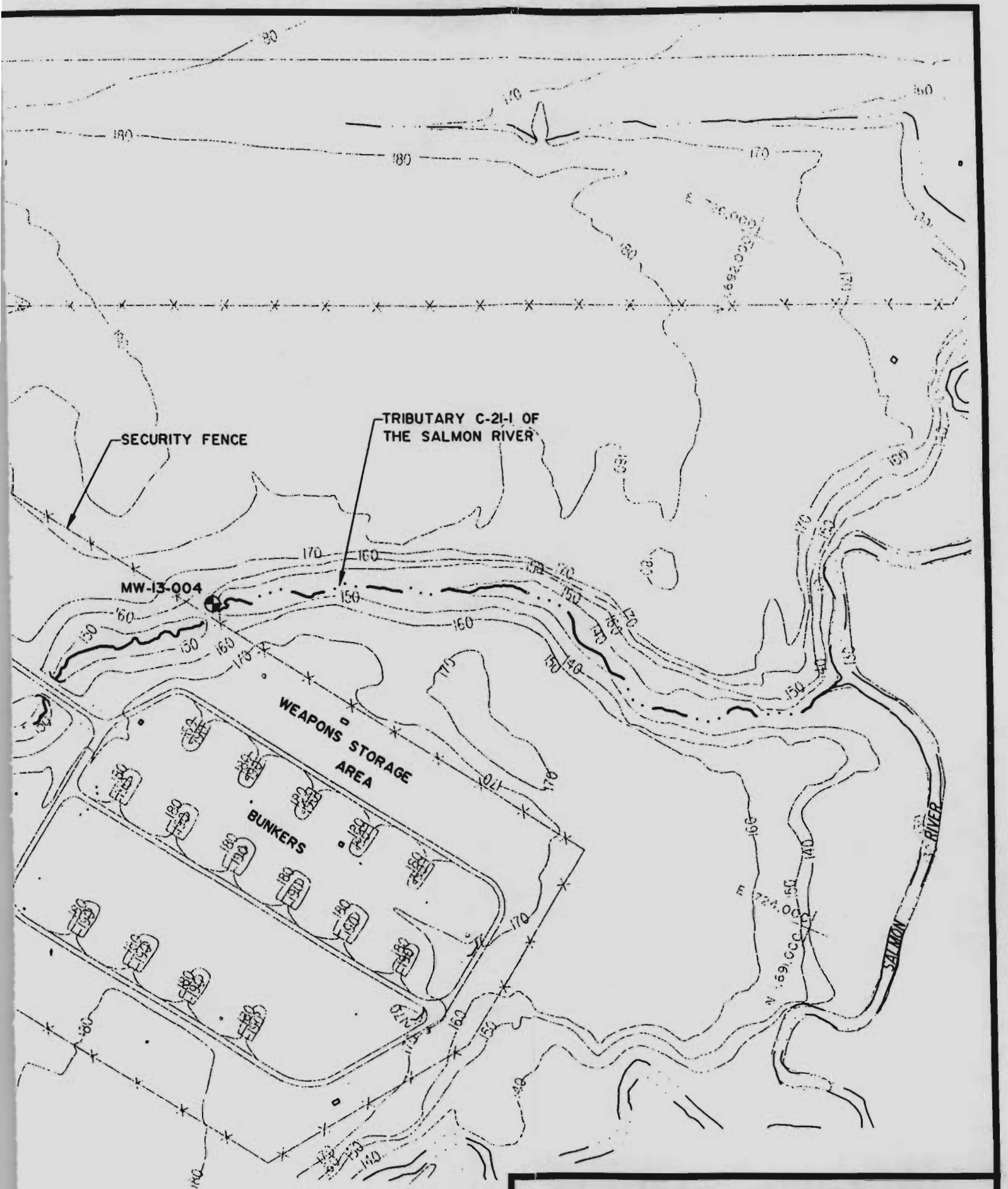

PLATTSBURGH AFB - SS-013 RI
SITE FEATURES

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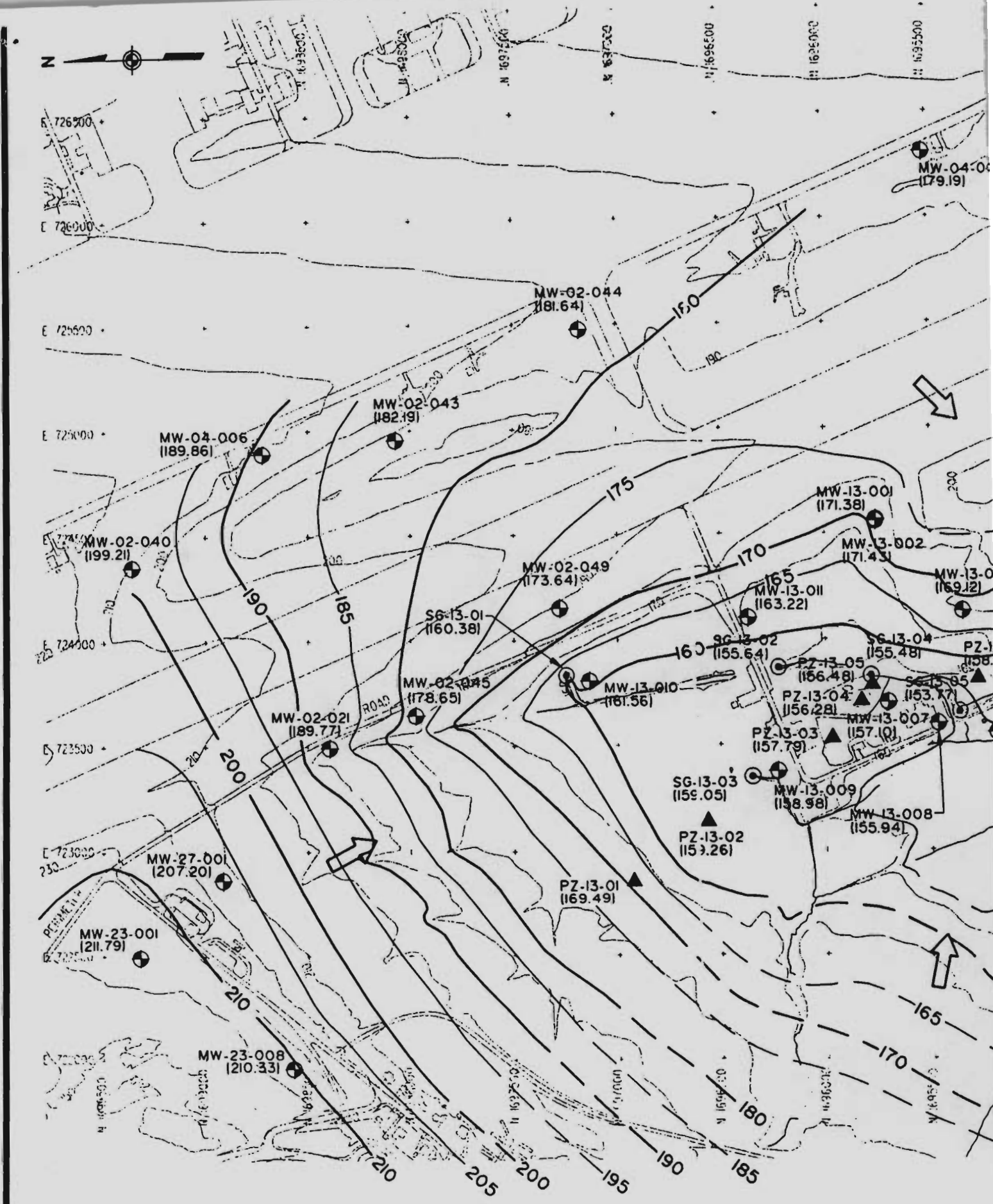
FIGURE 2



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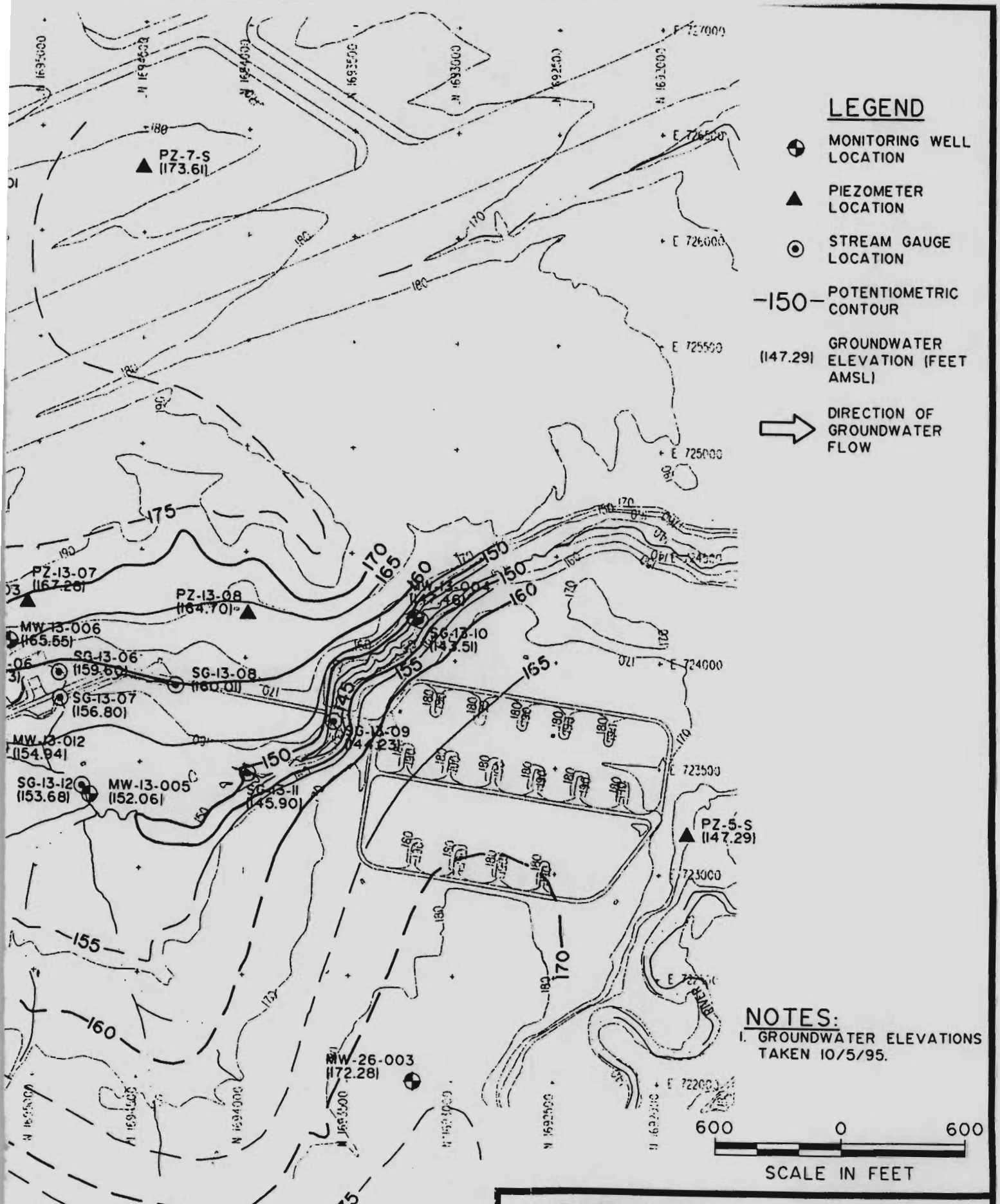

POTENTIOMETRIC SURFACE OF UNCONFINED AQUIFER (OCTOBER 5, 1995)

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FIGURE 3

AIR FORCE RESPONSES TO NYSDEC COMMENTS DATED MAY 2, 2000 ON THE DRAFT WORK PLAN FOR SUPPLEMENTAL INVESTIGATION AT SS-013

COMMENTS	RESPONSES
1. The New York State Department of Health and Environmental Conservation have reviewed the Draft Work Plan for Supplemental Investigation at Spill Site SS-013. Because of the brevity of the information provided in Section 2.0 of the draft work plan (Site Background), the adequacy of the proposed scope of work can not be determined.	A separate "Supplemental Evaluation" report has been prepared that consolidates and summarizes all environmental work performed to date at the site. This report will be provided with the revised Work Plan.
2. The Draft Final Remedial Investigation Report (RI) for SS-013 concluded on page 8-2 that site contamination is attributable to five onsite source areas: a. The northern former leach field b. The southern former leach field c. The active leach field d. The former waste accumulation area e. The UST located east of Building 3578 However, the RI stated on page 9-2 that groundwater quality is expected to be improved significantly by closure actions at source areas which are scheduled to begin in 1996, which include: • Project No. 95 6010 Phase II,. which includes removal of the northern former, southern former, and active leach fields • Contract No. 41625-94-D8106, which includes removal of the UST near Building 3578 and associated contaminated soil The draft work plans states that the UST (source 5, above) and contaminated soil were removed in 1996. As noted in the draft work plan, the removal of contaminated soil associated with the UST is not complete. It is our understanding that AFBCA will complete this remedial effort as an Interim Remedial Measure (IRM), and AFBCA states the Action Memorandum for the IRM will be submitted to the regulatory agencies in approximately two weeks. The NYSDEC will therefore reserve comment on the draft work plan for the supplemental investigation as far as it pertains to investigation of the contaminated soil related to the UST, as these comments will be made moot by the submittal of an action memorandum to address this area. (Please notify the NYSDEC if our understanding is incorrect, and our comments on the investigation work plan as it pertains to the UST area is necessary to move this particular work plan document	The Work Plan no longer includes soil sampling in the vicinity of UST-3578-A-2. These activities will be performed by Versar as outlined in the "*Action Memorandum Weapons Storage Area – Buildings 3578 and 3569 (SS-013).*" The Action Memorandum has since been provided to NYSDEC for review.

forward). We note however, that the upcoming Action Memorandum should include significantly more information regarding the remedial actions taken to date than what is provided in this draft work plan. Please include in the Action Memorandum all available information regarding extent of prior excavation and a presentation of sampling locations pared with sampling results. A figure or figures would be helpful.	See response to comment #1.
3. The draft work plan states that a septic tank on the north side of Building 3578 and its associated piping to the northern former leach field were also removed in 1996. This effort does not appear consistent with the work promised in the RI report, which was that the northern former, southern former, and active leach fields (sources 1, 2 and 3, above) would be removed. The revised work plan should include information regarding extent of the excavation performed in 1996 with a presentation of sampling locations paired with sampling results. This presentation will allow for an analysis of the adequacy of the scope of effort proposed by this draft work plan. Again, a figure(s) would be helpful, and it is imagined that the information available in work plan reference URS 1997b may be succinctly represented on a figure to address this concern. (The area of excavation needs to be placed in context of SS-013, however.) As regulatory comments on the Draft Final RI were based upon the premise that the listed sources were being scheduled for removal, if in fact all three sources (sources 1, 2 and 3) were not removed, a rationale for not excavating each source area should be provided.	Information regarded the septic system equipment removals has been provided in the "Supplemental Evaluation" report. The Draft Final RI Report did not recommend removals at the leach fields. The RI stated "Soil, surface water, and sediment data, and the risk evaluation all indicate that no action is warranted to address contamination in these media." No VOCs were detected in monitoring wells downgradient of the leach fields during the October 1995 groundwater sampling event. Groundwater quality in the vicinity of MW-13-008 was of concern and soil removals have been conducted and will be conducted in the future (August 2000) to mitigate contamination in the vicinity of MW-13-008. The removal of the septic system equipment was not conducted as part of the CERCLA process at SS-013. The statement in the RI report that "Groundwater quality is expected to be improved significantly by closure actions at source areas" referred primarily to the soil removal scheduled for UST-3578-A-2. The limited sampling performed as part of the septic equipment removal is summarized in the "Supplemental Evaluation" report provided for SS-013. The exact quantity of piping removed was not accurately documented. Metals analyses (along with VOCs and SVOCs) have been proposed for the groundwater samples from MW-13-003, MW-13-006, and MW-13-007 to evaluate if the leach fields northeast of Building 3578 and east of Building 3569 are contributing contaminants to groundwater. Soils associated with the septic system north of Building 3569 are scheduled to be excavated and sampled in August 2000 by Versar.
4. Monitoring wells MW-13-009 and -010 are not targeted for sampling because AFBCA states that they are side-gradient to source areas of concern. We note that as the FT-002 groundwater contaminant plume may be impacting the area of SS-013, sampling results from MW-13-009 and -010 may allow for additional perspective towards understanding the SS-013 investigation results.	MW-13-009 and MW-13-010 have been added to the sampling program as requested.
5. The draft work plan states that a report of the planned investigation will supplement the Draft Final RI report, but does not offer what the report will	All environmental investigative information available will be integrated into the Supplemental Remedial Investigation report.

be titled. While a report titled "Supplemental RI: might be sufficient, we note that the AFBCA's response to regulatory comments on the Former Waste Accumulation Area Action Memorandum, letter dated October 30, 1997, makes repetitive statements that certain corrections "should be addressed in the Final RI." Regardless, the NYSDEC requests that the final report include not only the results of the planned field work, but also provide adequate information on all work performed at this site since the RI. This will allow for a more cohesive presentation for public review in the Administrative Record. The title and content of the final report is an appropriate item to develop in a future BCT meeting.	
6. The work plan states that, as a response to USEPA comments on the RI report, the final report will include a discussion of data from three removal actions already completed at SS-013. It appears that a discussion prior to this planned investigation of data already available would allow for the earliest possible identification of regulatory concerns regarding data gaps at this site, if any, and allow for the collection of any necessary additional data during this field effort. A postponement of the initial presentation and discussion of historic data, within the context of the SS-013 IRP project, until after this field work has been performed may cause unnecessary delays and additional expenses if ultimately data needs are identified which require an additional round of field work and reporting.	This data discussion/summary is provided in the "Supplemental Evaluation" report.
7. AFBCA and the BCT should consider whether performing a revised and updated risk assessment is warranted upon the completion of the data analysis. A revised risk assessment may incorporate the significant volume of data gathered since the Draft Final RI and perform an analysis targeting unrestricted re-use of the property.	A revised and updated human health risk assessment (including evaluation of a residential reuse scenario for SS-013) will be included in the Supplemental Remedial Investigation report.
8. Due to previously expressed concerns regarding the significant difference in measured parameters between final purge water and the "sample water" for some previous sampling efforts, the NYSDEC requests that the monitoring well sampling protocol used for this project be modified to help ensure that the sample obtained is truly representative of formation water quality, and not representative of unpurged, "stagnant" water within the well. We request that, after purging and prior to sampling, several bailers of water be carefully evacuated from the well to waste, with a subsequent bailer of water utilized to obtain the groundwater sample.	Revised purging procedures have been added to the Work Plan as requested.

AIR FORCE RESPONSES TO USEPA COMMENTS DATED JUNE 15, 2000 ON THE DRAFT WORK PLAN FOR SUPPLEMENTAL INVESTIGATION AT SITE SS-013

COMMENT	RESPONSE
1. The Work Plan does not address the status of soil removal at each of the three SS-013 leach fields (northern and southern former leach fields, and active leach field), which was recommended in the Draft Final RI Report. The Work Plan needs to be revised to address residual contamination associated with the former northern and southern leach fields, which had documented present of contaminants in excess of TBCs. The Work Plan also needs to address potential contamination associated with piping runs from the Septic Tank that was removed. The Closure Report does not indicate that soil samples were collected from these piping excavations, nor does it indicate the quantity of piping that was removed. Until all of this information is provided in the Work Plan, it cannot be determined whether the Work Plan is adequate in addressing all potential contamination remaining at Site SS-013.	The Draft Final RI Report did not recommend soil removals at the leach fields. The RI stated "soil, surface water, and sediment data, and the risk evaluation all indicate that no action is warranted to address contamination in these media." Groundwater quality in the vicinity of MW-13-008 was of concern and soil removals have been conducted and will be conducted in the future (August 2000) to mitigate contamination in the vicinity of MW-13-008. The removal of the septic system equipment was not conducted as part of the CERCLA process at SS-013. The statement in the RI report that "Groundwater quality is expected to be improved significantly by closure actions at source areas" referred primarily to the soil removal scheduled for UST-3578-A-2. The limited sampling performed as part of the septic equipment removal is summarized in the "Supplemental Evaluation" report provided for SS-013. The exact quantity of piping removed was not accurately documented. Metals analyses have been proposed for the groundwater samples from MW-13-003, MW-13-006, and MW-13-007 to evaluate if the leach fields northeast of Building 3578 and east of Building 3569 are contributing metals to groundwater. Soils associated with the leach field north of Building 3569 are scheduled to be excavated and sampled in August 2000 by Versar.
2. Monitoring wells MW-13-009 and MW-13-010 should be sampled in addition to the SS-13 monitoring wells already planned. Available information indicates that the SS-13 monitoring wells (including MW-13-00 and MW-13-010) were most recently sampled in October 1995. Groundwater conditions may have changed since the previous sampling event nearly five years ago. Although these monitoring wells are not located downgradient of MW-13-008, the close proximity of wells MW-13-009 and MW-13-010 to the apparent downgradient edge of the FT-002 groundwater plume warrants the inclusion of these wells to assess current groundwater conditions at Site SS-013. Since many wells located upgradient of the former UST location are included in the sampling program (e.g., MW-13-003 and MW-13-006), it appears that the goal of the sampling is to characterize not only groundwater downgradient of MW-13-008, but upgradient and sidegradient as well. Inclusion of monitoring wells MW-13-009 and MW-13-010 in the sampling program would help to accomplish this objective.	MW-13-009 and MW-13-010 have been added to the sampling program as requested.

COMMENT	RESPONSE
Groundwater and surface water levels/elevations should be measured concurrently at all SS-013 monitoring wells: stream gauge measurements should also be taken during the Supplemental Investigation. These data can then be used to evaluate current groundwater flow conditions and the interrelationship between the groundwater and surface water in the vicinity of SS-013	A complete round of groundwater and surface water elevation measurements has been added to the Work Plan.
3. Section 4.0 Sampling Program: Although the Work Plan states that wells will be developed using a hydro-lift pump equipped with dedicated and disposable polyethylene tubing, the Work Plan does not specify whether the tubing will be decontaminated between well locations, or replaced with unused tubing. This needs to be clarified in the Work Plan.	The text has been clarified to indicate more clearly that new tubing and foot-valves will be used in each well.
4. Section 4.2 Soil Borings and Sampling: Rather than collect samples from a minimum depth of two feet below prior excavations (as stated in the third sentence of the first paragraph of Section 4.2), the Work Plan should be revised to begin sample collection at depths consistent with the depth at which for former piping was buried. A review of the UST-3578-A-2 Closure Report indicates that sidewall confirmation soil sample EX3578-N was collected from the sidewall located approximately 20 feet northwest of the southwest corner of Building No. 3578. At least one soil borings should be placed northwest of this former sidewall sample location to define the extent of soil contamination in this area. As shown in Figure 4 of the Work Plan, soil borings have not been located in the vicinity of the former northern sidewall where sample EX3578-N was collected.	Soil sampling activities have been removed from this Work Plan. The previously mentioned activities are now being performed by Versar as part of the "*Action Memorandum Weapons Storage Area – Buildings 3578 and 3569 (SS-013).*" This document has been provided to USEPA for review.
5. Section 6.0 Reporting: In addition to the bullet items presented in Section 6.0, the supplemental investigation report should include a discussion of the current status of each SS-013 leach field, and include the results of the confirmation sampling performed after removal of the northern former leach field septic tank and piping.	A separate "Supplemental Evaluation" report has been prepared for site SS-013 which consolidates and summarized all environmental work performed to date at the site.
6. Table 1, Analytical Program. One additional field replicate may be necessary because more than 10 samples are planned (i.e., typically, one replicate for up to 10 samples; two replicates for 11-20 samples).	The additional field replicate has been added to Table 1.
7. Figure 4, SS-013 Site Features & Preliminary Soil Boring Locations: Figure 4 shows the former fill lines extending southeast from the former UST location toward the drainage ditch. The UST Closure Report indicates that the fill lines ran from Building No. 3578 to the UST. Figure 4 should be revised to accurately depict the location of the former fill lines.	Figure 4 has been deleted from the report since soil sampling is no longer in the scope of this Work Plan.

COMMENT	RESPONSE
8. The report for this investigation needs to include a presentation and discussion of all data acquired since the RI at and near Site SS-013. Also, as per the June 8, 2000 BCT meeting, the report is to include a revised human health risk assessment that will include evaluation of a residential future use scenario.	The "Supplemental Evaluation" report presents the data summary requested. The revised HRA evaluation has been added to the reporting section of Work Plan as requested.

SUPPLEMENTAL EVALUATION
SPILL SITE SS-013
MUNITIONS MAINTENANCE SQUADRON

PLATTSBURGH AIR FORCE BASE
NEW YORK

CONTRACT NO. F41624-94-D-8054
DELIVERY ORDER 0055

PREPARED FOR
AIR FORCE CENTER FOR ENVIRONMENTAL EXCELLENCE
BROOKS AIR FORCE BASE, TEXAS

PREPARED BY
URS CONSULTANTS, INC.

JULY 2000

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Appendix B	UST-3578-A-2 Closure Report
Appendix C	SPT-3578 Closure Report
Appendix D	NYSDEC and USEPA Letters regarding Former Waste Accumulation Area (Solvent Storage Pad) Soil Removal

1.0 INTRODUCTION

Spill Site SS-013, the former Munitions Maintenance Squadron (MMS), is located in the southwestern portion of Plattsburgh Air Force Base (PAFB) in Plattsburgh, New York (Figure 1-1). It is one of several sites at the base being investigated and/or remediated as part of the Department of Defense's Installation Restoration Program (IRP). This program, which was developed as a component of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, is being executed on base under a Federal Facilities Agreement (Docket No.: II-CERCLA-FFA-10201) between the United States Air Force (USAF), the United States Environmental Protection Agency (USEPA), and the New York State Department of Environmental Conservation (NYSDEC).

The objective of this Supplemental Evaluation is to summarize data from environmental activities that have occurred at Site SS-013, particularly those occurring after the Remedial Investigation. Investigation/remediation activities at site SS-013 have occurred over a period of fifteen years and have been performed by several different contractors (Table 1-1). In striving for an appropriate resolution to the outstanding environmental issues for site SS-013, the Base Cleanup Team, which includes the USAF, the NYSDEC, and the USEPA, decided that a consolidation of important data gathered from these activities should be undertaken. This Supplemental Evaluation presents this consolidation of data, which will be incorporated into the Supplemental Remedial Investigation report.

2.0 SITE BACKGROUND

2.1 Site Description and History

The former MMS industrial complex is located in a fairly undeveloped portion of the base immediately north of the Weapons Storage Area and west of the runway. The site occupies approximately 50 acres and is located within one of the largest drainage areas at PAFB. Relief is variable across the site with terrain ranging from hilly to swampy. Drainages enter the site from the north and west and flow southward prior to discharging into the nearby Salmon River. The industrial complex consists of several buildings that were used from 1954 to 1991 for the maintenance, storage, and handling of munitions-related items (Figure 2-1).

The Integrated Munitions Maintenance and Storage Branch (Building 3578) of the MMS generated wastes in significant quantities (Radian 1985). Activities carried out by this branch of the squadron were warehousing, inspecting, cleaning, and painting of munitions and munitions support equipment. Materials used or generated included methyl ethyl ketone (50 gallons/year), thinners (30 gallons/year), paints (120 gallons/year) and oil and lubricants (55 gallons/year). Some solvents were staged in drums in a small area approximately 50 feet east of Building 3578, which became known as the Former Waste Accumulation Area (FWAA).

The MMS complex was not connected to the PAFB sanitary sewer system, but instead was served by septic systems with leach fields. Leach fields were located northeast of Building 3578 and north and east of Building 3569. The leach field east of Building 3569 replaced the leach field northeast of Building 3578 (these leach fields serviced Buildings 3578, 3580, 3582, and 3592). The leach field north of Building 3569 only serviced a bathroom in Building 3569. The septic tank, lift station, and most of the piping associated with the septic systems northeast of Building 3578 and east of Building 3569 have been removed. The septic system north of Building 3569 is still in place.

The MMS complex also was not connected to the PAFB central heating plant. Instead, oil-fired boilers/heaters were located in each building. Many buildings had associated aboveground storage tanks (ASTs) underground storage tanks (USTs) for fuel-oil storage. A few diesel fuel tanks and one unleaded gasoline tank were also present in the MMS complex. All ASTs (with the exception of AST-3583, which is an integral part of the emergency generator) and

USTs have been removed from the MMS complex with NYSDEC Region V oversight. UST-3578-A-1 and UST-3578-A-2 were the only tanks with significant contaminant problems. Storage tank information is summarized in Table 2-1.

There are several other IRP sites in the vicinity of SS-013. These include the Flightline (SS-004) to the east and north; the former Fire Training Area (FT-002), the former Liquid Oxygen Plant (SS-027), and a former landfill (LF-023) to the north-northwest; the Explosive Ordnance Demolition Range (SS-026) to the west; and another former landfill (LF-024) to the southwest (Figure 2-2). SS-013 is situated downgradient of groundwater contaminant plumes emanating from sites FT-002 and LF-023. Upgradient wells at SS-013 appear to be impacted by the FT-002 groundwater contaminant plume. Contaminated groundwater from the FT-002 site also discharges into surface water northeast of SS-013 and is carried through the SS-013 drainage.

2.2. Site Physical Characteristics/Geology

The major physical features in the vicinity of the SS-013 site are the industrial complex and the weapons storage bunkers (Figure 2-1). The industrial complex consists of a series of buildings accessible by a paved road. A major drainageway (tributary C-21-1 to the Salmon River) enters near the northeast corner of the site, flows through the facility, and intersects lower-order drainage ditches and swales that originate within and west of the site. These drainageways carry runoff, which eventually discharges into the Salmon River, away from the facility. Most of the area within and immediately surrounding the site is grass-covered.

In general, the land at SS-013 slopes to the south and southwest, although locally it may slope in various directions towards intermediate surface drainages. Topography in the vicinity of SS-013 ranges from hilly to flat and surface elevation ranges from approximately 200 feet above mean sea level (amsl) to approximately 150 feet amsl. The majority of the site has little relief. Because of this topographic variability, coupled with the pattern of the drainageways, several surface water drainage divides occur at the site.

Stratigraphy in the Site SS-013 area generally consists of four hydorgeologic units: an upper unconsolidated sand aquifer; an underlying confining layer formed by a silt and clay unit; a glacial till unit water-bearing zone; and a thinly bedded dolomite bedrock aquifer.

The shallow unconfined sand aquifer consists of fine to medium grain sand with variable amounts of silt, coarse sand, and gravel. The groundwater in some areas of the site is only 0.5 feet below ground surface. This aquifer generally ranges from 10 to 30 feet thick in the vicinity of the site. The sand unit typically becomes finer grained with depth, grading textually into the underlying silt and clay unit.

Figure 2-3 depicts the potentiometric surface of the unconfined sand aquifer, as interpreted from water elevation data gathered on October 5, 1995. The morphology of the water table surface closely resembled the surface topography. Groundwater flow converges along the main drainage that meanders through the site. Due to irregular surface topography, groundwater flow direction varies locally, with horizontal gradients ranging from approximately 0.01 ft/ft to 0.11 ft/ft. East of the industrial complex and tributary C-21-1, groundwater flows west from the runway area toward tributary C-21-1. The horizontal hydraulic gradient in this area is approximately 0.02 ft/ft. West of C-21-1, groundwater flows east towards the tributary, probably in a pattern similar to that of the surface topography. It was reported that C-21-1 and two other lower-order drainages were gaining streams (had baseflow contribution from groundwater), which would locally affect groundwater flow (ABB 1991). In general, groundwater appears to flow toward C-21-1 from the east and west, and locally flows in variable directions following surface topography.

A gray silty clay confining unit lies beneath the unconfined sand aquifer and is believed to be 15 – 20 feet thick in the area of the site.

Glacial till overlies the bedrock in the vicinity of the site and consists of a poorly-sorted gray sand, silt and clay matrix intermixed with gravel, cobbles and boulders. The till is believed to be between 10 and 20 feet thick beneath the site, however, no borings have been advanced through the till unit in the immediately vicinity of SS-013. The till is a water-bearing unit; however, it is separated hydraulically from the overlying water table aquifer by the aforementioned silty-clay confining unit. The bedrock, which underlies the till in the area, is described as thinly, horizontally to sub-horizontally bedded dolomite.

3.0 PREVIOUS INVESTIGATIONS

3.1 Phase I Records Search

In 1985, Radian Corporation completed a Phase I records search to identify sites basewide with possible environmental contamination resulting from past waste disposal practices, and to assess the probability of contaminant migration. Radian assigned a Hazard Assessment Ranking Methodology (HARM) score of 70/100 to the MMS industrial complex. There was direct evidence for migration of hazardous contaminants at the MMS site based on surface water samples collected by the Bioenvironmental Engineering Office at PAFB. These samples contained low part per billion (ppb) levels of methylene chloride, benzene, toluene, dichloroethene, trichloroethene, and trichloroethane.

Radian (1985) recommended that future investigative work include:

- Two surface water samples
- Five monitoring wells
- One 5-foot deep soil boring advanced near Building 3578 to collect soil samples at 1-foot intervals

3.2 Site Investigation

In 1987, E. C. Jordan conducted a series of Site Investigations (SIs) at various PAFB sites, including SS-013 (E.C. Jordan 1989). As part of the SS-013 SI, E.C. Jordan performed the following: (1) a limited soil organic vapor (SOV) survey around the leach field east of Building 3569 to investigate the potential for VOCs in soil gas; (2) installation and sampling of 5 monitoring wells; and (3) collection of 1 surface water and 1 sediment sample in tributary C-21-1 to assess the quality of surface water and sediment downstream of the industrial complex. Due to security restrictions, all SI field activities were conducted outside of the SS-013 security fence (Figure 2-1).

The purpose of the soil gas survey was to assess the presence of several VOCs (namely benzene, toluene, ethylbenzene, xylenes [BTEX compounds]; trichloroethene [TCE]; trichloroethane [TCA]; and tetrachloroethene [or perchloroethylene, or PCE]) in soil gas. Table

3-1 summarizes the soil gas survey results. Low concentrations of PCE ad TCE were detected. Figure 3-1 shows the soil gas survey sampling locations. The results of the soil gas survey were used to help select the SI monitoring well locations.

One paired surface water/sediment sample (SW-1/SD-1) was collected from the main drainage just west of the industrial complex (E.C. Jordan 1989). Figure 3-2 shows the sampling location. Both the surface water and the sediment sample were analyzed for VOCs, SVOCs, and TAL inorganics. The analytical results are summarized in Table 3-2.

TCE was detected at 1 ppb (estimated value) in SW-01. Inorganics detected above Contract Required Detection Limits (CRDLs) included calcium, iron, magnesium, manganese, and sodium.

Low ppb levels of chloroform, methylene chloride, and acetone was detected in SD-01 but were attributed to laboratory contamination. Bis(2-ethylhexyl)phthalate (BEHP) was detected at an estimated concentration of 68 ppb. Metals detected above CRDLs were aluminum, arsenic, calcium, chromium, iron, lead, manganese, and zinc.

E.C. Jordan recommended that additional investigations of the drainageways be conducted at the site.

Five water table aquifer monitoring wells (currently designated MW-13-001 through MW-13-005) were installed during the SI (locations shown in Figure 2-3). MW-13-001/MW-13-002 are a well pair screening the water table aquifer upgradient from the MMS complex. MW-13-003 is located downgradient of the leach field east of Building 3569. MW-13-004 and MW-13-005 are located well downgradient of the MMS complex. Groundwater samples from these wells were analyzed for VOCs and TAL inorganics. Petroleum hydrocarbon (PHC) analyses were conducted on samples from MW-13-001 through MW-13-004. SVOC analysis was conducted on the sample from MW-13-005. Table 3-3 presents the results of these analyses. These data were not subjected to chemical audit.

2-butanone was detected in samples MW-13-003 and MW-13-004 at concentrations of 59 and 170 ppb, respectively. All methylene chloride detections were attributed to laboratory contamination. Xylene had an estimated concentration of 3.1 ppb in MW-13-005. BEHP was the

only SVOC detected in sample MW-13-005 (3.8 ppb), but the concentration was estimated. PHCs were not detected in any of the tested samples. Eighteen metals were detected in the 5 samples. Several samples had concentrations of a single metal that appeared elevated compared to other samples. These were: aluminum in MW-13-005 (729 ppb); chromium in MW-13-004 (11 ppb); iron in MW-13-001 (18,400 ppb); manganese in MW-13-001 (3,110 ppb); lead in MW-13-005 (8.2 ppb); and sodium in MW-13-005 (30,300 ppb). E.C. Jordan recommended that groundwater quality downgradient of the leach fields be investigated.

3.3 Drainage Flow Study

ABB Environmental Services, Inc. (formerly E.C. Jordan Co.) completed a base-wide drainage flow study in September 1991 (ABB 1991). The purpose of the study was to establish baseline water quality data and to characterize the surface water network at PAFB. As part of this study, 7 locations were monitored for one year in the vicinity of SS-013. These monitoring locations, designated SW-13-015 through SW-13-021, are shown in Figure 3-2.

Forty-two surface water samples were collected from the 7 locations and were analyzed for VOCs, SVOCs, hardness, and glycols. Not all samples were analyzed for each chemical class during each round of sampling. Sampling took place at approximately monthly intervals between October 31, 1989, and October 11, 1990. Table 3-4 summarizes the analytical results.

Sampling point SW-13-15 was established at a location from which the total discharge from the study area could be measured as it enters the Salmon River. Twelve samples were taken at this point, at approximately monthly intervals. Only one VOC, 1,2-DCE at 5 ppb, was detected. No SVOCs were detected. Hardness was found to range from 180 to 300 ppm. During sampling rounds 10 and 12, glycol was detected at 190 and 280 ppb, respectively.

Sampling point SW-13-16 was established in the drainage just above SS-013. Its purpose was to monitor the discharge from a 5-foot diameter steel culvert. Surface water samples were taken quarterly. In the first two sampling rounds, 1,2-DCE was detected at 6 and 11 ppb, respectively. TCE was detected during round 2 at 5 ppb. No SVOCs were detected. Hardness was found to range from 240 to 270 ppm. Due to the relatively low level of VOCs detected at this sampling point, two additional upstream sampling locations (SW-13-17 and SW-13-18) were established, and sampling at SW-13-16 was discontinued. SW-13-18 monitored the outfall of a

storm sewer system that drains areas along the north end of the runway. SW-13-17 monitored the outfall of a storm sewer system that drains the basin between the runway and flightline. This basin receives contaminated groundwater discharge from site FT-002 (URS 2000).

1,2-DCE and TCE were detected at SW-13-17 throughout all sampling rounds at concentrations ranging from 21 to 110 ppb and 13 to 55 ppb, respectively. Phenol was detected once at 3 ppb. At SW-13-18, detected concentrations of these same VOCs ranged from 5 to 11 ppb and 5 to 9 ppb, respectively. ABB (1991) reported that the source of these contaminants appeared to be the dissolved groundwater plume from FT-002.

SW-13-19, SW-13-20, and SW-13-21 were located along the western boundary of the base, near Interstate 87 (Figure 3-2). These locations were sampled quarterly. No VOCs or SVOCs were detected. No glycol analyses were performed. Hardness values ranged from 220 to 510 ppm. ABB attributed the higher hardness values to the salting of Interstate 87 during the winter months.

3.4 Remedial Investigation

Additional hydrogeologic and chemical data were obtained during the Remedial Investigation (RI) performed by URS Consultants, Inc. (URS 1996). Field activities were conducted in two phases. The first phase, conducted between July 1993 and February 1994, included: a soil gas survey; collection and chemical analysis of 19 surface soil samples, 26 subsurface soil samples, 20 groundwater screening samples, 12 surface water and 12 sediment samples; installation and development of 3 monitoring wells; and sampling of groundwater at the 3 newly installed monitoring wells and at 3 existing monitoring wells (2 rounds). The second phase, conducted from August through October 1995, included: installation of 4 monitoring wells and 8 piezometers; groundwater sampling from the 12 SS-013 wells and 8 existing wells at sites FT-002 and LF-023; collection of 11 sediment samples for TOC analysis; collection and analysis of 2 soil samples; and installation of 12 stream gauges. Complete RI analytical data tables are included as Appendix A.

3.4.1 Soil Gas Survey Results

Seventy-five soil gas samples were collected at locations depicted in Figure 3-1. The samples were analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX), total volatile organic hydrocarbons (TVHCs),TCA, TCE, and PCE. Soil gas samples were analyzed immediately after collection by Tracer Research using a mobile laboratory. Analytical results are summarized in Table 3-5. TCA was the most commonly detected compound, present at 59 locations at concentrations of 5 parts per million (ppm) or less. TCA was detected at all 3 leach fields. TCE (8 detections) and PCE (7 detections) were also detected. Benzene, toluene, ethylbenzene, and xylenes were not detected. TVHCs were detected in only 3 samples at concentrations of 200 ppm or less. Results were used as a guide in establishing sampling points for collection of surface soil samples.

3.4.2 Surface Soil Results

Nineteen surface soil samples were collected during the first phase of the RI. Ten samples were taken in the vicinity of Building 3578 and the leach field northeast of this building, 4 in the area of the leach field north of Building 3569, and 4 in the leach field east of Building 3569 (Figure 3-3). The remaining sample (SS-13-19) was taken as a background sample from an undisturbed, forested area west of the industrial complex. All Phase 1 surface soil samples were analyzed for VOCs, SVOCs, and TAL metals. Three surface soil samples (SS-13-06, SS-13-07, and SS-13-09) were also analyzed for pesticides and PCBs. A summary of the analytes detected in the surface soil samples is presented in Table 3-6.

Six VOCs were variously detected in 7 of the Phase 1 surface soil samples. Individual samples commonly contained only 1 VOC. Detected VOCs included acetone, methylene chloride, 2-butanone, 2-hexanone, toluene, and xylene. Total VOC concentrations ranged from 2 ppb of xylene in SS-13-18 to 3,300 ppb of toluene in SS-13-12.

Nineteen SVOCs, consisting of 17 PAHs and 2 phthalates, were detected in 11 surface soil samples. The highest total SVOC concentration (53,820 ppb) occurred in sample SS-13-10 at the former waste accumulation area, where all the SVOCs detected were PAHs. The highest concentration of total phthalates (3,426 ppb) occurred in SS-13-04.

Total PAH concentrations of greater than 1,000 ppb were measured in 3 samples (SS-13-04: 4,822 ppb; SS-13-09: 1,661 ppb; and SS-13-10: 53,820 ppb) taken at the former waste accumulation area, and in one sample (SS-13-07: 19,350 ppb) taken near Building 3569.

Six pesticides were detected among the 3 surface soil samples that were analyzed for pesticides/PCBs. Pesticides were detected most frequently and at the highest concentrations in sample SS-13-07. Total pesticide concentrations ranged from 0.55 ppb in SS-13-05 to 23.2 ppb in SS-13-07. Detected pesticides included endrin, 4,4'-DDD, endosulfan sulfate, 4,4'-DDT, methoxychlor and alpha-chlordane.

Among PCBs, only Aroclor-1254 was detected (in SS-13-06 at 17 ppb). This sample was collected just south of Building 3569. No PCBs were detected in the duplicate sample from this location. PCBs were not detected in the other two samples.

Twenty of the 23 TAL metals were detected in the 18 non-background surface soil samples. Mercury, selenium, and silver were the only metals not detected. Cyanide was detected only in sample SS-13-07 at 3.5 ppb.

Two near surface soil samples (SB-13-16-1 and SB-13-17-1) were collected at a depth of 1-2 feet during the second phase of the investigation. Although these samples have soil boring (SB) designations they were treated as surface soil samples. These samples were analyzed for VOCs, SVOCs, and RCRA metals.

Seven VOCs were detected in sample SB-13-17-1. The detected VOCs were acetone (44 ppb), total 1,2-dichloroethene (1,300 ppb), 2-butanone (41 ppb), TCE (25 ppb), toluene (24,000 ppb), ethylbenzene (97 ppb), and xylenes (total, 470 ppb). No VOCs were detected in sample SB-13-16-1.

SVOCs detected in the two Phase 2 samples included phenanthrene, fluoranthene, pyrene, butylbenlphthalate, benzo(a)anthracene, chrysene, bis(2-ethylhexyl)phthalate, and benzo(b)fluoranthene; all SVOCs were detected at relatively low concentrations.

Among RCRA metals, arsenic, barium, chromium, and lead were detected in both samples at concentrations well below their respective "to be considered" (TBC) regulatory guidance values.

3.4.2.1 Summary – Surface Soil

Contaminants and their detected concentrations in the surface soil samples are shown in Figure 3-4. Individual VOCs, pesticides, and PCBs are listed at their detected concentrations. SVOCs have been grouped into: (1) total phthalates; (2) total non-carcinogenic PAHs; and (3) total carcinogenic PAHs. Metals concentrations that exceeded TBC values are also listed.

VOCs, SVOCs, pesticides, one PCB, and metals were detected in the surface soil samples taken from SS-013. Among VOCs, toluene (3,300 ppb in SS-13-12 and 24,000 ppb in SB-13-17-1) and total 1,2-dichloroethene (1,300 ppb in SB-13-17-1) were detected at concentrations that exceeded TBC values. SVOCs detected at concentrations that exceeded TBCs include (with the number of TBC contraventions in parentheses): chrysene (3), benzo(a)anthracene (2), benzo(b)fluoranthene (3), benzo(k)fluoranthene (1), benzo(a)pyrene (7), and dibenz(a,h)anthracene (4). No pesticides or PCBs were detected at concentrations exceeding TBCs. Among metals, magnesium in SS-13-11, manganese in SS-13-01, and thallium in SS-13-06 exceeded TBC values. Comparisons with TBC values are summarized in Table 3-6.

3.4.3 Subsurface Soil Results

Twenty-six subsurface soil samples were collected from the RI borings (SB-13-01 through SB-13-11). Locations are shown in Figure 3-3. No subsurface soil samples were collected from SB-13-12 through SB-13-15. A background subsurface soil sample (SS-13-19-3) was collected from an undisturbed area west of the industrial complex at a depth of 3 feet (Figure 3-3). Twenty-one samples were analyzed for VOCs, SVOCs, pesticides, PCBs, and TAL metals. Selected samples were analyzed for TCLP and other parameters. A summary of the analytes detected in the subsurface soil samples is presented in Table 3-7.

Nine VOCs were variously detected in 10 of the subsurface soil samples. Detected VOCs included benzene, toluene, ethylbenzene, xylenes, 1,2-dichloroethene, acetone, 2-butanone, methylene chloride, and vinyl chloride. Concentrations of total VOCs ranged from 0.9

ppb in sample SB-13-05-3 to 925 ppb in sample SB-13-01-2. In general, toluene, xylenes, and acetone were the most frequently detected VOCs.

Samples with the highest frequency of VOC detections were: SB-13-01-2 and SB-13-01-3 (6 VOCs each) from the leach field north of Building 3569 and SB-13-03-2 and SB-13-03-5 (4 VOCs each) from near the former waste accumulation area. In most other samples only one or two VOCs were detected. VOCs were detected in samples taken throughout the industrial complex, with the exception of those from the leach field east of Building 3569.

Twenty-three SVOCs, consisting of 19 PAHs, 2 phthalates, 1,2-dichlorobenzene, and 1,2,4-trichlorobenzene, were detected in 15 samples. The highest concentration of total SVOCs occurred in sample SB-13-10-4 at 62,130 ppb, all of which were PAHs. PAH concentrations above 10,000 ppb were also found in samples SB-13-06-2 and SB-13-10-4. The highest concentration of total phthalates (80 ppb) occurred in sample SB-13-05-3.

PAH concentrations in subsurface soil ranged from the same order of magnitude as PAHs in surface soil to two orders of magnitude lower. Generally, subsurface soil samples were collected in the same areas as surface soil samples.

Eight pesticides were detected in 12 of the subsurface soil samples. The greatest frequency of pesticide detections occurred in samples SB-13-10-2 and SB-13-08-2. The highest concentrations of pesticides were detected in sample SB-13-08-4 (4,4'-DDE at 11 ppb, 4,4'-DDD at 2.4 ppb, and 4,4'-DDT at 7.6 ppb) and SB-13-01-3 (4,4'-DDE at 1.4 ppb and endrin ketone at 20 ppb). Generally, only one or two pesticides were detected in the remaining samples. Pesticides occurred throughout the SS-013 site and concentrations in subsurface soil samples were of the same order of magnitude as in the surface soil samples. No PCBs were detected in subsurface soil samples at this site.

TAL metals were detected in every subsurface soil sample. Among these metals, aluminum, calcium, chromium, iron, magnesium, and zinc were detected in every sample, and arsenic, barium, lead, and manganese were detected in 20 of the 21 samples. Mercury, silver, and thallium were the only undetected metals. Cyanide was not detected in any sample. Samples that contained the greatest number of metals whose concentrations exceeded TBCs were SB-13-03-2, SB-13-08-2, and SB-13-08-4.

3.4.3.1 Summary – Subsurface Soil

Contaminants detected in subsurface soil samples taken from SS-013 are shown in Figure 3-5. Individual VOCs, pesticides, and PCBs are listed at their detected concentrations. SVOCs have been grouped into: (1) total phthalates; (2) total non-carcinogenic PAHs; and (3) total carcinogenic PAHs. Metals concentrations that exceeded TBC values are also listed.

VOCs, particularly BTEX compounds, were detected more frequently in the subsurface soil samples than in the surface soil samples. This is a common pattern resulting from greater loss through volatilization of the BTEX compounds from the surface soils. Six subsurface soil samples showed BTEX compound concentrations from 0.9 to 145 ppb, with the highest concentration found at SB-13-01-2. SVOCs (in this case, all PAHs) were detected at a lower frequency and concentration in subsurface soil than in surface soil. PAHs are relatively immobile in soils and, hence, their concentrations are generally higher in surface as opposed to subsurface soils. Additionally, PAHs tend to adsorb to the organic carbon in soils, which is usually present at higher levels in the surface soils.

Among VOCs, only acetone (610 ppb) in sample SB-13-01-2 exceeded TBC values. SVOCs with detected concentrations greater than TBCs include (number of TBC contravening detections in parentheses): benzo(a)anthracene (2), chrysene (2), benzo(b)fluoranthene (2), benzo(k)fluoranthene (2), benzo(a)pyrene (4), and dibenz(a,h)anthracene (1). No pesticide or PCB concentrations exceeded TBCs.

Metals detected at concentrations exceeding TBCs included aluminum, antimony, arsenic, calcium, chromium, lead, magnesium, nickel, potassium, selenium, and zinc. Comparisons with TBC values are summarized in Table 3-7.

3.4.4 Surface Water Results

Twelve surface water samples were taken at the locations shown in Figure 3-6. All samples were analyzed for VOCs and SVOCs; 4 (SW-13-01, SW-13-04, SW-13-07, and SW-13-12) were analyzed for pesticides, PCBs, and RCRA metals. One sample, SW-13-01, was also tested for hardness. Analytical results are summarized in Table 3-8.

The following VOCs were detected: 1,2-DCE in samples SW-13-02 (4 ppb) and SW-13-04 (4 ppb); TCE in samples SW-13-02 (4 ppb), SW-13-04 (3 ppb), and SW-13-06 (2 ppb); and xylenes in samples SW-13-06 (7 ppb) and SW-13-12 (4 ppb).

The only SVOC detected in surface water samples was BEHP, which was detected in 2 samples (SW-13-01 and SW-13-02) at concentrations up to 12 ppb. No pesticides or PCBs were detected.

Three metals (barium, chromium, and silver) were detected. Barium was detected in all samples for which metals analysis was conducted. Chromium was detected in one sample, SW-13-12, at 10.6 ppb. Silver was detected in two samples: SW-13-01 (2.5 ppb) and SW-13-07 (2.0 ppb).

3.4.4.1 Summary – Surface Water

Contaminants observed in the surface water samples collected at SS-013 are shown in Figure 3-6. VOCs, SVOCs, pesticides, and PCBs, are listed at their detected concentrations. ABB (1991) attributed the presence of TCE and 1,2 DCE in surface waters upstream of SS-013 to the FT-002 groundwater contaminant plume seeping into drainageways. VOCs were detected in RI surface water samples adjacent to and just downstream of Building 3578. These included chlorinated solvents (1,2-DCE and TCE) and xylenes. Xylenes also were detected just downstream of the WSA bunkers. Xylenes were not detected during previous investigations. The only other organic compounds detected were phthalates at relatively low concentrations. These detections were infrequent. Detections of inorganics were also infrequent and at relatively low concentrations. The minor surface water contamination at SS-013 appeared to result from a combination of onsite sources and the FT-002 groundwater plume.

3.4.5 Sediment Results

Twelve sediment samples were taken from each of the locations shown in Figure 3-6. All samples were analyzed for VOCs and SVOCs. Four samples (SD-13-01, SD-13-04, SD-13-07, and SD-13-12) were analyzed for pesticides, PCBs, and TAL metals. Sample SD-13-01 was also analyzed for Total Organic Carbon (TOC) content. Locations SD-13-02 through SD-13-12

subsequently were resampled and analyzed for TOC in the second phase of field activities. Analytical results are summarized in Table 3-9.

Four VOCs were detected in the sediment samples (methylene chloride, acetone, 2-butanone, and toluene) at concentrations up to 60 ppb. Among VOCs, acetone was detected most frequently (in 10 of 12 samples) and at the highest concentrations. Methylene chloride was detected in 5 of the 12 samples, and 2-butanone in 4. Sample SD-13-09 had the highest total VOC concentration (80 ppb).

SVOCs were detected in 9 samples. SVOCs detected were primarily PAHs. Phthalates were also detected. Individual PAH concentrations ranged from 10 ppb of dibenzofuran in SD-13-05 to 200 ppb of fluoranthene in SD-13-05. Concentrations of total PAHs ranged from 986 ppb in SD-13-05 to 21 ppb in SD-13-12.

Three pesticides, aldrin, 4,4'-DDE, and 4,4'-DDD, were detected. Aldrin was detected in samples SD-13-04 (0.85 ppb) and SD-13-07 (3.2 ppb). 4,4'-DDE was detected in samples SD-13-01 (0.29 ppb) and SD-13-04 (2.3 ppb). 4,4'-DDD was detected in one sample, SD-13-07, at 0.85 ppb. Aroclor-1248 was detected at a concentration of 53 ppb in SD-13-07.

Eighteen metals were detected in the sediment samples. Of the three metals detected in the surface water samples (barium, chromium, and silver), only silver was not detected in any sediment samples. Barium and chromium were detected in all the sediment samples.

Iron was detected in each of the four sediment samples analyzed, with the greatest concentration (41,100 ppb) occurring in SD-13-04. This concentration is one order of magnitude higher than the levels of iron detected in any other sample. Magnesium was detected in SD-13-04 (1,060 ppm) and SD-13-07 (1,390 ppm) at higher concentrations than in SD-13-01 (743 ppb) and SD-13-12 (509 ppm). Manganese was also detected in each of the sediment samples. Manganese was detected in SD-13-04 at 2,750 ppm, which is 1 to 2 orders of magnitude higher than other detected values. In general, concentrations of metals were greater in SD-13-04 and SD-13-07.

3.4.5.1 Summary - Sediments

Contaminants observed in the sediment samples are shown in Figure 3-6. Individual VOCs, pesticides, and PCBs are listed at their detected concentrations. SVOCs have been grouped into: (1) total phthalates; (2) total non-carcinogenic PAHs; and (3) total carcinogenic PAHs. Metals concentrations that exceeded TBC values are also listed.

Sediment contamination at SS-013 appears most prevalent just downstream of Building 3578 (SD-13-04, SD-13-06 to SD-13-09) and near the former leach field north of Building 3569 (SD-13-05). The first location has the highest concentrations of VOCs, pesticides, and PCBs, while the latter has the highest detections of SVOCs. Contaminants exceeding TBC values include PAHs, 4,4'-DDE, 4,4' DDD, Aroclor 1248, and three metals.

3.4.6 Groundwater Results

Groundwater investigations were undertaken in two phases. In Phase 1, groundwater screening samples were collected in 15 soil borings, using a HydroPunch sampler. Groundwater samples were collected in two rounds from 4 existing monitoring wells and 3 newly installed monitoring wells.

In Phase 2, 4 additional monitoring wells were installed at SS-013. A third round of groundwater samples was then collected from the 12 SS-013 monitoring wells and 8 upgradient monitoring wells from IRP sites FT-002, SS-004, LF-023, and SS-027. These samples were collected to evaluate the impact of groundwater contaminant plumes from sites LF-023 and FT-002 on SS-013. The following subsections present a summary of field data and analytical results, and a discussion of the nature and extent of groundwater contamination in the unconfined, water-table aquifer.

3.4.6.1 Groundwater Screening Results

Groundwater screening samples were collected at all 15 Phase 1 boring locations (Figure 3-7). Twenty samples were collected and analyzed for VOCs and SVOCs. A summary of the analytes detected in the groundwater screening samples is presented in Table 3-10, and shown in Figure 3-7.

Ten VOCs were variously detected in 14 of the groundwater screening samples. VOCs were not detected in 6 samples. Only one or two VOCs were detected in most samples, although in a few samples up to 7 VOCs were detected. Total VOC concentration ranged from 3 ppb in HP-13-10-8 to 2,308 ppb in HP-13-06-6. Acetone was the most frequently detected VOC, at concentrations ranging from 29 ppb in HP-13-09-45 to 2,300 ppb in HP-13-06-6. Vinyl chloride was detected in only two samples: HP-13-03-8 at 7 ppb and HP-13-15-11 at 21 ppb. BTEX compounds were detected in only 2 samples: HP-13-06-6 (8 ppb) and HP-13-15-11 (25 ppb).

Eighteen SVOCs were detected in 11 of the groundwater screening samples. SVOCs were not detected in 9 of the samples. SVOC detections were primarily PAHs, phthalates, and phenolic compounds. Most PAH and phthalate compounds have very low water solubilities and their presence in the groundwater screening samples is probably indicative of the presence of organic particles (sediment) in the samples to which the PAHs and phthalates are absorbed. Concentrations of total PAHs ranged from 3 ppb in HP-13-06-6 to 1,773 ppb in HP-13-15-11. Total phthalates ranged from 1 ppb in HP-13-02-6 and HP-13-03-8 to 11 ppb in HP-13-11-22. Phenolic compounds were detected only in HP-13-15-11 at 15 ppb.

3.4.6.2 Phase 1 Monitoring Well Sampling Results

Six monitoring wells were sampled during each of the first two rounds [a seventh well could not be sampled because the water in it was frozen.] Samples were analyzed for TCL organics and RCRA metals. Except for the sample taken from monitoring well MW-13-008, the volatiles fraction of each sample collected during the second-round sampling event was analyzed by USEPA Method 524.2, modified to quantify all TCL volatiles. Contaminants detected in the first and second round sampling events are shown in Figures 3-8 and 3-9 respectively. A summary of these results is also presented in Table 3-11.

First Round

Seven VOCs were detected in the first round groundwater samples. Concentrations of total VOCs ranged from 9 ppb in MW-13-006 to 115 ppb in MW-13-008. Chloromethane and 1,2-DCA were the most frequently detected VOCs. Vinyl chloride (53 ppb) and BTEX compounds (51 ppb) were also detected in MW-13-008.

SVOCs were detected in two wells, MW-13-004 and MW-13-008. Naphthalene was the only SVOC detected in MW-13-004 at a concentration of 5 ppb. The total concentration of SVOCs detected in MW-13-008 was 3,258 ppb, composed primarily of PAH compounds. Naphthalene was detected at a concentration of 2,700 ppb in MW-13-008. No pesticides or PCBs were detected in the first round groundwater samples.

Detected metals included arsenic, barium, chromium, lead, selenium, and mercury. Lead concentrations ranged from 1 ppb in MW-13-004 to 19.8 ppb in MW-13-008. Mercury (0.25 ppb) was detected only in MW-13-004.

The analytical results for the groundwater samples were compared to groundwater standards. During first-round sampling, ARARs were exceeded for: chloromethane in MW-13-006, MW-13-007, and MW-13-008; and vinyl chloride, toluene, ethylbenzene, xylenes, naphthalene, 2-methylnaphthalene, acenaphthene, and carbazole in MW-13-008. The only metals detected at levels exceeding ARARs were: arsenic (MW-13-006); chromium (MW-13-006, MW-13-008, and MW-13-007); and lead (MW-13-006 and MW-13-007, MW-13-008).

Ethylene glycol was not detected in any sample collected in the first round.

Second Round

During second round sampling, 9 VOCs were detected. Concentrations of total VOCs ranged from 4.9 ppb in MW-13-003 to 61 ppb in MW-13-008. Most frequently detected VOCs were chloromethane, acetone, and 1,2-DCA. Other VOCs detected included vinyl chloride at 27 ppb, 1,2-DCE at 1 ppb, styrene at 1 ppb at 1 ppb, and three BTEX compounds at 32 ppb, all in MW-13-008. The highest detected concentration of acetone occurred in the upgradient well (MW-13-001), at 34 ppb.

SVOC compounds were detected in only one sample, MW-13-008, at a total concentration of 1,576 ppb. Most SVOCs detections were PAHs. Individual SVOC detections ranged from 2 ppb of acenaphthylene to 860 ppb naphthalene. No pesticides or PCBs were detected in the second round groundwater samples.

Detected metals included arsenic, barium, cadmium, chromium, and lead. Lead concentrations ranged from 7.1 to 11.3 ppb in unfiltered samples. In general, metals were

detected more frequently and at higher concentrations in the unfiltered samples than in the filtered samples.

During second-round sampling, ARARs were exceeded for: chloromethane in MW-13-004; and vinyl chloride, toluene, ethylbenzene, xylenes, 2,4-dimethylphenol, naphthalene, 2-methylnaphthalene, and acenaphthene in MW-13-008. The only metal detected at a level that exceeded ARARs was lead in MW-13-006.

3.4.6.3 Phase 2 Monitoring Well Groundwater Sampling Results

A third round of groundwater sampling was conducted in October 1995 to evaluate the impact of the FT-002 groundwater contaminant plume on SS-013. The 12 SS-013 monitoring wells and 8 upgradient wells from adjacent IRP sites were sampled and analyzed for TCL VOCs at Method 524.2 (low level) detection limits. With the exception of well MW-13-008, all VOC detections were in wells located upgradient of SS-013.

Seven VOCs were detected in sample MW-13-008 (vinyl chloride, 1,2-dichlorethene, all BTEX compounds, and styrene). The detected concentrations of vinyl chloride (38 ppb), benzene (4.1 ppb), and xylenes (15 ppb) exceeded their respective ARAR values. The analytical results from the third round of sampling are displayed in Figure 3-10, and summarized in Table 3-11.

3.4.6.4 Extent of SS-013 Groundwater Contamination

In order to delineate the horizontal extent of volatiles groundwater contamination at SS-013, the analytical data derived from groundwater screening samples were used to plot various VOC isoconcentration contour maps. These maps (Figures 3-11 through 3-14) illustrate the horizontal extent of 1) total VOCs, 2) BTEX compounds, 3) chlorinated solvents, and 4) acetone. Groundwater screening results were used because these data comprised the greatest number of sample locations. However, because groundwater screening samples are generally turbid and contain small soil fractions, they give less accurate measurements of groundwater contamination than do monitoring well samples.

The extent of total VOC contamination based on groundwater screening results is shown on Figure 3-11. It appears that VOC contamination occurs in 3 areas: (1) the leach field northeast of Building 3578; (2) immediately downgradient of the Building 3578 UST; and (3) the

leach field east of Building 3569. The primary components of the total VOCs were BTEX, chlorinated solvents, and acetone.

Figure 3-12 shows the extent of BTEX contamination. Maximum BTEX concentrations were 25 ppb at SB-13-15, near the location of the UST. Two areas appear to be affected by BTEX contamination: (1) the leach field northeast of Building 3578; and (2) the area near the Building 3578 UST. The extent of chlorinated solvent contamination is shown in Figure 3-13. Chlorinated solvents were detected in the area between Building 3578 and the leach field, and in the vicinity of the UST. The extent of acetone contamination is shown in Figure 3-14. The dissolved acetone plume resembles that of the total VOCs.

As outlined above, groundwater screening data indicated three likely areas of VOC contaminated groundwater: the leach field east of Building 3569, the leach field northeast of Building 3578, and the area immediately downgradient of the Building 3578 UST. The third round results from monitoring well samples collected in these areas were then used to more comprehensively evaluate the nature of VOC groundwater contamination.

No volatile organic compounds were detected in the monitoring well samples collected near either the leach field east of Building 3569 (MW-13-003 and MW-13-006) or the leach field northeast of Building 3578 (MW-13-007). BTEX compounds and chlorinated solvents were both detected in MW-13-008, just sidegradient of the Building 3578 UST. Acetone was not detected in any of the three areas. Therefore, it is likely that the area of greatest concern regarding VOCs in groundwater is the region in the vicinity of the Building 3578 UST. The other two areas delineated by the groundwater screening data (the aforementioned leach fields) do not appear to have significant VOC contaminated groundwater. It is possible that the observed decrease in VOC concentrations downgradient from the leach fields is related to the closing of the facility in 1995.

The vertical extent of volatiles contamination based upon groundwater screening results appears to be limited to a relatively narrow zone in the vicinity of Building 3578. In this area, the underlying silt and clay confining unit is relatively shallow (up to 20 feet below ground surface). The saturated thickness ranges from approximately 5 to 15 feet. Contamination in this area is not expected to migrate below the top of the silt and clay layer. In the vicinity of the leach field north of Building 3569, however, the sand aquifer is considerably thicker (approximately 50 feet). The saturated thickness in this area was found to be approximately 35 feet. Groundwater

screening samples were taken at varying depths up to the top of silt and clay. Results indicated that contaminant concentrations decrease with depth in the vicinity of the leach field north of Building 3569 (HP13-9-23 and HP13-9-45). Moreover, at SB-13-12, no contaminants were detected in the 27- and 38-foot depth samples (HP13-12-27 and HP13-12-38).

3.4.7 RI Summary and Conclusions

Site contamination was attributed to five potential onsite source areas which are shown in Figure 3-15 and include: (1) the leach field northeast of Building 3578; (2) the leach field north of Building 3569; (3) the leach field east of Building 3569; (4) the former waste accumulation area; and (5) the UST located southwest of Building 3578. Contamination in the leach fields is likely a result of small spills that may have reached the leach fields through floor drains and the sewer network. The waste accumulation area was used for drum storage and staging. A solvent storage pad, located about 30 feet north of the waste accumulation area, was used to stage drums of solvents, primarily toluene. Spills may have occurred in these areas. The UST (and the former UST it replaced) appears to have leaked an unknown quantity of #2 fuel oil.

Migration Pathways

Potential migration pathways are shown in Figure 3-15. In general, contamination migrates from the five potential source areas into groundwater. Contamination in groundwater may then discharge into surface drainage near the site. Surface drainages are also impacted by upgradient sources.

Human Health Risk

Human health risks associated with exposure to potentially contaminated media were assessed under three exposure scenarios as follows:

- Current conditions under which trespassers could be exposed to surface soil contaminants

- Hypothetical future conditions under which construction workers could be exposed to surface and subsurface soil contaminants during intrusive activities

- Hypothetical future conditions under which industrial workers could be exposed to groundwater (through ingestion or inhalation of vapors) or soil (through incidental ingestion or dermal contact)

The results of risk analysis, summarized in Table 3-12, show the following:

- Risks to trespassers, under the current use scenario, are below acceptable levels
- Risks to construction workers, under hypothetical future conditions, are below acceptable levels
- Risks to industrial workers, under hypothetical future conditions, from exposure to soil contaminants only are below acceptable levels
- Risks to industrial workers from exposure to groundwater contaminants are above acceptable levels

Risks from exposure to groundwater are largely due to vinyl chloride and arsenic. Since a municipal water supply serviced this area of the base, the probability of groundwater use and subsequent human exposure is minimal.

Ecological Risk

Risks to wildlife were assessed by evaluating potential impacts of soil and sediment contaminants on four terrestrial indicator species. Results showed that there is no potential risks to terrestrial species from soil contamination. There is a potential impact on one of the four species (the meadow mouse) from sediment contamination. However, the magnitude of impact on this species is expected to be small, (i.e., only 5 mice in the population could experience chronic effects at a given time).

Risks to aquatic life were assessed by comparing representative surface water concentrations to federal and state water quality criteria and guidelines. Concentrations of all chemicals, except silver, were below established values. Silver contamination is not believed to be attributable to the site.

In general, site-related contaminants do not appear to represent a significant threat to ecological receptors.

Impact of Offsite Sources of Contamination

Four monitoring wells and eight piezometers were installed in the fall of 1995, mainly to assess the impact of the upgradient fire training area (FT-002) and landfill (LF-023) on the MMS site. Results of the third round of groundwater sampling show that the fire training area plume is migrating and is beginning to encroach on the MMS area, since 1,2 DCE and TCE were detected at MW-13-001. However, contamination had not impacted wells in the MMS industrial complex area.

3.4.8 RI Recommendations

Soil, surface water, and sediment data, and the risk evaluation all indicated that no action was warranted to address contamination in these media.

The localized groundwater contamination around MW-13-008 represented a potential future health threat. This threat could be mitigated by implementation of deed restrictions on future groundwater use. Such restrictions could be readily instituted since municipal water is available in this area of the base. However, source mitigation, in addition to deed restrictions, appeared prudent to further ensure protection.

Groundwater quality was expected to improve significantly after closure actions at source areas which were scheduled to begin in 1996. The closure actions were projected to include the following:

- Contract No. 41625-94-D8106 was to include removal of the UST near Building 3578 and associated contaminated soil.

- Project No. 95-6010 Phase II was to include removal of the leach fields.

In addition to the above actions, it was recommended that a removal action be performed at the former waste accumulation area (the only source area not addressed by the above actions)

to further improve groundwater quality. The primary area of concern was at the former solvent storage pad near samples SB-13-17-1 and SS-13-13. It was expected that groundwater quality would significantly improve and eventually be restored to acceptable quality after the contaminant sources were removed. Source removal, along with deed restrictions, would ensure protection of human health.

3.5 1996 Equipment Removals

In 1996, OHM Remediation Services Corporation (OHM) removed the underground fuel-oil storage tank located southwest of Building 3578 and the majority of the septic system equipment at SS-013. The piping, septic tank, sand filter, and leach field north of Building 3569 were not removed. The removal activities are summarized in the following two sections. The complete Closure Reports are included as appendices B and C.

3.5.1 UST-3578-A-2 Removal

On March 26, 1996, OHM excavated and removed the 6,000 gallon underground fuel oil storage tank located southwest of Building 3578. Soil around the UST was excavated to a depth of approximately 20 feet and temporarily stockpiled adjacent to the excavation on plastic sheeting. Groundwater was encountered at a depth of approximately 3 feet. Staining and hydrocarbon odors were present at the time of the removal.

On June 5, 1996, a groundwater sample was collected from monitoring well MW-13-008, which is located in a concrete parking area surrounding Building 3578 and is about 75 feet northwest of the tank excavation. The concentrations of benzene (6.7 ppb), toluene (9.5 ppb), ethylbenzene (9.5 ppb), xylenes (42.7 ppb), naphthalene (41,059 ppb), acenaphthene (1596 ppb), fluorene (394 ppb), and phenanthrene (90.3 ppb) in the groundwater sample exceeded New York State (NYS) Class GA Groundwater Standards.

On June 25, 1996, a five-point composite soil sample was collected from the middle of each of the five major sidewalls of the tank removal excavation and a grab sample was collected from the groundwater in the excavation (Figure 3-16). The samples were analyzed for VOCs and PAHs. The VOC fraction of the soil sample was resampled on July 10, 1996 due to a holding time exceedance. The water grab sample contained benzene (1.6 ppb) at a concentration that

exceeded its respective NYS groundwater standard. The composite soil sample contained very low concentrations of benzene, ethylbenzene, and xylenes, but at levels below regulatory agency guidance values. The soil stockpile had been transported to the onsite treatment cell; therefore, no soil stockpile analytical samples were collected.

Because of the high fuel-related compound concentrations in the groundwater sample from MW-13-008, it was thought that the piping connecting the UST to Building 3578 might have been leaky. On October 8 and 9, 1996, the UST excavation was extended northward and all remaining fuel supply piping to Building 3578 was removed (Figure 3-17). Soil was excavated to a depth of 4 feet and transported directly to the on-site treatment cell. Groundwater was encountered at approximately 4 feet depth. Staining and hydrocarbon odors were present and soil headspace samples collected within the trench had photoionization detector (PID) readings above 20 parts per million (ppm).

On October 9, 1996, two five-point composite soil samples were collected from the bottom and sidewalls of the trench (Figure 3-17). A water grab sample was also collected from an area where water had accumulated in the bottom of the trench. The samples were analyzed for VOCs and PAHs. The water grab sample contained xylenes (9.0 ppb) at a concentration that exceeded its respective NYS groundwater standard. The composite soil samples contained ethylbenzene, xylenes, naphthalene, acenaphthalene, phenanthrene, and pyrene at concentrations that exceeded their respective Stars Memo #1 TCLP Alternative Guidance Values.

Additional soil was removed from the trench on October 10, 1996 (Figure 3-18). On December 30, 1996, four three-point composite soil samples were collected from three sidewalls of the enlarged trench and analyzed for VOCs and PAHs. One VOC and several PAHs were detected in the soil samples at concentrations exceeding their respective Stars Memo #1 TCLP Alternative Guidance Values. The excavated soil stockpile was transported to the on-site treatment cell and the excavation was backfilled to grade with clean imported fill. The portion of the excavation that had previously been a concrete parking area was later paved with asphalt.

3.5.2 Septic System Removal

On September 16, 1996, OHM excavated and removed a 7,500 gallon septic tank from the north side of Building 3578. The contents of the tank had been sampled on August 29, 1996

and analyzed for VOCs in accordance with the requirements of the disposal facility (the Plattsburgh Water Pollution Control Plant). No VOCs were detected in the sample and the tank contents were pumped out on September 14, 1996.

Soil at the septic tank location was excavated to a depth of 5 feet and temporarily stockpiled adjacent to the excavation on plastic sheeting. Groundwater was encountered at a depth of 4 feet during removal activities. No signs of contamination (staining or odors) were noted. On October 3, 1996, a four-point composite soil sample was collected from the sidewalls of the excavation and a water sample was collected from the bottom of the excavation. Both samples were analyzed for VOCs and PAHs and no compounds were detected in the samples. The excavation was backfilled to grade with the originally excavated soil.

Other parts of the septic system were also removed in September 1996; however, documentation of these removals appears to be limited to site photographs. The lift station and its sump were removed as were the piping leading from the lift station to the upper leachate field east of Building 3569 (Photos 1 through 3). The drainage piping within the leach field east of Building 3569 also was removed. Vitrified clay piping leading from the septic tank to Building 3580 was removed up to the paved access road (Photos 4 and 5). Other piping removal may have occurred but could not be verified with available documentation. No environmental samples were collected during the removal of the piping or lift station.

3.6 1997 Removal Action at the Former Waste Accumulation Area

The RI had identified the presence of VOCs in soils surrounding a concrete pad, located east of Building 3578, that had been used to store solvent containers. Spills on or around this pad were suspected of being a source of groundwater contamination. On April 16, 1997, OHM collected 8 grab soil samples around the perimeter of the pad to help delineate the extent of soil requiring removal (Parsons-OHM 1999). On November 3, 1997, the 6-foot by 13.5-foot concrete pad was broken up and staged on plastic sheeting next to the excavation. Excavated soil was loaded directly into dump trucks for transportation to the on-site treatment facility. The final excavation dimensions were 19 feet wide by 23.5 feet long by 6 feet deep (approximately 100 cubic yards of soil was excavated). The top 2.5 feet of soil was a thin layer of topsoil underlain by fine to medium sand. Some of the sand was slightly stained. Beneath the sand layer was gray clay which continued to the bottom of the excavation.

Confirmatory soil samples were collected from the bottom and sidewalls of the excavation and were analyzed for VOCs and SVOCs (Figure 3-20). Several VOCs and SVOCs were detected at low concentrations in the soil samples, but the detected concentrations were well below their respective NYSDEC soil cleanup objective guidance concentrations (NYSDEC 1994). NYSDEC and USEPA concurred with the recommendation that no further soil removal was warranted at the excavation location (Appendix D). The excavation was backfilled with clean fill on May 11, 1998, a layer of topsoil was spread over the backfill material, and the site was seeded.

A sample of the concrete pad was submitted for TCLP VOC, SVOC, and metals analysis. The results showed the concrete was not classifiable as a RCRA hazardous material and it was therefore disposed of as construction debris.

3.7 Fire Training Area (FT-002)/Industrial Area Groundwater Operable Unit Remedial Investigation/Feasibility Study

From 1995 through 1999, a large volume of groundwater and surface water data was compiled as part of the Fire Training Area (FT-002)/Industrial Area Groundwater Operable Unit Remedial Investigation/Feasibility Study. These data supported the conclusions of the SS-013 RI, indicating that the leading edge of the chlorinated hydrocarbon contaminated groundwater plume from site FT-002 is impacting the most upgradient SS-013 monitoring wells (MW-13-001 and MW-13-002) and will likely impact the MMS industrial complex in the future. Surface water sampling results also indicated that contaminated groundwater from the FT-002 plume discharges to surface water in the drainage basin between the runway and flightline north of SS-013. The storm drainage system carries this water to a tributary that flows through site SS-013 and eventually to the Salmon River.

4.0 FUTURE WORK

An additional "time-critical" removal action is currently being implemented by the Air Force to address soil contamination remaining in the vicinity of the former Building 3578 UST and also to address a small area of PAH contaminated soils near Building 3569. The Action Memorandum for this "time-critical" removal was reviewed by the USEPA and NYSDEC and presented for public commentary during the June 8, 2000 Restoration Advisory Board meeting in Plattsburgh. The soil removals are anticipated to occur in August 2000.

Additional groundwater and soil sampling investigations are also being formulated in consultation with USEPA and NYSDEC to fill RI data gaps. Field work is anticipated to occur in late 2000. The results from these investigations will be presented in a Supplemental Remedial Investigation report that includes the historical data summary presented in this report, the results of the Versar removal action, and a revised human health risk assessment.

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TABLE 1-1
ENVIRONMENTAL ACTIVITY SUMMARY
SPILL SITE SS-013
MUNITIONS MAINTENANCE SQUADRON

ACTIVITY	DONE BY	DATES	ENVIRONMENTAL MEDIA SAMPLED						
			SOIL GAS	SOIL	SURFACE WATER	SEDIMENT	GROUNDWATER	TANK CONTENTS	CONCRETE
Phase I Records Search	Radian	1984 – 1985							
Site Investigation	E.C. Jordan	1987	•		•	•	•		
Drainage Flow Study	ABB	1989 – 1990			•				
Remedial Investigation	URS	1993 – 1995	•	•	•	•	•		
Fuel-oil Tank UST-35778-A-2 Removal	OHM	1996		•			•		
Septic Tank SPT-3578 Removal	OHM	1996		•			•	•	
Former Waste Accumulation Area Solvent Storage Pad Removal	Parsons – OHM	1997		•					•
FT-002/Industrial Area Groundwater Operable Unit Remedial Investigation/ Feasibility Study	URS	1996 – 1999			•		•		

TABLE 2-1

SS-013 MUNITIONS MAINTENANCE SQUADRON

STORAGE TANK DATA SUMMARY

ID NO.	YEAR INSTALLED	YEAR REMOVED	DESCRIPTION
UNDERGROUND STORAGE TANKS			
UST-3569	1956	1994	Munitions Storage Facility 1,000 gallon No. 2 Fuel Oil Underground Storage Tank – Tank was located at northwest corner of Building 3569. There was no contamination found at the time of removal.
UUST-3570	1956	1994	Munitions Storage Facility 1,000 gallon No. 2 Fuel Oil Underground Storage Tank - Tank was located southwest of Building 3570. There was no contamination found at the time of removal.
UST-3578-A-1	Unknown	1986	Missile Assembly Shop 2,000 gallon No. 2 Fuel Oil Underground Storage Tank – Tank was located on southwest corner of Building 3578. The tank was removed in 1986 due to leakage and replaced with UST-3578-A-2.
UST-3578-A-2	1986	1996	Missile Assembly Shop 6,000 gallon No. 2 Fuel Oil Underground Storage Tank – Tank was located on southwest corner of Building 3578 and was a replacement for UST-3578-A-1. The tank and associated piping were removed in 1996, but not all contaminated soils were removed. A soil removal action should occur in August 2000.
UST-3580	1956	1994	Munitions Storage Facility 1,000 gallon No. 2 Fuel Oil Underground Storage Tank – Tank was located south of Building 3580. There was no contamination found at the time of removal.
UST-3582	1956	1996	Munitions Storage Facility 750 gallon No. 2 Fuel Oil Underground Storage Tank – Tank was located west of Building 3582. The UST was closed in-place in 1994 and subsequently removed in 1996. There was minor contamination at levels not requiring remedial or removal actions.
UST-3583-A-1	1981	1992	Emergency Power Station 5000 gallon Diesel Fuel Underground Storage Tank – Tank was removed in 1992 and replaced with UST-3583-A-2. There was minor contamination at levels not requiring remedial or removal actions.
UST-3583-A-2	1992	1996	Emergency Power Station 3,000 gallon Diesel Fuel Underground Storage Tank – The tank was located west of Building 3583 to provide fuel for emergency electrical generators. Facility personnel stated that the tank was never filled. The tanks was removed in 1996 and minor contamination was present at levels not requiring remedial or removal actions.
UST-3584-A	1956	1990	Munitions Storage Facility 1,000 gallon No. 2 Fuel Oil Underground Storage Tank – Historic drawings indicate that the tank was southeast of Building 3584. The area was investigated with a gradiometer and test pits and no signs of a UST were noted. No contamination was noted.

TABLE 2-1 (Continued)

ID NO.	YEAR INSTALLED	YEAR REMOVED	DESCRIPTION
UST-3584-B	Unknown	1988-1990	Munitions Storage Facility 5,000 gallon Diesel Fuel Underground Storage Tank – This tank was identified from historical drawings and personnel interviews. It was located on the west side of Building 3584. No evidence of the tank or any related contamination was noted during a 1994 visual site inspection.
UST-3585	1990	1994	Vehicle Refueling/Munitions Storage Facility 1,000 gallon Unleaded Gasoline Underground Storage Tank – Tank was located north of Building 3584. There was no contamination found at the time of removal.
UST-3586	1956	1994	Munitions Storage Facility 550 gallon No. 2 Fuel Oil Underground Storage Tank – Tank was located south of Building 3586. There was not contamination found at the time of removal.
UST-3592	1956	1990	Administration Building 550 gallon No. 2 Fuel Oil Underground Storage Tank – Tank was located northeast of Building 3592. According to PAFB personnel, the tank may have leaked. Groundwater characterization performed in 1996 indicated low levels of toluene (0.2 ppb maximum), ethylbenzene (0.2 ppb), 1,2,4-trimethylbenzene (0.1 ppb), and xylenes (0.6 ppb), but at concentrations below regulatory standards.
ABOVEGROUND STORAGE TANKS			
AST-3578	1986	Unknown	Missile Assembly Shop 550 gallon No. 2 Fuel Oil Aboveground Storage Tank – Temporary tank used during installation of UST-3578-A-2. No evidence of staining visible at former tank location.
AST-3583	Unknown	Still in place	Emergency Power Station 75 gallon Diesel Day Tank – Tank is inside Building 3583 and is an integral part of the generator.
AST-3592	Unknown	1995	Administration Building 500 gallon No. 2 Fuel Oil Aboveground Storage Tank – Tank was located outside of east wall of Building 3592. The tank had no base and was resting on the ground, however, no soil staining was observed during a 1994 visual site inspection.

TABLE 3-1

MUNITIONS MAINTENANCE SQUADRON (SS-013) - SITE INSPECTION INVESTIGATION
SOIL ORGANIC VAPOR SURVEY RESULTS

SAMPLE NUMBER	DEPTH OF PROBE (in)	HALOCARBONS (µg/l)				HYDROCARBONS (µg/l)			
		TCA	TCE	PCE	TOTAL	BENZENE	TOLUENE	XYLENE	TOTAL
SP9-5	6	<1	4	4	8	0.01	0.1	0.09	0.2
SP9-7	6	<1	3	2	5	<0.02	0.04	<0.02	0.04
SP9-7D	6	<1	<1	3	3	<0.02	0.04	0.08	0.12
SP9-9	6	<1	4	4	8	<0.02	0.05	<0.02	0.05
SP9-11	6	<1	4	2	6	<0.02	0.04	<0.02	0.04
SP9-13	6	<1	3	1	4	<0.02	0.01	<0.02	0.01
SP9-14	6	<1	3	4	7	<0.02	<0.02	0.07	0.07
SP9-20	6	<1	<1	<1	<1	<0.02	<0.02	0.1	0.1
SP9-21	6	<1	<1	<1	<1	<0.02	0.04	0.09	0.13
SP9-22	6	<1	<1	<1	<1	<0.02	<0.02	<0.02	<0.02
SP9-23	6	<1	<1	2	2	<0.02	<0.02	0.11	0.11

D - denotes a duplicate sample.

< - Below detection limit.

Source: SS-013 Site Inspection Report (E.C.Jordan 1989).

µg/l is equivalent to ppb (parts per billion).

TABLE 3-2

MUNITIONS MAINTENANCE SQUADRON (SS-013) - SITE INSPECTION INVESTIGATION
DETECTED ANALYTES IN SURFACE WATER AND SEDIMENT

SAMPLE ID MEDIUM DATE SAMPLED ANALYTE	SW-1 SURFACE WATER 11/17/87	SD-1 SEDIMENT 11/17/87
Chloroform*		2.6 J
Methylene Chloride*	-	30 B
Acetone*		10 JB
Trichloroethene*	1 J	-
bis(2-Ethylhexyl)Phthalate*	-	68 J
Aluminum**	31 [ ]	3,260
Arsenic**	-	5.3 N
Barium**	17 [ ]	52 [ ]
Calcium**	68,300	7,260
Chromium**	-	6.7 E
Copper**	-	6.8 [ ]
Iron**	982	28,400 *
Lead**	-	6
Magnesium**	22,800 E	1,830 [ ]E
Manganese**	542	3,770 N
Potassium**	4,570 [ ]	-
Sodium**	22,000 E	422 [ ]
Thallium**	1.1 [ ]	1.1 [ ]
Vanadium**	5 [ ]	12 [ ]E
Zinc**	18 [ ]E	57

* - Results reported in µg/l (ppb) for surface water and in µg/kg (ppm) for sediment.

** - Results reported in µg/l (ppb) for surface water and in mg/kg (ppm) for sediment.

B - Indicates analyte was detected in both the sample and the associated method blank.

J - Indicates an estimated concentration because QC criteria were not met.

E - The reported concentration is estimated because of the presence of an interference.

N - Spiked sample recovery not within control limits.

* - Duplicate analysis not within control limits.

- Compound analyzed but not detected.

[ ] - Concentration reported is below CRQL.

Source: E.C. Jordan, 1989

TABLE 3-3

MUNITIONS MAINTENANCE SQUADRON (SS-013) - SITE INSPECTION INVESTIGATION
DETECTED ANALYTES IN GROUNDWATER

MONITORING WELL ID DATE SAMPLED ANALYTE	MW-13-001 12/09/87	MW-13-002 12/09/87	MW-13-003 12/09/87	MW-13-004 12/09/87	MW-13-005 12/09/87
Methylene Chloride	-	-	1.7 J	6.3	-
2-Butanone	-	-	59	170	-
Xylenes (total)	-	-	-	-	3.1 J
bis(2-Ethyhexyl)phthalate	NR	NR	NR	NR	3.8 J
Aluminum	-	33 [ ]	-	122 [ ]	729
Arsenic	4.2 [ ]	4 [ ]	-	2.2 [ ]	5.7 [ ]
Barium	18 [ ]	6.3 [ ]	5.2 [ ]E	7.9 [ ]E	24 [ ]
Beryllium	-	-	-	3.6 [ ]	-
Cadmium	-	-	-	5.9	-
Calcium	41,200	29,300	46,500	23,700	18,300
Chromium	-	-	7.2 [ ]	11	-
Cobalt	5.1 [ ]E	-	-	-	5.4 [ ]E
Copper	-	-	-	32	17 [ ]
Iron	18,400	28 [ ]	9.3 [ ]	121	926
Lead	-	-	3.2 [ ]	3.5 [ ]	8.2
Magnesium	13,000 E	9,690 E	13,400 E	7,540 E	6,140 E
Manganese	3,110	21	5.5 [ ]	95	85
Potassium	-	-	4,040 [ ]	6,840	3,330 [ ]
Selenium	-	-	1.8 [ ]	1.7 [ ]	-
Sodium	1,730 [ ]E	3,630 E	4,190 [ ]	7,350	30,300 E
Vanadium	1.2 [ ]	1.2 [ ]	7.4 [ ]	14 [ ]	7.5 [ ]
Zinc	7 [ ]E	11 [ ]E	13 [ ]	14 [ ]	36 E
Petroleum Hydrocarbons (mg/l)	-	-	-	-	NR

J - Indicates an estimated value because value is below Contract Required Detection Limit (CRDL) or quality assurances criteria were not met during analysis.

E - The reported value is an estimated because of interference.

[ ] - Reported value is less than the CRDL.

NR - Analysis not requested.

Results reported in µg/l (ppb) unless otherwise specified.

Source: E.C. Jordan, 1989.

TABLE 3-4

MUNITIONS MAINTENANCE SQUADRON (SS-013) - DRAINAGE FLOW STUDY
SURFACE WATER ANALYTICAL RESULTS

SITE I.D.	DETECTION LIMIT	ROUND	1Q	2	3	4Q	5	6	7	8Q	9	10	11	12Q
		DATE SAMPLED	10/31/89	12/06/89	12/27/89	02/06/90	02/27/90	03/29/90	05/09/90	06/05/90	06/27/90	08/07/90	08/28/90	10/11/90
		ANALYTE												
		VOA (µg/l)												
SW-13-015	5	1,2-Dichloroethene (Total)	-	5	-	-	-	-	-	-	-	-	-	-
SW-13-016	5	1,2-Dichloroethene (Total)	6	NS	NS	11	NA	NA	NA	NA	NA	NA	NA	NA
	5	Trichloroethene	-	NS	NS	5	NA	NA	NA	NA	NA	NA	NA	NA
SW-13-017	5	1,2-Dichloroethene (Total)	NA	NA	NA	NA	110	90	21	41	38	31	26	44
	5	Trichloroethene	NA	NA	NA	NA	55	44	14	24	16	16	13	20
SW-13-018	5	1,2-Dichloroethene (Total)	NA	NA	NA	NA	-	-	-	-	8	-	5	11
	5	Trichloroethene	NA	NA	NA	NA	-	-	-	-	5	-	-	9
		SVOA (µg/l)												
SW-13-017	2	Phenol	NA	NA	NA	NA	3	-	-	-	-	-	-	-
		TICs (µg/l)												
SW-13-019	2*	Dimethylethylphenol Isomer	NS	NS	NS	NS	NS	NS	NS	-	-	-	-	17J
		HARDNESS (mg/l)												
SW-13-015	1		240	250	260	230	180	250	212	300	250	220	230	240
SW-13-016	1		270	NS	NS	240	NS	NS	NS	NS	NS	NS	NS	NS
SW-13-017	1		NS	NS	NS	NS	190	270	254	270	270	250	230	280
SW-13-018	1		NS	NS	NS	NS	150	110	145	140	160	180	180	160
SW-13-019	1		220	NS	NS	250	NS	NS	NS	280	NS	NS	NS	340
SW-13-020	1		410	NS	NS	390	NS	NS	NS	270	NS	NS	NS	310
SW-13-021	1		240	NS	NS	250	NS	NS	NS	300	NS	NS	NS	510
		GLYCOL (µg/l)												
SW-13-015	75		NS	NS	NS	NS	NS	NS	NS	NS	NS	190	NS	280

NS - Not sampled.
NA - Not applicable.
- Not detected.
J - Value below detection limit.
* - An approximation based on a response factor of 1.
Q - Used to denote a quarterly sampling event.
µg/l is equivalent to ppb. mg/l is equivalent to ppm.
Source: ABB Environmental Services, 1991.

TABLE 3-5

MUNITIONS MAINTENANCE SQUADRON (SS-013) - REMEDIAL INVESTIGATION
SOIL GAS SURVEY RESULTS

LOCATION	SAMPLE I.D.	DEPTH (ft)	TCA (µg/l)	TCE (µg/l)	PCE (µg/l)
North Leach Field	120N080E	2	<0.0004	<0.001	<0.0006
North Leach Field	120N060E	2	<0.0004	<0.001	<0.0006
North Leach Field	120N040E	2	<0.0004	<0.001	<0.0006
North Leach Field	100N020E	3	**0.0004**	<0.001	**0.0006**
North Leach Field	100N040E	3	**0.0004**	<0.001	**0.0006**
North Leach Field	100N060E	3	**0.0004**	**0.001**	<0.0006
North Leach Field	100N080E	3	**0.001**	<0.001	<0.0006
North Leach Field	080N080E	2.5	**0.001**	<0.001	<0.0006
North Leach Field	080N060E	3	<0.0004	<0.001	<0.0006
North Leach Field	080N040E	3	<0.0004	<0.001	<0.0006
North Leach Field	080N020E	3	**0.0007**	<0.001	<0.0006
North Leach Field	060N020E	3	**0.0004**	<0.001	<0.0006
North Leach Field	060N040E	3	**0.0004**	<0.001	<0.0006
North Leach Field	060N060E	3	**0.0007**	<0.001	<0.0006
North Leach Field	060N080E	2	**0.0007**	<0.001	<0.0006
North Leach Field	040N080E	2	<0.0004	<0.001	<0.0006
North Leach Field	040N060E	3	**0.0004**	<0.001	**0.003**
North Leach Field	040N040E	3	<0.0004	<0.001	<0.0006
North Leach Field	040N020E	2	**0.001**	<0.001	<0.0006
North Leach Field	020N020E	2	**0.0007**	<0.001	<0.0006
North Leach Field	020N040E	2	<0.0004	<0.001	<0.0006
North Leach Field	020N060E	2	<0.0004	<0.001	<0.0006
North Leach Field	020N080E	2	**0.0007**	<0.001	<0.0006
North Leach Field	000N080E	2	<0.0004	<0.001	<0.0006
North Leach Field	NF-SL-01	2.5	**0.001**	<0.001	**0.001**
North Leach Field	NF-SL-02	2.5	**0.003**	<0.001	**0.0007**
South Leach Field	SF080N040E	2	**0.0007**	<0.001	<0.0006
South Leach Field	SF060N040E	2	**0.0007**	<0.001	<0.0006
South Leach Field	SF060N060E	2	**0.0004**	<0.001	**0.003**
South Leach Field	040N000E	2	**0.0006**	<0.001	<0.0007
South Leach Field	040N020E	2	**0.0008**	<0.001	<0.0007
South Leach Field	040N040E	2	**0.001**	<0.001	<0.0007
South Leach Field	040N060E	2	**0.0004**	<0.001	<0.0007
South Leach Field	020N060E	2	<0.0004	<0.001	<0.0007
South Leach Field	020N040E	2	**0.0008**	<0.001	<0.0007
South Leach Field	020N020E	2	**0.0004**	<0.001	<0.0007
South Leach Field	020N000E	2	**0.0004**	<0.001	<0.0007
South Leach Field	000N000E	3	**0.0008**	<0.001	<0.0007

Concentrations above detectable limits appear in bold face type.

All samples also analyzed for benzene, toluene, ethylbenzene, xylenes and total volatile hydrocarbons (TVHC). Of this group, TVHC was the only compound detected and was present at only three sample locations: SF-LL-04 (0.08 µg/l), SG-SL-002 (0.2 µg/l) and NF-SL-01 (0.2 µg/l).

µg/l is equivalent to ppb (parts per billion).

TABLE 3-5

MUNITIONS MAINTENANCE SQUADRON (SS-013) - REMEDIAL INVESTIGATION
SOIL GAS SURVEY RESULTS

LOCATION	SAMPLE I.D.	DEPTH (ft)	TCA (µg/l)	TCE (µg/l)	PCE (µg/l)
South Leach Field	000N020E	3	**0.0004**	<0.001	<0.0007
South Leach Field	000N040E	3	**0.0006**	<0.001	<0.0007
South Leach Field	000N060E	4	**0.0004**	<0.001	<0.0007
South Leach Field	SF-LL-003	3	**0.0006**	<0.001	<0.0007
South Leach Field	SF-LL-01	3	**0.001**	**0.005**	<0.0004
South Leach Field	SF-LL-04	3	**0.0006**	<0.001	<0.0007
South Leach Field	SF-LL-06	2	**0.0004**	<0.001	<0.0007
South Leach Field	SF-LL-02	3	**0.0004**	<0.001	<0.0007
South Leach Field	SF-LL-005	3	**0.001**	<0.001	<0.0007
Active Leach Field	SG-SL-003	2	**0.0004**	<0.001	<0.0007
Active Leach Field	SG-SL-002	2	**0.002**	<0.001	<0.0007
Active Leach Field	SG-SL-001	2	**0.005**	<0.001	<0.0007
Active Leach Field	SG-SL-04	2	**0.001**	<0.001	<0.0007
Active Leach Field	SG-SL-05	2	**0.0008**	<0.001	<0.0007
Active Leach Field	SG-SL-06	2	**0.0004**	<0.0008	<0.0004
Active Leach Field	SG-SL-07	2	**0.0004**	<0.001	<0.0007
Active Leach Field	SG-SL-08	2	**0.0006**	<0.001	<0.0007
Active Leach Field	SG-SL-09	2	<0.0004	<0.001	<0.0007
Active Leach Field	SG-SL-12	3	**0.0009**	<0.001	<0.0007
Active Leach Field	SG-SL-11	3	**0.0007**	<0.001	<0.0007
Active Leach Field	SG-SL-10	3	**0.0004**	<0.001	<0.0007
Active Leach Field	SG-AF-01	4	<0.0003	<0.001	<0.0006
Active Leach Field	SG-AF-02	4	**0.0004**	**0.005**	<0.0006
Active Leach Field	SG-AF-03	4	**0.0005**	**0.005**	<0.0006
Active Leach Field	SG-AF-04	4	<0.0003	<0.001	<0.0006
Active Leach Field	SG-AF-05	4	**0.0004**	**0.002**	<0.0006
Active Leach Field	SG-AF-06	4	**0.0003**	<0.001	<0.0006
Active Leach Field	SG-AF-07	4	**0.0003**	**0.007**	<0.0006
Active Leach Field	SG-AF-08	4	**0.0003**	**0.003**	<0.0006
Active Leach Field	SG-AF-09	4	**0.0005**	<0.001	<0.0006
Active Leach Field	SG-AF-10	4	**0.0007**	**0.007**	**0.001**
Active Leach Field	SG-SL-016	5	**0.0003**	<0.001	<0.0006
Active Leach Field	SG-SL-017	4.5	**0.0005**	<0.001	<0.0006
Active Leach Field	SG-SL-018	5	**0.0005**	<0.001	<0.0006
Active Leach Field	SG-SL-013	4	<0.0003	<0.001	<0.0006
Active Leach Field	SG-SL-014	4	**0.0005**	<0.001	<0.0006
Active Leach Field	SG-SL-015	4	<0.0003	<0.001	<0.0006

Concentrations above detectable limits appear in bold face type.

All samples also analyzed for benzene, toluene, ethylbenzene, xylenes and total volatile hydrocarbons (TVHC). Of this group, TVHC was the only compound detected and was present at only three sample locations: SF-LL-04 (0.08 µg/l), SG-SL-002 (0.2 µg/l) and NF-SL-01 (0.2 µg/l).

µg/l is equivalent to ppb (parts per billion).

TABLE 3-6

MUNITIONS MAINTENANCE SQUADRON (SS-013) - REMEDIAL INVESTIGATION
DETECTED ANALYTES IN SURFACE SOIL

ANALYTE	CLASS	*TBC VALUE	FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION	DETECTED MAXIMUM CONCENTRATION	AVERAGE OF DETECTIONS	LOCATION OF MAXIMUM DETECTION
Methylene Chloride	VOC	100	2/22	46	53	49.5	SS-13-07
Acetone	VOC	200	2/22	40	44	42	SB-13-17-1
1,2-Dichloroethene (total)	VOC	300	1/22	1,300	1,300	1,300	SB-13-17-1
2-Butanone	VOC	300	2/22	24	41	32.5	SB-13-17-1
Trichloroethene	VOC	700	1/22	25	25	25	SB-13-17-1
2-Hexanone	VOC	—	1/22	3	3**	3	SS-13-06
Toluene	VOC	1,500	3/22	4	24,000	9,101	SS-13-17-1
Ethylbenzene	VOC	5,500	1/22	97	97	97	SB-13-17-1
Xylene (total)	VOC	1,200	2/22	2	470	236	SB-13-17-1
Naphthalene	SVOC	13,000	1/22	120	120	120	SS-13-07
Acenaphthene	SVOC	50,000	3/22	24	1,100	488	SS-13-10
Dibenzofuran	SVOC	6,200	3/22	10	540	250	SS-13-10
Diethylphthalate	SVOC	7,100	1/22	3,400	3,400	3,400	SS-13-04
Fluorene	SVOC	50,000	3/22	24	1,200	551.3	SS-13-10
Phenanthrene	SVOC	50,000	8/22	45	9,500	1,679.6	SS-13-10
Anthracene	SVOC	50,000	4/22	28	2,400	815.5	SS-13-10
Carbazole	SVOC	—	3/22	26	1,100	542	SS-13-10
Di-n-butylphthalate	SVOC	8,100	3/22	26	57	45.6	SS-13-13
Fluoranthene	SVOC	50,000	9/22	42	10,000	1,645.2	SS-13-10
Pyrene	SVOC	50,000	9/22	45	7,700	1,277.0	SS-13-10
Butylbenzylphthalate	SVOC	50,000	2/22	45	45	45	SB-13-17-1
Benzo(a)anthracene	SVOC	220	6/22	36	3,700	875.5	SS-13-10
Chrysene	SVOC	400	9/22	41	3,800	672.8	SS-13-10
bis(2-Ethylhexyl)phthalate	SVOC	50,000	3/22	40	60	48	SB-13-16-1
Benzo(b)fluoranthene	SVOC	1,100	9/22	41	2,900	709.2	SS-13-10
Benzo(k)fluoranthene	SVOC	1,100	6/22	40	3,100	716.3	SS-13-10
Benzo(a)pyrene	SVOC	61	7/22	59	3,200	797.4	SS-13-10
Indeno(1,2,3-cd)pyrene	SVOC	3,200	5/22	52	1,900	626.8	SS-13-10
Dibenz(a,h)anthracene	SVOC	41	4/22	23	870	322.8	SS-13-10
Benzo(g,h,i)perylene	SVOC	50,000	4/22	64	810	356	SS-13-10
4,4'-DDE	PEST	2,100	2/4	5.5	5.5	5.5	SS-13-09
4,4'-DDD	PEST	2,900	2/4	0.80	4.6	2.7	SS-13-07
Endosulfan sulfate	PEST	1,000	2/4	2.0	5.2	3.6	SS-13-07
4,4'-DDT	PEST	2,100	3/4	3.4	4.0	3.7	SS-13-07
Methoxychlor	PEST	10,000	1/4	9.4	9.4	9.4	SS-13-07
alpha-Chlordane	PEST	540	1/4	0.55	0.55	0.55	SS-13-06
Aroclor-1254	PCB	1,000	1/4	17	17	17	SS-13-06

Results reported in µg/kg (ppb).

* TBC values from Table 4-1, URS,1996.

— - No TBC available.

- Exceeds TBC.

**Maximum value obtained from duplicate sample.

VOC - Volatile Organic Compound

SVOC - Semivolatile Organic Compound

PEST - Pesticide

PCB - Polychlorinated biphenyls

TABLE 3-6

MUNITIONS MAINTENANCE SQUADRON (SS-013) - REMEDIAL INVESTIGATION
DETECTED ANALYTES IN SURFACE SOIL

ANALYTE	CLASS	*TBC VALUE	FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION	DETECTED MAXIMUM CONCENTRATION	AVERAGE OF DETECTIONS	LOCATION OF MAXIMUM DETECTION
Aluminum	MET	8510	19/19	1,750	7,620	3,260.0	SS-13-19
Antimony	MET	12.6	1/19	10.5	10.5	10.5	SS-13-04
Arsenic	MET	7.5	22/22	0.32	2.3	1.20	SS-13-11
Barium	MET	300	2/22	4.6	53.9	18.2	SS-13-01
Beryllium	MET	0.74	18/19	0.13	0.44	0.25	SS-13-11
Cadmium	MET	1.3	6/22	0.44	1	0.57	SS-13-04
Calcium	MET	30200	19/19	381	10900	3,017	SS-13-11
Chromium	MET	19.5	22/22	1.8	12.4	6.09	SS-13-04
Cobalt	MET	30	19/19	0.89	5.3	2.05	SS-13-01
Copper	MET	44.1	18/19	1.6	15.4	7.09	SS-13-11
Iron	MET	36,700	19/19	3860	10900	6,245.3	SS-13-01
Lead	MET	79.4	22/22	0.85	66.6	15.3	SS-13-01
Magnesium	MET	3340	19/19	497	3,520	1,272.7	SS-13-11
Manganese	MET	474	19/19	25.0	679	126.2	SS-13-01
Nickel	MET	13	19/19	2.2	8.1	4.4	SS-13-11
Potassium	MET	929	15/19	103	632	341.2	SS-13-02
Sodium	MET	520	13/19	20.3	76.2	38.8	SS-13-13
Thallium	MET	ND	1/19	0.22	0.22**	0.22	SS-13-06
Vanadium	MET	150	19/19	3.9	16.3	8.6	SS-13-01
Zinc	MET	63.4	19/19	7.0	43.8	24.2	SS-13-09
Cyanide	MET	—	1/19	3.5	3.5	3.5	SS-13-07

Results reported in mg/kg (ppm).
Sample SS-13-19 is the background sample.
* TBC values from Table 4-1, URS,1996.
— - No TBC available.
- Exceeds TBC.
**Maximum value obtained from duplicate sample.

MET - Metals.
ND - Not detected.

TABLE 3-7

MUNITIONS MAINTENANCE SQUADRON (SS-013) - REMEDIAL INVESTIGATION
DETECTED ANALYTES IN SUBSURFACE SOIL

ANALYTE	CLASS	*TBC VALUE	FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION	DETECTED MAXIMUM CONCENTRATION	AVERAGE OF DETECTIONS	LOCATION OF MAXIMUM DETECTION
Vinyl Chloride	VOC	200	1/20	120	120	120	SB-13-03-2
Methylene Chloride	VOC	100	2/20	24	45	34.5	SB-13-04-3
Acetone	VOC	200	4/20	22	610	206.5	SB-13-01-2
1,2-Dichloroethene (total)	VOC	300	2/20	30	97	63.5	SB-13-03-5
2-Butanone	VOC	300	3/20	11	170	65.7	SB-13-01-2
Benzene	VOC	60	1/20	10	10	10	SB-13-01-2
Toluene	VOC	1,500	5/20	0.9	110	28.4	SB-13-01-2
Ethylbenzene	VOC	5,500	1/20	6	6	6	SB-13-06-2
Xylene (total)	VOC	1,200	4/20	3	47	19	SB-13-06-2
1,2-Dichlorobenzene	SVOC	7,900	1/20	23	23	23	SB-13-09-2
1,2,4-Trichlorobenzene	SVOC	3,400	1/20	12	12	12	SB-13-09-2
Naphthalene	SVOC	13,000	2/20	98	100	99	SB-13-10-4
2-Methylnaphthalene	SVOC	36,400	1/20	120	120**	120	SB-13-01-3
Acenaphthylene	SVOC	41,000	1/20	94	94**	94	SB-13-01-3
Acenaphthene	SVOC	50,000	3/20	37	830	318.3	SB-13-10-4
Dibenzofuran	SVOC	6,200	2/20	9	48	28.5	SB-13-01-3
Diethylphthalate	SVOC	7,100	10/20	9	54	29.5	SB-13-01-3
Fluorene	SVOC	50,000	3/20	32	1,400	530.1	SB-13-10-4
Phenanthrene	SVOC	50,000	6/20	27	8,700	1,633.5	SB-13-10-4
Anthracene	SVOC	50,000	4/20	74	2,900	813.5	SB-13-10-4
Carbazole	SVOC	—	2/20	49	1,000	524.5	SB-13-10-4
Fluoranthene	SVOC	50,000	8/20	6	11,000	1,819.9	SB-13-10-4
Pyrene	SVOC	50,000	8/20	5	11,000	1,819.8	SB-13-10-4
Butylbenzylphthalate	SVOC	50,000	3/20	10	80	37	SB-13-05-3
Benzo(a)anthracene	SVOC	224	4/20	160	4,500	1,585	SB-13-10-4
Chrysene	SVOC	400	5/20	130	4,500	1,304	SB-13-10-4
Benzo(b)fluoranthene	SVOC	1,100	4/20	130	3,400	1,225	SB-13-10-4
Benzo(k)fluoranthene	SVOC	1,100	4/20	120	3,900	1,415	SB-13-10-4
Benzo(a)pyrene	SVOC	61	4/20	120	4,100	1,485	SB-13-10-4
Indeno(1,2,3-cd)pyrene	SVOC	3,200	4/20	57	2,700	925	SB-13-10-4
Dibenz(a,h)anthracene	SVOC	14	1/20	450	450	450	SB-13-06-2
Benzo(g,h,i)perylene	SVOC	50,000	2/20	600	2,100	1,350	SB-13-10-2
Dieldrin	PEST	44	1/20	1.8	1.8	1.8	SB-13-10-4
4,4'-DDE	PEST	2,100	5/20	1.1	11	4.02	SB-13-08-4
4,4'-DDD	PEST	2,900	9/20	0.29	3.6	1.6	SB-13-06-2
Endosulfan sulfate	PEST	1,000	1/20	5.8	5.8	5.8	SB-13-06-4
4,4'-DDT	PEST	2,100	3/20	2.9	7.6	5.4	SB-13-08-4
Methoxychlor	PEST	10,000	2/20	0.89	5.3	3.1	SB-13-01-2
Endrin ketone	PEST	—	1/20	20	20	20	SB-13-01-3
alpha-Chlordane	PEST	540	1/20	0.3	0.3	0.3	SB-13-08-2

Results reported in µg/kg (ppb).

*TBC value from Table 4-1, URS.1996.

— - No TBC available.

- Exceeds TBC.

**Maximum value obtained from reanalyzed sample.

VOC - Volatile Organic Compound.

SVOC - Semivolatile Organic Compound.

PEST - Pesticide.

TABLE 3-7

MUNITIONS MAINTENANCE SQUADRON (SS-013) - REMEDIAL INVESTIGATION
DETECTED ANALYTES IN SUBSURFACE SOIL

ANALYTE	CLASS	*TBC VALUE	FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION	DETECTED MAXIMUM CONCENTRATION	AVERAGE OF DETECTIONS	LOCATION OF MAXIMUM DETECTION
Aluminum	MET	8,510	20/20	1,080	15,500.0	4,839	SB-13-03-2
Antimony	MET	12.6	3/20	6.7	23.6	15.3	SB-13-01-3
Arsenic	MET	7.5	19/20	0.33	27.7	4.2	SB-13-08-2
Barium	MET	300	19/20	2.1	102.0**	23.6	SB-13-03-2
Beryllium	MET	0.74	3/20	0.28	0.62	0.4	SB-13-03-2
Cadmium	MET	1.3	1/20	0.47	0.47	0.47	SB-13-08-2
Calcium	MET	30,200	20/20	335	60,200	10,174.8	SB-13-08-4
Chromium	MET	19.5	20/20	1.7	128	17.1	SB-13-01-2
Cobalt	MET	30	16/20	0.61	9.2	2.8	SB-13-03-2
Copper	MET	44.1	14/20	1.7	43.1	12.5	SB-13-08-4
Iron	MET	36,700	20/20	1,180	25,900	6,923.5	SB-13-03-2
Lead	MET	79.4	19/20	0.49	1,370	82.8	SB-13-08-4
Magnesium	MET	3,340	20/20	218	9,740	2,032.3	SB-13-08-2
Manganese	MET	474	19/20	18.2	441	99.9	SB-13-08-4
Nickel	MET	13	12/20	2.1	20.8	7.6	SB-13-08-4
Potassium	MET	929	14/20	123	1,680	564.2	SB-13-08-4
Selenium	MET	2	3/20	1.2	5.6	2.7	SB-13-01-3
Sodium	MET	520	16/20	28.0	155	62.9	SB-13-08-4
Vanadium	MET	150	12/20	5.1	43.9	14.3	SB-13-03-2
Zinc	MET	63.4	20/20	1.5	116	20.2	SB-13-08-4

Results reported in mg/kg (ppm).

MET - Metals.

*TBC value from Table 4-1, URS,1996

— - No TBC available.

- Exceeds TBC.

**Maximum value obtained from duplicate sample.

TABLE 3-8

MUNITIONS MAINTENANCE SQUADRON (SS-013) - REMEDIAL INVESTIGATION
DETECTED ANALYTES IN SURFACE WATER SAMPLES

ANALYTE	ARAR VALUE	FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION	DETECTED MAXIMUM CONCENTRATION	AVERAGE OF DETECTIONS	LOCATION OF MAXIMUM DETECTION
1,2-Dichloroethene (total)	-	2/12	4	4	4	SW-13-02
Trichloroethene	11°	3/12	2	4	3	SW-13-02
Xylene (total)	-	2/12	4	7	5.5	SW-13-06
bis(2-Ethylhexyl)phthalate	-	2/12	4	12	8	SW-13-01
Barium	-	4/4	19.2	34.8	24.2	SW-13-07
Chromium	3773.94¹	1/4	10.6	10.6**	10.6	SW-13-12
Silver	20.72¹	2/4	2.0	2.5	2.3	SW-13-01

Results reported in µg/l (ppb).

** Duplicate sample taken and sample with greater detection value was used.

° - ARAR value from Table 4-1, URS,1996.

¹ - ARAR value from Table 4-2, URS,1996.

(-) No ARAR available.

TABLE 3-9

MUNITIONS MAINTENANCE SQUADRON (SS-013) - REMEDIAL INVESTIGATION
DETECTED ANALYTES IN SEDIMENT SAMPLES

ANALYTE	FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION	DETECTED MAXIMUM CONCENTRATION	AVERAGE OF DETECTIONS	LOCATION OF MAXIMUM DETECTION
Methylene Chloride	5/12	2	8	5	SD-13-06
Acetone	10/12	10	60	26.7	SD-13-09
2-Butanone	4/12	7	18	11.5	SD-13-09
Toluene	1/12	2	2	2.0	SD-13-09
Naphthalene	1/12	17	17	17	SD-13-05
Acenaphthene	1/12	20	20	20	SD-13-05
Dibenzofuran	1/12	10	10	10	SD-13-05
Diethylphthalate	2/12	20	24	22	SD-13-07
Fluorene	1/12	17	17	17	SD-13-05
Phenanthrene	6/12	13	180	53.7	SD-13-05
Anthracene	1/12	18	18	18	SD-13-05
Carbazole	1/12	87	87	87	SD-13-05
Fluoranthene	8/12	19	200	70.9	SD-13-05
Pyrene	8/12	12	140	69.5	SD-13-08
Benzo(a)anthracene	3/12	28	66	49.3	SD-13-07
Chrysene	5/12	14	75	39.8	SD-13-05
Di-n-octylphthalate	3/12	21	41	31.7	SD-13-06
Benzo(b)fluoranthene	2/12	34	72	53	SD-13-05
Benzo(k)fluoranthene	1/12	50	50	50	SD-13-05
Benzo(a)pyrene	2/12	52	56	54	SD-13-05
Benzo(g,h,i)perylene	1/12	93	93	93	SD-13-11
Aldrin	2/4	0.85	3.2	2.0	SD-13-07
4,4'-DDE	2/4	0.29	2.3	1.3	SD-13-04
4,4'-DDD	1/4	0.85	0.85	0.85	SD-13-07
Aroclor-1248	1/4	53	53	53	SD-13-07

Results reported in µg/kg (ppb).

- One or more detections of this compound exceeded a sample specific TBC value.

TABLE 3-9

MUNITIONS MAINTENANCE SQUADRON (SS-013) - REMEDIAL INVESTIGATION
DETECTED ANALYTES IN SEDIMENT SAMPLES

ANALYTE	LOWEST EFFECT LEVEL µg/g	SEVERE EFFECT LEVEL µg/g	LEL EXCEEDENCE µg/g	SEL EXCEEDENCE µg/g	FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION	DETECTED MAXIMUM CONCENTRATION	AVERAGE OF DETECTIONS	LOCATION OF MAXIMUM DETECTION
Aluminum	-	-	-	-	4/4	1,590	3,480	2,355	SD-13-07
Antimony	2.0 (L)	25.0 (L)	SD-13-12 (4.6)		1/4	4.6	4.6**	4.6	SD-13-12
Arsenic*	6.0 (P)	33.0 (P)			4/4	0.37	5.4	2.3	SD-13-04
Barium*	-	-	-	-	4/4	6.8	68.3	28.8	SD-13-04
Cadmium*	0.6 (P)	9.0 (L)	SD-13-04 (0.75)		1/4	0.75	0.75	0.75	SD-13-04
Calcium	-	-	-	-	4/4	872	4,990	2,788	SD-13-07
Chromium*	26.0 (P)	110.0 (P)			4/4	3.6	7.2	5.4	SD-13-07
Cobalt	-	-	-	-	4/4	0.84	3.2	1.9	SD-13-04
Copper	16.0 (P)	110.0 (P)			1/4	2.4	2.4	2.4	SD-13-07
Iron	20,000 (P)	40,000 (P)		SD-13-04 (41,100)	4/4	3,700	41,100	14,400	SD-13-04
Lead*	31.0 (P)	110.0 (L)			4/4	1.1	5.0	2.5	SD-13-07
Magnesium	-	-	-	-	4/4	509	1,390	925.5	SD-13-07
Manganese	460.0 (P)	1100.0 (L)		SD-13-04 (2570)	4/4	83.2	2,570	785.3	SD-13-04
Nickel	16.0 (P)	50.0 (L)			1/4	2.0	2.0**	2.0	SD-13-12
Potassium	-	-	-	-	1/4	218	218	218	SD-13-07
Sodium	-	-	-	-	4/4	25.5	275	148.6	SD-13-04
Vanadium	-	-	-	-	3/4	5.7	11.6	8.0	SD-13-07
Zinc	120.0 (P,L)	270.0 (L)	-	-	4/4	8.2	51.7	25.4	SD-13-04

Results reported in mg/kg (ppm) unless otherwise noted.

- Exceeds either Lowest or Severe Effect Level.

* RCRA metals.

**Maximum value obtained from duplicate sample.

Sources:

(L) Long and Morgan (1990)

(P) Persaud et al. (1992)

TABLE 3-10

MUNITIONS MAINTENANCE SQUADRON (SS-013) - REMEDIAL INVESTIGATION
DETECTED ANALYTES IN GROUNDWATER SCREENING SAMPLES

ANALYTE	CLASS	FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION	DETECTED MAXIMUM CONCENTRATION	AVERAGE OF DETECTIONS	LOCATION OF MAXIMUM DETECTION
Vinyl Chloride	VOC	2/20	7	21	14	HP-13-15-11
Acetone	VOC	11/20	29	2,300	480.2	HP-13-06-6
Carbon Disulfide	VOC	8/20	3	22	10.6	HP-13-05-5
1,1-Dichloroethane	VOC	1/20	12	12**	12	HP-13-04-6
1,2-Dichloroethene (total)	VOC	2/20	1	5	3	HP-13-03-8
1,2-Dichloroethane	VOC	1/20	36	36**	36	HP-13-04-6
2-Butanone	VOC	2/20	13	49**	31	HP-13-04-6
Toluene	VOC	2/20	4	6	5	HP-13-15-11
Ethylbenzene	VOC	2/20	1	5	3	HP-13-15-11
Xylene (total)	VOC	2/20	7	14	10.5	HP-13-15-11
2,4-Dimethylphenol	SVOC	1/20	150	150	150	HP-13-15-11
Naphthalene	SVOC	1/20	1,400	1,400	1,400	HP-13-15-11
2-Methylnaphthalene	SVOC	1/20	230	230	230	HP-13-15-11
Dimethylphthalate	SVOC	2/20	1	2	1.5	HP-13-06-6
Acenaphthene	SVOC	1/20	56	56	56	HP-13-15-11
Dibenzofuran	SVOC	1/20	20	20	20	HP-13-15-11
Diethylphthalate	SVOC	7/20	1	3	2.1	HP-13-06-6/HP-13-01-7
Fluorene	SVOC	1/20	13	13	13	HP-13-15-11
Phenanthrene	SVOC	2/20	3	3	3	HP-13-10-8/HP-13-15-11
Carbazole	SVOC	1/20	51	51	51	HP-13-15-11
Di-n-butylphthalate	SVOC	2/20	1	2	1.5	HP-13-08-5
Fluoranthene	SVOC	2/20	2	3	2.5	HP-13-10-8
Pyrene	SVOC	2/20	1	3	2	HP-13-10-8
Butylbenzylphthalate	SVOC	2/20	2	7	4.5	HP-13-11-22
Chrysene	SVOC	1/20	1	1	1	HP-13-10-8
bis(2-Ethylhexyl)phthalate	SVOC	7/20	1	7	2.4	HP-13-15-11
Benzo(b)fluoranthene	SVOC	1/20	2	2	2	HP-13-10-8
Benzo(a)pyrene	SVOC	1/20	1	1	1	HP-13-10-8

Results reported in µg/l (ppb).

VOC - Volatile Organic Compound.

SVOC - Semivolatile Organic Compound.

**Maximum value obtained from reanalyzed sample.

TABLE 3-11

MUNITIONS MAINTENANCE SQUADRON (SS-013) - REMEDIAL INVESTIGATION
DETECTED ANALYTES IN GROUNDWATER SAMPLES

ANALYTE	CLASS	*ARAR VALUE (µg/l)	ROUND - 1 FREQUENCY OF DETECTION	ROUND - 1 DETECTED MINIMUM CONCENTRATION (µg/l)	ROUND - 1 DETECTED MAXIMUM CONCENTRATION (µg/l)	ROUND - 1 AVERAGE OF DETECTIONS (µg/l)	ROUND - 1 LOCATION OF MAXIMUM DETECTION	ROUND - 2 FREQUENCY OF DETECTION	ROUND - 2 DETECTED MINIMUM CONCENTRATION (µg/l)	ROUND - 2 DETECTED MAXIMUM CONCENTRATION (µg/l)	ROUND - 2 AVERAGE OF DETECTIONS (µg/l)	ROUND - 2 LOCATION OF MAXIMUM DETECTION
Chloromethane	VOC	5	3/5	6	9	7.3	MW-13-008	4/5	1.4	5.2	2.8	MW-13-004
Vinyl Chloride	VOC	2	1/5	53	53	53	MW-13-008	1/5	27	27	27	MW-13-008
Acetone	VOC	50	ND	—	—	—	—	2/5	6.8	19	12.9	MW-13-007
1,2-Dichloroethene (total)	VOC	5	ND	—	—	—	—	1/5	1	1	1	MW-13-008
1,2-Dichloroethane	VOC	5	3/5	3	4	3.3	MW-13-008	4/6	2.1	3.8	2.65	MW-13-004
Toluene	VOC	5	1/5	6	6	6	MW-13-008	1/5	6	6	6	MW-13-008
Ethylbenzene	VOC	5	1/5	23	23	23	MW-13-008	1/5	9	9	9	MW-13-008
Styrene	VOC	5	1/5	2	2	2	MW-13-008	1/5	1	1	1	MW-13-008
Xylene (total)	VOC	5	1/5	21	21	21	MW-13-008	1/5	17	17	17	MW-13-008
2,4-Dimethylphenol	SVOC	1	—	—	—	—	—	1/5	430	430	430	MW-13-008
Naphthalene	SVOC	10	2/5	5	2,700	1,352.5	MW-13-008	1/5	860	860	860	MW-13-008
2-Methylnaphthalene	SVOC	50	1/5	330	330	330	MW-13-008	1/5	72	72	72	MW-13-008
Acenaphthylene	SVOC	50	—	—	—	—	—	1/5	2	2	2	MW-13-008
Acenaphthene	SVOC	20	1/5	120	120	120	MW-13-008	1/5	77	77	77	MW-13-008
Dibenzofuran	SVOC	50	1/5	33	33	33	MW-13-008	1/5	32	32	32	MW-13-008
Fluorene	SVOC	50	1/5	22	22	22	MW-13-008	1/5	22	22	22	MW-13-008
Phenanthrene	SVOC	50	—	—	—	—	—	1/5	5	5	5	MW-13-008
Carbazole	SVOC	50	1/5	53	53	53	MW-13-008	1/5	39	39	39	MW-13-008
Arsenic (Unfiltered)	MET	25	3/5	19.5	25.8	21.8	MW-13-006	3/5	7.3	15.5	11.1	MW-13-006
Barium (Unfiltered)	MET	1,000	3/5	200	307	251.0	MW-13-008	4/5	8	192	102.3	MW-13-008
Cadmium (Unfiltered)	MET	5	—	—	—	—	—	2/5	2.4	2.8	2.6	MW-13-008
Chromium (Unfiltered)	MET	50	4/5	4.5	57.7	42.7	MW-13-006	3/5	16.8	44.5	31.5	MW-13-006
Lead(Unfiltered)	MET	15	5/5	1.4	34	15	MW-13-006	3/5	7.1	22.7	13.7	MW-13-006
Mercury(Unfiltered)	MET	2	1/5	0.25	0.25	0.25	MW-13-004	—	—	—	—	—
Selenium(Unfiltered)	MET	10	1/5	1.7	1.7	1.7	MW-13-006	—	—	—	—	—
Arsenic(Filtered)	MET	25	2/5	2.1	6.3**	4.2	MW-13-007	2/5	3.4	5.4	4.4	MW-13-007
Barium(Filtered)	MET	1,000	3/5	24.5	169	74	MW-13-008	4/5	17.9	53.3	30.5	MW-13-008
Cadmium(Filtered)	MET	5	—	—	—	—	—	3/5	2.6	6.9	4.8	MW-13-007
Chromium(Filtered)	MET	50	—	—	—	—	—	1/5	4.5	4.5	4.5	MW-13-004
Selenium(Filtered)	MET	10	1/5	1.4	1.4	1.4	MW-13-001,007	—	—	—	—	—

^ - Average of Round 1 and Round 2 results.
*ARAR value from Table 4-1, URS,1996.
- Exceeds ARAR.
ND - Not detected.
**Maximum value obtained from duplicate sample.

VOC - Volatile Organic Compound.
SVOC - Semivolatile Organic Compound.
MET - Metals.
µg/l is equivalent to (ppb).

TABLE 3-11

MUNITIONS MAINTENANCE SQUADRON (SS-013) - REMEDIAL INVESTIGATION
DETECTED ANALYTES IN GROUNDWATER SAMPLES

ANALYTE	CLASS	*ARAR VALUE (µg/l)	ROUND - 3				
			FREQUENCY OF DETECTION	DETECTED MINIMUM CONCENTRATION (µg/l)	DETECTED MAXIMUM CONCENTRATION (µg/l)	AVERAGE OF DETECTIONS (µg/l)	LOCATION OF MAXIMUM DETECTION
Vinyl Chloride	VOC	2	1/21	38	38	38	MW-13-008
1,2-Dichloroethene (total)	VOC	5	8/21	0.3	4.0	1.3	MW-02-044
Chloroform	VOC	7	1/21	0.2	0.2	0.2	MW-13-011
Trichloroethene	VOC	5	5/21	0.6	83	21.2	MW-02-044
Benzene	VOC	0.7	2/21	0.5	4.1	2.3	MW-13-008
Tetrachloroethene	VOC	5	1/21	0.3	0.3	0.3	MW-02-044
Toluene	VOC	5	1/21	4.7	4.7	4.7	MW-13-008
Chlorobenzene	VOC	5	1/21	1.5	1.5	1.5	MW-23-001
Ethylbenzene	VOC	5	1/21	4.4	4.4	4.4	MW-13-008
Styrene	VOC	5	1/21	1.0	1.0	1.0	MW-13-008
Xylene (total)	VOC	5	1/21	15.0	15.0	15.0	MW-13-008

*ARAR value from Table 4-1, URS,1996.

- Exceeds ARAR.

VOC - Volatile Organic Compound

µg/l is equivalent to (ppb).

TABLE 3-12

MUNITIONS MAINTENANCE SQUADRON (SS-013) - REMEDIAL INVESTIGATION
HUMAN AND ECOLOGICAL RISK SUMMARY

HUMAN HEALTH RISK ASSESSMENT

EXPOSURE PATHWAY	CURRENT USE				FUTURE USE			
	TRESPASSERS				CONSTRUCTION WORKER		INDUSTRIAL WORKER	
	ADULTS		TEENAGERS					
	CANCER RISK	HAZARD INDEX CHRONIC	CANCER RISK	HAZARD INDEX SUBCHRONIC	CANCER RISK	HAZARD INDEX SUBCHRONIC	CANCER RISK	HAZARD INDEX CHRONIC
Dermal Contact with Soil*	8E-08	1E-03	2E-08	7E-04	8E-10	6E-04	4E-08	8E-04
Ingestion of Soil*	1E-06	1E-03	2E-07	3E-04	1E-07	4E-03	7E-07	1E-03
Inhalation of Fugitive Dust*	—	—	—	—	7E-12	5E-05	—	—
Inhalation of Vapors from Groundwater While Showering	—	—	—	—	—	—	7E-04	2E-01
Ingestion of Groundwater	—	—	—	—	—	—	4E-04	8E-01
TOTAL EXPOSURE CANCER RISK	**1E-06**	—	**3E-07**	—	**1E-07**	—	**1E-03**	—
TOTAL EXPOSURE HAZARD INDEX	—	**2E-03**	—	**1E-03**	—	**5E-03**	—	**1E+00**

ECOLOGICAL RISK ASSESSMENT

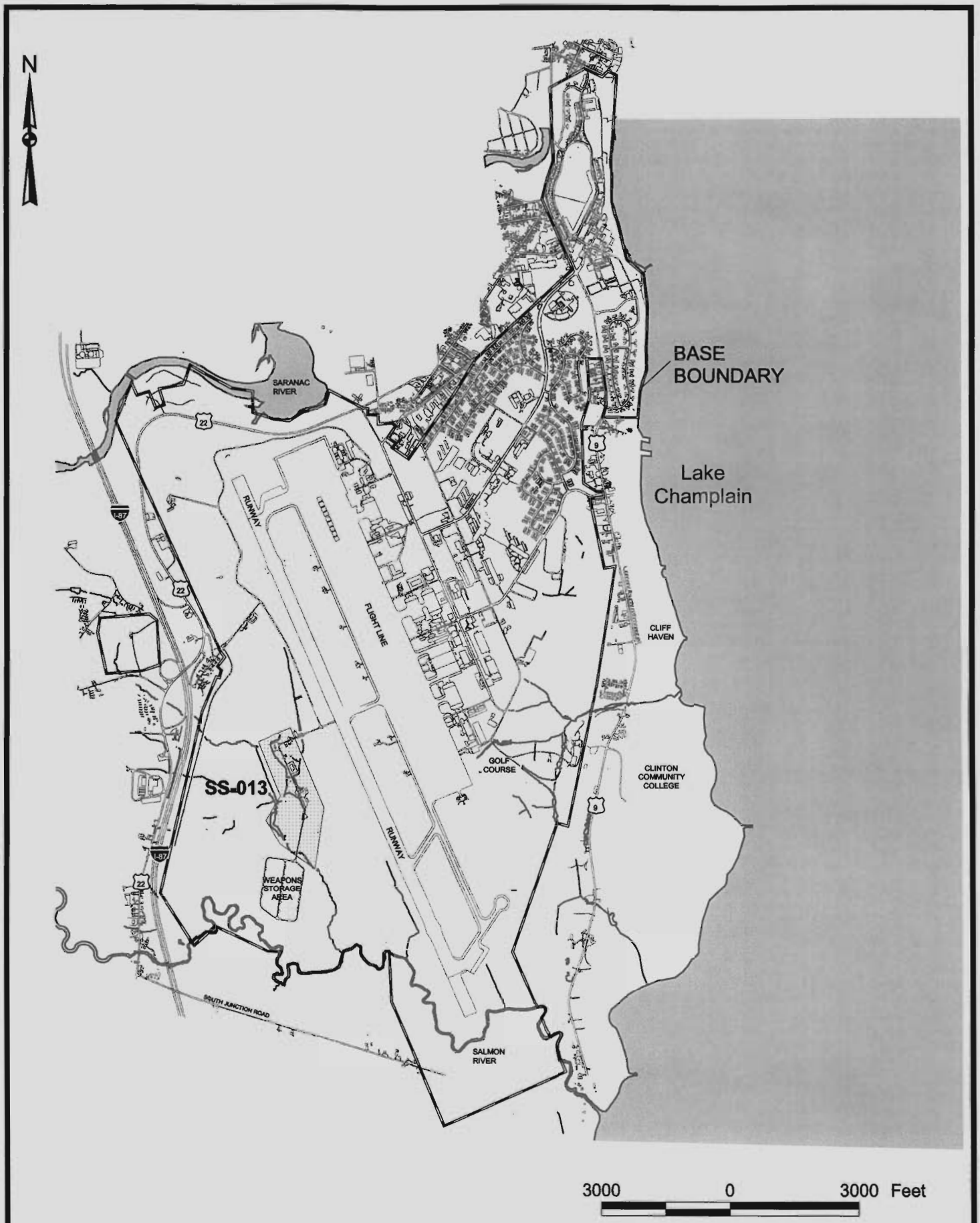
	CHRONIC HAZARD INDICIES			
	MEADOW JUMPING MOUSE	RACCOON	RED FOX	COMMON CROW
Prey and Soil Ingestion	2E-01	5E-04	4E-06	3E-04
Prey and Sediment Ingestion	3E+00	2E-03	4E-05	2E-03

NOTES:

— - Pathway not evaluated in the HRA

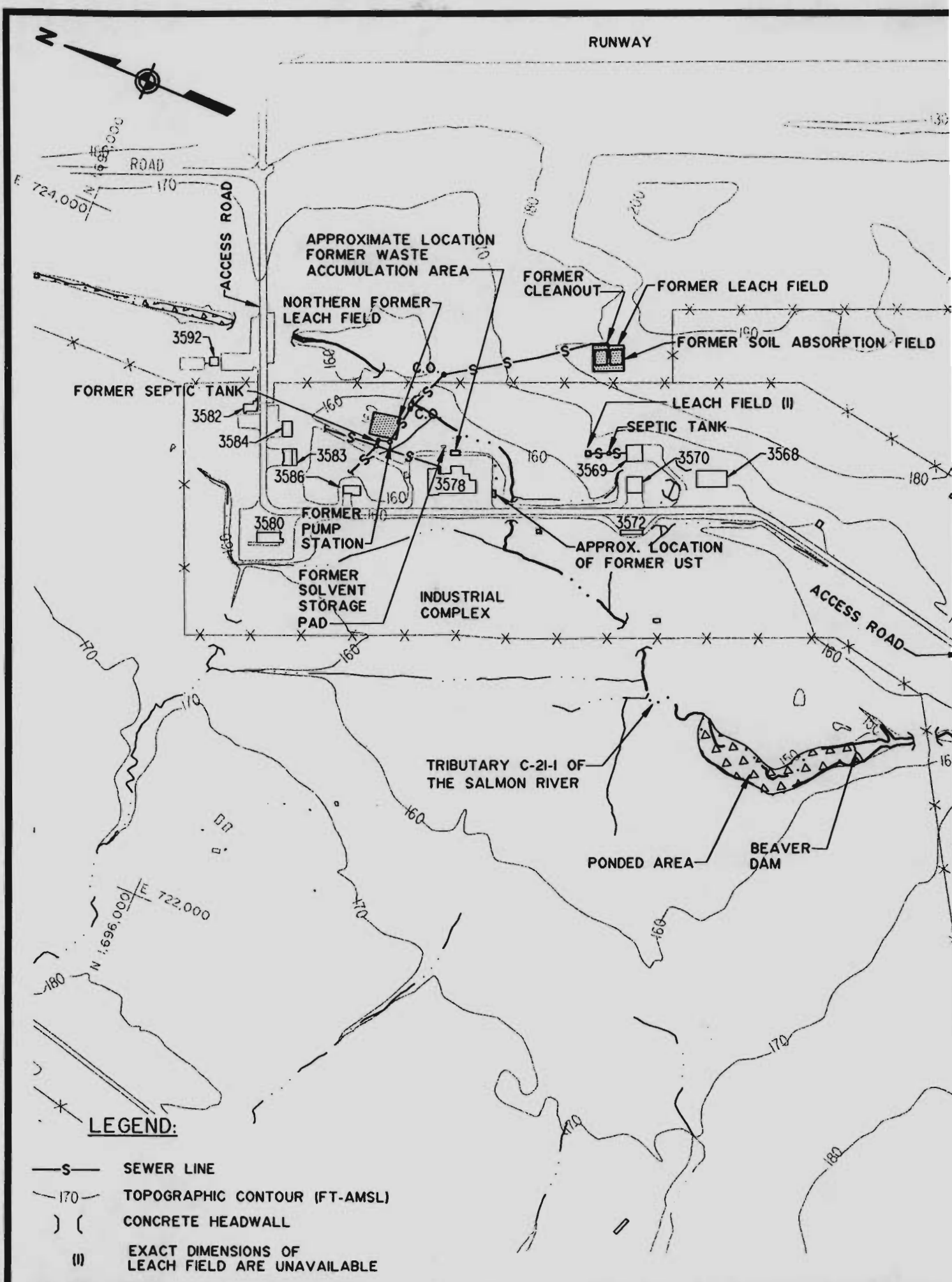
ND - Data inadequate to calculate risks.

* - For future use, surface and subsurface soil were combined.



URS Consultants, Inc.	LOCATION PLAN MUNITIONS MAINTENANCE SQUADRON (SS-013)	FIGURE 1-1

J:\0100013\DBIGIS\1999ss-013.apr SITE LOCATION
7/11/2000



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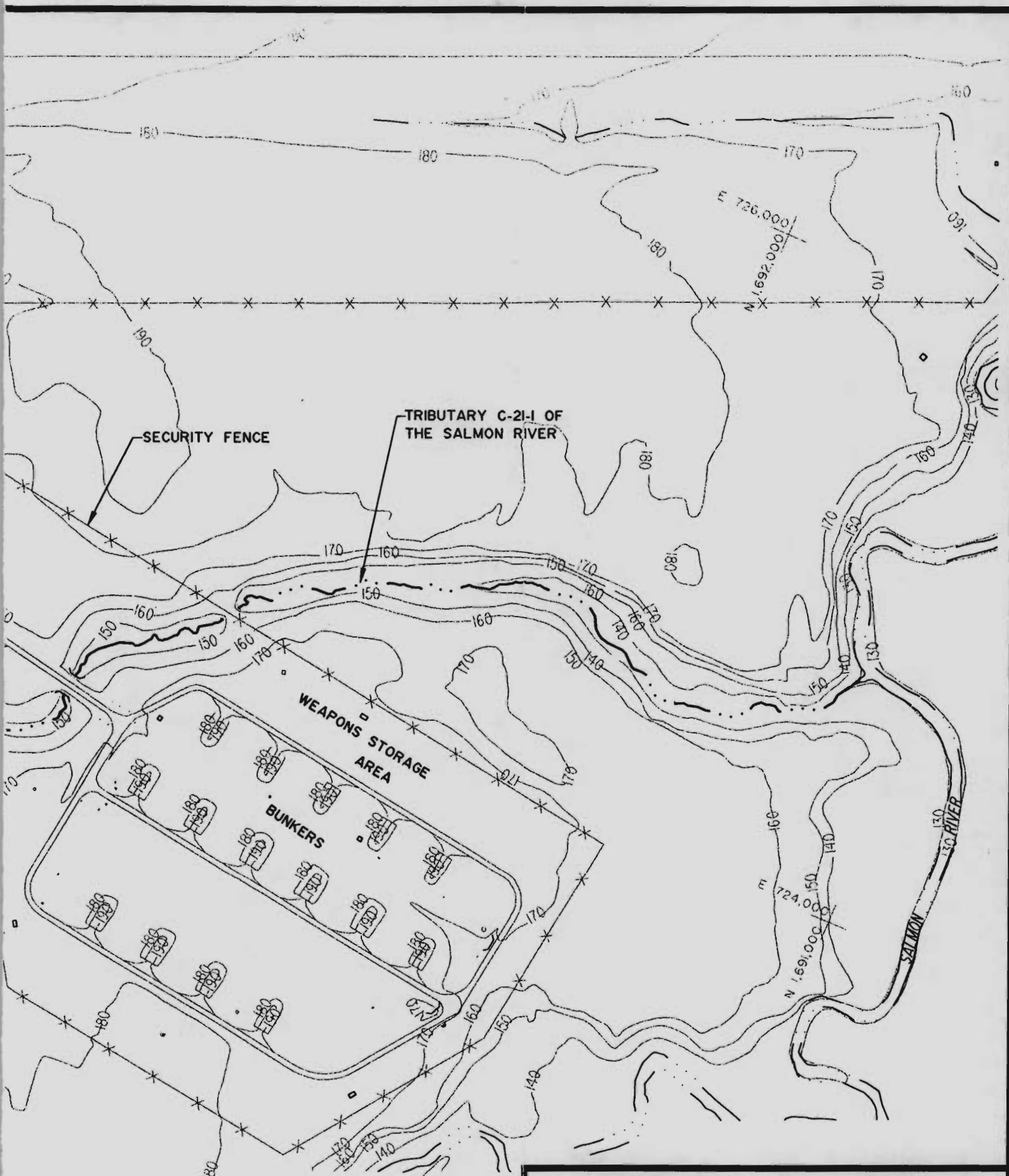
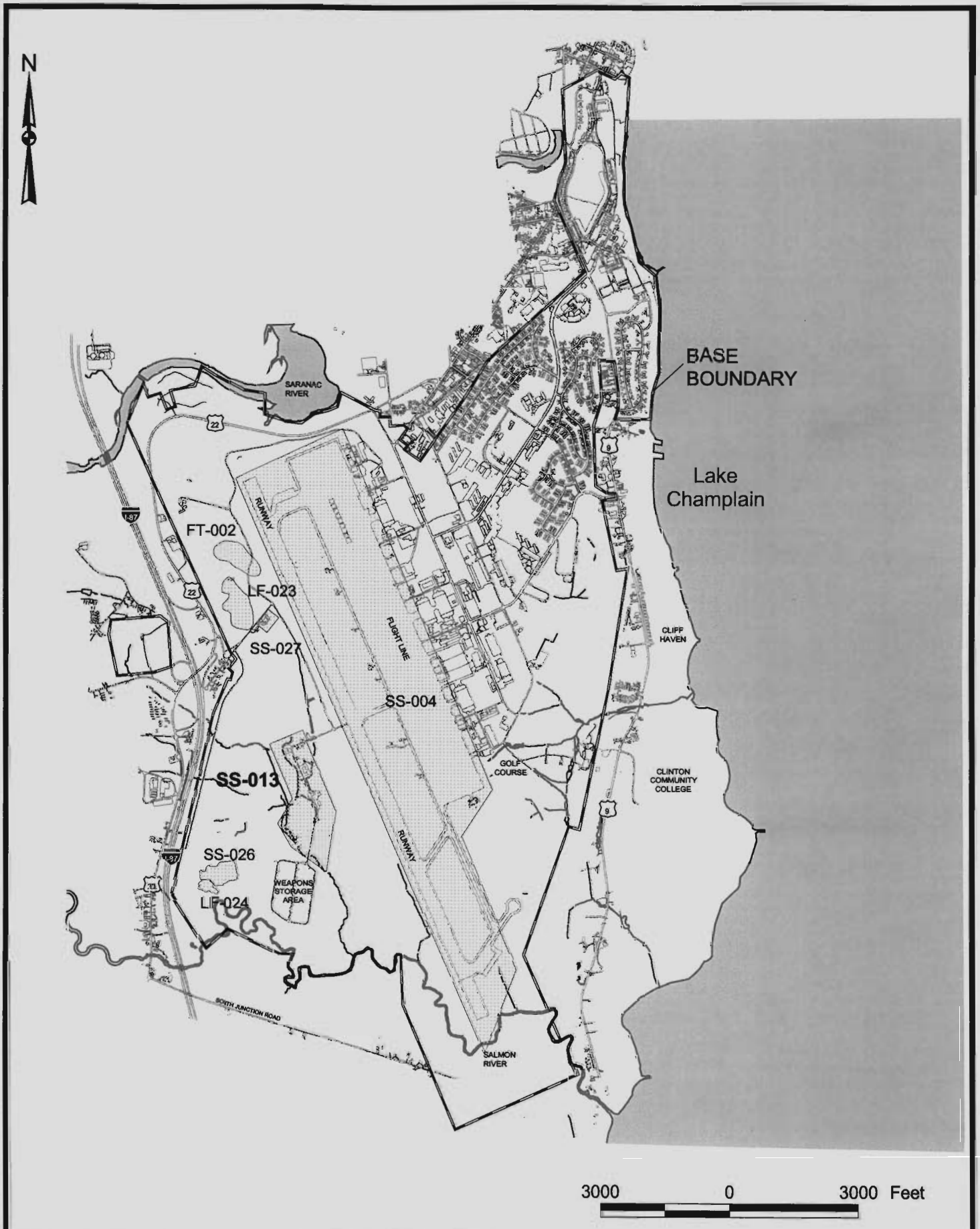
CC-2886B



PLATTSBURGH AFB - SS-013
SITE FEATURES

URS CONSULTANTS, INC.

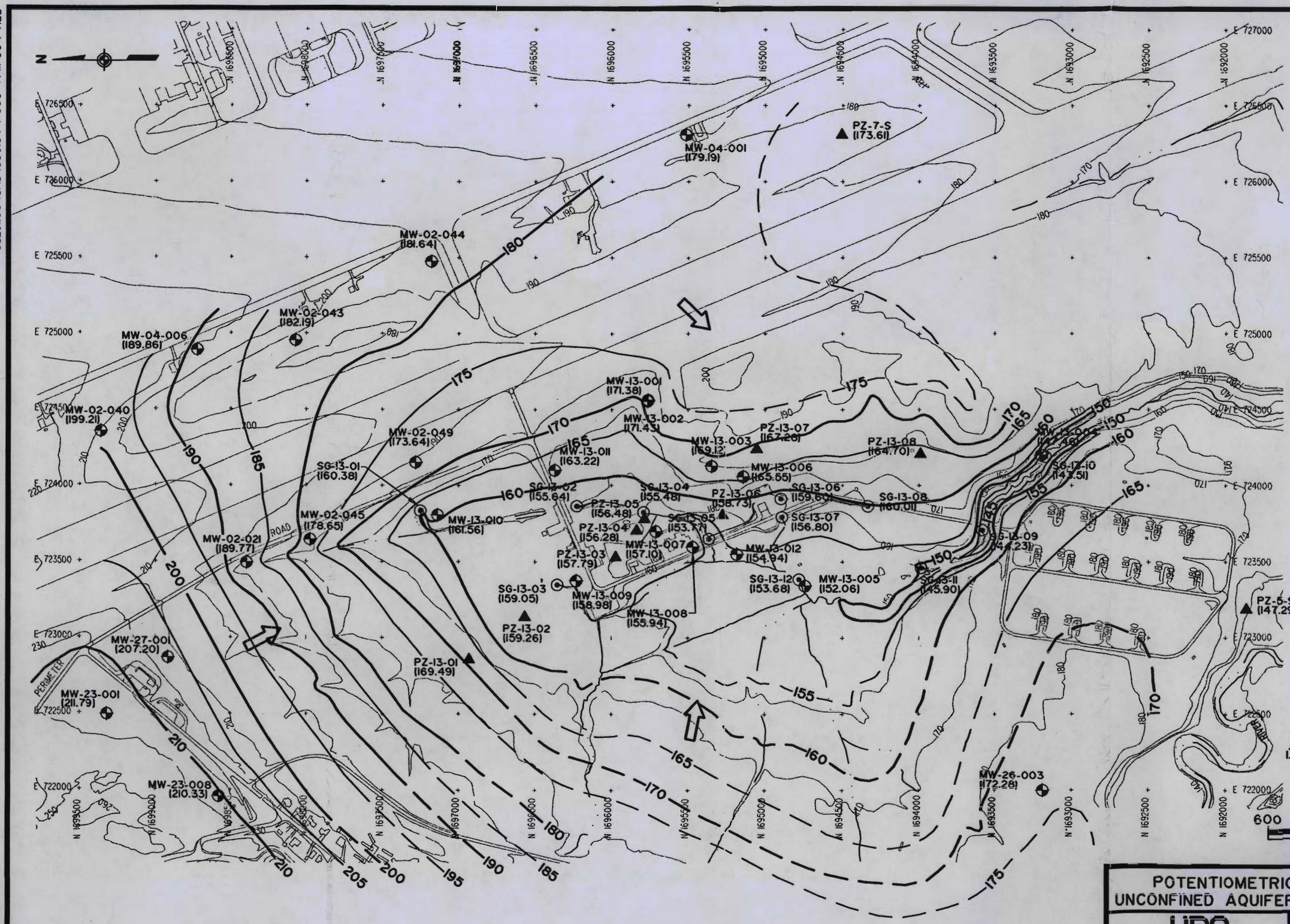
FIGURE 2-1



URS Consultants, Inc.	MUNITIONS MAINTENANCE SQUADRON (SS-013) ADJACENT IRP SITES	FIGURE 2-2

J:\0100013\DB\GIS\1999\ss-013.apr ADJACENT IRP SITES
7/11/2000

35291.00\CAD\SS013\ 1=600 7/11/00-1 HBB



LEGEND

- MONITORING WELL LOCATION
- PIEZOMETER LOCATION
- STREAM GAUGE LOCATION
- –150– POTENTIOMETRIC CONTOUR
- (147.29) GROUNDWATER ELEVATION (FEET AMSL)
- DIRECTION OF GROUNDWATER FLOW

NOTES:

1. GROUNDWATER ELEVATIONS TAKEN 10/5/95.

POTENTIOMETRIC SURFACE OF UNCONFINED AQUIFER (OCTOBER 5, 1995)

URS CONSULTANTS, INC.

FIGURE 2-3

C-35898

\35291.00\CAD\SS013\ 1=100 7/19/00-1 HBB

N

FORMER LEACH FIELD

FORMER CLEANOUT (C.O.)

SG-AF-06

SP9-7

SP9-22

SP9-13

SP9-20

SG-AF-01

SP9-21

SP9-5

SP9-23

SG-SL-16

S

SG-SL-13

SG-AF-04

SG-AF-09

SG-SL-10

S

SG-SL-17

SG-AF-07

SG-SL-14

SG-SL-18

SP9-9

SG-SL-08

S

SG-SL-11

SG-AF-10

SG-SL-05

SG-SL-06

SG-SL-12

SG-SL-15

SP9-11

SG-SL-04

C.O.

SG-SL-07

SG-SL-09

SOIL ABSORPTION FIELD

SG-AF-08

SG-AF-05

SG-SL-01

SG-AF-03

SP9-14

SG-SL-02

SG-AF-02

SG-SL-03

3592

3582

3584

3583

3586

3578

3569

3568

3570

3572

3580

160

PAVED ACCESS ROAD

120N/80E

C.O.

00N/80E

120N/00E

00N/00E

NF-SL-01

NF-SL-02

FORMER SEPTIC TANK

FORMER PUMP STATION

APPROXIMATE LOCATION OF FORMER WASTE ACCUMULATION AREA

APPROXIMATE LOCATION OF FORMER UST

LEACH FIELD (1)

00N/60E

SEPTIC TANK

SF-LL-02

SF-LL-05

SF-LL-03

80N/60E

80N/00E

00N/00E

SF-LL-06

SF-LL-01

SF-LL-04

INDUSTRIAL COMPLEX

LEGEND:

- SOIL GAS SURVEY LOCATION - SITE INSPECTION INVESTIGATION (E.C. JORDAN 1989)
- SOIL GAS SURVEY LOCATION - REMEDIAL INVESTIGATION (URS 1993)
- SURVEY GRID LOCATION (URS 1993)
- (1) EXACT DIMENSIONS OF LEACH FIELD ARE UNAVAILABLE
- SURFACE WATER DRAINAGE AND DIRECTION OF FLOW
- —S— SEWER LINE
- 170 TOPOGRAPHIC CONTOUR (FT-AMSL)
-) (CONCRETE HEADWALL

100 0 100

SCALE IN FEET

PLATTSBURGH A.F.B. - SS-013
PREVIOUS SOIL GAS SURVEY SAMPLING LOCATIONS

URS CONSULTANTS, INC.

FIGURE 3-1

C-2898A

3529.00\CAD\SS013 1=600 7/19/00-1 HBB

N

RUNWAY

PERIMETER ROAD

SW-13-018

SW-13-017

ACCESS ROAD

FORMER LEACH FIELD SW-13-016

LEACH FIELD

FORMER LEACH FIELD 3568

3566

3578

INDUSTRIAL COMPLEX

SW-1 SD-1

ACCESS ROAD

TRIBUTARY C-21-1 OF THE SALMON RIVER

SW-13-015

WEAPONS STORAGE AREA

BUNKERS

PONDED AREA

BEAVER DAM

SW-13-019

SW-13-020

SW-13-021

INTERSTATE 87

N 1695,000

E 721,000

E 727,000

N 1691,000

SALMON RIVER

LEGEND

SW-13-019 ■ SURFACE WATER SAMPLING LOCATION DRAINAGE FLOW STUDY (ABB. 1991)

SW-1 SD-1 ● SURFACE WATER/SEDIMENT SAMPLING LOCATION - SITE INSPECTION INVESTIGATION (E.C. JORDAN 1989)

DRAINAGE CHANNEL AND FLOW DIRECTION

160 TOPOGRAPHIC CONTOUR

DRAINAGE INLET

HEADWALL

600 0 600

SCALE IN FEET

PLATTSBURGH A.F.B.- SS-013
PREVIOUS INVESTIGATIONS OF SURFACE WATER AND SEDIMENT

URS CONSULTANTS, INC.

FIGURE 3-2

C-2905A

3529.00\CAD\SS013\ 1=200 7/19/00-2 DRH

SS-13-12	
Toluene	3,300
Total Carcinogenic PAHs	164

SS-13-11	
Toluene	4
Total Phthalates	54
Magnesium	3520

SS-13-17	
No Detected Organics	-

SS-13-15	
No Detected Organics	-

SS-13-04	
Total Non-Carcinogenic PAHs	1,054
Total Carcinogenic PAHs	3,768
Total Phthalates	3,426

SB-13-17-1	
Acetone	44
1,2-Dichloroethene (Total)	1300
2-Butanone	41
Trichloroethene	25
Tolune	24000
Ethylbenzene	97
Xylene (Total)	470
Total Phthalates	85

SS-13-18	
Xylene (Total)	2

SS-13-05	
No Detected Organics	-

SS-13-16	
No Detected Organics	-

SS-13-02	
Total Non-Carcinogenic PAHs	90
Total Carcinogenic PAHs	55

SS-13-14	
No Detected Organics	-

SS-13-08	
2-Butanone	24
Total Non-Carcinogenic PAHs	56

SS-13-01	
Total Non-Carcinogenic PAHs	300
Total Carcinogenic PAHs	347
Manganese (mg/kg)	679

SS-13-06	
Methylene Chloride	46
2-Hexanone	3
Total Non-Carcinogenic PAHs	305
Total Carcinogenic PAHs	430
Alpha-Chlordane	0.55
Aroclor-1254	17
Thallium	0.22

SS-13-13	
Total Non-Carcinogenic PAHs	59
Total Carcinogenic PAHs	92
Total Phthalates	57

SS-13-07	
Methylene Chloride	53
Total Non-Carcinogenic PAHs	11,950
Total Carcinogenic PAHs	1,280
4,4' - DDD	4.6
Endosulfan Sulfate	5.2
4,4' - DDT	4.0
Methoxychlor	9.4
Cyanide (mg/kg)	3.5

SB-13-16-1	
Total Non-Carcinogenic PAHs	275
Total Carcinogenic PAHs	124
Total Phthalates	105

SS-13-09	
Total Non-Carcinogenic PAHs	910
Total Carcinogenic PAHs	751
4,4'-DDE	5.5
4,4'-DDD	0.80
Endosulfan Sulfate	2.0
4,4'-DDT	3.4

SS-13-03	
Acetone	40

SS-13-10	
Total Non-Carcinogenic PAHs	33,250
Total Carcinogenic PAHs	20,570

SS-13-19	
4,4' - DDE	3.3
4,4' - DDT	2.4

FORMER LEACH FIELD

FORMER LEACH FIELD

INDUSTRIAL COMPLEX

ACCESS ROAD

LEACH FIELD

3578 3569 3570 3568

160 190

N 1,696,000 E 722,600

N 1,694,000 E 724,400

200 0 200

SCALE IN FEET

NOTES:

1. THIS FIGURE PRESENTS ALL VOLATILE ORGANIC COMPOUNDS, PESTICIDES, AND PCBS (SEE NOTE 4) DETECTED IN THE SURFACE SOIL SAMPLES. SEMIVOLATILE ORGANIC COMPOUNDS HAVE BEEN GROUPED INTO: TOTAL PHTHALATES, TOTAL NON-CARCINOGENIC PAHS (SEE NOTE 2); AND TOTAL CARCINOGENIC PAHS (SEE NOTE 3). ALL DETECTIONS ARE REPORTED IN µg/kg UNLESS OTHERWISE INDICATED.
2. TOTAL NON-CARCINOGENIC PAHS = THE TOTAL OF THESE NON-CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBON COMPOUNDS: ACENAPHTHENE, FLUORENE, PHENANTHRENE, ANTHRACENE, FLUORANTHENE, PYRENE, BENZO(G,H,I)PERYLENE, DIBENZOFURAN, AND NAPHTHALENE.
3. TOTAL CARCINOGENIC PAHS= THE TOTAL OF THE CONCENTRATIONS OF THESE CARCINOGENIC OR POTENTIALLY CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBON COMPOUNDS: CARBAZOLE, BENZO(A), ANTHRACENE, CHRYSENE, BENZO (B)FLUORANTHENE, BENZO(K)FLUORANTHENE, BENZO(A)PYRENE, INDENO(1,2,3-CD)PYRENE, AND DIBENZ(A,H)ANTHRACENE.
4. ONLY METALS DETECTIONS WHOSE CONCENTRATIONS EXCEEDED TBCs ARE REPORTED. ALL CYANIDE DETECTIONS ARE REPORTED.

LEGEND

- SURFACE SOIL SAMPLE
- SOIL BORING
- LEACH FIELDS
- —190— TOPOGRAPHIC CONTOUR
- SURFACE DRAINAGE AND FLOW DIRECTION
- EXCEEDS SEDIMENT TBC (FOR PAHs, AT LEAST ONE PAH COMPOUND DETECTION EXCEEDS TBCs)

PLATTSBURGH AFB SS-013
SURFACE SOIL RESULTS

URS CONSULTANTS, INC.

FIGURE 3-4

C-2893

35229.00/CAD/SS-13/1=600 7/19/00-7 DRH (1a0)

SW-13-02	
1,2 DICHLOROETHENE (TOTAL)	4
TRICHLOROETHENE	4
SD-13-02	
METHYLENE CHLORIDE	2

SW-13-01	
TOTAL PHTHALATES	12
SD-13-01	
METHYLENE CHLORIDE	4
ACETONE	10
4,4'-DDE	0.29

SW-13-03	
TOTAL PHTHALATES	4
SD-13-03	
METHYLENE CHLORIDE	6
ACETONE	23
TOTAL NON-CARC. PAHs	54

SW-13-04	
1,2 DICHLOROETHENE (TOTAL)	4
TRICHLOROETHENE	3
SD-13-04	
METHYLENE CHLORIDE	5
ACETONE	12
TOTAL NON-CARC. PAHs	31
ALDRIN	0.85
4,4'-DDE	2.3
CADMIUM (mg/kg)	0.75
IRON (mg/kg)	4100

SW-13-05	
NO DETECTED ORGANICS	-
SD-13-05	
TOTAL NON-CARC PAHs	592
TOTAL CARCIN. PAHs	394

SW-13-12	
XYLENE	4
SD-13-12	
ACETONE	24
TOTAL PHTHALATES	21
ANTIMONY (mg/kg)	4.6

SW-13-10	
NO DETECTED ORGANICS	-
SD-13-10	
ACETONE	17

SW-13-07	
NO DETECTED ORGANICS	-
SD-13-07	
ACETONE	32
2-BUTANONE	7
TOTAL NON-CARC. PAHs	263
TOTAL CARCINOGENIC PAHs	216
TOTAL PHTHALATES	24
ALDRIN	3.2
4,4' DDD	0.85
AROCLOR-1248	53

SW-13-06	
TRICHLOROETHENE	2
XYLENE (TOTAL)	7
SD-13-06	
METHYLENE CHLORIDE	8
ACETONE	37
2-BUTANONE	9
TOTAL NON-CARC. PAHs	156
TOTAL CARCINOGENIC PAHs	58
TOTAL PHTHALATES	41

SW-13-11	
NO DETECTED ORGANICS	-
SD-13-11	
TOTAL NON-CARC. PAHs	199
ACETONE	33
2-BUTANONE	12
TOTAL CARCINOGENIC PAHs	16
TOTAL PHTHALATES	33

SW-13-09	
NO DETECTED ORGANICS	-
SD-13-09	
ACETONE	60
2-BUTANONE	18
TOLUENE	2
TOTAL NON-CARC. PAHs	65
TOTAL CARCINOGENIC PAHs	14
TOTAL PHTHALATES	20

SW-13-08	
NO DETECTED ORGANICS	-
SD-13-08	
ACETONE	19
TOTAL NON-CARC. PAHs	260

NOTES:

1. THE FIGURE PRESENTS ALL VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS, PESTICIDES, AND PCB'S DETECTED IN THE SURFACE WATER AND SEDIMENT SAMPLES. SEMIVOLATILE ORGANIC COMPOUND DETECTIONS HAVE BEEN GROUPED INTO: TOTAL PHTHALATES; TOTAL NON-CARC. PAHs (SEE NOTE 3); TOTAL CARC. PAHs (SEE NOTE 3); ALL DETECTIONS ARE REPORTED IN ppb (ug/L or ug/kg) UNLESS OTHERWISE INDICATED.
2. TOTAL NON-CARC. PAHs = THE TOTAL OF THE CONCENTRATIONS OF THESE NON-CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBON COMPOUNDS: ACENAPHTHENE, PYRENE, BENZO (G,H,I,) PERYLENE, DIBENZOFURAN, ACENAPTHYLENE, FLUORENE, PHENANTHRENE, ANTRACENE, FLUORANTHENE, AND NAPHTHALENE.
3. TOTAL CARC. PAHs = THE TOTAL OF THE CONCENTRATIONS OF THESE CARCINOGENIC OR POTENTIALLY CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBON COMPOUNDS: CARBAZOLE, BENZO (A) ANTHRACENE, CHRYSENE, BENZO(B) FLUORANTHENE, BENZO (K) FLUORANTHENE, BENZO(A)PYRENE, INDENO (1,2,3-CD)PYRENE AND DIBENZ(A,H) ANTHRACENE.
4. NOT ALL SAMPLES WERE ANALYZED FOR ALL CLASSES OF COMPOUNDS.
5. ONLY METALS DETECTIONS THAT EXCEEDED TBCs ARE SHOWN. THE LOWEST EFFECT LEVEL TBC WAS USED FOR METALS IN SEDIMENT (TABLE 4-5, URS 1996).

LEGEND

▲ SW/SD-13-10 — SURFACE WATER/ SEDIMENT SAMPLE

EXCEEDS SEDIMENT TBC (FOR PAHs, AT LEAST ONE PAH COMPOUND DETECTION EXCEEDS TBCs)

600 0 600

SCALE IN FEET

PLATTSBURGH A.F.B. - SS-013 RI
SURFACE WATER / SEDIMENT RESULTS

URS CONSULTANTS, INC.

FIGURE 3-6

C-2887

\35291.00\CAD\SS013\ I=200 7/19/00-8 RAL

HP-13-04-6R	
Acetone	220
Carbon Disulfide	4
1,1-Dichloroethane	12
1,2-Dichloroethene (total)	1
1,2-Dichloroethane	36
2-Butanone	49
Toluene	4
bis(2-Ethylhexyl)Phthalate	0

HP-13-08-5	
Acetone	830
Diethylphthalate	2
Di-n-butylphthalate	2
Butylbenzylphthalate	2
bis(2-Ethylhexyl)Phthalate	2

HP-13-06-6	
Acetone	2,300
Ethylbenzene	1
Xylenes	7
Dimethylphthalate	2
Diethylphthalate	3
Fluoranthene	2
Pyrene	1
bis(2-Ethylhexyl)Phthalate	2

HP-13-11-22	
Acetone	300
2-Butanone	13
Di-n-butylphthalate	1
Butylbenzylphthalate	7
bis(2-Ethylhexyl)Phthalate	3

HP-13-09-23	
Acetone	510
Dimethylphthalate	1
Diethylphthalate	1
bis(2-Ethylhexyl)Phthalate	1

HP-13-09-45	
Acetone	29
Dimethylphthalate	0

HP-13-12-16	
Acetone	130
bis(2-Ethylhexyl)Phthalate	1

HP-13-12-27
No VOCs or SVOCs detected

HP-13-12-38
No VOCs or SVOCs detected

HP-13-02-6	
Diethylphthalate	1

HP-13-13-10	
Acetone	33
Carbon Disulfide	21

HP-13-03-8	
Vinyl Chloride	7
Carbon Disulfide	7
1,2-Dichloroethene (Total)	5
bis(2-Ethylhexyl)Phthalate	1

HP-13-05-5	
Acetone	420
Carbon Disulfide	22

HP-13-05-16	
Carbon Disulfide	15

HP-13-15-11	
Vinyl Chloride	21
Acetone	140
Carbon Disulfide	5
Toluene	6
Ethylbenzene	5
Xylenes	14
2,4-Dimethylphenol	150
Naphthalene	1,400
2-Methylnaphthalene	230
Acenaphthalene	56
Dibenzofuran	20
Fluorene	13
Phenanthrene	3
Carbazole	51
bis(2-Ethylhexyl)Phthalate	7

HP-13-14-7	
Acetone	370
Carbon Disulfide	8

HP-13-10-8	
Carbon Disulfide	3
Diethylphthalate	2
Phenanthrene	3
Fluoranthene	3
Pyrene	3
Chrysene	1
Benzo(b)Fluoranthene	2
Benzo(a)Pyrene	1

HP-13-07-6	
Diethylphthalate	2

HP-13-07-21	
bis(2-Ethylhexyl)Phthalate	0

HP-13-01-7	
Diethylphthalate	3

ACCESS ROAD

FORMER LEACH FIELD

FORMER LEACH FIELD

APPROXIMATE LOCATION OF FORMER WASTE ACCUMULATION AREA

SB-13-09

SB-13-11

SB-13-12

SECURITY FENCE

LEACH FIELD

SB-13-06

SB-13-05

SB-13-08

SB-13-03

SB-13-10

SB-13-02

SB-13-01

SB-13-04

SB-13-07

INDUSTRIAL COMPLEX

SB-13-13

SB-13-15

SB-13-14

APPROXIMATE LOCATION OF FORMER UST

TRIBUTARY C-21-1 OF THE SALMON RIVER

ACCESS ROAD

3584 3578 3569 3570 3568

160 170 190

N 1,694,000 E 725,000

N 1,696,000 E 722,750

200 0 200

SCALE IN FEET

NOTES:

1. THIS FIGURE PRESENTS ALL VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS DETECTED IN THE GROUNDWATER SCREENING SAMPLES. ALL DETECTIONS ARE REPORTED IN µg/L.

LEGEND

- SB-13-07 ● BORING LOCATION
- HP-13-07-6 HYDROPUNCH SAMPLE AT SITE SS-013, BORING SB-13-07, AT 6 FOOT DEPTH.
- DIRECTION OF SURFACE WATER FLOW
- 170 TOPOGRAPHIC CONTOUR (FT-AMSL)
- LEACH FIELD

PLATTSBURGH A.F.B. - SS-013 RI
GROUNDWATER SCREENING
RESULTS FROM BORING LOCATIONS

URS CONSULTANTS, INC.

FIGURE 3-7

CC-2848

\3529.00\CAD\SS013\ I=300 7/19/00-4 RAL

MW-13-001		
	Unfiltered	Filtered
Barium	21.7	29.8
Selenium	1.4	1.4

MW-13-003		
	Unfiltered	Filtered
Barium	ND	24.5
Lead	1.4	ND

MW-13-006		
Chloromethane		6
1,2-Dichloroethane		3
	Unfiltered	Filtered
Arsenic	25.8	ND
Barium	200	ND
Chromium	57.7	ND
Lead	34.0	ND
Selenium	1.7	ND

MW-13-007		
Chloromethane		7
1,2-Dichloroethane		3
	Unfiltered	Filtered
Arsenic	20.2	6.0
Barium	246	28.3
Chromium	51.9	ND
Lead	19.3	ND
Selenium	ND	1.4

MW-13-008		
Chloromethane		9
Vinyl Chloride		53
1,2-Dichloroethane		4
Toluene		6
Ethylbenzene		23
Styrene		2
Xylene (total)		21
Napthalene		2700
2-Methylnaphthalene		330
Acenaphthene		120
Dibenzofuran		33
Fluorene		22
Carbazole		53
	Unfiltered	Filtered
Arsenic	19.5	2.1
Barium	307	169
Chromium	56.7	ND
Lead	19.8	ND

MW-13-004		
Napthalene		5
	Unfiltered	Filtered
Chromium	4.5	ND
Lead	1.0	ND
Mercury	0.25	ND

RUNWAY

ACCESS ROAD

FORMER LEACH FIELD

APPROXIMATE LOCATION OF FORMER WASTE ACCUMULATION AREA

FORMER LEACH FIELD

INDUSTRIAL COMPLEX

LEACH FIELD

SECURITY FENCE

APPROX. LOCATION OF FORMER UST

ACCESS ROAD

MW-13-005*

WEAPONS STORAGE AREA

BUNKERS

PONDED AREA

BEAVER DAM

E 723,000 N 1,694,500

E 726,000 N 1,693,000

3584 3578 3570 3569 3568

300 0 300

SCALE IN FEET

LEGEND:

- ⊕ MONITORING WELL (URS, 1993)
- ⊕ MONITORING WELL (E.C. JORDAN, 1989)
- ND - NOT DETECTED
- EXCEEDS ARAR
- LEACH FIELD

NOTES:

1. * GROUNDWATER IN WELL WAS FROZEN; WELL COULD NOT BE SAMPLED.
2. THIS FIGURE PRESENTS ALL VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS, PESTICIDES, PCBs, AND METALS DETECTED IN THE ROUND I GROUNDWATER SAMPLES. ALL DETECTIONS ARE REPORTED IN ug/l.

PLATTSBURGH A.F.B. - SS-013 RI
GROUNDWATER SAMPLING RESULTS
ROUND I (JANUARY 6 & 7, 1994)

URS CONSULTANTS, INC.

FIGURE 3-8

C-2899

\35291.00\CAD\SS013\ 1=300 7/19/00-6 KAH

MW-13-001	
Chloromethane	3.7
Acetone	34
1,2-Dichloroethane	2.2
	Unfiltered / Filtered
Arsenic	2.5 / ND
Barium	36.2 / 53.4
Chromium	4.4 / ND

MW-13-007	
Chloromethane	1.4
Acetone	19
1,2-Dichloroethane	2.5
	Unfiltered / Filtered
Arsenic	7.3 / 5.4
Barium	84.1 / 22.8
Cadmium	ND / 6.9
Chromium	16.8 / ND
Lead	7.1 / ND

MW-13-006	
Chloromethane	1.7
Acetone	6.8
1,2-Dichloroethane	2.2
	Unfiltered / Filtered
Arsenic	15.5 / ND
Barium	125 / 28.1
Chromium	44.5 / ND
Lead	22.1 / ND

MW-13-003	
Chloromethane	2.8
1,2-Dichloroethane	2.1

MW-13-004	
Chloromethane	5.2
1,2-Dichloroethane	3.8
	Unfiltered / Filtered
Barium	8.0 / 17.9
Cadmium	2.4 / 4.8
Chromium	ND / 4.5

MW-13-008	
Vinyl Chloride	27
1,2-Dichloroethene (total)	1
Toluene	6
Ethylbenzene	9
Styrene	1
Xylene (total)	17
2,4-Dimethylphenol	430
Napthalene	860
2-Methylnaphthalene	72
Acenaphthylene	2
Acenaphthene	111
Dibenzofuran	32
Fluorene	22
Phenanthrene	5
Carbazole	39
	Unfiltered / Filtered
Arsenic	10.6 / 3.4
Barium	192 / 53.3
Cadmium	2.8 / 2.6
Chromium	33.2 / ND
Lead	11.3 / ND

RUNWAY

ACCESS ROAD

FORMER LEACH FIELD

FORMER LEACH FIELD

APPROXIMATE LOCATION OF FORMER WASTE ACCUMULATION

LEACH FIELD

INDUSTRIAL COMPLEX

3584

3578

3569

3570

3568

APPROX. LOCATION OF FORMER UST

SECURITY FENCE

ACCESS ROAD

MW-13-005*

E 722,900 N 1,694,800

PONDED AREA

BEAVER DAM

WEAPONS STORAGE AREA

BUNKERS

E 726,000 N 1,693,000

LEGEND:

- ⊕ MONITORING WELL (URS, 1993)
- ⊕ MONITORING WELL (E.C. JORDAN, 1989)
- ND - NOT DETECTED
- EXCEEDS ARAR
- LEACH FIELD

NOTES:

1. *GROUNDWATER IN WELL WAS FROZEN; WELL COULD NOT BE SAMPLED.
2. THIS FIGURE PRESENTS ALL VOLATILE AND SEMIVOLATILE ORGANIC COMPOUNDS, PESTICIDES, PCBs, AND METALS DETECTED IN THE ROUND 2 GROUNDWATER SAMPLES. ALL DETECTIONS ARE REPORTED IN ug/l.

300 0 300

SCALE IN FEET

PLATTSBURGH A.F.B. - SS-013 RI
GROUNDWATER SAMPLING RESULTS
ROUND 2 (FEBRUARY 16, 1994)

URS CONSULTANTS, INC.

FIGURE 3-9

C-2900

\35291.00\CAD\SS013\ 1=600 7/19/00-6 ELB

N

E 725500

E 725000

E 724500

E 724000

MW-04-001
NO VOCs DETECTED

MW-02-044
1,2-Dichloroethene (total)	4.0
Trichloroethene	83
Tetrachloroethene	0.3

MW-13-001
1,2-Dichloroethene (total)	0.8
Trichloroethene	18

MW-13-002
NO VOCs DETECTED

MW-13-003
NO VOCs DETECTED

MW-13-004
NO VOCs DETECTED

MW-13-006
NO VOCs DETECTED

MW-02-045
1,2-Dichloroethene (total)	1.4

MW-02-022
1,2-Dichloroethene (total)	0.9

MW-02-021
1,2-Dichloroethene (total)	0.8
Trichloroethene	1.9

MW-02-049
NO VOCs DETECTED

MW-13-010
NO VOCs DETECTED

MW-13-009
NO VOCs DETECTED

MW-13-011
Chloroform	0.2

MW-13-007
NO VOCs DETECTED

MW-13-005
NO VOCs DETECTED

MW-13-012
NO VOCs DETECTED

MW-13-008
Vinyl Chloride	38
1,2-Dichloroethene (total)	2.2
Benzene	4.1
Toluene	4.7
Ethylbenzene	4.4
Styrene	1.0
Xylene (total)	15

MW-23-001
1,2-Dichloroethene (total)	0.3
Trichloroethene	0.6
Benzene	0.5
Chlorobenzene	1.5

MW-27-001
1,2-Dichloroethene (total)	0.3
Trichloroethene	2.3

FORMER LEACH FIELD

LEACH FIELD

TRIBUTARY C-21-1 OF THE SALMON RIVER

WEAPONS STORAGE AREA

ACCESS ROAD

APPROX. LOCATION OF FORMER UST

INDUSTRIAL COMPLEX

BUNKERS

BEAVER DAM

PONDED AREA

PERIMETER

ROAD

RIVER

LEGEND

- MONITORING WELL SAMPLED IN ROUND 3
- TOPOGRAPHIC CONTOUR
- HEADWALL
- EXCEEDS ARARs

NOTES:

1. THIS FIGURE PRESENTS ALL VOLATILE ORGANIC COMPOUNDS DETECTED IN THE ROUND 3 GROUNDWATER SAMPLES. ALL RESULTS REPORTED IN ug/l.

600 0 600

SCALE IN FEET

PLATTSBURGH A.F.B. - SS-013 RI
GROUNDWATER SAMPLING RESULTS
ROUND 3 (OCTOBER 3 & 4, 1995)

URS CONSULTANTS, INC.

FIGURE 3-10

CC-3741

\3529I.00\CAD\SS013\ I=200 7/19/00-5 RAL

N

ACCESS ROAD

FORMER LEACH FIELD

APPROXIMATE LOCATION OF FORMER WASTE ACCUMULATION AREA

FORMER LEACH FIELD

SB-13-09 (29)

SB-13-11 (313)

SB-13-12 (130)

SB-13-08 (2308)

SB-13-08 (830)

LEACH FIELD

SB-13-03 (1442)

SB-13-04 (326)

SB-13-05

SB-13-10 (3)

SB-13-01 (ND)

SB-13-02 (ND)

SB-13-07 (ND)

SB-13-13 (54)

SB-13-15 (191)

SB-13-14 (378)

INDUSTRIAL COMPLEX

APPROXIMATE LOCATION OF FORMER UST

TRIBUTARY C-21-1 OF THE SALMON RIVER

SECURITY FENCE

ACCESS ROAD

N 1,694,000

E 725,000

N 1,696,000

E 723,000

3584

3578

3569

3570

3568

100

160

170

180

190

200

150

ND

LEGEND

SB-13-15 ● BORING LOCATION

(9) TOTAL VOC CONCENTRATION IN ppb

—5— ISOCONCENTRATION LINE IN ppb

---ND--- INFERRED ISOCONCENTRATION CONTOUR

LEACH FIELD

200 0 200

SCALE IN FEET

PLATTSBURGH A.F.B. - SS-013 RI
GROUNDWATER SCREENING RESULTS
EXTENT OF TOTAL VOC CONTAMINATION

URS CONSULTANTS, INC.

FIGURE 3-11

C-2910

\35291.00\CAD\SS013\ 1=200 7/19/00-6 KAH

N

ACCESS ROAD

FORMER LEACH FIELD

FORMER LEACH FIELD

APPROXIMATE LOCATION OF FORMER WASTE ACCUMULATION AREA

SECURITY FENCE

LEACH FIELD

INDUSTRIAL COMPLEX

APPROXIMATE LOCATION OF FORMER UST

TRIBUTARY C-21-1 OF THE SALMON RIVER

ACCESS ROAD

N 1,694,000

E 725,000

N 1,696,000

E 723,000

SB-13-01 (ND)
SB-13-02 (ND)
SB-13-03 ND
SB-13-04 (4)
SB-13-05 (ND)
SB-13-06
SB-13-07 (ND)
SB-13-08 (ND)
SB-13-09 (ND)
SB13-10 (ND)
SB-13-11 (ND)
SB-13-12 (ND)
SB-13-13 (ND)
SB-13-14 (ND)
SB-13-15 (25)

(7)
5
10
ND
160
170
180
190
200

3568
3569
3570
3578
3584

LEGEND

SB-13-15 ● BORING LOCATION
(25) BTEX CONCENTRATION IN ppb
—— 5 —— ISOCONCENTRATION LINE IN ppb
——ND—— INFERRED ISOCONCENTRATION CONTOUR
LEACH FIELD

200 0 200
SCALE IN FEET

PLATTSBURGH A.F.B. - SS-013 RI
GROUNDWATER SCREENING RESULTS
EXTENT OF BTEX CONTAMINATION

URS CONSULTANTS, INC.

FIGURE 3-12

C-2914

\35291.00/CAD\SS013\ 1=200 7/19/00-6 KAH

N

ACCESS ROAD

FORMER LEACH FIELD

APPROXIMATE LOCATION OF FORMER WASTE ACCUMULATION AREA

FORMER LEACH FIELD

SB-13-09 (ND)

SB-13-11 (ND)

SB-13-12 (ND)

SECURITY FENCE

SB-13-06 (ND)

SB-13-08 (ND)

ND

SB-13-05 (ND)

SB-13-03 (12)

SB-13-10 (ND)

SB-13-04 (49)

SB-13-13 (ND)

SB-13-01 (ND)

SB-13-02 (ND)

LEACH FIELD

SB-13-07 (ND)

SB-13-15 (21)

SB-13-14 (ND)

INDUSTRIAL COMPLEX

APPROXIMATE LOCATION OF FORMER UST

TRIBUTARY C-21-1 OF THE SALMON RIVER

ACCESS ROAD

3584
3578
3569
3570
3568

110
160
180
190
200
170

N 1,694,000
E 725,000

N 1,696,000
E 723,000

LEGEND:

SB-13-15 ● BORING LOCATION

(21) CHLORINATED SOLVENT CONCENTRATION IN ppb

—10— ISOCONCENTRATION LINE IN ppb

- - -ND- - - INFERRED ISOCONCENTRATION CONTOUR

LEACH FIELD

200 0 200

SCALE IN FEET

PLATTSBURGH A.F.B. - SS-013 RI
GROUNDWATER SCREENING RESULTS
EXTENT OF CHLORINATED SOLVENT CONTAMINATION

URS

FIGURE 3-13

-2913

\35291.00\CAD\SS013\ 1=200 7/19/00-8 KAH

N

ACCESS ROAD

FORMER LEACH FIELD

FORMER LEACH FIELD

APPROXIMATE LOCATION OF FORMER WASTE ACCUMULATION AREA

SB-13-11 (300)

SB-13-09 (29)

SB-13-12 (130)

SECURITY FENCE

SB-13-06 (2300)

SB-13-08 (830)

SB-13-05 (440)

SB-13-03 (ND)

SB-13-04 (220)

SB-13-10 (ND)

SB-13-02 (ND)

LEACH FIELD

SB-13-01 (ND)

SB-13-07 (ND)

INDUSTRIAL COMPLEX

SB-13-13 (33)

SB-13-15 (140)

SB-13-14 (370)

APPROXIMATE LOCATION OF FORMER UST

TRIBUTARY C-21-1 OF THE SALMON RIVER

ACCESS ROAD

N 1,694,000

E 725,000

N 1,696,000

E 723,000

3584 3578 3569 3570 3568

180 200 170 190 160 100 ND

LEGEND:

SB-13-15 ● BORING LOCATION

(140) ACETONE CONCENTRATION IN ppb

—5— ISOCONCENTRATION LINE IN ppb

– – ND – – INFERRED ISOCONCENTRATION CONTOUR

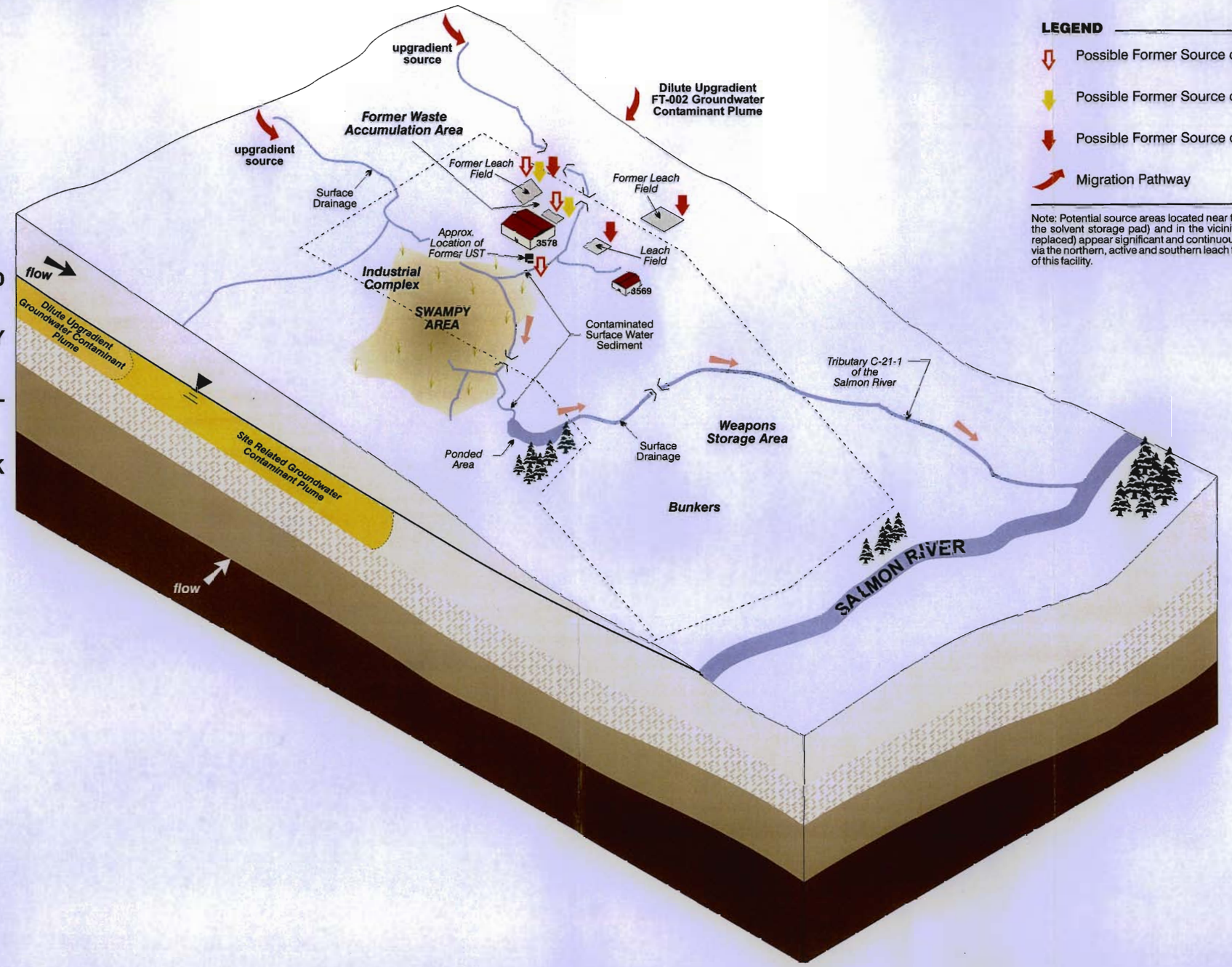
200 0 200

SCALE IN FEET

PLATTSBURGH A.F.B. - SS-013 RI
GROUNDWATER SCREENING RESULTS
EXTENT OF ACETONE CONTAMINATION

URS

FIGURE 3-14



LEGEND

- Possible Former Source of Fuel Related Hydrocarbons
- Possible Former Source of Chlorinated Hydrocarbons
- Possible Former Source of Ketones
- Migration Pathway

Note: Potential source areas located near the former waste accumulation area (at the solvent storage pad) and in the vicinity of the existing UST (and the tank it replaced) appear significant and continuous. Degradation of groundwater quality via the northern, active and southern leach fields may have ceased with the closing of this facility.

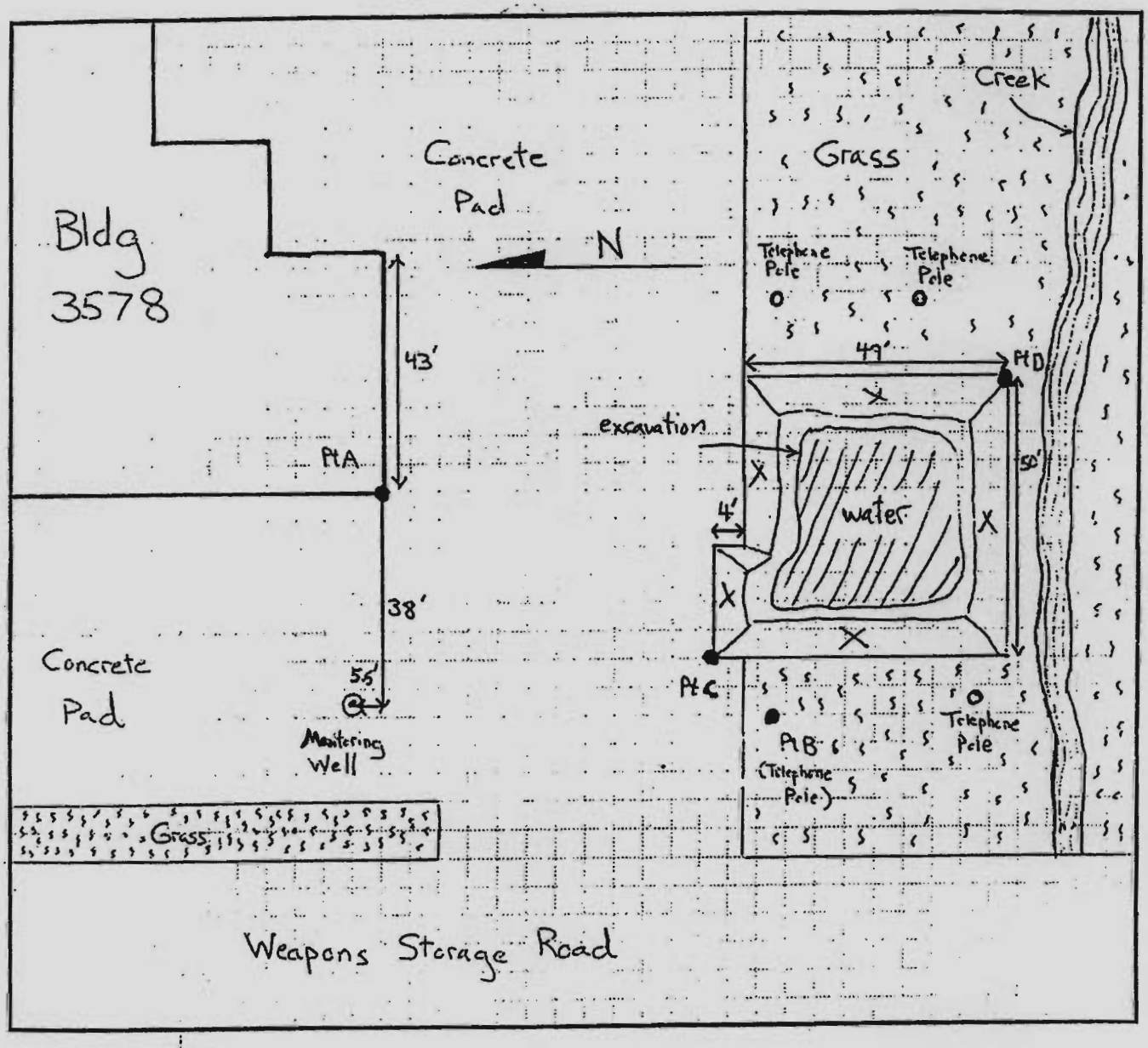
DRAWING IS NOT TO SCALE

AG15472-35721.01-071800-GCM

URS CONSULTANTS, INC.

CONCEPTUAL MODEL
SS-013 MUNITIONS MAINTENANCE SQUADRON

FIGURE 3-15



Ref Points
A→C : 65'
A→D : 128'
B→C : 13'
B→D : 78'

Comments

- Not drawn to scale
- X denotes sampling locations for the excavation composite sample (EX3578A & B)
- A grab sample was collected from the water within the excavation (EX3578A-LQ)
- A grab sample was collected from the groundwater monitoring well (MW3578-LQ)

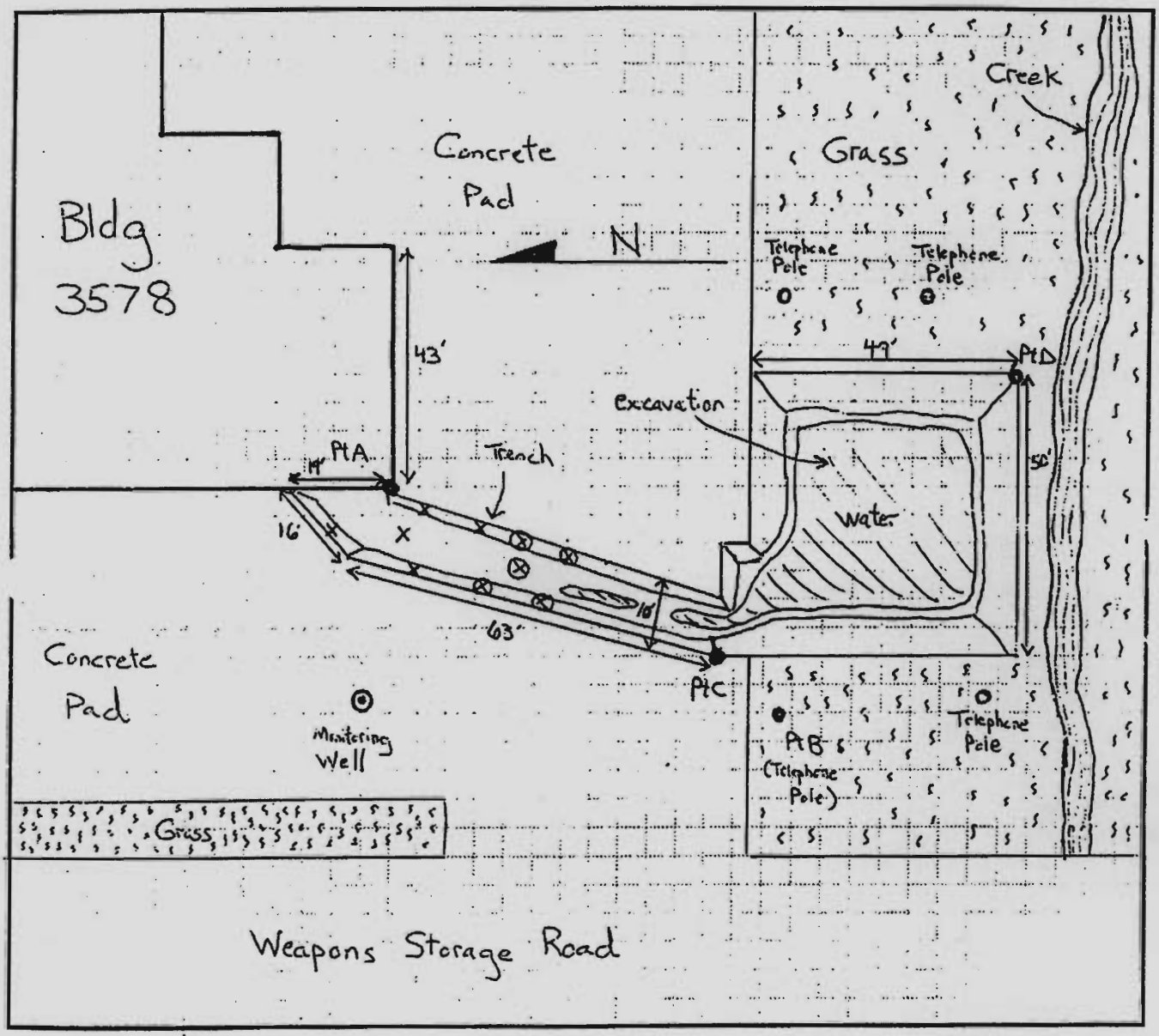
Source: *UST-3578-A-2 Closure Report, OHM Remediation Services Corp., January 22, 1997.*

URS CONSULTANTS, INC.

SITE CONDITIONS & SAMPLE LOCATIONS
UST-3578-A-2 REMOVAL, JULY 1996

FIGURE 3-16

AG15476-35721.01-071800-GCM



Ref Points	
A→C :	65'
A→D :	128'
B→C :	13'
B→D :	78'

Comments

- Not drawn to scale
- X denotes sampling locations for the trench composite: EX3578-1
- ⊗ denotes sampling locations for the trench composite: EX3578-2
- A grab sample was collected from the water within the trench (EX3578-LQ)

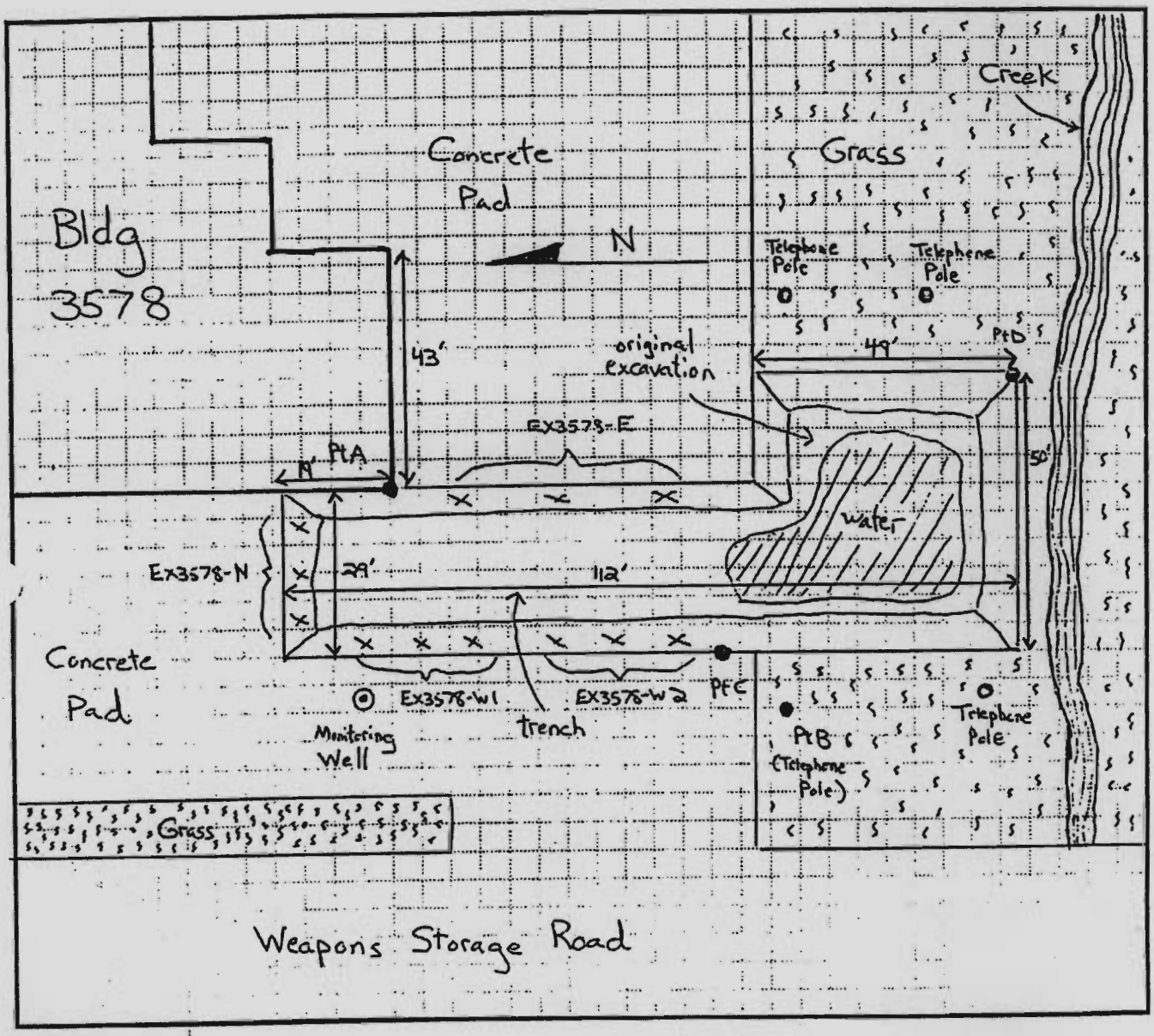
Source: *UST-3578-A-2 Closure Report, OHM Remediation Services Corp., January 22, 1997.*

URS CONSULTANTS, INC.

SITE CONDITIONS & SAMPLE LOCATIONS
UST-3578-A-2 REMOVAL, OCTOBER 1996

FIGURE 3-17

AG15475-35721.01-071800-GCM



Ref Points	
A→C	65'
A→D	129'
B→C	13'
B→D	78'

Comments

- Not drawn to scale
- X denotes sampling locations for the four trench sidewall composites (see map)

Source: *UST-3578-A-2 Closure Report, OHM Remediation Services Corp., January 22, 1997.*

URS CONSULTANTS, INC.

SITE CONDITIONS & SAMPLE LOCATIONS
UST-3578-A-2 REMOVAL, DECEMBER 1996

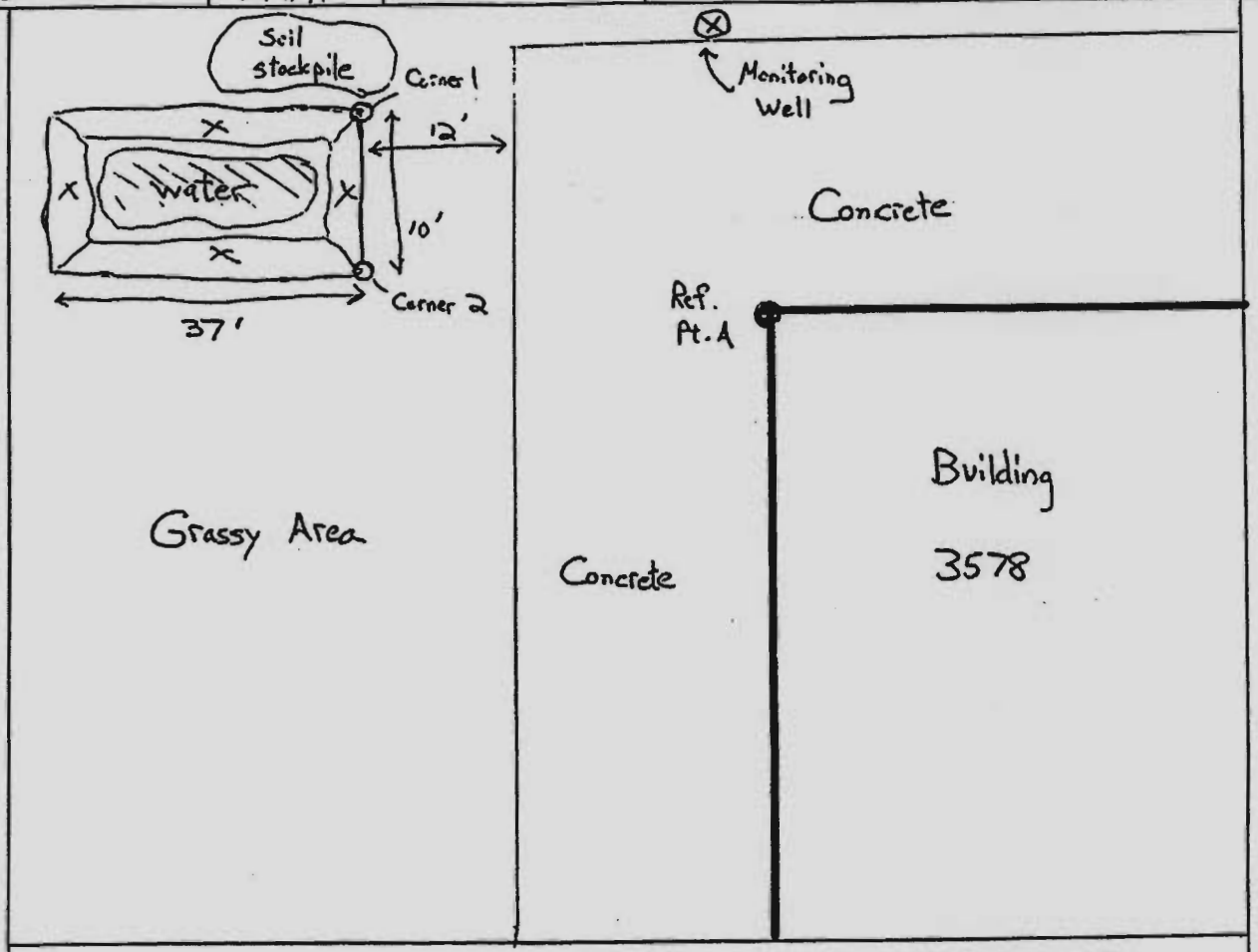
FIGURE 3-18

AG15474-35721.01-071800-GCM

Page 2 of 2

Proj. No.	Client	Location	Subject
17499	AFCEE	Building 3578	Confirmation Sampling

Preparer's Initials	Date	Reviewer's Initials	Date	Approver's Initials	Date
GG	10/4/96				



Comments

- Not drawn to scale
- X denotes the sample locations for the excavation composite (EX3578SS).
- --A grab sample was collected from the ~~sa~~ water at the bottom of the excavation (EX3578LQSS).

Pt A → Corner 1 : 76'
Pt → Corner 2 : 70'

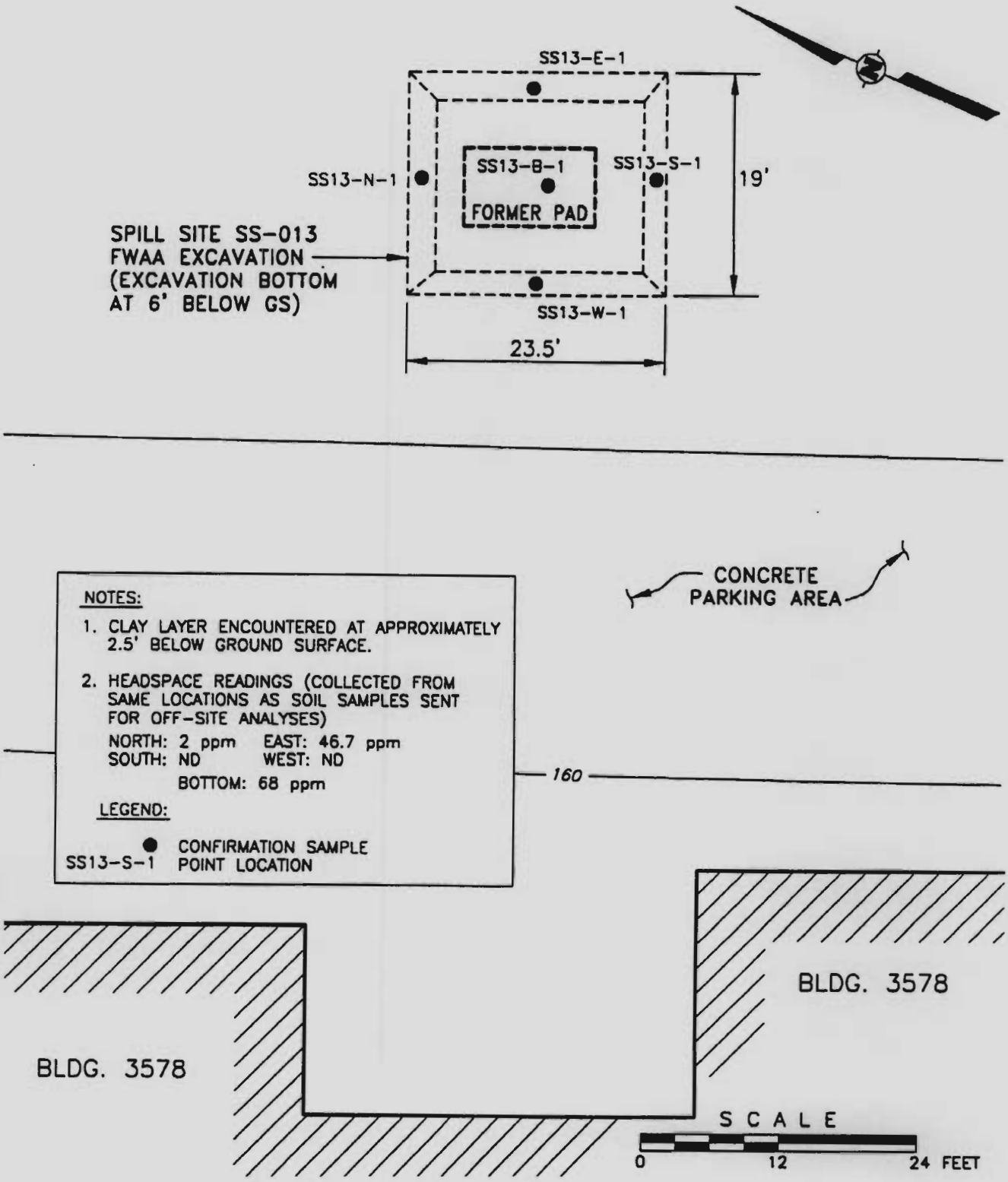
Source: *SPT-3578 Closure Report, OHM Remediation Services Corp., January 15, 1997.*

URS CONSULTANTS, INC.

SITE CONDITIONS & SAMPLE LOCATIONS
SPT-3578 REMOVAL, OCTOBER 1996

FIGURE 3-19

AG15473-35721.01-071800-GCM



Source: *Final Closure Report for Removal of Contaminated Soil at the Former Waste Accumulation Area (FWAA) Spill Site SS-013, OHM Remediation Services Corp. and Parson Engineering Science Inc., March 29, 1999.*

URS CONSULTANTS, INC.

FORMER WASTE ACCUMULATION AREA SOLVENT STORAGE PAD REMOVAL EXCAVATION AND CONFIRMATORY SAMPLING LOCATIONS

FIGURE 3-20

AG15482-35721.01-071800-NPV

Photo 3: Northwestward view from leach field east of Building 3569 showing removed piping and septic system equipment removals north of Building 3578 (September 1996).

Photo 4: Westward view of excavated 7,500 gallon septic tank and excavation of piping leading from septic tank to Building 3580 (September 1996).

Photo 5: Eastward view from paved access road of vitrified clay pipe removal between septic tank and Building 3580 (September 1996).

APPENDIX A

REMEDIAL INVESTIGATION
ANALYTICAL DATA TABLES

SAMPLE DATA SUMMARY
PLATTSBURGH AIR FORCE BASE SITE SS-013

Sample I.D.	Medium	Analyses Performed (Indicated by Date Sampled)								VOA Sample Depth (feet)	Other Analyses Sample Depth (feet)	Organic Screening HNu (ppm)	Description
		TCL VOC	TCL SVOC	TCL Pest/PCB	TAL Metals	Glycol	TCLP Ig/Cr/Rv	Nitrate & Alk.	TOC				
SL13-NFSL-1 (SS-13-01)	Surface Soil	09/07/93	09/07/93	—	09/07/93	—	—	—	—	1.5-2	0-0.5	0	Silty topsoil 0- 6". Fine/Medium Sand 6-24".
SS13-NF-40N60E (SS-13-02)	Surface Soil	09/07/93	09/07/93	—	09/07/93	—	—	—	—	1.5-2	0-0.5	0	Silty topsoil 0-6". Medium Sand 6-24"
SS13-SF-60N60E (SS-13-03)	Surface Soil	09/07/93	09/07/93	—	09/07/93	—	—	—	—	1.5-2	0-0.5	0	Silty topsoil 0-6". Medium Sand 6-24".
SS13-FWA-08 (SS-13-04)	Surface Soil	09/07/93	09/07/93	—	09/07/93	—	—	—	—	1.5-2	0-0.5	0	Silty topsoil 0-6". Medium Sand 6-24".
SS13-AF-10 (SS-13-05)	Surface Soil	09/07/93	09/07/93	—	09/07/93	—	—	—	—	1.5-2	0-0.5	0	Silty topsoil 0-6". Medium Sand 6-24".
SS-13-06	Surface Soil	09/21/93	09/21/93	09/21/93	09/21/93	—	—	—	—	1.5-2	0-0.5	0	Gray Fine/Medium Sand 0-6". Wet Gray/Brown Sand 6-24".
SS-13-07	Surface Soil	09/21/93	09/21/93	09/21/93	09/21/93	—	—	—	—	1.5-2	0-0.5	0	Gray Fine/Medium Sand 0-6". Wet Gray/Brown Sand 6-24".
SS-13-08	Surface Soil	09/21/93	09/21/93	—	09/21/93	—	—	—	—	1.5-2	0-0.5	0	Medium Sand and Peat 0- 6". Black Fine/Medium Sand 6-24".
SS-13-09	Surface Soil	09/21/93	09/21/93	09/21/93	09/21/93	—	—	—	—	1.5-2	0-0.5	0	Black/Brown Topsoil 0-6". Brown Sandy Silt 6-24".
SS-13-10	Surface Soil	09/21/93	09/21/93	—	09/21/93	—	—	—	—	1.5-2	0-0.5	0	Dry Silty Sand 0-6". Dry Fine Sand 6-24".
SS-13-11	Surface Soil	09/21/93	09/21/93	—	09/21/93	—	—	—	—	1.5-2	0-0.5	0	Sandy Soil 0-6". Sandy Clay 6-24".
SS-13-12	Surface Soil	09/21/93	09/21/93	—	09/21/93	—	—	—	—	1.5-2	0-0.5	0	Sandy Soil 0-6". Sandy Clay 6-24'. Sewage odor.
SS-13-13	Surface Soil	09/21/93	09/21/93	—	09/21/93	—	—	—	—	1.5-2	0-0.5	0	Sand/Soil 0-6". Sandy Clay and Gravel 6-24".
SS-13-14	Surface Soil	09/22/93	09/22/93	—	09/22/93	—	—	—	—	1.5-2	0-0.5	0	Topsoil 0-6". Dry Sand and Gravel 6-24".
SS-13-15	Surface Soil	09/22/93	09/22/93	—	09/22/93	—	—	—	—	1.5-2	0-0.5	0	Dark Sand/Topsoil 0-6". Tan Sand 6-24"
SS-13-16	Surface Soil	09/22/93	09/22/93	—	09/22/93	—	—	—	—	1.5-2	0-0.5	0	Tan dry Sand 0-24".
SS-13-17	Surface Soil	09/22/93	09/22/93	—	09/22/93	—	—	—	—	1.5-2	0-0.5	0	Tan dry Sand 0-24".
SS-13-18	Surface Soil	09/22/93	09/22/93	—	09/22/93	—	—	—	—	1.5-2	0-0.5	0	Tan dry Sand 0-24".
SS-13-19	Surface Soil	09/22/93	09/22/93	09/22/93	09/22/93	—	—	—	—	1.5-2	0-0.5	0	Gray Sandy Loam 0-6" Gray/Brown Sandy Clay 6-24".
SS-13-09R	Surface Soil	—	10/19/93	—	—	—	—	—	—	—	0-0.5	0	Black/Brown Topsoil 0-6"

SAMPLE DATA SUMMARY
PLATTSBURGH AIR FORCE BASE SITE SS-013

Sample ID	Medium	Analyses Performed (Indicated by Date Sampled)								VOA Sample Depth (feet)	Other Analyses Sample Depth (feet)	Organic Screening HNu (ppm)	Description
		TCL VOC	TCL SVOC	TCL Pest/PCB	TAL Metals	TCLP Ig/Cr/Rv	Nitrate & Alk.	TOC	pH-GS CEC				
SB-13-10-2	Subsurface Soil	11/03/93	11/03/93	11/03/93	11/03/93	—	—	—	—	2-2.5	2-4	0	Brown Fine-Mediiuim Sand, trace Silt.
SB-13-10-4	Subsurface Soil	11/03/93	11/03/93	11/03/93	11/03/93	—	—	—	3.5	4-4.5	4-6	0	Silty Peat. Organic matter.
SB-13-07-3	Subsurface Soil	11/03/93	11/03/93	11/03/93	11/03/93	—	—	—	—	3.5-4	3-5	0	Brown Fine-Coarse Sand, trace Silt..Wet.
SB-13-07-5	Subsurface Soil	11/03/93	11/03/93	11/03/93	11/03/93	—	—	—	—	5-5.5	5-6	0	Brown Fine-Coarse Sand, trace Silt..Wet.
SB-13-01-2	Subsurface Soil	11/04/93	11/04/93	11/04/93	11/04/93	—	—	—	—	2.5-3	2-3	0	Dark Brown Peaty Silt.
SB-13-01-3	Subsurface Soil	11/04/93	11/04/93	11/04/93	11/04/93	—	—	—	—	3.5-4	3-4	0	Brown Fine to Medium Sand, trace Silt. Wet at 4'
SB-13-01-2M	Subsurface Soil	—.	—	—	—	—	11/04/93	11/04/93	—	—	3-4	0	Brown Fine-Medium Sand, trace silt. Wet at 4'.
SB-13-02-2	Subsurface Soil	11/04/93	11/04/93	11/04/93	11/04/93	—	—	—	—	2-2.5	2-3	0	Gray / Brown Fine-Coarse Sand, trace Silt.
SB-13-02-3	Subsurface Soil	11/04/93	11/04/93	11/04/93	11/04/93	—	—	—	—	3 5-4	3-4	0	Brown / Orange Fine-Coarse Sand, trace Silt, organics.
SB-13-02-30	Subsurface Soil	—	—	—	—	—	—	11/04/93	11/04/93	—	30-31	0	Wet Silty Clay, soft.
SB-13-03-2	Subsurface Soil	11/04/93	11/04/93	11/04/93	11/04/93	—	—	—	—	2-2.5	2-4	0	Regraded Brown / Gray clayey Silt.
SB-13-03-5	Subsurface Soil	11/04/93	11/04/93	11/04/93	11/04/93	—	—	—	—	5-5.5	5-6	0	Gray silty Sand, V. moist.
SB-13-04-3	Subsurface Soil	11/05/93	11/05/93	11/05/93	11/05/93	—	—	—	—	3 5-4	3-4	0	Gray/Brown clayey Silt.
SB-13-05-3	Subsurface Soil	11/08/93	11/08/93	11/08/93	11/08/93	—	—	—	—	3 5-4	3-4	0	Dark Brown Silty Sand - trace Gravel (Fill).
SB-13-06-2	Subsurface Soil	11/09/93	11/09/93	11/09/93	11/09/93	—	—	—	—	2.5-3	2-4	0	Loose Fine Sand, Trace Fine to Coarse Gravel.
SB-13-06-4	Subsurface Soil	11/09/93	11/09/93	11/09/93	11/09/93	—	—	—	—	5.5-6	4-6	0	Fill: Bricks, Sand & Gravel.
SB-13-08-2	Subsurface Soil	11/09/93	11/09/93	11/09/93	11/09/93	—	—	—	—	3 5-4	2-4	0	Soft Clay (Fill).
SB-13-08-4	Subsurface Soil	11/09/93	11/09/93	11/09/93	11/09/93	—	—	—	—	4-4.5	4-6	0	Wet Brown Silty Sand.
SB-13-08-2T	Subsurface Soil	—	—	—	—	11/09/93	—	—	—	2-2.5	2-4	0	Brown Silty Sand. Wet.
SB-13-09-2	Subsurface Soil	11/10/93	11/10/93	11/10/93	11/10/93	—	—	—	—	3 5-4	2-4	0	Fine-Medium Sand, some Gravel
SB-13-09-10	Subsurface Soil	11/10/93	11/10/93	11/10/93	11/10/93	—	—	—	—	11 5-12	10-12	0	Light Brown Fine Sand
SB-13-09-15	Subsurface Soil	—	—	—	—	—	—	11/10/93	11/10/93	—	15-17	0	Brown Fine to Coarse Sand
SB-13-11-10	Subsurface Soil	11/10/93	11/10/93	11/10/93	11/10/93	—	—	—	—	11 5-12	10-12	0	Brown to Dark-Brown Fine-Coarse Sand
SB-13-11-12	Subsurface Soil	11/10/93	11/10/93	11/10/93	11/10/93	—	—	—	—	13 5-14	12-14	0	Dark Brown Fine-Coarse Sand, moist.
SB-13-11-15T	Subsurface Soil	—	—	—	—	11/10/93	—	—	—	16 5-17	15-17	0	Fine Brown Sand
SB-13-16-1	Subsurface Soil	09/20/95	09/20/95	—	09/20/95*	—	—	—	—	12-24	—	0	Grey/Brown Sand
SB-13-17-1	Subsurface Soil	09/20/95	09/20/95	—	09/20/95*	—	—	—	—	12-24	—	0	Black Silty Sand
SS-13-19-3	Subsurface Soil	09/22/93	09/22/93	—	09/22/93	—	—	—	—	3-3 5	2.5-3	0	Gray/Brown Sandy Clay 30-36"

* - RCRA metals only

SAMPLE DATA SUMMARY
PLATTSBURGH AIR FORCE BASE SITE SS-013

Sample ID	Medium	Analyses Performed (Indicated by Date Sampled)									Sample Depth (feet)	Organic Screening HNu (ppm)	Description
		TCL VOC	TCL SVOC	TCL Pest/PCB	TAL Metals	Glycol	TCLP Ig/Cr/Rv	Nitrate & Alk.	TOC	pH-GS CEC			
HP-13-10-8	Groundwater Screening	11/03/93	11/03/93	—	—	—	—	—	—	—	8-12	0	Turbid.
HP-13-07-6	Groundwater Screening	11/03/93	11/03/93	—	—	—	—	—	—	—	6-9	0	Brown, Turbid.
HP-13-07-21	Groundwater Screening	11/03/93	11/03/93	—	—	—	—	—	—	—	21-22	0	Brown, Turbid.
HP-13-01-7	Groundwater Screening	11/04/93	11/04/93	—	—	—	—	—	—	—	7-10	0	Turbid.
HP-13-02-6	Groundwater Screening	11/04/93	11/04/93	—	—	—	—	—	—	—	6-9	0	Turbid.
HP-13-03-8	Groundwater Screening	11/04/93	11/04/93	—	—	—	—	—	—	—	8-11	0	Turbid.
HP-13-04-6	Groundwater Screening	—	11/04/93	—	—	—	—	—	—	—	6-9	0	Turbid.
HP-13-05-5	Groundwater Screening	11/08/93	11/08/93	—	—	—	—	—	—	—	5-9	0	Turbid.
HP-13-05-16	Groundwater Screening	11/09/93	11/09/93	—	—	—	—	—	—	—	16-17	0	Turbid.
HP-13-06-6	Groundwater Screening	11/09/93	11/09/93	—	—	—	—	—	—	—	6-9	0	Turbid.
HP-13-08-5	Groundwater Screening	11/09/93	11/09/93	—	—	—	—	—	—	—	5-9	0	Turbid.
HP-13-04-6R	Groundwater Screening	11/09/93	—	—	—	—	—	—	—	—	4-9	0	Turbid.
HP-13-09-23	Groundwater Screening	11/10/93	11/10/93	—	—	—	—	—	—	—	23-26	0	Turbid.
HP-13-09-45	Groundwater Screening	11/10/93	11/10/93	—	—	—	—	—	—	—	45-46	0	Turbid.
HP-13-11-22	Groundwater Screening	11/10/93	11/10/93	—	—	—	—	—	—	—	22-26	0	Turbid.
HP-13-12-16	Groundwater Screening	11/18/93	11/18/93	—	—	—	—	—	—	—	16-19	0	Turbid, some fine Sand
HP-13-12-27	Groundwater Screening	11/18/93	11/18/93	—	—	—	—	—	—	—	27-28	0	Turbid.
HP-13-12-38	Groundwater Screening	11/18/93	11/18/93	—	—	—	—	—	—	—	38-39	0	Turbid.
HP-13-13-10	Groundwater Screening	11/18/93	11/18/93	—	—	—	—	—	—	—	10-13	0	Turbid.
HP-13-14-7	Groundwater Screening	11/18/93	11/18/93	—	—	—	—	—	—	—	7-10	0	Turbid.
HP-13-15-11	Groundwater Screening	11/18/93	11/18/93	—	—	—	—	—	—	—	11-14	0	Turbid.

SAMPLE DATA SUMMARY
PLATTSBURGH AIR FORCE BASE SITE SS-013

Sample ID	Medium	Analyses Performed (Indicated by Date Sampled)									Sample Depth (feet)	Organic Screening HNu (ppm)	Description
		TCL VOC	TCL SVOC	TCL Pest/PCB	RCRA Metals	TAL Metals	TCLP Ig/Cr/Rv	Nitrate & Alk.	TOC	Hardness			
SW-13-01	Surface Water	10/05/93	10/05/93	10/05/93	10/05/93	—	—	—	—	10/05/93	—	0	pH 7.97,NTU 7.49. Clear w/ sheen & red Particulates
SW-13-02	Surface Water	10/05/93	10/05/93	—	—	—	—	—	—	—	—	0	pH 7.88, NTU 4.24. Clear. 2½ ft deep.
SW-13-03	Surface Water	10/05/93	10/05/93	—	—	—	—	—	—	—	—	0	pH 7.78, NTU 14.1. Clear. 1 ft deep.
SW-13-04	Surface Water	10/05/93	10/05/93	10/05/93	10/05/93	—	—	—	—	—	—	0	pH 7.75, NTU 3.77. Algae. 1 ft deep.
SW-13-05	Surface Water	10/05/93	10/05/93	—	—	—	—	—	—	—	—	0	pH 7.19, NTU 3.21. Clear. ½ ft deep.
SW-13-06	Surface Water	10/05/93	10/05/93	—	—	—	—	—	—	—	—	0	pH 7.24, NTU 4.12. Clear. 2½ ft deep.
SW-13-07	Surface Water	10/05/93	10/05/93	10/05/93	10/05/93	—	—	—	—	—	—	0	pH 8.44, NTU 2.49. No sheen.
SW-13-08	Surface Water	10/05/93	10/05/93	—	—	—	—	—	—	—	—	0	pH 7.95, NTU 2.86. No flow-High Water
SW-13-09	Surface Water	10/05/93	10/05/93	—	—	—	—	—	—	—	—	0	pH 8.13, NTU 3.68. Still Pond. 1 ft deep.
SW-13-10	Surface Water	10/05/93	10/05/93	—	—	—	—	—	—	—	—	0	pH 8.25, NTU 5.91. Slight oil sheen.
SW-13-11	Surface Water	10/05/93	10/05/93	—	—	—	—	—	—	—	—	0	pH 7.89, NTU 4.78. Fish (minnows) in water.
SW-13-12	Surface Water	10/05/93	10/05/93	10/05/93	10/05/93	—	—	—	—	—	—	0	pH 8.25, NTU 9.73. Fast flowing.
SD-13-01	Sediment	10/05/93	—	10/05/93	—	10/05/93	—	—	10/05/93	—	0.25-0.75	0	Gray Brown Silty Sand.
SD-13-02	Sediment	10/05/93	10/05/93	—	—	—	—	—	8/24/95	—	0.25-0.75	0	Brown organic material.
SD-13-03	Sediment	10/05/93	10/05/93	—	—	—	—	—	8/24/95	—	0.25-0.75	0	Black & Gray Sand, some Clay.
SD-13-04	Sediment	10/05/93	10/05/93	10/05/93	—	10/05/93	—	—	8/24/95	—	0.25-0.75	0	Silty organic material.
SD-13-05	Sediment	10/05/93	10/05/93	—	—	—	—	—	8/24/95	—	0.25-0.75	0	Light Brown Fine Sand. Some organic matter
SD-13-06	Sediment	10/05/93	10/05/93	—	—	—	—	—	8/24/95	—	0.25-0.75	0	Light Brown Silt, few organics.
SD-13-07	Sediment	—	—	10/05/93	—	10/05/93	—	—	8/24/95	—	0.25-0.75	0	Black organic material, soft.
SD-13-08	Sediment	10/05/93	10/05/93	—	—	—	—	—	8/24/95	—	0.25-0.75	0	Black silty organic material
SD-13-09	Sediment	10/05/93	—	—	—	—	—	—	8/24/95	—	0.25-0.75	0	Brown Sandy Silt, some organic material
SD-13-10	Sediment	10/05/93	—	—	—	—	—	—	8/24/95	—	0.25-0.75	0	Light Brown Fine / Medium Sand, some organics
SD-13-11	Sediment	10/05/93	10/05/93	—	—	—	—	—	8/24/95	—	0.25-0.75	0	Light Brown Fine / Medium Sand, some organics
SD-13-12	Sediment	10/05/93	10/05/93	10/05/93	—	10/05/93	—	—	8/24/95	—	0.25-0.75	0	Fine Silty Sand with trace organics
SD-13-01	Sediment	—	10/21/93	—	—	—	—	—	8/24/95	—	0.25-0.75	0	Silty Sand, Brown / Gray.
SD-13-07	Sediment	11/10/93	11/10/93	—	—	—	—	—	8/24/95	—	0.25-0.75	0	Black mucky Silt, organics
SD-13-09	Sediment	—	11/10/93	—	—	—	—	—	8/24/95	—	0.25-0.75	0	Brown Sandy Silt, some organics
SD-13-10	Sediment	—	11/19/93	—	—	—	—	—	8/24/95	—	0.25-0.75	0	Light Brown Fine / Medium Sand, some organics

SAMPLE DATA SUMMARY
PLATTSBURGH AIR FORCE BASE SITE SS-013

Well ID	Medium	Analyses Performed (Indicated by Date Sampled)									Sample Depth (feet)	Organic Screening HNu (ppm)	Description
		TCL VOC	524.2 VOC	TCL SVOC	TCL Pest/PCB	RCRA Metals	Glycol	Nitrate & Alk.	TOC	Surfactants			
MW-02-021	Groundwater	—	10/04/95	—	—	—	—	—	—	—	—	0	pH 7.6, NTU 78.1 initially; NTU at sample 13.1. Clear.
MW-02-022	Groundwater	—	10/04/95	—	—	—	—	—	—	—	—	0	pH 7.8, NTU 8.43. Clear.
MW-02-044	Groundwater	—	10/04/95	—	—	—	—	—	—	—	—	0	pH 6.4, NTU 2.32. Clear.
MW-02-045	Groundwater	—	10/04/95	—	—	—	—	—	—	—	—	0	pH 7.1, NTU 38.7. Clear with some solids.
MW-02-049	Groundwater	—	10/04/95	—	—	—	—	—	—	—	—	0	pH 6.6, NTU 302. Turbid, brown tint.
MW-04-001	Groundwater	—	10/04/95	—	—	—	—	—	—	—	—	0	pH7.1, NTU 92.4 initially; NTU at sample 5.16. Clear with some solids.
MW-13-001	Groundwater	01/07/94	—	01/07/94	01/07/94	01/07/94	01/07/94	—	—	—	—	0	pH 6.97,NTU at end of purge 42.1; NTU at sample 158. Clear/orange tint.
MW-13-001	Groundwater	—	02/16/94	02/16/94	02/16/94	02/16/94	—	—	—	—	—	0	pH 6.86, NTU 49 6. Clear.
MW-13-001	Groundwater	—	10/03/95	—	—	—	—	—	—	—	—	0	pH 6.63, NTU 56.6 initially; NTU at sample 10.1. Clear
MW-13-002	Groundwater	—	10/03/95	—	—	—	—	—	—	—	—	0	pH 7.47, NTU 11.9. Clear.
MW-13-003	Groundwater	01/07/94	—	01/07/94	01/07/94	01/07/94	—	—	—	—	—	0	pH 7.47, NTU 34.7. Clear
MW-13-003	Groundwater	—	02/16/94	02/16/94	02/16/94	02/16/94	—	—	—	—	—	0	pH 8.00, NTU 5 91. Clear.
MW-13-003	Groundwater	—	10/03/95	—	—	—	—	—	—	—	—	0	pH 8.09, NTU 2.22. Clear.
MW-13-004	Groundwater	01/07/94	—	01/07/94	01/07/94	01/07/94	—	—	—	—	—	0	pH 8.70, NTU 20.6. Clear.
MW-13-004	Groundwater	—	02/16/94	02/16/94	02/16/94	02/16/94	—	—	—	—	—	0	pH 8.35, NTU 43.5. Clear.
MW-13-004	Groundwater	—	10/03/95	—	—	—	—	—	—	—	—	0	pH 8.65, NTU 6.05. Clear with some solids.
MW-13-005	Groundwater	—	10/05/95	—	—	—	—	—	—	—	—	0	pH 7.70, NTU 23.2. Clear.
MW-13-006	Groundwater	01/06/94	—	01/06/94	01/06/94	01/06/94	—	—	—	—	—	0	pH 7.46, NTU 48.3. Clear.
MW-13-006	Groundwater	—	02/16/94	02/16/94	02/16/94	02/16/94	—	—	—	—	—	0	pH 7.74, NTU 27.7 initially, NTU of sample 476. Cloudy.
MW-13-006	Groundwater	—	10/03/95	—	—	—	—	—	—	—	—	0	pH 7.71, NTU 40.8. Clear.
MW-13-007	Groundwater	01/06/94	—	01/06/94	01/06/94	01/06/94	—	—	—	—	—	0	pH 8.64, NTU 46.7. Clear.
MW-13-007	Groundwater	—	02/16/94	02/16/94	02/16/94	02/16/94	—	—	—	02/16/94	—	0	pH 8.91, NTU 38.4. Clear.
MW-13-007	Groundwater	—	10/03/95	—	—	—	—	—	—	—	—	0	pH 9.08, NTU 30.1. Clear.
MW-13-008	Groundwater	01/06/94	—	01/06/94	01/06/94	01/06/94	01/06/94	—	—	—	—	0	pH 6.34, NTU 24.7 initially, NTU of sample 156. Clear, slight tint.
MW-13-008	Groundwater	02/16/94	—	02/16/94	02/16/94	02/16/94	—	02/16/94	—	02/16/94	—	0	pH 7.46, NTU 73.5 initially, NTU of sample > 1000. Cloudy.

SAMPLE DATA SUMMARY
PLATTSBURGH AIR FORCE BASE SITE SS-013

Well ID	Medium	Analyses Performed (Indicated by Date Sampled)									Sample Depth (feet)	Organic Screening HNu (ppm)	Description
		TCL VOC	524.2 VOC	TCL SVOC	TCL Pest/PCB	RCRA Metals	Glycol	Nitrate & Alk.	TOC	Surfactants			
MW-13-008	Groundwater	—	10/03/95	—	—	—	—	—	—	—	—	0	pH 6.82, NTU 6.13. Clear.
MW-13-009	Groundwater	—	10/03/95	—	—	—	—	—	—	—	—	0	pH 6.57, NTU 26.7. Clear.
MW-13-010	Groundwater	—	10/03/95	—	—	—	—	—	—	—	—	0	pH 6.95, NTU 1.71. Clear.
MW-13-011	Groundwater	—	10/03/95	—	—	—	—	—	—	—	—	0	pH 6.74, NTU 88.9. Slightly turbid.
MW-13-012	Groundwater	—	10/03/95	—	—	—	—	—	—	—	—	0	pH 7.94, NTU 6.96. Clear.
MW-23-001	Groundwater	—	10/04/95	—	—	—	—	—	—	—	—	0	pH 6.6, NTU 104 initially; NTU of sample 484. Turbid, brown tint.
MW-27-001	Groundwater	—	10/04/95	—	—	—	—	—	—	—	—	0	pH 7.2, NTU 6.83. Clear.

ANALYTICAL RESULTS

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ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID		SS-13-01	SS-13-02	SS-13-03	SS-13-04	SS-13-05	SS-13-06	SS-13-06-DUP
Sample Type		Surface soil	Surface soil	Surface soil	Surface soil	Surface soil	Surface soil	Surface soil
Depth		1.5-2'	1.5-2'	1.5-2'	1.5-2'	1.5-2'	1.5-2'	1.5-2'
Date Sampled		09/07/93	09/07/93	09/07/93	09/07/93	09/07/93	09/21/93	09/21/93
Parameter	*TBC							
Chloromethane	—							
Bromomethane	—							
Vinyl Chloride	200							
Chloroethane	1,900							
Methylene Chloride	100							46
Acetone	200			40				
Carbon Disulfide	2,700							
1,1-Dichloroethene	400							
1,1-Dichloroethane	200							
1,2-Dichloroethene (total)	300							
Chloroform	300							
1,2-Dichloroethane	100							
2-Butanone	300							
1,1,1-Trichloroethane	800							
Carbon Tetrachloride	600							
Bromodichloromethane	—							
1,2-Dichloropropane	—							
cis-1,3-Dichloropropene	—							
Trichloroethene	700							
Dibromochloromethane	—							
1,1,2-Trichloroethane	—							
Benzene	60							
trans-1,3-Dichloropropene	—							
Bromoform	—							
4-Methyl-2-pentanone	1,000							
2-Hexanone	—							3
Tetrachloroethene	1,400							
1,1,2,2-Tetrachloroethane	600							
Toluene	1,500							
Chlorobenzene	1,700							
Ethylbenzene	5,500							
Styrene	—							
Xylene (total)	1,200							

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID		SS-13-07	SS-13-08	SS-13-09	SS-13-10	SS-13-11	SS-13-12	SS-13-13
Sample Type		Surface soil	Surface soil	Surface soil	Surface soil	Surface soil	Surface soil	Surface soil
Depth		1.5-2'	1.5-2'	1.5-2'	1.5-2'	1.5-2'	1.5-2'	1.5-2'
Date Sampled		09/21/93	09/21/93	09/21/93	09/21/93	09/21/93	09/21/93	09/21/93
Parameter	*TBC							
Chloromethane	—							
Bromomethane	—							
Vinyl Chloride	200							
Chloroethane	1,900							
Methylene Chloride	100	53						
Acetone	200							
Carbon Disulfide	2,700							
1,1-Dichloroethene	400							
1,1-Dichloroethane	200							
1,2-Dichloroethene (total)	300							
Chloroform	300							
1,2-Dichloroethane	100							
2-Butanone	300		24					
1,1,1-Trichloroethane	800							
Carbon Tetrachloride	600							
Bromodichloromethane	—							
1,2-Dichloropropane	—							
cis-1,3-Dichloropropene	—							
Trichloroethene	700							
Dibromochloromethane	—							
1,1,2-Trichloroethane	—							
Benzene	60							
trans-1,3-Dichloropropene	—							
Bromoform	—							
4-Methyl-2-pentanone	1,000							
2-Hexanone	—							
Tetrachloroethene	1,400							
1,1,2,2-Tetrachloroethane	600							
Toluene	1,500					4	3300	
Chlorobenzene	1,700							
Ethylbenzene	5,500							
Styrene	—							
Xylene (total)	1,200							

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

-Exceeds TBC.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID		SS-13-14	SS-13-15	SS-13-16	SS-13-17	SS-13-18	SS-13-19
Sample Type		Surface soil	Surface soil	Surface soil	Surface soil	Surface soil	Surface soil
Depth		1.5-2'	1.5-2'	1.5-2'	1.5-2'	1.5-2'	1.5-2'
Date Sampled		09/22/93	09/22/93	09/22/93	09/22/93	09/22/93	09/22/93
Parameter	*TBC						
Chloromethane	—						
Bromomethane	—						
Vinyl Chloride	200						
Chloroethane	1,900						
Methylene Chloride	100						
Acetone	200						
Carbon Disulfide	2,700						
1,1-Dichloroethene	400						
1,1-Dichloroethane	200						
1,2-Dichloroethene (total)	300						
Chloroform	300						
1,2-Dichloroethane	100						
2-Butanone	300						
1,1,1-Trichloroethane	800						
Carbon Tetrachloride	600						
Bromodichloromethane	—						
1,2-Dichloropropane	—						
cis-1,3-Dichloropropene	—						
Trichloroethene	700						
Dibromochloromethane	—						
1,1,2-Trichloroethane	—						
Benzene	60						
trans-1,3-Dichloropropene	—						
Bromoform	—						
4-Methyl-2-pentanone	1,000						
2-Hexanone	—						
Tetrachloroethene	1,400						
1,1,2,2-Tetrachloroethane	600						
Toluene	1,500						
Chlorobenzene	1,700						
Ethylbenzene	5,500						
Styrene	—						
Xylene (total)	1,200					2	

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID		SB-13-16-1	SB-13-16-1DUP	SB-13-17-1
Sample Type		Surface soil	Surface soil	Surface soil
Depth		1-2'	1-2'	1-2'
Date Sampled		09/20/95	09/20/95	09/20/95
Parameter	*TBC			
Chloromethane	—			
Bromomethane	—			
Vinyl Chloride	200			
Chloroethane	1900			
Methylene Chloride	100			
Acetone	200			44
Carbon Disulfide	2700			
1,1-Dichloroethene	400			
1,1-Dichloroethane	200			
1,2-Dichloroethene (total)	300			1300
Chloroform	300			
1,2-Dichloroethane	100			
2-Butanone	300			41
1,1,1-Trichloroethane	800			
Carbon Tetrachloride	600			
Bromodichloromethane	—			
1,2-Dichloropropane	—			
cis-1,3-Dichloropropene	—			
Trichloroethene	700			25
Dibromochloromethane	—			
1,1,2-Trichloroethane	—			
Benzene	60			
trans-1,3-Dichloropropene	—			
Bromoform	—			
4-Methyl-2-pentanone	1000			
2-Hexanone	—			
Tetrachloroethene	1400			
1,1,2,2-Tetrachloroethane	600			
Toluene	1500			24000
Chlorobenzene	1700			
Ethylbenzene	5500			97
Styrene	—			
Xylene (total)	1200			470

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

-Exceeds TBC.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SS-13-01	SS-13-02	SS-13-03	SS-13-04	SS-13-05	SS-13-06
Sample Type		Surface soil	Surface soil	Surface soil	Surface soil	Surface soil	Surface soil
Depth		0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Sampled		09/07/93	09/07/93	09/07/93	09/07/93	09/07/93	09/21/93
Parameter	*TBC						
Phenol	30						
bis(2-Chloroethyl)ether	—						
2-Chlorophenol	800						
1,3-Dichlorobenzene	1,600						
1,4-Dichlorobenzene	8,500						
1,2-Dichlorobenzene	7,900						
2-Methylphenol	100						
2,2'-oxybis(Chloropropane)	—						
4-Methylphenol	900						
N-Nitroso-di-n-propylamine	—						
Hexachloroethane	—						
Nitrobenzene	200						
Isophorone	4,400						
2-Nitrophenol	330						
2,4-Dimethylphenol	—						
bis(2-Chloroethoxy)methane	—						
2,4-Dichlorophenol	400						
1,2,4-Trichlorobenzene	3,400						
Naphthalene	13,000						
4-Chloroaniline	220						
Hexachlorobutadiene	—						
4-Chloro-3-methylphenol	240						
2-Methylnaphthalene	36,400						
Hexachlorocyclopentadiene	—						
2,4,6-Trichlorophenol	—						
2,4,5-Trichlorophenol	100						
2-Chloronaphthalene	—						
2-Nitroaniline	430						
Dimethylphthalate	2,000						
Acenaphthylene	41,000						
2,6-Dinitrotoluene	1,000						
3-Nitroaniline	500						

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SS-13-01	SS-13-02	SS-13-03	SS-13-04	SS-13-05	SS-13-06
Sample Type		Surface soil	Surface soil	Surface soil	Surface soil	Surface soil	Surface soil
Depth		0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Sampled		09/07/93	09/07/93	09/07/93	09/07/93	09/07/93	09/21/93
Parameter	*TBC						
Acenaphthene	50,000						
2,4-Dinitrophenol	200						
4-Nitrophenol	100						
Dibenzofuran	6,200						
2,4-Dinitrotoluene	—						
Diethylphthalate	7,100				3400		
4-Chlorophenyl-phenylether	—						
Fluorene	50,000						
4-Nitroaniline	—						
4,6-Dinitro-2-methylphenol	—						
N-Nitrosodiphenylamine	—						
4-Bromophenyl-phenylether	—						
Hexachlorobenzene	410						
Pentachlorophenol	1,000						
Phenanthrene	50,000	60			100		
Anthracene	50,000				44		
Carbazole	—						
Di-n-butylphthalate	8,100				26		
Fluoranthene	50,000	120	45		240		100
Pyrene	50,000	120	45		310		97
Butylbenzylphthalate	50,000						
3,3'-Dichlorobenzidine	—						
Benzo(a)anthracene	224						53
Chrysene	400	73			430		61
bis(2-Ethylhexyl)phthalate	50,000						
Di-n-octylphthalate	50,000						
Benzo(b)fluoranthene	1,100	110	55		1800		51
Benzo(k)fluoranthene	1,100	45					59
Benzo(a)pyrene	61	67			920		59
Indeno(1,2,3-cd)pyrene	3,200	52			540		
Dibenz(a,h)anthracene	14				76		
Benzo(g,h,i)perylene	50,000				360		

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

-Exceeds TBC.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SS-13-06-DUP	SS-13-07	SS-13-08	SS-13-09	SS-13-10	SS-13-11
Sample Type		Surface soil	Surface soil	Surface soil	Surface soil	Surface soil	Surface soil
Depth		0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Sampled		09/21/93	09/21/93	09/21/93	10/19/93	09/21/93	09/21/93
Parameter	*TBC						
Phenol	30						
bis(2-Chloroethyl)ether	—						
2-Chlorophenol	800						
1,3-Dichlorobenzene	1,600						
1,4-Dichlorobenzene	8,500						
1,2-Dichlorobenzene	7,900						
2-Methylphenol	100						
2,2'-oxybis(Chloropropane)	—						
4-Methylphenol	900						
N-Nitroso-di-n-propylamine	—						
Hexachloroethane	—						
Nitrobenzene	200						
Isophorone	4,400						
2-Nitrophenol	330						
2,4-Dimethylphenol	—						
bis(2-Chloroethoxy)methane	—						
2,4-Dichlorophenol	400						
1,2,4-Trichlorobenzene	3,400						
Naphthalene	13,000		120				
4-Chloroaniline	220						
Hexachlorobutadiene	—						
4-Chloro-3-methylphenol	240						
2-Methylnaphthalene	36,400						
Hexachlorocyclopentadiene	—						
2,4,6-Trichlorophenol	—						
2,4,5-Trichlorophenol	100						
2-Chloronaphthalene	—						
2-Nitroaniline	430						
Dimethylphthalate	2,000						
Acenaphthylene	41,000						
2,6-Dinitrotoluene	1,000						
3-Nitroaniline	500						

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SS-13-06-DUP	SS-13-07	SS-13-08	SS-13-09	SS-13-10	SS-13-11
Sample Type		Surface soil	Surface soil	Surface soil	Surface soil	Surface soil	Surface soil
Depth		0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Sampled		09/21/93	09/21/93	09/21/93	10/19/93	09/21/93	09/21/93
Parameter	*TBC						
Acenaphthene	50,000		340		24	1100	
2,4-Dinitrophenol	200						
4-Nitrophenol	100						
Dibenzofuran	6,200		200		10	540	
2,4-Dinitrotoluene	—						
Diethylphthalate	7,100						
4-Chlorophenyl-phenylether	—						
Fluorene	50,000		430		24	1200	
4-Nitroaniline	—						
4,6-Dinitro-2-methylphenol	—						
N-Nitrosodiphenylamine	—						
4-Bromophenyl-phenylether	—						
Hexachlorobenzene	410						
Pentachlorophenol	1,000						
Phenanthrene	50,000	45	3400		200	9500	
Anthracene	50,000		790		28	2400	
Carbazole	—		500		26	1100	
Di-n-butylphthalate	8,100						54
Fluoranthene	50,000	130	3800		300	10000	
Pyrene	50,000	130	2800	56	260	7700	
Butylbenzylphthalate	50,000						
3,3'-Dichlorobenzidine	—						
Benzo(a)anthracene	224	73	1300		100	3700	
Chrysene	400	90	1400		130	3800	
bis(2-Ethylhexyl)phthalate	50,000						
Di-n-octylphthalate	50,000						
Benzo(b)fluoranthene	1,100	92	1200		140	2900	
Benzo(k)fluoranthene	1,100	83	910		120	3100	
Benzo(a)pyrene	61	92	1100		120	3200	
Indeno(1,2,3-cd)pyrene	3,200		550		92	1900	
Dibenz(a,h)anthracene	14		320		23	870	
Benzo(g,h,i)perylene	50,000		190		64	810	

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

-Exceeds TBC.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SS-13-12	SS-13-13	SS-13-14	SS-13-15	SS-13-16	SS-13-17
Sample Type		Surface soil	Surface soil	Surface soil	Surface soil	Surface soil	Surface soil
Depth		0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Sampled		09/21/93	09/21/93	09/22/93	09/22/93	09/22/93	09/22/93
Parameter	*TBC						
Phenol	30						
bis(2-Chloroethyl)ether	—						
2-Chlorophenol	800						
1,3-Dichlorobenzene	1,600						
1,4-Dichlorobenzene	8,500						
1,2-Dichlorobenzene	7,900						
2-Methylphenol	100						
2,2'-oxybis(Chloropropane)	—						
4-Methylphenol	900						
N-Nitroso-di-n-propylamine	—						
Hexachloroethane	—						
Nitrobenzene	200						
Isophorone	4,400						
2-Nitrophenol	330						
2,4-Dimethylphenol	—						
bis(2-Chloroethoxy)methane	—						
2,4-Dichlorophenol	400						
1,2,4-Trichlorobenzene	3,400						
Naphthalene	13,000						
4-Chloroaniline	220						
Hexachlorobutadiene	—						
4-Chloro-3-methylphenol	240						
2-Methylnaphthalene	36,400						
Hexachlorocyclopentadiene	—						
2,4,6-Trichlorophenol	—						
2,4,5-Trichlorophenol	100						
2-Chloronaphthalene	—						
2-Nitroaniline	430						
Dimethylphthalate	2,000						
Acenaphthylene	41,000						
2,6-Dinitrotoluene	1,000						
3-Nitroaniline	500						

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SS-13-12	SS-13-13	SS-13-14	SS-13-15	SS-13-16	SS-13-17
Sample Type		Surface soil	Surface soil	Surface soil	Surface soil	Surface soil	Surface soil
Depth		0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Sampled		09/21/93	09/21/93	09/22/93	09/22/93	09/22/93	09/22/93
Parameter	*TBC						
Acenaphthene	50,000						
2,4-Dinitrophenol	200						
4-Nitrophenol	100						
Dibenzofuran	6,200						
2,4-Dinitrotoluene	—						
Diethylphthalate	7,100						
4-Chlorophenyl-phenylether	—						
Fluorene	50,000						
4-Nitroaniline	—						
4,6-Dinitro-2-methylphenol	—						
N-Nitrosodiphenylamine	—						
4-Bromophenyl-phenylether	—						
Hexachlorobenzene	410						
Pentachlorophenol	1,000						
Phenanthrene	50,000		59				
Anthracene	50,000						
Carbazole	—						
Di-n-butylphthalate	8,100		57				
Fluoranthene	50,000						
Pyrene	50,000						
Butylbenzylphthalate	50,000						
3,3'-Dichlorobenzidine	—						
Benzo(a)anthracene	224		44				
Chrysene	400	41	48				
bis(2-Ethylhexyl)phthalate	50,000						
Di-n-octylphthalate	50,000						
Benzo(b)fluoranthene	1,100						
Benzo(k)fluoranthene	1,100	40					
Benzo(a)pyrene	61	83					
Indeno(1,2,3-cd)pyrene	3,200						
Dibenz(a,h)anthracene	14						
Benzo(g,h,i)perylene	50,000						

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

-Exceeds TBC.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SS-13-18	SS-13-19
Sample Type		Surface soil	Surface soil
Depth		0-0.5'	0-0.5'
Date Sampled		09/22/93	09/22/93
Parameter	*TBC		
Phenol	30		
bis(2-Chloroethyl)ether	—		
2-Chlorophenol	800		
1,3-Dichlorobenzene	1,600		
1,4-Dichlorobenzene	8,500		
1,2-Dichlorobenzene	7,900		
2-Methylphenol	100		
2,2'-oxybis(Chloropropane)	—		
4-Methylphenol	900		
N-Nitroso-di-n-propylamine	—		
Hexachloroethane	—		
Nitrobenzene	200		
Isophorone	4,400		
2-Nitrophenol	330		
2,4-Dimethylphenol	—		
bis(2-Chloroethoxy)methane	—		
2,4-Dichlorophenol	400		
1,2,4-Trichlorobenzene	3,400		
Naphthalene	13,000		
4-Chloroaniline	220		
Hexachlorobutadiene	—		
4-Chloro-3-methylphenol	240		
2-Methylnaphthalene	36,400		
Hexachlorocyclopentadiene	—		
2,4,6-Trichlorophenol	—		
2,4,5-Trichlorophenol	100		
2-Chloronaphthalene	—		
2-Nitroaniline	430		
Dimethylphthalate	2,000		
Acenaphthylene	41,000		
2,6-Dinitrotoluene	1,000		
3-Nitroaniline	500		

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SS-13-18	SS-13-19
Sample Type		Surface soil	Surface soil
Depth		0-0.5'	0-0.5'
Date Sampled		09/22/93	09/22/93
Parameter	*TBC		
Acenaphthene	50,000		
2,4-Dinitrophenol	200		
4-Nitrophenol	100		
Dibenzofuran	6,200		
2,4-Dinitrotoluene	—		
Diethylphthalate	7,100		
4-Chlorophenyl-phenylether	—		
Fluorene	50,000		
4-Nitroaniline	—		
4,6-Dinitro-2-methylphenol	—		
N-Nitrosodiphenylamine	—		
4-Bromophenyl-phenylether	—		
Hexachlorobenzene	410		
Pentachlorophenol	1,000		
Phenanthrene	50,000		
Anthracene	50,000		
Carbazole	—		
Di-n-butylphthalate	8,100		
Fluoranthene	50,000		
Pyrene	50,000		
Butylbenzylphthalate	50,000		
3,3'-Dichlorobenzidine	—		
Benzo(a)anthracene	224		
Chrysene	400		
bis(2-Ethylhexyl)phthalate	50,000		
Di-n-octylphthalate	50,000		
Benzo(b)fluoranthene	1,100		
Benzo(k)fluoranthene	1,100		
Benzo(a)pyrene	61		
Indeno(1,2,3-cd)pyrene	3,200		
Dibenz(a,h)anthracene	14		
Benzo(g,h,i)perylene	50,000		

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SB-13-16-1	SB-13-16-1DUP	SB-13-17-1
Sample Type		Surface soil	Surface soil	Surface soil
Depth		1-2'	1-2'	1-2'
Date Sampled		09/20/95	09/20/95	09/20/95
Parameter	*TBC			
Phenol	30			
bis(2-Chloroethyl)ether	—			
2-Chlorophenol	800			
1,3-Dichlorobenzene	1,600			
1,4-Dichlorobenzene	8,500			
1,2-Dichlorobenzene	7,900			
2-Methylphenol	100			
2,2'-oxybis(1-Chloropropane)	—			
4-Methylphenol	900			
N-Nitroso-di-n-propylamine	—			
Hexachloroethane	—			
Nitrobenzene	200			
Isophorone	4,400			
2-Nitrophenol	330			
2,4-Dimethylphenol	—			
bis(2-Chloroethoxy)methane	—			
2,4-Dichlorophenol	400			
1,2,4-Trichlorobenzene	3,400			
Naphthalene	13,000			
4-Chloroaniline	220			
Hexachlorobutadiene	—			
4-Chloro-3-methylphenol	240			
2-Methylnaphthalene	36,400			
Hexachlorocyclopentadiene	—			
2,4,6-Trichlorophenol	—			
2,4,5-Trichlorophenol	100			
2-Chloronaphthalene	—			
2-Nitroaniline	430			
Dimethylphthalate	2,000			
Acenaphthylene	41,000			
2,6-Dinitrotoluene	1,000			
3-Nitroaniline	500			
Acenaphthene	50,000			

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SB-13-16-1	SB-13-16-1DUP	SB-13-17-1
Sample Type		Surface soil	Surface soil	Surface soil
Depth		1-2'	1-2'	1-2'
Date Sampled		09/20/95	09/20/95	09/20/95
Parameter	*TBC			
2,4-Dinitrophenol	200			
4-Nitrophenol	100			
Dibenzofuran	6,200			
2,4-Dinitrotoluene	—			
Diethylphthalate	7,100			
4-Chlorophenyl-phenylether	—			
Fluorene	50,000			
4-Nitroaniline	—			
4,6-Dinitro-2-methylphenol	—			
N-Nitrosodiphenylamine	—			
4-Bromophenyl-phenylether	—			
Hexachlorobenzene	410			
Pentachlorophenol	1,000			
Phenanthrene	50,000		73	
Anthracene	50,000			
Carbazole	—			
Di-n-butylphthalate	8,100			
Fluoranthene	50,000	42	130	
Pyrene	50,000		72	
Butylbenzylphthalate	50,000		45	45
3,3'-Dichlorobenzidine	—			
Benzo(a)anthracene	224		36	
Chrysene	400		43	
bis(2-Ethylhexyl)phthalate	50,000	60	44	40
Di-n-octylphthalate	50,000			
Benzo(b)fluoranthene	1,100	41	45	
Benzo(k)fluoranthene	1,100			
Benzo(a)pyrene	61			
Indeno(1,2,3-cd)pyrene	3,200			
Dibenz(a,h)anthracene	14			
Benzo(g,h,i)perylene	50,000			

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
PESTICIDE/PCB

Sample ID		SS-13-06	SS-13-06-DUP	SS-13-07	SS-13-09	SS-13-19
Sample Type		Surface soil	Surface soil	Surface soil	Surface soil	Surface soil
Depth		0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Sampled		09/21/93	09/21/93	09/21/93	09/21/93	09/22/93
Parameter	*TBC					
alpha-BHC	110					
beta-BHC	200					
delta-BHC	300					
gamma-BHC (Lindane)	60					
Heptachlor	100					
Aldrin	41					
Heptachlor epoxide	20					
Endosulfan I	900					
Dieldrin	44					
4,4'-DDE	2,100				5.5	3.3
Endrin	100					
Endosulfan II	900					
4,4'-DDD	2,900			4.6	0.80	
Endosulfan sulfate	1,000			5.2	2.0	
4,4'-DDT	2,100			4.0	3.4	2.4
Methoxychlor	10,000			9.4		
Endrin ketone	—					
Endrin aldehyde	—					
alpha-Chlordane	540	0.55	0.51			
gamma-Chlordane	540					
Toxaphene	—					
Aroclor-1016	1,000					
Aroclor-1221	1,000					
Aroclor-1232	1,000					
Aroclor-1242	1,000					
Aroclor-1248	1,000					
Aroclor-1254	1,000	17				
Aroclor-1260	1,000					

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS

Sample ID		SS-13-01	SS-13-02	SS-13-03	SS-13-04	SS-13-05	SS-13-06
Sample Type		Surface soil	Surface soil	Surface soil	Surface soil	Surface soil	Surface soil
Depth		0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Sampled		09/07/93	09/07/93	09/07/93	09/07/93	09/07/93	09/21/93
Parameter	*TBC						
Aluminum	8,510	5,140	2,540	2,750	3,310	2,200	2,970
Antimony	12.6				10.5		
Arsenic	7.5	1.7	0.76	0.41	1.6	0.69	1.8
Barium	300	53.9	13.9	9.7	22.7	6.2	16.2
Beryllium	0.74	0.35	0.2	0.17	0.23	0.13	0.26
Cadmium	1.3				1.0		
Calcium	30,200	9,440	1,350	733	3,660	381	1,170
Chromium	19.5	12	5.3	4.8	12.4	3.6	5.4
Cobalt	30	5.3	2.5	2.3	3.4	1.8	2.0
Copper	44.1	9.2	5.4	2.2	8.5	1.6	12.6
Iron	36,700	10900	4950	4580	6870	4570	6210
Lead	79.4	66.6	4.0	3.3	31.8	1.5	10.2
Magnesium	3,340	3040	892	497	1520	595	1,050
Manganese	474	579	58.6	25.0	144	67.8	50.8
Mercury	0.1						
Nickel	13	6.0	4.2	2.3	6.2	2.6	4.1
Potassium	929	534	632	393	562		
Selenium	2						
Silver	ND						
Sodium	520						32.1
Thallium	ND						
Vanadium	150	16.3	8.3	6.6	9.8	5.7	6.1
Zinc	63.4	31	31.6	11.6	31.3	11.9	13.5
Cyanide	—						

All results reported in mg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.
ND - Not detected.
-Exceeds TBC.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS

Sample ID		SS-13-06-DUP	SS-13-07	SS-13-08	SS-13-09	SS-13-10	SS-13-11
Sample Type		Surface soil	Surface soil	Surface soil	Surface soil	Surface soil	Surface soil
Depth		0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Sampled		09/21/93	09/21/93	09/21/93	09/21/93	09/21/93	09/21/93
Parameter	*TBC						
Aluminum	8,510	2,150	2,230	2,270	3,690	4,410	4,850
Antimony	12.6						
Arsenic	7.5	2.20	0.96	0.95	0.90	1.4	2.3
Barium	300	11.5	9.2	11.1	26.4	35.2	34.5
Beryllium	0.74		0.23	0.26	0.27	0.35	0.44
Cadmium	1.3				0.55	0.44	0.47
Calcium	30,200	833	1,040	2,590	4,000	3,510	10,900
Chromium	19.5	4.9	4.5	5.0	9.1	8.2	11.5
Cobalt	30	1.0	0.94	0.95	2.3	2.3	3.2
Copper	44.1	10.2	13.1	6.4	9.2	11.4	15.4
Iron	36,700	4250	4230	4500	6850	8640	10100
Lead	79.4	8.6	3.9	3.6	28.4	33.4	35.8
Magnesium	3,340	648	692	820	1,710	1,640	3,520
Manganese	474	41.6	35.7	68.9	159	215	227
Mercury	0.1						
Nickel	13	5.6	2.2	2.7	7.4	6.5	8.1
Potassium	929		127	103	349	354	514
Selenium	2						
Silver	ND						
Sodium	520		25.6	31.0	35.8	28.6	73.8
Thallium	ND	0.22					
Vanadium	150	6.0	5.5	7.8	10.2	10.8	13.4
Zinc	63.4	16.4	17.5	16.2	43.8	33	38.4
Cyanide	—		3.5				

All results reported in mg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.
ND - Not detected.
-Exceeds TBC.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS

Sample ID		SS-13-12	SS-13-13	SS-13-14	SS-13-15	SS-13-16	SS-13-17
Sample Type		Surface soil	Surface soil	Surface soil	Surface soil	Surface soil	Surface soil
Depth		0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'	0-0.5'
Date Sampled		09/21/93	09/21/93	09/22/93	09/22/93	09/22/93	09/22/93
Parameter	*TBC						
Aluminum	8,510	3,070	4,000	2,670	2,020	3,520	2,040
Antimony	12.6						
Arsenic	7.5	1.5	1.3	1.1	0.71	1.5	0.40
Barium	300	17.1	27.8	14.3	11.7	8.8	6.2
Beryllium	0.74	0.17	0.37		0.17	0.33	0.15
Cadmium	1.3	0.48	0.47				
Calcium	30,200	1,470	10,100	1,800	2,570	724	413
Chromium	19.5	6.4	8.2	4.3	3.8	4.0	2.9
Cobalt	30	1.9	2.4	0.99	1.6	1.6	1.1
Copper	44.1	5.4	11.1	6.4	3.9		1.8
Iron	36,700	6150	8050	5810	4240	7420	3880
Lead	79.4	10.6	48.7	22.0	4.2	2.7	1.1
Magnesium	3,340	731	2,870	518	917	787	655
Manganese	474	97.7	186	84.4	62.1	84.6	44.9
Mercury	0.1						
Nickel	13	3.6	6.9	5.0	3.1	2.9	3.0
Potassium	929	213	365	140	164	191	
Selenium	2						
Silver	ND						
Sodium	520	36.6	76.2		25.5	36.4	23.1
Thallium	ND						
Vanadium	150	8.8	11.1	13.2	4.6	8.1	4.1
Zinc	63.4	18.8	34.5	28.3	25.2	34.4	14.1
Cyanide	—						

All results reported in mg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.
ND - Not detected.
-Exceeds TBC.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS

Sample ID		SS-13-18	SS-13-19
Sample Type		Surface soil	Surface soil
Depth		0-0.5'	0-0.5'
Date Sampled		09/22/93	09/22/93
Parameter	*TBC		
Aluminum	8,510	1,750	7620
Antimony	12.6		
Arsenic	7.5	0.32	0.97
Barium	300	4.6	27.1
Beryllium	0.74	0.15	0.28
Cadmium	1.3		
Calcium	30,200	382	1090
Chromium	19.5	2.9	7.7
Cobalt	30	0.89	1.5
Copper	44.1	1.6	2.2
Iron	36,700	3860	6850
Lead	79.4	0.85	4.4
Magnesium	3,340	687	1040
Manganese	474	53.5	55
Mercury	0.1		
Nickel	13	2.4	4.1
Potassium	929	141	336
Selenium	2		
Silver	ND		
Sodium	520	20.3	59.4
Thallium	ND		
Vanadium	150	3.9	12.4
Zinc	63.4	7.0	18.4
Cyanide	—		

All results reported in mg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.
ND - Not detected.
-Exceeds TBC.

TABLE A-1

ANALYTICAL RESULTS - SURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS

Sample ID		SB-13-16-1	SB-13-16-1DUP	SB-13-17-1
Sample Type		Surface soil	Surface soil	Surface soil
Depth		1-2'	1-2'	1-2'
Date Sampled		09/20/95	09/20/95	09/20/95
Parameter	*TBC			
Arsenic	7.5	1.2	1.5	1.5
Barium	300	9.2	12.9	21.3
Cadmium	1.3			
Chromium (total)	19.5	1.8	3.4	6.8
Lead	79.4	5.7	10.1	3.3
Mercury	0.1			
Selenium	2			
Silver	ND			

All results reported in mg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
ND - Not detected.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID		SB-13-01-2	SB-13-01-3	SB-13-02-2	SB-13-02-3	SB-13-03-2	SB-13-03-2-DUP
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		2.5-3'	3.5-4'	2-2.5'	3.5-4'	2-2.5'	2-2.5'
Date Sampled		11/04/93	11/04/93	11/04/93	11/04/93	11/04/93	11/04/93
Parameter	*TBC						
Chloromethane	—						
Bromomethane	—						
Vinyl Chloride	200					120	
Chloroethane	1,900						
Methylene Chloride	100		24				
Acetone	200	610	150			22	
Carbon Disulfide	2,700						
1,1-Dichloroethene	400						
1,1-Dichloroethane	200						
1,2-Dichloroethene (total)	300					30	5
Chloroform	300						
1,2-Dichloroethane	100						
2-Butanone	300	170					
1,1,1-Trichloroethane	800						
Carbon Tetrachloride	600						
Bromodichloromethane	—						
1,2-Dichloropropane	—						
cis-1,3-Dichloropropene	—						
Trichloroethene	700						
Dibromochloromethane	—						
1,1,2-Trichloroethane	—						
Benzene	60	10					
trans-1,3-Dichloropropene	—						
Bromoform	—						
4-Methyl-2-pentanone	1,000						
2-Hexanone	—						
Tetrachloroethene	1,400						
1,1,2,2-Tetrachloroethane	600						
Toluene	1,500	110				13	9
Chlorobenzene	1,700						
Ethylbenzene	5,500						
Styrene	—						
Xylene (total)	1,200	25					

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

-Exceeds TBC.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID		SB-13-03-5	SB-13-04-3	SB-13-05-3	SB-13-06-2	SB-13-06-4	SB-13-07-3
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		5-5.5'	3.5-4'	3.5-4'	2.5-3'	5.5-6'	3.5-4'
Date Sampled		11/04/93	11/05/93	11/08/93	11/09/93	11/09/93	11/03/93
Parameter	*TBC						
Chloromethane	—						
Bromomethane	—						
Vinyl Chloride	200						
Chloroethane	1,900						
Methylene Chloride	100		45				
Acetone	200		52				
Carbon Disulfide	2,700						
1,1-Dichloroethene	400						
1,1-Dichloroethane	200						
1,2-Dichloroethene (total)	300	97					
Chloroform	300						
1,2-Dichloroethane	100						
2-Butanone	300					11	16
1,1,1-Trichloroethane	800						
Carbon Tetrachloride	600						
Bromodichloromethane	—						
1,2-Dichloropropane	—						
cis-1,3-Dichloropropene	—						
Trichloroethene	700						
Dibromochloromethane	—						
1,1,2-Trichloroethane	—						
Benzene	60						
trans-1,3-Dichloropropene	—						
Bromoform	—						
4-Methyl-2-pentanone	1,000						
2-Hexanone	—						
Tetrachloroethene	1,400						
1,1,2,2-Tetrachloroethane	600						
Toluene	1,500	14		0.9			
Chlorobenzene	1,700						
Ethylbenzene	5,500				6		
Styrene	—						
Xylene (total)	1,200				47		13

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID		SB-13-07-5	SB-13-08-2	SB-13-08-4	SB-13-09-2	SB-13-09-10	SB-13-10-2
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		5-5.5'	3.5-4'	4-4.5'	3.5-4'	11.5-12'	2-2.5'
Date Sampled		11/03/93	11/09/93	11/09/93	11/10/93	11/10/93	11/03/93
Parameter	*TBC						
Chloromethane	—						
Bromomethane	—						
Vinyl Chloride	200						
Chloroethane	1,900						
Methylene Chloride	100						
Acetone	200						
Carbon Disulfide	2,700						
1,1-Dichloroethene	400						
1,1-Dichloroethane	200						
1,2-Dichloroethene (total)	300						
Chloroform	300						
1,2-Dichloroethane	100						
2-Butanone	300						
1,1,1-Trichloroethane	800						
Carbon Tetrachloride	600						
Bromodichloromethane	—						
1,2-Dichloropropane	—						
cis-1,3-Dichloropropene	—						
Trichloroethene	700						
Dibromochloromethane	—						
1,1,2-Trichloroethane	—						
Benzene	60						
trans-1,3-Dichloropropene	—						
Bromoform	—						
4-Methyl-2-pentanone	1,000						
2-Hexanone	—						
Tetrachloroethene	1,400						
1,1,2,2-Tetrachloroethane	600						
Toluene	1,500		4				
Chlorobenzene	1,700						
Ethylbenzene	5,500						
Styrene	—						
Xylene (total)	1,200		3				

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID		SB-13-10-4	SB-13-11-10	SB-13-11-12	SS-13-19-3
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		4-4.5'	11.5-12'	13.5-14'	3'
Date Sampled		11/03/93	11/10/93	11/10/93	09/22/93
Parameter	*TBC				
Chloromethane	—				
Bromomethane	—				
Vinyl Chloride	200				
Chloroethane	1,900				
Methylene Chloride	100				
Acetone	200				
Carbon Disulfide	2,700				
1,1-Dichloroethene	400				
1,1-Dichloroethane	200				
1,2-Dichloroethene (total)	300				
Chloroform	300				
1,2-Dichloroethane	100				
2-Butanone	300				
1,1,1-Trichloroethane	800				
Carbon Tetrachloride	600				
Bromodichloromethane	—				
1,2-Dichloropropane	—				
cis-1,3-Dichloropropene	—				
Trichloroethene	700				
Dibromochloromethane	—				
1,1,2-Trichloroethane	—				
Benzene	60				
trans-1,3-Dichloropropene	—				
Bromoform	—				
4-Methyl-2-pentanone	1,000				
2-Hexanone	—				
Tetrachloroethene .	1,400				
1,1,2,2-Tetrachloroethane	600				
Toluene	1,500				
Chlorobenzene	1,700				
Ethylbenzene	5,500				
Styrene	—				
Xylene (total)	1,200				

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SB-13-01-2	SB-13-01-2RE	SB-13-01-3	SB-13-01-3RE	SB-13-02-2	SB-13-02-3	SB-13-03-2
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		2-4'	2-4'	3-5'	3-5'	2-4'	3-5'	2-4'
Date Sampled		11/04/93	11/04/93	11/04/93	11/04/93	11/04/93	11/04/93	11/04/93
Parameter	*TBC							
Phenol	30							
bis(2-Chloroethyl)ether	—							
2-Chlorophenol	800							
1,3-Dichlorobenzene	1,600							
1,4-Dichlorobenzene	8,500							
1,2-Dichlorobenzene	7,900							
2-Methylphenol	100							
2,2'-oxybis(Chloropropane)	—							
4-Methylphenol	900							
N-Nitroso-di-n-propylamine	—							
Hexachloroethane	—							
Nitrobenzene	200							
Isophorone	4,400							
2-Nitrophenol	330							
2,4-Dimethylphenol	—							
bis(2-Chloroethoxy)methane	—							
2,4-Dichlorophenol	400							
1,2,4-Trichlorobenzene	3,400							
Naphthalene	13,000			98	95			
4-Chloroaniline	220							
Hexachlorobutadiene	—							
4-Chloro-3-methylphenol	240							
2-Methylnaphthalene	36,400			97	120			
Hexachlorocyclopentadiene	—							
2,4,6-Trichlorophenol	—							
2,4,5-Trichlorophenol	100							
2-Chloronaphthalene	—							
2-Nitroaniline	430							
Dimethylphthalate	2,000							
Acenaphthylene	41,000			82	94			
2,6-Dinitrotoluene	1,000							
3-Nitroaniline	500							

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SB-13-01-2	SB-13-01-2RE	SB-13-01-3	SB-13-01-3RE	SB-13-02-2	SB-13-02-3	SB-13-03-2
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		2-4'	2-4'	3-5'	3-5'	2-4'	3-5'	2-4'
Date Sampled		11/04/93	11/04/93	11/04/93	11/04/93	11/04/93	11/04/93	11/04/93
Parameter	*TBC							
Acenaphthene	50,000			78	88			
2,4-Dinitrophenol	200							
4-Nitrophenol	100							
Dibenzofuran	6,200			48				
2,4-Dinitrotoluene	—							
Diethylphthalate	7,100			54	49	13		
4-Chlorophenyl-phenylether	—							
Fluorene	50,000			140	160			
4-Nitroaniline	—							
4,6-Dinitro-2-methylphenol	—							
N-Nitrosodiphenylamine	—							
4-Bromophenyl-phenylether	—							
Hexachlorobenzene	410							
Pentachlorophenol	1,000							
Phenanthrene	50,000			450	460			
Anthracene	50,000			140	130			
Carbazole	—							
Di-n-butylphthalate	8,100							
Fluoranthene	50,000			230	230			
Pyrene	50,000			400	400			
Butylbenzylphthalate	50,000							
3,3'-Dichlorobenzidine	—							
Benzo(a)anthracene	224							
Chrysene	400			130				
bis(2-Ethylhexyl)phthalate	50,000							
Di-n-octylphthalate	50,000							
Benzo(b)fluoranthene	1,100							
Benzo(k)fluoranthene	1,100							
Benzo(a)pyrene	61							
Indeno(1,2,3-cd)pyrene	3,200							
Dibenz(a,h)anthracene	14							
Benzo(g,h,i)perylene	50,000							

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SB-13-03-2-DU	SB-13-03-5	SB-13-04-3	SB-13-05-3	SB-13-06-2	SB-13-06-4	SB-13-07-3
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		2-4'	5-7'	3-5'	3-5'	2-4'	4-6'	3-5'
Date Sampled		11/04/93	11/04/93	11/05/93	11/08/93	11/09/93	11/09/93	11/03/93
Parameter	*TBC							
Phenol	30							
bis(2-Chloroethyl)ether	—							
2-Chlorophenol	800							
1,3-Dichlorobenzene	1,600							
1,4-Dichlorobenzene	8,500							
1,2-Dichlorobenzene	7,900							
2-Methylphenol	100							
2,2'-oxybis(Chloropropane)	—							
4-Methylphenol	900							
N-Nitroso-di-n-propylamine	—							
Hexachloroethane	—							
Nitrobenzene	200							
Isophorone	4,400							
2-Nitrophenol	330							
2,4-Dimethylphenol	—							
bis(2-Chloroethoxy)methane	—							
2,4-Dichlorophenol	400							
1,2,4-Trichlorobenzene	3,400							
Naphthalene	13,000							
4-Chloroaniline	220							
Hexachlorobutadiene	—							
4-Chloro-3-methylphenol	240							
2-Methylnaphthalene	36,400							
Hexachlorocyclopentadiene	—							
2,4,6-Trichlorophenol	—							
2,4,5-Trichlorophenol	100							
2-Chloronaphthalene	—							
2-Nitroaniline	430							
Dimethylphthalate	2,000							
Acenaphthylene	41,000							
2,6-Dinitrotoluene	1,000							
3-Nitroaniline	500							

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SB-13-03-2-DU	SB-13-03-5	SB-13-04-3	SB-13-05-3	SB-13-06-2	SB-13-06-4	SB-13-07-3
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		2-4'	5-7'	3-5'	3-5'	2-4'	4-6'	3-5'
Date Sampled		11/04/93	11/04/93	11/05/93	11/08/93	11/09/93	11/09/93	11/03/93
Parameter	*TBC							
Acenaphthene	50,000							
2,4-Dinitrophenol	200							
4-Nitrophenol	100							
Dibenzofuran	6,200							
2,4-Dinitrotoluene	—							
Diethylphthalate	7,100		9				45	
4-Chlorophenyl-phenylether	—							
Fluorene	50,000							
4-Nitroaniline	—							
4,6-Dinitro-2-methylphenol	—							
N-Nitrosodiphenylamine	—							
4-Bromophenyl-phenylether	—							
Hexachlorobenzene	410							
Pentachlorophenol	1,000							
Phenanthrene	50,000				34	290	27	
Anthracene	50,000					140		
Carbazole	—							
Di-n-butylphthalate	8,100							
Fluoranthene	50,000				38	2600	270	
Pyrene	50,000				45	2400	280	
Butylbenzylphthalate	50,000				80			
3,3'-Dichlorobenzidine	—							
Benzo(a)anthracene	224					1500	160	
Chrysene	400					1500	160	
bis(2-Ethylhexyl)phthalate	50,000							
Di-n-octylphthalate	50,000							
Benzo(b)fluoranthene	1,100					1200	130	
Benzo(k)fluoranthene	1,100					1500	140	
Benzo(a)pyrene	61					1500	120	
Indeno(1,2,3-cd)pyrene	3,200					880	63	
Dibenz(a,h)anthracene	14					450		
Benzo(g,h,i)perylene	50,000					600		

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

▒▒ -Exceeds TBC.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SB-13-07-5	SB-13-08-2	SB-13-08-4	SB-13-09-2	SB-13-09-10	SB-13-10-2	SB-13-10-4
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		5-6'	2-4'	4-6'	2-4'	10-12'	2-4'	4-6'
Date Sampled		11/03/93	11/09/93	11/09/93	11/10/93	11/10/93	11/03/93	11/03/93
Parameter	*TBC							
Phenol	30							
bis(2-Chloroethyl)ether	—							
2-Chlorophenol	800							
1,3-Dichlorobenzene	1,600							
1,4-Dichlorobenzene	8,500							
1,2-Dichlorobenzene	7,900				23			
2-Methylphenol	100							
2,2'-oxybis(Chloropropane)	—							
4-Methylphenol	900							
N-Nitroso-di-n-propylamine	—							
Hexachloroethane	—							
Nitrobenzene	200							
Isophorone	4,400							
2-Nitrophenol	330							
2,4-Dimethylphenol	—							
bis(2-Chloroethoxy)methane	—							
2,4-Dichlorophenol	400							
1,2,4-Trichlorobenzene	3,400				12			
Naphthalene	13,000							100
4-Chloroaniline	220							
Hexachlorobutadiene	—							
4-Chloro-3-methylphenol	240							
2-Methylnaphthalene	36,400							
Hexachlorocyclopentadiene	—							
2,4,6-Trichlorophenol	—							
2,4,5-Trichlorophenol	100							
2-Chloronaphthalene	—							
2-Nitroaniline	430							
Dimethylphthalate	2,000							
Acenaphthylene	41,000							
2,6-Dinitrotoluene	1,000							
3-Nitroaniline	500							

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SB-13-07-5	SB-13-08-2	SB-13-08-4	SB-13-09-2	SB-13-09-10	SB-13-10-2	SB-13-10-4
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		5-6'	2-4'	4-6'	2-4'	10-12'	2-4'	4-6'
Date Sampled		11/03/93	11/09/93	11/09/93	11/10/93	11/10/93	11/03/93	11/03/93
Parameter	*TBC							
Acenaphthene	50,000						37	830
2,4-Dinitrophenol	200							
4-Nitrophenol	100							
Dibenzofuran	6,200						9	
2,4-Dinitrotoluene	—							
Diethylphthalate	7,100		31	44	14	46		
4-Chlorophenyl-phenylether	—							
Fluorene	50,000						32	1400
4-Nitroaniline	—							
4,6-Dinitro-2-methylphenol	—							
N-Nitrosodiphenylamine	—							
4-Bromophenyl-phenylether	—							
Hexachlorobenzene	410							
Pentachlorophenol	1,000							
Phenanthrene	50,000						290	8700
Anthracene	50,000						74	2900
Carbazole	—						49	1000
Di-n-butylphthalate	8,100							
Fluoranthene	50,000		6	15			400	11000
Pyrene	50,000		5	18			410	11000
Butylbenzylphthalate	50,000		10		21			
3,3'-Dichlorobenzidine	—							
Benzo(a)anthracene	224						180	4500
Chrysene	400						230	4500
bis(2-Ethylhexyl)phthalate	50,000							
Di-n-octylphthalate	50,000							
Benzo(b)fluoranthene	1,100						170	3400
Benzo(k)fluoranthene	1,100						120	3900
Benzo(a)pyrene	61						220	4100
Indeno(1,2,3-cd)pyrene	3,200						57	2700
Dibenz(a,h)anthracene	14							
Benzo(g,h,i)perylene	50,000							2100

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

-Exceeds TBC.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SB-13-11-10	SB-13-11-12	SS-13-19-3
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil
Depth		10-12'	12-14'	3'
Date Sampled		11/10/93	11/10/93	09/22/93
Parameter	*TBC			
Phenol	30			
bis(2-Chloroethyl)ether	—			
2-Chlorophenol	800			
1,3-Dichlorobenzene	1,600			
1,4-Dichlorobenzene	8,500			
1,2-Dichlorobenzene	7,900			
2-Methylphenol	100			
2,2'-oxybis(Chloropropane)	—			
4-Methylphenol	900			
N-Nitroso-di-n-propylamine	—			
Hexachloroethane	—			
Nitrobenzene	200			
Isophorone	4,400			
2-Nitrophenol	330			
2,4-Dimethylphenol	—			
bis(2-Chloroethoxy)methane	—			
2,4-Dichlorophenol	400			
1,2,4-Trichlorobenzene	3,400			
Naphthalene	13,000			
4-Chloroaniline	220			
Hexachlorobutadiene	—			
4-Chloro-3-methylphenol	240			
2-Methylnaphthalene	36,400			
Hexachlorocyclopentadiene	—			
2,4,6-Trichlorophenol	—			
2,4,5-Trichlorophenol	100			
2-Chloronaphthalene	—			
2-Nitroaniline	430			
Dimethylphthalate	2,000			
Acenaphthylene	41,000			
2,6-Dinitrotoluene	1,000			
3-Nitroaniline	500			

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SB-13-11-10	SB-13-11-12	SS-13-19-3
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil
Depth		10-12'	12-14'	3'
Date Sampled		11/10/93	11/10/93	09/22/93
Parameter	*TBC			
Acenaphthene	50,000			
2,4-Dinitrophenol	200			
4-Nitrophenol	100			
Dibenzofuran	6,200			
2,4-Dinitrotoluene	—			
Diethylphthalate	7,100	29	10	10
4-Chlorophenyl-phenylether	—			
Fluorene	50,000			
4-Nitroaniline	—			
4,6-Dinitro-2-methylphenol	—			
N-Nitrosodiphenylamine	—			
4-Bromophenyl-phenylether	—			
Hexachlorobenzene	410			
Pentachlorophenol	1,000			
Phenanthrene	50,000			
Anthracene	50,000			
Carbazole	—			
Di-n-butylphthalate	8,100			
Fluoranthene	50,000			
Pyrene	50,000			
Butylbenzylphthalate	50,000			
3,3'-Dichlorobenzidine	—			
Benzo(a)anthracene	224			
Chrysene	400			
bis(2-Ethylhexyl)phthalate	50,000			
Di-n-octylphthalate	50,000			
Benzo(b)fluoranthene	1,100			
Benzo(k)fluoranthene	1,100			
Benzo(a)pyrene	61			
Indeno(1,2,3-cd)pyrene	3,200			
Dibenz(a,h)anthracene	14			
Benzo(g,h,i)perylene	50,000			

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

-Exceeds TBC.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
PESTICIDE/PCB

Sample ID		SB-13-01-2	SB-13-01-3	SB-13-02-2	SB-13-02-3	SB-13-03-2	SB-13-03-2-DUP
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		2-4'	3-5'	2-4'	3-5'	2-4'	2-4'
Date Sampled		11/04/93	11/04/93	11/04/93	11/04/93	11/04/93	11/04/93
Parameter	*TBC						
alpha-BHC	110						
beta-BHC	200						
delta-BHC	300						
gamma-BHC (Lindane)	60						
Heptachlor	100						
Aldrin	41						
Heptachlor epoxide	20						
Endosulfan I	900						
Dieldrin	44						
4,4'-DDE	2,100		1.4				
Endrin	100						
Endosulfan II	900						
4,4'-DDD	2,900				0.29	0.30	
Endosulfan sulfate	1,000						
4,4'-DDT	2,100						
Methoxychlor	10,000	5.3					
Endrin ketone	—		20				
Endrin aldehyde	—						
alpha-Chlordane	540						
gamma-Chlordane	540						
Toxaphene	—						
Aroclor-1016	10,000						
Aroclor-1221	10,000						
Aroclor-1232	10,000						
Aroclor-1242	10,000						
Aroclor-1248	10,000						
Aroclor-1254	10,000						
Aroclor-1260	10,000						

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
PESTICIDE/PCB

Sample ID		SB-13-03-5	SB-13-04-3	SB-13-05-3	SB-13-06-2	SB-13-06-4	SB-13-07-3
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		5-7'	3-5'	3-5'	2-4'	4-6'	3-5'
Date Sampled		11/04/93	11/05/93	11/08/93	11/09/93	11/09/93	11/03/93
Parameter	*TBC						
alpha-BHC	110						
beta-BHC	200						
delta-BHC	300						
gamma-BHC (Lindane)	60						
Heptachlor	100						
Aldrin	41						
Heptachlor epoxide	20						
Endosulfan I	900						
Dieldrin	44						
4,4'-DDE	2,100			1.1			
Endrin	100						
Endosulfan II	900						
4,4'-DDD	2,900		0.72	3.4	3.6	1.2	
Endosulfan sulfate	1,000					5.8	
4,4'-DDT	2,100						
Methoxychlor	10,000						
Endrin ketone	—						
Endrin aldehyde	—						
alpha-Chlordane	540						
gamma-Chlordane	540						
Toxaphene	—						
Aroclor-1016	10,000						
Aroclor-1221	10,000						
Aroclor-1232	10,000						
Aroclor-1242	10,000						
Aroclor-1248	10,000						
Aroclor-1254	10,000						
Aroclor-1260	10,000						

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
PESTICIDE/PCB

Sample ID		SB-13-07-5	SB-13-08-2	SB-13-08-4	SB-13-09-2	SB-13-09-10	SB-13-10-2
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		5-6'	2-4'	4-6'	2-4'	10-12'	2-4'
Date Sampled		11/03/93	11/09/93	11/09/93	11/10/93	11/10/93	11/03/93
Parameter	*TBC						
alpha-BHC	110						
beta-BHC	200						
delta-BHC	300						
gamma-BHC (Lindane)	60						
Heptachlor	100						
Aldrin	41						
Heptachlor epoxide	20						
Endosulfan I	900						
Dieldrin	44						
4,4'-DDE	2,100		4.8	11			1.8
Endrin	100						
Endosulfan II	900						
4,4'-DDD	2,900		1.8	2.4			0.82
Endosulfan sulfate	1,000						
4,4'-DDT	2,100		5.8	7.6			2.9
Methoxychlor	10,000						0.89
Endrin ketone	—						
Endrin aldehyde	—						
alpha-Chlordane	540		0.3				
gamma-Chlordane	540						
Toxaphene	—						
Aroclor-1016	10,000						
Aroclor-1221	10,000						
Aroclor-1232	10,000						
Aroclor-1242	10,000						
Aroclor-1248	10,000						
Aroclor-1254	10,000						
Aroclor-1260	10,000						

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
PESTICIDE/PCB

Sample ID		SB-13-10-4	SB-13-11-10	SB-13-11-12
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil
Depth		4-6'	10-12'	12-14'
Date Sampled		11/03/93	11/10/93	11/10/93
Parameter	*TBC			
alpha-BHC	110			
beta-BHC	200			
delta-BHC	300			
gamma-BHC (Lindane)	60			
Heptachlor	100			
Aldrin	41			
Heptachlor epoxide	20			
Endosulfan I	900			
Dieldrin	44	1.8		
4,4'-DDE	2,100			
Endrin	100			
Endosulfan II	900			
4,4'-DDD	2,900			
Endosulfan sulfate	1,000			
4,4'-DDT	2,100			
Methoxychlor	10,000			
Endrin ketone	—			
Endrin aldehyde	—			
alpha-Chlordane	540			
gamma-Chlordane	540			
Toxaphene	—			
Aroclor-1016	10,000			
Aroclor-1221	10,000			
Aroclor-1232	10,000			
Aroclor-1242	10,000			
Aroclor-1248	10,000			
Aroclor-1254	10,000			
Aroclor-1260	10,000			

All results reported in µg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS

Sample ID		SB-13-01-2	SB-13-01-3	SB-13-02-2	SB-13-02-3	SB-13-03-2
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		2-4'	3-5'	2-4'	3-5'	2-4'
Date Sampled		11/04/93	11/04/93	11/04/93	11/04/93	11/04/93
Parameter	*TBC					
Aluminum	8,510	13700	6460	1210	1360	16500
Antimony	12.6	15.7	23.6			
Arsenic	7.5	1.6	1.6		1.6	5.7
Barium	300	25.1	23	2.1	2.1	96.1
Beryllium	0.74					0.62
Cadmium	1.3					
Calcium	30,200	24200	29500	373	550	2590
Chromium	19.5	128	92.0	1.7	2.6	23.0
Cobalt	30					9.2
Copper	44.1	18.5	18.3			8.5
Iron	36,700	3100	5760	1180	2700	25900
Lead	79.4	3.5	3.5	0.49		7.3
Magnesium	3,340	2820	3040	218	465	3430
Manganese	474	48.5	92.4		18.2	169
Mercury	0.1					
Nickel	13	9.4				13.9
Potassium	929					1090
Selenium	2		5.6			
Silver	ND					
Sodium	520				33.5	105
Thallium	ND					
Vanadium	150		19.3			43.9
Zinc	63.4	6.4	9.9	1.5	3.5	35.3
Cyanide	—					

All results reported in mg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.
ND - Not detected.

-Exceeds TBC.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS

Sample ID		SB-13-03-2-DUP	SB-13-03-5	SB-13-04-3	SB-13-05-3	SB-13-06-2
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		2-4'	5-7'	3-5'	3-5'	2-4'
Date Sampled		11/04/93	11/04/93	11/05/93	11/08/93	11/09/93
Parameter	*TBC					
Aluminum	8,510	15200	4130	4890	3270	2470
Antimony	12.6					
Arsenic	7.5	5.0	2.4	0.71	0.95	0.38
Barium	300	102	22.2	17.5	6.8	15.5
Beryllium	0.74	0.41				
Cadmium	1.3					
Calcium	30,200	2790	1500	1540	335	1600
Chromium	19.5	22.4	8.3	5.1	2.2	3.9
Cobalt	30	8.3	3.9	1.5	1.0	1.0
Copper	44.1	8.3	4.6			10.5
Iron	36,700	20700	4530	5660	3010	5240
Lead	79.4	6.7	1.7	2.4	1.1	4.6
Magnesium	3,340	3330	1570	1090	551	1220
Manganese	474	139	45.9	38.8	21.4	141
Mercury	0.1					
Nickel	13	14.9	5.0		2.4	
Potassium	929	970	671	287		203
Selenium	2					
Silver	ND					
Sodium	520	105	108	82.1		50.0
Thallium	ND					
Vanadium	150	36.1	10.3	10.5		6.5
Zinc	63.4	33.6	15.1	8.9	12.3	38.5
Cyanide	—					

All results reported in mg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.
ND - Not detected.

-Exceeds TBC.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS

Sample ID		SB-13-06-4	SB-13-07-3	SB-13-07-5	SB-13-08-2
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		4-6'	3-5'	5-6'	2-4'
Date Sampled		11/09/93	11/03/93	11/03/93	11/09/93
Parameter	*TBC				
Aluminum	8,510	11400	1260	1080	8220
Antimony	12.6				
Arsenic	7.5	2.2	0.83	0.88	27.7
Barium	300	59.5	2.1	2.1	61.9
Beryllium	0.74				0.28
Cadmium	1.3				0.47
Calcium	30,200	2280	644	495	57700
Chromium	19.5	17.7	2.9	2.3	12.3
Cobalt	30	5.4	0.72	0.89	6.6
Copper	44.1	5.5		7.7	39.6
Iron	36,700	14500	3080	3620	16700
Lead	79.4	4.3	0.76	0.61	182
Magnesium	3,340	2920	682	577	9740
Manganese	474	115	44.0	25.6	338
Mercury	0.1				
Nickel	13	7.8	2.5		16.9
Potassium	929	917	123		1090
Selenium	2				1.2
Silver	ND				
Sodium	520	87	28.0	29.2	106
Thallium	ND				
Vanadium	150	20.6			12.6
Zinc	63.4	27.9	5.8	5.6	66.4
Cyanide	—				

All results reported in mg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.
ND - Not detected.

-Exceeds TBC.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS

Sample ID		SB-13-08-4	SB-13-09-10	SB-13-09-2	SB-13-10-2
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		4-6'	10-12'	2-4'	2-4'
Date Sampled		11/09/93	11/10/93	11/10/93	11/03/93
Parameter	*TBC				
Aluminum	8,510	10100	1280	2020	3030
Antimony	12.6	6.7			
Arsenic	7.5	27.2	0.59	0.56	0.67
Barium	300	62.4		7.9	13
Beryllium	0.74	0.3			
Cadmium	1.3				
Calcium	30,200	60200	539	8670	858
Chromium	19.5	16.8	3.3	9.0	4.3
Cobalt	30	7.5	0.71	1.6	0.79
Copper	44.1	43.1	1.7	6.8	1.8
Iron	36,700	18700	3180	4510	5010
Lead	79.4	1370	0.83	1.2	2.6
Magnesium	3,340	6830	738	1490	820
Manganese	474	441	41.2	86.1	79.5
Mercury	0.1				
Nickel	13	20.8	2.1	4.7	2.6
Potassium	929	1680	244	401	292
Selenium	2	1.2			
Silver	ND				
Sodium	520	155	46.1	31.7	34.9
Thallium	ND				
Vanadium	150	22.3		7.7	6.5
Zinc	63.4	116	5.7	11.1	10.4
Cyanide	—				

All results reported in mg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.
ND - Not detected.

-Exceeds TBC.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS

Sample ID		SB-13-10-4	SB-13-11-10	SB-13-11-12	SS-13-19-3
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil	Subsurface soil
Depth		4-6'	10-12'	12-14'	3'
Date Sampled		11/03/93	11/10/93	11/10/93	09/22/93
Parameter	*TBC				
Aluminum	8,510	2370	1370	1660	9340
Antimony	12.6				
Arsenic	7.5	0.58	0.33	0.45	2.5
Barium	300	8.5	6.3	7.9	55.9
Beryllium	0.74				
Cadmium	1.3				
Calcium	30,200	2620	461	6640	2690
Chromium	19.5	3.1	2.1	2.1	16.9
Cobalt	30	1.0	1.6	0.61	5.3
Copper	44.1		4.5	4.1	10.4
Iron	36,700	4270	3640	4180	18100
Lead	79.4	2.2	1.6	1.8	3.9
Magnesium	3,340	828	706	911	3240
Manganese	474	35.0	54.5	62.3	118
Mercury	0.1				
Nickel	13		2.1		12.5
Potassium	929	259	325	317	1190
Selenium	2				
Silver	ND				
Sodium	520	39.9	31.3	38.2	119
Thallium	ND				
Vanadium	150		5.1	6.6	24.2
Zinc	63.4	8.9	6.3	7.8	32.2
Cyanide	—				

All results reported in mg/kg.
Only detected results reported.
*TBC value from Table 4 -1.
— - No TBC available.
ND - Not detected.

-Exceeds TBC.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
MISCELLANEOUS PARAMETERS

Sample ID		SB-13-01-2M	SB-13-02-30	SB-13-09-15
Sample Type		Subsurface soil	Subsurface soil	Subsurface soil
Date Sampled		11/04/93	11/04/93	11/10/93
Parameter	*TBC			
Alkalinity	—	611	NA	NA
Moisture (%)	—	13.6	NA	NA
TKN	—	251	NA	NA
TOC	—	15900	7690	707
TOC (Duplicate)	—	16400	8380	743
Cation Exchange Capacity (meq/100g)	—	NA	10.2	2.27
pH (s.u.)	—	NA	8.83	7.88

All results are reported in mg/kg, unless otherwise noted.
Only detected results reported.
NA - Not Analyzed.
*TBC value from Table 4 -1.
— - No TBC available.

TABLE A-2

ANALYTICAL RESULTS - SUBSURFACE SOIL
PLATTSBURGH AIR FORCE BASE SITE SS-013
WASTE CHARACTERIZATION

Sample ID		SB-13-11-15T	SB-13-08-2T
Sample Type		Drill Cuttings	Drill Cuttings
Date Sampled		11/10/93	11/09/93
Parameter	*TBC		
Benzene	500		
Carbon Tetrachloride	500		
Chlorobenzene	100,000		
Chloroform	6,000		
2-Butanone	200,000	4	6
Tetrachloroethene	700		
Trichloroethene	500		
Vinyl Chloride	200		
1,2-Dichloroethane	500		
1,1-Dichloroethene	700		
1,4-Dichlorobenzene	7,500		
Hexachloroethane	3,000		
Nitrobenzene	2,000		
Hexachlorobutadiene	500		
2,4,6-Trichlorophenol	2,000		
2,4,5-Trichlorophenol	400,000		
2,4-Dinitrotoluene	130		
Hexachlorobenzene	130		
Pentachlorophenol	100,000		
2-Methylphenol	200,000		
4-Methylphenol	200,000		
Pyridine	5,000		
gamma-BHC (Lindane)	400		
Heptachlor	8		
Heptachlor epoxide	8		
Endrin	20		
Methoxychlor	10,000		
Toxaphene	500		
Tech. Chlordane	30		
2,4-D	10,000		
Silvex	5,000		
Arsenic	5,000		
Barium	100,000	664	221
Cadmium	1,000		
Chromium	5,000	6.4	
Lead	5,000	24	15.5
Mercury	200		
Selenium	1,000		98.1
Silver	5,000		
Corrosivity	<2 or >12	NON	NON
Ignitability	>140 °F	NON	NON
Reactivity	250/500	NON	NON

All results reported in µg/l, unless otherwise noted.

Only detected results reported.

NA - Not Analyzed.

*TBC value from Federal Register 40 CFR, Part 136.

TABLE A-3

ANALYTICAL RESULTS - SURFACE WATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID		SW-13-01	SW-13-02	SW-13-03	SW-13-04	SW-13-05	SW-13-06	SW-13-07
Sample Type		Surface water	Surface water	Surface water	Surface water	Surface water	Surface water	Surface water
Date Sampled		10/05/93	10/05/93	10/05/93	10/05/93	10/05/93	10/05/93	10/05/93
Date Analyzed		10/11/93	10/11/93	10/12/93	10/12/93	10/12/93	10/12/93	10/12/93
Dilution Factor		1.0	1.0	1.0	1.0	1.0	1.0	1.0
Parameter	*ARAR							
Chloromethane	—							
Bromomethane	—							
Vinyl Chloride	—							
Chloroethane	—							
Methylene Chloride	—							
Acetone	—							
Carbon Disulfide	—							
1,1-Dichloroethene	—							
1,1-Dichloroethane	—							
1,2-Dichloroethene (total)	—		4		4			
Chloroform	—							
1,2-Dichloroethane	—							
2-Butanone	—							
1,1,1-Trichloroethane	—							
Carbon Tetrachloride	—							
Bromodichloromethane	—							
1,2-Dichloropropane	—							
cis-1,3-Dichloropropene	—							
Trichloroethene	11		4		3		2	
Dibromochloromethane	—							
1,1,2-Trichloroethane	—							
Benzene	6							
trans-1,3-Dichloropropene	—							
Bromoform	—							
4-Methyl-2-pentanone	—							
2-Hexanone	—							
Tetrachloroethene	1							
1,1,2,2-Tetrachloroethane	—							
Toluene	—							
Chlorobenzene	50							
Ethylbenzene	—							
Styrene	—							
Xylene (total)	—						7	

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.
— - No ARAR available.

TABLE A-3

ANALYTICAL RESULTS - SURFACE WATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID		SW-13-08	SW-13-09	SW-13-10	SW-13-11	SW-13-12	SW-13-12-DUP
Sample Type		Surface water	Surface water	Surface water	Surface water	Surface water	Surface water
Date Sampled		10/05/93	10/05/93	10/05/93	10/05/93	10/05/93	10/05/93
Date Analyzed		10/12/93	10/12/93	10/12/93	10/12/93	10/12/93	10/12/93
Dilution Factor		1.0	1.0	1.0	1.0	1.0	1.0
Parameter	*ARAR						
Chloromethane	—						
Bromomethane	—						
Vinyl Chloride	—						
Chloroethane	—						
Methylene Chloride	—						
Acetone	—						
Carbon Disulfide	—						
1,1-Dichloroethene	—						
1,1-Dichloroethane	—						
1,2-Dichloroethene (total)	—						
Chloroform	—						
1,2-Dichloroethane	—						
2-Butanone	—						
1,1,1-Trichloroethane	—						
Carbon Tetrachloride	—						
Bromodichloromethane	—						
1,2-Dichloropropane	—						
cis-1,3-Dichloropropene	—						
Trichloroethene	11						
Dibromochloromethane	—						
1,1,2-Trichloroethane	—						
Benzene	6						
trans-1,3-Dichloropropene	—						
Bromoform	—						
4-Methyl-2-pentanone	—						
2-Hexanone	—						
Tetrachloroethene	1						
1,1,2,2-Tetrachloroethane	—						
Toluene	—						
Chlorobenzene	50						
Ethylbenzene	—						
Styrene	—						
Xylene (total)	—					4	

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.
— - No ARAR available.

TABLE A-3

ANALYTICAL RESULTS - SURFACE WATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SW-13-01	SW-13-02	SW-13-03	SW-13-04	SW-13-05	SW-13-06	SW-13-07
Sample Type		Surface water	Surface water	Surface water	Surface water	Surface water	Surface water	Surface water
Date Sampled		10/05/93	10/05/93	10/05/93	10/05/93	10/05/93	10/05/93	10/05/93
Date Extracted		10/06/93	10/06/93	10/06/93	10/08/93	10/06/93	10/06/93	10/06/93
Date Analyzed		11/01/93	11/01/93	11/01/93	11/03/93	11/02/93	11/01/93	11/01/93
Dilution Factor		1.0	1.0	1.0	1.0	1.0	1.0	1.0
Parameter	*ARAR							
Phenol	5							
bis(2-Chloroethyl)ether	—							
2-Chlorophenol	1							
1,3-Dichlorobenzene	50							
1,4-Dichlorobenzene	50							
1,2-Dichlorobenzene	50							
2-Methylphenol	5							
2,2'-oxybis(Chloropropane)	—							
4-Methylphenol	5							
N-Nitroso-di-n-propylamine	—							
Hexachloroethane	—							
Nitrobenzene	—							
Isophorone	—							
2-Nitrophenol	5							
2,4-Dimethylphenol	5							
bis(2-Chloroethoxy)methane	—							
2,4-Dichlorophenol	1							
1,2,4-Trichlorobenzene	50							
Naphthalene	—							
4-Chloroaniline	—							
Hexachlorobutadiene	10							
4-Chloro-3-methylphenol	1							
2-Methylnaphthalene	—							
Hexachlorocyclopentadiene	4.5							
2,4,6-Trichlorophenol	1							
2,4,5-Trichlorophenol	1							
2-Chloronaphthalene	—							
2-Nitroaniline	—							
Dimethylphthalate	—							
Acenaphthylene	—							
2,6-Dinitrotoluene	—							
3-Nitroaniline	—							

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.
— - No ARAR available.

TABLE A-3

ANALYTICAL RESULTS - SURFACE WATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SW-13-01	SW-13-02	SW-13-03	SW-13-04	SW-13-05	SW-13-06	SW-13-07
Sample Type		Surface water	Surface water	Surface water	Surface water	Surface water	Surface water	Surface water
Date Sampled		10/05/93	10/05/93	10/05/93	10/05/93	10/05/93	10/05/93	10/05/93
Date Extracted		10/06/93	10/06/93	10/06/93	10/08/93	10/06/93	10/06/93	10/06/93
Date Analyzed		11/01/93	11/01/93	11/01/93	11/03/93	11/02/93	11/01/93	11/01/93
Dilution Factor		1.0	1.0	1.0	1.0	1.0	1.0	1.0
Parameter	*ARAR							
Acenaphthene	—							
2,4-Dinitrophenol	5							
4-Nitrophenol	5							
Dibenzofuran	—							
2,4-Dinitrotoluene	—							
Diethylphthalate	—							
4-Chlorophenyl-phenylether	—							
Fluorene	—							
4-Nitroaniline	—							
4,6-Dinitro-2-methylphenol	5							
N-Nitrosodiphenylamine	—							
4-Bromophenyl-phenylether	—							
Hexachlorobenzene	—							
Pentachlorophenol	1							
Phenanthrene	—							
Anthracene	—							
Carbazole	—							
Di-n-butylphthalate	—							
Fluoranthene	—							
Pyrene	—							
Butylbenzylphthalate	—							
3,3'-Dichlorobenzidine	—							
Benzo(a)anthracene	—							
Chrysene	—							
bis(2-Ethylhexyl)phthalate	—	12		4				
Di-n-octylphthalate	—							
Benzo(b)fluoranthene	—							
Benzo(k)fluoranthene	—							
Benzo(a)pyrene	0.0012							
Indeno(1,2,3-cd)pyrene	—							
Dibenz(a,h)anthracene	—							
Benzo(g,h,i)perylene	—							

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.
— - No ARAR available.

TABLE A-3

ANALYTICAL RESULTS - SURFACE WATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SW-13-08	SW-13-09	SW-13-10	SW-13-11	SW-13-12	SW-13-12-DUP
Sample Type		Surface water	Surface water	Surface water	Surface water	Surface water	Surface water
Date Sampled		10/05/93	10/05/93	10/05/93	10/05/93	10/05/93	10/05/93
Date Extracted		10/06/93	10/06/93	10/08/93	10/06/93	10/06/93	10/06/93
Date Analyzed		11/01/93	11/03/93	11/03/93	11/03/93	11/03/93	11/03/93
Dilution Factor		1.0	1.0	1.0	1.0	1.0	1.0
Parameter	*ARAR						
Phenol	5						
bis(2-Chloroethyl)ether	—						
2-Chlorophenol	1						
1,3-Dichlorobenzene	50						
1,4-Dichlorobenzene	50						
1,2-Dichlorobenzene	50						
2-Methylphenol	5						
2,2'-oxybis(Chloropropane)	—						
4-Methylphenol	5						
N-Nitroso-di-n-propylamine	—						
Hexachloroethane	—						
Nitrobenzene	—						
Isophorone	—						
2-Nitrophenol	5						
2,4-Dimethylphenol	5						
bis(2-Chloroethoxy)methane	—						
2,4-Dichlorophenol	1						
1,2,4-Trichlorobenzene	50						
Naphthalene	—						
4-Chloroaniline	—						
Hexachlorobutadiene	10						
4-Chloro-3-methylphenol	1						
2-Methylnaphthalene	—						
Hexachlorocyclopentadiene	4.5						
2,4,6-Trichlorophenol	1						
2,4,5-Trichlorophenol	1						
2-Chloronaphthalene	—						
2-Nitroaniline	—						
Dimethylphthalate	—						
Acenaphthylene	—						
2,6-Dinitrotoluene	—						
3-Nitroaniline	—						

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.
— - No ARAR available.

TABLE A-3

ANALYTICAL RESULTS - SURFACE WATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		SW-13-08	SW-13-09	SW-13-10	SW-13-11	SW-13-12	SW-13-12-DUP
Sample Type		Surface water	Surface water	Surface water	Surface water	Surface water	Surface water
Date Sampled		10/05/93	10/05/93	10/05/93	10/05/93	10/05/93	10/05/93
Date Extracted		10/06/93	10/06/93	10/08/93	10/06/93	10/06/93	10/06/93
Date Analyzed		11/01/93	11/03/93	11/03/93	11/03/93	11/03/93	11/03/93
Dilution Factor		1.0	1.0	1.0	1.0	1.0	1.0
Parameter	*ARAR						
Acenaphthene	—						
2,4-Dinitrophenol	5						
4-Nitrophenol	5						
Dibenzofuran	—						
2,4-Dinitrotoluene	—						
Diethylphthalate	—						
4-Chlorophenyl-phenylether	—						
Fluorene	—						
4-Nitroaniline	—						
4,6-Dinitro-2-methylphenol	5						
N-Nitrosodiphenylamine	—						
4-Bromophenyl-phenylether	—						
Hexachlorobenzene	—						
Pentachlorophenol	1						
Phenanthrene	—						
Anthracene	—						
Carbazole	—						
Di-n-butylphthalate	—						
Fluoranthene	—						
Pyrene	—						
Butylbenzylphthalate	—						
3,3'-Dichlorobenzidine	—						
Benzo(a)anthracene	—						
Chrysene	—						
bis(2-Ethylhexyl)phthalate	—						
Di-n-octylphthalate	—						
Benzo(b)fluoranthene	—						
Benzo(k)fluoranthene	—						
Benzo(a)pyrene	0.0012						
Indeno(1,2,3-cd)pyrene	—						
Dibenz(a,h)anthracene	—						
Benzo(g,h,i)perylene	—						

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.
— - No ARAR available.

TABLE A-3

ANALYTICAL RESULTS - SURFACE WATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
PESTICIDE/PCB

Sample ID		SW-13-01	SW-13-04	SW-13-07	SW-13-12	SW-13-12-DUP
Sample Type		Surface water	Surface water	Surface water	Surface water	Surface water
Date Sampled		10/05/93	10/05/93	10/05/93	10/05/93	10/05/93
Date Extracted		10/06/93	10/06/93	10/06/93	10/06/93	10/06/93
Date Analyzed		10/15/93	10/15/93	10/15/93	10/15/93	10/15/93
Dilution Factor		1.0	1.0	1.0	1.0	1.0
Parameter	*ARAR					
alpha-BHC	2					
beta-BHC	2					
delta-BHC	2					
gamma-BHC (Lindane)	2					
Heptachlor	0.001					
Aldrin	0.001					
Heptachlor epoxide	0.001					
Endosulfan I	0.22					
Dieldrin	0.001					
4,4'-DDE	0.001					
Endrin	0.002					
Endosulfan II	—					
4,4'-DDD	0.001					
Endosulfan sulfate	—					
4,4'-DDT	0.001					
Methoxychlor	—					
Endrin ketone	—					
Endrin aldehyde	—					
alpha-Chlordane	0.002					
gamma-Chlordane	0.002					
Toxaphene	1.6					
Aroclor-1016	0.001					
Aroclor-1221	0.001					
Aroclor-1232	0.001					
Aroclor-1242	0.001					
Aroclor-1248	0.001					
Aroclor-1254	0.001					
Aroclor-1260	0.001					

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.
— - No ARAR available.

TABLE A-3

ANALYTICAL RESULTS - SURFACE WATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS/MISCELLANEOUS PARAMETERS

Sample ID		SW-13-01	SW-13-04	SW-13-07	SW-13-12	SW-13-12-DUP
Sample Type		Surface water	Surface water	Surface water	Surface water	Surface water
Date Sampled		10/08/93	10/08/93	10/08/93	10/08/93	10/08/93
Parameter	ARAR					
Arsenic	360 *					
Barium	—	23.5	19.2	34.8	19.2	18.7
Cadmium	11.42 **					
Chromium	3773.94 **				3.2	10.6
Lead	274.25 **					
Mercury	0.2 *					
Selenium	—					
Silver	20.72 **	2.5		2.0		
Total Hardness (mg/l)	—	258				

All results reported in µg/l unless otherwise noted.
Only detected results reported.
(*) - ARAR value from Table 4-1.
(**) - ARAR value from Table 4-2.
— - No ARAR available.

TABLE A-4

ANALYTICAL RESULTS - SEDIMENT
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID	SD-13-01		SD-13-02		SD-13-03		SD-13-04		SD-13-05		SD-13-06		SD-13-07	
Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
Date Sampled	10/05/93		10/05/93		10/05/93		10/05/93		10/05/93		10/05/93		10/05/93	
Parameter	TBC		TBC		TBC		TBC		TBC		TBC		TBC	
Chloromethane	—		—		—		—		—		—		—	
Bromomethane	—		—		—		—		—		—		—	
Vinyl Chloride	—		—		—		—		—		—		—	
Chloroethane	—		—		—		—		—		—		—	
Methylene Chloride	—	4	—	2	—	6	—	5	—		—	8	—	
Acetone	—	10	—		—	23	—	12	—		—	37	—	32
Carbon Disulfide	—		—		—		—		—		—		—	
1,1-Dichloroethene	—		—		—		—		—		—		—	
1,1-Dichloroethane	—		—		—		—		—		—		—	
1,2-Dichloroethene (total)	—		—		—		—		—		—		—	
Chloroform	—		—		—		—		—		—		—	
1,2-Dichloroethane	—		—		—		—		—		—		—	
2-Butanone	—		—		—		—		—		—	9	—	7
1,1,1-Trichloroethane	—		—		—		—		—		—		—	
Carbon Tetrachloride	—		—		—		—		—		—		—	
Bromodichloromethane	—		—		—		—		—		—		—	
1,2-Dichloropropane	—		—		—		—		—		—		—	
cis-1,3-Dichloropropene	—		—		—		—		—		—		—	
Trichloroethene	—		—		—		—		—		—		—	
Dibromochloromethane	—		—		—		—		—		—		—	
1,1,2-Trichloroethane	—		—		—		—		—		—		—	
Benzene	—		—		—		—		—		—		—	
trans-1,3-Dichloropropene	—		—		—		—		—		—		—	
Bromoform	—		—		—		—		—		—		—	
4-Methyl-2-pentanone	—		—		—		—		—		—		—	
2-Hexanone	—		—		—		—		—		—		—	
Tetrachloroethene	—		—		—		—		—		—		—	
1,1,2,2-Tetrachloroethane	—		—		—		—		—		—		—	
Toluene	—		—		—		—		—		—		—	
Chlorobenzene	—		—		—		—		—		—		—	
Ethylbenzene	—		—		—		—		—		—		—	
Styrene	—		—		—		—		—		—		—	
Xylene (total)	—		—		—		—		—		—		—	

All results reported in µg/kg.
Only detected results reported.
(—) - No TBC available.

TABLE A-4

ANALYTICAL RESULTS - SEDIMENT
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID	SD-13-08		SD-13-09		SD-13-10		SD-13-11		SD-13-12		SD-13-12-DUP	
Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment		Sediment	
Date Sampled	10/05/93		10/05/93		10/05/93		10/05/93		10/05/93		10/05/93	
Parameter	TBC		TBC		TBC		TBC		TBC		TBC	
Chloromethane	—		—		—		—		—		—	
Bromomethane	—		—		—		—		—		—	
Vinyl Chloride	—		—		—		—		—		—	
Chloroethane	—		—		—		—		—		—	
Methylene Chloride	—		—		—		—		—		—	
Acetone	—	19	—	60	—	17	—	33	—	24	—	22
Carbon Disulfide	—		—		—		—		—		—	
1,1-Dichloroethene	—		—		—		—		—		—	
1,1-Dichloroethane	—		—		—		—		—		—	
1,2-Dichloroethene (total)	—		—		—		—		—		—	
Chloroform	—		—		—		—		—		—	
1,2-Dichloroethane	—		—		—		—		—		—	
2-Butanone	—		—	18	—		—	12	—		—	
1,1,1-Trichloroethane	—		—		—		—		—		—	
Carbon Tetrachloride	—		—		—		—		—		—	
Bromodichloromethane	—		—		—		—		—		—	
1,2-Dichloropropane	—		—		—		—		—		—	
cis-1,3-Dichloropropene	—		—		—		—		—		—	
Trichloroethene	—		—		—		—		—		—	
Dibromochloromethane	—		—		—		—		—		—	
1,1,2-Trichloroethane	—		—		—		—		—		—	
Benzene	—		—		—		—		—		—	
trans-1,3-Dichloropropene	—		—		—		—		—		—	
Bromoform	—		—		—		—		—		—	
4-Methyl-2-pentanone	—		—		—		—		—		—	
2-Hexanone	—		—		—		—		—		—	
Tetrachloroethene	—		—		—		—		—		—	
1,1,2,2-Tetrachloroethane	—		—		—		—		—		—	
Toluene	—		—	2	—		—		—		—	
Chlorobenzene	—		—		—		—		—		—	
Ethylbenzene	—		—		—		—		—		—	
Styrene	—		—		—		—		—		—	
Xylene (total)	—		—		—		—		—		—	

All results reported in µg/kg.
Only detected results reported.
(—) - No TBC available.

TABLE A-4

ANALYTICAL RESULTS - SEDIMENT
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID	SD-13-01		SD-13-02		SD-13-03		SD-13-04		SD-13-05	
Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment	
Date Sampled	10/21/93		10/05/93		10/05/93		10/05/93		10/05/93	
Parameter	TBC		TBC		TBC		TBC		TBC	
Phenol	—		—		—		—		—	
bis(2-Chloroethyl)ether	—		—		—		—		—	
2-Chlorophenol	—		—		—		—		—	
1,3-Dichlorobenzene	—		—		—		—		—	
1,4-Dichlorobenzene	—		—		—		—		—	
1,2-Dichlorobenzene	—		—		—		—		—	
2-Methylphenol	—		—		—		—		—	
2,2'-oxybis(Chloropropane)	—		—		—		—		—	
4-Methylphenol	—		—		—		—		—	
N-Nitroso-di-n-propylamine	—		—		—		—		—	
Hexachloroethane	—		—		—		—		—	
Nitrobenzene	—		—		—		—		—	
Isophorone	—		—		—		—		—	
2-Nitrophenol	—		—		—		—		—	
2,4-Dimethylphenol	—		—		—		—		—	
bis(2-Chloroethoxy)methane	—		—		—		—		—	
2,4-Dichlorophenol	—		—		—		—		—	
1,2,4-Trichlorobenzene	—		—		—		—		—	
Naphthalene	—		—		—		—		—	17
4-Chloroaniline	—		—		—		—		—	
Hexachlorobutadiene	—		—		—		—		—	
4-Chloro-3-methylphenol	—		—		—		—		—	
2-Methylnaphthalene	—		—		—		—		—	
Hexachlorocyclopentadiene	—		—		—		—		—	
2,4,6-Trichlorophenol	—		—		—		—		—	
2,4,5-Trichlorophenol	—		—		—		—		—	
2-Chloronaphthalene	—		—		—		—		—	
2-Nitroaniline	—		—		—		—		—	
Dimethylphthalate	—		—		—		—		—	
Acenaphthylene	—		—		—		—		—	
2,6-Dinitrotoluene	—		—		—		—		—	
3-Nitroaniline	—		—		—		—		—	

All results reported in µg/kg.

Only detected results reported.

TBC value from Table 4-4

[0] - Human health bioaccumulation sample-specific TBC.

[1] - Benthic aquatic life acute toxicity sample-specific TBC.

[2] - Benthic aquatic life chronic toxicity sample-specific TBC.

[3] - Wildlife bioaccumulation sample-specific TBC.

(—) - No TBC available.

TABLE A-4

ANALYTICAL RESULTS - SEDIMENT
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID	SD-13-01		SD-13-02		SD-13-03		SD-13-04		SD-13-05	
Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment	
Date Sampled	10/21/93		10/05/93		10/05/93		10/05/93		10/05/93	
Parameter	TBC		TBC		TBC		TBC		TBC	
Acenaphthene	—		—		—		—		602[2]	20
2,4-Dinitrophenol	—		—		—		—		—	
4-Nitrophenol	—		—		—		—		—	
Dibenzofuran	—		—		—		—		—	10
2,4-Dinitrotoluene	—		—		—		—		—	
Diethylphthalate	—		—		—		—		—	
4-Chlorophenyl-phenylether	—		—		—		—		—	
Fluorene	—		—		—		—		—	17
4-Nitroaniline	—		—		—		—		—	
4,6-Dinitro-2-methylphenol	—		—		—		—		—	
N-Nitrosodiphenylamine	—		—		—		—		—	
4-Bromophenyl-phenylether	—		—		—		—		—	
Hexachlorobenzene	—		—		—		—		—	
Pentachlorophenol	—		—		—		—		—	
Phenanthrene	—		—		4440[2]	13	—		516[2]	180
Anthracene	—		—		—		—		—	18
Carbazole	—		—		—		—		—	87
Di-n-butylphthalate	—		—		—		—		—	
Fluoranthene	—		—		37740[2]	24	36720[2]	19	4386[2]	200
Pyrene	—		—		—	17	—	12	—	130
Butylbenzylphthalate	—		—		—		—		—	
3,3'-Dichlorobenzidine	—		—		—		—		—	
Benzo(a)anthracene	—		—		—		—		5.6[o]	54
Chrysene	—		—		—		—		5.6[o]	75
bis(2-Ethylhexyl)phthalate	—		—		—		—		—	
Di-n-octylphthalate	—		—		—		—		—	
Benzo(b)fluoranthene	—		—		—		—		5.6[o]	72
Benzo(k)fluoranthene	—		—		—		—		5.6[o]	56
Benzo(a)pyrene	—		—		—		—		5.6[o]	56
Indeno(1,2,3-cd)pyrene	—		—		—		—		—	
Dibenz(a,h)anthracene	—		—		—		—		—	
Benzo(g,h,i)perylene			—		—		—		—	

All results reported in µg/kg.

Only detected results reported.

TBC value from Table 4-4

[o] - Human health bioaccumulation sample-specific TBC.

[1] - Benthic aquatic life acute toxicity sample-specific TBC.

[2] - Benthic aquatic life chronic toxicity sample-specific TBC.

[3] - Wildlife bioaccumulation sample-specific TBC.

(—) - No TBC available.

- Exceeds TBC

TABLE A-4

ANALYTICAL RESULTS - SEDIMENT
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID	SD-13-06		SD-13-07		SD-13-08		SD-13-08-RE		SD-13-09	
Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment	
Date Sampled	10/05/93		11/10/93		10/05/93		10/05/93		11/10/93	
Parameter	TBC		TBC		TBC		TBC		TBC	
Phenol	—		—		—		—		—	
bis(2-Chloroethyl)ether	—		—		—		—		—	
2-Chlorophenol	—		—		—		—		—	
1,3-Dichlorobenzene	—		—		—		—		—	
1,4-Dichlorobenzene	—		—		—		—		—	
1,2-Dichlorobenzene	—		—		—		—		—	
2-Methylphenol	—		—		—		—		—	
2,2'-oxybis(Chloropropane)	—		—		—		—		—	
4-Methylphenol	—		—		—		—		—	
N-Nitroso-di-n-propylamine	—		—		—		—		—	
Hexachloroethane	—		—		—		—		—	
Nitrobenzene	—		—		—		—		—	
Isophorone	—		—		—		—		—	
2-Nitrophenol	—		—		—		—		—	
2,4-Dimethylphenol	—		—		—		—		—	
bis(2-Chloroethoxy)methane	—		—		—		—		—	
2,4-Dichlorophenol	—		—		—		—		—	
1,2,4-Trichlorobenzene	—		—		—		—		—	
Naphthalene	—		—		—		—		—	
4-Chloroaniline	—		—		—		—		—	
Hexachlorobutadiene	—		—		—		—		—	
4-Chloro-3-methylphenol	—		—		—		—		—	
2-Methylnaphthalene	—		—		—		—		—	
Hexachlorocyclopentadiene	—		—		—		—		—	
2,4,6-Trichlorophenol	—		—		—		—		—	
2,4,5-Trichlorophenol	—		—		—		—		—	
2-Chloronaphthalene	—		—		—		—		—	
2-Nitroaniline	—		—		—		—		—	
Dimethylphthalate	—		—		—		—		—	
Acenaphthylene	—		—		—		—		—	
2,6-Dinitrotoluene	—		—		—		—		—	
3-Nitroaniline	—		—		—		—		—	

All results reported in µg/kg.
Only detected results reported.
TBC value from Table 4-4
[0] - Human health bioaccumulation sample-specific TBC.
[1] - Benthic aquatic life acute toxicity sample-specific TBC.
[2] - Benthic aquatic life chronic toxicity sample-specific TBC.
[3] - Wildlife bioaccumulation sample-specific TBC.
(—) - No TBC available.

TABLE A-4

ANALYTICAL RESULTS - SEDIMENT
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID	SD-13-06		SD-13-07		SD-13-08		SD-13-08-RE		SD-13-09	
Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment	
Date Sampled	10/05/93		11/10/93		10/05/93		10/05/93		11/10/93	
Parameter	TBC		TBC		TBC		TBC		TBC	
Acenaphthene	—		—		—		—		—	
2,4-Dinitrophenol	—		—		—		—		—	
4-Nitrophenol	—		—		—		—		—	
Dibenzofuran	—		—		—		—		—	
2,4-Dinitrotoluene	—		—		—		—		—	
Diethylphthalate	—		—	24	—		—		—	20
4-Chlorophenyl-phenylether	—		—		—		—		—	
Fluorene	—		—		—		—		—	
4-Nitroaniline	—		—		—		—		—	
4,6-Dinitro-2-methylphenol	—		—		—		—		—	
N-Nitrosodiphenylamine	—		—		—		—		—	
4-Bromophenyl-phenylether	—		—		—		—		—	
Hexachlorobenzene	—		—		—		—		—	
Pentachlorophenol	—		—				—		—	
Phenanthrene	4920[2]	30	4560[2]	33	1440[2]	42	1440[2]	39	—	
Anthracene	—		—		—		—		—	
Carbazole	—		—		—		—		—	
Di-n-butylphthalate	—		—		—		—		—	
Fluoranthene	41820[2]	78	38760[2]	100	12240[2]	78	—		20400[2]	29
Pyrene	—	48	—	130	—	140	—		—	36
Butylbenzylphthalate	—		—		—		—		—	
3,3'-Dichlorobenzidine	—		—		—		—		—	
Benzo(a)anthracene	53.3[o]	28	49.4[o]	66	—		—		—	
Chrysene	53.3[o]	30	49.4[o]	64	—		—		26[o]	14
bis(2-Ethylhexyl)phthalate	—		—		—		—		—	
Di-n-octylphthalate	—	41	—		—		—		—	
Benzo(b)fluoranthene	—		49.4[o]	34	—		—		—	
Benzo(k)fluoranthene	—		—		—		—		—	
Benzo(a)pyrene	—		49.4[o]	52	—		—		—	
Indeno(1,2,3-cd)pyrene	—		—		—		—		—	
Dibenz(a,h)anthracene	—		—		—		—		—	
Benzo(g,h,i)perylene	—		—		—		—		—	

All results reported in µg/kg.

Only detected results reported.

TBC value from Table 4-4

[o] - Human health bioaccumulation sample-specific TBC.

[1] - Benthic aquatic life acute toxicity sample-specific TBC.

[2] - Benthic aquatic life chronic toxicity sample-specific TBC.

[3] - Wildlife bioaccumulation sample-specific TBC.

(—) - No TBC available.

- Exceeds TBC

TABLE A-4

ANALYTICAL RESULTS - SEDIMENT
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID	SD-13-10		SD-13-11		SD-13-12		SD-13-12-RE		SD-13-12-DUP	
Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment	
Date Sampled	11/19/93		10/05/93		10/05/93		10/05/93		10/05/93	
Parameter	TBC		TBC		TBC		TBC		TBC	
Phenol	—		—		—		—		—	
bis(2-Chloroethyl)ether	—		—		—		—		—	
2-Chlorophenol	—		—		—		—		—	
1,3-Dichlorobenzene	—		—		—		—		—	
1,4-Dichlorobenzene	—		—		—		—		—	
1,2-Dichlorobenzene	—		—		—		—		—	
2-Methylphenol	—		—		—		—		—	
2,2'-oxybis(Chloropropane)	—		—		—		—		—	
4-Methylphenol	—		—		—		—		—	
N-Nitroso-di-n-propylamine	—		—		—		—		—	
Hexachloroethane	—		—		—		—		—	
Nitrobenzene	—		—		—		—		—	
Isophorone	—		—		—		—		—	
2-Nitrophenol	—		—		—		—		—	
2,4-Dimethylphenol	—		—		—		—		—	
bis(2-Chloroethoxy)methane	—		—		—		—		—	
2,4-Dichlorophenol	—		—		—		—		—	
1,2,4-Trichlorobenzene	—		—		—		—		—	
Naphthalene	—		—		—		—		—	
4-Chloroaniline	—		—		—		—		—	
Hexachlorobutadiene	—		—		—		—		—	
4-Chloro-3-methylphenol	—		—		—		—		—	
2-Methylnaphthalene	—		—		—		—		—	
Hexachlorocyclopentadiene	—		—		—		—		—	
2,4,6-Trichlorophenol	—		—		—		—		—	
2,4,5-Trichlorophenol	—		—		—		—		—	
2-Chloronaphthalene	—		—		—		—		—	
2-Nitroaniline	—		—		—		—		—	
Dimethylphthalate	—		—		—		—		—	
Acenaphthylene	—		—		—		—		—	
2,6-Dinitrotoluene	—		—		—		—		—	
3-Nitroaniline	—		—		—		—		—	

All results reported in µg/kg.
Only detected results reported.
TBC value from Table 4-4
[0] - Human health bioaccumulation sample-specific TBC.
[1] - Benthic aquatic life acute toxicity sample-specific TBC.
[2] - Benthic aquatic life chronic toxicity sample-specific TBC.
[3] - Wildlife bioaccumulation sample-specific TBC.
(—) - No TBC available.

TABLE A-4

ANALYTICAL RESULTS - SEDIMENT
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID	SD-13-10		SD-13-11		SD-13-12		SD-13-12-RE		SD-13-12-DUP	
Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment	
Date Sampled	11/19/93		10/05/93		10/05/93		10/05/93		10/05/93	
Parameter	TBC		TBC		TBC		TBC		TBC	
Acenaphthene	—		—		—		—		—	
2,4-Dinitrophenol	—		—		—		—		—	
4-Nitrophenol	—		—		—		—		—	
Dibenzofuran	—		—		—		—		—	
2,4-Dinitrotoluene	—		—		—		—		—	
Diethylphthalate	—		—		—		—		—	
4-Chlorophenyl-phenylether	—		—		—		—		—	
Fluorene	—		—		—		—		—	
4-Nitroaniline	—		—		—		—		—	
4,6-Dinitro-2-methylphenol	—		—		—		—		—	
N-Nitrosodiphenylamine	—		—		—		—		—	
4-Bromophenyl-phenylether	—		—		—		—		—	
Hexachlorobenzene	—		—		—		—		—	
Pentachlorophenol	—		—		—		—		—	
Phenanthrene	—		720[2]	24	—		—		—	
Anthracene	—		—		—		—		—	
Carbazole	—		—		—		—		—	
Di-n-butylphthalate	—		—		—		—		—	
Fluoranthene	—		6120[2]	39	—		—		—	
Pyrene	—		—	43	—		—		—	
Butylbenzylphthalate	—		—		—		—		—	
3,3'-Dichlorobenzidine	—		—		—		—		—	
Benzo(a)anthracene	—		—		—		—		—	
Chrysene	—		7.8[6]	16	—		—		—	
bis(2-Ethylhexyl)phthalate	—		—		—		—		—	
Di-n-octylphthalate	—		—	33	—		—		—	21
Benzo(b)fluoranthene	—		—		—		—		—	
Benzo(k)fluoranthene	—		—		—		—		—	
Benzo(a)pyrene	—		—		—		—		—	
Indeno(1,2,3-cd)pyrene	—		—		—		—		—	
Dibenz(a,h)anthracene	—		—		—		—		—	
Benzo(g,h,i)perylene	—		—	93	—		—		—	

All results reported in µg/kg.

- Exceeds TBC

Only detected results reported.

TBC value from Table 4-4

[6] - Human health bioaccumulation sample-specific TBC.

[1] - Benthic aquatic life acute toxicity sample-specific TBC.

[2] - Benthic aquatic life chronic toxicity sample-specific TBC.

[3] - Wildlife bioaccumulation sample-specific TBC.

(—) - No TBC available.

TABLE A-4

ANALYTICAL RESULTS - SEDIMENT
PLATTSBURGH AIR FORCE BASE SITE SS-013
PESTICIDE/PCB

Sample ID	SD-13-01		SD-13-04		SD-13-07		SD-13-12		SD-13-12-DUP	
Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment	
Date Sampled	10/05/93		10/05/93		10/05/93		10/05/93		10/05/93	
Parameter	TBC		TBC		TBC		TBC		TBC	
alpha-BHC										
beta-BHC										
delta-BHC										
gamma-BHC (Lindane)										
Heptachlor										
Aldrin			3.6[0] (B)	0.85	3.8[0] (B)	3.2				
			28[3] (B)	0.85	29[3] (B)	3.2				
Heptachlor epoxide										
Endosulfan I										
Dieldrin										
4,4'-DDE	0.03[0] (A)	0.29	0.36[0] (A)	2.3						
	3696[1] (A)	0.29	39600[1] (A)	2.3						
	3.4[2,3] (A)	0.29	36[2,3] (A)	2.3						
Endrin										
Endosulfan II										
4,4'-DDD					0.38[0] (A)	0.85				
					41800[1] (A)	0.85				
					38[2,3] (A)	0.85				
Endosulfan sulfate										
4,4'-DDT										
Methoxychlor										
Endrin ketone										
Endrin aldehyde										
alpha-Chlordane										
gamma-Chlordane										
Toxaphene										
Aroclor-1016										
Aroclor-1221										
Aroclor-1232										
Aroclor-1242										
Aroclor-1248					0.03[0] (C)	53				
					104,910[1] (C)	53				
					733[2] (C)	53				
					53[3] (C)	53				
Aroclor-1254										
Aroclor-1260										

All results reported in µg/kg.
Only detected results reported.
TBC value from Table 4-4
[0] - Human health bioaccumulation sample-specific TBC.
[1] - Benthic aquatic life acute toxicity sample-specific TBC.
[2] - Benthic aquatic life chronic toxicity sample-specific TBC.
[3] - Wildlife bioaccumulation sample-specific TBC.
(—) - No TBC available.

- Exceeds TBC
(A) - TBC value is for total of 4,4'-DDE, 4,4'-DDD, and 4,4'-DDT.
(B) - TBC value is for Aldrin plus Dieldrin.
(C) - TBC value is for total PCBs.

TABLE A-4

ANALYTICAL RESULTS - SEDIMENT
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS

Sample ID			SD-13-01	SD-13-04	SD-13-07	SD-13-12	SD-13-12-DUP
Sample Type			Sediment	Sediment	Sediment	Sediment	Sediment
Date Sampled			10/05/93	10/05/93	10/05/93	10/05/93	10/05/93
Parameter	Lowest Effect Level (ppm)	Severe Effect Level (ppm)					
Aluminum			1590	2630	3480	1720	1650
Antimony	2.0 (L)	25 (L)					4.6
Arsenic	6.0 (P)	33 (P)	1.4	5.4	1.9	0.37	0.37
Barium			8.5	68.3	31.5	6.6	6.8
Beryllium							
Cadmium	0.6 (P)	9.0 (L)		0.75			
Calcium			872	4130	4990	737	1160
Chromium	26.0 (P)	110 (P)	3.6	6.1	7.2	4.5	3.8
Cobalt			1.6	3.2	2.2	0.77	0.84
Copper	16.0 (P)	110 (P)			2.4		
Iron	20000 (P)	40000 (P)	4760	41100	8040	3700	3380
Lead	31 (P)	110 (L)	1.1	2.2	5.0	1.0	1.5
Magnesium			743	1060	1390	509	469
Manganese	460 (P)	1100 (L)	83.2	2570	389	99.1	85.7
Mercury	0.15 (L)	1.3. (L)					
Nickel	16.0 (P)	50 (L)					2.0
Potassium					218		
Selenium							
Silver	1.0 (L)	2.2 (L)					
Sodium			25.5	275	255	38.8	26.0
Thallium							
Vanadium			5.7		11.6	6.7	5.1
Zinc	120 (P,L)	270 (L)	8.2	51.7	28.9	12.7	10.6
Cyanide							

All results reported in mg/kg (ppm) unless otherwise noted.
Only detected results reported.
(-) - No TBC available.

- Exceeds Lowest Effect Level.
- Exceeds Severe Effect Level.

Sources:
(L) Long and Morgan (1990)
(P) Persaud et al. (1992)

TABLE A-4

ANALYTICAL RESULTS - SEDIMENT
PLATTSBURGH AIR FORCE BASE SITE SS-013
MISCELLANEOUS PARAMETERS

Sample ID		SD-13-01
Sample Type		Sediment
Date Sampled		10/05/93
Parameter	TBC	
Alkalinity	-	NA
Moisture (%)	-	NA
TKN	-	NA
TOC	-	3180
TOC - Duplicate		3360
Cation Exchange Capacity (meq/100g)	-	NA
pH (s.u.)	-	NA

All results are reported in mg/kg, unless otherwise noted.

(-) No TBC available.

TABLE A-4

ANALYTICAL RESULTS - SEDIMENT
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEDIMENT (TOC)
September 1995

Sample ID		SD-13-002	SD-13-003	SD-13-004	SD-13-005	SD-13-006	SD-13-007
Sample Type		Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Date Sampled		08/24/95	08/24/95	08/24/95	08/24/95	08/24/95	08/24/95
Parameter	Class						
Total Organic Carbon	TOC	5800	37000	36000	4300	41000	38000

All results reported in mg/kg.

TABLE A-4

ANALYTICAL RESULTS - SEDIMENT
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEDIMENT (TOC)
September 1995

Sample ID		SD-13-008	SD-13-009	SD-13-010	SD-13-010DUP	SD-13-011	SD-13-012
Sample Type		Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Date Sampled		08/24/95	08/24/95	08/24/95	08/24/95	08/24/95	08/24/95
Parameter	Class						
Total Organic Carbon	TOC	12000	20000	7800	6200	6000	2000

All results reported in mg/kg.

TABLE A-5

ANALYTICAL RESULTS - GROUNDWATER SCREENING
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID	HP-13-01-7	HP-13-01-7-DUP	HP-13-02-6	HP-13-03-8	HP-13-04-6R
Sample Type	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth	7-10'	7-10'	6-9'	8-11'	6-9'
Date Sampled	11/04/93	11/04/93	11/04/93	11/04/93	11/09/93
Parameter					
Chloromethane					
Bromomethane					
Vinyl Chloride				7	
Chloroethane					
Methylene Chloride					
Acetone					220
Carbon Disulfide				7	4
1,1-Dichloroethene					
1,1-Dichloroethane					12
1,2-Dichloroethene (total)				5	1
Chloroform					
1,2-Dichloroethane					36
2-Butanone					49
1,1,1-Trichloroethane					
Carbon Tetrachloride					
Bromodichloromethane					
1,2-Dichloropropane					
cis-1,3-Dichloropropene					
Trichloroethene					
Dibromochloromethane					
1,1,2-Trichloroethane					
Benzene					
trans-1,3-Dichloropropene					
Bromoform					
4-Methyl-2-pentanone					
2-Hexanone					
Tetrachloroethene					
1,1,2,2-Tetrachloroethane					
Toluene					4
Chlorobenzene					
Ethylbenzene					
Styrene					
Xylene (total)					

All results in µg/l.
Only detected results reported.

TABLE A-5

ANALYTICAL RESULTS - GROUNDWATER SCREENING
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID	HP-13-05-5	HP-13-05-16	HP-13-06-6	HP-13-07-6	HP-13-07-21
Sample Type	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth	5-9'	16-17'	6-9'	6-9'	21-22'
Date Sampled	11/08/93	11/09/93	11/09/93	11/03/93	11/03/93
Parameter					
Chloromethane					
Bromomethane					
Vinyl Chloride					
Chloroethane					
Methylene Chloride					
Acetone	420		2300		
Carbon Disulfide	22	15			
1,1-Dichloroethene					
1,1-Dichloroethane					
1,2-Dichloroethene (total)					
Chloroform					
1,2-Dichloroethane					
2-Butanone					
1,1,1-Trichloroethane					
Carbon Tetrachloride					
Bromodichloromethane					
1,2-Dichloropropane					
cis-1,3-Dichloropropene					
Trichloroethene					
Dibromochloromethane					
1,1,2-Trichloroethane					
Benzene					
trans-1,3-Dichloropropene					
Bromoform					
4-Methyl-2-pentanone					
2-Hexanone					
Tetrachloroethene					
1,1,2,2-Tetrachloroethane					
Toluene					
Chlorobenzene					
Ethylbenzene			1		
Styrene					
Xylene (total)			7		

All results in µg/l.
Only detected results reported

TABLE A-5

ANALYTICAL RESULTS - GROUNDWATER SCREENING
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID	HP-13-08-5	HP-13-09-23	HP-13-09-45	HP-13-10-8	HP-13-11-22
Sample Type	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth	5-9'	23-26'	45-46'	8-12'	22-26'
Date Sampled	11/09/93	11/09/93	11/10/93	11/03/93	11/10/93
Parameter					
Chloromethane					
Bromomethane					
Vinyl Chloride					
Chloroethane					
Methylene Chloride					
Acetone	830	510	29		300
Carbon Disulfide				3	
1,1-Dichloroethene					
1,1-Dichloroethane					
1,2-Dichloroethene (total)					
Chloroform					
1,2-Dichloroethane					
2-Butanone					13
1,1,1-Trichloroethane					
Carbon Tetrachloride					
Bromodichloromethane					
1,2-Dichloropropane					
cis-1,3-Dichloropropene					
Trichloroethene					
Dibromochloromethane					
1,1,2-Trichloroethane					
Benzene					
trans-1,3-Dichloropropene					
Bromoform					
4-Methyl-2-pentanone					
2-Hexanone					
Tetrachloroethene					
1,1,2,2-Tetrachloroethane					
Toluene					
Chlorobenzene					
Ethylbenzene					
Styrene					
Xylene (total)					

All results in µg/l.
Only detected results reported

TABLE A-5

ANALYTICAL RESULTS - GROUNDWATER SCREENING
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID	HP-13-12-16	HP-13-12-27	HP-13-12-38	HP-13-13-10	HP-13-14-7	HP-13-15-11
Sample Type	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth	16-19'	27-28'	38-39'	10-13'	7-10'	11-14'
Date Sampled	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93
Parameter						
Chloromethane						
Bromomethane						
Vinyl Chloride						21
Chloroethane						
Methylene Chloride						
Acetone	130			33	370	140
Carbon Disulfide				21	8	5
1,1-Dichloroethene						
1,1-Dichloroethane						
1,2-Dichloroethene (total)						
Chloroform						
1,2-Dichloroethane						
2-Butanone						
1,1,1-Trichloroethane						
Carbon Tetrachloride						
Bromodichloromethane						
1,2-Dichloropropane						
cis-1,3-Dichloropropene						
Trichloroethene						
Dibromochloromethane						
1,1,2-Trichloroethane						
Benzene						
trans-1,3-Dichloropropene						
Bromoform						
4-Methyl-2-pentanone						
2-Hexanone						
Tetrachloroethene						
1,1,2,2-Tetrachloroethane						
Toluene						6
Chlorobenzene						
Ethylbenzene						5
Styrene						
Xylene (total)						14

All results in µg/l.
Only detected results reported

TABLE A-5

ANALYTICAL RESULTS - GROUNDWATER SCREENING
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID	HP-13-01-7	HP-13-01-7-DUP	HP-13-02-6	HP-13-03-8	HP-13-04-6	HP-13-05-5	HP-13-05-16
Sample Type	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth	7-10'	7-10'	6-9'	8-11'	6-9'	5-9'	16-17'
Date Sampled	11/04/93	11/04/93	11/04/93	11/04/93	11/05/93	11/08/93	11/09/93
Parameter							
Phenol							
bis(2-Chloroethyl)ether							
2-Chlorophenol							
1,3-Dichlorobenzene							
1,4-Dichlorobenzene							
1,2-Dichlorobenzene							
2-Methylphenol							
2,2'-oxybis(Chloropropane)							
4-Methylphenol							
N-Nitroso-di-n-propylamine							
Hexachloroethane							
Nitrobenzene							
Isophorone							
2-Nitrophenol							
2,4-Dimethylphenol							
bis(2-Chloroethoxy)methane							
2,4-Dichlorophenol							
1,2,4-Trichlorobenzene							
Naphthalene							
4-Chloroaniline							
Hexachlorobutadiene							
4-Chloro-3-methylphenol							
2-Methylnaphthalene							
Hexachlorocyclopentadiene							
2,4,6-Trichlorophenol							
2,4,5-Trichlorophenol							
2-Chloronaphthalene							
2-Nitroaniline							
Dimethylphthalate							
Acenaphthylene							
2,6-Dinitrotoluene							
3-Nitroaniline							

All results reported in µg/l.
Only detected results reported.

TABLE A-5

ANALYTICAL RESULTS - GROUNDWATER SCREENING
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID	HP-13-01-7	HP-13-01-7-DUP	HP-13-02-6	HP-13-03-8	HP-13-04-6	HP-13-05-5	HP-13-05-16
Sample Type	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth	7-10'	7-10'	6-9'	8-11'	6-9'	5-9'	16-17'
Date Sampled	11/04/93	11/04/93	11/04/93	11/04/93	11/05/93	11/08/93	11/09/93
Parameter							
Acenaphthene							
2,4-Dinitrophenol							
4-Nitrophenol							
Dibenzofuran							
2,4-Dinitrotoluene							
Diethylphthalate	3	2	1				
4-Chlorophenyl-phenylether							
Fluorene							
4-Nitroaniline							
4,6-Dinitro-2-methylphenol							
N-Nitrosodiphenylamine							
4-Bromophenyl-phenylether							
Hexachlorobenzene							
Pentachlorophenol							
Phenanthrene							
Anthracene							
Carbazole							
Di-n-butylphthalate							
Fluoranthene							
Pyrene							
Butylbenzylphthalate							
3,3'-Dichlorobenzidine							
Benzo(a)anthracene							
Chrysene							
bis(2-Ethylhexyl)phthalate				1			
Di-n-octylphthalate							
Benzo(b)fluoranthene							
Benzo(k)fluoranthene							
Benzo(a)pyrene							
Indeno(1,2,3-cd)pyrene							
Dibenz(a,h)anthracene							
Benzo(g,h,i)perylene							

All results reported in µg/l.
Only detected results reported.

TABLE A-5

ANALYTICAL RESULTS - GROUNDWATER SCREENING
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID	HP-13-06-6	HP-13-07-6	HP-13-07-21	HP-13-08-5	HP-13-09-23	HP-13-09-45	HP-13-10-8
Sample Type	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth	6-9'	6-9'	21-22'	5-9'	23-26'	45-46'	8-12'
Date Sampled	11/09/93	11/03/93	11/03/93	11/09/93	11/10/93	11/10/93	11/03/93
Parameter							
Phenol							
bis(2-Chloroethyl)ether							
2-Chlorophenol							
1,3-Dichlorobenzene							
1,4-Dichlorobenzene							
1,2-Dichlorobenzene							
2-Methylphenol							
2,2'-oxybis(Chloropropane)							
4-Methylphenol							
N-Nitroso-di-n-propylamine							
Hexachloroethane							
Nitrobenzene							
Isophorone							
2-Nitrophenol							
2,4-Dimethylphenol							
bis(2-Chloroethoxy)methane							
2,4-Dichlorophenol							
1,2,4-Trichlorobenzene							
Naphthalene							
4-Chloroaniline							
Hexachlorobutadiene							
4-Chloro-3-methylphenol							
2-Methylnaphthalene							
Hexachlorocyclopentadiene							
2,4,6-Trichlorophenol							
2,4,5-Trichlorophenol							
2-Chloronaphthalene							
2-Nitroaniline							
Dimethylphthalate	2				1		
Acenaphthylene							
2,6-Dinitrotoluene							
3-Nitroaniline							

All results reported in µg/l.
Only detected results reported.

TABLE A-5

ANALYTICAL RESULTS - GROUNDWATER SCREENING
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID	HP-13-06-6	HP-13-07-6	HP-13-07-21	HP-13-08-5	HP-13-09-23	HP-13-09-45	HP-13-10-8
Sample Type	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth	6-9'	6-9'	21-22'	5-9'	23-26'	45-46'	8-12'
Date Sampled	11/09/93	11/03/93	11/03/93	11/09/93	11/10/93	11/10/93	11/03/93
Parameter							
Acenaphthene							
2,4-Dinitrophenol							
4-Nitrophenol							
Dibenzofuran							
2,4-Dinitrotoluene							
Diethylphthalate	3	2		2	2		2
4-Chlorophenyl-phenylether							
Fluorene							
4-Nitroaniline							
4,6-Dinitro-2-methylphenol							
N-Nitrosodiphenylamine							
4-Bromophenyl-phenylether							
Hexachlorobenzene							
Pentachlorophenol							
Phenanthrene							3
Anthracene							
Carbazole							
Di-n-butylphthalate				2			
Fluoranthene	2						3
Pyrene	1						3
Butylbenzylphthalate				2			
3,3'-Dichlorobenzidine							
Benzo(a)anthracene							
Chrysene							1
bis(2-Ethylhexyl)phthalate	2			2	1		
Di-n-octylphthalate							
Benzo(b)fluoranthene							2
Benzo(k)fluoranthene							
Benzo(a)pyrene							1
Indeno(1,2,3-cd)pyrene							
Dibenz(a,h)anthracene							
Benzo(g,h,i)perylene							

All results reported in µg/l.
Only detected results reported.

TABLE A-5

ANALYTICAL RESULTS - GROUNDWATER SCREENING
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID	HP-13-11-22	HP-13-12-16	HP-13-12-27	HP-13-12-38	HP-13-13-10	HP-13-14-7	HP-13-15-11
Sample Type	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth	22-26'	16-19'	27-28'	38-39'	10-13'	7-10'	11-14'
Date Sampled	11/10/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93
Parameter							
Phenol							
bis(2-Chloroethyl)ether							
2-Chlorophenol							
1,3-Dichlorobenzene							
1,4-Dichlorobenzene							
1,2-Dichlorobenzene							
2-Methylphenol							
2,2'-oxybis(Chloropropane)							
4-Methylphenol							
N-Nitroso-di-n-propylamine							
Hexachloroethane							
Nitrobenzene							
Isophorone							
2-Nitrophenol							
2,4-Dimethylphenol							150
bis(2-Chloroethoxy)methane							
2,4-Dichlorophenol							
1,2,4-Trichlorobenzene							
Naphthalene							1400
4-Chloroaniline							
Hexachlorobutadiene							
4-Chloro-3-methylphenol							
2-Methylnaphthalene							230
Hexachlorocyclopentadiene							
2,4,6-Trichlorophenol							
2,4,5-Trichlorophenol							
2-Chloronaphthalene							
2-Nitroaniline							
Dimethylphthalate							
Acenaphthylene							
2,6-Dinitrotoluene							
3-Nitroaniline							

All results reported in µg/l.
Only detected results reported.

TABLE A-5

ANALYTICAL RESULTS - GROUNDWATER SCREENING
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID	HP-13-11-22	HP-13-12-16	HP-13-12-27	HP-13-12-38	HP-13-13-10	HP-13-14-7	HP-13-15-11
Sample Type	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth	22-26'	16-19'	27-28'	38-39'	10-13'	7-10'	11-14'
Date Sampled	11/10/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93
Parameter							
Acenaphthene							56
2,4-Dinitrophenol							
4-Nitrophenol							
Dibenzofuran							20
2,4-Dinitrotoluene							
Diethylphthalate							
4-Chlorophenyl-phenylether							
Fluorene							13
4-Nitroaniline							
4,6-Dinitro-2-methylphenol							
N-Nitrosodiphenylamine							
4-Bromophenyl-phenylether							
Hexachlorobenzene							
Pentachlorophenol							
Phenanthrene							3
Anthracene							
Carbazole							51
Di-n-butylphthalate	1						
Fluoranthene							
Pyrene							
Butylbenzylphthalate	7						
3,3'-Dichlorobenzidine							
Benzo(a)anthracene							
Chrysene							
bis(2-Ethylhexyl)phthalate	3	1					7
Di-n-octylphthalate							
Benzo(b)fluoranthene							
Benzo(k)fluoranthene							
Benzo(a)pyrene							
Indeno(1,2,3-cd)pyrene							
Dibenz(a,h)anthracene							
Benzo(g,h,i)perylene							

All results reported in µg/l.
Only detected results reported.

TABLE A-6a

ANALYTICAL RESULTS - 1st ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID		MW-01-13	MW-03-13	MW-04-13	MW-06-13	MW-07-13	MW-07-13-DUP	MW-08-13
Well ID		MW-13-001	MW-13-003	MW-13-004	MW-13-006	MW-13-007	MW-13-007	MW-13-008
Sample Type		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Date Sampled		01/07/94	01/07/94	01/07/94	01/06/94	01/06/94	01/06/94	01/06/94
Parameter	*ARAR							
Chloromethane	5				8	7	5	9
Bromomethane	5							
Vinyl Chloride	2							53
Chloroethane	5							
Methylene Chloride	5							
Acetone	50							
Carbon Disulfide	50							
1,1-Dichloroethene	5							
1,1-Dichloroethane	5							
1,2-Dichloroethene (total)	5							
Chloroform	7							
1,2-Dichloroethane	5				3	3	3	4
2-Butanone	50							
1,1,1-Trichloroethane	5							
Carbon Tetrachloride	5							
Bromodichloromethane	50							
1,2-Dichloropropane	5							
cis-1,3-Dichloropropene	5							
Trichloroethene	5							
Dibromochloromethane	50							
1,1,2-Trichloroethane	5							
Benzene	0.7							
trans-1,3-Dichloropropene	5							
Bromoform	50							
4-Methyl-2-pentanone	50							
2-Hexanone	50							
Tetrachloroethene	5							
1,1,2,2-Tetrachloroethane	5							
Toluene	5							6
Chlorobenzene	5							
Ethylbenzene	5							23
Styrene	5							2
Xylene (total)	5							21

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.

- Exceeds ARAR

TABLE A-6a

ANALYTICAL RESULTS - 1st ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		MW-01-13	MW-03-13	MW-04-13	MW-06-13	MW-07-13	MW-07-13-DUP	MW-08-13
Well ID		MW-13-001	MW-13-003	MW-13-004	MW-13-006	MW-13-007	MW-13-007	MW-13-008
Sample Type		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Date Sampled		01/07/94	01/07/94	01/07/94	01/06/94	01/06/94	01/06/94	01/06/94
Parameter	*ARAR							
Phenol	1							
bis(2-Chloroethyl)ether	1							
2-Chlorophenol	1							
1,3-Dichlorobenzene	5							
1,4-Dichlorobenzene	4.7							
1,2-Dichlorobenzene	4.7							
2-Methylphenol	1							
2,2'-oxybis(Chloropropane)	50							
4-Methylphenol	1							
N-Nitroso-di-n-propylamine	50							
Hexachloroethane	5							
Nitrobenzene	5							
Isophorone	50							
2-Nitrophenol	1							
2,4-Dimethylphenol	1							
bis(2-Chloroethoxy)methane	5							
2,4-Dichlorophenol	1							
1,2,4-Trichlorobenzene	5							
Naphthalene	10			5				2700
4-Chloroaniline	5							
Hexachlorobutadiene	5							
4-Chloro-3-methylphenol	1							
2-Methylnaphthalene	50							330
Hexachlorocyclopentadiene	5							
2,4,6-Trichlorophenol	1							
2,4,5-Trichlorophenol	1							
2-Chloronaphthalene	10							
2-Nitroaniline	5							
Dimethylphthalate	50							
Acenaphthylene	50							
2,6-Dinitrotoluene	5							
3-Nitroaniline	5							

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.

- Exceeds ARAR

TABLE A-6a

ANALYTICAL RESULTS - 1st ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		MW-01-13	MW-03-13	MW-04-13	MW-06-13	MW-07-13	MW-07-13-DUP	MW-08-13
Well ID		MW-13-001	MW-13-003	MW-13-004	MW-13-006	MW-13-007	MW-13-007	MW-13-008
Sample Type		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Date Sampled		01/07/94	01/07/94	01/07/94	01/06/94	01/06/94	01/06/94	01/06/94
Parameter	*ARAR							
Acenaphthene	20							120
2,4-Dinitrophenol	1							
4-Nitrophenol	1							
Dibenzofuran	50							33
2,4-Dinitrotoluene	5							
Diethylphthalate	50							
4-Chlorophenyl-phenylether	50							
Fluorene	50							22
4-Nitroaniline	5							
4,6-Dinitro-2-methylphenol	1							
N-Nitrosodiphenylamine	50							
4-Bromophenyl-phenylether	50							
Hexachlorobenzene	0.35							
Pentachlorophenol	1							
Phenanthrene	50							
Anthracene	50							
Carbazole	50							53
Di-n-butylphthalate	50							
Fluoranthene	50							
Pyrene	50							
Butylbenzylphthalate	50							
3,3'-Dichlorobenzidine	5							
Benzo(a)anthracene	0.002							
Chrysene	0.002							
bis(2-Ethylhexyl)phthalate	6							
Di-n-octylphthalate	50							
Benzo(b)fluoranthene	0.002							
Benzo(k)fluoranthene	0.002							
Benzo(a)pyrene	ND							
Indeno(1,2,3-cd)pyrene	0.002							
Dibenz(a,h)anthracene	50							
Benzo(g,h,i)perylene	50							

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.
ND - Not Detected.

- Exceeds ARAR

TABLE A-6a

ANALYTICAL RESULTS - 1st ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
PESTICIDE/PCB

Sample ID		MW-01-13	MW-03-13	MW-04-13	MW-06-13	MW-07-13	MW-07-13-DUP	MW-08-13
Well ID		MW-13-001	MW-13-003	MW-13-004	MW-13-006	MW-13-007	MW-13-007	MW-13-008
Sample Type		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Date Sampled		01/07/94	01/07/94	01/07/94	01/06/94	01/06/94	01/06/94	01/06/94
Parameter	*ARAR							
alpha-BHC	ND							
beta-BHC	ND							
delta-BHC	ND							
gamma-BHC (Lindane)	ND							
Heptachlor	ND							
Aldrin	ND							
Heptachlor epoxide	ND							
Endosulfan I	50							
Dieldrin	ND							
4,4'-DDE	ND							
Endrin	ND							
Endosulfan II	50							
4,4'-DDD	ND							
Endosulfan sulfate	50							
4,4'-DDT	ND							
Methoxychlor	35							
Endrin ketone	5							
Endrin aldehyde	5							
alpha-Chlordane	0.1							
gamma-Chlordane	0.1							
Toxaphene	ND							
Aroclor-1016	0.1							
Aroclor-1221	0.1							
Aroclor-1232	0.1							
Aroclor-1242	0.1							
Aroclor-1248	0.1							
Aroclor-1254	0.1							
Aroclor-1260	0.1							

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.
ND - Not Detected.

TABLE A-6a

ANALYTICAL RESULTS - 1st ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS

Sample ID		MW-01-13	MW-01-13	MW-03-13	MW-03-13	MW-04-13
Well ID		MW-13-001	MW-13-001	MW-13-003	MW-13-003	MW-13-004
Sample Type		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Date Sampled		01/07/94	01/07/94	01/07/94	01/07/94	01/07/94
Parameter	*ARAR	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered
Arsenic	25					
Barium	1,000	21.7	29.8		24.5	
Cadmium	5					
Chromium	50					4.5
Lead	15			1.4		1.0
Mercury	2					0.25
Selenium	10	1.4	1.4			
Silver	50					

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.

TABLE A-6a

ANALYTICAL RESULTS - 1st ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS

Sample ID		MW-04-13	MW-06-13	MW-06-13	MW-07-13	MW-07-13
Well ID		MW-13-004	MW-13-006	MW-13-006	MW-13-007	MW-13-007
Sample Type		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Date Sampled		01/07/94	01/06/94	01/06/94	01/06/94	01/06/94
Parameter	*ARAR	Filtered	Unfiltered	Filtered	Unfiltered	Filtered
Arsenic	25		25.6		20.2	6.0
Barium	1,000		200		246	28.3
Cadmium	5					
Chromium	50		57.7		51.9	
Lead	15		34.0		19.3	
Mercury	2					
Selenium	10		1.7			1.4
Silver	50					

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.

-Exceeds ARAR.

TABLE A-6a

ANALYTICAL RESULTS - 1st ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS

Sample ID		MW-07-13-DUP	MW-07-13-DUP	MW-08-13	MW-08-13
Well ID		MW-13-007	MW-13-007	MW-13-008	MW-13-008
Sample Type		Groundwater	Groundwater	Groundwater	Groundwater
Date Sampled		01/06/94	01/06/94	01/06/94	01/06/94
Parameter	*ARAR	Unfiltered	Filtered	Unfiltered	Filtered
Arsenic	25	19.5	6.3	19.5	2.1
Barium	1,000	198	28.7	307	169
Cadmium	5				
Chromium	50	38.6		56.7	
Lead	15	17.0		19.6	
Mercury	2				
Selenium	10		1.4		
Silver	50				

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4-1.

-Exceeds ARAR.

TABLE A-6a

ANALYTICAL RESULTS - 1st ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
MISCELLANEOUS PARAMETERS

Sample ID		MW-01-13	MW-08-13
Sample Type		Groundwater	Groundwater
Date Sampled		01/07/94	01/06/94
Parameter	*ARAR		
Ethylene Glycol	—		

All results are reported in mg/l, unless otherwise noted.

Only detected results reported.

— - No ARAR available.

TABLE A-6b

ANALYTICAL RESULTS - 2nd ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID		MW-01-13	MW-03-13	MW-04-13	MW-06-13	MW-07-13	MW-08-13
Well ID		MW-13-001	MW-13-003	MW-13-004	MW-13-006	MW-13-007	MW-13-008
Sample Type		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Date Sampled		02/16/94	02/16/94	02/16/94	02/16/94	02/16/94	02/16/94
Parameter	*ARAR						
Chloromethane	5	3.7	2.8	5.2	1.7	1.4	
Bromomethane	5						
Vinyl Chloride	2						27
Chloroethane	5						
Methylene Chloride	5						
Acetone	50	34			6.8	19	
Carbon Disulfide	50						
1,1-Dichloroethene	5						
1,1-Dichloroethane	5						
1,2-Dichloroethene (total)	5						1
Chloroform	7						
1,2-Dichloroethane	5	2.2	2.1	3.8	2.2	2.5	
2-Butanone	50						
1,1,1-Trichloroethane	5						
Carbon Tetrachloride	5						
Bromodichloromethane	50						
1,2-Dichloropropane	5						
cis-1,3-Dichloropropene	5						
Trichloroethene	5						
Dibromochloromethane	50						
1,1,2-Trichloroethane	5						
Benzene	0.7						
trans-1,3-Dichloropropene	5						
Bromoform	50						
4-Methyl-2-pentanone	50						
2-Hexanone	50						
Tetrachloroethene	5						
1,1,2,2-Tetrachloroethane	5						
Toluene	5						9
Chlorobenzene	5						
Ethylbenzene	5						9
Styrene	5						1
Xylene (total)	5						17

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.

-Exceeds ARAR.

TABLE A-6b

ANALYTICAL RESULTS - 2nd ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		MW-01-13	MW-03-13	MW-04-13	MW-06-13	MW-07-13	MW-08-13
Well ID		MW-13-001	MW-13-003	MW-13-004	MW-13-006	MW-13-007	MW-13-008
Sample Type		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Date Sampled		02/16/94	02/16/94	02/16/94	02/16/94	02/16/94	02/16/94
Parameter	*ARAR						
Phenol	1						
bis(2-Chloroethyl)ether	1						
2-Chlorophenol	1						
1,3-Dichlorobenzene	5						
1,4-Dichlorobenzene	4.7						
1,2-Dichlorobenzene	4.7						
2-Methylphenol	1						
2,2'-oxybis(Chloropropane)	50						
4-Methylphenol	1						
N-Nitroso-di-n-propylamine	50						
Hexachloroethane	5						
Nitrobenzene	5						
Isophorone	50						
2-Nitrophenol	1						
2,4-Dimethylphenol	1						430
bis(2-Chloroethoxy)methane	5						
2,4-Dichlorophenol	1						
1,2,4-Trichlorobenzene	5						
Naphthalene	10						860
4-Chloroaniline	5						
Hexachlorobutadiene	5						
4-Chloro-3-methylphenol	1						
2-Methylnaphthalene	50						72
Hexachlorocyclopentadiene	5						
2,4,6-Trichlorophenol	1						
2,4,5-Trichlorophenol	1						
2-Chloronaphthalene	10						
2-Nitroaniline	5						
Dimethylphthalate	50						
Acenaphthylene	50						2
2,6-Dinitrotoluene	5						
3-Nitroaniline	5						

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.

▒▒ - Exceeds ARAR

TABLE A-6b

ANALYTICAL RESULTS - 2nd ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
SEMIVOLATILES

Sample ID		MW-01-13	MW-03-13	MW-04-13	MW-06-13	MW-07-13	MW-08-13
Well ID		MW-13-001	MW-13-003	MW-13-004	MW-13-006	MW-13-007	MW-13-008
Sample Type		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Date Sampled		02/16/94	02/16/94	02/16/94	02/16/94	02/16/94	02/16/94
Parameter	*ARAR						
Acenaphthene	20						77
2,4-Dinitrophenol	1						
4-Nitrophenol	1						
Dibenzofuran	50						32
2,4-Dinitrotoluene	5						
Diethylphthalate	50						
4-Chlorophenyl-phenylether	50						
Fluorene	50						22
4-Nitroaniline	5						
4,6-Dinitro-2-methylphenol	1						
N-Nitrosodiphenylamine	50						
4-Bromophenyl-phenylether	50						
Hexachlorobenzene	0.35						
Pentachlorophenol	1						
Phenanthrene	50						5
Anthracene	50						
Carbazole	50						39
Di-n-butylphthalate	50						
Fluoranthene	50						
Pyrene	50						
Butylbenzylphthalate	50						
3,3'-Dichlorobenzidine	5						
Benzo(a)anthracene	0.002						
Chrysene	0.002						
bis(2-Ethylhexyl)phthalate	6						
Di-n-octylphthalate	50						
Benzo(b)fluoranthene	0.002						
Benzo(k)fluoranthene	0.002						
Benzo(a)pyrene	ND						
Indeno(1,2,3-cd)pyrene	0.002						
Dibenz(a,h)anthracene	50						
Benzo(g,h,i)perylene	50						

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.
ND - Not Detected.

- Exceeds ARAR

TABLE A-6b

ANALYTICAL RESULTS - 2nd ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
PESTICIDE/PCB

Sample ID		MW-01-13	MW-03-13	MW-04-13	MW-06-13	MW-07-13	MW-08-13
Well ID		MW-13-001	MW-13-003	MW-13-004	MW-13-006	MW-13-007	MW-13-008
Sample Type		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Date Sampled		02/16/94	02/16/94	02/16/94	02/16/94	02/16/94	02/16/94
Parameter	*ARAR						
alpha-BHC	ND						
beta-BHC	ND						
delta-BHC	ND						
gamma-BHC (Lindane)	ND						
Heptachlor	ND						
Aldrin	ND						
Heptachlor epoxide	ND						
Endosulfan I	50						
Dieldrin	ND						
4,4'-DDE	ND						
Endrin	ND						
Endosulfan II	50						
4,4'-DDD	ND						
Endosulfan sulfate	50						
4,4'-DDT	ND						
Methoxychlor	35						
Endrin ketone	5						
Endrin aldehyde	5						
alpha-Chlordane	0.1						
gamma-Chlordane	0.1						
Toxaphene	ND						
Aroclor-1016	0.1						
Aroclor-1221	0.1						
Aroclor-1232	0.1						
Aroclor-1242	0.1						
Aroclor-1248	0.1						
Aroclor-1254	0.1						
Aroclor-1260	0.1						

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.
ND - Not Detected.

TABLE A-6b

ANALYTICAL RESULTS - 2nd ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS

Sample ID		MW-01-13	MW-01-13	MW-03-13	MW-03-13	MW-04-13	MW-04-13
Well ID		MW-13-001	MW-13-001	MW-13-003	MW-13-003	MW-13-004	MW-13-004
Sample Type		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Date Sampled		02/16/94	02/16/94	02/16/94	02/16/94	02/16/94	02/16/94
Parameter	*ARAR	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered
Arsenic	25	2.5					
Barium	1,000	36.2	53.4			8.0	17.9
Cadmium	5					2.4	4.8
Chromium	50	4.4					4.5
Lead	15						
Mercury	2						
Selenium	10						
Silver	50						

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.

TABLE A-6b

ANALYTICAL RESULTS - 2nd ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
METALS

Sample ID		MW-06-13	MW-06-13	MW-07-13	MW-07-13	MW-08-13	MW-08-13
Well ID		MW-13-006	MW-13-006	MW-13-007	MW-13-007	MW-13-008	MW-13-008
Sample Type		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Date Sampled		02/16/94	02/16/94	02/16/94	02/16/94	02/16/94	02/16/94
Parameter	*ARAR	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered
Arsenic	25	15.5		7.3	5.4	10.6	3.4
Barium	1,000	125	28.1	84.1	22.8	192	53.3
Cadmium	5				6.9	2.8	2.6
Chromium	50	44.5		16.8		33.2	
Lead	15	22.7		7.1		11.3	
Mercury	2						
Selenium	10						
Silver	50						

All results reported in µg/l.

-Exceeds ARAR.

Only detected results reported.

*ARAR value from Table 4 -1.

TABLE A-6b

ANALYTICAL RESULTS - 2nd ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
MISCELLANEOUS PARAMETERS

Sample ID		MW07-13	MW08-13
Sample Type		Groundwater	Groundwater
Date Sampled		02/16/94	02/16/94
Parameter	*ARAR		
MBAS	—		
Nitrate-Nitrogen	—	NA	

All results are reported in mg/l, unless otherwise noted.
Only detected results reported.
— - No ARAR available.
NA - Not analyzed.

TABLE A-6c

ANALYTICAL RESULTS - 3rd ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID		MW-02-021	MW-02-022	MW-02-044	MW-02-045	MW-02-049	MW-04-001
Sample Type		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Date Sampled		10/04/95	10/04/95	10/04/95	10/04/95	10/04/95	10/04/95
Parameter	*ARAR						
Chloromethane	5						
Bromomethane	5						
Vinyl Chloride	2						
Chloroethane	5						
Methylene Chloride	5						
Acetone	50						
Carbon Disulfide	50						
1,1-Dichloroethene	5						
1,1-Dichloroethane	5						
1,2-Dichloroethene (total)	5	0.8	0.9	4.0	1.4		
Chloroform	7						
1,2-Dichloroethane	5						
2-Butanone	50						
1,1,1-Trichloroethane	5						
Carbon Tetrachloride	5						
Bromodichloromethane	50						
1,2-Dichloropropane	5						
cis-1,3-Dichloropropene	5						
Trichloroethene	5	1.9		83			
Dibromochloromethane	50						
1,1,2-Trichloroethane	5						
Benzene	0.7						
trans-1,3-Dichloropropene	5						
Bromoform	50						
4-Methyl-2-pentanone	50						
2-Hexanone	50						
Tetrachloroethene	5			0.3			
1,1,2,2-Tetrachloroethane	5						
Toluene	5						
Chlorobenzene	5						
Ethylbenzene	5						
Styrene	5						
Xylene (total)	5						

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.

-Exceeds ARAR.

TABLE A-6c

ANALYTICAL RESULTS - 3rd ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID		MW-13-001	MW-13-002	MW-13-003	MW-13-004	MW-13-005	MW-13-006
Sample Type		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Date Sampled		10/03/95	10/03/95	10/03/95	10/03/95	10/05/95	10/03/95
Parameter	*ARAR						
Chloromethane	5						
Bromomethane	5						
Vinyl Chloride	2						
Chloroethane	5						
Methylene Chloride	5						
Acetone	50						
Carbon Disulfide	50						
1,1-Dichloroethene	5						
1,1-Dichloroethane	5						
1,2-Dichloroethene (total)	5	0.8					
Chloroform	7						
1,2-Dichloroethane	5						
2-Butanone	50						
1,1,1-Trichloroethane	5						
Carbon Tetrachloride	5						
Bromodichloromethane	50						
1,2-Dichloropropane	5						
cis-1,3-Dichloropropene	5						
Trichloroethene	5	18					
Dibromochloromethane	50						
1,1,2-Trichloroethane	5						
Benzene	0.7						
trans-1,3-Dichloropropene	5						
Bromoform	50						
4-Methyl-2-pentanone	50						
2-Hexanone	50						
Tetrachloroethene	5						
1,1,2,2-Tetrachloroethane	5						
Toluene	5						
Chlorobenzene	5						
Ethylbenzene	5						
Styrene	5						
Xylene (total)	5						

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.

-Exceeds ARAR.

TABLE A-6c

ANALYTICAL RESULTS - 3rd ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID		MW-13-007	MW-13-008	MW-13-009	MW-13-009DUP	MW-13-010	MW-13-011
Sample Type		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Date Sampled		10/03/95	10/03/95	10/03/95	10/03/95	10/03/95	10/03/95
Parameter	*ARAR						
Chloromethane	5						
Bromomethane	5						
Vinyl Chloride	2		38				
Chloroethane	5						
Methylene Chloride	5						
Acetone	50						
Carbon Disulfide	50						
1,1-Dichloroethene	5						
1,1-Dichloroethane	5						
1,2-Dichloroethene (total)	5		2.2				
Chloroform	7						0.2
1,2-Dichloroethane	5						
2-Butanone	50						
1,1,1-Trichloroethane	5						
Carbon Tetrachloride	5						
Bromodichloromethane	50						
1,2-Dichloropropane	5						
cis-1,3-Dichloropropene	5						
Trichloroethene	5						
Dibromochloromethane	50						
1,1,2-Trichloroethane	5						
Benzene	0.7		4.1				
trans-1,3-Dichloropropene	5						
Bromoform	50						
4-Methyl-2-pentanone	50						
2-Hexanone	50						
Tetrachloroethene	5						
1,1,2,2-Tetrachloroethane	5						
Toluene	5		4.7				
Chlorobenzene	5						
Ethylbenzene	5		4.4				
Styrene	5		1.0				
Xylene (total)	5		15				

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.

-Exceeds ARAR.

TABLE A-6c

ANALYTICAL RESULTS - 3rd ROUND GROUNDWATER
PLATTSBURGH AIR FORCE BASE SITE SS-013
VOLATILES

Sample ID		MW-13-012	MW-23-001	MW-27-001
Sample Type		Groundwater	Groundwater	Groundwater
Date Sampled		10/03/95	10/04/95	10/04/95
Parameter	*ARAR			
Chloromethane	5			
Bromomethane	5			
Vinyl Chloride	2			
Chloroethane	5			
Methylene Chloride	5			
Acetone	50			
Carbon Disulfide	50			
1,1-Dichloroethene	5			
1,1-Dichloroethane	5			
1,2-Dichloroethene (total)	5		0.3	0.3
Chloroform	7			
1,2-Dichloroethane	5			
2-Butanone	50			
1,1,1-Trichloroethane	5			
Carbon Tetrachloride	5			
Bromodichloromethane	50			
1,2-Dichloropropane	5			
cis-1,3-Dichloropropene	5			
Trichloroethene	5		0.6	2.3
Dibromochloromethane	50			
1,1,2-Trichloroethane	5			
Benzene	0.7		0.5	
trans-1,3-Dichloropropene	5			
Bromoform	50			
4-Methyl-2-pentanone	50			
2-Hexanone	50			
Tetrachloroethene	5			
1,1,2,2-Tetrachloroethane	5			
Toluene	5			
Chlorobenzene	5		1.5	
Ethylbenzene	5			
Styrene	5			
Xylene (total)	5			

All results reported in µg/l.
Only detected results reported.
*ARAR value from Table 4 -1.

-Exceeds ARAR.

APPENDIX B

UST-3578-A-2 CLOSURE REPORT

UST-3578-A-2 CLOSURE REPORT
OHM REMEDIATION SERVICES CORP.
PLATTSBURGH AIR FORCE BASE
Delivery Order 0006

OHM Project No. 17499 Date: 01/22/97

Tank No.: UST-3578-A-2
Tank Size: 6,000-Gallon
Tank Location: Building 3578

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Comments:

On 03/26/96, one 6,000-gallon heating oil underground storage tank (UST) and piping were excavated and removed from the south side of Building 3578. Soil around the UST was excavated to a depth of 10 feet and temporarily stockpiled adjacent to the excavation on plastic sheeting. Groundwater was encountered during removal activities at a depth of approximately 3 feet. Staining and hydrocarbon odors were present at the time of removal. On 06/05/96, a groundwater sample was collected from the monitoring well located in the parking lot adjacent to Building 3578. On 06/25/96, one composite soil sample was collected from the five sidewalls of the excavation and a grab sample was collected from the groundwater in the excavation. All samples were analyzed for volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbons (PAHs). On 7/10/96, the excavation soil was resampled for VOCs because the 06/25/96 composite sample had exceeded the method holding time. VOCs in both water samples and PAHs in the monitoring well sample were detected at concentrations exceeding the New York State Class GA Groundwater Quality Standards. No VOCs or PAHs were detected at concentrations exceeding the New York State TCLP Alternative Guidance Values for soils. The soil stockpile was immediately transported to the on-site soil treatment cell; therefore, no soil stockpile sample was collected. On 10/08/96 and 10/09/96, a trench was excavated from the UST 3578 excavation back to Building 3578 and all remaining UST piping was removed. Soil was excavated to a depth of 4 feet and directly transported to the on-site soil treatment cell. Groundwater was encountered at a depth of approximately 4 feet. Staining and hydrocarbon odors were present. A series of soil headspace samples were collected from the excavated trench. All headspace samples collected had PID readings above the 20 parts per million (ppm) limit. On 10/09/96, as directed by AFCEE, two, five-point composite soil samples were collected from the sidewalls and bottom of the trench. One water sample was also collected from an area where water had accumulated on the bottom of the trench. All three samples were analyzed for VOCs and PAHs by Environmental Science Services at their Cranston, Rhode Island laboratory. VOCs and PAHs were detected in the soil samples at concentrations exceeding the Alternative Guidance Values. One VOC was detected in the water sample at a concentration in excess of Groundwater Standards. Additional soil was removed from the

(Continued)

OHM Project No. 17499 Date: 01/22/97

Tank No.: UST-3578-A-2
Tank Size: 6,000-Gallon
Tank Location: Building 3578

trench on 10/19/96. On 12/30/96, four composite soil samples were collected from three sidewalls of the trench and submitted to Laboratory Resources for analysis of VOCs and PAHs. VOCs and PAHs were detected in all soil samples at concentrations exceeding Alternative Guidance Values. The excavated soil stockpile was transported to the on-site soil treatment cell and the excavation was backfilled to grade with imported clean fill.

DATA SUMMARY FOR TECHNICAL REPORT SUBMITTAL

Date: 01/22/97

Tank No.: UST-3578-A-2 Building No: 3578

Street Address: Weapons Storage Area, Building 3578
Plattsburgh AFB, NY 12901

Consultant Information

Consultant Completing Report: Parsons ES

Contact Person and Telephone No: Corey R. Averill (315) 451-9560

Mailing Address: 290 Elwood Davis Road, Suite 312
Liverpool, NY 13088

Site Location/Description	Yes/No		Yes/No
Municipal water in area ?	Yes	Basements (within 250 feet)?	No
Municipal water supplied to site?	Yes	Water supply wells (within 6,000 feet)?	No
Municipal sewer in area?	Yes	Surface water body (within 6,000 feet)?	Yes
Storm sewer in area?	No		

UST/AST Information Tank Dimension: 8' Dia. x 16" L. Mat'l of Const.: Single Wall Steel (STIP$_3$) Piping: Steel

UST No.	Product Type *	Tank Condition 0 - Perforated 4 - No Corrosion	Capacity (Gallons)	Quantity Removed Oil/Water (Gallons)	Tank Removed Yes/No	Piping Condition 0 - Perforated 4 - No Corrosion	Piping Removed Yes/No
3578-A-2	HO	4	6,000	4,700	Yes	4	Yes

* - HO = Heating Oil, G= Gasoline, D = Diesel, UG = Unleaded Gas

Suspected Sources of Contamination 6,000-gallon UST
Eliminated? Yes

On 03/26/96, one UST, piping and soil around the UST were excavated and removed. Depth of excavation was 10 feet. Groundwater was encountered at a depth of approximately 3 feet. Staining and hydrocarbon odors were present at the time of removal. On 10/08/96 and 10/09/96, a tench was excavated from the UST 3578 excavation back to Building 3578 and all remaining UST piping was removed. Additional soil was removed from the trench on 10/19/96. The excavated soil stockpile was transported to the on-site treatment cell and the excavation was backfilled to grade with imported clean fill.

Free phase product encountered? Yes xx Thickness Sheen No _____
Contaminated soil encountered? Yes xx Amt. excavated (YD^3)~1,148 No _____
Did sample analysis indicate groundwater contaminated above NYSDEC Groundwater Standards? Yes
Did sample analysis indicate attainment of soil cleanup criteria? No

DATA SUMMARY FOR TECHNICAL REPORT SUBMITTAL

Site Geology

Description	Depth (Feet)
Light Brown Sand with minor Silt	0 - 10
	(Bottom of Excavation)

Depth to bedrock: > 50 feet
Average depth to groundwater: 3 feet
General groundwater flow direction: East, toward Lake Champlain

Soil Quality Analytical Data

Sample Designation		EX3578A	EX3578B	EX3578-1	EX3578-2	
Date Sampled		06/25/96	07/10/96	10/09/96	10/09/96	
Parameters	Method	Concentrations (ppb)				
Benzene	8021	NA	1.2 JB	ND D	ND D	
Toluene	8021	NA	ND	ND D	ND D	
Ethylbenzene	8021	NA	1.1 J	111.0 D	118.0 D	
Xylenes (total)	8021	NA	2.0 J	1,110.0 D	294.0 D	
Total BTEX	8021	NA	4.3	1,221.0 D	412.0 D	
Naphthalene	8270	ND	NA	4,040	2,950	
Total PAHs	8270	ND	NA	11,847	10,800	
		Split sample results shown in *italic*.				

Groundwater Quality Analytical Data

Sample Designation		MW3578-LQ	EX3578-LQ	EX3578-LQ		
Date Sampled		06/05/96	06/25/96	10/09/96		
Parameters	Method	Concentrations (ppb)				
Benzene	8021	6.7	1.6 JB	ND		
Toluene	8021	9.5 B	ND	ND		
Ethylbenzene	8021	41.8 B	ND	ND		
Xylenes (total)	8021	42.7 B	0.6 JB	9.0		
Total BTEX	8021	100.7	2.2	9.0		
Naphthalene	8270	41,059	ND	ND		
Total PAHs	8270	43,171	0.9	ND		

DATA SUMMARY FOR TECHNICAL REPORT SUBMITTAL

Site Geology

Description	Depth (Feet)
Light Brown Sand with minor Silt	0 - 10
	(Bottom of Excavation)

Depth to bedrock: > 50 feet
Average depth to groundwater: 3 feet
General groundwater flow direction: East, toward Lake Champlain

Soil Quality Analytical Data

Sample Designation		EX3578-E	EX3578-N	EX3578-W1	EX3578-W2	
Date Sampled		12/30/96	12/30/96	12/30/96	12/30/96	
Parameters	Method	Concentrations (ppb)				
Benzene	8021	ND D	ND D	ND D	ND D	
Toluene	8021	ND D	ND D	ND D	ND D	
Ethylbenzene	8021	ND D	ND D	ND D	ND D	
Xylenes (total)	8021	ND D	ND D	ND D	250.0 D	
Total BTEX	8021	ND D	ND D	ND D	250.0 D	
Naphthalene	8270	ND D	ND D	1,800 D	ND D	
Total PAHs	8270	3,600	29,480	4,500	3,600	
		Split sample results shown in *italic*.				

Groundwater Quality Analytical Data

Sample Designation						
Date Sampled						
Parameters	Method	Concentrations (ppb)				
Benzene	8021					
Toluene	8021					
Ethylbenzene	8021					
Xylenes (total)	8021					
Total BTEX	8021					
Naphthalene	8270					
Total PAHs	8270					

ATTACHMENT I

SAMPLING AND ANALYSIS

SITE REPORT(S)

Sampling & Analysis Site Report
Plattsburgh AFB - Project #17499

Site: Bldg 3578

Revised Report Date: 02/24/97
Original Report Date: 01/10/97

Sample Collection:

-On 10/19/96, as directed by AFCEE, additional soil was removed from the trench associated with the UST excavation at Building 3578. On 12/30/96, four composite soil samples were collected from three sidewalls of the trench (EX3578-E, EX3578-N, EX3578-W1 and EX3578-W2). A map is included which shows the locations of the samples.

Off-Site Analysis:

-The samples were shipped, with a trip blank (TB12/30/96), to Laboratory Resources for VOC and PAH analyses by EPA Methods 8021 and 8270, respectively. The trip blank was analyzed for VOCs only.

-All four samples were diluted for the VOC analyses based on screening results which indicated that the samples were contaminated. The dilution of the samples resulted in elevated detection limits.

-Xylenes were detected in the sample EX3578-W2 at a concentration of 250 ppb. The remaining three samples were not analyzed at a lower dilution despite the absence of BTEX compounds at the elevated detection limits. The reason for this was that other petroleum related constituents were present above the applicable New York State TCLP Alternative Guidance Value of 100 ppb, and there were PAH constituents present above the guidance values in each of the samples.

-Non-BTEX VOCs were present in each of the samples as follows:

Sample ID	VOC	Concentration	Guidance Value
EX3578-E	1,3,5-trimethylbenzene	1100 ppb	100 ppb
	1,2,4-trimethylbenzene	360 ppb	100 ppb
	p-isopropyltoluene	280 ppb	100 ppb
EX3578-N	1,3,5-trimethylbenzene	360 ppb	100 ppb
EX3578-W1	1,3,5-trimethylbenzene	2400 ppb	100 ppb
	1,2,4-trimethylbenzene	1300 ppb	100 ppb
	p-isopropyltoluene	700 ppb	100 ppb
EX3578-W2	1,3,5-trimethylbenzene	4100 ppb	100 ppb
	1,2,4-trimethylbenzene	1900 ppb	100 ppb
	isopropylbenzene	230 ppb	100 ppb
	p-isopropyltoluene	720 ppb	100 ppb

-PAH exceedences are identified on the attached reporting forms.

Revised Report Date: 2/14/97
Original Report Date: 1/10/96

Plattsburgh AFB Analytical Results

SampleID : EX3578-E
Site ID : Bldg 3578
Project No. : 17499

Matrix : Soil/Solid
Date : 12/30/96
Time : 0916

Test Code: 8021 Lab : Lab Res
Description : Volatiles
Date Extracted : 1/6/97 Date Analyzed : 1/6/97

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
MTBE	ng/g	53	1000	NA	D
Benzene	ng/g	53	14	ND	D
Trichloroethylene	ng/g	53	700	ND	D
Toluene	ng/g	53	100	ND	D
Ethylbenzene	ng/g	53	100	ND	D
Xylenes, total	ng/g	53	100	ND	D

Test Code: 8270 Lab : Lab Res
Description : Semivolatiles
Date Extracted : 1/3/97 Date Analyzed : 1/6/97

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
Naphthalene	ng/g	880	200	ND	D
Acenaphthene	ng/g	880	400	ND	D
Fluorene	ng/g	880	1000	ND	D
Phenanthrene	ng/g	880	1000	1700	#D
Anthracene	ng/g	880	1000	1900	#D
Fluoranthene	ng/g	880	1000	ND	D
Pyrene	ng/g	880	1000	ND	D
Benzo(a)anthracene	ng/g	880	0.04	ND	D
Chrysene	ng/g	880	0.04	ND	D
Benzo(b)fluoranthene	ng/g	880	0.04	ND	D
Benzo(k)fluoranthene	ng/g	880	0.04	ND	D
Benzo(a)pyrene	ng/g	880	0.04	ND	D
Indeno(1,2,3-cd)pyrene	ng/g	880	0.04	ND	D
Dibenz(a,h)anthracene	ng/g	880	1000	ND	D
Benzo(g,h,i)perylene	ng/g	880	0.04	ND	D
Total PAHs	ng/g			3600	

ng/g = ppb mg/kg = ppm ND=compound not detected NA = analysis not applicable for this site J = estimated value is below the practical quantitation limit and above the method detection limit
B = analyte was detected in an associated blank as well as in the sample D = sample was diluted, see corresponding detection limit E = estimated concentration is above the calibration range of the instrument
R = data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria EX = ID prefix for excavation sample SP = ID prefix for stockpile sample
AB(or FB) = ID prefix for an ambient blank sample ER = ID prefix for an equipment rinsate sample LQ = ID suffix for a liquid sample
* TCLP Alternative Guidance Values obtained from the Stars Memo #1
# indicates concentration above TCLP Alternative Guidance Values located in STARS Memo #1

Revised Report Date: 2/14/97
Original Report Date: 1/10/96

Plattsburgh AFB Analytical Results

SampleID : EX3578-N
Site ID : Bldg 3578
Project No. : 17499

Matrix : Soil/Solid
Date : 12/30/96
Time : 0925

Test Code: 8021 Lab : Lab Res
Description : Volatiles
Date Extracted : 1/7/97 Date Analyzed : 1/7/97

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
MTBE	ng/g	52	1000	NA	D
Benzene	ng/g	52	14	ND	D
Trichloroethylene	ng/g	52	700	ND	D
Toluene	ng/g	52	100	ND	D
Ethylbenzene	ng/g	52	100	ND	D
Xylenes, total	ng/g	52	100	ND	D

Test Code: 8270 Lab : Lab Res
Description : Semivolatiles
Date Extracted : 1/3/97 Date Analyzed : 1/6/97

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
Naphthalene	ng/g	350	200	ND	D
Acenaphthene	ng/g	350	400	670	#D
Fluorene	ng/g	350	1000	670	D
Phenanthrene	ng/g	350	1000	5500	#D
Anthracene	ng/g	350	1000	1500	#D
Fluoranthene	ng/g	350	1000	5200	#D
Pyrene	ng/g	350	1000	5500	#D
Benzo(a)anthracene	ng/g	350	0.04	2500	#D
Chrysene	ng/g	350	0.04	2000	#D
Benzo(b)fluoranthene	ng/g	350	0.04	1500	#D
Benzo(k)fluoranthene	ng/g	350	0.04	1300	#D
Benzo(a)pyrene	ng/g	350	0.04	1600	#D
Indeno(1,2,3-cd)pyrene	ng/g	350	0.04	700	#D
Dibenz(a,h)anthracene	ng/g	350	1000	ND	D
Benzo(g,h,i)perylene	ng/g	350	0.04	840	#D
Total PAHs	ng/g			29480	

ng/g = ppb mg/kg = ppm ND=compound not detected NA = analysis not applicable for this site J = estimated value is below the practical quantitation limit and above the method detection limit
B = analyte was detected in an associated blank as well as in the sample D = sample was diluted, see corresponding detection limit E = estimated concentration is above the calibration range of the instrument
R = data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria EX = ID prefix for excavation sample SP = ID prefix for stockpile sample
AB(or FB) = ID prefix for an ambient blank sample ER = ID prefix for an equipment rinsate sample LQ = ID suffix for a liquid sample
* TCLP Alternative Guidance Values obtained from the Stars Memo #1
# indicates concentration above TCLP Alternative Guidance Values located in STARS Memo #1

Revised Report Date: 2/14/97
Original Report Date: 1/10/96

Plattsburgh AFB Analytical Results

SampleID : EX3578-W1
Site ID : Bldg 3578
Project No. : 17499

Matrix : Soil/Solid
Date : 12/30/96
Time : 0930

Test Code: 8021 Lab : Lab Res
Description : Volatiles
Date Extracted : 1/6/97 Date Analyzed : 1/6/97

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
MTBE	ng/g	100	1000	NA	D
Benzene	ng/g	52	14	ND	D
Trichloroethylene	ng/g	100	700	ND	D
Toluene	ng/g	100	100	ND	D
Ethylbenzene	ng/g	100	100	ND	D
Xylenes, total	ng/g	100	100	ND	D

Test Code: 8270 Lab : Lab Res
Description : Semivolatiles
Date Extracted : 1/3/97 Date Analyzed : 1/6/97

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
Naphthalene	ng/g	860	200	1800	#D
Acenaphthene	ng/g	860	400	ND	D
Fluorene	ng/g	860	1000	ND	D
Phenanthrene	ng/g	860	1000	2700	#D
Anthracene	ng/g	860	1000	ND	D
Fluoranthene	ng/g	860	1000	ND	D
Pyrene	ng/g	860	1000	ND	D
Benzo(a)anthracene	ng/g	860	0.04	ND	D
Chrysene	ng/g	860	0.04	ND	D
Benzo(b)fluoranthene	ng/g	860	0.04	ND	D
Benzo(k)fluoranthene	ng/g	860	0.04	ND	D
Benzo(a)pyrene	ng/g	860	0.04	ND	D
Indeno(1,2,3-cd)pyrene	ng/g	860	0.04	ND	D
Dibenz(a,h)anthracene	ng/g	860	1000	ND	D
Benzo(g,h,i)perylene	ng/g	860	0.04	ND	D
Total PAHs	ng/g			4500	

ng/g = ppb mg/kg = ppm ND=compound not detected NA = analysis not applicable for this site J = estimated value is below the practical quantitation limit and above the method detection limit
B = analyte was detected in an associated blank as well as in the sample D = sample was diluted, see corresponding detection limit E = estimated concentration is above the calibration range of the instrument
R = data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria EX = ID prefix for excavation sample SP = ID prefix for stockpile sample
AB(or FB) = ID prefix for an ambient blank sample ER = ID prefix for an equipment rinsate sample LQ = ID suffix for a liquid sample
* TCLP Alternative Guidance Values obtained from the Stars Memo #1
# indicates concentration above TCLP Alternative Guidance Values located in STARS Memo #1

Revised Report Date: 2/14/97
Original Report Date: 1/10/96

Plattsburgh AFB Analytical Results

SampleID : EX3578-W2 Matrix : Soil/Solid
Site ID : Bldg 3578
Project No. : 17499 Date : 12/30/96 Time : 0934

Test Code: 8021 Lab : Lab Res
Description : Volatiles
Date Extracted : 1/6/97 Date Analyzed : 1/6/97

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
MTBE	ng/g	110	1000	NA	D
Benzene	ng/g	110	14	ND	D
Trichloroethylene	ng/g	110	700	ND	D
Toluene	ng/g	110	100	ND	D
Ethylbenzene	ng/g	110	100	ND	D
Xylenes, total	ng/g	110	100	250.0	#D

Test Code: 8270 Lab : Lab Res
Description : Semivolatiles
Date Extracted : 1/3/97 Date Analyzed : 1/6/97

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
Naphthalene	ng/g	3500	200	ND	D
Acenaphthene	ng/g	3500	400	ND	D
Fluorene	ng/g	3500	1000	ND	D
Phenanthrene	ng/g	3500	1000	3600	#D
Anthracene	ng/g	3500	1000	ND	D
Fluoranthene	ng/g	3500	1000	ND	D
Pyrene	ng/g	3500	1000	ND	D
Benzo(a)anthracene	ng/g	3500	0.04	ND	D
Chrysene	ng/g	3500	0.04	ND	D
Benzo(b)fluoranthene	ng/g	3500	0.04	ND	D
Benzo(k)fluoranthene	ng/g	3500	0.04	ND	D
Benzo(a)pyrene	ng/g	3500	0.04	ND	D
Indeno(1,2,3-cd)pyrene	ng/g	3500	0.04	ND	D
Dibenz(a,h)anthracene	ng/g	3500	1000	ND	D
Benzo(g,h,i)perylene	ng/g	3500	0.04	ND	D
Total PAHs	ng/g			3600	

ng/g = ppb mg/kg = ppm ND=compound not detected NA = analysis not applicable for this site J = estimated value is below the practical quantitation limit and above the method detection limit
B = analyte was detected in an associated blank as well as in the sample D = sample was diluted, see corresponding detection limit E = estimated concentration is above the calibration range of the instrument
R = data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria EX = ID prefix for excavation sample SP = ID prefix for stockpile sample
AB(or FB) = ID prefix for an ambient blank sample ER = ID prefix for an equipment rinsate sample LQ = ID suffix for a liquid sample
* TCLP Alternative Guidance Values obtained from the Stars Memo #1
# indicates concentration above TCLP Alternative Guidance Values located in STARS Memo #1

Revised Report Date: 2/24/97
Original Report Date: 1/10/97

Plattsburgh AFB Analytical Results - Blanks

Blank ID : TB12/30/96
QC Batch : Lab Res

Test : 8021 Lab : Lab Res
Matrix : Aqueous Units : ug/l
Date Extracted : 1/7/97 Date Analyzed : 1/7/97

Parameter	Result	Flag	DetectionLimit
MTBE	ND		0.5
Benzene	ND		0.5
Trichloroethylene	ND		0.5
Toluene	ND		0.5
Ethylbenzene	ND		0.5
Xylenes, total	ND		0.5

PID = ID prefix for a volatile method blank GCM = ID prefix for a semivolatile method blank TB = ID prefix for a trip blank
J = estimated value is below the practical quantitation limit and above the method detection limit ug/l = ppb ng/g = ppb NA = not applicable

VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Premier Laboratory, LLC.

PL Report No: E612365
PL Sample No: 1

Date Collected: 12/30/96
Date Received: 12/31/96
Date Extracted: By:
Date Analyzed: 01/06/97 By: AP

Method: 8021
Level: LOW
GC Column:
Units: ug/kg (Dry Weight)

Customer: OHM Remediation Services Corp.
Location: Plattsburgh, NY
Project: Plattsburgh Air Force Base
Sample Description: EX-3578-E

Matrix: Soil
Percent Moisture: 5.8%
Sample Weight/Volume:
Dilution Factor: 50
Soil Extract Volume:
Soil Aliquot Volume:
Lab Data File: 1010605

CAS No.	Parameter	Result	Qual	QL
630-20-6	1,1,1,2-Tetrachloroethane	53	U	53
71-55-6	1,1,1-Trichloroethane	53	U	53
79-34-5	1,1,2,2-Tetrachloroethane	53	U	53
79-00-5	1,1,2-Trichloroethane	53	U	53
75-34-3	1,1-Dichloroethane	53	U	53
563-58-6	1,1-Dichloropropene	53	U	53
87-61-6	1,2,3-Trichlorobenzene	53	U	53
96-18-4	1,2,3-Trichloropropane	53	U	53
120-82-1	1,2,4-Trichlorobenzene	53	U	53
106-93-4	1,2-Dibromoethane (EDB)	53	U	53
95-50-1	1,2-Dichlorobenzene	53	U	53
107-06-2	1,2-Dichloroethane	53	U	53
78-87-5	1,2-Dichloropropane	53	U	53
108-67-8	1,3,5-Trimethylbenzene	1100		53
541-73-1	1,3-Dichlorobenzene	53	U	53
142-28-9	1,3-Dichloropropane	53	U	53
106-46-7	1,4-Dichlorobenzene	53	U	53
590-20-7	2,2-Dichloropropane	53	U	53
110-75-8	2-Chloroethyl vinyl ether	53	U	53
95-49-8	2-Chlorotoluene	53	U	53
106-43-4	4-Chlorotoluene	53	U	53
71-43-2	Benzene	53	U	53
108-86-1	Bromobenzene	53	U	53
74-97-5	Bromochloromethane	53	U	53
75-27-4	Bromodichloromethane	53	U	53
75-25-2	Bromoform	53	U	53
74-83-9	Bromomethane	53	U	53
56-23-5	Carbon tetrachloride	53	U	53
108-90-7	Chlorobenzene	53	U	53
75-00-3	Chloroethane	53	U	53
67-66-3	Chloroform	53	U	53
74-87-3	Chloromethane	53	U	53
156-59-4	cis-1,2-Dichloroethene	53	U	53
10061-01-5	cis-1,3-Dichloropropene	53	U	53
124-48-1	Dibromochloromethane	53	U	53
74-95-3	Dibromomethane	53	U	53
75-71-8	Dichlorodifluoromethane	53	U	53
100-41-4	Ethylbenzene	53	U	53
87-68-3	Hexachlorobutadiene	53	U	53
98-82-8	Isopropylbenzene	53	U	53
1634-04-4	Methyl tert-butyl ether (MTBE)	53	U	53
75-09-2	Methylene chloride	270	U	270

VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Premier Laboratory, LLC.

Customer: OHM Remediation Services Corp.
Location: Plattsburgh, NY
Project: Plattsburgh Air Force Base
Sample Description: EX-3578-E

PL Report No: E612365
PL Sample No: 1

Method: 8021

CAS No.	Parameter	Result	Qual	QL
104-51-8	n-Butylbenzene	53	U	53
91-20-3	Naphthalene	53	U	53
99-87-6	p-Isopropyltoluene	280		53
135-98-8	sec-Butylbenzene	53	U	53
100-42-5	Styrene	53	U	53
98-06-6	tert-Butylbenzene	53	U	53
127-18-4	Tetrachloroethene	53	U	53
108-88-3	Toluene	53	U	53
156-60-5	trans-1,2-Dichloroethene	53	U	53
10061-02-6	trans-1,3-Dichloropropene	53	U	53
79-01-6	Trichloroethene (TCE)	53	U	53
75-69-4	Trichlorofluoromethane	53	U	53
75-01-4	Vinyl chloride	53	U	53
1330-20-7	Xylenes (total)	53	U	53
75-35-4	1,1-Dichloroethene	53	U	53
526-73-8	1,2,3-Trimethylbenzene	53	U	53
95-63-6	1,2,4-Trimethylbenzene	360		53
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	53	U	53
103-65-1	n-Propylbenzene	53	U	53

VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Premier Laboratory, LLC.

PL Report No: E612365
PL Sample No: 2

Date Collected: 12/30/96
Date Received: 12/31/96
Date Extracted: By:
Date Analyzed: 01/07/97 By: AP

Method: 8021
Level: LOW
GC Column:
Units: ug/kg (Dry Weight)

Customer: OHM Remediation Services Corp.
Location: Plattsburgh, NY
Project: Plattsburgh Air Force Base
Sample Description: EX-3578-N

Matrix: Soil
Percent Moisture: 4.7%
Sample Weight/Volume:
Dilution Factor: 50
Soil Extract Volume:
Soil Aliquot Volume:
Lab Data File: 1010703

CAS No.	Parameter	Result	Qual	QL
630-20-6	1,1,1,2-Tetrachloroethane	52	U	52
71-55-6	1,1,1-Trichloroethane	52	U	52
79-34-5	1,1,2,2-Tetrachloroethane	52	U	52
79-00-5	1,1,2-Trichloroethane	52	U	52
75-34-3	1,1-Dichloroethane	52	U	52
563-58-6	1,1-Dichloropropene	52	U	52
87-61-6	1,2,3-Trichlorobenzene	52	U	52
96-18-4	1,2,3-Trichloropropane	52	U	52
120-82-1	1,2,4-Trichlorobenzene	52	U	52
106-93-4	1,2-Dibromoethane (EDB)	52	U	52
95-50-1	1,2-Dichlorobenzene	52	U	52
107-06-2	1,2-Dichloroethane	52	U	52
78-87-5	1,2-Dichloropropane	52	U	52
108-67-8	1,3,5-Trimethylbenzene	360		52
541-73-1	1,3-Dichlorobenzene	52	U	52
142-28-9	1,3-Dichloropropane	52	U	52
106-46-7	1,4-Dichlorobenzene	52	U	52
590-20-7	2,2-Dichloropropane	52	U	52
110-75-8	2-Chloroethyl vinyl ether	52	U	52
95-49-8	2-Chlorotoluene	52	U	52
106-43-4	4-Chlorotoluene	52	U	52
71-43-2	Benzene	52	U	52
108-86-1	Bromobenzene	52	U	52
74-97-5	Bromochloromethane	52	U	52
75-27-4	Bromodichloromethane	52	U	52
75-25-2	Bromoform	52	U	52
74-83-9	Bromomethane	52	U	52
56-23-5	Carbon tetrachloride	52	U	52
108-90-7	Chlorobenzene	52	U	52
75-00-3	Chloroethane	52	U	52
67-66-3	Chloroform	52	U	52
74-87-3	Chloromethane	52	U	52
156-59-4	cis-1,2-Dichloroethene	52	U	52
10061-01-5	cis-1,3-Dichloropropene	52	U	52
124-48-1	Dibromochloromethane	52	U	52
74-95-3	Dibromomethane	52	U	52
75-71-8	Dichlorodifluoromethane	52	U	52
100-41-4	Ethylbenzene	52	U	52
87-68-3	Hexachlorobutadiene	52	U	52
98-82-8	Isopropylbenzene	52	U	52
1634-04-4	Methyl tert-butyl ether (MTBE)	52	U	52
75-09-2	Methylene chloride	260	U	260

VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Premier Laboratory, LLC.

Customer: OHM Remediation Services Corp.
Location: Plattsburgh, NY
Project: Plattsburgh Air Force Base
Sample Description: EX-3578-N

PL Report No: E612365
PL Sample No: 2

Method: 8021

CAS No.	Parameter	Result	Qual	QL
104-51-8	n-Butylbenzene	52	U	52
91-20-3	Naphthalene	52	U	52
99-87-6	p-Isopropyltoluene	52	U	52
135-98-8	sec-Butylbenzene	52	U	52
100-42-5	Styrene	52	U	52
98-06-6	tert-Butylbenzene	52	U	52
127-18-4	Tetrachloroethene	52	U	52
108-88-3	Toluene	52	U	52
156-60-5	trans-1,2-Dichloroethene	52	U	52
10061-02-6	trans-1,3-Dichloropropene	52	U	52
79-01-6	Trichloroethene (TCE)	52	U	52
75-69-4	Trichlorofluoromethane	52	U	52
75-01-4	Vinyl chloride	52	U	52
1330-20-7	Xylenes (total)	52	U	52
75-35-4	1,1-Dichloroethene	52	U	52
526-73-8	1,2,3-Trimethylbenzene	52	U	52
95-63-6	1,2,4-Trimethylbenzene	52	U	52
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	52	U	52
103-65-1	n-Propylbenzene	52	U	52

VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Premier Laboratory, LLC.

PL Report No: E612365
PL Sample No: 3

Date Collected: 12/30/96
Date Received: 12/31/96
Date Extracted: By:
Date Analyzed: 01/06/97 By: AP

Method: 8021
Level: LOW
GC Column:
Units: ug/kg (Dry Weight)

Customer: OHM Remediation Services Corp.
Location: Plattsburgh, NY
Project: Plattsburgh Air Force Base
Sample Description: EX-3578-W

Matrix: Soil
Percent Moisture: 3.6%
Sample Weight/Volume:
Dilution Factor: 100
Soil Extract Volume:
Soil Aliquot Volume:
Lab Data File: 1010608

CAS No.	Parameter	Result	Qual	QL
630-20-6	1,1,1,2-Tetrachloroethane	100	U	100
71-55-6	1,1,1-Trichloroethane	100	U	100
79-34-5	1,1,2,2-Tetrachloroethane	100	U	100
79-00-5	1,1,2-Trichloroethane	100	U	100
75-34-3	1,1-Dichloroethane	100	U	100
563-58-6	1,1-Dichloropropene	100	U	100
87-61-6	1,2,3-Trichlorobenzene	100	U	100
96-18-4	1,2,3-Trichloropropane	100	U	100
120-82-1	1,2,4-Trichlorobenzene	100	U	100
106-93-4	1,2-Dibromoethane (EDB)	100	U	100
95-50-1	1,2-Dichlorobenzene	100	U	100
107-06-2	1,2-Dichloroethane	100	U	100
78-87-5	1,2-Dichloropropane	100	U	100
108-67-8	1,3,5-Trimethylbenzene	2400		100
541-73-1	1,3-Dichlorobenzene	100	U	100
142-28-9	1,3-Dichloropropane	100	U	100
106-46-7	1,4-Dichlorobenzene	100	U	100
590-20-7	2,2-Dichloropropane	100	U	100
110-75-8	2-Chloroethyl vinyl ether	100	U	100
95-49-8	2-Chlorotoluene	100	U	100
106-43-4	4-Chlorotoluene	100	U	100
71-43-2	Benzene	52	U	52
108-86-1	Bromobenzene	100	U	100
74-97-5	Bromochloromethane	100	U	100
75-27-4	Bromodichloromethane	100	U	100
75-25-2	Bromoform	100	U	100
74-83-9	Bromomethane	100	U	100
56-23-5	Carbon tetrachloride	100	U	100
108-90-7	Chlorobenzene	100	U	100
75-00-3	Chloroethane	100	U	100
67-66-3	Chloroform	100	U	100
74-87-3	Chloromethane	100	U	100
156-59-4	cis-1,2-Dichloroethene	100	U	100
10061-01-5	cis-1,3-Dichloropropene	100	U	100
124-48-1	Dibromochloromethane	100	U	100
74-95-3	Dibromomethane	100	U	100
75-71-8	Dichlorodifluoromethane	100	U	100
100-41-4	Ethylbenzene	100	U	100
87-68-3	Hexachlorobutadiene	100	U	100
98-82-8	Isopropylbenzene	100	U	100
1634-04-4	Methyl tert-butyl ether (MTBE)	100	U	100
75-09-2	Methylene chloride	520	U	520

VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Premier Laboratory, LLC.

Customer: OHM Remediation Services Corp.
Location: Plattsburgh, NY
Project: Plattsburgh Air Force Base
Sample Description: EX-3578-W

PL Report No: E612365
PL Sample No: 3

Method: 8021

CAS No.	Parameter	Result	Qual	QL
104-51-8	n-Butylbenzene	100	U	100
91-20-3	Naphthalene	5400		100
99-87-6	p-Isopropyltoluene	700		100
135-98-8	sec-Butylbenzene	100	U	100
100-42-5	Styrene	100	U	100
98-06-6	tert-Butylbenzene	100	U	100
127-18-4	Tetrachloroethene	100	U	100
108-88-3	Toluene	100	U	100
156-60-5	trans-1,2-Dichloroethene	100	U	100
10061-02-6	trans-1,3-Dichloropropene	100	U	100
79-01-6	Trichloroethene (TCE)	100	U	100
75-69-4	Trichlorofluoromethane	100	U	100
75-01-4	Vinyl chloride	100	U	100
1330-20-7	Xylenes (total)	100	U	100
75-35-4	1,1-Dichloroethene	100	U	100
526-73-8	1,2,3-Trimethylbenzene	100	U	100
95-63-6	1,2,4-Trimethylbenzene	1300		100
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	100	U	100
103-65-1	n-Propylbenzene	100	U	100

VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Premier Laboratory, LLC.

PL Report No: E612365
PL Sample No: 4

Customer: OHM Remediation Services Corp.
Location: Plattsburgh, NY
Project: Plattsburgh Air Force Base
Sample Description: EX-3578-W2

Date Collected: 12/30/96
Date Received: 12/31/96
Date Extracted: By:
Date Analyzed: 01/06/97 By: AP

Method: 8021
Level: LOW
GC Column:
Units: ug/kg (Dry Weight)

Matrix: Soil
Percent Moisture: 4.8%
Sample Weight/Volume:
Dilution Factor: 100
Soil Extract Volume:
Soil Aliquot Volume:
Lab Data File: 1010610

CAS No.	Parameter	Result	Qual	QL
630-20-6	1,1,1,2-Tetrachloroethane	110	U	110
71-55-6	1,1,1-Trichloroethane	110	U	110
79-34-5	1,1,2,2-Tetrachloroethane	110	U	110
79-00-5	1,1,2-Trichloroethane	110	U	110
75-34-3	1,1-Dichloroethane	110	U	110
563-58-6	1,1-Dichloropropene	110	U	110
87-61-6	1,2,3-Trichlorobenzene	110	U	110
96-18-4	1,2,3-Trichloropropane	110	U	110
120-82-1	1,2,4-Trichlorobenzene	110	U	110
106-93-4	1,2-Dibromoethane (EDB)	110	U	110
95-50-1	1,2-Dichlorobenzene	110	U	110
107-06-2	1,2-Dichloroethane	110	U	110
78-87-5	1,2-Dichloropropane	110	U	110
108-67-8	1,3,5-Trimethylbenzene	4100		110
541-73-1	1,3-Dichlorobenzene	110	U	110
142-28-9	1,3-Dichloropropane	110	U	110
106-46-7	1,4-Dichlorobenzene	110	U	110
590-20-7	2,2-Dichloropropane	110	U	110
110-75-8	2-Chloroethyl vinyl ether	110	U	110
95-49-8	2-Chlorotoluene	110	U	110
106-43-4	4-Chlorotoluene	110	U	110
71-43-2	Benzene	53	U	53
108-86-1	Bromobenzene	110	U	110
74-97-5	Bromochloromethane	110	U	110
75-27-4	Bromodichloromethane	110	U	110
75-25-2	Bromoform	110	U	110
74-83-9	Bromomethane	110	U	110
56-23-5	Carbon tetrachloride	110	U	110
108-90-7	Chlorobenzene	110	U	110
75-00-3	Chloroethane	110	U	110
67-66-3	Chloroform	110	U	110
74-87-3	Chloromethane	110	U	110
156-59-4	cis-1,2-Dichloroethene	110	U	110
10061-01-5	cis-1,3-Dichloropropene	110	U	110
124-48-1	Dibromochloromethane	110	U	110
74-95-3	Dibromomethane	110	U	110
75-71-8	Dichlorodifluoromethane	110	U	110
100-41-4	Ethylbenzene	110	U	110
87-68-3	Hexachlorobutadiene	110	U	110
98-82-8	Isopropylbenzene	230		110
1634-04-4	Methyl tert-butyl ether (MTBE)	110	U	110
75-09-2	Methylene chloride	110	U	110

VOLATILE ORGANIC ANALYSIS DATA SHEET

Laboratory: Premier Laboratory, LLC.

Customer: OHM Remediation Services Corp.
Location: Plattsburgh, NY
Project: Plattsburgh Air Force Base
Sample Description: EX-3578-W2

PL Report No: E612365
PL Sample No: 4

Method: 8021

CAS No.	Parameter	Result	Qual	QL
104-51-8	n-Butylbenzene	110	U	110
91-20-3	Naphthalene	5600		110
99-87-6	p-Isopropyltoluene	720		110
135-98-8	sec-Butylbenzene	110	U	110
100-42-5	Styrene	110	U	110
98-06-6	tert-Butylbenzene	110	U	110
127-18-4	Tetrachloroethene	110	U	110
108-88-3	Toluene	110	U	110
156-60-5	trans-1,2-Dichloroethene	110	U	110
10061-02-6	trans-1,3-Dichloropropene	110	U	110
79-01-6	Trichloroethene (TCE)	110	U	110
75-69-4	Trichlorofluoromethane	110	U	110
75-01-4	Vinyl chloride	110	U	110
1330-20-7	Xylenes (total)	250		110
75-35-4	1,1-Dichloroethene	110	U	110
526-73-8	1,2,3-Trimethylbenzene	110	U	110
95-63-6	1,2,4-Trimethylbenzene	1900		110
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)	110	U	110
103-65-1	n-Propylbenzene	110	U	110

Remediation Services Corp. 12/30/96

CHAIN-OF-CUSTODY RECORD

E61236 Form 00 Field Technical Servic Rev. 08/

PO# 1030137

172291

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME: PLATTSBURGH AFB	PROJECT LOCATION: PLATTSBURGH NY		
PROJ. NO.: 17257	PROJECT CONTACT: GREG GUIMOND	PROJECT TELEPHONE NO.: 518-562-3923	
CLIENT'S REPRESENTATIVE: AFCEE / JOG S20T	PROJECT MANAGER/SUPERVISOR: KEN KUKKONEN		

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) 8021 8270	REMARKS
1	EX-357P-E	12/30/96	9:16	X		Soil Sample from BLD 357P	1xP 1x4	X X	
2	EX-357P-N	12/30/96	9:25	X		Soil Sample from BLD 357P	1xP 1x4	X X	
3	EX-357P-W	12/30/96	9:30	X		Soil Sample from BLD357P	1xP 1x4	X X	
4	EX357P-W2	12/30/96	9:34	X		Soil Sample from BLD 357P	1xP 1x4	X X	
5	TRIP BLANK				X	TRIP BLANK	2x40ML	X	
6									
7									
8									
9									
10									

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-4	[signature]			
2					
3					
4				12/31	

REMARKS Temperature Trip Blank included
PRESERVED AT 4C
3 DAY TAT
OHM STANDARD LEVEL PACKAGE.

Temp 4°C

SAMPLER'S SIGNATURE [signature] 12/30/96

Soil Sample Collection Log

Plattsburgh AFB - Project # 17257 (17499)

Date: 12/30/96 Site: Bld 3578 UST Pg. 1 of 2

Weather: SUNNY Samplers: MB

Sample ID	Time	PID Screen	Comp/ Grab	Sample Depth (ft)	Coordinates Ref. Pt.	Coordinates Ref. Pt.	Sample Description	# of Bottles
EX3578-E	9:16	NA	C	6'	NA	NA	BRN SAND w/cob	1x4oz 1xp oz
EX3578-N	9:25	NA	C	6'	NA	NA	BRN SAND w/cob	1x4oz 1xp oz
EX3578-W1	9:30	NA	C	6'	NA	NA	BRN SAND w/cob	1x4oz 1xp oz
EX3578-W2	9:34	NA	C	6'	NA	NA	BRN SAND w/cob	1x4oz 1xp oz
				NA				

Map Attached: (Yes) No

-Reference Points: Yes (No)

-Head Space Readings: Yes (No)

Sample Type: (Screening) Confirmation Disposal/Characterization

Requested Analysis: (VOCs) (SVOCs) Other: _____

Split sample Collected: Yes (No)

Laboratory Destination: Lab Res. COC # 172291 Airbill # 2821165653

Duplicate Collected: Yes (No) Rinsate Collected: Yes (No)

On-Site Laboratory Chain of Custody / Request for Analysis

Requested Analysis: VOCs SVOCs Cooler Temperature: _____

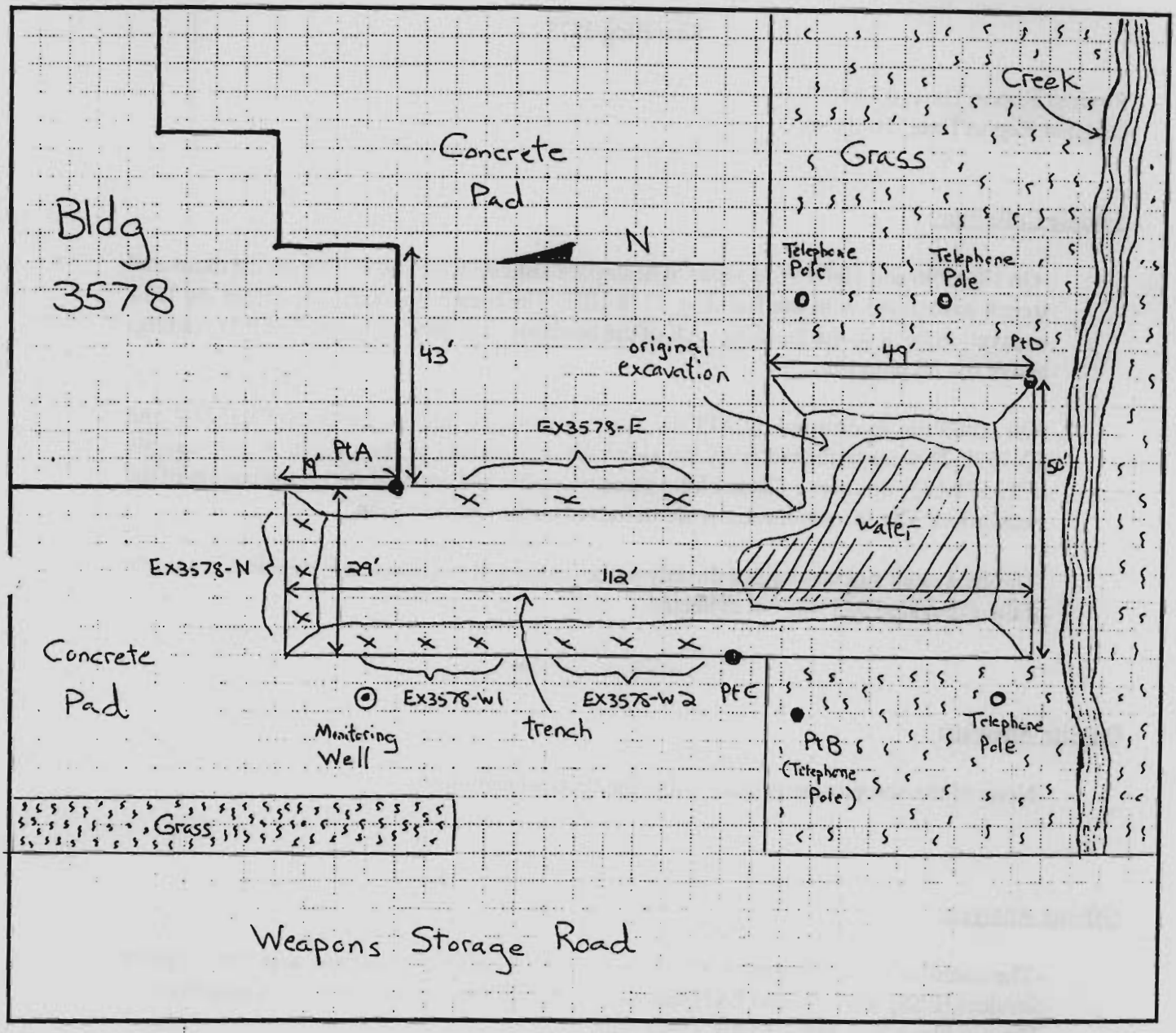
Relinquished by (dd/tt): [signature] 12/30/96 12:00 Received by (dd/tt): _____

Site Map: Headspace / Confirmation Sampling
Plattsburgh AFB - Project #17499

Site Name: Bldg 3578 UST

Date: 12/30/96

Prepared by: GG



Ref Points
A→C : 65'
A→D : 129'
B→C : 13'
B→D : 78'

Comments
- Not drawn to scale
- X denotes sampling locations for the four trench sidewall composites (see map)

Sampling & Analysis Site Report
On-Site Laboratory
Plattsburgh AFB - Project #17499

Site: Bldg 3578

Revised Report Date: 02/24/97
Original Report Date: 10/28/96

Sample Collection:

-On 10/08/96 and 10/09/96, a series of headspace samples were collected from the excavated trench associated with the Building 3578 UST. The trench was excavated from the UST excavation back to the building. All of the headspace samples collected had PID readings above the 20 ppm limit.

-On 10/09/96, as directed by AFCEE, two five-point composite samples (EX3578-1 and EX3578-2) were collected from the sidewalls and bottom of the trench. A grab sample (EX3578-LQ) was also collected from some water that had accumulated at the bottom of the excavation. The sample locations are indicated on the attached map.

-The excavated soil was hauled directly to the on-site soil treatment cell; therefore, a sample of the excavated soil was not collected.

On-Site Analysis:

-None of the samples were analyzed in the on-site laboratory.

Off-site Analysis:

-The samples were shipped, with a trip blank (TB10/09/96), to Environmental Science Services (ESS) for VOC and PAH analyses by EPA Methods 8021 and 8270, respectively. The trip blank was analyzed for VOCs only.

Revised Report Date: 2/14/97
Original Report Date: 10/28/96

Plattsburgh AFB Analytical Results

SampleID : EX3578-1 Matrix : Soil/Solid
Site ID : Bldg 3578
Project No. : 17499 Date : 10/9/96 Time : 1615

Test Code: 8021 Lab : ESS
Description : Volatiles
Date Extracted : 10/16/96 Date Analyzed : 10/16/96

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
MTBE	ng/g	111	1000	NA	D
Benzene	ng/g	111	14	ND	D
Trichloroethylene	ng/g	111	700	ND	D
Toluene	ng/g	111	100	ND	D
Ethylbenzene	ng/g	111	100	111.0	#D
Xylenes, total	ng/g	222	100	1110.0	#D

Test Code: 8270 Lab : ESS
Description : Semivolatiles
Date Extracted : 10/10/96 Date Analyzed : 10/11/96

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
Naphthalene	ng/g	367	200	4040	#
Acenaphthene	ng/g	367	400	1730	#
Fluorene	ng/g	367	1000	ND	
Phenanthrene	ng/g	367	1000	4710	#
Anthracene	ng/g	367	1000	ND	
Fluoranthene	ng/g	367	1000	392	
Pyrene	ng/g	367	1000	975	
Benzo(a)anthracene	ng/g	367	0.04	ND	
Chrysene	ng/g	367	0.04	ND	
Benzo(b)fluoranthene	ng/g	367	0.04	ND	
Benzo(k)fluoranthene	ng/g	367	0.04	ND	
Benzo(a)pyrene	ng/g	367	0.04	ND	
Indeno(1,2,3-cd)pyrene	ng/g	367	0.04	ND	
Dibenz(a,h)anthracene	ng/g	367	1000	ND	
Benzo(g,h,i)perylene	ng/g	367	0.04	ND	
Total PAHs	ng/g			11847	

ng/g = ppb mg/kg = ppm ND=compound not detected NA = analysis not applicable for this site J = estimated value is below the practical quantitation limit and above the method detection limit
B = analyte was detected in an associated blank as well as in the sample D = sample was diluted, see corresponding detection limit E = estimated concentration is above the calibration range of the instrument
R = data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria EX = ID prefix for excavation sample SP = ID prefix for stockpile sample
AB(or FB) = ID prefix for an ambient blank sample ER = ID prefix for an equipment rinsate sample LQ = ID suffix for a liquid sample
* TCLP Alternative Guidance Values obtained from the Stars Memo #1
# indicates concentration above TCLP Alternative Guidance Values located in STARS Memo #1

Revised Report Date: 2/14/97
Original Report Date: 10/28/96

Plattsburgh AFB Analytical Results

SampleID : EX3578-2
Site ID : Bldg 3578
Project No. : 17499

Matrix : Soil/Solid
Date : 10/9/96
Time : 1618

Test Code: 8021 Lab : ESS
Description : Volatiles
Date Extracted : 10/16/96 Date Analyzed : 10/16/96

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
MTBE	ng/g	59	1000	NA	D
Benzene	ng/g	59	14	ND	D
Trichloroethylene	ng/g	59	700	ND	D
Toluene	ng/g	59	100	ND	D
Ethylbenzene	ng/g	59	100	118.0	#D
Xylenes, total	ng/g	118	100	294.0	#D

Test Code: 8270 Lab : ESS
Description : Semivolatiles
Date Extracted : 10/10/96 Date Analyzed : 10/11/96

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
Naphthalene	ng/g	388	200	2950	#
Acenaphthene	ng/g	388	400	1654	#
Fluorene	ng/g	388	1000	ND	
Phenanthrene	ng/g	388	1000	3990	#
Anthracene	ng/g	388	1000	ND	
Fluoranthene	ng/g	388	1000	496	
Pyrene	ng/g	388	1000	1710	#
Benzo(a)anthracene	ng/g	388	0.04	ND	
Chrysene	ng/g	388	0.04	ND	
Benzo(b)fluoranthene	ng/g	388	0.04	ND	
Benzo(k)fluoranthene	ng/g	388	0.04	ND	
Benzo(a)pyrene	ng/g	388	0.04	ND	
Indeno(1,2,3-cd)pyrene	ng/g	388	0.04	ND	
Dibenz(a,h)anthracene	ng/g	388	1000	ND	
Benzo(g,h,i)perylene	ng/g	388	0.04	ND	
Total PAHs	ng/g			10800	

ng/g = ppb mg/kg = ppm ND=compound not detected NA = analysis not applicable for this site J = estimated value is below the practical quantitation limit and above the method detection limit
B = analyte was detected in an associated blank as well as in the sample D = sample was diluted, see corresponding detection limit E = estimated concentration is above the calibration range of the instrument
R = data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria EX = ID prefix for excavation sample SP = ID prefix for stockpile sample
AB(or FB) = ID prefix for an ambient blank sample ER = ID prefix for an equipment rinsate sample LQ = ID suffix for a liquid sample
* TCLP Alternative Guidance Values obtained from the Stars Memo #1
# indicates concentration above TCLP Alternative Guidance Values located in STARS Memo #1

Revised Report Date: 2/14/97
Original Report Date: 10/28/96

Plattsburgh AFB Analytical Results

SampleID : EX3578-LQ
Site ID : Bldg 3578
Project No. : 17499

Matrix : Aqueous
Date : 10/9/96
Time : 1613

Test Code: 8021 Lab : ESS
Description : Volatiles
Date Extracted : 10/16/96 Date Analyzed : 10/16/96

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
MTBE	ug/l	1	50	NA	
Benzene	ug/l	1	0.70	ND	
Trichloroethylene	ug/l	1	5	ND	
Toluene	ug/l	1	5	ND	
Ethylbenzene	ug/l	1	5	ND	
Xylenes, total	ug/l	2	5	9.0	#

Test Code: 8270 Lab : ESS
Description : Semivolatiles
Date Extracted : 10/10/96 Date Analyzed : 10/12/96

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
Naphthalene	ug/l	5	10	ND	
Acenaphthene	ug/l	5	20	ND	
Fluorene	ug/l	5	50	ND	
Phenanthrene	ug/l	5	50	ND	
Anthracene	ug/l	5	50	ND	
Fluoranthene	ug/l	5	50	ND	
Pyrene	ug/l	5	50	ND	
Benzo(a)anthracene	ug/l	5	0.002	ND	
Chrysene	ug/l	5	0.002	ND	
Benzo(b)fluoranthene	ug/l	5	0.002	ND	
Benzo(k)fluoranthene	ug/l	5	0.002	ND	
Benzo(a)pyrene	ug/l	5	0.002	ND	
Indeno(1,2,3-cd)pyrene	ug/l	5	0.002	ND	
Dibenz(a,h)anthracene	ug/l	5	50	ND	
Benzo(g,h,i)perylene	ug/l	5	0.002	ND	
Total PAHs	ug/l			ND	

ug/l = ppb mg/kg = ppm ND=compound not detected NA = analysis not applicable for this site J = estimated value is below the practical quantitation limit and above the method detection limit
B = analyte was detected in an associated blank as well as in the sample D = sample was diluted, see corresponding detection limit E = estimated concentration is above the calibration range of the instrument
R = data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria EX = ID prefix for excavation sample SP = ID prefix for stockpile sample
AB(or FB) = ID prefix for an ambient blank sample ER = ID prefix for an equipment rinsate sample LQ = ID suffix for a liquid sample
* NYSDEC Groundwater Quality Standards or Guidance Values
# indicates concentration above the NYSDEC groundwater quality standards or guidance values

Revised Report Date: 2/24/97
Original Report Date: 10/28/96

Plattsburgh AFB Analytical Results - Blanks

Blank ID : TB10/09/96
QC Batch : ESS

Test : 8021 Lab : ESS
Matrix : Aqueous Units : ug/l
Date Extracted : 10/15/96 Date Analyzed : 10/15/96

Parameter	Result	Flag	DetectionLimit
MTBE	ND		1
Benzene	ND		1
Trichloroethylene	ND		1
Toluene	ND		1
Ethylbenzene	ND		1
Xylenes, total	ND		2

PID = ID prefix for a volatile method blank GCM = ID prefix for a semivolatile method blank TB = ID prefix for a trip blank
J = estimated value is below the practical quantitation limit and above the method detection limit ug/l = ppb ng/g = ppb NA = not applicable

Remediation Services Corp.

ESS

LAB COPY

CHAIN-OF-CUSTODY RECORD

PO# 1017934

Form 0019
Field Technical Services
Rev. 08/89

164262

96.3740

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME	PROJECT LOCATION
PAFB	Plattsburgh, N.Y.

PROJ. NO.	PROJECT CONTACT	PROJECT TELEPHONE NO.
17499	Greg Guimond	518-562-3423

CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR
AFCEE	Ken Kukkonen

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) VOC 8021	SVOC 8270	PAH	REMARKS
01 1	EX3578-1	10/9/96	1615	X		Soil from Excavation	3	X	X		1x4oz 2x40ml
02 2	EX3578-2	10/9/96	1618	X		Soil from Excavation	3	X	X		1x4oz 2x40ml
03 3	EX3578-LQ	10/9/96	1613		X	liquid from bottom of Excavation	4	X	X		2x1L 2x40ml
04 4	Trip Blank					Trip Blank	2	X			2x40mL
5											
6											
7											
8											
9											
10											

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-4	A. Hammond	Fed Ex Airbill # 231130519 4	10/9/96	1800
2	1-4	Fed ex	Juliet A Hazard	10/10	0913
3					
4					

REMARKS: Preserved @ 4°C, Temp blk included
3 day TAT

Rec'd 4°C JH

SAMPLER'S SIGNATURE: John P Kraft

Soil Sample Collection Log

Plattsburgh AFB - Project # 17257/17499

Pg. 1 of 2

Date: 10/9/96 Site: 3578

Weather: Overcast 60° Samplers: JK

Sample ID	Time	PID Screen	Comp/ Grab	Sample Depth (ft)	Coordinates Ref. Pt.	Coordinates Ref. Pt.	Sample Description	# of Bottles
EX3578-1	1615		Comp	3'			Soil/BIK	1x4oz 2x40mL
EX3578-2	1618		Comp	3'			Soil/BIK	1x4oz 2x40mL
EX3578-LQ	1613		Grab	4'			leg/stem	3x1L 2x40mL

Map Attached: (Yes) No

-Reference Points: (Yes) No

-Head Space Readings: (Yes) No

Sample Type: (Screening Confirmation) Disposal/Characterization

Requested Analysis: (VOCs) (SVOCs) Other: _____

Split sample Collected: Yes (No)

Laboratory Destination: ESS COC # 164262 Airbill # 2311305194

Duplicate Collected: Yes (No) Rinsate Collected: Yes (No)

On-Site Laboratory Chain of Custody / Request for Analysis

Requested Analysis: VOCs SVOCs Cooler Temperature: _____

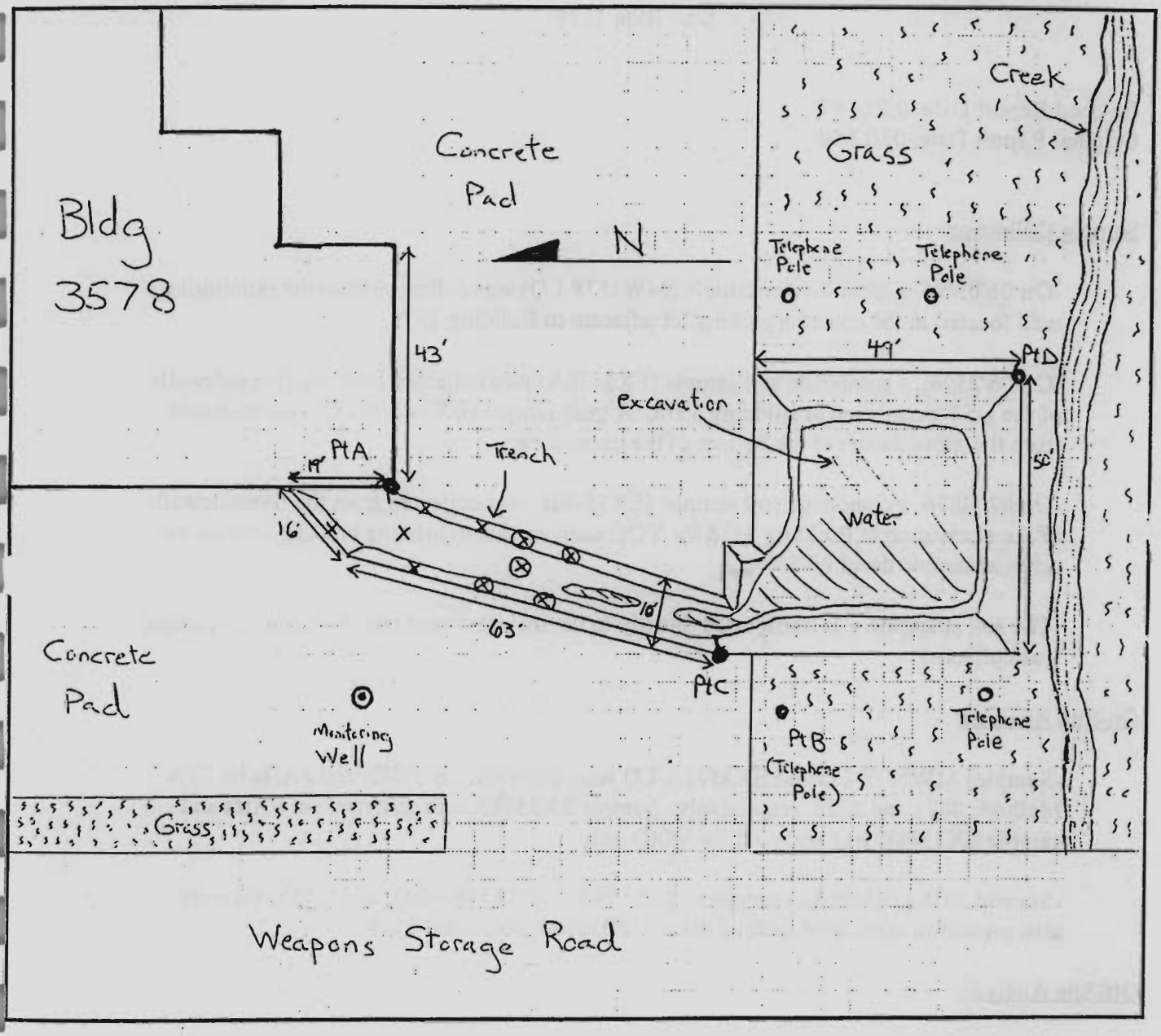
Relinquished by (dd/tt): _____ Received by (dd/tt): _____

Site Map: Headspace / Confirmation Sampling
Plattsburgh AFB - Project #17499

Site Name: Bldg 3578 UST

Date: 10/9/96

Prepared by: GG



Ref Points	
A→C	65'
A→D	128'
B→C	13'
B→D	78'

Comments

- Not drawn to scale
- X denotes sampling locations for the trench composite: EX3578-1
- ⊗ denotes sampling locations for the trench composite: EX3578-2
- A grab sample was collected from the water within the trench (EX3578-LQ)

Sampling & Analysis Site Report
On-Site Laboratory
Plattsburgh AFB - Project #17499

Site: Bldg 3578

Revised Report Date: 02/24/97
Original Report Date: 07/18/96

Sample Collection:

-On 06/05/96, a groundwater sample (MW3578-LQ) was collected from the monitoring well located in the concrete parking lot adjacent to Building 3578.

-On 06/25/96, a composite soil sample (EX3578A) was collected from the five sidewalls of the UST excavation at Building 3578. A grab sample (EX3578A-LQ) was collected from the groundwater at the bottom of the excavation.

-On 07/10/96, a composite soil sample (EX3578B) was collected from the five sidewalls of the excavation at Building 3578 for VOC analysis due to missing holding time on the original sample dated 06/25/96.

-The soil stockpile was transported directly to the soil treatment cell; therefore, no sample was collected.

On-Site Analysis:

-Samples MW3578-LQ and EX3578A-LQ were analyzed for VOCs and PAHs by EPA Methods 8021 and 8270, respectively. Sample EX3578A was analyzed for PAHs and sample EX3578B was analyzed for VOCs only.

-Several VOCs detected in samples MW3578-LQ, EX3578A-LQ, and EX3578B were also present in associated method blanks (PID2180, 2504, and 2549).

Off-Site Analysis:

-No samples were shipped off site for analysis.

Revised\ ort Date: 2/24/97
Original Report Date: 7/18/96

Plattsburgh AFB Anal\ al Results

SampleID : EX3578B
Site ID : Bldg 3578
Project No. : 17499

Matrix : Soil/Solid
Date : 7/10/96 Time : 0940

Test Code: 8021 Lab : on-site
Description : Volatiles
Date Extracted : 7/10/96 Date Analyzed : 7/10/96

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
MTBE	ng/g	40	1000	NA	
Benzene	ng/g	5	14	1.2	JB
Trichloroethylene	ng/g	5	700	ND	
Toluene	ng/g	5	100	ND	
Ethylbenzene	ng/g	5	100	1.1	J
m,p-Xylene	ng/g	5	100	2.0	J
o-Xylene	ng/g	5	100	ND	

ng/g = ppb mg/kg = ppm ND=compound not detected NA = analysis not applicable for this site J = estimated value is below the practical quantitation limit and above the method detection limit
B = analyte was detected in an associated blank as well as in the sample D = sample was diluted, see corresponding detection limit E = estimated concentration is above the calibration range of the instrument
R = data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria EX = ID prefix for excavation sample SP = ID prefix for stockpile sample
AB(or FB) = ID prefix for an ambient blank sample ER = ID prefix for an equipment rinsate sample LQ = ID suffix for a liquid sample
* TCLP Alternative Guidance Values obtained from the Stars Memo #1

# indicates concentration above TCLP Alternative Guidance Values located in STARS Memo #1

Revised ort Date: 2/24/97
Original Report Date: 7/18/96

Plattsburgh AFB Anal. .al Results

SampleID : EX3578A
Site ID : Bldg 3578
Project No. : 17499

Matrix : Soil/Solid
Date : 6/25/96 Time : 1045

Test Code: 8270 Lab : on-site
Description : Semivolatiles
Date Extracted : 7/8/96 Date Analyzed : 7/10/96

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
Naphthalene	ng/g	333	200	ND	
Acenaphthene	ng/g	333	400	ND	
Fluorene	ng/g	333	1000	ND	
Phenanthrene	ng/g	333	1000	ND	
Anthracene	ng/g	333	1000	ND	
Fluoranthene	ng/g	333	1000	ND	
Pyrene	ng/g	333	1000	ND	
Benzo(a)anthracene	ng/g	333	0.04	ND	
Chrysene	ng/g	333	0.04	ND	
Benzo(b)fluoranthene	ng/g	333	0.04	ND	
Benzo(k)fluoranthene	ng/g	333	0.04	ND	
Benzo(a)pyrene	ng/g	333	0.04	ND	
Indeno(1,2,3-cd)pyrene	ng/g	333	0.04	ND	
Dibenz(a,h)anthracene	ng/g	333	1000	ND	
Benzo(g,h,i)perylene	ng/g	333	0.04	ND	
Total PAHs	ng/g			ND	

ng/g = ppb mg/kg = ppm ND=compound not detected NA = analysis not applicable for this site J = estimated value is below the practical quantitation limit and above the method detection limit
B = analyte was detected in an associated blank as well as in the sample D = sample was diluted, see corresponding detection limit E = estimated concentration is above the calibration range of the instrument
R = data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria EX = ID prefix for excavation sample SP = ID prefix for stockpile sample
AB(or FB) = ID prefix for an ambient blank sample ER = ID prefix for an equipment rinsate sample LQ = ID suffix for a liquid sample
* TCLP Alternative Guidance Values obtained from the Stars Memo #1

# indicates concentration above TCLP Alternative Guidance Values located in STARS Memo #1

Revised ...ort Date: 2/24/97
Original Report Date: 7/18/96

Plattsburgh AFB Analytical Results

SampleID : EX3578A-LQ
Site ID : Bldg 3578
Project No. : 17499

Matrix : Aqueous
Date : 6/25/96 Time : 1055

Test Code: 8021 Lab : on-site
Description : Volatiles
Date Extracted : 6/28/96 Date Analyzed : 6/28/96

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
MTBE	ug/l	40	50	NA	
Benzene	ug/l	5	0.70	1.6	#JB
Trichloroethylene	ug/l	5	5	ND	
Toluene	ug/l	5	5	ND	
Ethylbenzene	ug/l	5	5	ND	
m,p-Xylene	ug/l	5	5	ND	
o-Xylene	ug/l	5	5	0.6	JB

Test Code: 8270 Lab : on-site
Description : Semivolatiles
Date Extracted : 6/28/96 Date Analyzed : 7/2/96

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
Naphthalene	ug/l	5	10	ND	
Acenaphthene	ug/l	5	20	ND	
Fluorene	ug/l	5	50	ND	
Phenanthrene	ug/l	5	50	ND	
Anthracene	ug/l	5	50	ND	
Fluoranthene	ug/l	5	50	0.9	J
Pyrene	ug/l	5	50	ND	
Benzo(a)anthracene	ug/l	5	0.002	ND	
Chrysene	ug/l	5	0.002	ND	
Benzo(b)fluoranthene	ug/l	5	0.002	ND	
Benzo(k)fluoranthene	ug/l	5	0.002	ND	
Benzo(a)pyrene	ug/l	5	0.002	ND	
Indeno(1,2,3-cd)pyrene	ug/l	5	0.002	ND	
Dibenz(a,h)anthracene	ug/l	5	50	ND	
Benzo(g,h,i)perylene	ug/l	5	0.002	ND	
Total PAHs	ug/l			0.9	

ug/l = ppb mg/kg = ppm ND=compound not detected NA = analysis not applicable for this site J = estimated value is below the practical quantitation limit and above the method detection limit
B = analyte was detected in an associated blank as well as in the sample D = sample was diluted, see corresponding detection limit E = estimated concentration is above the calibration range of the instrument
R = data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria EX = ID prefix for excavation sample SP = ID prefix for stockpile sample
AB(or FB) = ID prefix for an ambient blank sample ER = ID prefix for an equipment rinsate sample LQ = ID suffix for a liquid sample
* NYSDEC Groundwater Quality Standards or Guidance Values

# indicates concentration above the NYSDEC groundwater quality standards or guidance values

Revised ort Date: 2/24/97
Original Report Date: 7/18/96

Plattsburgh AFB Analy al Results

SampleID : MW3578-LQ
Site ID : Bldg 3578
Project No. : 17499

Matrix : Aqueous
Date : 6/5/96 Time : 1450

Test Code: 8021 Lab : on-site
Description : Volatiles
Date Extracted : 6/10/96 Date Analyzed : 6/10/96

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
MTBE	ug/l	40	50	NA	
Benzene	ug/l	5	0.70	6.7	#
Trichloroethylene	ug/l	5	5	ND	
Toluene	ug/l	5	5	9.5	#B
Ethylbenzene	ug/l	5	5	41.8	#B
m,p-Xylene	ug/l	5	5	42.7	#B
o-Xylene	ug/l	5	5	ND	

Test Code: 8270 Lab : on-site
Description : Semivolatiles
Date Extracted : 6/11/96 Date Analyzed : 6/13/96

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
Naphthalene	ug/l	5	10	41058.8	#
Acenaphthene	ug/l	5	20	1595.6	#
Fluorene	ug/l	5	50	394.4	#
Phenanthrene	ug/l	5	50	90.3	#
Anthracene	ug/l	5	50	32.1	
Fluoranthene	ug/l	5	50	ND	
Pyrene	ug/l	5	50	ND	
Benzo(a)anthracene	ug/l	5	0.002	ND	
Chrysene	ug/l	5	0.002	ND	
Benzo(b)fluoranthene	ug/l	5	0.002	ND	
Benzo(k)fluoranthene	ug/l	5	0.002	ND	
Benzo(a)pyrene	ug/l	5	0.002	ND	
Indeno(1,2,3-cd)pyrene	ug/l	5	0.002	ND	
Dibenz(a,h)anthracene	ug/l	5	50	ND	
Benzo(g,h,i)perylene	ug/l	5	0.002	ND	
Total PAHs	ug/l			43171.2	

ug/l = ppb mg/kg = ppm ND=compound not detected NA = analysis not applicable for this site J = estimated value is below the practical quantitation limit and above the method detection limit
B = analyte was detected in an associated blank as well as in the sample D = sample was diluted, see corresponding detection limit E = estimated concentration is above the calibration range of the instrument
R = data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria EX = ID prefix for excavation sample SP = ID prefix for stockpile sample
AB(or FB) = ID prefix for an ambient blank sample ER = ID prefix for an equipment rinsate sample LQ = ID suffix for a liquid sample
* NYSDEC Groundwater Quality Standards or Guidance Values
# indicates concentration above the NYSDEC groundwater quality standards or guidance values

Revised Report Date: 2/24/97
Original Report Date: 7/18/96

Plattsburgh AFB Analytical Results - Blanks

Blank ID : PID2180
QC Batch : NA

Test : 8021 Lab : on-site
Matrix : Aqueous Units : ug/l
Date Extracted : 6/10/96 Date Analyzed : 6/10/96

Parameter	Result	Flag	DetectionLimit
MTBE	ND		40
Benzene	ND		5
Trichloroethylene	1.07	J	5
Toluene	1.11	J	5
Ethylbenzene	2.69	J	5
m,p-Xylene	8.39		5
o-Xylene	ND		5

PID = ID prefix for a volatile method blank GCM = ID prefix for a semivolatile method blank TB = ID prefix for a trip blank
J = estimated value is below the practical quantitation limit and above the method detection limit ug/l = ppb ng/g = ppb NA = not applicable

Revised Report Date: 2/24/97
Original Report Date: 7/18/96

Plattsburgh AFB Analytical Results - Blanks

Blank ID : PID2504
QC Batch : NA

Test : 8021 Lab : on-site
Matrix : Aqueous Units : ug/l
Date Extracted : 6/28/96 Date Analyzed : 6/28/96

Parameter	Result	Flag	DetectionLimit
MTBE	ND		40
Benzene	3.66	J	5
Trichloroethylene	1.28	J	5
Toluene	ND		5
Ethylbenzene	ND		5
m,p-Xylene	ND		5
o-Xylene	.83	J	5

PID = ID prefix for a volatile method blank GCM = ID prefix for a semivolatile method blank TB = ID prefix for a trip blank
J = estimated value is below the practical quantitation limit and above the method detection limit ug/l = ppb ng/g = ppb NA = not applicable

Revised Report Date: 2/24/97
Original Report Date: 7/18/96

Plattsburgh AFB Analytical Results - Blanks

Blank ID : PID2549
QC Batch : NA

Test : 8021 Lab : on-site
Matrix : Aqueous Units : ug/l
Date Extracted : 7/10/96 Date Analyzed : 7/10/96

Parameter	Result	Flag	DetectionLimit
MTBE	ND		40
Benzene	2.01	J	5
Trichloroethylene	ND		5
Toluene	ND		5
Ethylbenzene	ND		5
m,p-Xylene	ND		5
o-Xylene	ND		5

PID = ID prefix for a volatile method blank GCM = ID prefix for a semivolatile method blank TB = ID prefix for a trip blank
J = estimated value is below the practical quantitation limit and above the method detection limit ug/l = ppb ng/g = ppb NA = not applicable

Soil Sample Collection Log

Plattsburgh AFB - Project # 17257/17499

Bldg. 3578

Pg. 1 of 1

Date: 6-5-96

Samplers: MJ

Weather: Sunny 175°

Sample ID	Time	PID Screen	Comp/ Grab	Sample Depth (ft)	Coordinates Ref. Pt.	Coordinates Ref. Pt.	Sample Description	# of Bottles	
HOLD EX3578-1	1435	0.12ppm	C	3-4'			Brown Sandy Soil	1×4oz 2×40ml	N.C. run
EX3578LQ1	1500	—	G	4'			Cloudy Liquid	1×1l 2×40ml	N.C. run
RUN → MW3578-1	1450	—	G				Well Sample	1×1l 2×40ml	

Ref. Pt. ____ : ~~N/A~~ see map

Ref. Pt. ____ : _____

Map Attached: (Yes) No

Sample Type: Screening (Confirmation) Disposal/Characterization

Split sample Collected: Yes (No)

Laboratory Destination: On Site COC # _____ Airbill # _____

Duplicate Collected: Yes (No) Rinsate Collected: Yes (No)

On-Site Laboratory Chain of Custody / Request for Analysis

Requested Analysis: (VOCs) (SVOCs) Other

Relinquished by (dd/tt): Matt Jones 6-5-96 1525 Received by (dd/tt): [signature] 6-5-96 15:30

Relinquished by (dd/tt): _____ Received by (dd/tt): _____

Soil Sample Collection Log

Plattsburgh AFB - Project # 17257/17499

Pg. 1 of 3

Date: 6/25/96 Site: Bldg 3578 (WSA)

Weather: Rain, 70°F Samplers: JN, GG

Sample ID	Time	PID Screen	Comp/ Grab	Sample Depth (ft)	Coordinates Ref. Pt.	Coordinates Ref. Pt.	Sample Description	# of Bottles
EX3578A	1045		C	2.5'	N/A	N/A	Brown sandy soil	2x40mL 1x4oz
EX3578A-LQ	1055		G	3'	N/A	N/A	water	2x40mL (HCl) 1x1L

Map Attached: (Yes) No

-Reference Points: (Yes) ~~No~~

-Head Space Readings: (Yes) ~~No~~ Previously taken One taken, still hot

Sample Type: Screening (Confirmation) Disposal/Characterization

Requested Analysis: (VOCs) (SVOCs) Other: _____

Split sample Collected: Yes (No)

Laboratory Destination: _____ COC # _____ Airbill # _____

Duplicate Collected: Yes (No) Rinsate Collected: Yes (No)

On-Site Laboratory Chain of Custody / Request for Analysis

Requested Analysis: (VOCs) (SVOCs) Cooler Temperature: _____

Relinquished by (dd/tt): A. Murray 6/25/96 1130 Received by (dd/tt): Marty Jaworski 6/25/96 1545

Soil Sample Collection Log
Plattsburgh AFB - Project # 17257/17499

Date: 7-10-96 Site: Bldg 357S (WSA)

Weather: Sunny, 80° Samplers: GG, MJ

Sample ID	Time	PID Screen	Comp/ Grab	Sample Depth (ft)	Coordinates Ref. Pt.	Coordinates Ref. Pt.	Sample Description	# of Bottles
EX357SB	0940	—	C	3'	see	map	brown/grey stained soil wet, odor	2x40mL

Map Attached: Yes (No)

-Reference Points: (Yes) No
-Head Space Readings: Yes (No)

Sample Type: Screening (Confirmation) Disposal/Characterization

Requested Analysis: (VOCs) SVOCs Other: _____

Split sample Collected: Yes (No)

Laboratory Destination: On-site COC # _____ Airbill # _____

Duplicate Collected: Yes (No) Rinsate Collected: Yes (No)

On-Site Laboratory Chain of Custody / Request for Analysis

Requested Analysis: (VOCs) SVOCs Cooler Temperature: _____

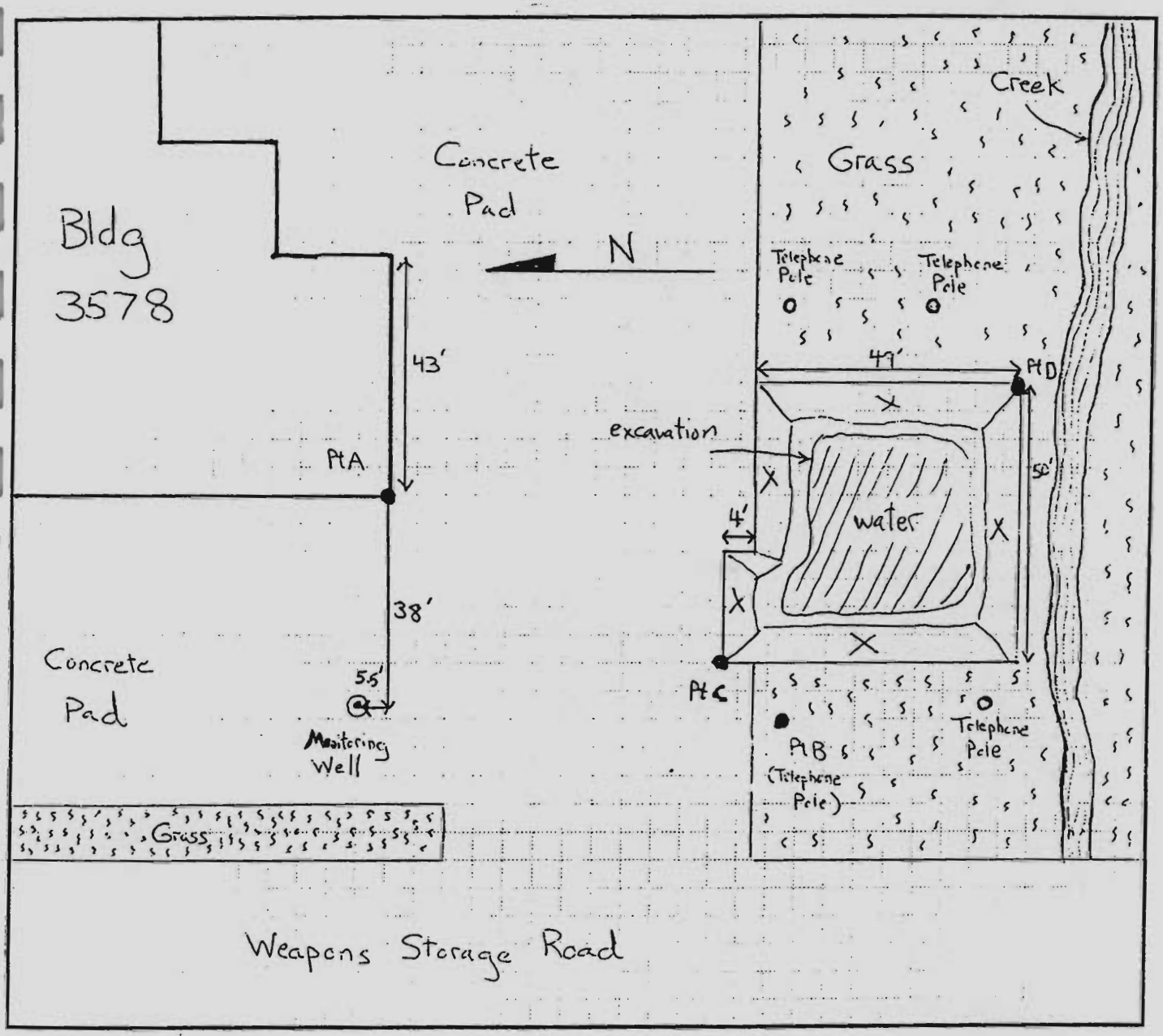
Relinquished by (dd/tt): M. Hurman 7-10-96 0950 Received by (dd/tt): Marty Vodicka 7-10-96 0950

Site Map: Headspace / Confirmation Sampling
Plattsburgh AFB - Project #17499

Site Name: Bldg 3578 UST

Date: 7/10/96

Prepared by: GG



Ref Points	
A→C	65'
A→D	128'
B→C	13'
B→D	78'

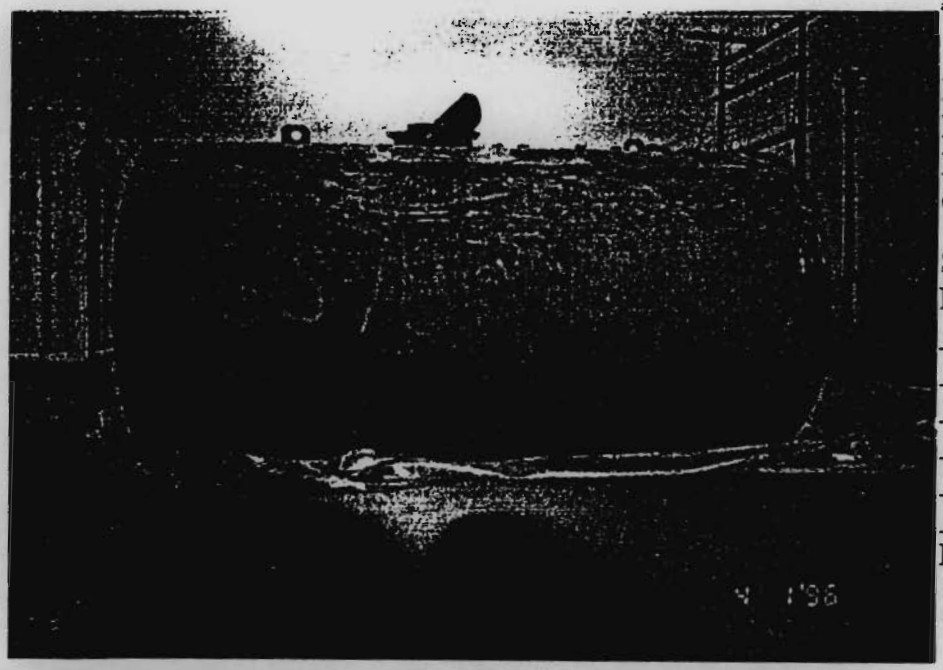
Comments

- Not drawn to scale
- X denotes sampling locations for the excavation composite sample (EX3578A & B)
- A grab sample was collected from the water within the excavation (EX3578A-LQ)
- A grab sample was collected from the groundwater monitoring well (MW3578-LQ)

ATTACHMENT II

PHOTO LOG

PHOTOGRAPHIC LOG
PARSONS ENGINEERING SCIENCE, IN



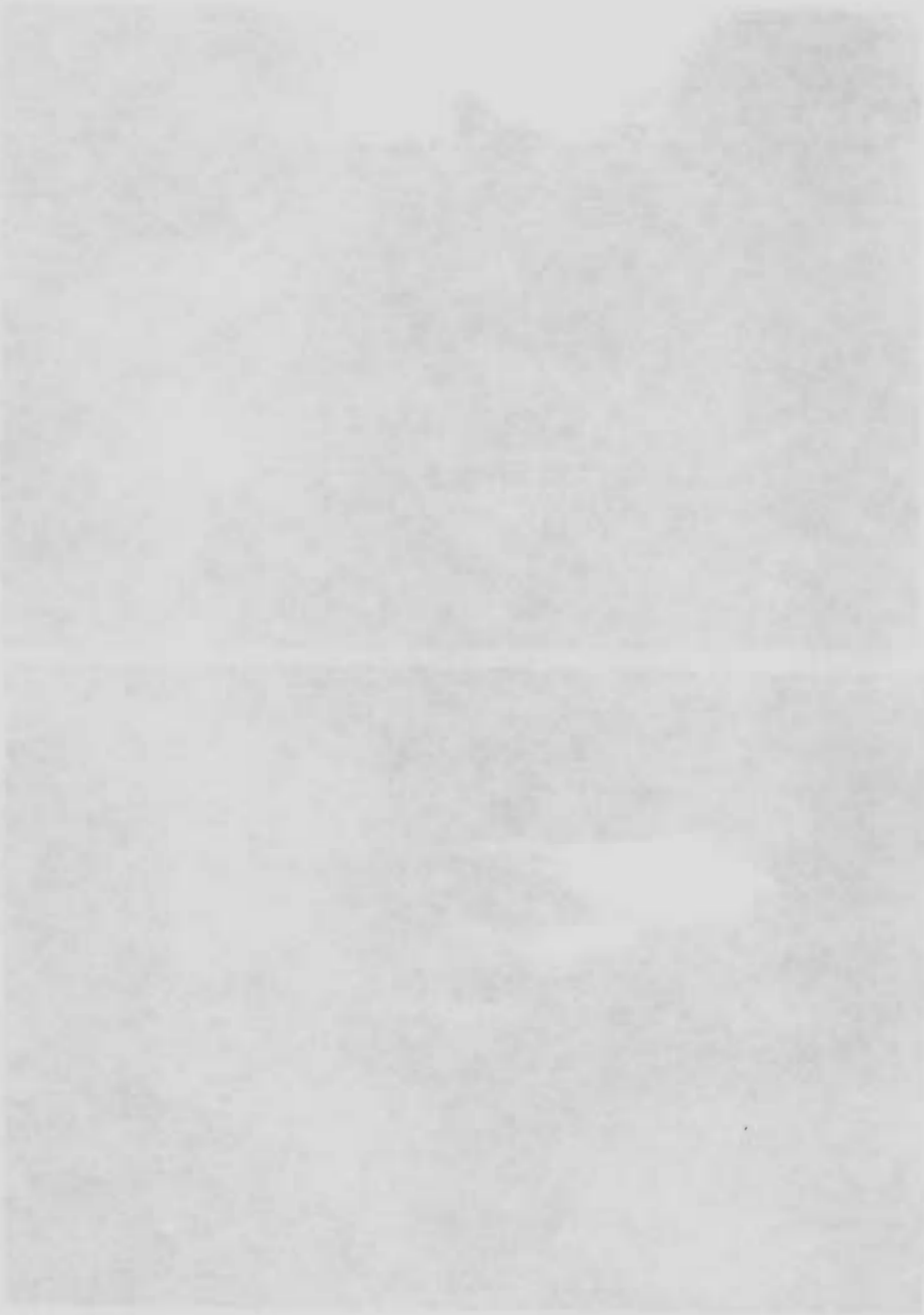
PROJECT: Tank Closure Project
LOCATION: Plattsburgh AFB, NY
PROJECT #: Delivery Order #006
CLIENT: OHM Corp.

Status as of: 4/1/96
Description: UST 3578 after removal.

Photo by: EJA

Status as of: 4/25/96
Description: UST 3578 excavation. Groundwater was encountered at a depth of approximately 3 feet below land surface.

Photo by: EJA



APPENDIX C

SPT-3578 CLOSURE REPORT

SPT-3578 CLOSURE REPORT
OHM REMEDIATION SERVICES CORP.
PLATTSBURGH AIR FORCE BASE
Delivery Order 0006

OHM Project No. 17499 Date: 01/15/97

Septic Tank No.: SPT-3578
Septic Tank Size: 7,500-Gallon
Septic Tank Location: Building 3578

TABLE OF CONTENTS

Comments:

On 09/19/96, one 7,500-gallon septic tank and piping were removed from the north side of Building 3578. Soil at the septic tank location was excavated to a depth of 5 feet and temporarily stockpiled adjacent to the excavation on plastic sheeting. Groundwater was encountered at a depth of 4 feet during removal activities. No signs of contamination (staining or hydrocarbon odors) were present. On 08/29/96, one sample was collected from the contents of the septic tank and shipped to Inchcape Testing Services located in Colchester, Vermont, for analysis. The sample was analyzed for volatile organic compounds (VOCs) in accordance with the requirements of the disposal facility (The Plattsburgh Water Pollution Control Plant). On 10/03/96, one composite soil sample was collected from the sidewalls of the excavation and one groundwater sample was collected from the bottom of the excavation. Both samples were analyzed for (VOCs) and polynuclear aromatic hydrocarbons (PAHs) by Environmental Science at their Cranston, Rhode Island, laboratory. No VOCs or PAHs were detected in the soil or groundwater sample at concentrations which exceed the New York State TCLP Alternative Guidance Values for soil or New York State Class GA Groundwater Standards. The excavation was backfilled to grade with the original excavated soil.

DATA SUMMARY FOR TECHNICAL REPORT SUBMITTAL

Date: 01/15/97

Septic Tank No.: SPT-3578 Building No: 3578

Street Address: Weapons Storage Area
Plattsburgh AFB, NY 12901

Consultant Information

Consultant Completing Report: Parsons ES

Contact Person and Telephone No: Edward J. Ashton (315) 451-9560

Mailing Address: 290 Elwood Davis Road, Suite 312
Liverpool, NY 13088

Site Location/Description	Yes/No		Yes/No
Municipal water in area ?	Yes	Basements (within 250 feet)?	No
Municipal water supplied to site?	Yes	Water supply wells (within 1,000 feet)?	No
Municipal sewer in area?	Yes	Surface water body (within 1,000 feet)?	Yes
Storm sewer in area?	No		

Septic Tank Information Tank Dimension: ≈ 20' L x 8' W x 8' H Mat'l of Const.: Tank - Steel, Piping - 2" & 4" PVC

Septic Tank No.	Product Type *	Septic Tank Condition 0 - Perforated 4 - No Corrosion	Capacity (Gallons)	Quantity Removed Oil/Water (Gallons)	Septic Tank Removed Yes/No	Piping Condition 0 - Perforated 4 - No Corrosion	Piping Removed Yes/No
3578	S	4	7,500	>10,000 Including washwater	Yes	4	Yes

* - HO = Heating Oil, G= Gasoline, D = Diesel, UG = Unleaded Gas, S=Sewage

Suspected Sources of Contamination 7,500-gallon Septic Tank
Eliminated? Yes

On 09/19/96, one 7,500-gallon septic tank and piping were removed from the north side of Building 3578. Depth of excavation was 5 feet. Groundwater was encountered at a depth of 4 feet during removal activities. No signs of contamination (staining or hydrocarbon odors) were present. The excavation was backfilled to grade with the original excavated soil.

Free phase product encountered? Yes _____ Thickness _____ No xx

Contaminated soil encountered? Yes _____ Amt. excavated (YD^3)_____ No xx

Did sample analysis indicate groundwater contamination above NYSDEC Groundwater Standards? No

Did sample analysis indicate attainment of soil cleanup criteria? Yes

DATA SUMMARY FOR TECHNICAL REPORT SUBMITTAL

Site Geology

Description	Depth (Feet)
Brown Sand with Minor silt	0 - 5
	(Bottom of Excavation)

Depth to bedrock: > 50 feet
Average depth to groundwater: 4 feet
General groundwater flow direction: East, toward Lake Champlain

Soil Quality Analytical Data

Sample Designation		EX3578SS				
Date Sampled		10/03/96				
Parameters	Method	Concentrations (ppb)				
Benzene	8021	ND				
Toluene	8021	ND				
Ethylbenzene	8021	ND				
Xylenes (total)	8021	ND				
Total BTEX	8021	ND				
Naphthalene	8270	ND				
Total PAHs	8270	ND				
	Split sample results shown in *italic*.					

Groundwater Quality Analytical Data

Sample Designation		EX3578LQSS				
Date Sampled		10/03/96				
Parameters	Method	Concentrations (ppb)				
Benzene	8021	ND				
Toluene	8021	ND				
Ethylbenzene	8021	ND				
Xylenes (total)	8021	ND				
Total BTEX	8021	ND				
Naphthalene	8270	ND				
Total PAHs	8270	ND				

ATTACHMENT I

SAMPLING AND ANALYSIS

SITE REPORT(S)

Sampling & Analysis Site Report
Plattsburgh AFB - Project #17499

Site: Bldg. 3578

Revised Report Date: 01/13/97
Original Report Date: 10/11/96

Sample Collection:

-On 10/03/96, a composite soil sample (EX3578SS) was collected from the four sidewalls of the excavation associated with the septic system removal at Building 3578. A grab sample (EX3578LQSS) was collected from the water in the bottom of the excavation.

Off-Site Analysis:

-Samples EX3578SS and EX3578LQSS were shipped to Environmental Science Services (ESS) for VOC and PAH analyses by EPA Methods 8021 and 8270, respectively. The results are included with this report.

Revised Report Date: 1/13/97
Original Report Date: 10/11/96

Plattsburgh AFB Analytical Results

SampleID : EX3578SS
Site ID : 3578SS
Project No. : 17499

Matrix : Soil/Solid
Date : 10/3/96
Time : 1140

Test Code: 8021 Lab : ESS
Description : Volatiles
Date Extracted : 10/8/96 Date Analyzed : 10/8/96

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
MTBE	ng/g	1	1000	ND	
Benzene	ng/g	1	14	ND	
Trichloroethylene	ng/g	1	700	ND	
Toluene	ng/g	1	100	ND	
Ethylbenzene	ng/g	1	100	ND	
Xylenes, total	ng/g	2	100	ND	

Test Code: 8270 Lab : ESS
Description : Semivolatiles
Date Extracted : 10/4/96 Date Analyzed : 10/5/96

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
Naphthalene	ng/g	402	200	ND	
Acenaphthene	ng/g	402	400	ND	
Fluorene	ng/g	402	1000	ND	
Phenanthrene	ng/g	402	1000	ND	
Anthracene	ng/g	402	1000	ND	
Fluoranthene	ng/g	402	1000	ND	
Pyrene	ng/g	402	1000	ND	
Benzo(a)anthracene	ng/g	402	0.04	ND	
Chrysene	ng/g	402	0.04	ND	
Benzo(b)fluoranthene	ng/g	402	0.04	ND	
Benzo(k)fluoranthene	ng/g	402	0.04	ND	
Benzo(a)pyrene	ng/g	402	0.04	ND	
Indeno(1,2,3-cd)pyrene	ng/g	402	0.04	ND	
Dibenz(a,h)anthracene	ng/g	402	1000	ND	
Benzo(g,h,i)perylene	ng/g	402	0.04	ND	
Total PAHs	ng/g			ND	

ng/g = ppb mg/kg = ppm ND=compound not detected NA = analysis not applicable for this site J = estimated value is below the practical quantitation limit and above the method detection limit
B = analyte was detected in an associated blank as well as in the sample D = sample was diluted, see corresponding detection limit E = estimated concentration is above the calibration range of the instrument
R = data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria EX = ID prefix for excavation sample SP = ID prefix for stockpile sample
AB(or FB) = ID prefix for an ambient blank sample ER = ID prefix for an equipment rinsate sample LQ = ID suffix for a liquid sample
* TCLP Alternative Guidance Values obtained from the Stars Memo #1
# indicates concentration above TCLP Alternative Guidance Values located in STARS Memo #1

Revised Report Date: 1/13/97
Original Report Date: 10/11/96

Plattsburgh AFB Analytical Results

SampleID : EX3578LQSS
Site ID : 3578SS
Project No. : 17499

Matrix : Aqueous
Date : 10/3/96 Time : 1150

Test Code: 8021 Lab : ESS
Description : Volatiles
Date Extracted : 10/8/96 Date Analyzed : 10/8/96

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
MTBE	ug/l	1	50	ND	
Benzene	ug/l	1	0.70	ND	
Trichloroethylene	ug/l	1	5	ND	
Toluene	ug/l	1	5	ND	
Ethylbenzene	ug/l	1	5	ND	
Xylenes, total	ug/l	2	5	ND	

Test Code: 8270 Lab : ESS
Description : Semivolatiles
Date Extracted : 10/4/96 Date Analyzed : 10/5/96

Parameter	Units	Detection Limit	Regulatory Limit *	Result	DataFlag
Naphthalene	ug/l	10	10	ND	
Acenaphthene	ug/l	10	20	ND	
Fluorene	ug/l	10	50	ND	
Phenanthrene	ug/l	10	50	ND	
Anthracene	ug/l	10	50	ND	
Fluoranthene	ug/l	10	50	ND	
Pyrene	ug/l	10	50	ND	
Benzo(a)anthracene	ug/l	10	0.002	ND	
Chrysene	ug/l	10	0.002	ND	
Benzo(b)fluoranthene	ug/l	10	0.002	ND	
Benzo(k)fluoranthene	ug/l	10	0.002	ND	
Benzo(a)pyrene	ug/l	10	0.002	ND	
Indeno(1,2,3-cd)pyrene	ug/l	10	0.002	ND	
Dibenz(a,h)anthracene	ug/l	10	50	ND	
Benzo(g,h,i)perylene	ug/l	10	0.002	ND	
Total PAHs	ug/l			ND	

ug/l = ppb mg/kg = ppm ND=compound not detected NA = analysis not applicable for this site J = estimated value is below the practical quantitation limit and above the method detection limit
B = analyte was detected in an associated blank as well as in the sample D = sample was diluted, see corresponding detection limit E = estimated concentration is above the calibration range of the instrument
R = data is unusable due to deficiencies in the ability to analyze the sample and meet QC criteria EX = ID prefix for excavation sample SP = ID prefix for stockpile sample
AB(or FB) = ID prefix for an ambient blank sample ER = ID prefix for an equipment rinsate sample LQ = ID suffix for a liquid sample
* NYSDEC Groundwater Quality Standards or Guidance Values
# indicates concentration above the NYSDEC groundwater quality standards or guidance values

Revised Report Date: 1/13/97
Original Report Date: 10/11/96

Plattsburgh AFB Analytical Results - Blanks

Blank ID : TB10/03/96
QC Batch : ESS

Test : 8021 Lab : ESS
Matrix : Aqueous Units : ug/l
Date Extracted : 10/7/96 Date Analyzed : 10/7/96

Parameter	Result	Flag	DetectionLimit
MTBE	ND		1
Benzene	ND		1
Trichloroethylene	ND		1
Toluene	ND		1
Ethylbenzene	ND		1
Xylenes, total	ND		2

PID = ID prefix for a volatile method blank GCM = ID prefix for a semivolatile method blank TB = ID prefix for a trip blank
J = estimated value is below the practical quantitation limit and above the method detection limit ug/l = ppb ng/g = ppb NA = not applicable

ESS

PO# 1017934

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LAB COI

Form 0(
Field Technical Servi
Rev. 08

164255

963661

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME	PROJECT LOCATION
Plattsburgh A.F.B.	Plattsburgh, NY

PROJ. NO.	PROJECT CONTACT	PROJECT TELEPHONE NO.
17499	Greg Gumond	518 - 562 - 3423

CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR
AFCEE	Ken Kukkonen

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) VOC (8021)	SVOC (8270)							REMARKS
-0 1	EX2774	10/3/96	1115	X		Soil from excavation	3	X	X							2 x 40 ml ; 1x4 oz
-0 2	EX3574L255	10/3/96	1140		X	water from Septic System excavation	4	X	X							preserved w/ HCL (VOC) 2 x 40 ml 2 x 1 liter
-0 3	EX3575S5	10/3/96	1150	X		soil from septic system excavation	3	X	X							2 x 40 ml 1 x 4 oz
-0 4	Trip Blank	10/3/96				VOC. trip blank - water	2	X								2 x 40 ml
5																
6																
7																
8																
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1 - 4	T. Quirk	FedEx Airbill # 2311305323	10/3/96	1600
2	1 - 4	Fed Ex	[signature]	10/4/96	1000
3	-				
4					

REMARKS

- 3 day TAT
- Samples stored at 4° C
- trip blank included
- VOC water samples preserved w/ HCL
- Please Return cooler to OHM

SAMPLER'S SIGNATURE

Tammy Quirk

Soil Sample Collection Log

Plattsburgh AFB - Project # 17257/17499

Pg. 1 of 2

Date: 10/31/96 Site: 3578 Septic trench

Weather: overcast, 40°F Samplers: John Kraft
Tammy Quirk

Sample ID	Time	PID Screen	Comp/ Grab	Sample Depth (ft)	Coordinates Ref. Pt.	Coordinates Ref. Pt.	Sample Description	# of Bottles
EX3578LQSS	1140	N/A	Grab	4'	—	—	water from excav	2x 40 ml 2x 1 liter
EX3578SS	1150	N/A	Comp	4'	—	—	Soil from septic trench	2x 40 ml 1x 4oz

Map Attached: (Yes) No

-Reference Points: (Yes) No
-Head Space Readings: Yes (No)

Sample Type: (Screening) Confirmation Disposal/Characterization

Requested Analysis: (VOCs) (SVOCs) Other: _____

Split sample Collected: Yes (No)

Laboratory Destination: ESS COC # 164255 Airbill # 2311305323

Duplicate Collected: Yes (No) Rinsate Collected: Yes (No)

On-Site Laboratory Chain of Custody / Request for Analysis

Requested Analysis: VOCs SVOCs Cooler Temperature: _____

Relinquished by (dd/tt): _____ Received by (dd/tt): _____

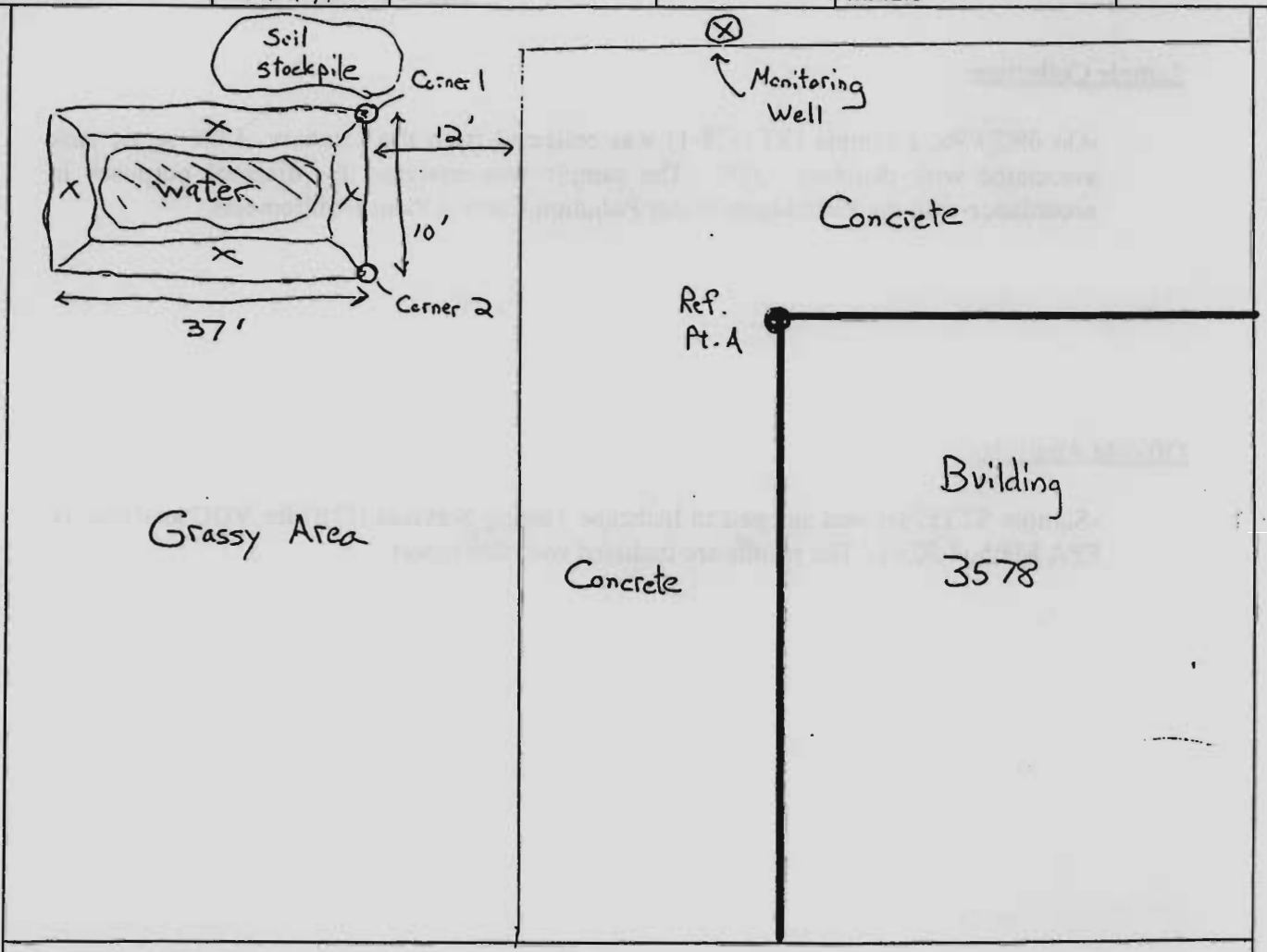
OHM Remediation Services Corp.

COMPUTATION SHEET

Form No. 0048
Midwest Tech. Servs.
Rev. 08/89

Proj. No.	Client	Location	Subject
17499	AFCEE	Building 3578	Confirmation Sampling

Preparer's Initials	Date	Reviewer's Initials	Date	Approver's Initials	Date
GG	10/4/96				



Comments

- Not drawn to scale
- X denotes the sample locations for the excavation composite (EX3578SS).
- A grab sample was collected from the ~~se~~ water at the bottom of the excavation (EX3578LQSS).

Pt A → Corner 1 : 76'
Pt → Corner 2 : 70'

Sampling & Analysis Site Report
Plattsburgh AFB - Project #17499

Site: Bldg. 3578

Revised Report Date: 01/13/97
Original Report Date: 09/03/96

Sample Collection:

-On 08/29/96, a sample (ST3578-1) was collected from the contents of the septic tank associated with Building 3578. The sample was analyzed for disposal purposes in accordance with the Plattsburgh Water Pollution Control Plant requirements.

Off-Site Analysis:

-Sample ST3578-1 was shipped to Inchcape Testing Services (ITS) for VOC analysis by EPA Method 503.1. The results are included with this report.

Inchcape Testing Services
Environmental Laboratories

55 South Park Drive
Colchester, VT 05446

75 Green Mountain Drive
South Burlington, VT 05403

Analytical Report

Date: 03 August 1996
Inchcape Lab No.: 311552
ETR No.: 60883 Project No.: 96000
Date received: 08/30/96 Date Analyzed: 08/31/96
Sample Identification: OHM Remediation Services Inc., Water sample labeled ST3578-1, 08/29/96.

Volatile Organic Compounds in ug/L
EPA Method 503.1

benzene	0.5 U
bromobenzene	0.5 U
n-butylbenzene	9.4
sec-butylbenzene	11
tert-butylbenzene	0.5 U
chlorobenzene	0.5 U
2-chlorotoluene	0.5 U
4-chlorotoluene	0.5 U
1,4-dichlorobenzene	7.5
1,3-dichlorobenzene	0.5 U
1,2-dichlorobenzene	1.4
ethylbenzene	0.5 U
hexachlorobutadiene	0.5 U
naphthalene	12
isopropylbenzene	0.5 U
4-isopropyltoluene	2.0
n-propylbenzene	0.5 U
styrene	0.5 U
tetrachloroethene	0.5 U
toluene	0.5 U
1,2,3-trichlorobenzene	0.5 U
1,2,4-trichlorobenzene	0.5 U
trichloroethene	0.5 U
1,2,4-trimethylbenzene	4.2
1,3,5-trimethylbenzene	2.7
m & p xylenes	1.3
o-xylene	0.8

Summary of Surrogate Recoveries

	% REC
Fluorobenzene	108
1-chloro-3-fluorobenzene	86
1-bromo-3-chloropropane	113

U- The compound was analyzed for but not detected at or above the method specific reporting limit.

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

LP43229
ITS
172252

LAB COPY
Form 0019
Field Technical Services
Rev. 08/99

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME: PAFB	PROJECT LOCATION: Plattsburgh, NY
PROJ. NO.: 17499	PROJECT CONTACT: Greg Guimond
PROJECT TELEPHONE NO.: (518) 562-3923	
CLIENT'S REPRESENTATIVE: AFCEE	PROJECT MANAGER/SUPERVISOR: Ken Kukkonen

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) Method 503.1	REMARKS
1	ST3400-1	8/29/96	1100	X		Septic Tank Liquid/Sludge	3x40mL	X	
2	ST.3578-1	8/29/96	1115	X		Septic Tank Liquid/Sludge	3x40mL	X	
3									
4									
5									
6									
7									
8									
9									
10									

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-2	A. Guimond	Fed Ex Airbill # 183664083 1	8/29/96	1600
2					
3					
4					

REMARKS
Preserved at 4°C
Temp blank included
TAT: Wednesday 9/4/96

SAMPLER'S SIGNATURE: Gregory Guimond

Soil Sample Collection Log

Plattsburgh AFB - Project # 17257/17499

Pg. 1 of 1

Date: 8/29/96 Site: Bldg 3578 (Septic Tank)

Weather: Clear, 72°F Samplers: S.H., GG

Sample ID	Time	PID Screen	Comp/ Grab	Sample Depth (ft)	Coordinates Ref. Pt.	Ref. Pt.	Sample Description	# of Bottles
ST3578-1	1115		C				Septic Tank contents (sludge)	3x40mL

Map Attached: Yes (No)

-Reference Points: Yes No

-Head Space Readings: Yes No

Sample Type: Screening Confirmation (Disposal/Characterization)

Requested Analysis: (VOCs) SVOCs Other: _____

Split sample Collected: Yes (No)

Laboratory Destination: ITS COC # 172252 Airbill # 183664083 1

Duplicate Collected: Yes No Rinsate Collected: Yes No

On-Site Laboratory Chain of Custody / Request for Analysis

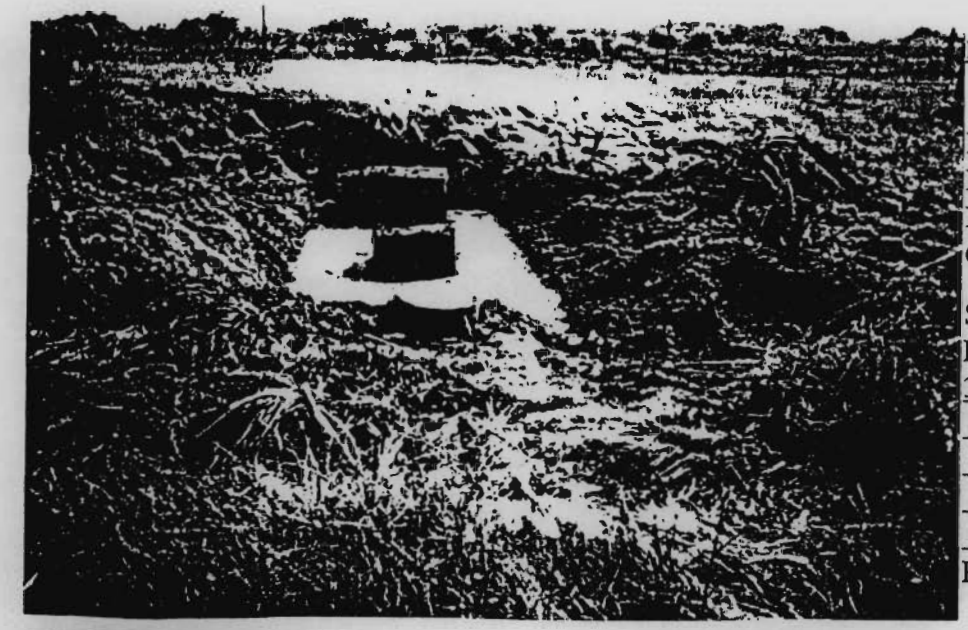
Requested Analysis: (VOCs 503.1) SVOCs Cooler Temperature: _____

Relinquished by (dd/tt): A. Hummel 8/29/96 1600 Received by (dd/tt): _____

ATTACHMENT II

PHOTO LOG

PHOTOGRAPHIC LOG
PARSONS ENGINEERING SCIENCE, INC



PROJECT: Tank Closure Project
LOCATION: Plattsburgh AFB, NY
PROJECT #: Delivery Order #006
CLIENT: OHM Corp

Status as of 9/10/96
Description View of Septic Tank 3578 prior to removal

Photo by EJA

Status as of 9/14/96
Description View of contents of Septic Tank 3578 being pumped out

Photo by EJA

Status as of 9/14/96
Description View of excavation and removed leach lines associated with Septic Tank 3578.

Photo by EJA

APPENDIX D

NYSDEC AND USEPA LETTERS REGARDING FORMER WASTE ACCUMULATION AREA (SOLVENT STORAGE PAD) SOIL REMOVAL

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233-7010

February 23, 1998

John P. Cahill
Commissioner

Mr. Michael Sorel, P.E.
AFBCA/DAE
426 U.S. Oval, Suite 2210
Plattsburgh Air Force Base, NY 12903

Dear Mr. Sorel:

Re: SS-013 Interim Remedial Action Soil Removal
Plattsburgh Air Force Base, #510003

The New York State Department of Environmental Conservation has received the sampling and analysis reports for the soil removal at the SS-013 Spill Site. We concur with the recommendation that no further soil removal is warranted at this excavation location.

If you should have any questions, please contact me at (518) 457-3976 or jaquinn@gw.dec.state.ny.us.

Sincerely,

James A. Quinn
Bureau of Eastern Remedial Action
Division of Environmental Remediation

c: R. Morse, USEPA-Region II

SS-013.WPD

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

MAR 2 5 1999

Mr. Michael D. Sorel, P.E.
BRAC Environmental Coordinator
AFBCA/DA
426 U.S. Oval, Suite 2200
Plattsburgh, New York 12903

Re: Draft Closure Report, "Removal of Contaminated Soil at the Former Waste Accumulation Area (FWAA), Spill Site SS-013"

Dear Mr. Sorel:

The U.S. Environmental Protection Agency (EPA) has reviewed the draft Closure Report, "Removal of Contaminated Soil at the Former Waste Accumulation Area (FWAA), Spill Site SS-013." EPA concurs with the Air Force conclusion that no further action is required at the FWAA. Please note, however, that this concurrence by EPA in no way applies to Site SS-013 as a whole. As you have previously been informed by me on numerous occasions, both verbally and in writing, EPA has many concerns regarding the Air Force's past and planned future actions regarding Site SS-013. Please refer to the following EPA letters regarding this site for reference:

- **June 13, 1997:** EPA Review of the FWAA Action Memorandum;
- **July 1, 1997:** EPA Review of the Draft Final RI Report for Site SS-013;
- **November 26, 1997:** EPA Concerns Regarding the Ongoing Removal Action at Site SS-013 and AFBCA's Response to EPA's Comments on the Action Memorandum;
- **June 19, 1998:** EPA Review of the FWAA Removal Action Sampling and Analysis Reports.

I look forward to discussing this site at the March 1999 BCT meeting. Please note that a copy of this letter was transmitted to your office via facsimile on March 16, 1999. If you have any questions regarding this letter, please feel free to call me at (212) 637-4331.

Sincerely,

Robert D. Morse

Robert D. Morse
Federal Facilities Section

cc: J. Quinn, NYSDEC

RECEIVED
MAR 2 9 1999
AFBCA/DA PBG